

Water Resources Data Puerto Rico and the U.S. Virgin Islands Water Year 2001



CONVERSION FACTORS AND VERTICAL DATUM

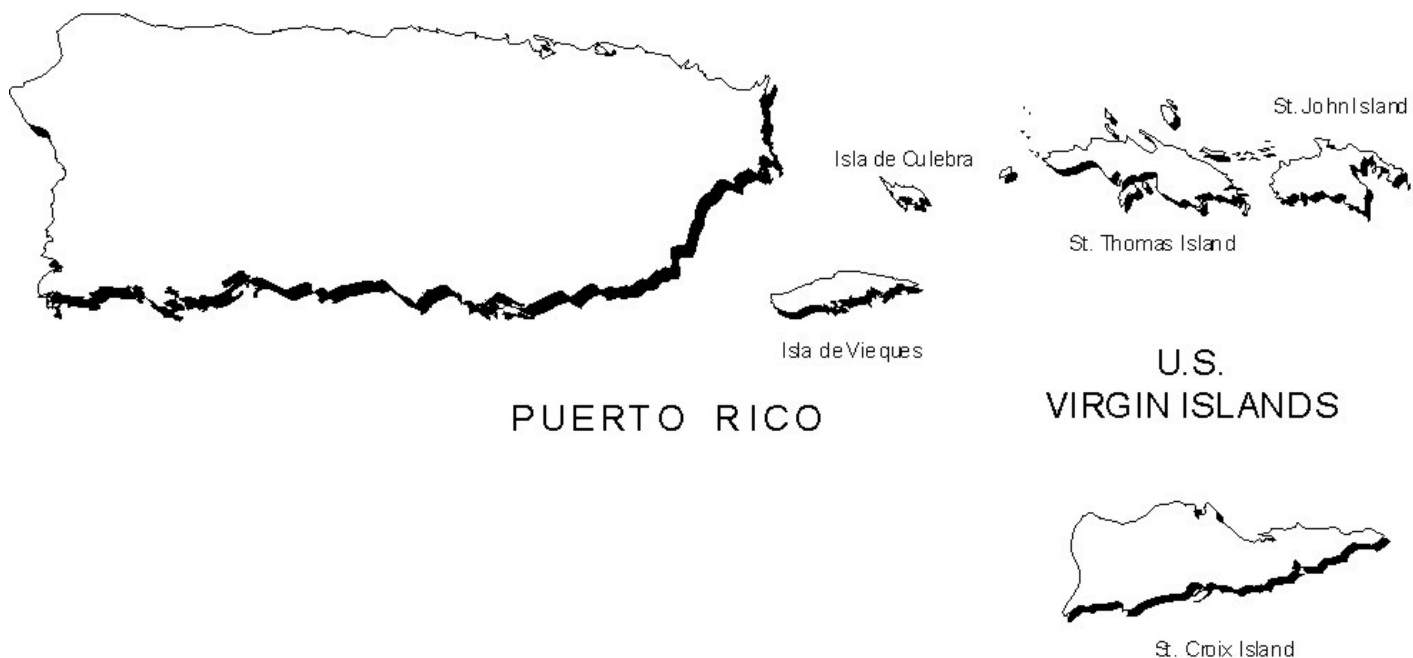
Multiply	By	To obtain
<i>Length</i>		
inch (in.)	2.54×10^1	millimeter
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter
mile (mi)	1.609×10^0	kilometer
<i>Area</i>		
acre	4.047×10^3	square meter
	4.047×10^{-1}	square hectometer
	4.047×10^{-3}	square kilometer
square mile (mi ²)	2.590×10^0	square kilometer
<i>Volume</i>		
gallon (gal)	3.785×10^0	liter
	3.785×10^0	cubic decimeter
	3.785×10^{-3}	cubic meter
million gallons (Mgal)	3.785×10^3	cubic meter
	3.785×10^{-3}	cubic hectometer
cubic foot (ft ³)	2.832×10^1	cubic decimeter
	2.832×10^{-2}	cubic meter
cubic-foot-per-second day [(ft ³ /s) d]	2.447×10^3	cubic meter
	2.447×10^{-3}	cubic hectometer
acre-foot (acre-ft)	1.233×10^3	cubic meter
	1.233×10^{-3}	cubic hectometer
	1.233×10^{-6}	cubic kilometer
<i>Flow</i>		
cubic foot per second (ft ³ /s)	2.832×10^1	liter per second
	2.832×10^1	cubic decimeter per second
	2.832×10^{-2}	cubic meter per second
gallon per minute (gal/min)	6.309×10^{-2}	liter per second
	6.309×10^{-2}	cubic decimeter per second
	6.309×10^{-5}	cubic meter per second
million gallons per day (Mgal/d)	4.381×10^1	cubic decimeter per second
	4.381×10^{-2}	cubic meter per second
<i>Mass</i>		
ton (short)	9.072×10^{-1}	megagram or metric ton

Sea level: In this report “sea level” refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment for the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

Water Resources Data Puerto Rico and the U.S. Virgin Islands Water Year 2001

By Pedro L. Díaz, Zaida Aquino, Carlos Figueroa-Alamo, René García,
and Ana V. Sánchez

Water-Data Report PR-01-1



Prepared in cooperation with the Commonwealth of Puerto Rico, the
Government of the U.S. Virgin Islands, and with other agencies



CALENDAR FOR WATER YEAR 2001

2000

OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7				1	2	3	4						1	2
8	9	10	11	12	13	14	5	6	7	8	9	10	11	3	4	5	6	7	8	9
15	16	17	18	19	20	21	12	13	14	15	16	17	18	10	11	12	13	14	15	16
22	23	24	25	26	27	28	19	20	21	22	23	24	25	17	18	19	20	21	22	23
29	30	31					26	27	28	29	30			24	25	26	27	28	29	30
														31						

2001

JANUARY							FEBRUARY							MARCH						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6					1	2	3					1	2	3
7	8	9	10	11	12	13	4	5	6	7	8	9	10	4	5	6	7	8	9	10
14	15	16	17	18	19	20	11	12	13	14	15	16	17	11	12	13	14	15	16	17
21	22	23	24	25	26	27	18	19	20	21	22	23	24	18	19	20	21	22	23	24
28	29	30	31				25	26	27	28				25	26	27	28	29	30	31

APRIL							MAY							JUNE						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7			1	2	3	4	5						1	2
8	9	10	11	12	13	14	6	7	8	9	10	11	12	3	4	5	6	7	8	9
15	16	17	18	19	20	21	13	14	15	16	17	18	19	10	11	12	13	14	15	16
22	23	24	25	26	27	28	20	21	22	23	24	25	26	17	18	19	20	21	22	23
29	30						27	28	29	30	31			24	25	26	27	28	29	30

JULY							AUGUST							SEPTEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7				1	2	3	4							1
8	9	10	11	12	13	14	5	6	7	8	9	10	11	2	3	4	5	6	7	8
15	16	17	18	19	20	21	12	13	14	15	16	17	18	9	10	11	12	13	14	15
22	23	24	25	26	27	28	19	20	21	22	23	24	25	16	17	18	19	20	21	22
29	30	31					26	27	28	29	30	31		23	24	25	26	27	28	29
														30						

U.S. DEPARTMENT OF THE INTERIOR
GALE A. NORTON, Secretary

U.S. GEOLOGICAL SURVEY
Charles G. Groat, Director

For additional information on the water-resources investigation programs
in Puerto Rico and the U.S. Virgin Islands write to:

Chief, Caribbean District, Water Resources Division
U.S. Geological Survey
GSA Center, 651 Federal Drive
Suite 400-15
Guaynabo, Puerto Rico 00965
Telephone: (787) 749-4346
2002

PREFACE

This annual hydrologic data report of Puerto Rico and the U.S. Virgin Islands is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each state, Puerto Rico, the U.S. Virgin Islands, and the other Trust Territories. These records of streamflow, ground-water levels, and quality-of-water provide the hydrologic information needed by state, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources.

The report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey, Water Resources Division, who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to the U.S. Geological Survey policy and established guidelines, the following personnel contributed significantly to the collection, processing, and tabulations of the data:

José M. Agis	Rafael Peña-Cortéz
George Arroyo	Ronald T. Richards
Ramón Carrasquillo	Carlos C. Rodríguez
Gregory Cherry	Julio A. Rodríguez
Iris M. Concepción	Miguel A. Rodríguez
José A. Concepción	Rafael M. Rodríguez
Israel Cruz	Manuel Rosario
Teresa Dopazo	José René Sánchez
Angel G. Ferrer	Luis Santiago-Rivera
Wilfredo García	Carlos Santos
Hector Guardiola	Luis Soler
Evelyn S. Guevara	Elliot M. Sosa
Senén Guzmán-Ríos	Angel Torres
Felipe Hernández	Heriberto Torres-Sierra
Sandra Lagares	James Torres
Christian D. López	Ricardo J. Vachier
José Merced	Ahmed Valencia
Carlos Narvaez	Luis Vega
Nilo Peña	

Francisco Maldonado prepared the illustrations and Evelyn S. Guevara and Ruth I. Guzmán typed the text of the report and were mainly responsible for the assemble of the book using Automated Annual Report (AAR) Scripts for Surface-Water Discharge and Water-Quality Stations.

This report was prepared in cooperation with agencies of the Commonwealth of Puerto Rico, the Government of the U.S. Virgin Islands, and with other Federal agencies under the general supervision of Matthew C. Larsen, Caribbean District Chief, San Juan, Puerto Rico.

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13. ABSTRACT (Maximum 200 words) Water resources data for surface-water, quality-of-water, and ground-water records for the 2001 water year for Puerto Rico and the U.S. Virgin Islands consists of records of discharge, water quality of streams, and water levels of wells. This report contains discharge records for 95 streamflow-gaging stations; daily sediment records for 23 streamflow stations; 20 partial record or miscellaneous streamflow stations; stage records for 18 reservoirs; water-quality records for 17 streamflow-gaging stations, 42 ungaged streamsites, 11 lake sites, 2 lagoons, and 1 bay; and water-level records for 103 observation wells. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating local and Federal agencies in Puerto Rico and the U.S. Virgin Islands.

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**SURFACE-WATER AND WATER-QUALITY STATIONS, IN DOWNSTREAM ORDER,
FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME**

(Letter after station name designates type of data:

(d) discharge, (c) chemical, (b) biological, (s) sediment, (p) pesticide, (e) elevation, gage heights)

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**SURFACE-WATER AND WATER-QUALITY STATIONS, IN DOWNSTREAM ORDER,
FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME--Continued**

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Station number	Station name	Drainage area (mi ²)	Period of record
50007000	Quebrada de los Cedros near Isabela	6.91	1970
50010600	Río Guajataca above Lago de Guajataca	--	1984-89
50011000	Canal Diversion Lago Guajataca	--	1970
50011200	Río Guajataca below Lago Guajataca	--	1969-70,1984-87
50011400	Río Guajataca above mouth near Quebradillas	--	1969-70,1984-89
50013000	Río Camuy near Lares	7.62	1969-71
50014000	Río Criminales near Lares	4.68	1969-70
50014600	Río Camuy at Tres Pueblos Sinkhole	--	1990-96
50015700	Río Camuy near Hatillo	--	1984-96
50016000	Río Camuy near Camuy	--	1969-73
50021050	Río Pellejas below Central Pellejas	7.89	1972-75
50021500	Río Pellejas near Utuado	9.55	1969-71
50023000	Río Viví near Central Pellejas	5.66	1969-75
50027200	Río Grande de Arecibo blw. Lago dos Bocas	169	1970-71
50031500	Río Sana Muerto near Orocovis	3.68	1965-70
50035200	Río Grande de Manatí at Hwy 145 at Ciales	132	1972
50035950	Río Cialitos at Hwy 649 at Ciales	17	1970-82
50038360	Río Mavilla near Corozal	9.51	1969-70
50038600	Río Unibón near Morovis	5.29	1969-70
50038700	Río Morovis at Morovis	1.26	1968
50038900	Río Indio at Vega Baja	--	1963,66,71
50039600	Río Cibuco at Central San Vicente	--	1969-72
50043200	Río Usabon near Barranquitas	9.15	1968-69,71
50043400	Río Aibonito Tributary near Aibonito	1.13	1968-71
50044600	Río Guadiana near Naranjito	1.73	1971
50044650	Quebrada del Toro near Naranjito	0.54	1971
50044800	Quebrada Anones near Naranjito	2.32	1971
50045700	Río Lajas at Toa Alta	8.65	1966-75
50047820	Río de Bayamón at Hwy 174 near Bayamón	31.90	1966
50048000	Río de Bayamón at Bayamón	71.90	1963-67
50049000	Río Piedras at Río Piedras	12.5	1971-82, 1987-93
50049310	Quebrada Josefina at Piñero Avenue	3.84	1988-91
50053050	Río Turabo at Borinquen	7.89	1984-90
50054000	Quebrada de las Quebradillas near Caguas	6.25	1969-71,73
50055170	Río Cagüitas near Caguas	8.27	1992-97
50055650	Quebrada Caimito near Juncos	0.82	1984-87
50056000	Río Valenciano near Las Piedras	6.85	1971
50056900	Quebrada Mamey near Gurabo	2.30	1984-92
50058300	Quebrada Arena near Caguas	--	1971
50061300	Río Canovanillas near Loíza	14.40	1968-73

DISCONTINUED STREAMFLOW STATIONS--Continued

Station number	Station name	Drainage area (mi ²)	Period of record
50062500	Río Herrera near Colonia Dolores	2.75	1968-72
50063300	Río Espíritu Santo near El Verde	2.23	1968-73
50063500	Quebrada Toronja at El Verde	0.064	1983-96
50065700	Río Mameyes at Hwy 191 at Mameyes	11.80	1967-85
50072000	Río Fajardo at Fajardo	21.60	1960-63
50073200	Río Daguao at Daguao	2.26	1966-82
50073400	Quebrada Palma at Daguao	4.84	1972-77
50074000	Río Santiago at Naguabo	4.99	1966-82
50075500	Río Blanco at Florida	11.00	1966-82
50076000	Río Blanco near Florida	12.30	1983-85
50077000	Río Blanco at Río Blanco	17.60	1973-77
50077400	Río Blanco at Colonia La Fe	18.80	1967-70
50078500	Río Anton Ruíz at Central Pasto Viejo	4.33	1968
50081500	Río Humacao near Humacao	9.23	1973
50082000	Río Humacao at Hwy 3 at Humacao	17.30	1983-85
50082200	Río Humacao near La Suiza	19.90	1965-66, 1969-71
50082800	Río Guayanés near Colonia Laura	4.69	1969-82
50083500	Río Guayanés near Yabucoa	17.20	1969-71
50084000	Río Limones near Yabucoa	7.89	1969-71
50085100	Río Guayanés at Central Roig	26.60	1965-66, 1968,70
50086100	Río del Ingenio at Comunas	5.50	1965-66, 1968-69
50086500	Río Guayanés at Playa Guayanés	34.00	1965-66, 1968-71
50087200	Caño Santiago near Central Roig	6.04	1965-71
50091000	Río Maunabo at Maunabo	12.40	1965,67, 1969-82
50091200	Río Maunabo near Maunabo	12.70	1971-72
50091400	Río Jacaboa near Lamboglia	4.13	1965-73
50091700	Río Chico at Patillas	6.82	1965, 1969-72
50091800	Río Chico at Providencia	4.90	1965, 1967-69, 1971
50094200	Río Grande de Patillas at Patillas	27.90	1967, 1969, 1971
50094300	Río Grande de Patillas at Providencia	29.00	1971
50094400	Río Nigua at Pitahaya	5.86	1965, 1969, 1970-71, 1973
50095200	Río Guamaní at Guayama	8.22	1969-71
50095500	Río Guamaní near Guayama	12.30	1969-70
50099000	Quebrada Aguas Verdes near Salinas	0.39	1989
50106500	Río Coamo near Coamo	46.00	1967-68, 1984-85, 1986
50106900	Río Coamo below Lago Coamo near Coamo	65.40	1967-68
50107200	Río Coamo at mouth near Santa Isabel	69.30	1967-68
50108200	Río Descalabrado at Las Ollas	13.90	1965, 1967-71
50108500	Río Descalabrado near Santa Isabel	18.10	1966-67
50111200	Río Toa Vaca near Villalba	21.40	1966-70

DISCONTINUED STREAMFLOW STATIONS--Continued

Station number	Station name	Drainage area (mi ²)	Period of record
50111700	Río Jacaguas near Juana Díaz	53.20	1966-68
50111750	Río Jacaguas below Quebrada Guanábana	56.30	1989
50112100	Río Jacaguas near Arús	59.60	1966-67
50112600	Río Inabón at Coto Laurel	--	1967-71
50113100	Río Guayo near Coto Laurel	11.80	1965, 1968-71
50113500	Río Inabón near Arús	30.20	1964-65
50114400	Río Bucaná near Ponce	25.60	1965-81
50114700	Río Bucaná near Playa de Ponce	28.40	1964-67
50115000	Río Portugués near Ponce	8.82	1964-97
50116500	Río Portugués at Highway 2 Bypass at Ponce	20.50	1964-65
50119000	Río Matilde at Ponce	19.40	1965-66
50121000	Río Tallaboa at Peñuelas	24.20	1959-82
50122000	Río Tallaboa at Tallaboa	31.50	1959-63
50124000	Río Guayanilla nr Guayanilla	18.50	1961-69
50124500	Río Guayanilla at Guayanilla	20.80	1971-82
50125900	Río Duey above Diversion near Yauco	8.93	1977-80
50126150	Río Yauco above Diversion Monserrate near Yauco	27.20	1978-85
50128000	Río Yauco near Yauco	45.50	1962-64, 1977-85
50129000	Río Loco near Yauco	8.50	1963-67
50129500	Río Loco near Guánica	21.00	1963-69
50129900	Laguna Cartagena near Boquerón	--	1984-86
50130320	Quebrada Mamey at Joyuda	0.38	1986-88
50136000	Río Rosario at Rosario	16.40	1975-86
50141000	Río Yahuecas near Adjuntas	15.40	1980-85
50145000	Río Grande de Añasco at El Espino	108.00	1959-66, 1961-63
50147000	Río Culebrinas at San Sebastian	16.70	1960-82
50214500	Quebrada Resaca near Monte Resaca, Culebra	0.23	1991-93
50215000	Drainage Canal at Culebra Airport, Culebra	0.08	1991-93
50231000	Quebrada Confresí Tributary near Isabel II, Vieques	0.28	1991-93
50232000	Quebrada La Mina near Esperanza, Vieques	0.68	1991-96
50233000	Quebrada Pilón at Colonia Puerto Real, Vieques	0.67	1991-96
50276000	Turpentine Run at Mariendal, St. Thomas	2.97	1963-69, 1978-86
50292600	Lameshur Bay Gut at Lameshur, St. John	0.38	1992-94
50294000	Fish Bay Gut at Fish Bay, St. John	1.48	1992-94
50295500	Cruz Bay Gut at Cruz Bay, St. John, VI	0.09	1992-93
50332000	River Gut at River	1.42	1991-93
50333500	River Gut near Golden Grove	5.40	1990-93
50333700	River Gut at Hwy 66 at Fairplanes	5.89	1990-96
50334500	Bethehem Gut at Hwy 66 at Fairplanes	4.11	1990-96
50337500	Gut 4.5 at Cane Valley	0.2	1991-93
50348000	Salt River at Canaan	0.36	1991-93
50349000	Gut 10 near Altona	0.13	1991-93

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WATER RESOURCES DATA FOR PUERTO RICO AND THE U.S. VIRGIN ISLANDS, 2001

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with local and Federal agencies obtains a large amount of data pertaining to the water resources of the Commonwealth of Puerto Rico and the Territory of the U.S. Virgin Islands each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the area. To make these data readily available to interested parties outside the U.S. Geological Survey, the data are published annually in this report series entitled "Water Resources Data for Puerto Rico and the U.S. Virgin Islands, 2001."

This report includes records on both surface and ground water. Specifically, it contains: (1) discharge records for 95 streamflow gaging stations, daily sediment records for 23 streamflow stations, 20 partial-record or miscellaneous streamflow stations, stage records for 18 reservoirs, and (2) water-quality records for 17 streamflow-gaging stations, and for 42 ungaged stream sites, 11 lake sites, 2 lagoons, and 1 bay, and (3) water-level records for 103 observation wells.

Water-resources data for Puerto Rico for calendar years 1958-67 were released in a series of reports entitled "Water Records of Puerto Rico." Water-resources data for the U.S. Virgin Islands for the calendar years 1962-69 were released in a report entitled "Water Records of U.S. Virgin Islands." Included were records of streamflow, ground-water levels, and water-quality data for both surface and ground water.

Beginning with the 1968 calendar year, surface-water records for Puerto Rico were released separately on an annual basis. Ground-water level records and water-quality data for surface and ground water were released in companion reports covering periods of several years. Data for the 1973-74 reports were published under separate covers. Water-resources data reports for 1975 to 2000 water years consist of one volume each and contain data for streamflow, water quality, and ground water.

Publications similar to this report are published annually by the U.S. Geological Survey for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report PR-01-1." These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia, 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on back of the title page or by telephone (787) 749-4346.

WATER RESOURCES DATA FOR PUERTO RICO AND THE U.S. VIRGIN ISLANDS, 2001**COOPERATION**

The U.S. Geological Survey has had cooperative agreements with organizations of the Commonwealth of Puerto Rico and the Territory of the U.S. Virgin Islands for the systematic collections of water resources data since 1958. Organizations that supplied data are acknowledged in the station descriptions. Organizations that assisted in collecting data through cooperative agreements with the U.S. Geological Survey are:

- Puerto Rico Environmental Quality Board
- Puerto Rico Aqueduct and Sewer Authority
- Puerto Rico Department of Agriculture
- Puerto Rico Industrial Development Company
- Puerto Rico Highway Authority
- Puerto Rico Department of Natural and Environmental Resources
- Puerto Rico Department of Health
- Puerto Rico Electric Power Authority
- Puerto Rico Solid Waste Management Authority
- Puerto Rico Legislature
- Puerto Rico Emergency Management Agency
- U.S. Virgin Islands Department of Planning and Natural Resources
- Puerto Rico Infrastructure Financing Authority

Funds were also provided by the U.S. Army, Corps of Engineers, for the collection of records at six gaging stations published in this report.

WATER RESOURCES DATA FOR PUERTO RICO AND THE U.S. VIRGIN ISLANDS, 2001

SUMMARY OF HYDROLOGIC CONDITIONS

Rainfall

Rainfall throughout Puerto Rico during the water year 2001 (October 2000 to September 2001) was deficient, with an average of 88 percent of normal. The months of April, May, July, and August were the only periods when rainfall was slightly above normal with averages that ranged from 5 to 12 percent above normal. Rainfall was below the normal range, fluctuating between 4 to 37 percent below normal for the rest of the year. Rainfall during the water year averaged 83 percent of normal in northern and eastern Puerto Rico, 96 percent of normal in southern Puerto Rico, and 93 percent of normal in western Puerto Rico. In the U.S. Virgin Islands, rainfall was also deficient, with an average of 70 percent of normal. Normal rainfall is defined as the mean monthly rainfall for the period 1961-1990 (table 1).

Table 1. Islandwide monthly rainfall for the water year 2001 and annual averages for the 30-year reference period, 1961-90

Data from the National Oceanographic and Atmospheric Administration

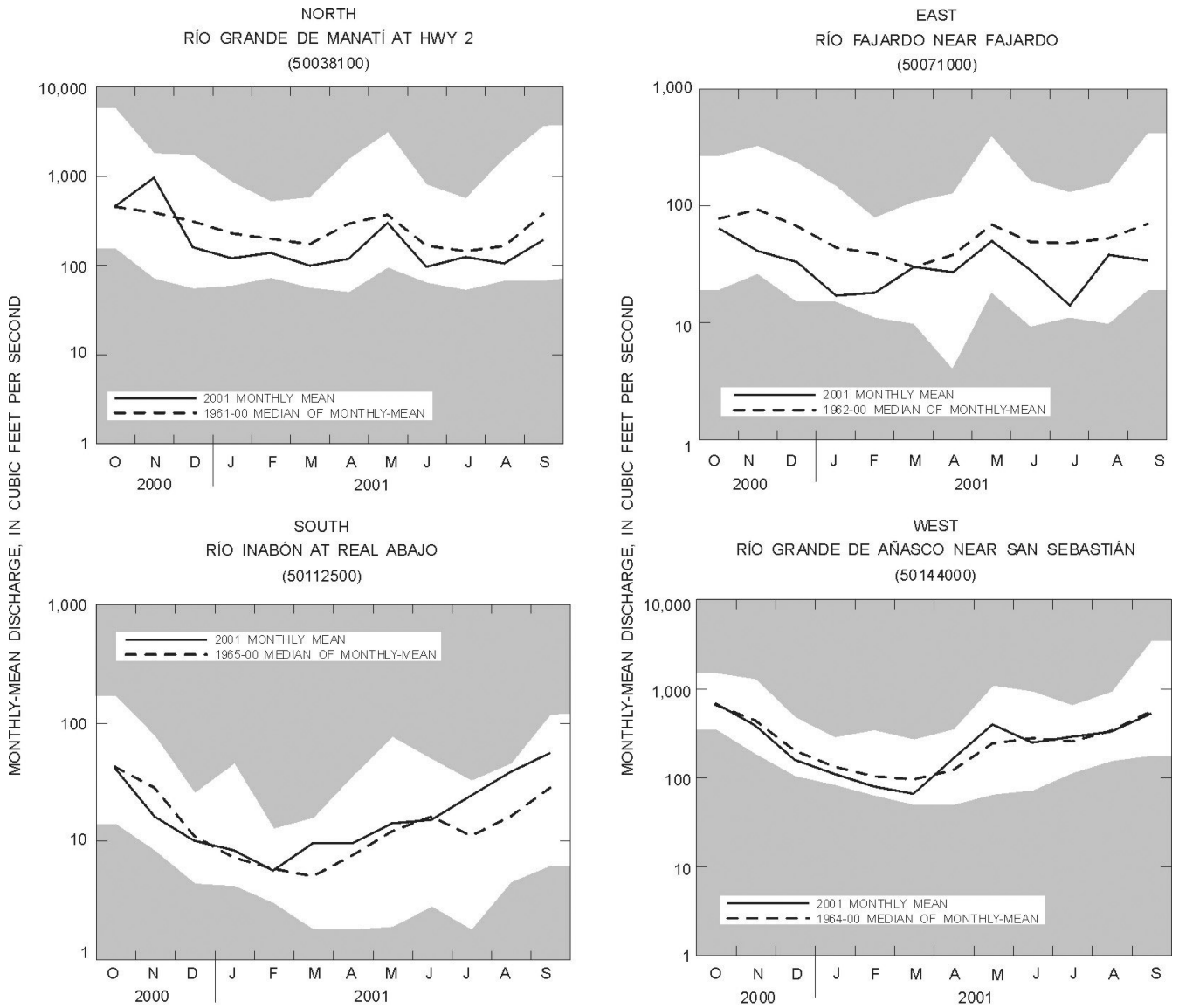
Month	2001 Water Year (inches)	30-year normal (inches)
October	6.82	8.29
November	4.48	6.55
December	2.84	4.38
January	2.66	2.87
February	2.43	2.53
March	2.14	3.02
April	4.66	4.44
May	7.77	6.96
June	3.14	5.00
July	5.44	5.09
August	7.30	6.89
September	<u>6.01</u>	<u>7.14</u>
TOTAL	55.69	63.16

Surface Water

Streamflow in Puerto Rico during most of the 2001 water year was below normal, except in the southern area where the monthly mean flows exceeded the long-term median of the monthly mean flows for seven months, based on the four index stations. During December, February, and June, below normal flows were recorded at the four index stations. A comparison of the monthly mean flows during the 2001 water year with the long-term minimum, median, and maximum of the monthly mean flows, for the period of record at the index stations on the Río Grande de Manatí (northern area), the Río Fajardo (eastern area), the Río Inabón (southern area), and the Río Grande de Añasco (western area) are shown in figure 1. The following overview of the four areas represented by the index stations describes the hydrologic conditions in more detail.

In the northern area, the Río Grande de Manatí index station recorded monthly mean flows that were below normal for ten consecutive months (December to September). Below normal monthly mean flows ranged from 40 to 86 percent of normal. During October and November, the long-term median was exceeded by 1 and 145 percent, respectively.

In the eastern area, the Río Fajardo index station recorded monthly mean flows below the long-term median for most of the 2001 water year, except during March when the monthly mean flow equaled the long-term median of the monthly mean flows. Monthly mean flows ranged from 29 to 82 percent of the long-term median.



Unshaded area indicates range between highest and lowest monthly-mean discharges for the period of record to water year 2001

Figure 1. Monthly-mean discharge of selected streams in Puerto Rico.

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The southern area, represented by the Río Inabón index station, was the only area in Puerto Rico where the monthly mean flows exceeded the long-term median for most of the water year. Monthly mean flows were above normal in January, March, April, May, July, August, and September, ranging from 115 to 138 percent of normal. Below normal monthly mean flows, ranging from 57 to 98 percent of the long-term median, were registered in the Río Inabón index station during the months of October, November, December, February, and June.

In the western area experienced below normal flow conditions for eight months. Monthly mean flows recorded at the index station on the Río Grande de Añasco ranged from 69 to 98 percent of the long-term median during November, December, January, February, March, June, August, and September. In October, April, May, and July, monthly mean flows ranging from 104 to 163 percent of normal were registered at the index station.

Streamflow in the U.S. Virgin Islands during 2001 water year were, in general, below normal conditions. In St. Thomas, historical minimum monthly mean flows were recorded during November, December, and June in the eastern area and during August in the north-central area. In north-central St. Thomas, the minimum monthly mean flow for July was equaled. During May, the monthly mean flow was above normal in north-central St. Thomas. In St. John, the streamflow conditions were below normal for the water year, except during March, when the monthly mean flow was above normal. In St. Croix, a historical maximum was recorded during May and minimum monthly mean flows were equaled during March, April, August, and September. Monthly mean flows were below normal for the rest of the water year.

Ground Water

Water-level trends and fluctuations during the water year 2001 followed a pattern resulting from below normal rainfall accumulation combined with continuous but moderate ground-water withdrawals (fig. 2). Water-level measurements indicate the depth at which water is found in tightly cased wells. For all the index wells shown in figure 2, net seasonal change in water-level reported as feet below land surface for water year 2001 is greater than zero. This is an indication of water depletion from storage in limestone and alluvial aquifers along the north and south coast of Puerto Rico, and also within fractured-rock volcanic aquifers in St. John, U.S. Virgin Islands.

The highest water-level recorded was near or above the historic high at five ground-water monitoring stations (table 2). In areas where ground-water withdrawals constitute an important resource for drinking water purposes, the lowest water-level recorded was near or below the historic low in 14 ground-water monitoring stations (table 3). For water year 2001, rainfall distribution in Puerto Rico climatic subdivisions at which the principal aquifer systems are found was as follow: North Coast limestone, 80 percent of normal; South Coastal Plain, normal; Eastern alluvials, 83 percent of normal; Western alluvials, 93 percent of normal. For water year 2001 rainfall distribution in the U.S. Virgin Islands climatic subdivisions at which the principal aquifers are found was in general 70 percent of normal.

The period of record of many of the ground-water monitoring sites dates to 1997. Fluctuations observed at these monitoring sites during water year 2001 were comparable to historic ground-water levels at index stations obtained since the 1960's. Figures 7 and 9 show the locations of the ground-water stations maintained by the USGS in Puerto Rico and the U.S. Virgin Islands.

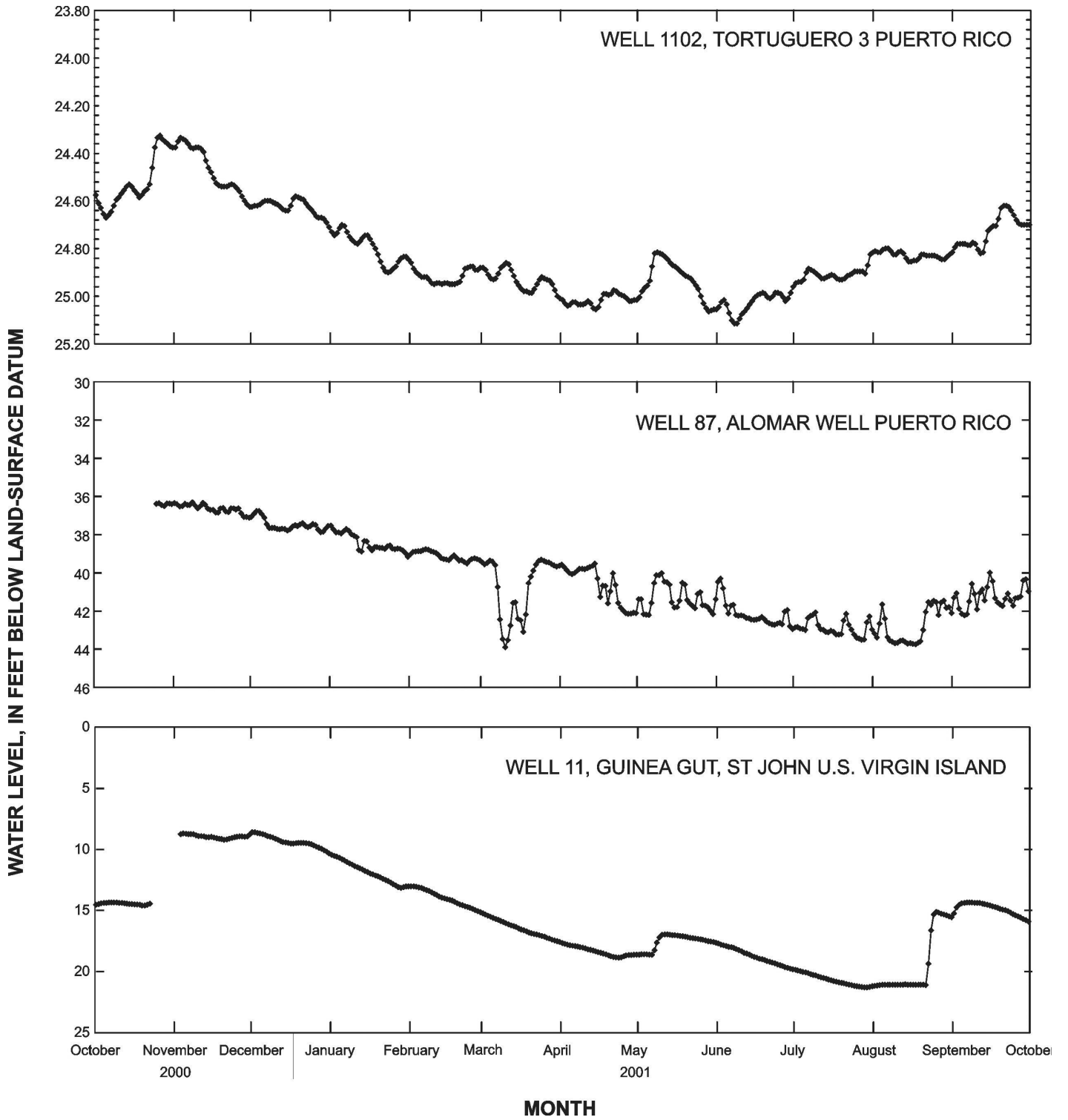


Figure 2. Ground-water levels at selected wells in Puerto Rico and the U.S. Virgin Islands.

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Table 2. Highest ground-water levels recorded during 2001 water year and previous highest ground-water levels at selected wells in Puerto Rico

[PR, Puerto Rico; mm-dd-yy, month-day-year; ft-blsd, feet below land-surface datum; mm-yy, month-year]

Well name	Local number	Location	2001 Highest water level (ft-blsd)	Date (mm-dd-yy)	Previous highest water level (ft-blsd)	Date (mm-dd-yy)	Period of record (mm-yy)
Campo Alegre 4	1027	PR	182.42	06-19-01	183.50	04-09-99	09-96 to 06-01
Piezometer Fort Buchanan 1	1159	PR	27.56	09-29-01 09-30-01	29.43	05-31-99	09-97 to 09-01
Piezometer Yabucoa USGS Brackish	1226	PR	+0.26	08-23-01	+0.29	11-17-99	09-97 to 09-01
Albergue de Niños	1277	PR	24.42	11-08-00 11-09-00	24.62	12-13-99	03-92 to 09-01
CR-TW-9B	1303	PR	4.88	09-28-01	6.18	11-23-96	07-92 to 09-01

Table 3. Lowest ground-water levels recorded during 2001 water year and previous lowest ground-water levels at selected wells in Puerto Rico

[PR, Puerto Rico; mm/dd/yy, month/day/year; ft-blsd, feet below land-surface datum; mm/yy, month/year]

Well name	Local number	Location	2001 Highest water level (ft-blsd)	Date (mm-dd-yy)	Previous highest water level (ft-blsd)	Date (mm-dd-yy)	Period of record (mm-yy)
Zanja 4	1026	PR	339.75	09-05-01	338.60	07-07-00	02-97 to 09-01
Campo Alegre 4	1027	PR	218.64	02-02-01	212.60	05-28-98	09-96 to 06-01
Tiburones 1	1053	PR	292.33	04-13-01 04-14-01	292.29	01-17-97	05-96 to 09-01
Florida Afuera 2	1054	PR	201.66	04-13-01 04-14-01 04-15-01	201.63	04-10-98 04-11-98 04-12-98	08-96 to 09-01
NC-5 Cruce Dávila	205	PR	92.21	08-06-01	90.24	10-08-99	12-86 to 09-01
Palo Alto 2	1101	PR	240.24	06-11-01	240.14	08-18-98	05-96 to 09-01
Piezometer Maguayo USGS 2	1128	PR	29.37	06-23-01 06-24-01	29.05	07-20-95 07-21-95 07-22-95	06-95 to 09-01
Piezometer San Antonio USGS 3	1132	PR	19.05	04-21-01	19.03	05-13-95	10-94 to 09-01
Piezometer Toa Baja USGS 1	1133	PR	11.19	04-19-01 04-20-01	10.68	05-03-95 05-04-95	11-92 to 09-01
Piezometer Quebrada Mata de Platanos	1208	PR	6.03	08-19-01 to 08-22-01	5.96	08-22-00	09-97 to 09-01
Piezometer Yabucoa USGS Brackish	1226	PR	6.19	07-14-01	5.90	08-09-99 08-10-99 08-11-99	09-97 to 09-01
Fidel 2 Well	1227	PR	29.42	08-22-01	27.80	08-16-98 to 08-28-98	12-96 to 09-01
Algarrobo Domestic Well	1228	PR	34.19	07-19-01 07-20-01	34.17	07-06-99 to 07-11-99 08-22-99 08-23-99	05-97 to 09-01
VIEO-6-Kirwan Terrace	8	St.T	33.97	07-29-01 07-31-01	32.70	04-27-95	10-91 to 09-01

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Water Quality

The U.S. Geological Survey, in cooperation with several local government agencies, collected water-quality data at 74 surface-water stations during water year 2001. Water-quality data collected at these stations included the trace elements, nutrients, pesticides, as well as fecal indicator bacteria and physical parameters. The presence of high concentrations of fecal coliform (fig. 3) and fecal streptococcal (fig. 4) bacteria continued to be one of the principal water-quality problems in Puerto Rico during water year 2001. The highest concentrations of these fecal indicator bacteria were determined from samples collected within the drainage basins in metropolitan areas with the highest population such as San Juan, Caguas, Ponce, and Mayagüez. Areas drained by major rivers where there is intense land use (agriculture, industry, urbanization) also have problems with fairly high concentrations of fecal indicator bacteria. These include the municipios of Aguadilla, Añasco, Arecibo, Humacao, and Manatí. The ability of communities to treat drinking water for bacteria is often inhibited by runoff with high suspended-sediment concentration and the associated turbidity problems. This is generally the case in streams which suffer from intense resource utilization (agriculture and urban development) where soil movement is involved. High suspended-sediment concentrations affect the quality of drinking water and reduce the storage capacity of reservoirs.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites on NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

The National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

The National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, diverse, and geographically distributed part of the Nation's ground- and surface-water resources, and to identify, describe, and explain the major natural and human factors that affect these observed conditions and trends.

Assessment activities have begun in more than one-third of the study units and ultimately will be conducted in 60 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

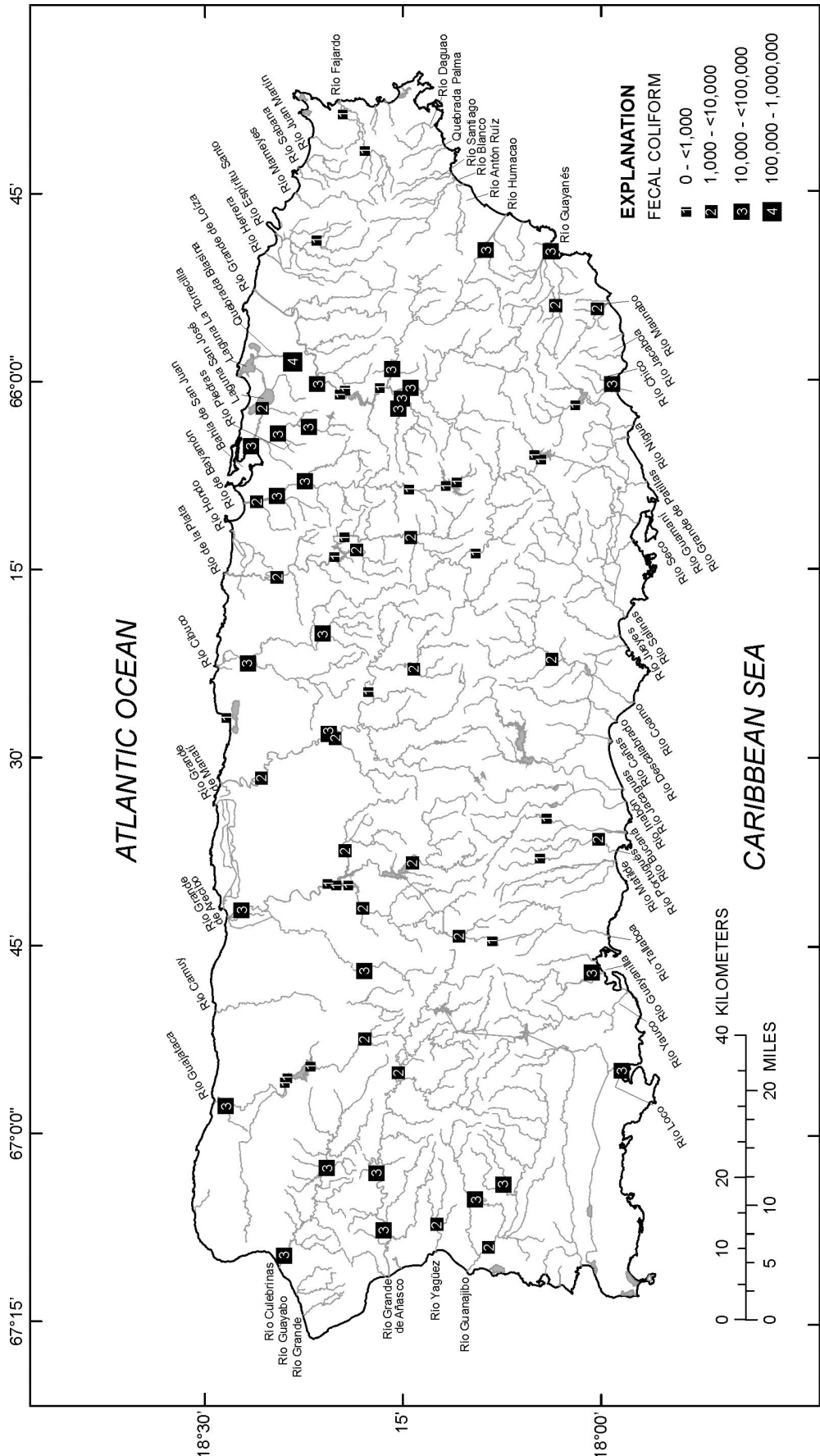


Figure 3. Location of maximum concentrations of fecal coliform bacteria at the water-quality sampling sites in Puerto Rico.

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Radiochemical Programs is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Tritium Network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

EXPLANATION OF RECORDS

The surface- and ground-water records published in this report are for the 2001 water year that began October 1, 2000 and ended September 30, 2001. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, water-quality data for surface and ground water, and ground-water-level data. The locations of the stations and wells where the data were collected are shown in figures 3 to 9. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station, whether stream site or well, in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells.

Downstream Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a main-stream station are listed before that station. A station on a tributary that enters between two main-stream stations is listed between them. A similar order is followed in listing stations in first rank, second rank, and other ranks of tributaries.

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types of stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station such as 50028000, which appears just to the left of the station name, includes the 2-digit part number "50" plus the 6-digit downstream order number "028000."

Latitude-Longitude System

The 8-digit downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

The well and miscellaneous site numbering system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits (assigned sequentially) identify the wells or other sites within a 1-second grid. The numbers shown in the grid correspond to the local numbers assigned to each well as visited in the field. An example is well 16 (fig. 10).

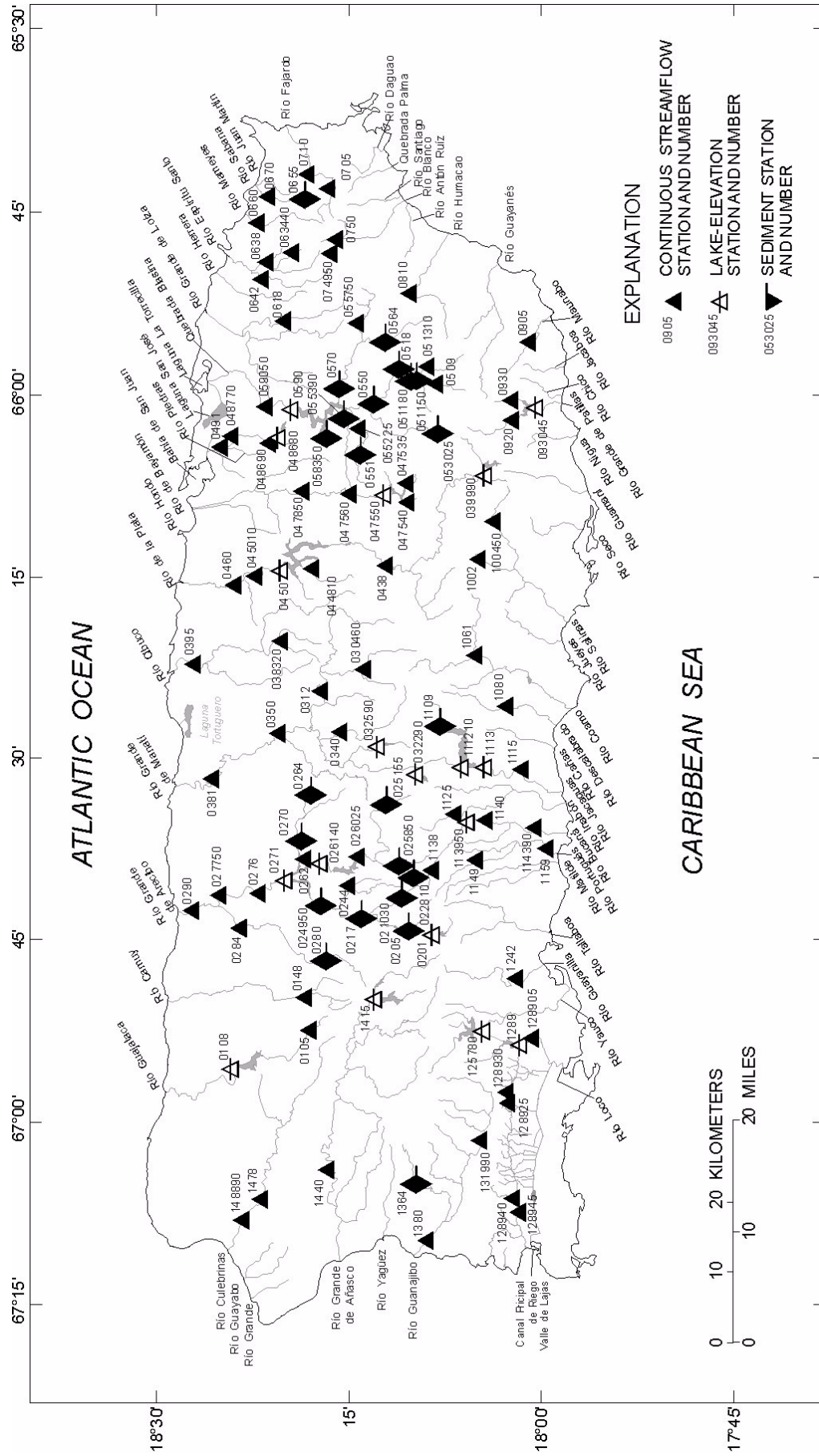


Figure 5. Location of surface-water stations in Puerto Rico.

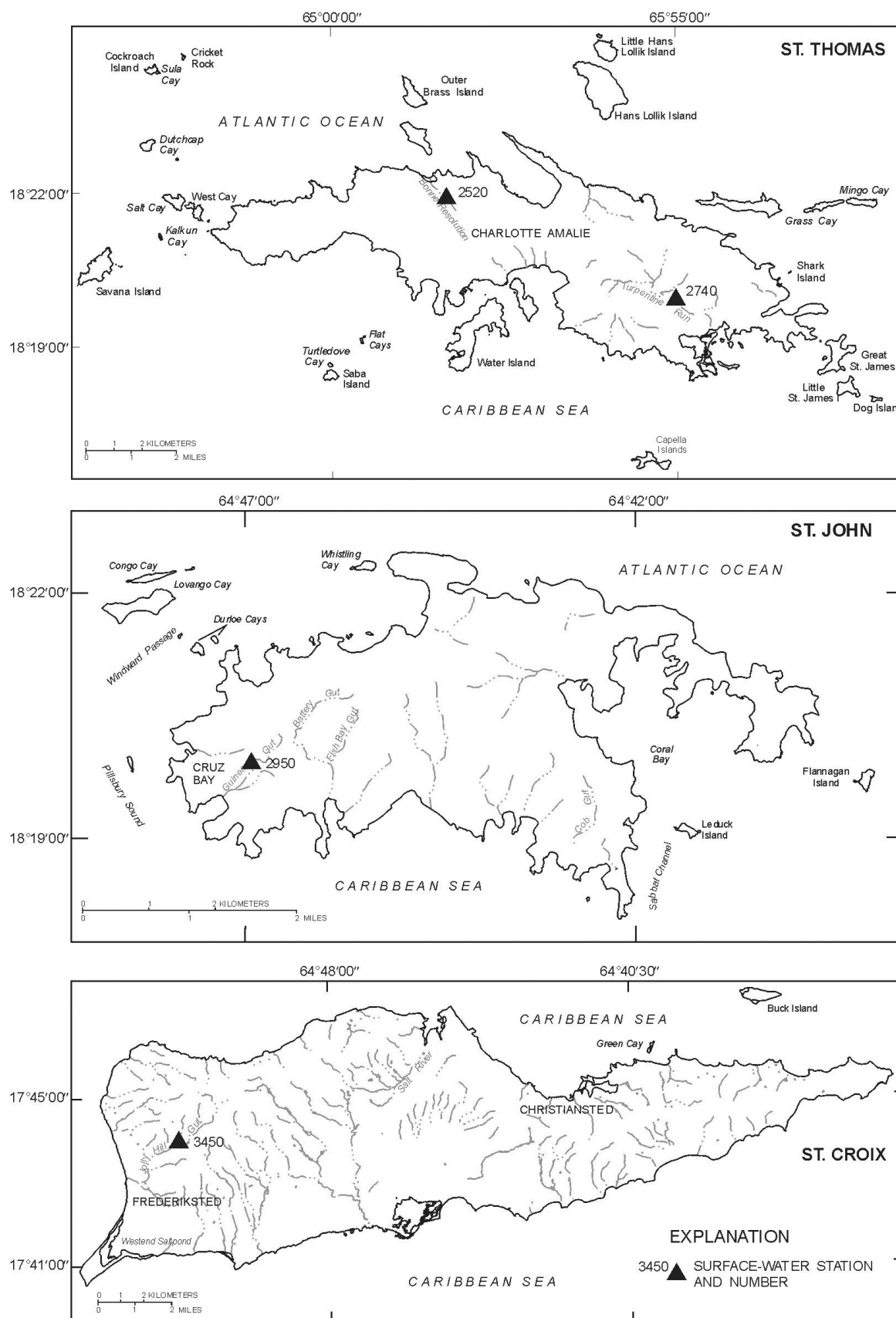


Figure 8. Location of surface-water stations in the U.S. Virgin Islands.

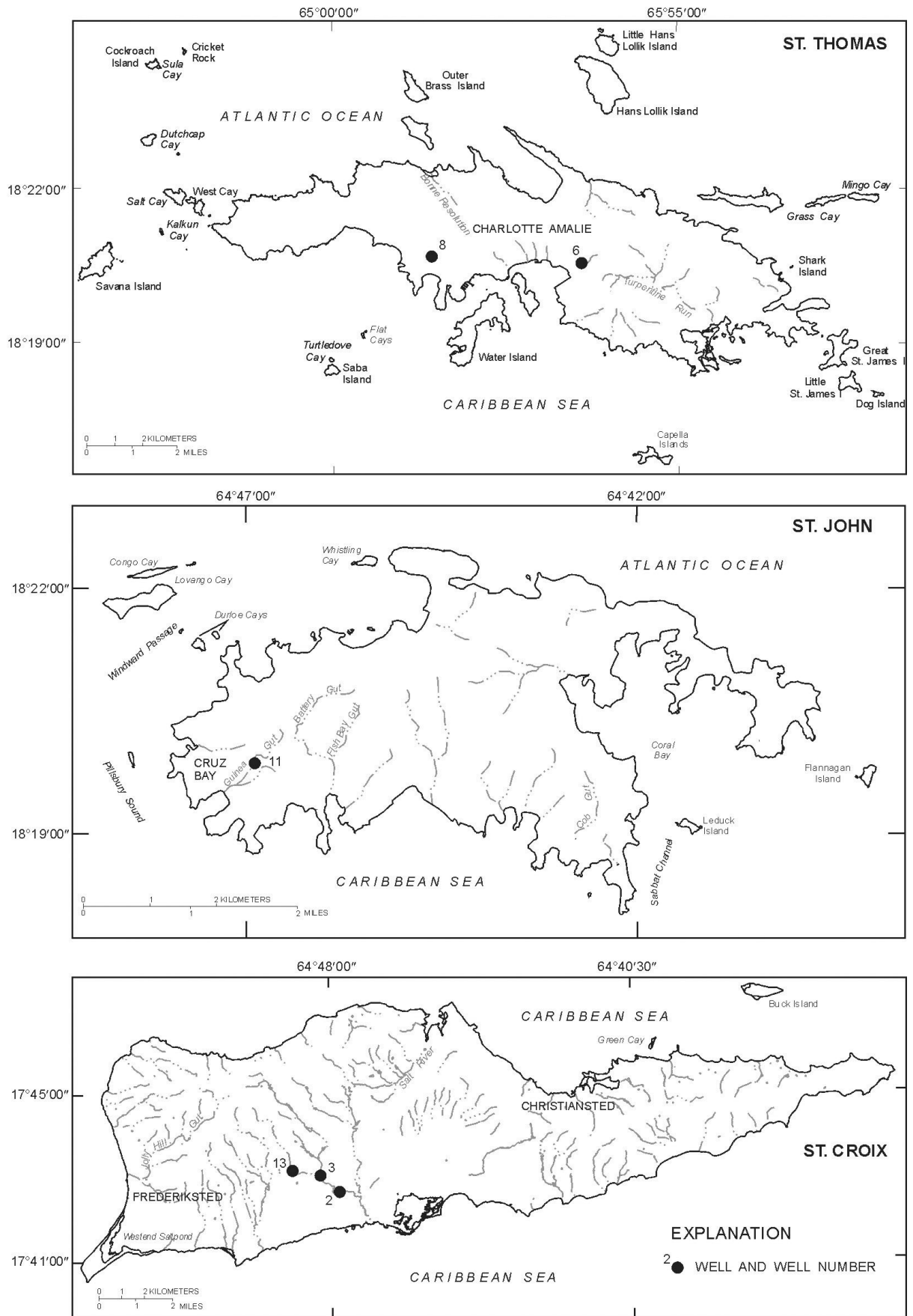


Figure 9. Location of ground-water stations in the U.S. Virgin Islands.

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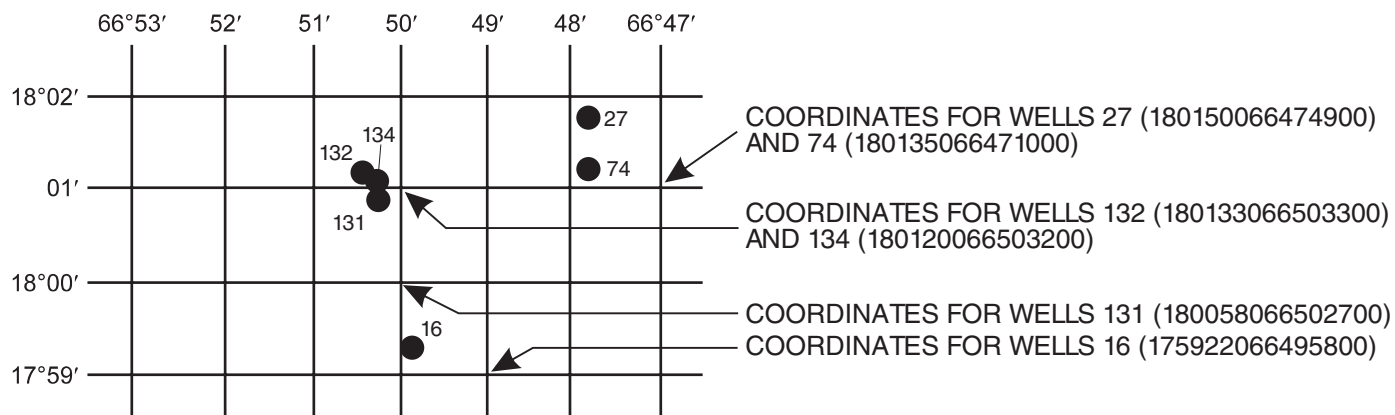


Figure 10. Grid showing system for numbering wells and miscellaneous sites (latitude and longitude).

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record. Complete records of lake or reservoir content, similarly, are those for which stage or content may be computed or estimated with reasonable accuracy for any time, or period of time. They may be obtained using a continuous stage-recording device, but need not be. Because daily mean discharges and end-of-day contents commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this type of report. Location of all complete-record stations for which data are given in this report are shown in figures 5 and 8.

Data Collection and Computation

The data obtained at a complete-record gaging station on a stream or canal consists of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relationships between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges. The data obtained at a complete-record gaging station on a lake or reservoir consist of a record of stage and of notations regarding factors that may affect the relationship between stage and lake content. These data are used with stage-area and stage-capacity curves or tables to compute water-surface areas and lake storage.

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage or with digital recorders that punch stage values on paper tapes at selected time intervals or electronic satellite data collector platforms that receive stage values at selected time intervals. Measurements of discharge are made with current meters using methods adapted by the Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter A6.

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In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves are then constructed. From these curves, rating tables indicating the approximate discharge for any stage within the range of the measurements are prepared. If it is necessary to define extremes of discharge outside the range of the current-meter measurements, the curves are extended using: (1) logarithmic plotting; (2) velocity-area studies; (3) results of indirect measurements of peak discharge, such as slope-area or contracted-opening measurements, and computations of flow-over-dams or weirs; or (4) step-backwater techniques.

Daily mean discharges are computed by applying the daily mean stages (gage heights) to the stage-discharge curves or tables. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on the individual discharge measurements and notes of the personnel making the measurements are applied to the gage heights before the discharges are determined from the curves or tables. This shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

In computing records of lake or reservoir contents, it is necessary to have available from surveys, curves or tables defining the relationship of stage and contents. The application of stage to the stage-content curves or tables gives the contents from which daily, monthly or yearly changes then are determined. If the stage-content relationship changes because of deposition of sediment in a lake or reservoir, periodic surveys may be necessary to redefine it. Even when this is done, as time between the last survey increases, the contents computed may increase in error. Discharges over lake or reservoir spillways are computed from stage-discharge relationships much as other stream discharges are computed.

For some gaging stations there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is loose in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

Data Presentation

Streamflow data in this report are presented in a new format that is considerably different from the format in data reports prior to the 1992 water year. The major changes are that statistical characteristics of discharge now appear in tabular summaries following the water-year data table and less information is provided in the text or station manuscript above the table. These changes represent the results of a pilot program to reformat the annual water-data report to meet current user needs and data preferences.

The records published for each continuous-record surface-water discharge station (gaging station) now consist of four parts, the manuscript or station description; the data table of daily mean values of discharge for the current water year with summary data; a tabular statistical summary of monthly mean flow data for a designated period, by water year; and a summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimum, and flow duration.

WATER RESOURCES DATA FOR PUERTO RICO AND THE U.S. VIRGIN ISLANDS, 2001**Station Manuscript**

The manuscript provides, under various headings, descriptive information, such as station location; period of record; historical extremes outside the period of record; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the stations descriptions.

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given.

DRAINAGE AREA.--Drainage areas are measured using the most accurate maps available. Drainage areas are updated as better maps become available.

PERIOD OF RECORD.--This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not, and whose location was such that records from it can reasonable be considered equivalent with records from the present station.

REVISED RECORDS.--Because of new information, published records occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage, and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--All periods of estimated daily-discharge record will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily-discharge table. (See next section, "Identifying Estimated Daily Discharge.") If a remarks statement is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph is also used to present information relative to the accuracy of the records, to special methods of computations, to conditions that affect natural flow at the station and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

EXTREMES OUTSIDE PERIOD OF RECORD.--Included here is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

WATER RESOURCES DATA FOR PUERTO RICO AND THE U.S. VIRGIN ISLANDS, 2001

Although rare, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possibly, future station manuscript published to document the revision in a "Revised Records" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the District office to determine if the published records were ever revised after the station was discontinued. Of course, if the data were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the "Remarks" and in the inclusion of a skeleton stage-capacity table when daily contents are given.

Data Table of Daily Mean Value

The daily table of discharge records for stream gaging stations gives mean discharge for each day of the water year. In the monthly summary for the table, the line headed "TOTAL" gives the sum of the daily figures for each month; the line headed "MEAN" gives the average flow in cubic feet per second for the month; and the lines headed "MAX" and "MIN" give the maximum and minimum daily mean discharges, respectively, for each month. Discharge for the month also is usually expressed in cubic feet per second per square mile (line headed "CFSM"); or in inches (line headed "IN"); or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches or in acre-feet may be omitted if there is extensive regulations or diversion or if the drainage area includes large noncontributing areas.

Statistics of Monthly Mean Data

A tabular summary of the mean (line headed "MEAN"), maximum (line headed "MAX"), and minimum (line headed "MIN") of monthly mean flows for each month for a designated period is provided below the mean values table. The water years of the first occurrence of the maximum and minimum monthly flow are provided immediately below those figures. The designated period will be expressed as "FOR WATER YEARS ____-____, BY WATER YEAR (WY)," and will list the first and last water years of the range of years selected from the PERIOD OF RECORD paragraph in the station manuscript. It will consist of all of the station records within the specified water years, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript.

Summary Statistics

A table titled "SUMMARY STATISTICS" follows the statistics of monthly mean data tabulation. This table consists of four columns, with the first column containing the line headings of the statistics being reported. The table provides a statistical summary of yearly, daily, and instantaneous flows, not only for the current water year but also for the previous calendar year and for a designated period, as appropriate. The designated period selected, "WATER YEARS ____-____," will consist of all of the station records within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript. All of the calculations for the statistical characteristics designated ANNUAL (see line headings below), except for the "ANNUAL 7-DAY MINIMUM" statistic, are calculated for the designated period using complete water years. The other statistical characteristics may be calculated using partial water years.

The date or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the REMARKS paragraph of the manuscript or in footnotes. Because the designated period may not be the same as the station period of record published in the manuscript, occasionally the dates of occurrence listed for the daily and instantaneous extremes in the designated-period column may not be within the selected water years listed in the heading. When this occurs, it will be noted in the REMARKS paragraph or in footnotes. Selected streamflow duration curve statistics and runoff data are also given. Runoff data may be omitted if there is extensive regulation or diversion of flow in the drainage basin.

WATER RESOURCES DATA FOR PUERTO RICO AND THE U.S. VIRGIN ISLANDS, 2001

The following summary statistics data, as appropriate, are provided with each continuous record of discharge. Comments to follow clarify information presented under the various line headings of the summary statistics table.

ANNUAL TOTAL.--The sum of the daily mean values of discharge for the year. At some stations the annual total discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

ANNUAL MEAN.--The arithmetic mean of the individual daily mean discharges for the year noted or for the designated period. At some stations the yearly mean discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

HIGHEST ANNUAL MEAN.--The maximum annual mean discharge occurring for the designated period.

LOWEST ANNUAL MEAN.--The minimum annual mean discharge occurring for the designated period.

HIGHEST DAILY MEAN.--The maximum daily mean discharge for the year or for the designated period.

LOWEST DAILY MEAN.--The minimum daily mean discharge for the year or for the designated period.

ANNUAL 7-DAY MINIMUM.--The lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1 - March 31). The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistics).

MAXIMUM PEAK FLOW.--The maximum instantaneous discharge occurring for the water year or for the designated period. Note that secondary instantaneous peak discharges above a selected base discharge are stored in District computer files for stations meeting certain criteria. Those discharge values may be obtained by writing to the District Office. (See address on back of the title page of this report.)

MAXIMUM PEAK STAGE.--The maximum instantaneous stage occurring for the water year or for the designated period. If the dates of occurrence for the instantaneous peak flow and instantaneous peak stage differ, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

INSTANTANEOUS LOW FLOW.--The minimum instantaneous discharge occurring for the water year or for the designated period.

ANNUAL RUNOFF.--Indicates the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurements in presenting annual runoff data:

Acre-foot (AC-FT) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area.

Inches (INCHES) indicates the depth to which the drainage area would be covered if all of the runoff for given time period were uniformly distributed on it.

10 PERCENT EXCEEDS.--The discharge that is exceeded 10 percent of the time for the designated period.

50 PERCENT EXCEEDS.--The discharge that is exceeded 50 percent of the time for the designated period.

90 PERCENT EXCEEDS.--The discharge that is exceeded 90 percent of the time for the designated period.

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Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in a table of discharge measurements at low-flow partial-record stations. These measurements are generally made in times of drought to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables are identified by flagging individual daily values with the letter symbol "e" and printing a table footnote, "e Estimated."

Accuracy of the Records

The accuracy of streamflow records depends primarily on: (1) The stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements; and (2) the accuracy of measurements of stage, measurements of discharge, and interpretation of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of the true; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned, are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft³/s; to the nearest tenth between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures for more than 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

Information used in the preparation of the records in this publication, such as discharge-measurement notes, gage-height records, temperature measurements, and rating tables are on file in the Caribbean District office. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the District office.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies.

Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications. A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be once or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station, where random samples are collected to give better areal coverage to define water-quality conditions in the river basin.

A careful distinction needs to be made between "continuing records" as used in this report and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figure 6.

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Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurement at miscellaneous sites.

On-site Measurements and Sample Collection

In obtaining water-quality data, a major concern needs to be assuring that the data obtained represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made onsite when the samples are taken. To assure that measurements made in the laboratory also represent the in situ water, carefully prescribed procedures need to be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. Detailed information on collecting, treating, and shipping samples may be obtained from the Geological Survey District office.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. All samples obtained for the National Stream Quality Accounting Network (see definitions) are obtained from at least several verticals. Whether samples are obtained from the centroid of flow or from several verticals, depends on flow conditions and other factors which must be evaluated by the collector.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records, when available, (hourly values) may be obtained from the U.S.G.S. District office whose address is given on the back of the title page of this report.

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the District office.

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Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating and pumping sediment samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, suspended-sediment loads for other periods of similar discharge, and computed by the subdivided-day method using the transport curves.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow and in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of suspended-sediment discharge, records of the periodic measurements of the particle-size distribution of the suspended sediment are included for some stations.

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the Geological Survey laboratories in Denver, Co. or Ocala, Fla. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the Geological Survey laboratories are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and so forth, obtained at a frequency less than daily are presented first, and tables of "daily values" of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence, when these parameters are studied.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

DRAINAGE AREA.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

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INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor temperature record, sediment pumping sampler, or other sampling device is in operation at a station.

REMARKS.--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

EXTREMES.--Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to insure the most recent updates.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remark Codes

The following remark codes may appear with the water-quality data in this report:

PRINTED OUTPUT	REMARK
E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
M	Presence verified, not quantified

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Records of Ground-Water Levels

Only ground-water level data from a basic network of observation wells are published herein. This basic network contains observation wells so located that the most significant data are obtained from the fewest wells in the most important aquifers.

Data Collection and Computation

Measurements of water levels are made in many types of wells under varying conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well ensure that measurements at each well are of consistent accuracy and reliability.

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is provided for easy reference. See figure 10.

Water-level records are obtained from direct measurements with a steel tape or from the graph or punched tape of a water-stage recorder. The water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the elevation of the land-surface datum is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every day and as an instantaneous observation at noon.

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error of determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth of a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most measurements reported to a hundredth of a foot, but some are given to a tenth of a foot or a larger unit.

Data Presentation

Each well record consists of three parts, the station description, the data table of water levels observed during the water year and a graph of the water levels for the current water year and other selected period. The description of the well is presented first through use of descriptive headings preceding the tabular data. The comments to follow clarify information presented under the various headings of the well description.

LOCATION.--This paragraph follows the well-identification number and reports the latitude and longitude (given in degrees, minutes, and seconds); a landline location designation; the hydrologic-unit number; the distance and direction from a geographic point of reference; and the owner's name.

AQUIFER.--This entry designates by name (if a name exists) and geological age the aquifer(s) open to the well.

WELL CHARACTERISTICS.--This entry describes the well in terms of depth, diameter, casing depth and/or screened interval, method of construction, use, and additional information such as casing breaks, collapsed screen, and other changes since construction.

INSTRUMENTATION.--This paragraph provides information on both the frequency of measurement and the collection method used, allowing the user to better evaluate the reported water-level extremes by knowing whether they are based on weekly, monthly, or some other frequency of measurement.

DATUM.--This entry describes both the measuring point and the land-surface elevation at the well. The measuring point is described physically (such as top of collar, notch in top of casing, plug in pump base and so on), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above (or below) sea level; it is reported with a precision depending on the method of determination.

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REMARKS.--This entry describes factors that may influence the water level in a well or the measurement of the water level. It should identify wells that also are water-quality observation wells, and may be used to acknowledge the assistance of local (non-Survey) observers.

PERIOD OF RECORD.--This entry indicates the period for which there are published records for the well. It reports the month and year of the start of publication of water-level records by the U.S. Geological Survey and the words "to current year" if the records are to be continued into the following year. Periods for which water-level records are available, but are not published by the Geological Survey, may be noted.

EXTREMES FOR PERIOD OF RECORD.--This entry contains the highest and lowest water levels of the period of published record, with respect to land-surface datum, and the dates of their occurrence.

A table of water levels follows the station description for each well. Water levels are reported in feet below land-surface datum and all taped measurements of water level are listed. For wells equipped with recorders, daily values tables are published for the instantaneous water-level observation at noon. The highest and lowest water levels of the water year and their dates of occurrence are shown on a line below the table. Because all values are not published for wells with recorders, the extremes may be values that are not listed in the table. Missing records are indicated by dashes in place of the water level. A hydrograph for a selected period of record follows each water-level table.

Records of Ground-Water Quality

Records of ground-water quality in this type of report differ from other types of records in that for most sampling sites they consist of only one set of measurements for the water year. The quality of ground water ordinarily changes only slowly; therefore, for most general purposes one annual sampling, or only a few samples taken at infrequent intervals during the year, is sufficient. Frequent measurement of the same constituents is not necessary unless one is concerned with a particular problem, such as monitoring for trends in nitrate concentration. In the special cases where the quality of ground water may change more rapidly, more frequent measurements are made to identify the nature of the changes.

Data Collection and Computation

The records of ground-water quality in this report were obtained mostly as a part of special studies in specific areas. Consequently, a number of chemical analyses are presented for some counties but none are presented for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality Statewide. Such a view can be attained only by considering records for this year in context with similar records obtained for these and other counties in earlier years.

Most methods for collecting and analyzing water samples are described in the "U.S. Geological Survey Techniques of Water-Resources Investigations" manuals listed on a following page. The values reported in this type of report represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. All samples are obtained by trained personnel. The wells sampled are pumped long enough to assure that the water collected comes directly from the aquifer and has not stood for a long time in the well casing where it would have been exposed to the atmosphere and to the material, possibly metal, comprising the casings.

Data Presentation

The records of ground-water quality, when available, are published in a section titled **QUALITY OF GROUND WATER** immediately following the ground-water level records. Data for quality of ground water are listed alphabetically by County, and are identified by well number. The prime identification number for wells sampled is the 15-digit number derived from the latitude-longitude locations. No descriptive statements are given for ground-water-quality records; however, the well number, depth of well, date of sampling, and other pertinent data are given in the table containing the chemical analyses of the ground water. The **REMARK** codes listed for surface-water-quality records are also applicable to ground-water-quality records.

WATER RESOURCES DATA FOR PUERTO RICO AND THE U.S. VIRGIN ISLANDS, 2001**ACCESS TO U.S. GEOLOGICAL SURVEY WATER DATA**

The U.S. Geological Survey provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the world wide web (WWW). These data may be accessed at

<http://water.usgs.gov>

Some water-quality and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on magnetic tape or 3-1/2 inch floppy disk. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division District Offices (see address on the back of the title page).

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DEFINITION OF TERMS

Specialized technical terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. Terms such as algae, water level, precipitation are used in their common everyday meanings, definitions of which are given in standard dictionaries. Not all terms defined in this alphabetical list apply to every State. See also table for converting English units to International System (SI) Units on the inside of the back cover.

Acid neutralizing capacity (ANC) is the equivalent sum of all bases or base-producing materials, solutes plus particulates, in an aqueous system that can be titrated with acid to an equivalence point. This term designates titration of an “unfiltered” sample (formerly reported as alkalinity).

Acre-foot (AC-FT, acre-ft) is a unit of volume, commonly used to measure quantities of water used or stored, equivalent to the volume of water required to cover 1 acre to a depth of 1 foot and equivalent to 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters. (See also “Annual runoff”)

Adenosine triphosphate (ATP) is an organic, phosphate-rich, compound important in the transfer of energy in organisms. Its central role in living cells makes ATP an excellent indicator of the presence of living material in water. A measurement of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter.

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

Alkalinity is the capacity of solutes in an aqueous system to neutralize acid. This term designates titration of a “filtered” sample.

Annual runoff is the total quantity of water that is discharged (“runs off”) from a drainage basin in a year. Data reports may present annual runoff data as volumes in acre-feet, as discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches.

Annual 7-day minimum is the lowest mean value for any 7-consecutive-day period in a year. Annual 7-day minimum values are reported herein for the calendar year and the water year (October 1 to September 30). Most low-flow frequency analyses use a climatic year (April 1-March 31), which tends to prevent the low-flow period from being artificially split between adjacent years. The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

Aroclor is the registered trademark for a group of polychlorinated biphenyls that were manufactured by the Monsanto Company prior to 1976. Aroclors are assigned specific 4-digit reference numbers dependent upon molecular type and degree of substitution of the biphenyl ring hydrogen atoms by chlorine atoms. The first two digits of a numbered aroclor represent the molecular type and the last two digits represent the weight percent of the hydrogen substituted chlorine.

Artificial substrate is a device that is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection. (See also “Substrate”)

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500 °C for 1 hour. Ash mass of zooplankton and phytoplankton is expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2). (See also “Biomass”)

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, while others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

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Base discharge (for peak discharge) is a discharge value, determined for selected stations, above which peak discharge data are published. The base discharge at each station is selected so that an average of about three peaks per year will be published.

Base flow is sustained flow of a stream in the absence of direct runoff. It includes natural and human-induced streamflows. Natural base flow is sustained largely by ground-water discharge.

Bedload is material in transport that is supported primarily by the streambed. In this report, bedload is considered to consist of particles in transit from the bed to an elevation equal to the top of the bedload sampler nozzle (ranging from 0.25 to 0.5 ft) that are retained in the bedload sampler. A sample collected with a pressure-differential bedload sampler may also contain a component of the suspended load.

Bedload discharge (tons per day) is rate of sediment moving as bedload, reported as dry weight, that passes through a cross section in a given time. NOTE: Bedload discharge values in this report may include a component of the suspended-sediment discharge. A correction may be necessary when computing the total sediment discharge by summing the bedload discharge and the suspended-sediment discharge. (See also "Bedload" and "Sediment")

Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed. (See also "Bedload" and "Sediment")

Benthic organisms are the group of organisms inhabiting the bottom of an aquatic environment. They include a number of types of organisms, such as bacteria, fungi, insect larvae and nymphs, snails, clams, and crayfish. They are useful as indicators of water quality.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by microorganisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as mass per unit area or volume of habitat.

Biomass pigment ratio is an indicator of the total proportion of periphyton which are autotrophic (plants). This is also called the Autotrophic Index.

Blue-green algae (*Cyanophyta*) are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample. (See also "Phytoplankton")

Bottom material (See "Bed material")

Cells/volume refers to the number of cells of any organism that is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample volume, and are generally reported as cells or units per milliliter (mL) or liter (L).

Cells volume (biovolume) determination is one of several common methods used to estimate biomass of algae in aquatic systems. Cell members of algae are frequently used in aquatic surveys as an indicator of algal production. However, cell numbers alone cannot represent true biomass because of considerable cell-size variation among the algal species. Cell volume (μm^3) is determined by obtaining critical cell measurements on cell dimensions (for example, length, width, height, or radius) for 20 to 50 cells of each important species to obtain an average biovolume per cell. Cells are categorized according to the correspondence of their cellular shape to the nearest geometric solid or combinations of simple solids (for example, spheres, cones, or cylinders). Representative formulae used to compute biovolume are as follows:

$$\text{sphere } \frac{4}{3} \pi r^3 \quad \text{cone } \frac{1}{3} \pi r^2 h \quad \text{cylinder } \pi r^2 h.$$

pi is the ratio of the circumference to the diameter of a circle; pi = 3.14159...

From cell volume, total algal biomass expressed as biovolume ($\mu\text{m}^3/\text{mL}$) is thus determined by multiplying the number of cells of a given species by its average cell volume and then summing these volumes over all species.

Cfs-day (See "Cubic foot per second-day")

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- Chemical oxygen demand (COD)** is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with BOD or with carbonaceous organic pollution from sewage or industrial wastes. [See also “Biochemical oxygen demand (BOD)”]
- Clostridium perfringens* (*C. perfringens*)** is a spore-forming bacterium that is common in the feces of human and other warm-blooded animals. Clostridial spores are being used experimentally as an indicator of past fecal contamination and presence of microorganisms that are resistant to disinfection and environmental stresses. (See also “Bacteria”)
- Coliphages** are viruses that infect and replicate in coliform bacteria. They are indicative of sewage contamination of waters and of the survival and transport of viruses in the environment.
- Color unit** is produced by 1 milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.
- Confined aquifer** is a term used to describe an aquifer containing water between two relatively impermeable boundaries. The water level in a well tapping a confined aquifer stands above the top of the confined aquifer and can be higher or lower than the water table that may be present in the material above it. In some cases, the water level can rise above the ground surface, yielding a flowing well.
- Contents** is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.
- Continuous-record station** is a site where data are collected with sufficient frequency to define daily mean values and variations within a day.
- Control** designates a feature in the channel downstream from a gaging station that physically influences the water-surface elevation and thereby determines the stage-discharge relation at the gage. This feature may be a constriction of the channel, a bedrock outcrop, a gravel bar, an artificial structure, or a uniform cross section over a long reach of the channel.
- Control structure** as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of saltwater.
- Cubic foot per second (CFS, ft³/s)** is the rate of discharge representing a volume of 1 cubic foot passing a given point in 1 second. It is equivalent to approximately 7.48 gallons per second or approximately 449 gallons per minute, or 0.02832 cubic meters per second. The term “second-feet” sometimes is used synonymously with “cubic feet per second” but is now obsolete.
- Cubic foot per second-day (CFS-DAY, Cfs-day, [(ft³/s)/d])** is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.98347 acre-feet, 646,317 gallons, or 2,446.6 cubic meters. The daily-mean discharges reported in the daily-value data tables are numerically equal to the daily volumes in cfs-days, and the totals also represent volumes in cfs-days.
- Cubic foot per second per square mile [CFSM, (ft³/s)/mi²]** is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area. (See also “Annual runoff”)
- Daily mean suspended-sediment concentration** is the time-weighted concentration of suspended sediment passing a stream cross section during a 24-hour day. (See also “Mean concentration of suspended sediment,” “Sediment,” and “Suspended-sediment concentration”)
- Daily-record station** is a site where data are collected with sufficient frequency to develop a record of one or more data values per day. The frequency of data collection can range from continuous recording to periodic sample or data collection on a daily or near-daily basis.
- Data Collection Platform (DCP)** is an electronic instrument that collects, processes, and stores data from various sensors, and transmits the data by satellite data relay, line-of-sight radio, and/or landline telemetry.
- Data logger** is a microprocessor-based data acquisition system designed specifically to acquire, process, and store data. Data are usually downloaded from onsite data loggers for entry into office data systems.

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Datum is a surface or point relative to which measurements of height and/or horizontal position are reported. A vertical datum is a horizontal surface used as the zero point for measurements of gage height, stage, or elevation; a horizontal datum is a reference for positions given in terms of latitude-longitude, State Plane coordinates, or UTM coordinates. (See also “Gage datum,” “Land-surface datum,” “National Geodetic Vertical Datum of 1929,” and “North American Vertical Datum of 1988”)

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample. (See also “Phytoplankton”)

Diel is of or pertaining to a 24-hour period of time; a regular daily cycle.

Discharge, or flow, is the rate that matter passes through a cross section of a stream channel or other water body per unit of time. The term commonly refers to the volume of water (including, unless otherwise stated, any sediments or other constituents suspended or dissolved in the water) that passes a cross section in a stream channel, canal, pipeline, etc., within a given period of time (cubic feet per second). Discharge also can apply to the rate at which constituents such as suspended sediment, bedload, and dissolved or suspended chemical constituents, pass through a cross section, in which cases the quantity is expressed as the mass of constituent that passes the cross section in a given period of time (tons per day).

Dissolved refers to that material in a representative water sample that passes through a 0.45-micrometer membrane filter. This is a convenient operational definition used by Federal and State agencies that collect water-quality data. Determinations of “dissolved” constituent concentrations are made on sample water that has been filtered.

Dissolved oxygen (DO) is the molecular oxygen (oxygen gas) dissolved in water. The concentration in water is a function of atmospheric pressure, temperature, and dissolved-solids concentration of the water. The ability of water to retain oxygen decreases with increasing temperature or dissolved-solids concentration. Photosynthesis and respiration by plants commonly cause diurnal variations in dissolved-oxygen concentration in water from some streams.

Dissolved-solids concentration in water is the quantity of dissolved material in a sample of water. It is determined either analytically by the “residue-on-evaporation” method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. In the mathematical calculation, the bicarbonate value, in milligrams per liter, is multiplied by 0.4926 to convert it to carbonate. Alternatively, alkalinity concentration (as mg/L CaCO₃) can be converted to carbonate concentration by multiplying by 0.60.

Diversity index (H) (Shannon Index) is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = - \sum_{i \approx 1}^s \frac{n_i}{n} \log_2 \frac{n_i}{n}$$

where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specific location is that area upstream from the location, measured in a horizontal plane, that has a common outlet at the site for its surface runoff from precipitation that normally drains by gravity into a stream. Drainage areas given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the Earth’s surface that contains a drainage system with a common outlet for its surface runoff. (See “Drainage area”)

Dry mass refers to the mass of residue present after drying in an oven at 105 °C, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass. (See also “Ash mass,” “Biomass,” and “Wet mass”)

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Dry weight refers to the weight of animal tissue after it has been dried in an oven at 65 °C until a constant weight is achieved. Dry weight represents total organic and inorganic matter in the tissue. (See also “Wet weight”)

Enterococcus bacteria are commonly found in the feces of humans and other warm-blooded animals. Although some strains are ubiquitous and not related to fecal pollution, the presence of enterococci in water is an indication of fecal pollution and the possible presence of enteric pathogens. Enterococcus bacteria are those bacteria that produce pink to red colonies with black or reddish-brown precipitate after incubation at 41 °C on mE agar and subsequent transfer to EIA medium. Enterococci include *Streptococcus faecalis*, *Streptococcus faecium*, *Streptococcus avium*, and their variants. (See also “Bacteria”)

EPT Index is the total number of distinct taxa within the insect orders Ephemeroptera, Plecoptera, and Trichoptera. This index summarizes the taxa richness within the aquatic insects that are generally considered pollution sensitive, the index usually decreases with pollution.

***Escherichia coli* (*E. coli*)** are bacteria present in the intestine and feces of warm-blooded animals. *E. coli* are a member species of the fecal coliform group of indicator bacteria. In the laboratory, they are defined as those bacteria that produce yellow or yellow-brown colonies on a filter pad saturated with urea substrate broth after primary culturing for 22 to 24 hours at 44.5 °C on mTEC medium. Their concentrations are expressed as number of colonies per 100 mL of sample. (See also “Bacteria”)

Estimated (E) value of a concentration is reported when an analyte is detected and all criteria for a positive result are met. If the concentration is less than the method detection limit (MDL), an ‘E’ code will be reported with the value. If the analyte is qualitatively identified as present, but the quantitative determination is substantially more uncertain, the National Water Quality Laboratory will identify the result with an ‘E’ code even though the measured value is greater than the MDL. A value reported with an ‘E’ code should be used with caution. When no analyte is detected in a sample, the default reporting value is the MDL preceded by a less than sign (<).

Euglenoids (*Euglenophyta*) are a group of algae that are usually free-swimming and rarely creeping. They have the ability to grow either photosynthetically in the light or heterotrophically in the dark. (See also “Phytoplankton”)

Extractable organic halides (EOX) are organic compounds that contain halogen atoms such as chlorine. These organic compounds are semi-volatile and extractable by ethyl acetate from air-dried streambed sediments. The ethyl acetate extract is combusted, and the concentration is determined by microcoulometric determination of the halides formed. The concentration is reported as micrograms of chlorine per gram of the dry weight of the streambed sediments.

Fecal coliform bacteria are present in the intestine or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory, they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5 °C plus or minus 0.2 °C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also “Bacteria”)

Fecal streptococcal bacteria are present in the intestine of warm-blooded animals and are ubiquitous in the environment. They are characterized as gram-positive, cocci bacteria that are capable of growth in brain-heart infusion broth. In the laboratory, they are defined as all the organisms that produce red or pink colonies within 48 hours at 35 °C plus or minus 1.0 °C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also “Bacteria”)

Fire algae (*Pyrrhophyta*) are free-swimming unicells characterized by a red pigment spot. (See also “Phytoplankton”)

Flow-duration percentiles are values on a scale of 100 that indicate the percentage of time for which a flow is not exceeded. For example, the 90th percentile of river flow is greater than or equal to 90 percent of all recorded flow rates.

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Gage datum is a horizontal surface used as a zero point for measurement of stage or gage height. This surface usually is located slightly below the lowest point of the stream bottom such that the gage height is usually slightly larger than the maximum depth of water. Because the gage datum itself is not an actual physical object, the datum usually is defined by specifying the elevations of permanent reference marks such as bridge abutments and survey monuments, and the gage is set to agree with the reference marks. Gage datum is a local datum that is maintained independently of any National geodetic datum. However, if the elevation of the gage datum relative to the National datum (North American Vertical Datum of 1988 or National Geodetic Vertical Datum of 1929) has been determined, then the gage readings can be converted to elevations above the National datum by adding the elevation of the gage datum to the gage reading.

Gage height (G.H.) is the water-surface elevation, in feet above the gage datum. If the water surface is below the gage datum, the gage height is negative. Gage height is often used interchangeably with the more general term “stage,” although gage height is more appropriate when used in reference to a reading on a gage.

Gage values are values that are recorded, transmitted and/or computed from a gaging station. Gage values typically are collected at 5-, 15-, or 30-minute intervals.

Gaging station is a site on a stream, canal, lake, or reservoir where systematic observations of stage, discharge, or other hydrologic data are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is computed.

Gas chromatography/flame ionization detector (GC/FID) is a laboratory analytical method used as a screening technique for semivolatile organic compounds that are extractable from water in methylene chloride.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algae mats or floating “moss” in lakes. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample. (See also “Phytoplankton”)

Habitat quality index is the qualitative description (level 1) of instream habitat and riparian conditions surrounding the reach sampled. Scores range from 0 to 100 percent with higher scores indicative of desirable habitat conditions for aquatic life. Index only applicable to wadable streams.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations (primarily calcium and magnesium) and is expressed as the equivalent concentration of calcium carbonate (CaCO_3).

High tide is the maximum height reached by each rising tide. The high-high and low-high tides are the higher and lower of the two high tides, respectively, of each tidal day. *See NOAA web site:*
<http://www.co-ops.nos.noaa.gov/tideglos.html>

Hilsenhoff’s Biotic Index (HBI) is an indicator of organic pollution which uses tolerance values to weight taxa abundances; usually increases with pollution. It is calculated as follows:

$$HBI = \frac{\sum (n)(a)}{N}$$

where n is the number of individuals of each taxon, a is the tolerance value of each taxon, and N is the total number of organisms in the sample.

Horizontal datum (See “Datum”)

Hydrologic benchmark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a benchmark station may be used to separate effects of natural from human-induced changes in other basins that have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped benchmark basin.

Hydrologic index stations referred to in this report are four continuous-record gaging stations that have been selected as representative of streamflow patterns for their respective regions. Station locations are shown on index maps.

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Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as defined by the former Office of Water Data Coordination and delineated on the State Hydrologic Unit Maps by the USGS. Each hydrologic unit is identified by an 8-digit number.

Inch (IN., in.), as used in this report, refers to the depth to which the drainage area would be covered with water if all of the runoff for a given time period were uniformly distributed on it. (See also “Annual runoff”)

Instantaneous discharge is the discharge at a particular instant of time. (See also “Discharge”)

Laboratory Reporting Level (LRL) is generally equal to twice the yearly determined long-term method detection level (LT-MDL). The LRL controls false negative error. The probability of falsely reporting a non-detection for a sample that contained an analyte at a concentration equal to or greater than the LRL is predicted to be less than or equal to 1 percent. The value of the LRL will be reported with a “less than” (<) remark code for samples in which the analyte was not detected. The National Water Quality Laboratory collects quality-control data from selected analytical methods on a continuing basis to determine LT-MDLs and to establish LRLs. These values are reevaluated annually based on the most current quality-control data and may, therefore, change. [Note: In several previous NWQL documents (Connor and others, 1998; NWQL Technical Memorandum 98.07, 1998), the LRL was called the non-detection value or NDV—a term that is no longer used.]

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground-water observation well.

Light-attenuation coefficient, also known as the extinction coefficient, is a measure of water clarity. Light is attenuated according to the Lambert-Beer equation

$$I = I_o e^{-\lambda L},$$

where I_o is the source light intensity, I is the light intensity at length L (in meters) from the source, λ is the light-attenuation coefficient, and e is the base of the natural logarithm. The light attenuation coefficient is defined as

$$\lambda = -\frac{1}{L} \log_e \frac{I}{I_o}.$$

Lipid is any one of a family of compounds that are insoluble in water and that make up one of the principal components of living cells. Lipids include fats, oils, waxes, and steroids. Many environmental contaminants such as organochlorine pesticides are lipophilic.

Long-Term Method Detection Level (LT-MDL) is a detection level derived by determining the standard deviation of a minimum of 24 method detection limit (MDL) spike sample measurements over an extended period of time. LT-MDL data are collected on a continuous basis to assess year-to-year variations in the LT-MDL. The LT-MDL controls false positive error. The chance of falsely reporting a concentration at or greater than the LT-MDL for a sample that did not contain the analyte is predicted to be less than or equal to 1 percent.

Low tide is the minimum height reached by each falling tide. The high-low and low-low tides are the higher and lower of the two low tides, respectively, of each tidal day. *See NOAA web site: <http://www.co-ops.nos.noaa.gov/tideglos.html>*

Macrophytes are the macroscopic plants in the aquatic environment. The most common macrophytes are the rooted vascular plants that are usually arranged in zones in aquatic ecosystems and restricted in the area by the extent of illumination through the water and sediment deposition along the shoreline.

Mean concentration of suspended sediment (Daily mean suspended-sediment concentration) is the time-weighted concentration of suspended sediment passing a stream cross section during a given time period. (See also “Daily mean suspended-sediment concentration” and “Suspended-sediment concentration”)

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period. (See also “Discharge”)

Mean high or low tide is the average of all high or low tides, respectively, over a specific period.

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Mean sea level is a local tidal datum. It is the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch. Shorter series are specified in the name; for example, monthly mean sea level and yearly mean sea level. In order that they may be recovered when needed, such datums are referenced to fixed points known as benchmarks. (See also "Datum")

Measuring point (MP) is an arbitrary permanent reference point from which the distance to water surface in a well is measured to obtain water level.

Membrane filter is a thin microporous material of specific pore size used to filter bacteria, algae, and other very small particles from water.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Method Detection Limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99-percent confidence that the analyte concentration is greater than zero. It is determined from the analysis of a sample in a given matrix containing the analyte. At the MDL concentration, the risk of a false positive is predicted to be less than or equal to 1 percent.

Methylene blue active substances (MBAS) are apparent detergents. The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

Micrograms per gram (UG/G, $\mu\text{g/g}$) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per kilogram (UG/KG, $\mu\text{g/kg}$) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent per unit mass (kilogram) of the material analyzed. One microgram per kilogram is equivalent to 1 part per billion.

Micrograms per liter (UG/L, $\mu\text{g/L}$) is a unit expressing the concentration of chemical constituents in water as mass (micrograms) of constituent per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter. One microgram per liter is equivalent to 1 part per billion.

Microsiemens per centimeter (US/CM, $\mu\text{S/cm}$) is a unit expressing the amount of electrical conductivity of a solution as measured between opposite faces of a centimeter cube of solution at a specified temperature. Siemens is the International System of Units nomenclature. It is synonymous with mhos and is the reciprocal of resistance in ohms.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in water as the mass (milligrams) of constituent per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L and is based on the mass of dry sediment per liter of water-sediment mixture.

Minimum Reporting Level (MRL) is the smallest measured concentration of a constituent that may be reliably reported by using a given analytical method (Timme, 1995).

Miscellaneous site, miscellaneous station, or miscellaneous sampling site is a site where streamflow, sediment, and/or water-quality data or water-quality or sediment samples are collected once, or more often on a random or discontinuous basis to provide better areal coverage for defining hydrologic and water-quality conditions over a broad area in a river basin.

Most probable number (MPN) is an index of the number of coliform bacteria that, more probably than any other number, would give the results shown by the laboratory examination; it is not an actual enumeration. MPN is determined from the distribution of gas-positive cultures among multiple inoculated tubes.

Multiple-plate samplers are artificial substrates of known surface area used for obtaining benthic invertebrate samples. They consist of a series of spaced, hardboard plates on an eyebolt.

Nanograms per liter (NG/L, ng/L) is a unit expressing the concentration of chemical constituents in solution as mass (nanograms) of solute per unit volume (liter) of water. One million nanograms per liter is equivalent to 1 milligram per liter.

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National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a fixed reference adopted as a standard geodetic datum for elevations determined by leveling. It was formerly called “Sea Level Datum of 1929” or “mean sea level.” Although the datum was derived from the mean sea level at 26 tide stations, it does not necessarily represent local mean sea level at any particular place. *See NOAA web site: <http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88>* (See “North American Vertical Datum of 1988”)

Natural substrate refers to any naturally occurring immersed or submersed solid surface, such as a rock or tree, upon which an organism lives. (See also “Substrate”)

Nekton are the consumers in the aquatic environment and consist of large free-swimming organisms that are capable of sustained, directed mobility.

Nephelometric turbidity unit (NTU) is the measurement for reporting turbidity that is based on use of a standard suspension of Formazin. Turbidity measured in NTU uses nephelometric methods that depend on passing specific light of a specific wavelength through the sample.

North American Vertical Datum of 1988 (NAVD 1988) is a fixed reference adopted as the official civilian vertical datum for elevations determined by Federal surveying and mapping activities in the U.S. This datum was established in 1991 by minimum-constraint adjustment of the Canadian, Mexican, and U.S. first-order terrestrial leveling networks.

Open or screened interval is the length of unscreened opening or of well screen through which water enters a well, in feet below land surface.

Organic carbon (OC) is a measure of organic matter present in aqueous solution, suspension, or bottom sediments. May be reported as dissolved organic carbon (DOC), particulate organic carbon (POC), or total organic carbon (TOC).

Organic mass or volatile mass of the living substance is the difference between the dry mass and ash mass and represents the actual mass of the living matter. Organic mass is expressed in the same units as for ash mass and dry mass. (See also “Ash mass,” “Biomass,” and “Dry mass”)

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meter (m²), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Organochlorine compounds are any chemicals that contain carbon and chlorine. Organochlorine compounds that are important in investigations of water, sediment, and biological quality include certain pesticides and industrial compounds.

Parameter Code is a 5-digit number used in the USGS computerized data system, National Water Information System (NWIS), to uniquely identify a specific constituent or property.

Partial-record station is a site where discrete measurements of one or more hydrologic parameters are obtained over a period of time without continuous data being recorded or computed. A common example is a crest-stage gage partial-record station at which only peak stages and flows are recorded.

Particle size is the diameter, in millimeters (mm), of a particle determined by sieve or sedimentation methods. The sedimentation method utilizes the principle of Stokes Law to calculate sediment particle sizes. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube, Sedigraph) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

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Particle-size classification, as used in this report, agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows

Classification	Size (mm)	Method of analysis
Clay	0.00024- 0.004	Sedimentation
Silt	0.004 - 0.062	Sedimentation
Sand	0.062 - 2.0	Sedimentation/sieve
Gravel	2.0 - 64.0	Sieve

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic matter is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

Peak flow (peak stage) is an instantaneous local maximum value in the continuous time series of streamflows or stages, preceded by a period of increasing values and followed by a period of decreasing values. Several peak values ordinarily occur in a year. The maximum peak value in a year is called the annual peak; peaks lower than the annual peak are called secondary peaks. Occasionally, the annual peak may not be the maximum value for the year; in such cases, the maximum value occurs at midnight at the beginning or end of the year, on the recession from or rise toward a higher peak in the adjoining year. If values are recorded at a discrete series of times, the peak recorded value may be taken as an approximation to the true peak, which may occur between the recording instants. If the values are recorded with finite precision, a sequence of equal recorded values may occur at the peak; in this case, the first value is taken as the peak.

Percent composition or **percent of total** is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, weight, mass, or volume.

Percent shading is determined by using a clinometer to estimate left and right bank shading. The values are added together and divided by 180 to determine percent shading relative to a horizontal surface.

Periodic-record station is a site where stage, discharge, sediment, chemical, physical, or other hydrologic measurements are made one or more times during a year, but at a frequency insufficient to develop a daily record.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton are useful indicators of water quality.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

pH of water is the negative logarithm of the hydrogen-ion activity. Solutions with pH less than 7 are termed "acidic," and solutions with a pH greater than 7 are termed "basic." Solutions with a pH of 7 are neutral. The presence and concentration of many dissolved chemical constituents found in water are, in part, influenced by the hydrogen-ion activity of water. Biological processes including growth, distribution of organisms, and toxicity of the water to organisms are also influenced, in part, by the hydrogen-ion activity of water.

Phytoplankton is the plant part of the plankton. They are usually microscopic, and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment and are commonly known as algae. (See also "Plankton")

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactive nuclide represented by a curie (Ci). A curie is the quantity of radioactive nuclide that yields 3.7×10^{10} radioactive disintegrations per second (dps). A picocurie yields 0.037 dps, or 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers. Concentrations are expressed as a number of cells per milliliter (cells/mL of sample).

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Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Polychlorinated naphthalenes (PCNs) are industrial chemicals that are mixtures of chlorinated naphthalene compounds. They have properties and applications similar to polychlorinated biphenyls (PCBs) and have been identified in commercial PCB preparations.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated (carbon method) by the plants.

Primary productivity (carbon method) is expressed as milligrams of carbon per area per unit time [$\text{mg C}/(\text{m}^2/\text{time})$] for periphyton and macrophytes or per volume [$\text{mg C}/(\text{m}^3/\text{time})$] for phytoplankton. Carbon method defines the amount of carbon dioxide consumed as measured by radioactive carbon (carbon-14). The carbon-14 method is of greater sensitivity than the oxygen light and dark bottle method and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period. (See also "Primary productivity")

Primary productivity (oxygen method) is expressed as milligrams of oxygen per area per unit time [$\text{mg O}/(\text{m}^2/\text{time})$] for periphyton and macrophytes or per volume [$\text{mg O}/(\text{m}^3/\text{time})$] for phytoplankton. Oxygen method defines production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period. (See also "Primary productivity")

Radioisotopes are isotopic forms of an element that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight, but are very nearly alike in chemical properties. The difference arises because the atoms of the isotopic forms of an element differ in the number of neutrons in the nucleus; for example, ordinary chlorine is a mixture of isotopes having atomic weights of 35 and 37, and the natural mixture has an atomic weight of about 35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been produced in the operation of nuclear devices such as the cyclotron. There are 275 isotopes of the 81 stable elements, in addition to more than 800 radioactive isotopes.

Recoverable from bed (bottom) material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results. (See also "Bed material")

Recurrence interval, also referred to as return period, is the average time, usually expressed in years, between occurrences of hydrologic events of a specified type (such as exceedances of a specified high flow or non-exceedance of a specified low flow). The terms "return period" and "recurrence interval" do not imply regular cyclic occurrence. The actual times between occurrences vary randomly, with most of the times being less than the average and a few being substantially greater than the average. For example, the 100-year flood is the flow rate that is exceeded by the annual maximum peak flow at intervals whose average length is 100 years (that is, once in 100 years, on average); almost two-thirds of all exceedances of the 100-year flood occur less than 100 years after the previous exceedance, half occur less than 70 years after the previous exceedance, and about one-eighth occur more than 200 years after the previous exceedance. Similarly, the 7-day 10-year low flow ($7Q_{10}$) is the flow rate below which the annual minimum 7-day-mean flow dips at intervals whose average length is 10 years (that is, once in 10 years, on average); almost two-thirds of the non-exceedances of the $7Q_{10}$ occur less than 10 years after the previous non-exceedance, half occur less than 7 years after, and about one-eighth occur more than 20 years after the previous non-exceedance. The recurrence interval for annual events is the reciprocal of the annual probability of occurrence. Thus, the 100-year flood has a 1-percent chance of being exceeded by the maximum peak flow in any year, and there is a 10-percent chance in any year that the annual minimum 7-day-mean flow will be less than the $7Q_{10}$.

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Replicate samples are a group of samples collected in a manner such that the samples are thought to be essentially identical in composition.

Return period (See "Recurrence interval")

River mileage is the curvilinear distance, in miles, measured upstream from the mouth along the meandering path of a stream channel in accordance with Bulletin No. 14 (October 1968) of the Water Resources Council, and typically used to denote location along a river.

Runoff is the quantity of water that is discharged ("runs off") from a drainage basin in a given time period. Runoff data may be presented as volumes in acre-feet, as mean discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches. (See also "Annual runoff")

Sea level, as used in this report, refers to one of the two commonly used national vertical datums, (NGVD 1929 or NAVD 1988). See separate entries for definitions of these datums. See conversion of units page (inside back cover) for identification of the datum used in this report.

Sediment is solid material that originates mostly from disintegrated rocks; when transported by, suspended in, or deposited from water, it is referred to as "fluvial sediment." Sediment includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental and land-use factors. Some major factors are topography, soil characteristics, land cover, and depth and intensity of precipitation.

Seven-day 10-year low flow (7Q10) is the discharge below which the annual 7-day minimum flow falls in 1 year out of 10 on the long-run average. The recurrence interval of the 7Q10 is 10 years; the chance that the annual 7-day minimum flow will be less than the 7Q10 is 10 percent in any given year. (See also "Recurrence interval" and "Annual 7-day minimum")

Sodium adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Sodium hazard in water is an index that can be used to evaluate the suitability of water for irrigating crops.

Specific electrical conductance (conductivity) is a measure of the capacity of water (or other media) to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific electrical conductance is a function of the types and quantity of dissolved substances in water and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is from 55 to 75 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stable isotope ratio (per MIL/MIL) is a unit expressing the ratio of the abundance of two radioactive isotopes. Isotope ratios are used in hydrologic studies to determine the age or source of specific waters, to evaluate mixing of different waters, as an aid in determining reaction rates, and other chemical or hydrologic processes.

Stage (See "Gage height")

Stage-discharge relation is the relation between the water-surface elevation, termed stage (gage height), and the volume of water flowing in a channel per unit time.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

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Substrate Embeddedness Class is a visual estimate of riffle streambed substrate larger than gravel that is surrounded or covered by fine sediment (<2mm, sand or finer). Below are the class categories expressed as percent covered by fine sediment:

0	< no gravel or larger substrate		
1	> 75%		
2	51-75%	4	5-25%
3	26-50%	5	< 5%

Surface area of a lake is that area (acres) encompassed by the boundary of the lake as shown on USGS topographic maps, or other available maps or photographs. Because surface area changes with lake stage, surface areas listed in this report represent those determined for the stage at the time the maps or photographs were obtained.

Surficial bed material is the upper surface (0.1 to 0.2 ft) of the bed material such as that material which is sampled using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. It is operationally defined as the material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative suspended water-sediment sample that is retained on a 0.45-micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the “total” amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results. Determinations of “suspended, recoverable” constituents are made either by directly analyzing the suspended material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent. (See also “Suspended”)

Suspended sediment is the sediment maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid. (See also “Sediment”)

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L). The analytical technique uses the mass of all of the sediment and the net weight of the water-sediment mixture in a sample to compute the suspended-sediment concentration. (See also “Sediment” and “Suspended sediment”)

Suspended-sediment discharge (tons/day) is the rate of sediment transport, as measured by dry mass or volume, that passes a cross section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft³/s) x 0.0027. (See also “Sediment,” “Suspended sediment,” and “Suspended-sediment concentration”)

Suspended-sediment load is a general term that refers to a given characteristic of the material in suspension that passes a point during a specified period of time. The term needs to be qualified, such as “annual suspended-sediment load” or “sand-size suspended-sediment load,” and so on. It is not synonymous with either suspended-sediment discharge or concentration. (See also “Sediment”)

Suspended, total is the total amount of a given constituent in the part of a water-sediment sample that is retained on a 0.45-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. Knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as “suspended, total.” Determinations of “suspended, total” constituents are made either by directly analyzing portions of the suspended material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent. (See also “Suspended”)

Suspended solids, total residue at 105 °C concentration is the concentration of inorganic and organic material retained on a filter, expressed as milligrams of dry material per liter of water (mg/L). An aliquot of the sample is used for this analysis.

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Synoptic studies are short-term investigations of specific water-quality conditions during selected seasonal or hydrologic periods to provide improved spatial resolution for critical water-quality conditions. For the period and conditions sampled, they assess the spatial distribution of selected water-quality conditions in relation to causative factors, such as land use and contaminant sources.

Taxa richness is the total number of distinct species or groups and usually decreases with pollution. (See also “Percent Shading”)

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, *Hexagenia limbata*, is the following:

Kingdom:	Animal
Phylum:	Arthropoda
Class:	Insecta
Order:	Ephemeroptera
Family:	Ephemeridae
Genus:	<i>Hexagenia</i>
Species:	<i>Hexagenia limbata</i>

Temperature preferences:

Cold – preferred water temperature for the species is less than 20 °C or spawning temperature preference less than 16 °C and native distribution is considered to be predominantly north of 45° N. latitude.

Warm – preferred water temperatures for the species is greater than 20 °C or spawning temperature preference greater than 16 °C and native distribution is considered to be predominantly south of 45° N. latitude.

Cool – intermediate between cold and warm water temperature preferences.

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term “temperature recorder” is used in the table descriptions and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water resulting from the mixing of flow proportionally to the duration of the concentration.

Tons per acre-foot (T/acre-ft) is the dry mass (tons) of a constituent per unit volume (acre-foot) of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY, tons/d) is a common chemical or sediment discharge unit. It is the quantity of a substance in solution, in suspension, or as bedload that passes a stream section during a 24-hour period. It is equivalent to 2,000 pounds per day, or 0.9072 metric tons per day.

Total is the amount of a given constituent in a representative whole-water (unfiltered) sample, regardless of the constituent’s physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as “total.” (Note that the word “total” does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determined at least 95 percent of the constituent in the sample.)

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. This group includes coliforms that inhabit the intestine of warm-blooded animals and those that inhabit soils. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria that ferment lactose with gas formation within 48 hours at 35 °C. In the laboratory, these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35 °C plus or minus 1.0 °C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also “Bacteria”)

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Total discharge is the quantity of a given constituent, measured as dry mass or volume, that passes a stream cross section per unit of time. When referring to constituents other than water, this term needs to be qualified, such as “total sediment discharge,” “total chloride discharge,” and so on.

Total in bottom material is the amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as “total in bottom material.”

Total length (fish) is the straight-line distance from the anterior point of a fish specimen’s snout, with the mouth closed, to the posterior end of the caudal (tail) fin, with the lobes of the caudal fin squeezed together.

Total load refers to all of a constituent in transport. When referring to sediment, it includes suspended load plus bed load.

Total organism count is the number of organisms collected and enumerated in any particular sample. (See also “Organism count/volume.”)

Total recoverable is the amount of a given constituent in a whole-water sample after a sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the “total” amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data for whole-water samples, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures may produce different analytical results.

Total sediment discharge is the mass of suspended-sediment plus bed-load transport, measured as dry weight, that passes a cross section in a given time. It is a rate and is reported as tons per day. (See also “Sediment,” “Suspended sediment,” “Suspended-Sediment Concentration,” “Bedload,” and “Bedload discharge”)

Total sediment load or total load is the sediment in transport as bedload and suspended-sediment load. The term may be qualified, such as “annual suspended-sediment load” or “sand-size suspended-sediment load,” and so on. It differs from total sediment discharge in that load refers to the material whereas discharge refers to the quantity of material, expressed in units of mass per unit time. (See also “Sediment,” “Suspended-Sediment Load,” and “Total load”)

Trophic group:

Filter feeder – diet composed of suspended plant and/or animal material.

Herbivore – diet composed predominantly of plant material.

Invertivore – diet composed predominantly of invertebrates.

Omnivore – diet composed of at least 25-percent plant and 25-percent animal material.

Piscivore – diet composed predominantly of fish.

Turbidity is the reduction in the transparency of a solution due to the presence of suspended and some dissolved substances. The measurement technique records the collective optical properties of the solution that cause light to be scattered and attenuated rather than transmitted in straight lines; the higher the intensity of scattered or attenuated light, the higher the value of the turbidity. Turbidity is expressed in nephelometric turbidity units (NTU). Depending on the method used, the turbidity units as NTU can be defined as the intensity of light of a specified wavelength scattered or attenuated by suspended particles or absorbed at a method specified angle, usually 90 degrees, from the path of the incident light. Currently approved methods for the measurement of turbidity in the USGS include those that conform to EPA Method 180.1, ASTM D1889-00, and ISO 7027. Measurements of turbidity by these different methods and different instruments are unlikely to yield equivalent values. Consequently, the method of measurement and type of instrument used to derive turbidity records should be included in the “REMARKS” column of the Annual Data Report.

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Ultraviolet (UV) absorbance (absorption) at 254 or 280 nanometers is a measure of the aggregate concentration of the mixture of UV absorbing organic materials dissolved in the analyzed water, such as lignin, tannin, humic substances, and various aromatic compounds. UV absorbance (absorption) at 254 or 280 nanometers is measured in UV absorption units per centimeter of pathlength of UV light through a sample.

Vertical datum (See “Datum”)

Volatile organic compounds (VOCs) are organic compounds that can be isolated from the water phase of a sample by purging the water sample with inert gas, such as helium, and subsequently analyzed by gas chromatography. Many VOCs are human-made chemicals that are used and produced in the manufacture of paints, adhesives, petroleum products, pharmaceuticals, and refrigerants. They are often components of fuels, solvents, hydraulic fluids, paint thinners, and dry cleaning agents commonly used in urban settings. VOC contamination of drinking-water supplies is a human health concern because many are toxic and are known or suspected human carcinogens (U.S. Environmental Protection Agency, 1996).

Water table is the level in the saturated zone at which the pressure is equal to the atmospheric pressure.

Water-table aquifer is an unconfined aquifer within which is found the water table.

Water year in USGS reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 2001, is called the “2001 water year.”

WDR is used as an abbreviation for “Water-Data Report” in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports. (WRD was used as an abbreviation for “Water-Resources Data” in reports published prior to 1976.)

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

Wet mass is the mass of living matter plus contained water. (See also “Biomass” and “Dry mass”)

Wet weight refers to the weight of animal tissue or other substance including its contained water. (See also “Dry weight”)

WSP is used as an acronym for “Water-Supply Paper” in reference to previously published reports.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers. (See also “Plankton”)

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TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS OF THE U.S. GEOLOGICAL SURVEY

The U.S.G.S. publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, section A of book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the U.S.G.S., Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be made in the form of a check or money order payable to the "U.S. Geological Survey." Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and mention the "U.S. Geological Survey Techniques of Water-Resources Investigations."

Book 1. Collection of Water Data by Direct Measurement

Section D. Water Quality

- 1-D1. *Water temperature—influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J.F. Ficke, and G. F. Smoot: USGS–TWRI book 1, chap. D1. 1975. 65 p.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W. Wood: USGS–TWRI book 1, chap. D2. 1976. 24 p.

Book 2. Collection of Environmental Data

Section D. Surface Geophysical Methods

- 2-D1. *Application of surface geophysics to ground-water investigations*, by A.A. R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS–TWRI book 2, chap. D1. 1974. 116 p.
- 2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F.P. Haeni: USGS–TWRI book 2, chap. D2. 1988. 86 p.

Section E. Subsurface Geophysical Methods

- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W.S. Keys and L.M. MacCary: USGS–TWRI book 2, chap. E1. 1971. 126 p.
- 2-E2. *Borehole geophysics applied to ground-water investigations*, by W.S. Keys: USGS–TWRI book 2, chap. E2. 1990. 150 p.

Section F. Drilling and Sampling Methods

- 2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and W.E. Teasdale: USGS–TWRI book 2, chap. F1. 1989. 97 p.

Book 3. Applications of Hydraulics

Section A. Surface-Water Techniques

- 3-A1. *General field and office procedures for indirect discharge measurements*, by M.A. Benson and Tate Dalrymple: USGS–TWRI book 3, chap. A1. 1967. 30 p.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M.A. Benson: USGS–TWRI book 3, chap. A2. 1967. 12 p.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G.L. Bodhaine: USGS–TWRI book 3, chap. A3. 1968. 60 p.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H.F. Matthai: USGS–TWRI book 3, chap. A4. 1967. 44 p.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS–TWRI book 3, chap. A5. 1967. 29 p.
- 3-A6. *General procedure for gaging streams*, by R.W. Carter and Jacob Davidian: USGS–TWRI book 3, chap. A6. 1968. 13 p.
- 3-A7. *Stage measurement at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A7. 1968. 28 p.

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PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS—Continued

- 3-A8. *Discharge measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A8. 1969. 65 p.
- 3-A9. *Measurement of time of travel in streams by dye tracing*, by F.A. Kilpatrick and J.F. Wilson, Jr.: USGS–TWRI book 3, chap. A9. 1989. 27 p.
- 3-A10. *Discharge ratings at gaging stations*, by E.J. Kennedy: USGS–TWRI book 3, chap. A10. 1984. 59 p.
- 3-A11. *Measurement of discharge by the moving-boat method*, by G.F. Smoot and C.E. Novak: USGS–TWRI book 3, chap. A11. 1969. 22 p.
- 3-A12. *Fluorometric procedures for dye tracing*, Revised, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS–TWRI book 3, chap. A12. 1986. 34 p.
- 3-A13. *Computation of continuous records of streamflow*, by E.J. Kennedy: USGS–TWRI book 3, chap. A13. 1983. 53 p.
- 3-A14. *Use of flumes in measuring discharge*, by F.A. Kilpatrick and V.R. Schneider: USGS–TWRI book 3, chap. A14. 1983. 46 p.
- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS–TWRI book 3, chap. A15. 1984. 48 p.
- 3-A16. *Measurement of discharge using tracers*, by F.A. Kilpatrick and E.D. Cobb: USGS–TWRI book 3, chap. A16. 1985. 52 p.
- 3-A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS–TWRI book 3, chap. A17. 1985. 38 p.
- 3-A18. *Determination of stream reaeration coefficients by use of tracers*, by F.A. Kilpatrick, R.E. Rathbun, Nobuhiro Yotsukura, G.W. Parker, and L.L. DeLong: USGS–TWRI book 3, chap. A18. 1989. 52 p.
- 3-A19. *Levels at streamflow gaging stations*, by E.J. Kennedy: USGS–TWRI book 3, chap. A19. 1990. 31 p.
- 3-A20. *Simulation of soluble waste transport and buildup in surface waters using tracers*, by F.A. Kilpatrick: USGS–TWRI book 3, chap. A20. 1993. 38 p.
- 3-A21. *Stream-gaging cableways*, by C. Russell Wagner: USGS–TWRI book 3, chap. A21. 1995. 56 p.

Section B. Ground-Water Techniques

- 3-B1. *Aquifer-test design, observation, and data analysis*, by R.W. Stallman: USGS–TWRI book 3, chap. B1. 1971. 26 p.
- 3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G.D. Bennett: USGS–TWRI book 3, chap. B2. 1976. 172 p.
- 3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J.E. Reed: USGS–TWRI book 3, chap. B3. 1980. 106 p.
- 3-B4. *Regression modeling of ground-water flow*, by R.L. Cooley and R.L. Naff: USGS–TWRI book 3, chap. B4. 1990. 232 p.
- 3-B4. *Supplement 1. Regression modeling of ground-water flow --Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems*, by R.L. Cooley: USGS–TWRI book 3, chap. B4. 1993. 8 p.
- 3-B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems—An introduction*, by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS–TWRI book 3, chap. B5. 1987. 15 p.
- 3-B6. *The principle of superposition and its application in ground-water hydraulics*, by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS–TWRI book 3, chap. B6. 1987. 28 p.
- 3-B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow*, by E.J. Wexler: USGS–TWRI book 3, chap. B7. 1992. 190 p.
- 3-B8. *System and boundary conceptualization in ground-water flow simulation*, by T.E. Reilly: USGS–TWRI book 3, chap. B8. 2001. 29 p.

Section C. Sedimentation and Erosion Techniques

- 3-C1. *Fluvial sediment concepts*, by H.P. Guy: USGS–TWRI book 3, chap. C1. 1970. 55 p.
- 3-C2. *Field methods for measurement of fluvial sediment*, by T.K. Edwards and G.D. Glysson: USGS–TWRI book 3, chap. C2. 1999. 89 p.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS–TWRI book 3, chap. C3. 1972. 66 p.

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PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS—Continued

Book 4. Hydrologic Analysis and Interpretation

Section A. Statistical Analysis

- 4-A1. *Some statistical tools in hydrology*, by H.C. Riggs: USGS–TWRI book 4, chap. A1. 1968. 39 p.
 4-A2. *Frequency curves*, by H.C. Riggs: USGS–TWRI book 4, chap. A2. 1968. 15 p.

Section B. Surface Water

- 4-B1. *Low-flow investigations*, by H.C. Riggs: USGS–TWRI book 4, chap. B1. 1972. 18 p.
 4-B2. *Storage analyses for water supply*, by H.C. Riggs and C.H. Hardison: USGS–TWRI book 4, chap. B2. 1973. 20 p.
 4-B3. *Regional analyses of streamflow characteristics*, by H.C. Riggs: USGS–TWRI book 4, chap. B3. 1973. 15 p.

Section D. Interrelated Phases of the Hydrologic Cycle

- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C.T. Jenkins: USGS–TWRI book 4, chap. D1. 1970. 17 p.

Book 5. Laboratory Analysis

Section A. Water Analysis

- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M.J. Fishman and L.C. Friedman, editors: USGS–TWRI book 5, chap. A1. 1989. 545 p.
 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P.R. Barnett and E.C. Mallory, Jr.: USGS–TWRI book 5, chap. A2. 1971. 31 p.
 5-A3. *Methods for the determination of organic substances in water and fluvial sediments*, edited by R.L. Wershaw, M.J. Fishman, R.R. Grabbe, and L.E. Lowe: USGS–TWRI book 5, chap. A3. 1987. 80 p.
 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by L.J. Britton and P.E. Greeson, editors: USGS–TWRI book 5, chap. A4. 1989. 363 p.
 5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS–TWRI book 5, chap. A5. 1977. 95 p.
 5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments*, by L.C. Friedman and D.E. Erdmann: USGS–TWRI book 5, chap. A6. 1982. 181 p.

Section C. Sediment Analysis

- 5-C1. *Laboratory theory and methods for sediment analysis*, by H.P. Guy: USGS–TWRI book 5, chap. C1. 1969. 58 p.

Book 6. Modeling Techniques

Section A. Ground Water

- 6-A1. *A modular three-dimensional finite-difference ground-water flow model*, by M.G. McDonald and A.W. Harbaugh: USGS–TWRI book 6, chap. A1. 1988. 586 p.
 6-A2. *Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model*, by S.A. Leake and D.E. Prudic: USGS–TWRI book 6, chap. A2. 1991. 68 p.
 6-A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual*, by L.J. Torak: USGS–TWRI book 6, chap. A3. 1993. 136 p.
 6-A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions*, by R.L. Cooley: USGS–TWRI book 6, chap. A4. 1992. 108 p.
 6-A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details*, by L.J. Torak: USGS–TWRI book 6, chap. A5, 1993. 243 p.
 6-A6. *A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction*, by Eric D. Swain and Eliezer J. Wexler: USGS–TWRI book 6, chap. A5, 1996. 125 p.

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PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS—Continued

Book 7. Automated Data Processing and Computations**Section C. Computer Programs**

- 7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P.C. Trescott, G.F. Pinder, and S.P. Larson: USGS–TWRI book 7, chap. C1. 1976. 116 p.
- 7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L.F. Konikow and J.D. Bredehoeft: USGS–TWRI book 7, chap. C2. 1978. 90 p.
- 7-C3. *A model for simulation of flow in singular and interconnected channels*, by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS–TWRI book 7, chap. C3. 1981. 110 p.

Book 8. Instrumentation**Section A. Instruments for Measurement of Water Level**

- 8-A1. *Methods of measuring water levels in deep wells*, by M.S. Garber and F.C. Koopman: USGS–TWRI book 8, chap. A1. 1968. 23 p.
- 8-A2. *Installation and service manual for U.S. Geological Survey manometers*, by J.D. Craig: USGS–TWRI book 8, chap. A2. 1983. 57 p.

Section B. Instruments for Measurement of Discharge

- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G.F. Smoot and C.E. Novak: USGS–TWRI book 8, chap. B2. 1968. 15 p.

Book 9. Handbooks for Water-Resources Investigations**Section A. National Field Manual for the Collection of Water-Quality Data**

- 9-A1. *National Field Manual for the Collection of Water-Quality Data: Preparations for Water Sampling*, by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A1. 1998. 47 p.
- 9-A2. *National Field Manual for the Collection of Water-Quality Data: Selection of Equipment for Water Sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A2. 1998. 94 p.
- 9-A3. *National Field Manual for the Collection of Water-Quality Data: Cleaning of Equipment for Water Sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A3. 1998. 75 p.
- 9-A4. *National Field Manual for the Collection of Water-Quality Data: Collection of Water Samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A4. 1999. 156 p.
- 9-A5. *National Field Manual for the Collection of Water-Quality Data: Processing of Water Samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A5. 1999. 149 p.
- 9-A6. *National Field Manual for the Collection of Water-Quality Data: Field Measurements*, edited by F.D. Wilde and D.B. Radtke: USGS–TWRI book 9, chap. A6. 1998. Variously paginated.
- 9-A7. *National Field Manual for the Collection of Water-Quality Data: Biological Indicators*, edited by D.N. Myers and F.D. Wilde: USGS–TWRI book 9, chap. A7. 1997 and 1999. Variously paginated.
- 9-A8. *National Field Manual for the Collection of Water-Quality Data: Bottom-material samples*, by D.B. Radtke: USGS–TWRI book 9, chap. A8. 1998. 48 p.
- 9-A9. *National Field Manual for the Collection of Water-Quality Data: Safety in Field Activities*, by S.L. Lane and R.G. Fay: USGS–TWRI book 9, chap. A9. 1998. 60 p.



**Surface and Quality-of-Water
Records
for Puerto Rico**

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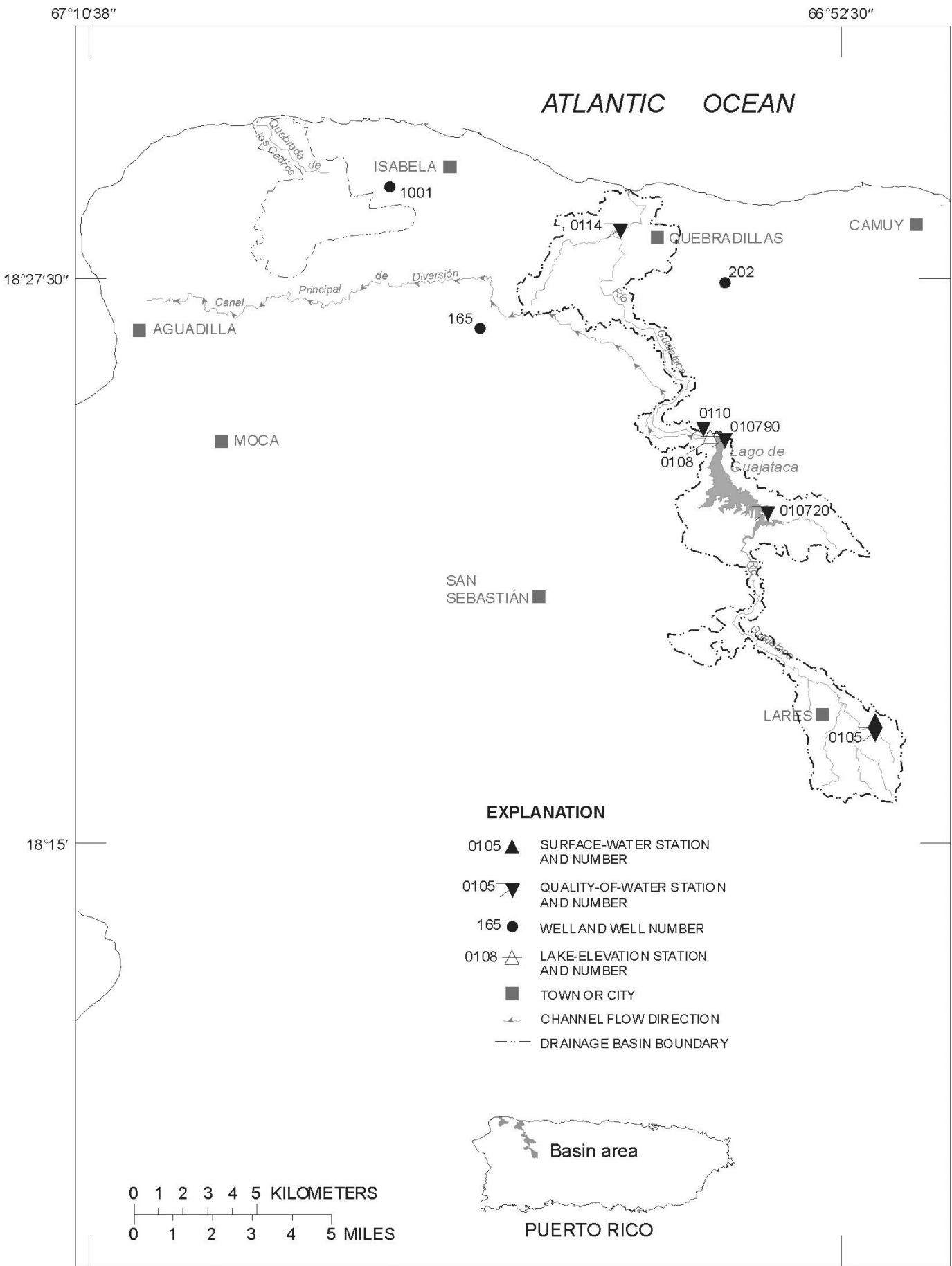


Figure 11. Río Guajataca basin.

RIO GUAJATACA BASIN

50010500 RIO GUAJATACA AT LARES, PR

LOCATION.--Lat 18°18'01", long 66°52'24", Hydrologic Unit 21010001 at bridge on Highway 111, 0.1 mi (0.2 km) upstream from Quebrada Anón, and 0.4 mi (0.6 km) east of Lares.

DRAINAGE AREA.--3.16 mi² (8.18 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1959 to February 1962 (annual low-flow measurements only), January 1963 to April 1969 (monthly measurements only), May 1969 to December 1970 (February to May 1971 and March 1974 to November 1989, monthly measurements only), December 1989 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 935 ft (285 m), from topographic map.

REMARKS.--Records poor. Gage-height and precipitation satellite telemetry at station. Small diversion above station for sewage treatment plant; effluent re-enters stream below station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	21	1.7	2.0	1.1	1.3	1.5	3.6	2.6	4.8	2.8	54
2	4.2	9.4	1.6	1.8	1.8	1.4	3.3	1.9	2.8	3.6	2.5	12
3	9.5	13	2.0	1.9	1.7	1.3	1.5	2.3	2.4	3.4	3.6	9.6
4	4.9	7.4	1.7	1.9	1.5	1.2	.95	1.4	2.4	5.3	3.3	10
5	3.9	7.1	1.8	1.7	1.6	1.2	3.1	1.3	14	3.8	2.3	8.7
6	3.4	6.7	2.1	1.9	e14	1.2	6.4	59	3.7	3.3	39	23
7	4.9	5.9	1.6	2.0	11	1.2	2.2	e18	e2.8	3.1	7.3	9.1
8	3.5	5.6	1.6	2.0	4.2	1.3	1.4	e42	2.5	2.9	4.0	7.3
9	2.9	5.4	2.2	1.5	2.3	1.4	1.2	e18	2.1	2.8	3.0	19
10	4.2	4.9	2.6	1.2	2.4	1.3	1.0	e26	e1.9	12	3.2	9.8
11	25	4.7	1.9	2.0	1.4	1.4	1.1	e11	e2.0	e40	18	7.3
12	e47	4.6	2.2	2.4	1.6	1.2	1.1	6.1	2.4	42	5.3	8.2
13	6.8	4.4	2.1	1.1	1.9	1.5	1.0	4.4	12	11	3.1	6.3
14	4.7	3.9	2.5	2.1	1.7	1.6	.97	5.3	3.6	46	51	5.8
15	14	3.9	2.8	1.8	2.3	1.8	.89	6.0	2.4	14	30	21
16	12	3.7	2.4	2.0	1.6	1.7	.96	5.8	6.8	7.4	9.6	6.8
17	6.3	3.6	1.9	1.5	1.4	1.6	1.0	3.8	e15	6.2	7.5	24
18	4.4	3.4	1.6	1.3	2.0	1.7	1.1	4.1	16	8.3	6.1	10
19	53	3.3	e1.5	1.3	1.6	1.5	.85	4.6	4.1	5.7	30	7.3
20	20	2.9	e1.5	1.1	1.7	1.8	.84	3.0	2.8	7.8	8.0	52
21	20	3.1	1.6	1.7	2.7	1.7	1.1	3.1	2.5	3.9	6.1	68
22	15	2.9	1.5	1.6	5.3	2.1	2.3	3.6	2.9	7.6	8.0	19
23	51	2.7	1.7	1.5	1.9	14	1.6	2.8	24	7.8	20	24
24	17	2.6	1.7	1.4	3.3	8.0	3.6	2.7	e10	3.7	11	15
25	12	2.4	1.8	1.3	2.5	2.4	12	2.6	6.9	3.1	6.8	29
26	11	2.0	1.6	1.6	2.2	2.1	58	2.8	5.1	9.3	6.1	23
27	34	2.2	1.6	4.2	2.4	1.8	e5.6	5.1	3.3	8.0	6.5	20
28	11	1.9	e2.1	3.3	1.8	4.6	2.1	3.0	3.3	4.7	5.4	16
29	9.3	1.7	2.2	4.9	---	2.5	9.8	2.6	12	5.0	33	14
30	24	2.0	1.9	4.8	---	1.7	6.1	5.2	5.7	3.4	13	13
31	9.4	---	1.9	1.4	---	1.3	---	3.3	---	2.9	9.7	---
TOTAL	452.6	148.3	58.9	62.2	80.9	70.8	134.56	264.4	180.0	292.8	365.2	552.2
MEAN	14.6	4.94	1.90	2.01	2.89	2.28	4.49	8.53	6.00	9.45	11.8	18.4
MAX	53	21	2.8	4.9	14	14	58	59	24	46	51	68
MIN	2.9	1.7	1.5	1.1	1.1	1.2	.84	1.3	1.9	2.8	2.3	5.8
AC-FT	898	294	117	123	160	140	267	524	357	581	724	1100
CFSM	4.62	1.56	.60	.63	.91	.72	1.42	2.70	1.90	2.99	3.73	5.82
IN.	5.33	1.75	.69	.73	.95	.83	1.58	3.11	2.12	3.45	4.30	6.50

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2001, BY WATER YEAR (WY)

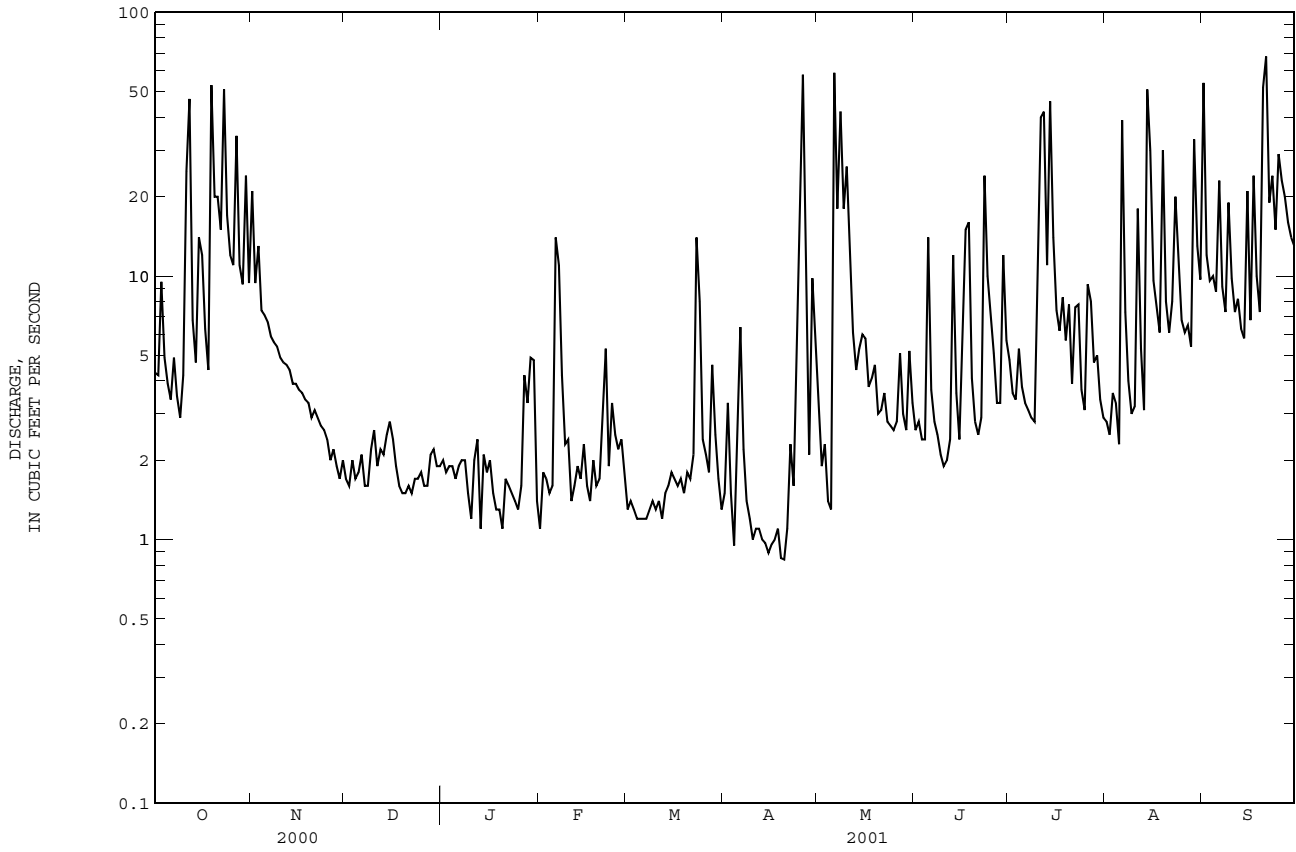
	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001			
MEAN	17.5	9.55	4.01	3.27	2.97	2.77	3.62	11.0	8.25	5.01	6.95	15.0																								
MAX	33.7	25.8	8.32	8.91	7.21	10.6	8.16	25.4	23.4	9.85	11.8	45.2																								
(WY)	1991	2000	2000	1997	1996	1999	1999	1999	1999	1999	1999	1998																								
MIN	8.52	2.42	1.35	.66	.93	.92	1.09	2.37	1.70	1.73	3.34	5.95																								
(WY)	1995	1998	1991	1991	1992	1994	1994	1997	1997	1997	1970	1993																								

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1969 - 2001

ANNUAL TOTAL	2544.04	2662.86	
ANNUAL MEAN	6.95	7.30	7.46
HIGHEST ANNUAL MEAN			12.6
LOWEST ANNUAL MEAN			4.13
HIGHEST DAILY MEAN	183	May 11	505
LOWEST DAILY MEAN	.94	Jul 5	.47
ANNUAL SEVEN-DAY MINIMUM	1.6	Dec 18	.94
MAXIMUM PEAK FLOW			1700
MAXIMUM PEAK STAGE			14.72
ANNUAL RUNOFF (AC-FT)	5050	5280	5410
ANNUAL RUNOFF (CFSM)	2.20	2.31	2.36
ANNUAL RUNOFF (INCHES)	29.95	31.35	32.08
10 PERCENT EXCEEDS	15	18	17
50 PERCENT EXCEEDS	3.4	3.3	3.7
90 PERCENT EXCEEDS	1.7	1.4	1.0

e Estimated

RIO GUAJATACA BASIN
50010500 RIO GUAJATACA AT LARES, PR--Continued



RIO GUAJATACA BASIN

50010500 RIO GUAJATACA AT LARES, PR--Continued

WATER-QUALITY RECORDS

LOCATION.--Lat 18°18'01", long 66°52'24", at bridge on Highway 111 (km 32.9), 0.1 mi (0.2 km) upstream from Quebrada Anón, and 0.4 mi (0.6 km) northeast of Lares plaza.

DRAINAGE AREA.--3.16 mi² (8.18 km²).

PERIOD OF RECORD.--Water years 1958-71, 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL AS (MG/L) (00900)	CALCIUM DIS-SOLVED AS (MG/L) (00915)
OCT 19...	1220	4.4	257	7.4	23.1	3.0	7.9	95	<10	4200	2400	95	28.8
FEB 14...	1100	1.3	258	7.3	21.0	2.6	7.6	88	<10	600	2000	--	--
MAY 14...	1115	2.9	309	7.4	23.3	8.1	7.3	89	<10	E680	490	120	39.2
SEP 05...	1345	7.6	208	7.3	24.4	--	7.2	89	<10	E7500	4000	89	26.6

DATE	MAGNE-SIUM, DIS-SOLVED AS (MG) (00925)	SODIUM, DIS-SOLVED AS (MG/L) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED AS (MG/L) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL AS (MG/L) (00745)	SULFATE DIS-SOLVED AS (MG/L) (00945)	CHLO-RIDE, DIS-SOLVED AS (MG/L) (00940)	FLUO-RIDE, DIS-SOLVED AS (MG/L) (00950)	SILICA, DIS-SOLVED AS (MG/L) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT 19...	5.55	11.1	.5	2.52	97	<1.0	7.6	11.5	<.2	31.7	157	1.87	<10
FEB 14...	--	--	--	--	95	--	--	--	--	--	--	--	<10
MAY 14...	6.11	11.9	.5	2.41	119	<1.0	13.2	11.8	<.2	27.3	183	1.45	<10
SEP 05...	5.43	10.5	.5	2.35	89	--	6.6	10.9	<.2	27.6	143	2.93	<10

DATE	NITRO-GEN, NITRATE TOTAL (MG/L) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L) (00625)	NITRO-GEN, TOTAL (MG/L) (00600)	NITRO-GEN, TOTAL (MG/L) (71887)	PHOS-PHORUS TOTAL (MG/L) (00665)	ARSENIC TOTAL (UG/L) (01002)	BARIUM, TOTAL RECOV-ERABLE AS (MG/L) (01007)	BORON, TOTAL RECOV-ERABLE AS (MG/L) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L) (01027)
OCT 19...	1.69	.01	1.7	.03	.21	.24	1.9	8.6	.060	<2	24.6	E16	<.11
FEB 14...	--	<.01	.6	.06	.21	.27	.87	3.9	<.020	--	--	--	--
MAY 14...	--	<.01	1.1	.04	.26	.30	1.4	6.2	.040	2	30.6	22	<.11
SEP 05...	--	<.01	1.8	.17	.26	.43	2.2	9.9	.040	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L) (71900)	SELE-NIUM, TOTAL (UG/L) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L) (01092)	CYANIDE TOTAL (MG/L) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 19...	<1	<20.0	180	<1	30	<.14	<2.6	<.43	<31	<.01	<16	.07
FEB 14...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 14...	<1	<20.0	100	<1	31	<.01	<2.6	<.43	<31	<.01	<16	<.02
SEP 05...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
E -- Estimated value

50010800 LAGO GUAJATACA AT DAMSITE NEAR QUEBRADILLAS, PR

LOCATION.--Lat 18°24'02", long 66°55'25", Hydrologic Unit 21010002, on right bank, in a concrete intake tower at Damsite, 5.2 mi (8.4 km) southeast from Quebradillas plaza, 0.5 mi (0.8 km) northeast from Iglesia San Antonio de Padua and 2.8 mi (4.5 km) from Escuela Segunda Unidad Baldorioty de Castro.

DRAINAGE AREA.--24.6 mi² (63.71 km²)

ELEVATION RECORDS

PERIOD OF RECORD.--April 1995 to current year.

GAGE.--Water stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Guajataka was completed in 1928. The dam is a semihydraulic earthfill structure about 123 ft (37 m) high, a top width of 31 ft (9.5 m) at crest elevation of 664 ft (202.5 m), a base width of 623 ft (190 m), a crest length of 1,036 ft (316 m) and has a maximum storage capacity of 49,200 acre-feet (60.6 hm³). The Guajataka Dam is owned by the Puerto Rico Electric Power Authority (P.R.E.P.A) and provides water for the municipalities of Aguadilla, Isabela, Moca, Aguada and Quebradillas although its primary purpose is for agricultural irrigation for the flatlands of the area. Gage-height and precipitation satellite telemetry at station. New capacity table based on U.S. Geological Survey Water-Resources Investigations Report 00-4044, January 1999.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation 648.3 ft (197.60 m), Sept. 23, 1998; minimum elevation, 608.07 ft (185.34 m) May 17, 1998.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 643.58 ft (196.16 m), Oct. 22; minimum elevation, 622.77 ft (189.82 m), Apr. 25.

Capacity Table

(based on data from U.S. Geological Survey Water-Resources Investigations Report 00-4044, Puerto Rico-1999)

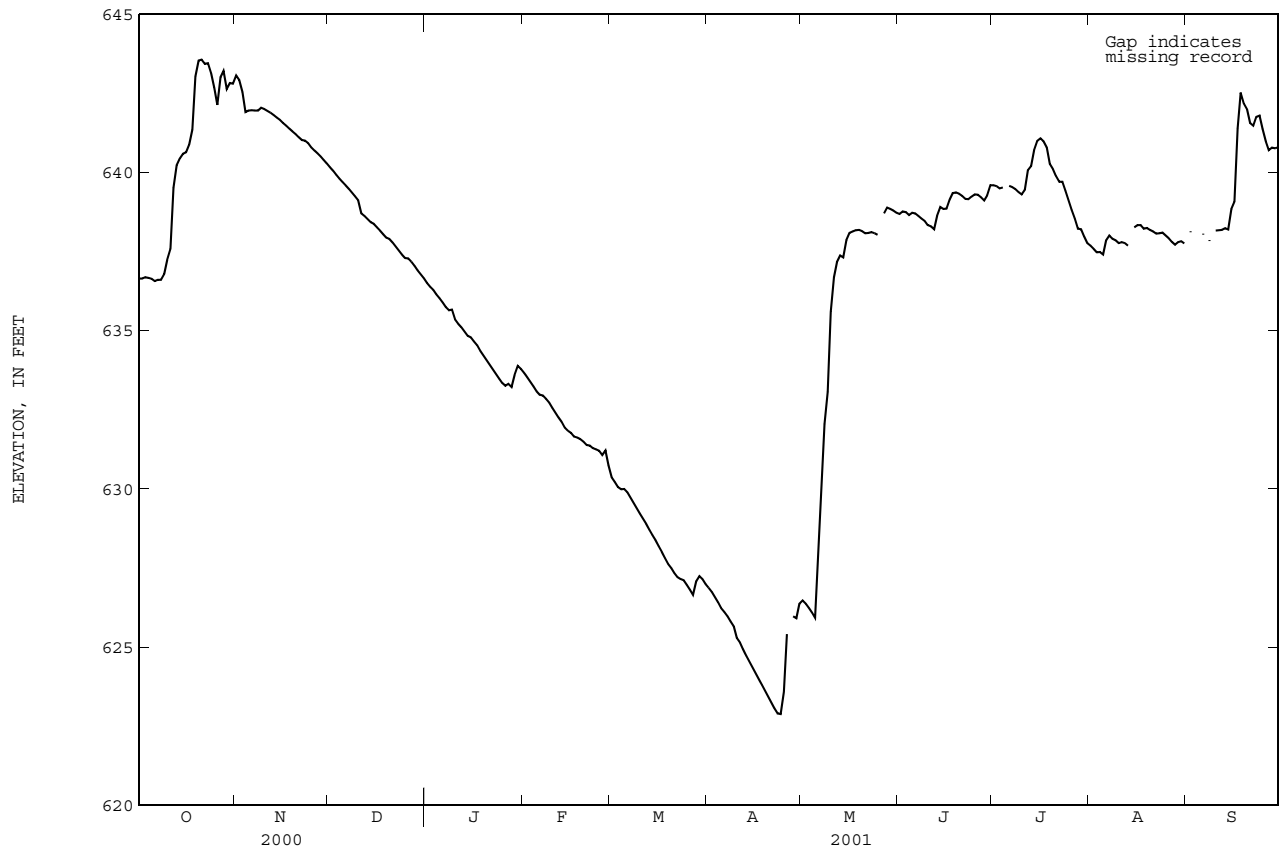
Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
557	0	616	13,393
577	916	636	26,332
597	5,253	646	34,277

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	636.65	643.07	640.17	636.51	633.67	630.36	626.87	626.47	638.69	639.60	637.69	A
2	636.65	642.93	640.06	636.39	633.53	630.22	626.74	626.37	638.77	639.57	637.59	638.13
3	636.69	642.55	639.93	636.29	633.39	630.06	626.58	626.24	638.75	639.50	637.48	A
4	636.67	641.91	639.81	636.15	633.24	629.99	626.41	626.09	638.66	639.53	637.49	A
5	636.64	641.96	639.70	636.03	633.09	630.00	626.23	625.92	638.73	A	637.41	A
6	636.57	641.97	639.60	635.89	632.98	629.89	626.11	628.54	638.71	639.58	637.86	638.05
7	636.61	641.96	639.49	635.75	632.95	629.73	625.97	630.32	638.63	639.54	638.01	A
8	636.61	641.96	639.37	635.65	632.85	629.56	625.81	632.05	638.55	639.48	637.91	637.85
9	636.79	642.05	639.25	635.67	632.73	629.39	625.65	633.07	638.47	639.38	637.86	A
10	637.24	642.01	639.13	635.35	632.57	629.22	625.29	635.60	638.34	639.31	637.77	638.17
11	637.58	641.95	638.71	635.22	632.41	629.06	625.14	636.69	638.30	639.46	637.80	638.18
12	639.52	641.89	638.63	635.11	632.26	628.90	624.93	637.17	638.21	640.07	637.77	638.19
13	640.23	641.82	638.53	634.97	632.12	628.71	624.72	637.38	638.64	640.20	637.69	638.24
14	640.45	641.74	638.43	634.84	631.94	628.54	624.55	637.32	638.91	640.71	A	638.20
15	640.59	641.67	638.38	634.79	631.84	628.38	624.37	637.87	638.85	641.00	638.27	638.85
16	640.64	641.57	638.27	634.66	631.77	628.19	624.18	638.09	638.86	641.08	638.34	639.08
17	640.88	641.48	638.17	634.54	631.65	628.01	624.00	638.14	639.14	640.99	638.34	641.40
18	641.36	641.39	638.05	634.37	631.62	627.82	623.80	638.18	639.35	640.80	638.23	642.53
19	643.04	641.30	637.94	634.22	631.57	627.63	623.63	638.19	639.37	640.28	638.25	642.18
20	643.54	641.22	637.90	634.08	631.49	627.50	623.44	638.15	639.33	640.11	638.19	642.00
21	643.57	641.12	637.79	633.93	631.39	627.34	623.26	638.08	639.26	639.89	638.14	641.57
22	643.44	641.03	637.66	633.78	631.37	627.21	623.06	638.09	639.17	639.71	638.07	641.48
23	643.46	641.01	637.53	633.64	631.29	627.15	622.90	638.12	639.16	639.71	638.08	641.76
24	643.15	640.93	637.41	633.49	631.25	627.11	622.88	638.08	639.24	639.43	638.10	641.80
25	642.68	640.80	637.30	633.35	631.20	626.97	623.58	638.03	639.31	639.11	638.01	641.38
26	642.14	640.70	637.29	633.26	631.07	626.81	625.41	A	639.30	638.82	637.92	640.99
27	643.01	640.61	637.18	633.32	631.21	626.65	A	638.71	639.22	638.54	637.81	640.71
28	643.21	640.51	637.05	633.22	630.74	627.08	625.97	638.89	639.12	638.23	637.72	640.79
29	642.64	640.40	636.91	633.60	---	627.24	625.91	638.85	639.28	638.21	637.80	640.77
30	642.83	640.29	636.78	633.89	---	627.15	626.37	638.80	639.60	637.98	637.83	640.80
31	642.81	---	636.66	633.79	---	626.99	---	638.73	---	637.77	637.76	---
MAX	643.57	643.07	640.17	636.51	633.67	630.36	---	---	639.60	---	---	---
MIN	636.57	640.29	636.66	633.22	630.74	626.65	---	---	638.21	---	---	---

A No gage-height record

RIO GUAJATACA BASIN
50010800 LAGO GUAJATACA AT DAMSITE NEAR QUEBRADILLAS, PR--Continued



50011000 CANAL PRINCIPAL DE DIVERSIONES AT LAGO DE GUAJATACA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°24'02", long 66°55'27", off Highway 476 at Lago Guajataca outlet, 3.0 mi (4.8 km) southwest of Segunda Unidad Baldorioty de Castro, and 5.3 mi (8.5 km) south of Quebradillas Plaza.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--Water years 1958-64, 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD WATER UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00301)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL AS (MG/L) (00900)	CALCIUM DIS-SOLVED AS CA) (00915)
OCT 16...	1445	70	332	7.3	25.5	1.4	.3	4	<10	21	E7	160	56.2
FEB 14...	1345	E65	321	7.3	24.9	.8	2.2	27	<10	E2	140	--	--
MAY 09...	1100	70	312	7.8	25.3	3.8	.9	12	<10	180	110	140	51.2
SEP 13...	1230	70	301	7.2	26.6	--	1.4	17	<10	E52	E15	140	49.7

DATE	MAGNE-SIUM, DIS-SOLVED AS MG) (00925)	SODIUM, DIS-SOLVED AS NA) (00930)	SODIUM, AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED AS K) (00935)	ANC WATER UNFLTRD FET SULFIDE FIELD (MG/L AS CAC03) (00410)	SULFATE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED AS CL) (00940)	FLUO-RIDE, DIS-SOLVED AS F) (00950)	SILICA, DIS-SOLVED AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDEDED (MG/L) (00530)
OCT 16...	3.60	5.3	.2	1.99	151	<1.0	7.0	7.8	E.1	7.3	180	33.9	<10
FEB 14...	--	--	--	--	141	--	--	--	--	--	--	--	<10
MAY 09...	3.67	5.9	.2	2.13	139	<1.0	8.3	9.1	E.1	6.2	170	32.2	<10
SEP 13...	3.69	5.7	.2	2.07	136	--	8.8	7.9	<.2	7.6	167	31.6	<10

DATE	NITRO-GEN, NITRATE (MG/L AS N) (00620)	NITRO-GEN, NITRITE (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, ORGANIC (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
OCT 16...	--	<.01	<.02	.71	.39	1.1	--	--	<.020	3	23.1	E11	<.11
FEB 14...	1.48	.02	1.5	.03	.25	.28	1.8	7.9	.050	--	--	--	--
MAY 09...	--	<.01	M	.43	.23	.66	.68	3.0	<.020	2	19.1	E16	<.11
SEP 13...	--	<.01	<.02	.23	.27	.50	--	--	<.020	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 16...	<1	<20.0	280	<1	230	<.14	<2.6	<.43	<31	<.01	<16	.06
FEB 14...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 09...	<1	<20.0	210	<1	188	<.01	<2.6	<.43	<31	<.01	<16	<.02
SEP 13...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
 E -- Estimated value
 M -- Presence verified, not quantified

RIO GUAJATACA BASIN

50011400 RIO GUAJATACA ABOVE MOUTH NEAR QUEBRADILLAS, PR.

WATER-QUALITY RECORDS

LOCATION.--Lat 18°28'31", long 66°57'46", Hydrologic Unit 21010002, on left bank at ford 1.7 mi (2.7 km) upstream from bridge on highway 2, 1.6 mi (2.6 km) west of Quebradillas plaza, 2.1 mi (3.4 km) upstream from Atlantic Ocean, and 6.6 mi (10.6 km) downstream from Lago Guajataca.

DRAINAGE AREA.--Indeterminate

PERIOD OF RECORD.--Water years 1969 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, (PER-CENT SATUR-ATION) (MG/L) (00301)	OXYGEN, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL AS CACO3 (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
------	------	---	---	--	------------------------------------	---------------------------	-----------------------------------	---	---	--	--	----------------------------------	---

OCT	18...	1035	72	363	7.7	24.3	23	7.2	86	<10	>6000	>6000	170	61.3
FEB	15...	1245	9.4	567	7.4	24.1	.4	6.7	80	<10	E57	220	--	--
MAY	09...	0850	61	365	7.7	24.1	9.3	7.1	84	<10	760	860	170	63.6
SEP	18...	1030	71	259	7.4	24.5	--	6.8	81	15	E18000	20000	120	43.3

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
------	---	---	-----------------------------------	--	---	-----------------------------------	--	--	---	---	---	---	--

OCT	18...	3.76	6.7	.2	1.44	163	<1.0	6.8	11.8	<.2	5.7	195	38.0	23
FEB	15...	--	--	--	--	223	--	--	--	--	--	--	--	<10
MAY	09...	3.57	6.9	.2	1.88	162	<1.0	9.4	11.6	<.2	6.2	200	32.9	10
SEP	18...	2.67	4.9	.2	2.65	114	--	6.2	9.7	<.2	5.7	144	27.4	20

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, ORGANIC (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)
------	--	--	--	--	---	--------------------------------------	--	---------------------------------------	------------------------------	---	---	--	--

OCT	18...	<.01	.7	<.01	--	.54	1.3	5.6	.020	E1	13.0	19	<.11	3
FEB	15...	<.01	.6	.02	--	<.20	--	--	<.020	--	--	--	--	--
MAY	09...	<.01	.8	<.01	--	.22	1.1	4.6	<.020	<2	11.7	E14	<.11	<1
SEP	18...	<.01	.8	.03	.57	.60	1.4	6.2	.060	--	--	--	--	--

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
------	---	---	---	---	---	---------------------------------------	---	---	------------------------------------	------------------------------	--

OCT	18...	<20.0	400	<1	40	<.14	<2.6	<.43	<31	<.01	<16	<.02
FEB	15...	--	--	--	--	--	--	--	--	--	--	--
MAY	09...	<20.0	110	<1	16	<.01	<2.6	<.43	<31	<.01	<16	<.02
SEP	18...	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
 > -- Greater than
 E -- Estimated value

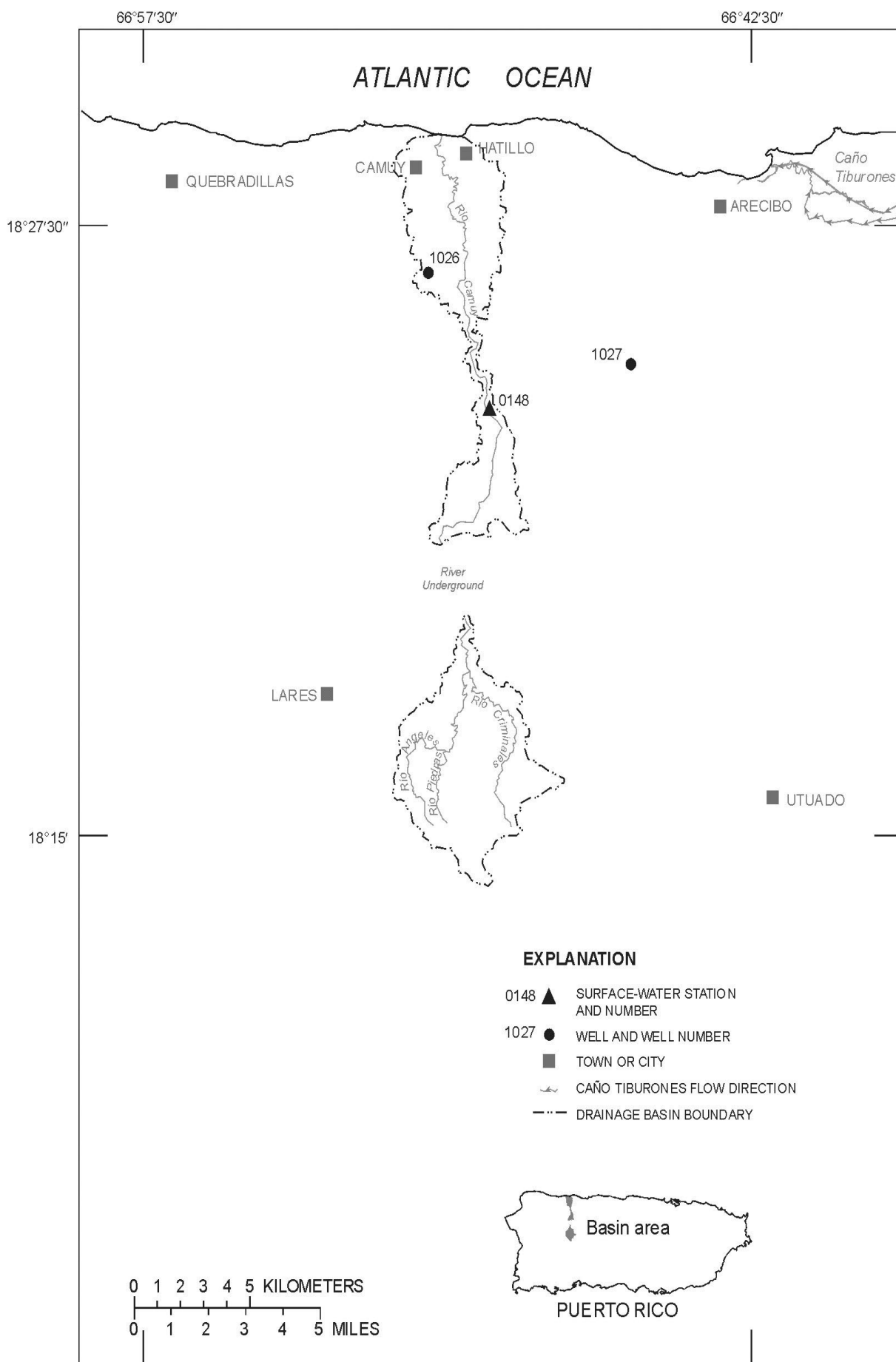


Figure 12. Río Camuy basin.

RIO CAMUY BASIN

50014800 RIO CAMUY NEAR BAYANEY, PR

LOCATION.--Lat 18°23'48", long 66°49'04", Hydrologic Unit 21010002, on left bank at Highway 488, 1.4 mi (2.2 km) southeast of school at Santiago, 0.9 mi (1.4 km) northwest from Escuela Manuel A. Rivera at Bayaney and 9.1 mi (14.6 km) upstream from mouth.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--May 1984 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 341 ft (104 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	273	31	28	37	36	e29	90	47	e78	50	195
2	99	197	31	28	35	45	e28	55	69	e65	e53	148
3	228	199	30	29	33	35	e29	40	55	56	e52	83
4	146	122	30	29	32	31	e34	36	43	73	63	76
5	100	96	35	29	31	30	e29	34	44	68	49	84
6	86	80	35	30	45	29	e27	391	52	56	106	84
7	129	70	31	30	75	29	e33	628	40	48	103	79
8	111	63	30	30	72	29	e43	372	39	44	67	65
9	84	57	28	29	38	27	e31	328	38	43	53	71
10	237	51	28	29	33	27	e29	403	e37	57	47	97
11	160	47	28	30	32	26	28	323	e37	e81	103	96
12	376	43	29	31	31	25	28	193	e36	e142	107	67
13	284	42	28	32	31	26	27	108	64	e98	62	88
14	161	40	27	32	30	26	27	140	e96	e67	115	68
15	125	40	33	34	31	26	26	202	51	e126	e117	114
16	133	39	33	36	31	25	26	164	e39	72	e91	117
17	133	37	34	35	31	25	25	93	e119	e65	e69	154
18	164	36	31	33	31	24	25	77	147	e67	e68	147
19	310	35	30	32	31	e24	25	79	115	e70	e62	100
20	271	35	30	31	30	e24	25	e58	67	60	e78	173
21	155	34	29	31	30	24	25	e56	54	66	64	260
22	238	34	29	31	62	25	27	e60	48	62	e63	166
23	467	34	29	31	41	27	31	e49	105	e65	e142	169
24	257	34	29	31	35	62	36	e48	e116	e65	82	150
25	166	33	29	30	41	62	44	e45	173	55	e76	137
26	118	33	29	30	37	e48	329	e43	103	e51	e71	141
27	143	32	35	36	33	e31	e269	e80	71	e70	76	156
28	166	31	29	42	32	e31	e93	e46	64	75	67	144
29	106	e31	29	61	---	e30	57	e41	74	99	64	96
30	436	31	28	132	---	e38	88	44	130	79	107	83
31	271	---	29	57	---	e32	---	47	---	60	88	---
TOTAL	5965	1929	936	1129	1051	979	1573	4373	2173	2183	2415	3608
MEAN	192	64.3	30.2	36.4	37.5	31.6	52.4	141	72.4	70.4	77.9	120
MAX	467	273	35	132	75	62	329	628	173	142	142	260
MIN	84	31	27	28	30	24	25	34	36	43	47	65

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2001, BY WATER YEAR (WY)

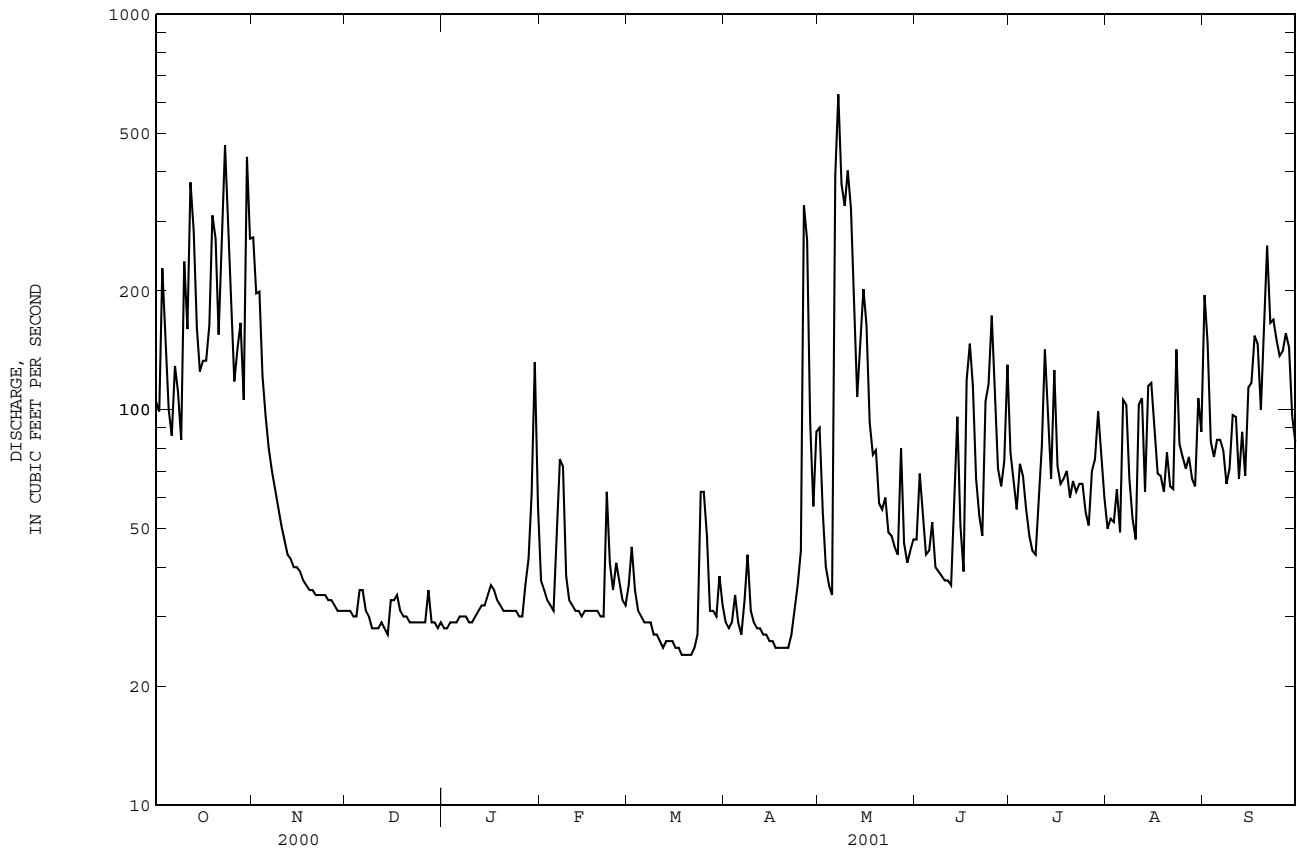
	202	128	73.2	58.8	50.8	48.5	81.7	166	117	75.5	97.0	189
MEAN	202	128	73.2	58.8	50.8	48.5	81.7	166	117	75.5	97.0	189
MAX	427	276	179	163	96.4	93.7	202	624	322	109	187	726
(WY)	1986	2000	2000	1997	1996	1999	1986	1986	1999	1989	1998	1998
MIN	81.6	53.4	30.2	33.1	29.1	23.7	28.0	43.2	42.7	38.8	47.9	61.8
(WY)	1988	1998	2001	1991	1998	1994	1994	1989	1997	1994	1993	1997

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1984 - 2001

ANNUAL TOTAL	32156	28314										
ANNUAL MEAN	87.9	77.6								107		
HIGHEST ANNUAL MEAN										179		1986
LOWEST ANNUAL MEAN										61.5		1994
HIGHEST DAILY MEAN	663	May 11				628	May 7		9010		Sep 22	1998
LOWEST DAILY MEAN	27	Dec 14				24	Mar 18		16		Mar 18	1994
ANNUAL SEVEN-DAY MINIMUM	28	Dec 8				24	Mar 16		17		Mar 16	1994
MAXIMUM PEAK FLOW						2560	May 6		11600		Sep 22	1998
MAXIMUM PEAK STAGE						12.89	May 6		21.69		Sep 22	1998
INSTANTANEOUS LOW FLOW						23	Mar 20		15		Mar 22	1994
10 PERCENT EXCEEDS	168					158			211			
50 PERCENT EXCEEDS	58					48			67			
90 PERCENT EXCEEDS	34					28			33			

e Estimated

RIO CAMUY BASIN
50014800 RIO CAMUY NEAR BAYANEY, PR--Continued



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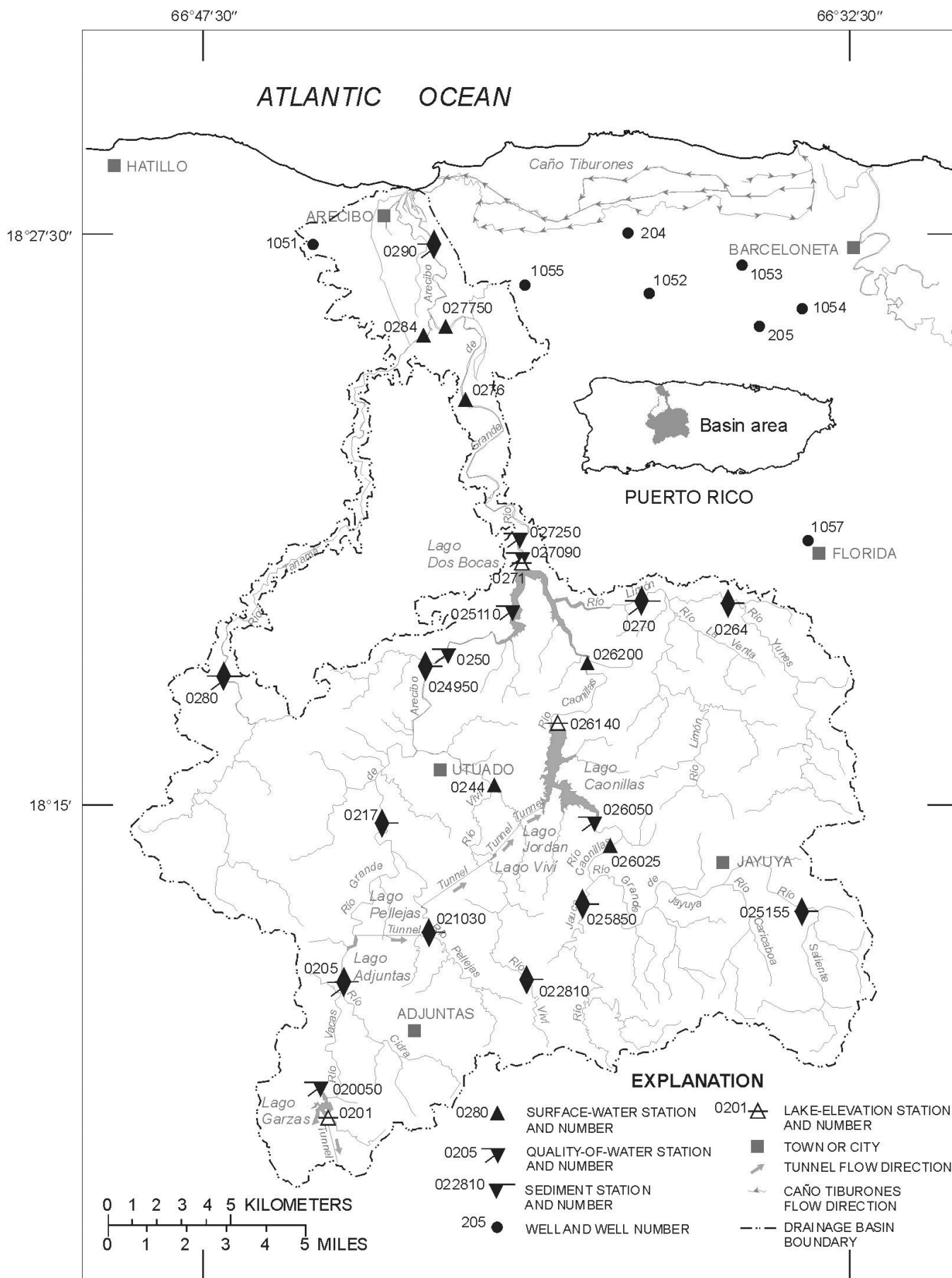


Figure 13. Río Grande de Arecibo basin.

RIO GRANDE DE ARECIBO BASIN

50020100 LAGO GARZAS NEAR ADJUNTAS, PR

LOCATION.--Lat 18°08'20", long 66°44'29", Hydrologic Unit 21010002, in power gate tower of Garzas Dam on Río Vacas, 1.7 mi (2.7 km) upstream from Río Garzas, and 2.2 mi (3.5 km) southwest of Adjuntas.

DRAINAGE AREA.--15.6 mi² (40.4 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--January 1988 to May 1989, March 1993 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,400.00 ft (731.520 m) above mean sea level. Prior to May 25, 1988 at datum 2,376.80 ft (724.449 m), May 25 to July 13, 1988 at datum 2,338.08 ft (712.647 m), July 14, 1988 to May 25, 1989 at datum 2,337.82 ft (712.560 m), above mean sea level.

REMARKS.--Lake is formed by earthfill dam completed in 1943. Outflow from lake controlled by vertical-lift sluice gate and fixed-crest concrete spillway. Spillway elevation, 2,415.00 ft (736.09 m). Lake is used for irrigation and power production. Operated by P.R. Electric Power Authority. Gage-height and precipitation satellite telemetry at station. New capacity table based on U.S. Geological Survey Water-Resources Investigations Report 99-4143, September 1996.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation 2,418.28 ft (737.092 m), Sept. 22, 1998; minimum elevation, 2,364.79 ft (720.788 m), Aug. 23, 1988.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 2,417.19 ft (736.76 m), May 6; minimum elevation, 2,378.41 ft (724.94 m), June 3.

Capacity Table
(based on data from U.S. Geological Survey Water-Resources Investigations Report 99-4143, 1996)

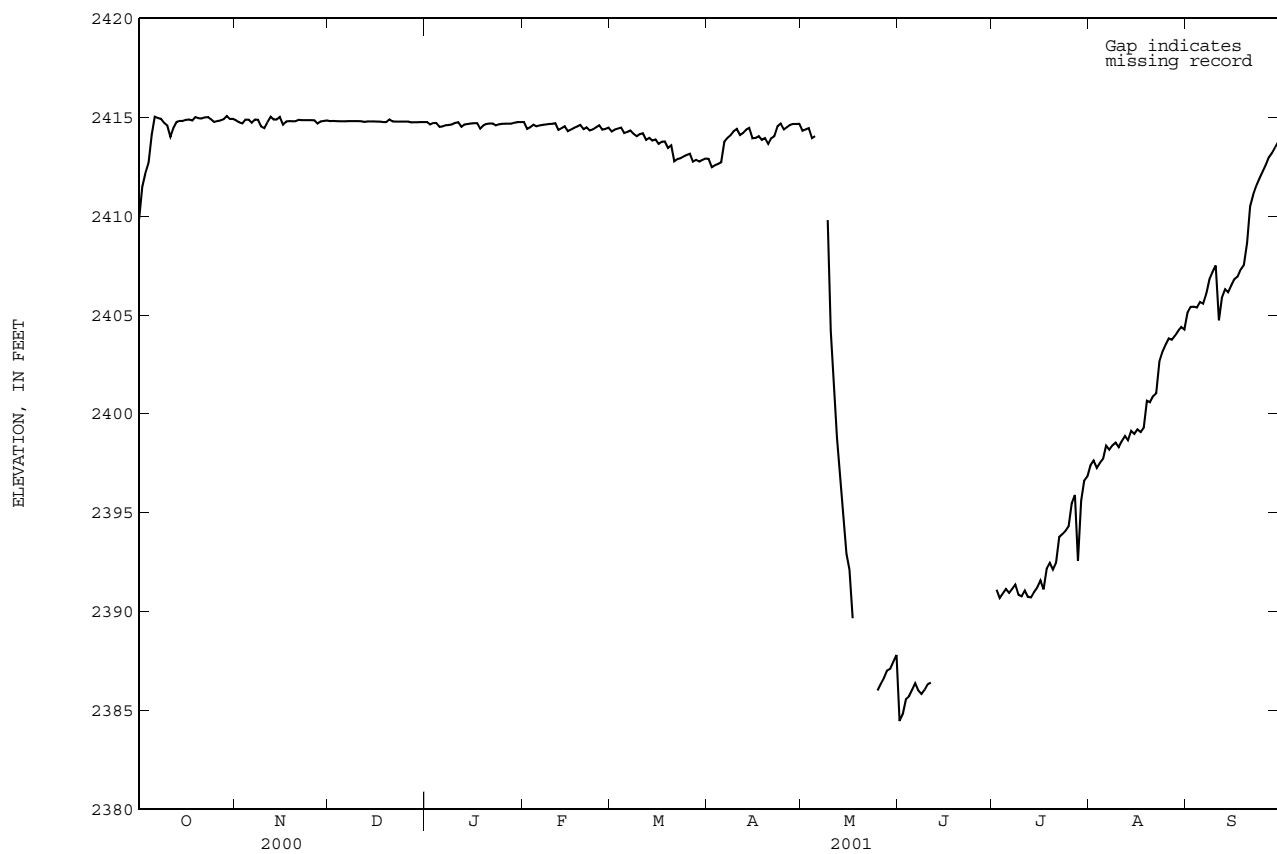
Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
2,317	0	2,376	1,419
2,336	243	2,399	2,700
2,359	794	2,415	4,143

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2409.83	2414.84	2414.81	2414.76	2414.76	2414.28	2412.90	2414.32	2384.46	A	2397.41	2405.13
2	2411.49	2414.74	2414.82	2414.64	2414.41	2414.38	2412.48	2414.39	2384.80	2391.10	2397.64	2405.41
3	2412.15	2414.69	2414.81	2414.71	2414.49	2414.43	2412.57	2414.45	2385.56	2390.69	2397.27	2405.42
4	2412.68	2414.88	2414.80	2414.71	2414.62	2414.48	2412.64	2413.95	2385.71	2390.92	2397.51	2405.38
5	2414.11	2414.88	2414.80	2414.52	2414.54	2414.20	2412.72	2414.05	2386.04	2391.14	2397.72	2405.66
6	2415.03	2414.73	2414.80	2414.54	2414.59	2414.26	2413.76	A	2386.37	2390.94	2398.39	2405.57
7	2414.96	2414.89	2414.81	2414.60	2414.62	2414.33	2413.96	A	2386.00	2391.15	2398.18	2406.07
8	2414.92	2414.87	2414.81	2414.61	2414.64	2414.16	2414.09	A	2385.82	2391.36	2398.39	2406.81
9	2414.72	2414.54	2414.81	2414.64	2414.66	2414.05	2414.30	2409.80	2386.04	2390.84	2398.54	2407.17
10	2414.59	2414.45	2414.81	2414.72	2414.67	2414.15	2414.41	2404.20	2386.32	2390.77	2398.31	2407.50
11	2414.01	2414.74	2414.80	2414.75	2414.70	2414.19	2414.10	2401.57	2386.40	2391.06	2398.62	2404.73
12	2414.46	2415.03	2414.77	2414.52	2414.36	2413.86	2414.21	2398.77	A	2390.74	2398.88	2405.88
13	2414.77	2414.89	2414.79	2414.64	2414.45	2413.96	2414.38	2396.78	A	2390.71	2398.66	2406.30
14	2414.82	2414.89	2414.79	2414.66	2414.55	2413.82	2414.46	2395.01	A	2390.99	2399.14	2406.15
15	2414.82	2415.02	2414.79	2414.69	2414.30	2413.88	2413.94	2392.93	A	2391.22	2398.98	2406.50
16	2414.87	2414.63	2414.78	2414.70	2414.38	2413.66	2413.96	2392.10	A	2391.57	2399.21	2406.81
17	2414.89	2414.79	2414.78	2414.70	2414.47	2413.76	2414.05	2389.66	A	2391.12	2399.07	2406.94
18	2414.83	2414.81	2414.76	2414.43	2414.53	2413.78	2413.86	A	A	2392.18	2399.28	2407.30
19	2415.01	2414.80	2414.76	2414.59	2414.61	2413.45	2413.94	A	A	2392.46	2400.66	2407.53
20	2414.95	2414.80	2414.89	2414.66	2414.40	2413.58	2413.65	A	A	2392.12	2400.59	2408.64
21	2414.94	2414.87	2414.79	2414.69	2414.49	2412.78	2413.94	A	A	2392.46	2400.89	2410.49
22	2414.99	2414.86	2414.78	2414.69	2414.33	2412.89	2414.05	A	A	2393.77	2401.04	2411.10
23	2415.01	2414.86	2414.78	2414.59	2414.39	2412.93	2414.55	A	A	2393.92	2402.64	2411.54
24	2414.90	2414.86	2414.78	2414.65	2414.49	2413.02	2414.68	A	A	2394.08	2403.13	2411.91
25	2414.76	2414.86	2414.78	2414.67	2414.60	2413.09	2414.38	2386.00	A	2394.32	2403.49	2412.23
26	2414.81	2414.85	2414.78	2414.68	2414.38	2413.16	2414.49	2386.34	A	2395.46	2403.81	2412.59
27	2414.84	2414.69	2414.74	2414.68	2414.41	2412.76	2414.61	2386.64	A	2395.89	2403.74	2412.97
28	2414.90	2414.79	2414.75	2414.68	2414.48	2412.85	2414.66	2387.01	A	2392.56	2403.95	2413.20
29	2415.07	2414.82	2414.75	2414.73	---	2412.76	2414.66	2387.10	A	2395.60	2404.19	2413.49
30	2414.91	2414.84	2414.76	2414.76	---	2412.84	2414.67	2387.45	A	2396.61	2404.39	2413.76
31	2414.92	---	2414.76	2414.76	---	2412.91	---	2387.80	---	2396.83	2404.26	---
MAX	2415.07	2415.03	2414.89	2414.76	2414.76	2414.48	2414.68	---	---	---	2404.39	2413.76
MIN	2409.83	2414.45	2414.74	2414.43	2414.30	2412.76	2412.48	---	---	---	2397.27	2404.73

A No gage-height record

RIO GRANDE DE ARECIBO BASIN
50020100 LAGO GARZAS NEAR ADJUNTAS, PR--Continued



RIO GRANDE DE ARECIBO BASIN

50020500 RIO GRANDE DE ARECIBO NEAR ADJUNTAS, PR

LOCATION.--Lat 18°10'54", long 66°44'12", Hydrologic Unit 21010002, at Highway 135 bridge junction with Hwy.10, 1.4 mi (2.2 km) south from Lago Adjuntas, and 1.5 mi (2.4 km) northwest of Adjuntas plaza.

DRAINAGE AREA.--12.7 mi² (48.43 km²), this does not include 6.0 mi² (15.6 km²) above Lago Garzas.

PERIOD OF RECORD.--November 1946 to April 1950 (operated by Puerto Rico Water Resources Authority), March 2000 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,443 ft (440 m), from topographic map.

REMARKS.--Records poor. Flow affected by Lago Garzas, 2.63 mi (4.23 km) and sewage treatment plant 1.1 mi (1.77 km) upstream from gage. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	99	48	e25	e22	e18	7.0	e12	12	e18	21	104
2	65	82	45	e24	e21	e21	6.8	e10	12	13	15	33
3	75	70	44	e23	e20	e14	e8.7	e9.6	19	11	14	53
4	62	74	43	e22	e19	e13	e9.0	e9.7	25	13	15	25
5	177	83	41	e22	e17	e12	e17	9.6	15	12	13	21
6	163	68	40	e21	e16	e11	e76	1240	12	11	14	42
7	198	66	40	e20	e28	e11	26	194	11	10	13	149
8	133	75	e39	e19	e18	e10	15	49	11	10	12	133
9	93	64	e38	e19	e16	e9.7	14	37	11	10	25	54
10	74	49	37	e18	e15	e9.3	11	195	e10	39	17	32
11	72	49	36	e19	e16	e9.3	11	e75	e10	e11	15	24
12	61	94	36	e19	e16	e8.9	9.7	e41	10	e26	13	181
13	62	84	e34	e19	e15	e8.5	9.3	31	10	e15	13	65
14	77	68	e33	e19	e15	e8.5	9.6	27	13	12	49	42
15	76	342	e37	e19	e15	e8.9	9.1	24	24	12	19	31
16	106	86	e36	e29	e13	e9.0	8.7	22	13	9.9	14	26
17	133	59	e34	e26	e13	e8.1	8.5	21	11	9.6	16	34
18	94	66	e33	e21	e13	e7.7	8.5	26	17	27	14	34
19	397	61	e31	e19	e12	e8.1	8.5	24	11	13	49	25
20	134	60	e32	e19	e12	e9.4	14	18	10	11	21	78
21	127	70	e39	e18	e12	9.3	26	17	10	10	16	316
22	154	65	e30	e17	e22	13	16	17	e13	90	47	94
23	130	65	e29	e19	e16	12	59	16	e20	33	121	76
24	113	56	e28	e19	e18	13	19	15	e15	20	34	45
25	89	56	e28	e17	e15	9.7	16	15	e12	14	25	36
26	78	53	e41	e16	e14	8.2	17	14	e15	98	20	94
27	84	45	e38	e18	e13	7.7	e23	15	26	32	18	65
28	147	47	e28	e30	e13	7.4	e16	16	16	17	18	39
29	202	49	e27	e34	---	7.1	e14	14	13	19	17	32
30	134	50	e26	e34	---	7.1	14	13	e35	19	30	29
31	108	---	e25	e24	---	6.8	---	12	---	15	20	---
TOTAL	3686	2255	1096	668	455	316.7	507.4	2238.9	442	660.5	748	2012
MEAN	119	75.2	35.4	21.5	16.2	10.2	16.9	72.2	14.7	21.3	24.1	67.1
MAX	397	342	48	34	28	21	76	1240	35	98	121	316
MIN	61	45	25	16	12	6.8	6.8	9.6	10	9.6	12	21
AC-FT	7310	4470	2170	1320	902	628	1010	4440	877	1310	1480	3990
CFSM	6.36	4.02	1.89	1.15	.87	.55	.90	3.86	.79	1.14	1.29	3.59
IN.	7.33	4.49	2.18	1.33	.91	.63	1.01	4.45	.88	1.31	1.49	4.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2001, BY WATER YEAR (WY)

	MEAN	MAX	MIN	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)
MEAN	84.6	52.1	35.7	22.2	26.2	15.6	16.7	38.0	26.4	29.6	51.0	88.6
MAX	119	75.2	40.6	29.6	56.9	21.6	30.6	72.2	36.0	49.3	94.5	129
(WY)	2001	2001	1948	1949	1950	1949	1950	2001	2000	1949	2000	2000
MIN	50.3	27.3	30.8	19.7	16.2	10.2	10.4	12.2	14.7	18.0	24.1	55.8
(WY)	1950	1950	1947	1948	2001	2001	1948	1948	2001	1947	2001	1947

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

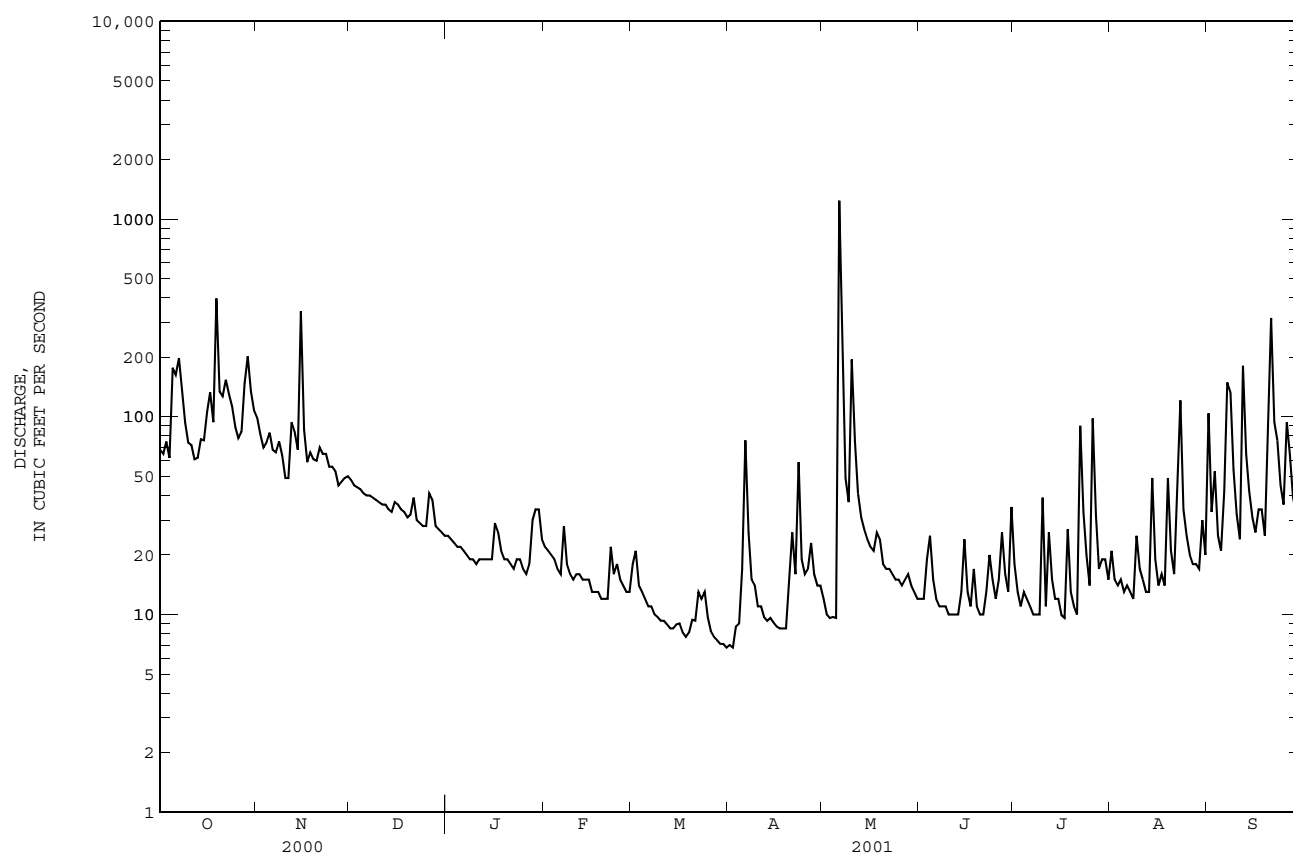
FOR 2001 WATER YEAR

WATER YEARS 1947 - 2001

ANNUAL TOTAL							15085.5					
ANNUAL MEAN							41.3			41.2		
HIGHEST ANNUAL MEAN										41.4		1948
LOWEST ANNUAL MEAN										41.0		1949
HIGHEST DAILY MEAN				1510	Aug 23		1240	May 6	1510		Aug 23	2000
LOWEST DAILY MEAN				9.4	May 1		6.8	Mar 31		6.8	Mar 31	2001
ANNUAL SEVEN-DAY MINIMUM				9.7	Apr 25		7.1	Mar 27		7.1	Mar 27	2001
MAXIMUM PEAK FLOW							12000	May 6	12000		May 6	2001
MAXIMUM PEAK STAGE							15.49	May 6		15.49	May 6	2001
ANNUAL RUNOFF (AC-FT)							29920			29880		
ANNUAL RUNOFF (CFSM)							2.21			2.21		
ANNUAL RUNOFF (INCHES)							30.01			29.97		
10 PERCENT EXCEEDS				133			85			78		
50 PERCENT EXCEEDS				35			20			23		
90 PERCENT EXCEEDS				13			9.8			12		

e Estimated

RIO GRANDE DE ARECIBO BASIN
50020500 RIO GRANDE DE ARECIBO NEAR ADJUNTAS, PR--Continued



RIO GRANDE DE ARECIBO BASIN

50020500 RIO GRANDE DE ARECIBO NEAR ADJUNTAS, PR

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-74, 1979 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 2000 to September 2001.

INSTRUMENTATION.-- USDH-48 and automatic sediment samplers since 2000.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 1,080 mg/L May 6, 2001; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 14,400 tons (13,064 tonnes) May 6, 2001; Minimum daily mean, 0.03 ton (0.03 tonne) June 1, 2, 2001.

EXTREMES FOR CURRENT YEAR 2001.--

SEDIMENT CONCENTRATION: Maximum daily mean, 1,080 mg/L May 6, 2001; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 14,400 tons (13,064 tonnes) May 6, 2001; Minimum daily mean, 0.03 ton (0.03 tonne) June 1, 2, 2001.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (MG/L) (00301)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP, WATER (100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT 31...	1310	92	242	7.8	24.7	1.5	7.8	99	12	40	730	76	19.9
FEB 22...	0830	11	329	7.7	20.8	.7	7.7	91	<10	E100	360	--	--
MAY 16...	1120	22	290	7.5	25.0	.7	8.1	104	<10	E150	E120	110	29.1
SEP 20...	0930	20	390	7.2	22.7	--	8.3	102	10	3900	270	110	29.1

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT 31...	6.45	15.1	.8	1.72	82	<1.0	6.3	18.9	E.1	27.2	145	36.1	<10
FEB 22...	--	--	--	--	115	--	--	--	--	--	--	--	<10
MAY 16...	9.04	15.9	.7	1.90	103	<1.0	10.7	20.6	E.1	30.4	180	10.6	<10
SEP 20...	9.25	35.1	1	2.11	102	--	9.4	54.1	<.2	29.5	230	12.7	<10

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
OCT 31...	--	<.01	.8	.06	.36	.42	1.2	5.4	.060	<2	14.0	<18	<.11
FEB 22...	1.39	.01	1.4	.04	.24	.28	1.7	7.4	.120	--	--	--	--
MAY 16...	--	<.01	.5	.02	.18	.20	.65	2.9	.050	<2	16.1	E16	<.11
SEP 20...	.69	.04	.7	.01	.29	.30	1.0	4.6	.070	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 31...	<1	<20.0	110	<1	17	<.14	<2.6	<.43	<31	<.01	<16	<.02
FEB 22...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 16...	<1	<20.0	30	<1	16	<.01	<2.6	<.43	<31	<.01	<16	--
SEP 20...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
E -- Estimated value

50020500 RIO GRANDE DE ARECIBO NEAR ADJUNTAS, PR--Continued

WATER-QUALITY RECORDS

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)		DISCHARGE (CFS)	CONCEN- TRATION (MG/L)		DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	
	OCTOBER			NOVEMBER			DECEMBER		
1	68	36	6.7	99	61	16	48	4	.52
2	65	29	5.1	82	56	13	45	4	.49
3	75	41	9.9	70	51	9.7	44	4	.48
4	62	35	5.8	74	46	9.1	43	4	.46
5	177	181	413	83	41	9.2	41	4	.44
6	163	135	91	68	36	6.7	40	4	.44
7	198	184	147	66	31	5.6	40	4	.43
8	133	98	35	75	26	5.3	e39	e4	e.42
9	93	68	17	64	21	3.7	e38	e4	e.40
10	74	55	11	49	16	2.1	37	4	.40
11	72	53	11	49	11	1.4	36	4	.39
12	61	50	8.2	94	39	18	36	4	.39
13	62	42	7.1	84	38	9.7	e34	e4	e.40
14	77	40	8.3	68	4	.66	e33	e4	e.39
15	76	41	8.4	342	357	1310	e37	e4	e.39
16	106	83	33	86	73	17	e36	e4	e.39
17	133	113	72	59	55	8.7	e34	e4	e.39
18	94	61	16	66	38	6.7	e33	e4	e.39
19	397	364	2020	61	25	4.2	e31	e4	e.39
20	134	87	32	60	14	2.3	e32	e4	e.39
21	127	95	42	70	22	5.3	e39	e4	e.42
22	154	105	70	65	10	1.8	e30	e4	e.39
23	130	56	23	65	17	4.5	e29	e2	e.17
24	113	64	20	56	10	1.5	e28	e2	e.17
25	89	9	2.3	56	6	.97	e28	e2	e.17
26	78	5	1.0	53	5	.69	e41	e4	e.44
27	84	6	1.3	45	4	.44	e38	e4	e.40
28	147	125	145	47	2	.27	e28	e2	e.17
29	202	208	303	49	1	.17	e27	e2	e.17
30	134	100	38	50	3	.39	e26	e2	e.17
31	108	67	19	---	---	---	e25	e2	e.17
TOTAL	3686	---	3622.1	2255	---	1475.09	1096	---	11.23

RIO GRANDE DE ARECIBO BASIN

50020500 RIO GRANDE DE ARECIBO NEAR ADJUNTAS, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	e25	e8	e.54	e22	e2	e.10	e18	e19	e1.0
2	e24	e5	e.32	e21	e2	e.10	e21	e19	e1.0
3	e23	e5	e.32	e20	e2	e.10	e14	e9	e.33
4	e22	e3	e.20	e19	e4	e.21	e13	e9	e.33
5	e22	e1	e.09	e17	e4	e.21	e12	e9	e.29
6	e21	e2	e.10	e16	e4	e.21	e11	e9	e.29
7	e20	e2	e.10	e28	e8	e.54	e11	e9	e.29
8	e19	e4	e.21	e18	e4	e.21	e10	e9	e.29
9	e19	e4	e.21	e16	e4	e.16	e9.7	e7	e.19
10	e18	e4	e.21	e15	e4	e.16	e9.3	e10	e.25
11	e19	e4	e.21	e16	e4	e.16	e9.3	e10	e.25
12	e19	e4	e.21	e16	e4	e.16	e8.9	e2	e.05
13	e19	e4	e.21	e15	e4	e.16	e8.5	e2	e.05
14	e19	e4	e.21	e15	e4	e.16	e8.5	e2	e.05
15	e19	e8	e.84	e15	e4	e.16	e8.9	e2	e.05
16	e29	e15	e2.4	e13	e4	e.13	e9.0	e10	e.25
17	e26	e15	e.59	e13	e4	e.13	e8.1	e2	e.05
18	e21	e2	e.10	e13	e4	e.13	e7.7	e4	e.07
19	e19	e4	e.21	e12	e4	e.14	e8.1	e2	e.05
20	e19	e4	e.21	e12	e4	e.14	e9.4	e11	e.30
21	e18	e4	e.21	e12	e4	e.14	9.3	10	.25
22	e17	e6	e.25	e22	e2	e.10	13	9	.33
23	e19	e4	e.21	e16	e4	e.16	12	9	.29
24	e19	e4	e.21	e18	e4	e.16	13	9	.33
25	e17	e4	e.21	e15	e4	e.16	9.7	7	.19
26	e16	e4	e.21	e14	e4	e.13	8.2	2	.05
27	e18	e4	e.21	e13	e4	e.13	7.7	4	.07
28	e30	e9	e.77	e13	e4	e.13	7.4	6	.11
29	e34	e15	e2.4	---	---	---	7.1	4	.08
30	e34	e15	e2.4	---	---	---	7.1	4	.07
31	e24	e15	e.59	---	---	---	6.8	3	.06
TOTAL	668	---	15.16	455	---	4.58	316.7	---	7.26

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	APRIL			MAY			JUNE		
1	7.0	5	.09	e12	e6	e.19	12	1	.03
2	6.8	7	.12	e10	e6	e.16	12	1	.03
3	e8.7	e8	e.16	e9.6	e6	e.14	19	8	.84
4	e9.0	e10	e.22	e9.7	e5	e.14	25	15	2.4
5	e17	e10	e.20	9.6	5	.13	15	15	.59
6	e76	e358	e379	1240	1080	14400	12	11	.37
7	26	30	2.6	194	101	110	11	9	.28
8	15	38	1.5	49	17	2.2	11	7	.22
9	14	29	1.1	37	15	1.5	11	5	.15
10	11	27	.83	195	304	706	e10	e3	e.09
11	11	26	.73	e75	e78	e17	e10	e3	e.08
12	9.7	24	.62	e41	e32	e3.8	10	3	.07
13	9.3	19	.48	31	9	.77	10	2	.07
14	9.6	13	.35	27	8	.54	13	2	.08
15	9.1	8	.20	24	5	.32	24	14	2.0
16	8.7	7	.16	22	1	.09	13	8	.31
17	8.5	7	.15	21	2	.10	11	6	.17
18	8.5	6	.15	26	2	.17	17	10	.89
19	8.5	6	.14	24	3	.20	11	7	.21
20	14	6	.24	18	4	.21	10	6	.18
21	26	28	3.5	17	6	.25	10	6	.15
22	16	6	.27	17	7	.31	e13	e5	e.13
23	59	368	268	16	8	.34	e20	e12	e.98
24	19	19	1.0	15	9	.36	e15	e10	e.41
25	16	15	.63	15	7	.29	e12	e8	e.33
26	17	13	.57	14	6	.22	e15	e6	e.25
27	e23	e11	e.61	15	4	.16	26	17	3.0
28	e16	e10	e.36	16	2	.11	16	6	.27
29	e14	e8	e.30	14	2	.06	13	5	.18
30	14	6	.25	13	4	.13	e35	e5	e.16
31	---	---	---	12	4	.14	---	---	---
TOTAL	507.4	---	664.53	2238.9	---	15246.03	442	---	14.92

RIO GRANDE DE ARECIBO BASIN

50020500 RIO GRANDE DE ARECIBO NEAR ADJUNTAS, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	e18	e4	e.15	21	10	.55	104	228	331
2	13	4	.14	15	10	.39	33	20	1.9
3	11	5	.14	14	9	.35	53	54	23
4	13	5	.19	15	9	.38	25	21	1.5
5	12	6	.18	13	9	.31	21	8	.44
6	11	6	.18	14	9	.32	42	34	13
7	10	7	.19	13	8	.29	149	357	879
8	10	8	.21	12	8	.27	133	261	398
9	10	8	.22	25	14	1.5	54	32	4.7
10	39	432	261	17	8	.36	32	14	1.2
11	e11	e6	e.19	15	7	.29	24	8	.53
12	e26	e23	e.10	13	7	.24	181	457	834
13	e15	e10	e.47	13	6	.21	65	54	10
14	12	6	.17	49	280	127	42	25	2.9
15	12	4	.13	19	13	.81	31	12	1.0
16	9.9	2	.06	14	6	.22	26	8	.54
17	9.6	2	.05	16	5	.21	34	16	2.0
18	27	24	3.5	14	4	.15	34	18	2.1
19	13	6	.23	49	36	12	25	9	.64
20	11	5	.15	21	10	.60	78	270	205
21	10	4	.11	16	7	.28	316	390	1230
22	90	838	498	47	59	17	94	95	29
23	33	19	1.9	121	120	63	76	50	19
24	20	10	.59	34	19	1.7	45	15	1.9
25	14	7	.26	25	15	1.0	36	9	.86
26	98	435	305	20	10	.58	94	85	59
27	32	21	2.2	18	7	.35	65	51	13
28	17	11	.51	18	7	.32	39	45	4.9
29	19	8	.40	17	6	.29	32	36	3.1
30	19	5	.25	30	18	3.2	29	32	2.4
31	15	6	.24	20	8	.46	---	---	---
TOTAL	660.5	---	1077.11	748	---	234.63	2012	---	4075.61
YEAR	15085.5		26448.25						

e Estimated

RIO GRANDE DE ARECIBO BASIN

50021030 RIO PELLEJAS ABOVE CENTRAL PELLEJAS, PR

LOCATION.--Lat 18°12'17', long 66°42'13", Hydrologic Unit 21010002, 0.2 mi (0.3 km) southeast from Escuela Lucas Valdivieso, 3.0 mi (4.8 km) north from Adjuntas Hospital and 2.0 mi (3.2 km) west from Lago Adjuntas.

DRAINAGE AREA.--2.99 mi² (7.74 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 2000 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,148 ft (350 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow regulated by Lago Adjuntas 2.0 mi (3.2 km) west. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e49	e45	30	e34	e29	20	16	17	24	42	25	33
2	e37	e65	29	e33	e28	22	16	16	24	38	24	21
3	e37	e65	29	e33	e28	20	16	16	28	36	23	37
4	34	e60	29	e33	e27	20	17	16	33	37	22	23
5	52	e60	29	e33	e26	19	20	16	32	35	21	20
6	63	e55	28	e33	e25	18	19	232	30	32	20	40
7	e142	e50	28	31	e24	18	19	51	28	28	20	51
8	54	e40	28	e31	e24	17	17	22	28	25	19	45
9	41	e35	29	e32	e23	17	17	20	27	26	18	31
10	37	e35	29	e32	e23	17	17	62	26	51	20	20
11	52	e34	29	e30	e22	17	17	31	24	26	19	18
12	e37	e70	28	31	e22	17	16	42	23	33	19	42
13	35	e50	28	31	e22	16	16	35	23	30	18	22
14	e34	e35	29	e30	e21	16	16	39	25	29	26	20
15	e34	e37	29	e30	e21	17	16	e27	27	28	20	17
16	e115	e35	e29	e30	e22	16	16	e26	29	26	18	16
17	e91	e30	e29	e29	e21	16	15	27	28	25	17	20
18	e69	e32	e28	e28	e21	16	15	28	31	28	17	17
19	e50	e29	e29	e28	e20	16	15	28	25	26	24	16
20	e60	e29	e28	e28	e20	16	17	27	24	25	18	19
21	e110	e29	28	e27	e20	17	23	26	22	24	18	63
22	e115	e30	29	e27	e20	22	21	26	25	43	20	20
23	e110	32	30	e28	23	30	48	26	31	26	39	21
24	e90	31	33	e29	22	34	20	26	27	26	19	17
25	e85	29	34	e30	22	27	19	32	30	26	17	15
26	e65	29	37	e29	22	22	19	30	27	34	16	15
27	e60	28	37	e29	21	18	22	26	26	29	16	22
28	e55	28	35	e30	20	16	18	26	37	26	37	17
29	e60	28	e34	e31	---	16	17	26	32	26	23	15
30	e45	31	e34	e32	---	16	17	25	48	25	25	15
31	e40	---	e34	e30	---	16	---	25	---	24	21	---
TOTAL	1958	1186	939	942	639	585	557	1072	844	935	659	748
MEAN	63.2	39.5	30.3	30.4	22.8	18.9	18.6	34.6	28.1	30.2	21.3	24.9
MAX	142	70	37	34	29	34	48	232	48	51	39	63
MIN	34	28	28	27	20	16	15	16	22	24	16	15
AC-FT	3880	2350	1860	1870	1270	1160	1100	2130	1670	1850	1310	1480
CFSM	9.25	5.79	4.43	4.45	3.34	2.76	2.72	5.06	4.12	4.42	3.11	3.65
IN.	10.66	6.46	5.11	5.13	3.48	3.19	3.03	5.84	4.60	5.09	3.59	4.07

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2001, BY WATER YEAR (WY)

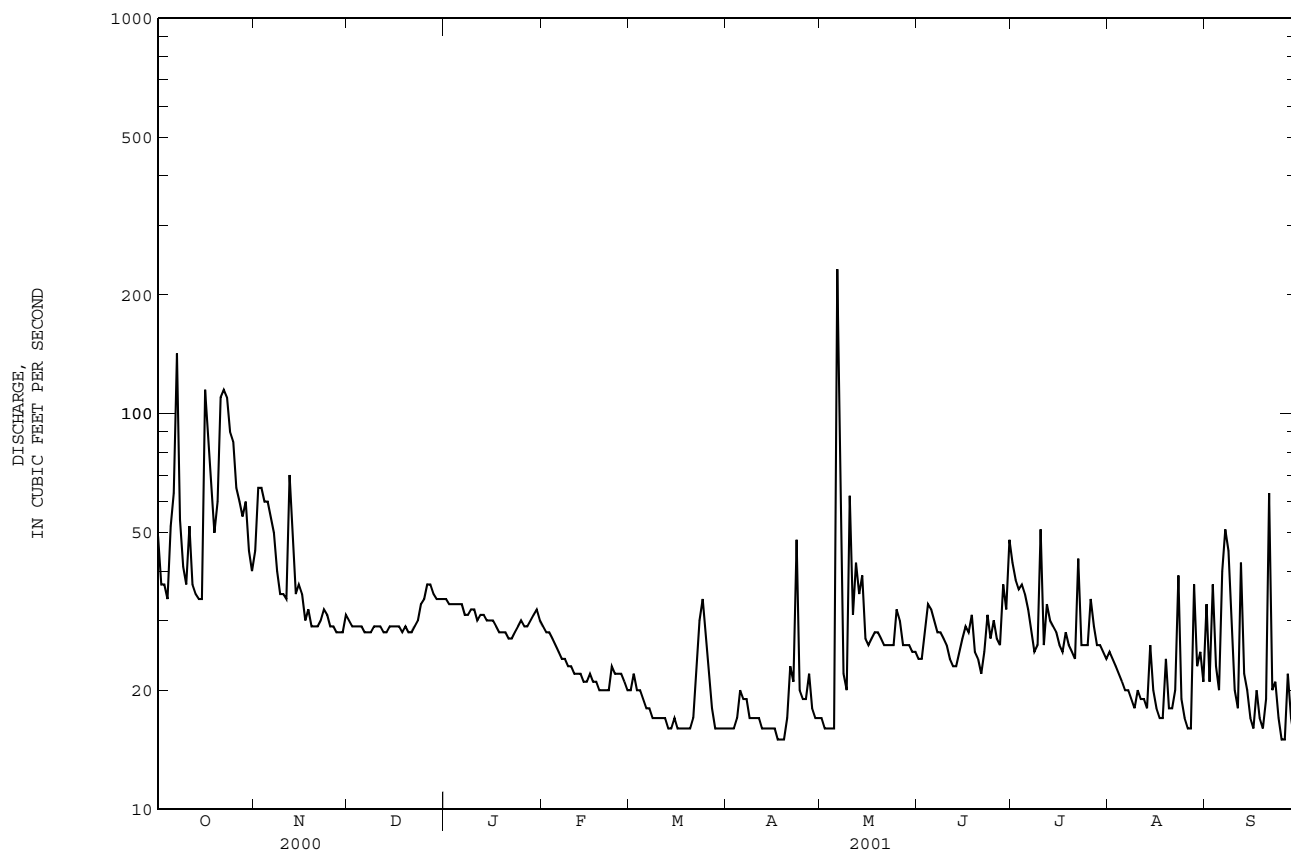
	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001
MEAN	63.2	39.5	30.3	30.4	22.8	18.9	18.6	34.6	42.7	33.4	27.5	37.0
MAX	63.2	39.5	30.3	30.4	22.8	18.9	18.6	34.6	57.2	36.7	33.7	49.0
(WY)	2001	2001	2001	2001	2001	2001	2001	2001	2000	2000	2000	2000
MIN	63.2	39.5	30.3	30.4	22.8	18.9	18.6	34.6	28.1	30.2	21.3	24.9
(WY)	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 2000 - 2001

ANNUAL TOTAL							11064					
ANNUAL MEAN							30.3			30.3		
HIGHEST ANNUAL MEAN										30.3		2001
LOWEST ANNUAL MEAN										30.3		2001
HIGHEST DAILY MEAN				142	Oct 7		232	May 6		232	May 6	2001
LOWEST DAILY MEAN				22	Aug 10		15	Apr 17		15	Apr 17	2001
ANNUAL SEVEN-DAY MINIMUM				23	Aug 8		16	Apr 13		16	Apr 13	2001
MAXIMUM PEAK FLOW							2290	May 6		2290	May 6	2001
MAXIMUM PEAK STAGE							9.42	May 6		9.42	May 6	2001
INSTANTANEOUS LOW FLOW							14	Apr 17		14	Apr 17	2001
ANNUAL RUNOFF (AC-FT)							21950			21960		
ANNUAL RUNOFF (CFSM)							4.44			4.44		
ANNUAL RUNOFF (INCHES)							60.26			60.30		
10 PERCENT EXCEEDS				71			46			55		
50 PERCENT EXCEEDS				37			27			29		
90 PERCENT EXCEEDS				28			17			17		

e Estimated

RIO GRANDE DE ARECIBO BASIN
50021030 RIO PELLEJAS ABOVE CENTRAL PELLEJAS, PR--Continued



RIO GRANDE DE ARECIBO BASIN

50021030 RIO PELLEJAS ABOVE CENTRAL PELLEJAS,PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 2000 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 2000 to current year.

INSTRUMENTATION.-- USDH-48 and automatic sediment samplers since 2000.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 1,030 mg/L May 6, 2001; Minimum daily mean, e3 mg/L February 22, 2001.

SEDIMENT LOADS: Maximum daily mean, 2,810 tons (2,549 tonnes) May 6, 2001; Minimum daily mean, e0.14 ton (e0.13 tonne) February 22 and August 27, 2001.

EXTREMES FOR CURRENT YEAR 2001.--

SEDIMENT CONCENTRATION: Maximum daily mean, 1,030 mg/L May 6, 2001; Minimum daily mean, e3 mg/L February 22, 2001.

SEDIMENT LOADS: Maximum daily mean, 2,810 tons (2,549 tonnes) May 6, 2001; Minimum daily mean, e0.14 ton (e0.13 tonne) February 22 and August 27, 2001.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	e49	e217	e69	e45	e113	e13	30	60	4.8
2	e37	e82	e8.1	e65	e358	e150	29	50	3.9
3	e37	e85	e8.6	e65	e358	e150	29	39	3.0
4	34	89	8.1	e60	e358	e150	29	29	2.3
5	52	277	103	e60	e358	e150	29	19	1.5
6	63	358	150	e55	e277	e103	28	10	.73
7	e142	e480	e488	e50	e277	e103	28	7	.56
8	54	209	32	e40	e113	e13	28	8	.60
9	41	113	13	e35	e24	e2.2	29	7	.57
10	37	91	9.3	e35	e24	e2.2	29	6	.50
11	52	211	51	e34	e23	e2.1	29	6	.44
12	e37	e49	e5.0	e70	e358	e150	28	5	.38
13	35	24	2.2	e50	e211	e51	28	4	.32
14	e34	e23	e2.1	e35	e24	e2.2	29	4	.34
15	e34	e22	e2.0	e37	e24	e2.2	29	5	.40
16	e115	e576	e458	e35	e24	e2.2	e29	e6	e.49
17	e91	e783	e274	e30	e10	e.77	e29	e6	e.44
18	e69	e358	e150	e32	e31	e2.8	e28	e5	e.38
19	e50	e277	e103	e29	e12	e.91	e29	e6	e.44
20	e60	e358	e150	e29	e11	e.89	e28	e6	e.42
21	e110	e576	e458	e29	e11	e.84	28	6	.48
22	e115	e576	e458	e30	e10	e.77	29	7	.54
23	e110	e576	e458	32	31	2.8	30	8	.68
24	e90	e783	e274	31	61	5.1	33	10	.87
25	e85	e783	e274	29	24	1.9	34	11	1.0
26	e65	e358	e150	29	14	1.1	37	13	1.2
27	e60	e358	e150	28	11	.88	37	12	1.2
28	e55	e209	e32	28	9	.67	35	11	1.1
29	e60	e358	e150	28	8	.65	e34	e11	e.99
30	e45	e113	e13	31	41	3.7	e34	e11	e.99
31	e40	e113	e13	---	---	---	e34	e11	e.99
TOTAL	1958	---	4516.4	1186	---	1069.88	939	---	32.55

RIO GRANDE DE ARECIBO BASIN

50021030 RIO PELLEJAS ABOVE CENTRAL PELLEJAS, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)		DISCHARGE (CFS)	CONCEN- TRATION (MG/L)		DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	
	JANUARY			FEBRUARY			MARCH		
1	e34	e11	e1.0	e29	e57	e4.3	20	11	.65
2	e33	e10	e.87	e28	e57	e4.3	22	37	2.2
3	e33	e10	e.87	e28	e57	e4.3	20	29	1.6
4	e33	e10	e.87	e27	e16	e1.1	20	24	1.3
5	e33	e10	e.87	e26	e18	e1.2	19	18	.94
6	e33	e10	e.87	e25	e18	e1.2	18	13	.65
7	31	10	.81	e24	e25	e2.0	18	9	.45
8	e31	e9	e.75	e24	e25	e2.0	17	6	.30
9	e32	e9	e.75	e23	e25	e2.0	17	6	.29
10	e32	e9	e.75	e23	e25	e2.0	17	7	.31
11	e30	e6	e.53	e22	e28	e1.7	17	7	.33
12	31	9	.75	e22	e28	e1.7	17	7	.33
13	31	12	1.1	e22	e28	e1.7	16	8	.34
14	e30	e14	e1.2	e21	e16	e.89	16	8	.36
15	e30	e6	e.53	e21	e16	e.89	17	9	.39
16	e30	e6	e.53	e22	e28	e1.7	16	9	.40
17	e29	e7	e.54	e21	e16	e.89	16	11	.48
18	e28	e6	e.48	e21	e16	e.89	16	10	.42
19	e28	e6	e.48	e20	e10	e.56	16	7	.31
20	e28	e6	e.48	e20	e10	e.56	16	5	.20
21	e27	e6	e.42	e20	e10	e.56	17	4	.16
22	e27	e6	e.42	e20	e3	e.14	22	22	1.7
23	e28	e6	e.48	23	25	2.0	30	58	5.2
24	e29	e7	e.54	22	34	2.0	34	97	12
25	e30	e6	e.53	22	28	1.7	27	57	4.3
26	e29	e7	e.54	22	22	1.3	22	40	2.4
27	e29	e7	e.54	21	16	.89	18	25	1.2
28	e30	e6	e.53	20	10	.56	16	16	.68
29	e31	e9	e.75	---	---	---	16	11	.49
30	e32	e12	e1.1	---	---	---	16	6	.24
31	e30	e14	e1.2	---	---	---	16	4	.19
TOTAL	942	---	22.08	639	---	45.03	585	---	40.81
	APRIL			MAY			JUNE		
1	16	5	.21	17	24	1.1	24	38	2.5
2	16	5	.23	16	21	.91	24	41	2.6
3	16	12	.54	16	21	.91	28	64	5.7
4	17	24	1.2	16	23	.98	33	89	8.7
5	20	33	1.8	16	23	.96	32	69	5.9
6	19	27	1.3	232	1030	2810	30	38	3.1
7	19	32	1.9	51	164	39	28	23	1.8
8	17	25	1.2	22	19	1.2	28	15	1.2
9	17	22	1.0	20	34	1.8	27	16	1.1
10	17	20	.95	62	343	175	26	18	1.2
11	17	19	.87	31	43	4.1	24	20	1.3
12	16	17	.73	42	95	17	23	22	1.3
13	16	15	.63	35	83	7.8	23	28	1.7
14	16	12	.54	39	96	10	25	35	2.3
15	16	11	.47	e27	e210	e14	27	40	3.0
16	16	13	.54	e26	e322	e17	29	41	3.2
17	15	15	.64	27	224	16	28	40	3.1
18	15	18	.74	28	67	5.0	31	63	6.1
19	15	19	.75	28	38	2.9	25	42	2.8
20	17	25	1.3	27	31	2.2	24	22	1.4
21	23	40	2.8	26	25	1.8	22	15	.88
22	21	37	2.2	26	18	1.3	25	50	3.9
23	48	366	148	26	12	.84	31	82	8.3
24	20	89	4.7	26	10	.68	27	61	4.4
25	19	75	3.8	32	375	37	30	72	6.5
26	19	65	3.3	30	386	33	27	59	4.3
27	22	50	3.1	26	103	7.0	26	51	3.5
28	18	35	1.7	26	48	3.4	37	91	11
29	17	31	1.4	26	39	2.7	32	70	6.1
30	17	28	1.3	25	33	2.3	48	100	24
31	---	---	---	25	36	2.4	---	---	---
TOTAL	557	---	189.84	1072	---	3220.28	844	---	132.88

RIO GRANDE DE ARECIBO BASIN

50021030 RIO PELLEJAS ABOVE CENTRAL PELLEJAS, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	42	30	3.5	25	37	2.5	33	138	31
2	38	30	3.1	24	46	3.0	21	40	2.4
3	36	29	2.8	23	28	1.7	37	143	35
4	37	57	6.2	22	12	.71	23	43	2.7
5	35	78	7.4	21	11	.61	20	21	1.1
6	32	41	3.5	20	12	.67	40	153	57
7	28	37	2.8	20	14	.75	51	576	296
8	25	36	2.5	19	19	.98	45	362	169
9	26	36	2.6	18	25	1.3	31	68	7.6
10	51	229	84	20	27	1.5	20	22	1.2
11	26	49	3.4	19	26	1.4	18	12	.56
12	33	92	13	19	26	1.3	42	261	94
13	30	82	6.9	18	25	1.2	22	39	2.6
14	29	73	6.3	26	64	7.8	20	16	.83
15	28	59	4.5	20	74	4.0	17	8	.38
16	26	51	3.6	18	63	3.0	16	6	.26
17	25	47	3.1	17	51	2.4	20	26	2.1
18	28	57	4.5	17	40	1.8	17	18	.84
19	26	48	3.4	24	63	7.5	16	12	.48
20	25	33	2.2	18	35	1.7	19	27	1.6
21	24	20	1.3	18	33	1.7	63	508	355
22	43	162	61	20	34	2.0	20	36	2.0
23	26	53	3.8	39	402	73	21	45	3.7
24	26	49	3.4	19	9	.44	17	26	1.2
25	26	47	3.2	17	4	.17	15	16	.68
26	34	86	10	16	4	.15	15	8	.33
27	29	52	4.2	16	3	.14	22	40	4.9
28	26	27	1.9	37	91	16	17	32	1.5
29	26	22	1.5	23	65	4.9	15	21	.87
30	25	21	1.4	25	56	4.4	15	18	.72
31	24	21	1.3	21	43	2.5	---	---	---
TOTAL	935	---	262.3	659	---	151.22	748	---	1077.55
YEAR	11064		10760.82						

e Estimated

50021700 RIO GRANDE DE ARECIBO ABOVE UTUADO, PR

LOCATION.--Lat 1814'39", long 6643'20", Hydrologic Unit 21010001, .40 mi (.64 km) southwest from Escuela Segunda Unidad Salto Arriba, 2.2 mi (3.5 km) southwest from Utuado Plaza, 1.1 mi (1.8 km) west from Escuela Arenas Abajo and 1.0 mi (1.7 km) northwest from Escuela Puente Blanco.

DRAINAGE AREA.--36.0 mi² (93.24 km²).

PERIOD OF RECORD.--August 1989 to May 1999, monthly measurements and peak flow above 5,000 ft³/s (142 m³/s), June 1999 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 508 ft (155 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	147	187	81	12	8.6	6.2	3.7	11	6.5	9.9	107	155
2	115	143	71	12	8.1	6.8	3.9	7.7	6.1	7.4	31	61
3	123	123	57	8.6	7.2	5.4	6.3	5.9	45	6.6	15	98
4	112	118	57	8.5	5.9	5.1	7.7	5.1	13	6.3	13	44
5	231	133	54	9.1	5.5	5.0	19	4.7	12	6.2	10	33
6	257	120	55	8.0	5.5	4.9	117	e1760	e7.4	5.8	12	174
7	420	106	55	6.5	7.7	4.8	46	e667	5.9	5.7	9.9	241
8	255	118	55	6.1	6.1	4.9	22	e23	5.5	5.5	8.5	233
9	181	109	54	6.0	5.8	4.6	12	e12	5.4	5.5	8.1	140
10	144	85	54	5.9	5.7	4.4	11	e451	5.2	134	9.3	66
11	150	81	53	5.9	5.9	4.3	6.7	e47	5.0	23	14	47
12	120	122	52	5.9	5.7	4.2	6.1	e7.5	5.1	12	12	283
13	112	144	53	6.0	5.5	4.2	5.2	e7.1	5.0	25	9.5	146
14	130	102	52	5.9	5.6	4.3	4.9	e8.2	5.5	8.9	24	71
15	139	389	58	5.8	5.5	4.2	4.9	e7.7	6.8	7.4	28	51
16	266	155	56	22	5.5	4.2	4.4	13	6.0	6.4	10	44
17	264	80	56	13	5.5	3.9	4.2	11	6.4	6.1	10	51
18	209	95	55	9.8	5.3	3.8	4.1	11	9.7	7.5	10	51
19	936	90	48	7.6	5.2	3.8	4.2	18	7.6	12	37	42
20	340	87	40	6.2	5.1	3.8	4.2	10	5.7	7.2	35	92
21	250	94	44	5.9	5.2	3.9	31	9.3	5.3	6.2	12	e468
22	393	101	24	5.8	6.9	5.0	27	8.9	7.1	100	17	e139
23	317	98	21	6.4	7.2	5.1	118	8.2	20	30	177	e109
24	250	90	19	6.0	7.9	5.1	48	7.5	18	20	27	e91
25	199	80	15	5.7	6.0	6.3	21	6.7	16	11	21	e78
26	157	78	32	5.6	5.4	4.0	16	6.5	17	99	33	122
27	148	74	23	6.2	5.1	3.8	e34	6.5	9.3	53	16	104
28	309	64	15	8.9	5.0	3.8	13	6.9	14	13	18	85
29	301	76	14	9.4	---	3.8	11	6.2	7.5	11	51	56
30	256	80	11	18	---	3.7	12	7.5	18	12	82	52
31	174	---	12	11	---	3.7	---	7.8	---	9.3	62	---
TOTAL	7405	3422	1346	259.7	169.6	141.0	628.5	3169.9	307.0	672.9	929.3	3427
MEAN	239	114	43.4	8.38	6.06	4.55	21.0	102	10.2	21.7	30.0	114
MAX	936	389	81	22	8.6	6.8	118	1760	45	134	177	468
MIN	112	64	11	5.6	5.0	3.7	3.7	4.7	5.0	5.5	8.1	33
AC-FT	14690	6790	2670	515	336	280	1250	6290	609	1330	1840	6800
CFSM	6.64	3.17	1.21	.23	.17	.13	.58	2.84	.28	.60	.83	3.17
IN.	7.65	3.54	1.39	.27	.18	.15	.65	3.28	.32	.70	.96	3.54

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2001, BY WATER YEAR (WY)

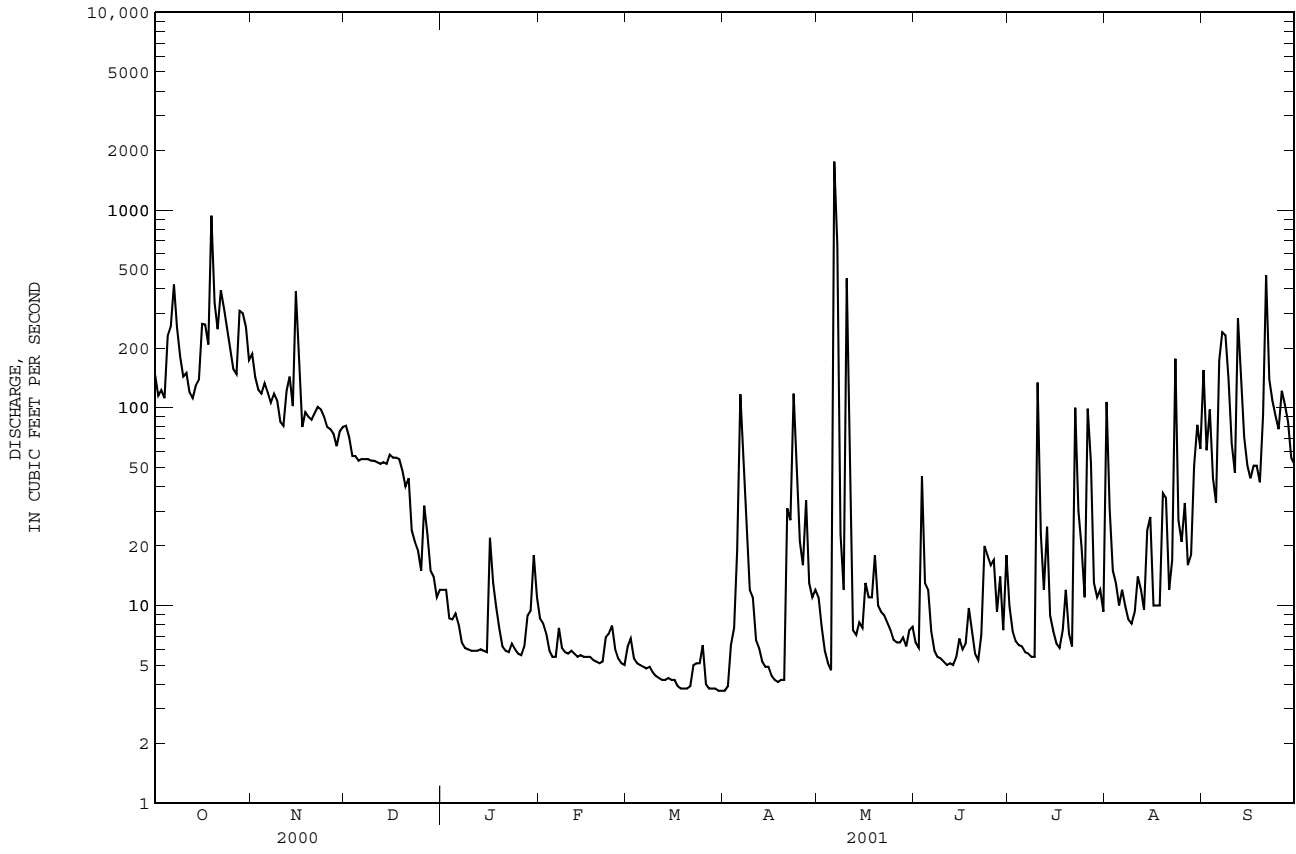
MEAN	206	167	54.0	15.2	8.45	5.58	15.3	101	53.5	26.0	92.7	174
MAX	239	220	64.6	22.0	10.8	6.62	21.0	102	90.2	31.5	135	224
(WY)	2001	2000	2000	2000	2000	2000	2001	2001	2000	2000	2000	1999
MIN	173	114	43.4	8.38	6.06	4.55	9.58	99.5	10.2	21.7	30.0	114
(WY)	2000	2001	2001	2001	2001	2001	2000	2000	2001	2001	2001	2001

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1999 - 2001

ANNUAL TOTAL	30144.4	21877.9	
ANNUAL MEAN	82.4	59.9	73.6
HIGHEST ANNUAL MEAN			87.2
LOWEST ANNUAL MEAN			59.9
HIGHEST DAILY MEAN	2210	Aug 23	1760
LOWEST DAILY MEAN	4.1	Aug 13	3.7
ANNUAL SEVEN-DAY MINIMUM	4.2	Aug 2	3.8
MAXIMUM PEAK FLOW			18900
MAXIMUM PEAK STAGE			13.90
ANNUAL RUNOFF (AC-FT)	59790	43390	53320
ANNUAL RUNOFF (CFSM)	2.29	1.66	2.04
ANNUAL RUNOFF (INCHES)	31.15	22.61	27.78
10 PERCENT EXCEEDS	230	146	195
50 PERCENT EXCEEDS	38	12	28
90 PERCENT EXCEEDS	5.7	5.0	5.5

e Estimated

RIO GRANDE DE ARECIBO BASIN
50021700 RIO GRANDE DE ARECIBO ABOVE UTUADO, PR--Continued



50021700 RIO GRANDE DE ARECIBO ABOVE UTUADO, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1999 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 2000 to September 2001.

INSTRUMENTATION.-- USDH-48 and automatic sediment samplers since 1999.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, e1,600 mg/L May 6, 2001; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, e32,200 tons (e29,210 tonnes) May 6, 2001; Minimum daily mean, 0.01 ton (0.01 tonne) April 13-15, 2001.

EXTREMES FOR CURRENT YEAR 2001.--

SEDIMENT CONCENTRATION: Maximum daily mean, e1,600 mg/L May 6, 2001; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, e32,200 tons (e29,210 tonnes) May 6, 2001; Minimum daily mean, 0.01 ton (0.01 tonne) April 13-15, 2001.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	147	80	58	187	173	105	81	1	.22
2	115	13	3.9	143	31	12	71	1	.19
3	123	106	46	123	18	6.1	57	1	.15
4	112	101	31	118	13	4.0	57	1	.16
5	231	510	949	133	7	2.5	54	1	.14
6	257	551	601	120	2	.82	55	1	.15
7	420	860	1550	106	2	.57	55	1	.15
8	255	291	218	118	2	.64	55	1	.15
9	181	10	5.7	109	2	.59	54	1	.15
10	144	1	.39	85	2	.46	54	1	.15
11	150	174	96	81	2	.44	53	1	.14
12	120	10	3.6	122	95	77	52	1	.14
13	112	1	.30	144	167	95	53	1	.14
14	130	1	.35	102	2	.55	52	1	.14
15	139	1	.38	389	722	2320	58	1	.19
16	266	491	768	155	248	155	56	2	.23
17	264	412	392	80	42	8.9	56	2	.26
18	209	143	99	95	32	8.2	55	3	.48
19	936	1420	13600	90	22	5.4	48	2	.26
20	340	602	629	87	12	2.9	40	23	5.9
21	250	391	316	94	3	.77	44	96	14
22	393	588	1080	101	1	.34	24	14	.95
23	317	781	680	98	27	13	21	6	.35
24	250	560	397	90	18	5.7	19	5	.24
25	199	229	129	80	5	1.1	15	3	.13
26	157	27	11	78	3	.64	32	66	14
27	148	14	5.8	74	1	.27	23	49	3.3
28	309	517	666	64	1	.17	15	9	.38
29	301	460	563	76	1	.21	14	1	.04
30	256	216	192	80	1	.22	11	1	.03
31	174	24	11	---	---	---	12	1	.04
TOTAL	7405	---	23102.42	3422	---	2828.49	1346	---	42.95

RIO GRANDE DE ARECIBO BASIN

50021700 RIO GRANDE DE ARECIBO ABOVE UTUADO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	12	2	.05	8.6	18	.41	6.2	25	.40
2	12	2	.06	8.1	20	.43	6.8	18	.33
3	8.6	2	.04	7.2	22	.43	5.4	23	.33
4	8.5	2	.04	5.9	25	.40	5.1	30	.41
5	9.1	1	.03	5.5	28	.41	5.0	35	.47
6	8.0	1	.02	5.5	28	.42	4.9	36	.47
7	6.5	2	.03	7.7	29	.61	4.8	35	.46
8	6.1	2	.03	6.1	30	.49	4.9	35	.46
9	6.0	2	.03	5.8	30	.47	4.6	34	.42
10	5.9	2	.03	5.7	29	.46	4.4	33	.39
11	5.9	2	.03	5.9	28	.44	4.3	32	.37
12	5.9	3	.05	5.7	21	.33	4.2	31	.35
13	6.0	8	.12	5.5	14	.21	4.2	32	.37
14	5.9	13	.20	5.6	7	.10	4.3	34	.39
15	5.8	17	.27	5.5	6	.10	4.2	35	.40
16	22	59	8.7	5.5	11	.16	4.2	37	.41
17	13	23	.80	5.5	15	.22	3.9	35	.37
18	9.8	11	.29	5.3	19	.28	3.8	34	.35
19	7.6	4	.08	5.2	23	.33	3.8	32	.32
20	6.2	6	.09	5.1	28	.38	3.8	28	.29
21	5.9	9	.14	5.2	32	.45	3.9	25	.26
22	5.8	8	.12	6.9	36	.66	5.0	21	.28
23	6.4	6	.09	7.2	40	.78	5.1	17	.24
24	6.0	7	.12	7.9	44	.94	5.1	14	.19
25	5.7	34	.53	6.0	48	.78	6.3	10	.18
26	5.6	35	.53	5.4	44	.64	4.0	7	.07
27	6.2	30	.51	5.1	39	.53	3.8	11	.11
28	8.9	26	.63	5.0	33	.44	3.8	50	.52
29	9.4	24	.60	---	---	---	3.8	48	.49
30	18	22	1.0	---	---	---	3.7	37	.38
31	11	19	.58	---	---	---	3.7	26	.27
TOTAL	259.7	---	15.84	169.6	---	12.30	141.0	---	10.75
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	3.7	17	.17	11	44	1.2	6.5	21	.37
2	3.9	9	.10	7.7	37	.78	6.1	21	.35
3	6.3	4	.07	5.9	30	.49	45	141	70
4	7.7	4	.08	5.1	24	.33	13	26	.89
5	19	61	9.9	4.7	17	.22	12	26	.87
6	117	845	676	e1760	e1600	e32200	e7.4	e26	e.52
7	46	117	28	e667	e477	e1710	5.9	26	.42
8	22	40	3.7	e23	e20	e1.2	5.5	26	.39
9	12	4	.13	e12	e20	e.67	5.4	27	.39
10	11	2	.04	e451	e958	e4220	5.2	27	.39
11	6.7	1	.02	e47	e107	e54	5.0	28	.38
12	6.1	1	.02	e7.5	e27	e.56	5.1	28	.39
13	5.2	1	.01	e7.1	e29	e.57	5.0	28	.38
14	4.9	1	.01	e8.2	e31	e.69	5.5	27	.41
15	4.9	1	.01	e7.7	e33	e.69	6.8	24	.44
16	4.4	1	.02	13	35	1.2	6.0	20	.32
17	4.2	2	.02	11	37	1.1	6.4	16	.27
18	4.1	2	.02	11	39	1.1	9.7	12	.30
19	4.2	2	.03	18	40	2.0	7.6	8	.17
20	4.2	3	.04	10	36	.99	5.7	11	.17
21	31	52	13	9.3	31	.77	5.3	18	.25
22	27	22	2.4	8.9	25	.61	7.1	24	.48
23	118	157	148	8.2	24	.53	20	62	6.8
24	48	126	20	7.5	24	.48	18	44	2.2
25	21	83	4.6	6.7	24	.43	16	42	2.4
26	16	76	3.3	6.5	24	.42	17	71	3.5
27	e34	e70	e6.4	6.5	24	.42	9.3	61	1.5
28	13	63	2.3	6.9	23	.43	14	64	2.4
29	11	57	1.7	6.2	22	.36	7.5	46	.96
30	12	50	1.7	7.5	21	.43	18	51	4.3
31	---	---	---	7.8	21	.44	---	---	---
TOTAL	628.5	---	921.79	3169.9	---	38203.11	307.0	---	102.61

RIO GRANDE DE ARECIBO BASIN

50021700 RIO GRANDE DE ARECIBO ABOVE UTUADO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	9.9	35	.96	107	672	729	155	834	1110
2	7.4	22	.45	31	88	9.4	61	230	48
3	6.6	23	.41	15	38	1.5	98	199	93
4	6.3	30	.50	13	27	.91	44	98	12
5	6.2	41	.70	10	25	.69	33	75	6.6
6	5.8	42	.66	12	23	.74	174	396	574
7	5.7	39	.60	9.9	20	.55	241	585	1090
8	5.5	36	.53	8.5	16	.38	233	612	822
9	5.5	32	.48	8.1	12	.27	140	372	166
10	134	1080	1020	9.3	20	.54	66	191	35
11	23	85	9.0	14	29	1.1	47	140	18
12	12	24	.80	12	29	.94	283	526	1110
13	25	61	7.1	9.5	28	.73	146	316	147
14	8.9	25	.60	24	50	9.6	71	147	28
15	7.4	25	.50	28	76	9.3	51	124	17
16	6.4	25	.43	10	25	.70	44	113	13
17	6.1	25	.41	10	23	.64	51	124	19
18	7.5	25	.51	10	22	.58	51	131	19
19	12	25	.79	37	91	29	42	116	13
20	7.2	25	.49	35	118	16	92	116	44
21	6.2	25	.42	12	65	2.2	e468	e1090	e4390
22	100	224	225	17	49	3.6	e139	e264	e135
23	30	108	9.9	177	279	200	e109	e116	e53
24	20	83	4.5	27	70	5.2	e91	e43	e11
25	11	66	2.0	21	48	2.7	e78	e29	e6.1
26	99	218	236	33	99	21	122	204	148
27	53	144	33	16	46	1.9	104	194	76
28	13	49	1.7	18	35	1.7	85	100	34
29	11	41	1.2	51	121	38	56	27	4.1
30	12	33	1.1	82	332	145	52	28	4.0
31	9.3	29	.73	62	173	35	---	---	---
TOTAL	672.9	---	1561.47	929.3	---	1268.87	3427	---	10245.8
YEAR	21877.9		78316.40						

e Estimated

RIO GRANDE DE ARECIBO BASIN

50022810 RIO VIVI BELOW HACIENDA EL PROGRESO, PR

LOCATION.--Lat 18°11'21", long 66°40'20", Hydrologic Unit 21010001, 4.05 mi (6.52 km) east from Adjuntas Lake Dam, 2.90 mi (4.66 km) south of Viví Lake Dam, 3.80 mi (6.11 km) northeast from Adjuntas Plaza, 2.76 mi (4.44 km) northwest from Escuela de San Patricio.

DRAINAGE AREA.--2.99 mi² (7.74 km²).

WATER-DISCHARGE RECORD

PERIOD OF RECORD.--December 2000 to September 2001.

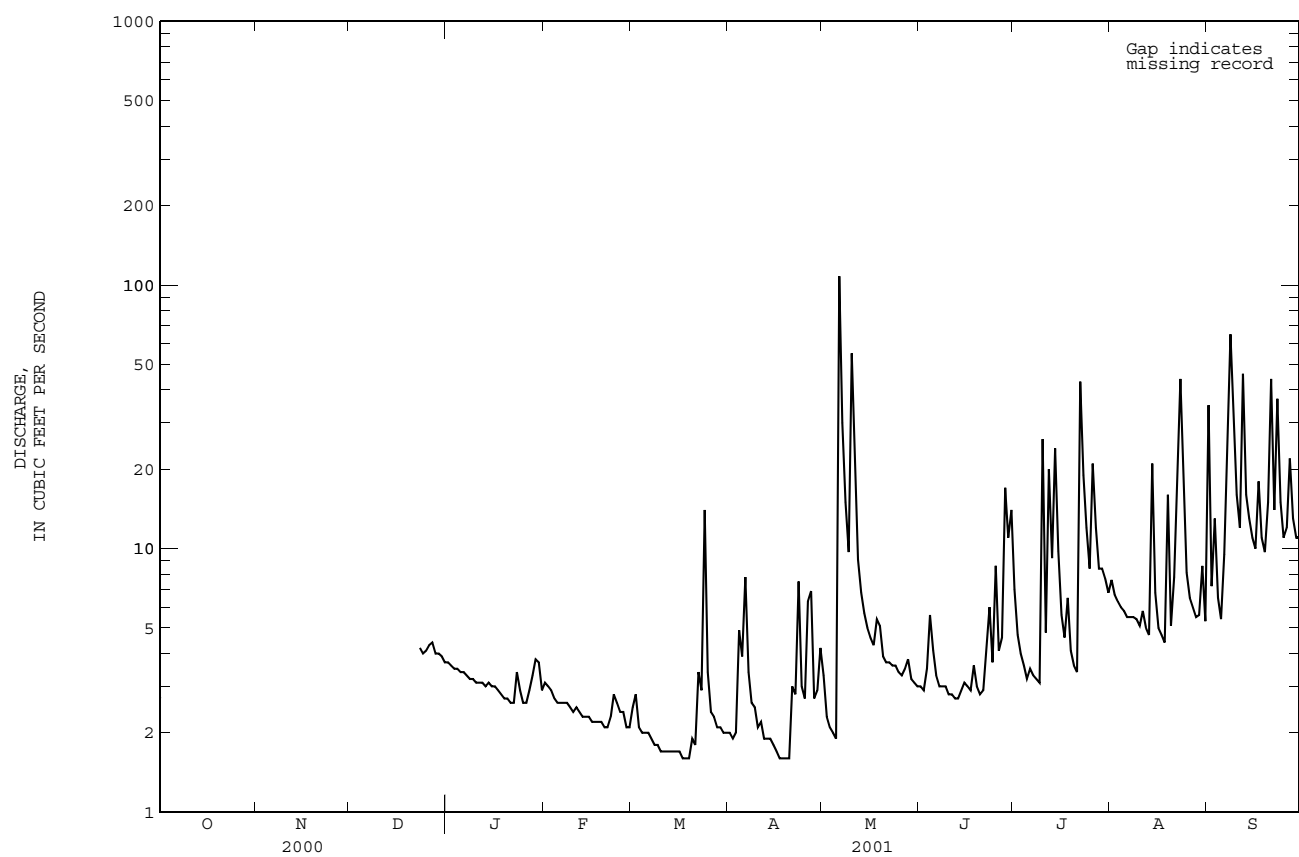
GAGE.--Water-stage recorder. Elevation of gage is 1,710 ft (521 m), from topographic map.

REMARKS.--Records fair. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				3.7	3.1	2.5	2.0	3.3	3.0	7.0	7.6	35
2				3.6	3.0	2.8	1.9	2.3	2.9	4.7	6.7	7.2
3				3.5	2.9	2.1	2.0	2.1	3.5	4.0	6.3	13
4				3.5	2.7	2.0	4.9	2.0	5.6	3.6	6.0	6.5
5				3.4	2.6	2.0	3.9	1.9	4.1	3.2	5.8	5.4
6				3.4	2.6	2.0	7.8	108	3.3	3.5	5.5	9.5
7				3.3	2.6	1.9	3.4	30	3.0	3.3	5.5	23
8				3.2	2.6	1.8	2.6	15	3.0	3.2	5.5	65
9				3.2	2.5	1.8	2.5	9.7	3.0	3.1	5.4	31
10				3.1	2.4	1.7	2.1	55	2.8	26	5.1	16
11				3.1	2.5	1.7	2.2	18	2.8	4.8	5.8	12
12				3.1	2.4	1.7	1.9	9.1	2.7	20	5.0	46
13				3.0	2.3	1.7	1.9	6.8	2.7	9.2	4.7	16
14				3.1	2.3	1.7	1.9	5.7	2.9	24	21	13
15				3.0	2.3	1.7	1.8	5.0	3.1	9.8	6.8	11
16				3.0	2.2	1.7	1.7	4.6	3.0	5.6	5.0	10
17				2.9	2.2	1.6	1.6	4.3	2.9	4.6	4.7	18
18				2.8	2.2	1.6	1.6	5.4	3.6	6.5	4.4	11
19				2.7	2.2	1.6	1.6	5.1	3.0	4.1	16	9.7
20				2.7	2.1	1.9	1.6	3.9	2.8	3.6	5.1	15
21				2.6	2.1	1.8	3.0	3.7	2.9	3.4	7.8	44
22				2.6	2.3	3.4	2.8	3.7	4.2	43	18	14
23			4.2	3.4	2.8	2.9	7.5	3.6	6.0	19	44	37
24			4.0	2.9	2.6	14	3.0	3.6	3.7	12	16	15
25			4.1	2.6	2.4	3.4	2.7	3.4	8.6	8.4	8.1	11
26			4.3	2.6	2.4	2.4	6.3	3.3	4.1	21	6.5	12
27			4.4	2.9	2.1	2.3	6.9	3.5	4.6	12	6.0	22
28			4.0	3.3	2.1	2.1	2.7	3.8	17	8.4	5.5	13
29			4.0	3.8	---	2.1	2.9	3.2	11	8.4	5.6	11
30			3.9	3.7	---	2.0	4.2	3.1	14	7.7	8.6	11
31			3.7	2.9	---	2.0	---	3.0	---	6.8	5.3	---
TOTAL			---	96.6	68.5	75.9	92.9	335.1	139.8	303.9	269.3	563.3
MEAN			---	3.12	2.45	2.45	3.10	10.8	4.66	9.80	8.69	18.8
MAX			---	3.8	3.1	14	7.8	108	17	43	44	65
MIN			---	2.6	2.1	1.6	1.6	1.9	2.7	3.1	4.4	5.4
AC-FT			---	192	136	151	184	665	277	603	534	1120
CFSM			---	1.04	.82	.82	1.04	3.62	1.56	3.28	2.91	6.28
IN.			---	1.20	.85	.94	1.16	4.17	1.74	3.78	3.35	7.01

RIO GRANDE DE ARECIBO BASIN
50022810 RIO VIVI BELOW HACIENDA EL PROGRESO, PR--Continued



RIO GRANDE DE ARECIBO BASIN

50022810 RIO VIVI BELOW HACIENDA EL PROGRESO,PR--Continued

WATER-QUALITY RECORD

PERIOD OF RECORD.--December 23, 2000 to September 30, 2001.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: December 23, 2000 to September 30, 2001.

INSTRUMENTATION.-- USDH-48 and automatic sediment sampler since 2000.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES OBSERVED FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 2,180 mg/L May 06, 2001; Minimum daily mean, 1 mg/L March 18-21, 2001.

SEDIMENT LOADS: Maximum daily mean, 2,980 tons (2,703 tonnes) May 6, 2001; Minimum daily mean, <0.01 ton (<0.01 tonne) several days.

EXTREMES OBSERVED FOR CURRENT YEAR 2001.--

SEDIMENT CONCENTRATION: Maximum daily mean, 1,840 mg/L October 22, 1998; Minimum daily mean, 1 mg/L March 18-21, 2001.

SEDIMENT LOADS: Maximum daily mean, 2,980 tons (2,703 tonnes) May 6, 2001; Minimum daily mean, <0.01 ton (<0.01 tonne) several days.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE	CONCEN-		DISCHARGE	CONCEN-		DISCHARGE	CONCEN-	
	(CFS)	TRATION	(TONS/DAY)	(CFS)	TRATION	(TONS/DAY)	(CFS)	TRATION	(TONS/DAY)
		(MG/L)			(MG/L)			(MG/L)	
	OCTOBER			NOVEMBER			DECEMBER		
1	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	4.2	8	.09
24	---	---	---	---	---	---	4.0	8	.08
25	---	---	---	---	---	---	4.1	8	.09
26	---	---	---	---	---	---	4.3	8	.09
27	---	---	---	---	---	---	4.4	8	.09
28	---	---	---	---	---	---	4.0	8	.08
29	---	---	---	---	---	---	4.0	7	.08
30	---	---	---	---	---	---	3.9	7	.08
31	---	---	---	---	---	---	3.7	7	.07
TOTAL	---	---	---	---	---	---	36.6	---	0.75

RIO GRANDE DE ARECIBO BASIN

50022810 RIO VIVI BELOW HACIENDA EL PROGRESO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	3.7	7	.07	3.1	4	.03	2.5	4	.04
2	3.6	7	.07	3.0	4	.03	2.8	6	.05
3	3.5	7	.07	2.9	4	.03	2.1	4	.02
4	3.5	7	.06	2.7	4	.03	2.0	3	.02
5	3.4	7	.06	2.6	4	.03	2.0	3	.02
6	3.4	7	.06	2.6	3	.02	2.0	3	.02
7	3.3	6	.06	2.6	3	.02	1.9	3	.01
8	3.2	6	.06	2.6	3	.02	1.8	3	.01
9	3.2	6	.05	2.5	3	.02	1.8	3	.01
10	3.1	6	.05	2.4	3	.02	1.7	2	.01
11	3.1	6	.05	2.5	3	.02	1.7	2	.01
12	3.1	6	.05	2.4	2	.02	1.7	2	.01
13	3.0	6	.05	2.3	2	.01	1.7	2	<.01
14	3.1	6	.05	2.3	2	.01	1.7	2	<.01
15	3.0	6	.05	2.3	2	.02	1.7	2	<.01
16	3.0	6	.05	2.2	3	.02	1.7	2	<.01
17	2.9	6	.04	2.2	3	.02	1.6	2	<.01
18	2.8	6	.04	2.2	3	.02	1.6	1	<.01
19	2.7	5	.04	2.2	3	.02	1.6	1	<.01
20	2.7	5	.04	2.1	3	.02	1.9	1	<.01
21	2.6	5	.04	2.1	3	.02	1.8	1	<.01
22	2.6	5	.04	2.3	3	.02	3.4	6	.07
23	3.4	8	.08	2.8	3	.02	2.9	5	.04
24	2.9	5	.04	2.6	3	.02	14	160	24
25	2.6	4	.03	2.4	3	.02	3.4	16	.16
26	2.6	4	.03	2.4	3	.02	2.4	4	.03
27	2.9	3	.03	2.1	3	.02	2.3	4	.02
28	3.3	7	.07	2.1	3	.01	2.1	4	.02
29	3.8	9	.10	---	---	---	2.1	4	.02
30	3.7	8	.09	---	---	---	2.0	3	.02
31	2.9	4	.03	---	---	---	2.0	3	.02
TOTAL	96.6	---	1.65	68.5	---	0.58	75.9	---	24.72
DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	APRIL			MAY			JUNE		
1	2.0	3	.02	3.3	8	.09	3.0	4	.03
2	1.9	3	.01	2.3	4	.03	2.9	3	.02
3	2.0	3	.02	2.1	3	.02	3.5	6	.07
4	4.9	34	1.3	2.0	2	.01	5.6	22	.56
5	3.9	13	.19	1.9	7	.04	4.1	22	.24
6	7.8	64	5.9	108	2180	2980	3.3	21	.18
7	3.4	9	.09	30	693	95	3.0	20	.16
8	2.6	8	.05	15	222	13	3.0	16	.13
9	2.5	7	.05	9.7	50	1.4	3.0	12	.10
10	2.1	7	.04	55	1420	1070	2.8	8	.06
11	2.2	6	.04	18	140	7.7	2.8	4	.03
12	1.9	6	.03	9.1	39	1.0	2.7	4	.03
13	1.9	5	.03	6.8	16	.31	2.7	6	.04
14	1.9	5	.02	5.7	4	.07	2.9	7	.05
15	1.8	4	.02	5.0	2	.03	3.1	6	.05
16	1.7	4	.02	4.6	2	.02	3.0	5	.04
17	1.6	4	.02	4.3	2	.02	2.9	3	.03
18	1.6	3	.01	5.4	11	.22	3.6	7	.09
19	1.6	3	.01	5.1	18	.27	3.0	6	.04
20	1.6	2	.01	3.9	12	.13	2.8	3	.02
21	3.0	6	.08	3.7	10	.10	2.9	3	.02
22	2.8	4	.03	3.7	8	.09	4.2	11	.20
23	7.5	86	5.7	3.6	8	.08	6.0	27	.69
24	3.0	8	.07	3.6	8	.07	3.7	11	.12
25	2.7	4	.03	3.4	7	.07	8.6	64	3.1
26	6.3	51	3.0	3.3	7	.06	4.1	11	.13
27	6.9	44	1.9	3.5	7	.06	4.6	15	.26
28	2.7	5	.04	3.8	6	.06	17	316	78
29	2.9	7	.08	3.2	6	.05	11	100	8.2
30	4.2	18	.42	3.1	5	.05	14	141	10
31	---	---	---	3.0	4	.04	---	---	---
TOTAL	92.9	---	19.23	335.1	---	4170.09	139.8	---	102.69

RIO GRANDE DE ARECIBO BASIN

50022810 RIO VIVI BELOW HACIENDA EL PROGRESO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	7.0	29	.60	7.6	14	.37	35	809	545
2	4.7	14	.18	6.7	10	.18	7.2	36	.76
3	4.0	12	.13	6.3	7	.13	13	119	17
4	3.6	11	.13	6.0	8	.13	6.5	13	.24
5	3.2	11	.11	5.8	8	.13	5.4	13	.18
6	3.5	9	.09	5.5	9	.13	9.5	661	53
7	3.3	8	.07	5.5	9	.13	23	388	128
8	3.2	6	.05	5.5	9	.13	65	1090	1140
9	3.1	4	.04	5.4	9	.13	31	478	109
10	26	671	313	5.1	9	.13	16	99	4.3
11	4.8	26	.38	5.8	15	.30	12	60	1.9
12	20	355	64	5.0	5	.07	46	816	686
13	9.2	55	2.0	4.7	3	.03	16	44	2.1
14	24	588	187	21	890	180	13	14	.52
15	9.8	50	1.5	6.8	29	.61	11	15	.45
16	5.6	19	.29	5.0	10	.14	10	14	.38
17	4.6	12	.15	4.7	8	.10	18	181	21
18	6.5	26	.68	4.4	8	.10	11	34	1.0
19	4.1	11	.13	16	301	65	9.7	25	.64
20	3.6	9	.09	5.1	23	.33	15	398	34
21	3.4	7	.07	7.8	61	4.3	44	967	612
22	43	1140	643	18	482	104	14	139	5.4
23	19	170	17	44	668	185	37	808	368
24	12	63	2.2	16	137	14	15	61	2.6
25	8.4	46	1.1	8.1	42	.92	11	21	.65
26	21	376	115	6.5	22	.38	12	41	1.4
27	12	80	2.6	6.0	30	.49	22	361	91
28	8.4	44	1.0	5.5	53	.78	13	76	2.9
29	8.4	30	.70	5.6	26	.39	11	52	1.6
30	7.7	18	.38	8.6	60	3.3	11	51	1.5
31	6.8	7	.13	5.3	15	.22	---	---	---
TOTAL	303.9	---	1353.80	269.3	---	562.05	563.3	---	3832.52
YEAR	1981.9		10068.08						

< Actual value is known to be less than the value shown

50024950 RIO GRANDE DE ARECIBO BELOW UTUADO, PR

LOCATION.--Lat 18°18'07", long 66°42'15", Hydrologic Unit 21010001, 2.4 mi (3.9 km) north of Utuado Plaza, 3.4 mi (5.5 km) southwest from Lago Dos Bocas Dam, 3.5 mi (5.6 km) northwest from Lago Caonillas Dam.

DRAINAGE AREA.--65.62 mi² (170 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1996 to September 1998, June 1999 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 295.28 ft (90 m), from topographic map.

REMARKS.--Records poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	185	263	128	69	62	53	27	42	75	102	145	358
2	161	220	115	68	61	61	31	35	58	70	112	205
3	179	206	111	65	58	42	32	31	81	58	154	192
4	156	189	108	63	54	39	38	29	79	58	107	161
5	290	196	103	62	50	37	94	25	102	56	72	113
6	330	186	102	61	47	36	149	1690	62	47	90	265
7	688	174	101	57	76	34	98	889	51	40	70	295
8	435	180	99	56	53	33	66	307	47	34	58	313
9	277	174	96	54	47	32	46	413	42	32	52	262
10	199	156	94	53	46	31	41	701	38	249	81	194
11	201	153	93	54	47	31	38	418	36	165	102	131
12	169	160	91	55	48	30	34	201	31	180	80	260
13	149	202	91	56	46	29	33	134	123	149	57	259
14	163	163	90	54	44	29	32	218	62	178	74	152
15	298	420	100	56	44	30	30	146	52	115	112	133
16	396	241	98	79	41	30	29	89	51	72	60	106
17	446	146	92	71	40	28	27	94	205	64	59	125
18	331	152	89	60	39	27	26	93	334	61	55	124
19	1140	146	85	56	38	28	25	111	142	65	87	104
20	716	144	87	54	37	31	25	87	84	47	122	121
21	580	143	104	52	38	31	42	83	62	39	66	451
22	696	155	83	50	62	40	92	112	63	117	74	234
23	710	144	80	54	47	55	134	81	115	124	255	196
24	446	146	78	54	53	63	96	68	166	82	149	297
25	307	133	77	49	46	57	195	67	104	56	112	142
26	258	128	110	48	43	40	128	75	103	96	151	184
27	255	123	101	53	40	36	e90	92	66	195	115	173
28	328	115	78	81	39	53	49	76	180	79	91	158
29	334	121	74	92	---	33	53	60	135	77	119	101
30	322	130	72	92	---	30	51	57	123	68	160	87
31	228	---	70	68	---	28	---	134	---	55	199	---
TOTAL	11373	5209	2900	1896	1346	1157	1851	6658	2872	2830	3240	5896
MEAN	367	174	93.5	61.2	48.1	37.3	61.7	215	95.7	91.3	105	197
MAX	1140	420	128	92	76	63	195	1690	334	249	255	451
MIN	149	115	70	48	37	27	25	25	31	32	52	87
AC-FT	22560	10330	5750	3760	2670	2290	3670	13210	5700	5610	6430	11690
CFSM	5.59	2.65	1.43	.93	.73	.57	.94	3.27	1.46	1.39	1.59	3.00
IN.	6.45	2.95	1.64	1.07	.76	.66	1.05	3.77	1.63	1.60	1.84	3.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2001, BY WATER YEAR (WY)

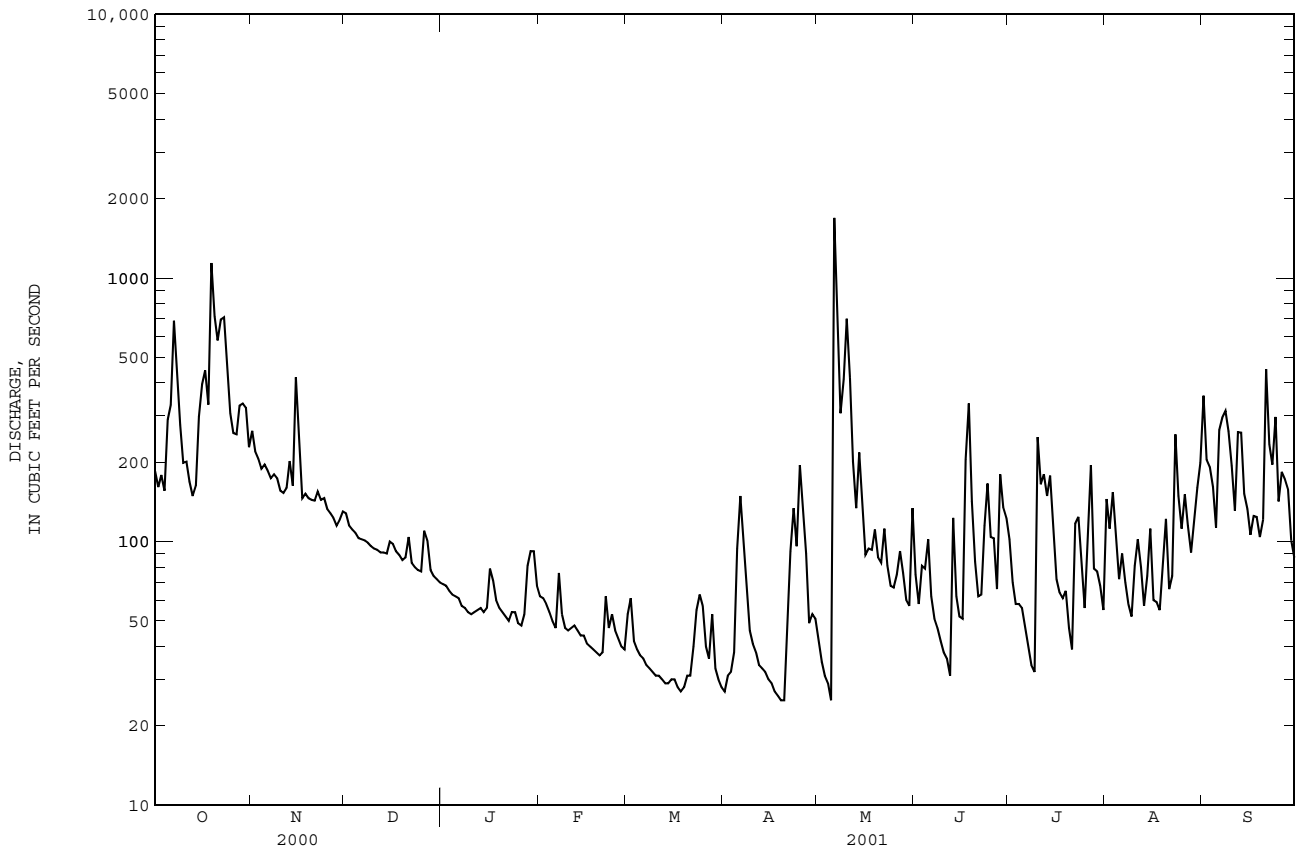
	1996	1997	1998	1999	2000	2001
MEAN	313	317	127	96.5	70.2	54.0
MAX	490	766	242	166	102	76.7
(WY)	2000	2000	2000	2000	2000	2000
MIN	172	84.8	53.0	39.5	46.6	33.8
(WY)	1998	1998	1998	1998	1998	1997

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1996 - 2001

ANNUAL TOTAL	59207	47228	
ANNUAL MEAN	162	129	166
HIGHEST ANNUAL MEAN			233
LOWEST ANNUAL MEAN			99.6
HIGHEST DAILY MEAN	2080	1690	17900
LOWEST DAILY MEAN	47	25	22
ANNUAL SEVEN-DAY MINIMUM	50	28	23
MAXIMUM PEAK FLOW		15000	76400
MAXIMUM PEAK STAGE		15.45	32.92
INSTANTANEOUS LOW FLOW		23	20
ANNUAL RUNOFF (AC-FT)	117400	93680	120200
ANNUAL RUNOFF (CFSM)	2.47	1.97	2.53
ANNUAL RUNOFF (INCHES)	33.56	26.77	34.35
10 PERCENT EXCEEDS	312	259	355
50 PERCENT EXCEEDS	108	87	88
90 PERCENT EXCEEDS	61	35	39

e Estimated

RIO GRANDE DE ARECIBO BASIN
50024950 RIO GRANDE DE ARECIBO BELOW UTUADO, PR--Continued



50024950 RIO GRANDE DE ARECIBO BELOW UTUADO, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- April 1996 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: April 1996 to current year.

INSTRUMENTATION.-- USDH-48 and automatic sediment samplers since 1996.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 10,600 mg/L September 10, 1996; Minimum daily mean, 3 mg/L August 6, 1996.

SEDIMENT LOADS: Maximum daily mean, 768,000 tons (e698,000 tonnes) September 22,1998; Minimum daily mean, 0.50 ton (0.45 tonne) August 6, 1996.

EXTREMES FOR CURRENT YEAR 2001.--

SEDIMENT CONCENTRATION: Maximum daily mean, 5,730 mg/L October 19, 2000; Minimum daily mean, 10 mg/L November 23, 2000.

SEDIMENT LOADS: Maximum daily mean, 115,000 tons (104,328 tonnes) May 6, 2001; Minimum daily mean, .91 ton (.82 tonne) April 16, 2001.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	185	110	65	263	173	141	128	14	5.0
2	161	90	39	220	42	25	115	16	5.0
3	179	132	71	206	26	14	111	18	5.3
4	156	150	63	189	21	11	108	20	5.7
5	290	463	827	196	17	8.9	103	20	5.7
6	330	404	542	186	14	6.9	102	21	5.8
7	688	1880	6740	174	15	7.0	101	22	5.9
8	435	391	517	180	17	8.1	99	22	5.8
9	277	77	58	174	18	8.6	96	20	5.2
10	199	73	39	156	20	8.3	94	18	4.7
11	201	156	103	153	19	7.9	93	50	12
12	169	113	54	160	32	15	91	86	21
13	149	37	15	202	109	69	91	87	22
14	163	34	15	163	55	24	90	89	22
15	298	307	535	420	1880	7530	100	87	24
16	396	470	1120	241	335	248	98	67	18
17	446	523	1030	146	126	50	92	45	11
18	331	387	372	152	102	42	89	27	6.5
19	1140	5730	60200	146	95	37	85	23	5.4
20	716	820	1820	144	76	29	87	22	5.2
21	580	741	1230	143	23	8.9	104	95	27
22	696	3470	12300	155	11	4.4	83	74	17
23	710	3050	11400	144	10	4.0	80	70	15
24	446	215	279	146	52	23	78	68	14
25	307	96	80	133	13	4.6	77	65	14
26	258	59	41	128	17	5.9	110	121	57
27	255	102	80	123	20	6.8	101	57	19
28	328	230	294	115	19	5.9	78	20	4.3
29	334	315	425	121	17	5.6	74	19	3.9
30	322	297	298	130	15	5.4	72	25	4.8
31	228	111	69	---	---	---	70	31	5.9
TOTAL	11373	---	100721	5209	---	8365.2	2900	---	383.1

RIO GRANDE DE ARECIBO BASIN

50024950 RIO GRANDE DE ARECIBO BELOW UTUADO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	69	36	6.7	62	36	6.0	53	58	11
2	68	36	6.5	61	40	6.6	61	79	13
3	65	35	6.1	58	44	6.9	42	71	8.0
4	63	33	5.7	54	48	6.9	39	64	6.6
5	62	32	5.4	50	50	6.8	37	57	5.7
6	61	31	5.1	47	48	6.1	36	50	4.8
7	57	30	4.7	76	94	32	34	47	4.3
8	56	29	4.4	53	192	28	33	44	3.9
9	54	31	4.5	47	159	20	32	41	3.5
10	53	32	4.6	46	114	14	31	40	3.4
11	54	34	4.9	47	67	8.5	31	53	4.4
12	55	34	5.1	48	36	4.6	30	63	5.1
13	56	31	4.8	46	35	4.4	29	58	4.5
14	54	28	4.1	44	33	4.0	29	51	4.1
15	56	25	3.8	44	32	3.7	30	45	3.6
16	79	54	15	41	29	3.2	30	39	3.2
17	71	113	22	40	23	2.5	28	37	2.9
18	60	100	16	39	16	1.7	27	35	2.6
19	56	85	13	38	11	1.2	28	34	2.5
20	54	65	9.4	37	11	1.0	31	32	2.7
21	52	43	6.1	38	13	1.4	31	31	2.7
22	50	27	3.6	62	67	12	40	31	3.3
23	54	27	3.9	47	61	7.8	55	31	4.5
24	54	28	4.1	53	58	8.2	63	47	9.0
25	49	30	3.9	46	55	6.9	57	53	8.3
26	48	31	4.0	43	53	6.1	40	43	4.6
27	53	30	4.3	40	50	5.4	36	29	2.8
28	81	64	15	39	45	4.7	53	62	13
29	92	78	23	---	---	---	33	80	7.1
30	92	55	14	---	---	---	30	67	5.4
31	68	32	5.8	---	---	---	28	62	4.8
TOTAL	1896	---	239.5	1346	---	220.6	1157	---	165.3

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	APRIL			MAY			JUNE		
1	27	59	4.4	42	236	27	75	125	26
2	31	56	4.6	35	262	25	58	47	7.4
3	32	52	4.5	31	278	23	81	102	43
4	38	49	5.1	29	256	20	79	245	55
5	94	162	100	25	231	16	102	121	41
6	149	476	252	1690	5090	115000	62	56	9.4
7	98	131	46	889	1040	5990	51	49	6.8
8	66	51	9.3	307	171	139	47	43	5.4
9	46	28	3.5	413	398	852	42	38	4.3
10	41	24	2.7	701	1320	5320	38	34	3.5
11	38	26	2.6	418	458	642	36	30	2.9
12	34	27	2.5	201	61	35	31	27	2.3
13	33	27	2.4	134	29	11	123	171	178
14	32	21	1.8	218	253	355	62	67	12
15	30	15	1.3	146	141	57	52	35	5.0
16	29	12	.91	89	72	17	51	34	4.6
17	27	19	1.4	94	54	14	205	363	630
18	26	26	1.8	93	44	11	334	576	1440
19	25	34	2.3	111	48	14	142	194	80
20	25	40	2.7	87	52	12	84	158	36
21	42	38	4.3	83	56	13	62	151	25
22	92	89	31	112	108	46	63	143	24
23	134	171	109	81	83	18	115	168	64
24	96	104	31	68	55	10	166	205	127
25	195	338	610	67	41	7.4	104	156	43
26	128	187	104	75	39	7.9	103	95	28
27	e90	e251	e61	92	82	31	66	48	8.6
28	49	235	31	76	38	8.2	180	203	204
29	53	220	31	60	32	5.1	135	149	66
30	51	212	29	57	31	4.8	123	101	40
31	---	---	---	134	143	144	---	---	---
TOTAL	1851	---	1493.11	6658	---	128875.4	2872	---	3222.2

RIO GRANDE DE ARECIBO BASIN

50024950 RIO GRANDE DE ARECIBO BELOW UTUADO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	102	92	27	145	228	201	358	569	940
2	70	40	7.5	112	192	60	205	240	143
3	58	44	6.9	154	249	185	192	198	135
4	58	51	8.1	107	109	38	161	166	74
5	56	59	8.9	72	67	13	113	99	30
6	47	64	8.2	90	90	32	265	344	537
7	40	62	6.8	70	96	18	295	393	516
8	34	60	5.5	58	97	15	313	427	543
9	32	57	4.9	52	107	15	262	325	250
10	249	407	880	81	122	35	194	276	144
11	165	202	106	102	114	61	131	133	47
12	180	333	276	80	72	17	260	390	671
13	149	320	151	57	23	3.6	259	336	294
14	178	259	289	74	42	17	152	76	31
15	115	122	40	112	120	40	133	54	19
16	72	71	14	60	62	10	106	44	13
17	64	55	9.6	59	38	6.1	125	36	12
18	61	46	7.5	55	36	5.3	124	35	12
19	65	36	6.4	87	85	28	104	35	9.8
20	47	26	3.4	122	246	80	121	89	49
21	39	18	1.9	66	241	43	451	1030	2850
22	117	138	156	74	203	40	234	315	232
23	124	319	107	255	303	251	196	220	127
24	82	299	66	149	164	81	297	460	806
25	56	203	31	112	107	33	142	146	58
26	96	153	86	151	174	108	184	200	129
27	195	236	167	115	173	54	173	205	102
28	79	177	39	91	128	32	158	262	118
29	77	137	28	119	140	75	101	91	25
30	68	121	22	160	165	79	87	71	17
31	55	111	17	199	275	240	---	---	---
TOTAL	2830	---	2587.6	3240	---	1916.0	5896	---	8933.8
YEAR	47228		257122.81						

e Estimated

RIO GRANDE DE ARECIBO BASIN

50025000 RIO GRANDE DE ARECIBO NEAR UTUADO, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°18'11", long 66°41'59", at bridge near Highway 10 at km 56.4, 0.5 mi (0.8 km) downstream from Río de Caguana, and 2.5 mi (4.0 km) north of Utuado plaza.

DRAINAGE AREA.--66.0 mi² (170.9 km²) this excludes 6.0 mi² (15.5 km²) upstream from Lago Garzas to Río Guayanes in the Río Tallaboa basin.

PERIOD OF RECORD.--Water years 1959-74, 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, (PER-CENT SATUR-ATION) (MG/L) (00301)	OXYGEN, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL KF STRP WATER (COL/100 ML) (31673)	HARD-NESS TOTAL AS CACO3 (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
NOV 01...	1115	250	230	7.0	25.9	9.0	7.7	96	<10	E1300	370	86	22.9
FEB 26...	1300	50	298	7.7	24.7	8.5	8.4	102	<10	E600	E30	--	--
MAY 10...	0930	191	239	7.2	24.3	50	7.5	91	<10	4600	5700	93	26.3
AUG 22...	1100	89	256	7.0	24.7	--	7.2	89	<10	4800	680	100	28.2

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS S04) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDEd (MG/L) (00530)
NOV 01...	6.98	12.3	.6	1.68	--	<1.0	17.6	9.5	E.1	30.2	148	100	24
FEB 26...	--	--	--	--	93	--	--	--	--	--	--	--	<10
MAY 10...	6.69	10.5	.5	2.61	80	<1.0	19.6	12.5	E.1	21.4	147	75.8	48
AUG 22...	8.11	12.8	.5	1.90	87	--	25.3	13.0	E.1	27.5	169	40.6	36

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
NOV 01...	1.09	.01	1.1	.07	.27	.34	1.4	6.4	.070	<2	35.1	E10	<.11
FEB 26...	.96	.04	1.0	.07	.24	.31	1.3	5.8	.100	--	--	--	--
MAY 10...	1.09	.01	1.1	.04	.39	.43	1.5	6.8	.090	<2	65.5	E17	<.11
AUG 22...	.86	.03	.9	.04	.17	.21	1.1	4.9	.060	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
NOV 01...	M	<20.0	750	1	54	<.14	<2.6	<.43	<31	<.01	<16	<.02
FEB 26...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 10...	M	<20.0	1390	2	90	<.01	<2.6	<.43	<31	<.01	<16	<.04
AUG 22...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
 E -- Estimated value
 M -- Presence verified, not quantified

50025155 RIO SALIENTE AT COABEY NEAR JAYUYA, PR

LOCATION.--Lat 1812'48", long 6633'49", Hydrologic Unit 21010002, 2.0 mi (3.2 km) southeast of Jayuya, 1.4 mi (2.2 km) northeast of Hacienda Gripiñas.

DRAINAGE AREA.--9.25 mi² (23.96 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1989 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,706 ft (520 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	123	18	8.9	8.6	5.9	6.3	9.0	8.6	26	31	43
2	51	118	16	8.5	10	7.0	6.5	9.0	8.0	18	21	32
3	83	92	16	8.4	7.9	5.6	6.4	8.1	56	15	64	65
4	60	60	15	8.1	7.1	5.2	6.8	7.7	40	14	35	37
5	45	48	15	7.9	6.8	4.9	10	7.1	16	13	23	26
6	47	41	15	7.7	6.3	5.1	11	165	10	12	22	37
7	60	37	14	7.6	6.2	4.9	7.9	134	9.2	11	20	29
8	77	34	14	7.3	6.1	4.7	7.3	36	10	10	17	95
9	59	32	14	7.4	5.7	4.3	7.7	28	10	9.9	16	61
10	58	29	14	7.2	5.5	4.2	6.7	55	9.8	15	15	42
11	51	28	13	7.1	5.9	4.6	7.5	32	9.8	36	15	33
12	43	76	13	7.1	5.9	4.4	6.6	20	10	74	14	28
13	37	46	13	7.0	5.7	4.3	6.3	16	9.8	28	13	25
14	33	33	13	6.8	5.7	4.3	6.1	14	10	265	24	23
15	30	30	16	6.8	5.9	4.3	5.7	13	11	102	16	23
16	54	28	14	8.7	5.6	4.2	5.6	12	11	40	13	20
17	38	26	14	8.6	5.5	4.0	5.3	11	24	29	14	64
18	32	24	13	6.6	5.1	3.9	5.2	12	17	31	14	39
19	31	23	12	6.3	4.9	4.0	5.1	15	14	25	19	29
20	33	22	12	6.1	4.8	4.2	e5.1	9.8	11	20	17	126
21	32	22	11	5.9	4.8	5.2	e6.5	9.0	10	18	13	68
22	64	21	11	5.7	7.2	10	8.0	8.6	18	34	62	56
23	90	22	11	6.5	11	34	9.3	8.3	31	27	189	175
24	55	21	10	6.3	12	89	e9.0	8.2	e17	24	37	89
25	63	19	11	5.6	15	23	7.7	8.1	16	19	32	e60
26	43	18	11	5.4	8.9	11	70	7.5	14	20	28	e50
27	49	18	12	6.2	6.8	10	33	11	10	19	23	e40
28	43	17	10	7.2	6.1	8.0	13	7.6	26	15	21	e34
29	53	17	9.4	15	---	7.5	10	8.8	20	20	19	e30
30	41	20	11	17	---	7.1	9.4	10	51	21	23	e25
31	32	---	9.7	8.5	---	6.6	---	10	---	16	43	---
TOTAL	1532	1145	401.1	239.4	197.0	305.4	311.0	710.8	518.2	1026.9	913	1504
MEAN	49.4	38.2	12.9	7.72	7.04	9.85	10.4	22.9	17.3	33.1	29.5	50.1
MAX	90	123	18	17	15	89	70	165	56	265	189	175
MIN	30	17	9.4	5.4	4.8	3.9	5.1	7.1	8.0	9.9	13	20
AC-FT	3040	2270	796	475	391	606	617	1410	1030	2040	1810	2980
CFSM	5.34	4.13	1.40	.83	.76	1.07	1.12	2.48	1.87	3.58	3.18	5.42
IN.	6.16	4.60	1.61	.96	.79	1.23	1.25	2.86	2.08	4.13	3.67	6.05

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2001, BY WATER YEAR (WY)

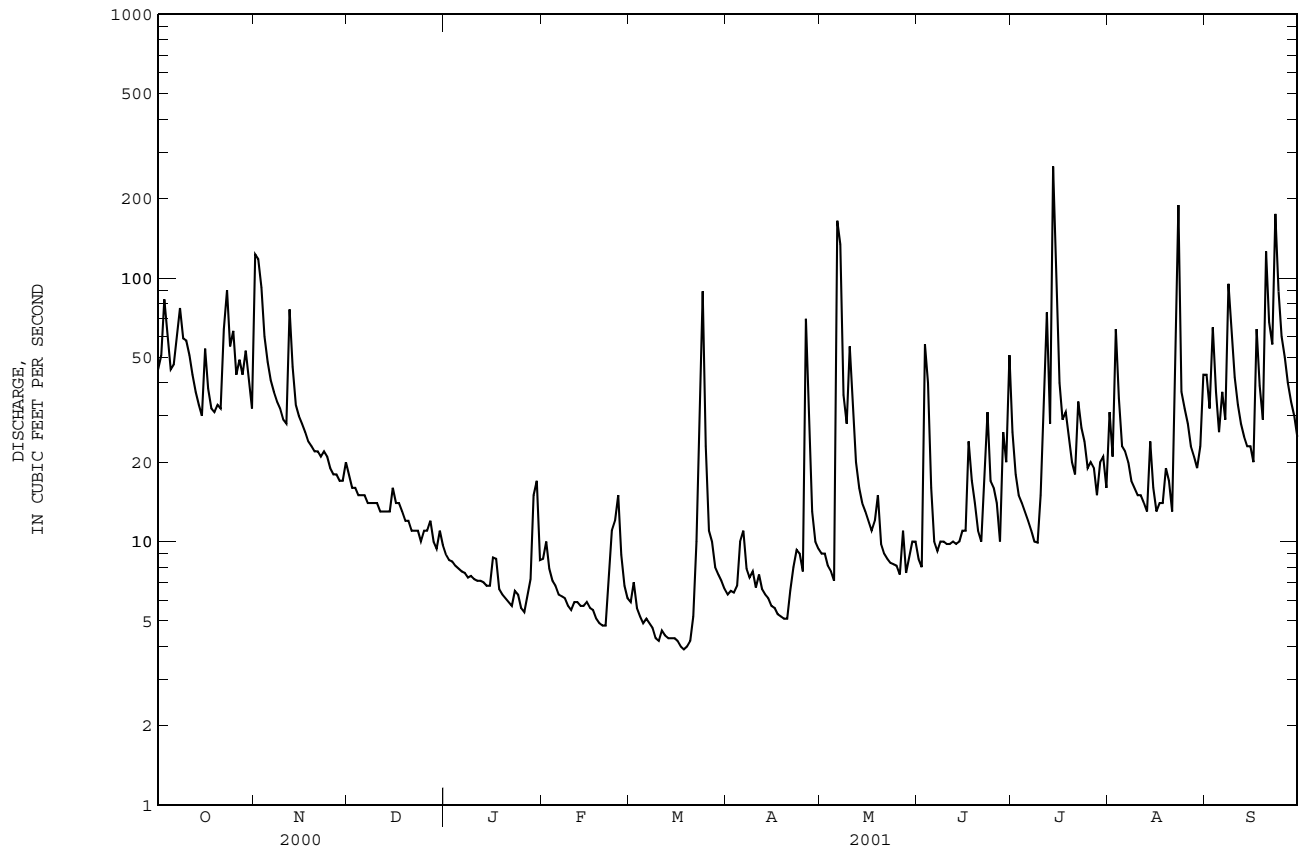
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	43.7	32.7	16.4	17.4	15.7	11.2	20.5	36.7	23.5	17.1	28.7	96.4	
MAX	72.0	91.5	39.3	48.1	44.4	17.8	46.8	98.6	41.5	50.9	74.5	365	
(WY)	1996	2000	2000	1992	1996	1998	1998	1995	1999	1996	1998	1996	
MIN	11.6	10.0	5.41	4.13	4.67	4.79	5.95	5.35	5.30	2.83	9.82	10.8	
(WY)	1992	1994	1998	1995	1994	1994	1994	1990	1997	1994	1994	1994	

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1989 - 2001

ANNUAL TOTAL	10330.8	8803.8		
ANNUAL MEAN	28.2	24.1	30.0	
HIGHEST ANNUAL MEAN			64.0	1996
LOWEST ANNUAL MEAN			10.9	1994
HIGHEST DAILY MEAN	436	Sep 18	265	Jul 14
LOWEST DAILY MEAN	4.7	Aug 21	3.9	Mar 18
ANNUAL SEVEN-DAY MINIMUM	5.6	Aug 7	4.1	Mar 14
MAXIMUM PEAK FLOW			2640	Jul 14
MAXIMUM PEAK STAGE			10.39	Jul 14
INSTANTANEOUS LOW FLOW			3.2	Mar 17
ANNUAL RUNOFF (AC-FT)	20490	17460	21700	
ANNUAL RUNOFF (CFSM)	3.05	2.61	3.24	
ANNUAL RUNOFF (INCHES)	41.55	35.41	44.00	
10 PERCENT EXCEEDS	60	55	57	
50 PERCENT EXCEEDS	14	14	13	
90 PERCENT EXCEEDS	6.3	5.7	4.9	

e Estimated

RIO GRANDE DE ARECIBO BASIN
 50025155 RIO SALIENTE AT COABEY NEAR JAYUYA, PR--Continued



50025155 RIO SALIENTE AT COABEY NEAR JAYUYA, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1989 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 2000 to September 2001.

INSTRUMENTATION.-- USDH-48 and automatic sediment samplers since October 2000.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 693 mg/L July 14, 2001; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 2,480 tons (2,250 tonnes) July 14, 2001; Minimum daily mean, 0.01 ton (0.01 tonne) March 19, 2001.

EXTREMES FOR CURRENT YEAR 2001.--

SEDIMENT CONCENTRATION: Maximum daily mean, 693 mg/L July 14, 2001; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 2,480 tons (2,250 tonnes) July 14, 2001; Minimum daily mean, 0.01 ton (0.01 tonne) March 19, 2001.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	45	79	9.6	123	199	304	18	25	1.2
2	51	79	11	118	139	58	16	28	1.2
3	83	142	49	92	117	30	16	31	1.3
4	60	26	4.7	60	87	14	15	34	1.4
5	45	8	.95	48	65	8.5	15	37	1.5
6	47	25	4.7	41	43	4.9	15	30	1.2
7	60	81	20	37	33	3.3	14	20	.77
8	77	97	27	34	28	2.5	14	10	.39
9	59	63	10	32	22	1.9	14	7	.27
10	58	66	13	29	17	1.3	14	7	.24
11	51	52	7.2	28	12	.90	13	6	.20
12	43	20	2.5	76	101	63	13	10	.35
13	37	5	.50	46	40	5.4	13	15	.53
14	33	5	.44	33	3	.31	13	11	.38
15	30	5	.40	30	4	.29	16	7	.30
16	54	64	20	28	3	.22	14	6	.23
17	38	27	2.9	26	3	.21	14	6	.24
18	32	13	1.2	24	3	.20	13	7	.23
19	31	11	1.1	23	4	.26	12	7	.23
20	33	18	1.8	22	5	.33	12	7	.24
21	32	31	2.7	22	7	.39	11	8	.24
22	64	85	38	21	6	.34	11	8	.23
23	90	121	50	22	5	.28	11	8	.22
24	55	61	9.8	21	4	.20	10	7	.19
25	63	55	13	19	6	.29	11	7	.19
26	43	39	4.6	18	9	.44	11	6	.19
27	49	45	7.7	18	12	.57	12	8	.27
28	43	27	3.7	17	15	.71	10	11	.29
29	53	45	13	17	18	.85	9.4	13	.34
30	41	25	3.1	20	22	1.2	11	12	.35
31	32	9	.78	---	---	---	9.7	10	.26
TOTAL	1532	---	334.37	1145	---	504.79	401.1	---	15.17

RIO GRANDE DE ARECIBO BASIN

50025155 RIO SALIENTE AT COABEY NEAR JAYUYA, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	8.9	8	.18	8.6	4	.09	5.9	2	.03
2	8.5	5	.13	10	4	.10	7.0	2	.04
3	8.4	6	.13	7.9	3	.07	5.6	2	.03
4	8.1	6	.14	7.1	3	.06	5.2	2	.03
5	7.9	7	.15	6.8	2	.05	4.9	2	.03
6	7.7	8	.16	6.3	2	.04	5.1	3	.04
7	7.6	8	.17	6.2	4	.06	4.9	4	.06
8	7.3	9	.17	6.1	6	.10	4.7	5	.07
9	7.4	8	.15	5.7	8	.13	4.3	6	.08
10	7.2	6	.12	5.5	7	.11	4.2	8	.09
11	7.1	4	.08	5.9	6	.09	4.6	6	.08
12	7.1	4	.08	5.9	4	.06	4.4	4	.05
13	7.0	4	.08	5.7	2	.03	4.3	2	.03
14	6.8	4	.07	5.7	2	.04	4.3	3	.03
15	6.8	4	.07	5.9	3	.05	4.3	3	.04
16	8.7	4	.08	5.6	3	.05	4.2	4	.04
17	8.6	3	.07	5.5	3	.05	4.0	3	.03
18	6.6	2	.04	5.1	4	.05	3.9	2	.02
19	6.3	2	.03	4.9	4	.05	4.0	1	.01
20	6.1	2	.03	4.8	4	.05	4.2	3	.03
21	5.9	2	.03	4.8	4	.05	5.2	6	.08
22	5.7	3	.04	7.2	4	.08	10	10	.31
23	6.5	3	.06	11	10	.48	34	39	7.0
24	6.3	4	.07	12	9	.29	89	150	161
25	5.6	4	.06	15	12	.51	23	17	1.4
26	5.4	4	.06	8.9	5	.12	11	2	.05
27	6.2	4	.07	6.8	3	.05	10	4	.12
28	7.2	4	.08	6.1	2	.03	8.0	8	.17
29	15	9	.45	---	---	---	7.5	7	.15
30	17	10	.58	---	---	---	7.1	5	.11
31	8.5	4	.10	---	---	---	6.6	4	.06
TOTAL	239.4	---	3.73	197.0	---	2.94	305.4	---	171.31
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	APRIL			MAY			JUNE		
1	6.3	3	.05	9.0	10	.24	8.6	2	.05
2	6.5	3	.05	9.0	8	.20	8.0	2	.04
3	6.4	3	.05	8.1	6	.14	56	59	31
4	6.8	3	.06	7.7	6	.13	40	49	14
5	10	4	.10	7.1	6	.12	16	13	.63
6	11	4	.12	165	518	1360	10	5	.14
7	7.9	5	.10	134	262	199	9.2	4	.09
8	7.3	5	.10	36	18	1.8	10	3	.10
9	7.7	5	.10	28	4	.30	10	3	.08
10	6.7	5	.09	55	59	22	9.8	4	.09
11	7.5	5	.10	32	29	2.7	9.8	4	.11
12	6.6	5	.09	20	6	.37	10	5	.13
13	6.3	5	.08	16	1	.04	9.8	5	.14
14	6.1	5	.08	14	1	.04	10	6	.16
15	5.7	5	.08	13	2	.06	11	6	.17
16	5.6	5	.07	12	2	.08	11	6	.18
17	5.3	5	.07	11	3	.10	24	26	2.8
18	5.2	5	.07	12	4	.13	17	18	.80
19	5.1	5	.07	15	5	.18	14	17	.62
20	e5.1	e5	e.07	9.8	4	.12	11	16	.49
21	e6.5	e5	e.09	9.0	4	.09	10	13	.38
22	8.0	5	.11	8.6	3	.07	18	18	1.2
23	9.3	5	.13	8.3	3	.06	31	36	6.6
24	e9.0	e5	e.12	8.2	3	.06	e17	e16	e.80
25	7.7	5	.10	8.1	2	.06	16	16	.75
26	70	136	139	7.5	2	.05	14	16	.63
27	33	43	6.2	11	7	.30	10	8	.23
28	13	13	.46	7.6	5	.11	26	28	4.6
29	10	12	.32	8.8	2	.05	20	17	.89
30	9.4	11	.28	10	2	.05	51	64	21
31	---	---	---	10	2	.05	---	---	---
TOTAL	311.0	---	148.41	710.8	---	1588.70	518.2	---	88.90

RIO GRANDE DE ARECIBO BASIN

50025155 RIO SALIENTE AT COABEY NEAR JAYUYA, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	26	22	1.6	31	31	6.4	43	48	9.0
2	18	13	.61	21	11	.64	32	31	2.7
3	15	8	.34	64	91	39	65	323	242
4	14	4	.16	35	36	3.5	37	36	3.7
5	13	4	.12	23	26	1.7	26	13	.96
6	12	4	.13	22	20	1.1	37	34	8.2
7	11	5	.14	20	15	.77	29	22	1.7
8	10	5	.13	17	10	.46	95	215	200
9	9.9	5	.12	16	6	.23	61	68	12
10	15	14	.71	15	4	.15	42	41	4.7
11	36	45	14	15	4	.15	33	23	2.1
12	74	127	80	14	3	.13	28	8	.60
13	28	26	3.1	13	3	.10	25	3	.22
14	265	693	2480	24	21	3.8	23	4	.22
15	102	160	57	16	11	.50	23	4	.24
16	40	18	2.2	13	4	.13	20	4	.22
17	29	4	.31	14	3	.12	64	85	45
18	31	17	1.8	14	3	.13	39	35	3.9
19	25	10	.71	19	14	.87	29	7	.54
20	20	5	.26	17	8	.40	126	128	105
21	18	4	.21	13	4	.14	68	71	16
22	34	36	7.6	62	115	142	56	65	14
23	27	11	.76	189	345	320	175	422	549
24	24	2	.17	37	3	.27	89	112	30
25	19	3	.16	32	15	1.9	e60	e68	e12
26	20	4	.20	28	24	1.9	e50	e48	e9.0
27	19	3	.18	23	13	.81	e40	e41	e4.7
28	15	3	.11	21	6	.33	e34	e23	e2.1
29	20	2	.10	19	5	.26	e30	e8	e.60
30	21	1	.07	23	12	1.0	e25	e3	e.22
31	16	2	.09	43	59	18	---	---	---
TOTAL	1026.9	---	2653.09	913	---	546.89	1504	---	1280.62
YEAR	8803.8		7338.92						

e Estimated

RIO GRANDE DE ARECIBO BASIN

50025850 RIO JAUCA AT PASO PALMA, PR

LOCATION.--Lat 18°12'50", long 66°38'44", Hydrologic Unit 21010001, 5.13 mi (8.2 km) southeast from Utuado Plaza, 4.5 mi (7.24 km) south of Lago Caonillas Dam and 6.15 mi (9.89 km) northeast from Adjuntas plaza.

DRAINAGE AREA.--6.89 mi² (17.84 km²).

PERIOD OF RECORD.--May 2000 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,197 ft (365 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	38	16	7.8	5.2	4.7	4.4	9.0	6.3	15	9.8	49
2	40	e40	14	7.6	5.6	5.9	4.3	6.3	6.2	11	9.6	21
3	38	e34	14	7.6	5.1	4.7	4.5	5.6	6.1	9.7	9.3	20
4	33	e30	13	7.7	5.0	4.4	5.1	5.5	8.5	8.9	9.3	18
5	32	e30	13	7.5	4.9	4.3	9.6	5.2	12	8.8	8.5	16
6	53	e27	12	7.2	4.9	4.2	8.9	193	9.4	8.4	8.4	22
7	59	e25	12	7.0	5.2	4.1	8.1	104	8.3	7.9	8.4	31
8	48	e25	12	6.9	5.2	4.0	5.9	29	7.6	7.5	7.9	56
9	38	23	11	6.6	5.0	3.9	7.1	20	7.4	7.1	7.9	64
10	33	22	11	6.4	4.7	3.8	5.5	95	6.8	13	7.5	34
11	52	21	11	6.4	4.9	3.7	5.4	29	6.9	10	7.9	25
12	40	51	11	6.3	4.9	3.7	4.9	17	6.5	18	8.1	55
13	32	31	11	6.2	4.9	3.7	4.8	13	6.4	19	6.9	27
14	28	24	10	6.2	4.8	3.8	4.9	11	6.8	38	32	23
15	27	27	11	6.1	5.0	3.7	4.6	10	6.9	20	14	22
16	45	25	11	6.1	4.8	3.7	4.4	9.2	7.3	11	9.3	20
17	38	23	11	6.6	4.8	3.5	4.3	8.7	6.6	9.4	8.7	28
18	31	22	11	5.9	4.7	3.5	4.2	9.0	7.4	9.8	9.9	24
19	28	20	10	5.7	4.7	3.5	4.3	10	6.9	8.7	18	21
20	44	19	10	5.6	4.6	3.6	4.0	8.1	6.7	7.6	12	26
21	80	19	9.6	5.5	4.4	4.1	4.9	7.7	6.5	7.4	12	107
22	82	18	9.3	5.4	4.9	6.8	6.1	7.7	8.5	36	17	39
23	81	17	9.2	5.7	6.6	10	8.4	7.7	12	19	76	96
24	64	17	9.1	5.8	6.4	21	6.9	7.4	11	16	31	44
25	64	16	8.8	5.1	5.8	13	5.7	7.2	12	11	19	32
26	48	16	8.8	5.0	5.1	6.3	9.3	6.9	11	23	15	29
27	48	16	9.5	5.4	4.6	5.7	e24	7.2	7.7	19	14	30
28	42	15	8.5	6.0	4.5	4.9	e7.6	8.0	19	12	13	27
29	43	15	8.2	6.4	---	4.7	7.4	7.3	17	11	13	24
30	42	19	8.0	7.4	---	4.8	8.4	6.8	22	11	13	23
31	36	---	8.0	5.3	---	4.5	---	6.6	---	9.7	13	---
TOTAL	1423	725	332.0	196.4	141.2	166.2	197.9	678.1	273.7	423.9	449.4	1053
MEAN	45.9	24.2	10.7	6.34	5.04	5.36	6.60	21.9	9.12	13.7	14.5	35.1
MAX	82	51	16	7.8	6.6	21	24	193	22	38	76	107
MIN	27	15	8.0	5.0	4.4	3.5	4.0	5.2	6.1	7.1	6.9	16
AC-FT	2820	1440	659	390	280	330	393	1350	543	841	891	2090

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2001, BY WATER YEAR (WY)

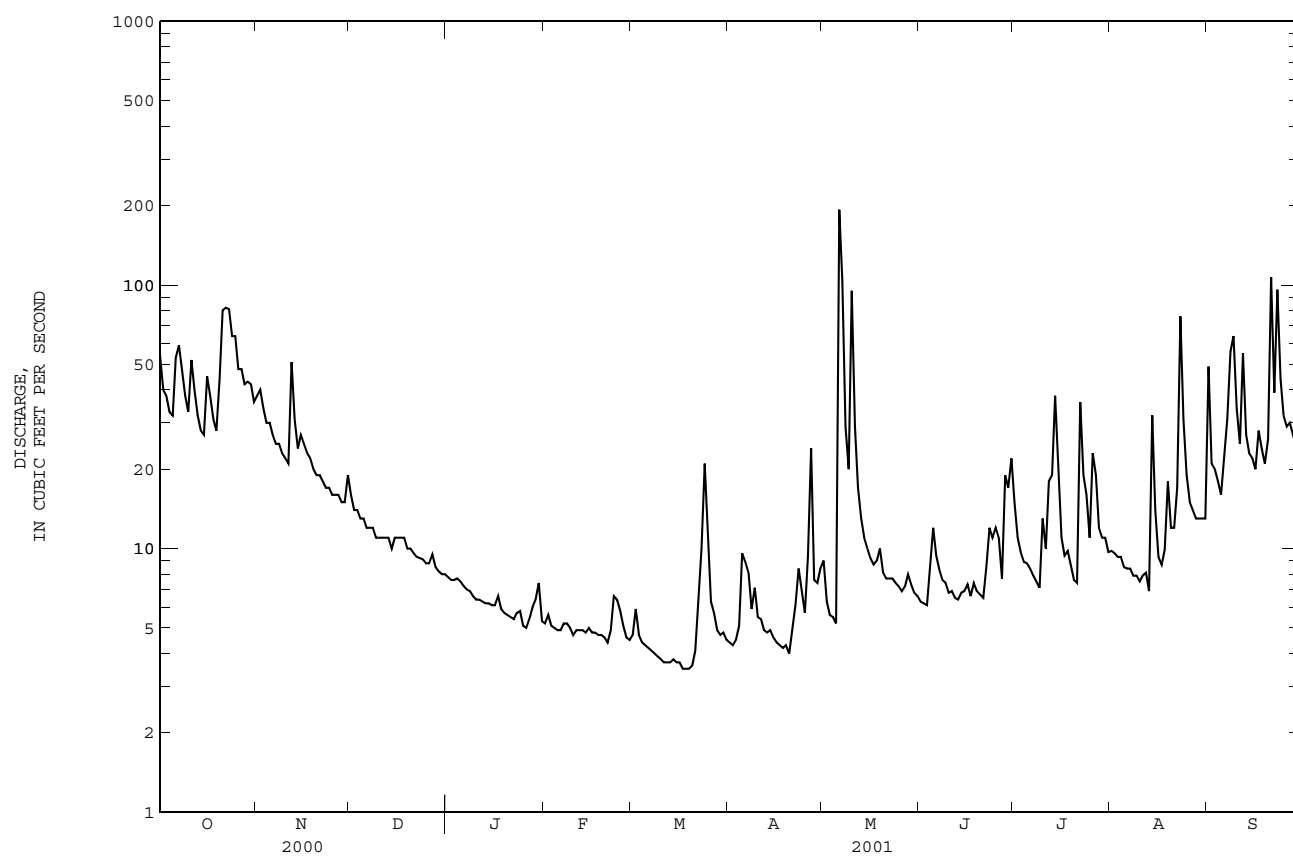
	2000	2001	2001	2001	2001	2001	2001	2001	2000	2000	2001	2001
MEAN	45.9	24.2	10.7	6.34	5.04	5.36	6.60	21.9	8.62	9.61	16.7	39.3
MAX	45.9	24.2	10.7	6.34	5.04	5.36	6.60	21.9	9.12	13.7	18.9	43.4
(WY)	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2000	2000
MIN	45.9	24.2	10.7	6.34	5.04	5.36	6.60	21.9	8.11	5.54	14.5	35.1
(WY)	2001	2001	2001	2001	2001	2001	2001	2001	2000	2000	2001	2001

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 2000 - 2001

ANNUAL TOTAL							6059.8					
ANNUAL MEAN							16.6			16.6		
HIGHEST ANNUAL MEAN										16.6		2001
LOWEST ANNUAL MEAN										16.6		2001
HIGHEST DAILY MEAN				235	Aug 23		193	May 6		235	Aug 23	2000
LOWEST DAILY MEAN				4.0	Aug 9		3.5	Mar 17		3.5	Mar 17	2001
ANNUAL SEVEN-DAY MINIMUM				4.3	Aug 3		3.6	Mar 14		3.6	Mar 14	2001
MAXIMUM PEAK FLOW							1590	May 6		1590	May 6	2001
MAXIMUM PEAK STAGE							6.59	May 6		6.59	May 6	2001
INSTANTANEOUS LOW FLOW							3.2	Mar 17		3.2	Mar 17	2001
ANNUAL RUNOFF (AC-FT)							12020			12030		
10 PERCENT EXCEEDS				48			38			39		
50 PERCENT EXCEEDS				12			9.3			8.8		
90 PERCENT EXCEEDS				5.2			4.7			4.7		

e Estimated

RIO GRANDE DE ARECIBO BASIN
50025850 RIO JAUCA AT PASO PALMA, PR--Continued



RIO GRANDE DE ARECIBO BASIN

50025850 RIO JAUCA AT PASO PALMA, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 2000 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October to September 2001

INSTRUMENTATION.-- USDH-48 and automatic sediment samplers since 2000.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 911 mg/L September 21, 2001; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 1,050 tons (952 tonnes) September 21, 2001; Minimum daily mean, 0.01 ton (0.01 tonne) several days.

EXTREMES FOR CURRENT YEAR 2001.--

SEDIMENT CONCENTRATION: Maximum daily mean, 911 mg/L September 21; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 1,050 tons (952 tonnes) September 21; Minimum daily mean, 0.01 ton (0.01 tonne) several days.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	OCTOBER			NOVEMBER			DECEMBER		
				MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	54	235	39	38	15	1.4	16	35	1.5			
2	40	126	13	e40	e73	e11	14	22	.79			
3	38	139	15	e34	e108	e14	14	15	.53			
4	33	105	9.5	e30	e7	e.73	13	9	.30			
5	32	101	9.4	e30	e4	e.50	13	7	.22			
6	53	323	100	e27	e6	e.60	12	6	.21			
7	59	300	66	e25	e7	e.57	12	6	.19			
8	48	179	24	e25	e7	e.51	12	5	.17			
9	38	56	5.9	23	7	.42	11	5	.14			
10	33	20	1.8	22	7	.40	11	4	.12			
11	52	248	61	21	7	.38	11	3	.10			
12	40	94	11	51	178	103	11	4	.11			
13	32	25	2.2	31	82	7.5	11	2	.07			
14	28	25	1.9	24	17	1.0	10	1	.03			
15	27	24	1.8	27	49	3.9	11	1	.04			
16	45	270	58	25	72	4.4	11	2	.05			
17	38	104	11	23	12	.69	11	2	.06			
18	31	90	7.8	22	11	.60	11	3	.07			
19	28	36	2.7	20	11	.53	10	3	.08			
20	44	329	74	19	10	.47	10	3	.08			
21	80	603	267	19	9	.44	9.6	3	.08			
22	82	520	227	18	12	.55	9.3	3	.08			
23	81	399	124	17	16	.70	9.2	3	.08			
24	64	265	47	17	20	.85	9.1	3	.08			
25	64	317	75	16	17	.70	8.8	4	.09			
26	48	115	16	16	13	.50	8.8	4	.09			
27	48	127	23	16	8	.31	9.5	4	.10			
28	42	123	14	15	4	.17	8.5	4	.10			
29	43	100	15	15	4	.17	8.2	4	.10			
30	42	137	15	19	34	2.4	8.0	5	.10			
31	36	66	6.1	---	---	---	8.0	3	.07			
TOTAL	1423	---	1344.1	725	---	159.39	332.0	---	5.83			

RIO GRANDE DE ARECIBO BASIN

50025850 RIO JAUCA AT PASO PALMA, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	7.8	3	.06	5.2	2	.02	4.7	1	.02
2	7.6	2	.05	5.6	1	.02	5.9	1	.02
3	7.6	2	.03	5.1	1	.02	4.7	1	.02
4	7.7	1	.02	5.0	2	.03	4.4	2	.02
5	7.5	1	.02	4.9	2	.03	4.3	2	.02
6	7.2	1	.03	4.9	3	.04	4.2	2	.03
7	7.0	2	.03	5.2	2	.03	4.1	3	.03
8	6.9	2	.03	5.2	2	.02	4.0	3	.03
9	6.6	2	.03	5.0	2	.02	3.9	3	.03
10	6.4	2	.03	4.7	3	.04	3.8	2	.02
11	6.4	1	.02	4.9	6	.07	3.7	2	.02
12	6.3	1	.02	4.9	7	.09	3.7	1	.01
13	6.2	2	.03	4.9	2	.02	3.7	2	.02
14	6.2	2	.04	4.8	1	.01	3.8	4	.04
15	6.1	3	.05	5.0	1	.01	3.7	6	.06
16	6.1	3	.04	4.8	1	.01	3.7	7	.07
17	6.6	2	.04	4.8	1	.01	3.5	6	.06
18	5.9	2	.03	4.7	1	.01	3.5	3	.03
19	5.7	2	.03	4.7	1	.01	3.5	1	.01
20	5.6	2	.03	4.6	1	.02	3.6	2	.02
21	5.5	2	.03	4.4	2	.02	4.1	3	.03
22	5.4	2	.03	4.9	2	.02	6.8	8	.19
23	5.7	2	.03	6.6	7	.17	10	12	.35
24	5.8	2	.03	6.4	6	.10	21	525	59
25	5.1	2	.03	5.8	4	.06	13	35	1.3
26	5.0	2	.03	5.1	3	.04	6.3	20	.34
27	5.4	4	.05	4.6	2	.03	5.7	9	.14
28	6.0	6	.09	4.5	2	.02	4.9	10	.13
29	6.4	6	.09	---	---	---	4.7	13	.17
30	7.4	2	.05	---	---	---	4.8	16	.20
31	5.3	6	.09	---	---	---	4.5	7	.09
TOTAL	196.4	---	1.21	141.2	---	0.99	166.2	---	62.52
	APRIL			MAY			JUNE		
1	4.4	6	.07	9.0	14	.39	6.3	2	.03
2	4.3	6	.07	6.3	7	.13	6.2	2	.03
3	4.5	6	.07	5.6	5	.08	6.1	2	.03
4	5.1	5	.07	5.5	5	.07	8.5	11	.66
5	9.6	15	.51	5.2	5	.07	12	12	.44
6	8.9	13	.34	193	370	1010	9.4	6	.14
7	8.1	13	.32	104	363	294	8.3	6	.13
8	5.9	9	.14	29	124	38	7.6	6	.12
9	7.1	8	.16	20	172	11	7.4	5	.10
10	5.5	7	.11	95	332	368	6.8	4	.07
11	5.4	5	.08	29	115	10	6.9	3	.05
12	4.9	4	.05	17	28	1.3	6.5	2	.04
13	4.8	5	.06	13	8	.29	6.4	2	.03
14	4.9	7	.09	11	5	.15	6.8	2	.03
15	4.6	9	.11	10	4	.10	6.9	1	.03
16	4.4	11	.13	9.2	4	.09	7.3	1	.03
17	4.3	11	.12	8.7	3	.08	6.6	1	.02
18	4.2	10	.12	9.0	4	.09	7.4	1	.02
19	4.3	10	.12	10	4	.11	6.9	1	.02
20	4.0	10	.10	8.1	4	.09	6.7	1	.02
21	4.9	9	.12	7.7	5	.10	6.5	1	.02
22	6.1	9	.14	7.7	5	.10	8.5	30	1.0
23	8.4	17	.50	7.7	1	.03	12	84	2.8
24	6.9	14	.26	7.4	1	.02	11	19	.62
25	5.7	12	.18	7.2	1	.02	12	29	1.2
26	9.3	40	2.4	6.9	1	.02	11	46	1.4
27	e24	e78	e8.6	7.2	3	.06	7.7	16	.34
28	e7.6	e14	e.31	8.0	6	.12	19	640	78
29	7.4	12	.23	7.3	5	.11	17	100	6.4
30	8.4	9	.22	6.8	3	.06	22	58	4.0
31	---	---	---	6.6	2	.03	---	---	---
TOTAL	197.9	---	15.80	678.1	---	1734.71	273.7	---	97.82

RIO GRANDE DE ARECIBO BASIN

50025850 RIO JAUCA AT PASO PALMA, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	15	33	1.4	9.8	7	.18	49	373	224
2	11	21	.63	9.6	10	.27	21	62	3.3
3	9.7	11	.29	9.3	14	.36	20	49	2.6
4	8.9	7	.17	9.3	18	.45	18	41	1.9
5	8.8	6	.15	8.5	22	.50	16	31	1.3
6	8.4	5	.12	8.4	25	.57	22	64	5.6
7	7.9	5	.11	8.4	28	.64	31	147	30
8	7.5	5	.10	7.9	26	.55	56	260	127
9	7.1	5	.10	7.9	23	.48	64	354	151
10	13	114	7.8	7.5	20	.40	34	121	10
11	10	15	.45	7.9	17	.36	25	83	5.2
12	18	78	12	8.1	15	.33	55	235	122
13	19	97	6.0	6.9	13	.24	27	49	3.6
14	38	255	75	32	188	76	23	14	.78
15	20	62	3.9	14	101	4.1	22	29	1.6
16	11	46	1.4	9.3	71	1.8	20	37	1.9
17	9.4	49	1.2	8.7	45	1.1	28	81	8.0
18	9.8	52	1.4	9.9	20	.52	24	59	3.6
19	8.7	40	.96	18	44	3.3	21	41	2.0
20	7.6	22	.46	12	39	1.3	26	64	5.4
21	7.4	5	.11	12	31	1.0	107	911	1050
22	36	215	81	17	57	4.4	39	129	13
23	19	51	3.4	76	305	114	96	373	290
24	16	39	1.7	31	112	17	44	487	53
25	11	13	.42	19	45	2.3	32	450	35
26	23	82	17	15	13	.57	29	400	28
27	19	52	3.1	14	10	.35	30	172	12
28	12	15	.48	13	10	.32	27	59	4.0
29	11	7	.20	13	9	.31	24	18	1.0
30	11	6	.17	13	9	.30	23	4	.19
31	9.7	4	.12	13	8	.27	---	---	---
TOTAL	423.9	---	221.34	449.4	---	234.27	1053	---	2196.97
YEAR	6059.8		6074.95						

e Estimated

RIO GRANDE DE ARECIBO BASIN

50026025 RIO CAONILLAS AT PASO PALMA, PR

LOCATION.--Lat 18°13'53", long 66°38'14", Hydrologic Unit 21010001, 3.5 mi (5.6 km) south of Lago Caonillas Dam, 4.8 mi (7.72km) southeast of Utuado Plaza and 2.78 mi (4.47 km) east of Lago Viví Dam.

DRAINAGE AREA.--37.94 mi² (98.26 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1995 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 984 ft (300 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	242	253	62	37	30	23	18	23	30	74	62	148
2	211	266	53	36	30	28	18	20	29	45	54	110
3	260	249	50	36	27	23	20	18	128	37	137	160
4	201	178	49	35	29	21	21	17	90	34	89	119
5	161	148	48	35	25	21	38	16	63	33	56	86
6	175	129	48	35	25	e20	43	527	40	29	52	113
7	238	117	47	34	25	e18	31	449	33	27	50	115
8	259	108	47	34	23	21	25	162	30	25	45	184
9	191	101	46	33	23	17	24	134	28	24	42	191
10	164	93	45	33	22	17	21	199	27	54	40	135
11	274	87	e45	33	22	17	22	160	26	55	53	100
12	176	245	45	33	21	16	20	91	25	89	45	119
13	151	153	45	33	21	16	19	67	24	104	37	91
14	133	108	44	33	21	17	18	57	26	344	73	78
15	125	98	49	32	21	16	18	50	26	207	65	76
16	286	90	47	33	21	16	17	46	26	85	41	74
17	208	81	47	36	20	16	16	42	31	62	42	132
18	161	76	45	32	20	16	16	45	52	62	45	138
19	145	72	44	31	20	17	15	58	33	57	72	95
20	259	69	43	31	20	17	15	39	25	46	55	260
21	226	67	42	30	19	17	19	36	23	43	44	301
22	336	67	40	29	24	23	25	35	47	89	56	199
23	365	64	40	32	29	53	31	34	61	76	426	319
24	282	65	39	31	32	188	28	32	55	69	142	209
25	268	59	39	29	31	65	24	31	42	51	101	132
26	209	56	42	28	26	31	69	30	44	69	136	115
27	192	55	45	32	23	27	e119	51	29	72	89	104
28	186	54	39	38	22	24	e29	50	81	48	77	94
29	172	53	38	46	---	22	29	36	60	48	72	80
30	176	61	38	57	---	20	28	32	127	60	73	72
31	142	---	38	33	---	19	---	32	---	44	96	---
TOTAL	6574	3322	1389	1060	672	862	836	2619	1361	2162	2467	4149
MEAN	212	111	44.8	34.2	24.0	27.8	27.9	84.5	45.4	69.7	79.6	138
MAX	365	266	62	57	32	188	119	527	128	344	426	319
MIN	125	53	38	28	19	16	15	16	23	24	37	72
AC-FT	13040	6590	2760	2100	1330	1710	1660	5190	2700	4290	4890	8230
CFSM	5.59	2.92	1.18	.90	.63	.73	.73	2.23	1.20	1.84	2.10	3.65
IN.	6.45	3.26	1.36	1.04	.66	.85	.82	2.57	1.33	2.12	2.42	4.07

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2001, BY WATER YEAR (WY)

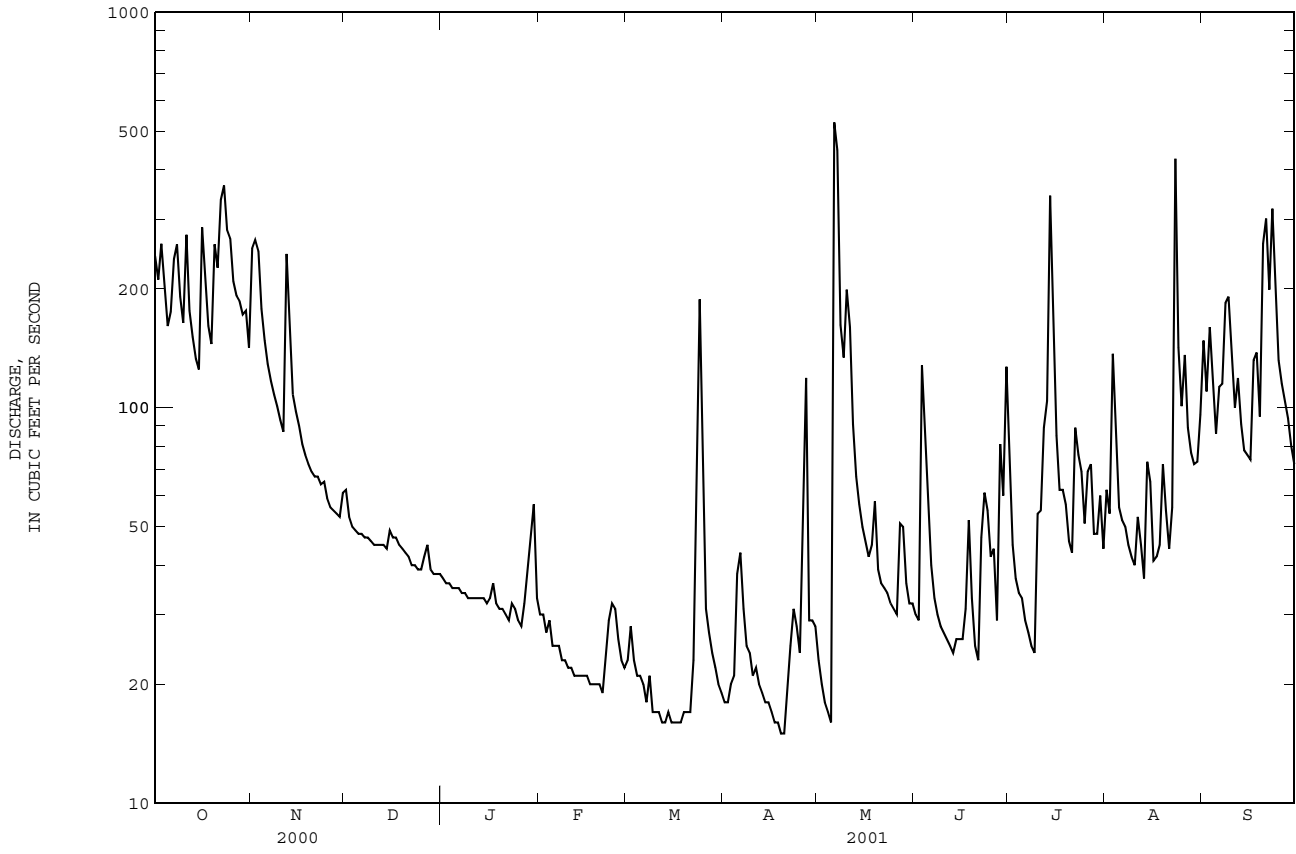
MEAN	172	137	74.8	58.3	51.4	36.4	50.8	87.3	70.0	56.0	91.5	309
MAX	248	292	143	89.8	86.0	51.3	112	130	161	117	156	815
(WY)	1999	2000	2000	1997	1996	1996	1998	1998	1999	1996	1998	1998
MIN	72.9	44.2	21.0	19.6	24.0	25.7	17.0	29.1	16.1	15.5	47.9	33.2
(WY)	1997	1998	1998	1998	2001	1997	1997	1997	1997	1997	1996	1997

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1996 - 2001

ANNUAL TOTAL	31647	27473	
ANNUAL MEAN	86.5	75.3	99.4
HIGHEST ANNUAL MEAN			137
LOWEST ANNUAL MEAN			49.9
HIGHEST DAILY MEAN	1010	Aug 23	527
LOWEST DAILY MEAN	22	Jul 15	15
ANNUAL SEVEN-DAY MINIMUM	23	Jul 13	16
MAXIMUM PEAK FLOW			5200
MAXIMUM PEAK STAGE			14.66
INSTANTANEOUS LOW FLOW			9.5
ANNUAL RUNOFF (AC-FT)	62770	54490	72030
ANNUAL RUNOFF (CFSM)	2.28	1.98	2.62
ANNUAL RUNOFF (INCHES)	31.03	26.94	35.61
10 PERCENT EXCEEDS	208	185	201
50 PERCENT EXCEEDS	49	45	52
90 PERCENT EXCEEDS	25	20	21

e Estimated

RIO GRANDE DE ARECIBO BASIN
50026025 RIO CAONILLAS AT PASO PALMA, PR--Continued



50026050 RIO CAONILLAS ABOVE LAGO CAONILLAS NEAR JAYUYA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°13'26", long 66°38'22", 300 ft (91 m) off Highway 531, 700 ft (213 m) upstream from Lago Caonillas, 3.3 mi (5.3 km) northwest of Jayuya plaza.

DRAINAGE AREA.--40.4 mi² (104.6 km²).

PERIOD OF RECORD.--Water years 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL AS (MG/L CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT	04...	1115	196	7.5	23.1	30	7.9	95	<10	3500	2100	57	15.0
FEB	22...	1110	27	7.9	23.9	.8	8.5	104	<10	250	E140	--	--
MAY	16...	1510	48	7.5	27.7	2.0	7.8	102	<10	E30	E40	79	21.3
SEP	20...	1245	64	7.3	25.4	--	7.9	100	<10	2700	E100	65	17.4

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDEDED (MG/L) (00530)
OCT	04...	4.62	8.2	.5	1.50	<1.0	9.5	8.5	<.1	24.2	103	54.4	62
FEB	22...	--	--	--	--	92	--	--	--	--	--	--	<10
MAY	16...	6.25	11.0	.5	1.33	73	<1.0	14.5	E.1	23.8	133	17.1	<10
SEP	20...	5.22	9.1	.5	1.40	61	--	10.3	8.1	<.2	22.4	110	19.1

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)
OCT	04...	<.01	.7	.01	--	<.20	--	.080	<2	32.0	<18	<.11	2
FEB	22...	<.01	.4	.03	--	<.20	--	.030	--	--	--	--	--
MAY	16...	<.01	2.2	.03	.24	.27	2.5	10.9	.040	<2	20.5	20	<.11
SEP	20...	<.01	.5	.02	--	<.20	--	.020	--	--	--	--	--

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)	
OCT	04...	<20.0	2090	M	98	<.14	<2.6	<.43	<31	<.01	<16	.02
FEB	22...	--	--	--	--	--	--	--	--	--	--	--
MAY	16...	<20.0	120	<1	15	<.01	<2.6	<.43	<31	<.01	<16	<.02
SEP	20...	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
M -- Presence verified, not quantified
E -- Estimated value

RIO GRANDE DE ARECIBO BASIN

50026140 LAGO CAONILLAS AT DAMSITE NEAR UTUADO, PR

LOCATION.--Lat 18°16'43", long 66°39'24", Hydrologic Unit 21010001, at Lago Caonillas Dam on Río Caonillas, 2.9 mi (4.7 km) northeast of Plaza de Utuado, 0.3 mi (0.5 km) west from Iglesia Santa María del Monte Carmelo, and 1.8 mi (2.9 km) northwest from Hacienda Carbonell.

DRAINAGE AREA.--48.4 mi² (125.4 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--March 1991 to current year. (March 16 to September 30, 1999, no records available due to repairs conducted by Puerto Rico Electric and Power Authority; inspections data available at District Office). Prior to October 1994, published as Lago Caonillas at Caonillas.

GAGE.--Water stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Caonillas was completed in 1948. The dam is a concrete gravity structure with a total length of 815 ft (248 m), a maximum height of 235 ft (72 m), and a maximum base width of 195 ft (59 m). Non-overflow sections on each abutment have a total length of 603 ft (184 m). The dam is the main unit of Caonillas Hydroelectric Project, and provides 49,000 acre-feet (60 hm³) of usable storage for power generation at Caonillas Power Plant No. 1 located 2.5 mi (4.0 km) downstream from the dam. The dam is owned by Puerto Rico Electric Power Authority. Gage-height and precipitation satellite telemetry at station. New capacity table based on U.S. Geological Survey Water-Resources Investigations Report 96-4153, February 1995.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 841.29 ft (256.42 m), Sept. 22, 1998; minimum elevation, 737.92 ft (224.92 m), Aug. 8, 1997.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 826.50 ft (251.92 m), Oct. 12; minimum elevation, 797.19 ft (242.98 m), September 13, 2001.

Capacity Table

(based on data from U.S. Geological Survey Water-Resources Investigations Report 96-4153, Puerto Rico-1995)

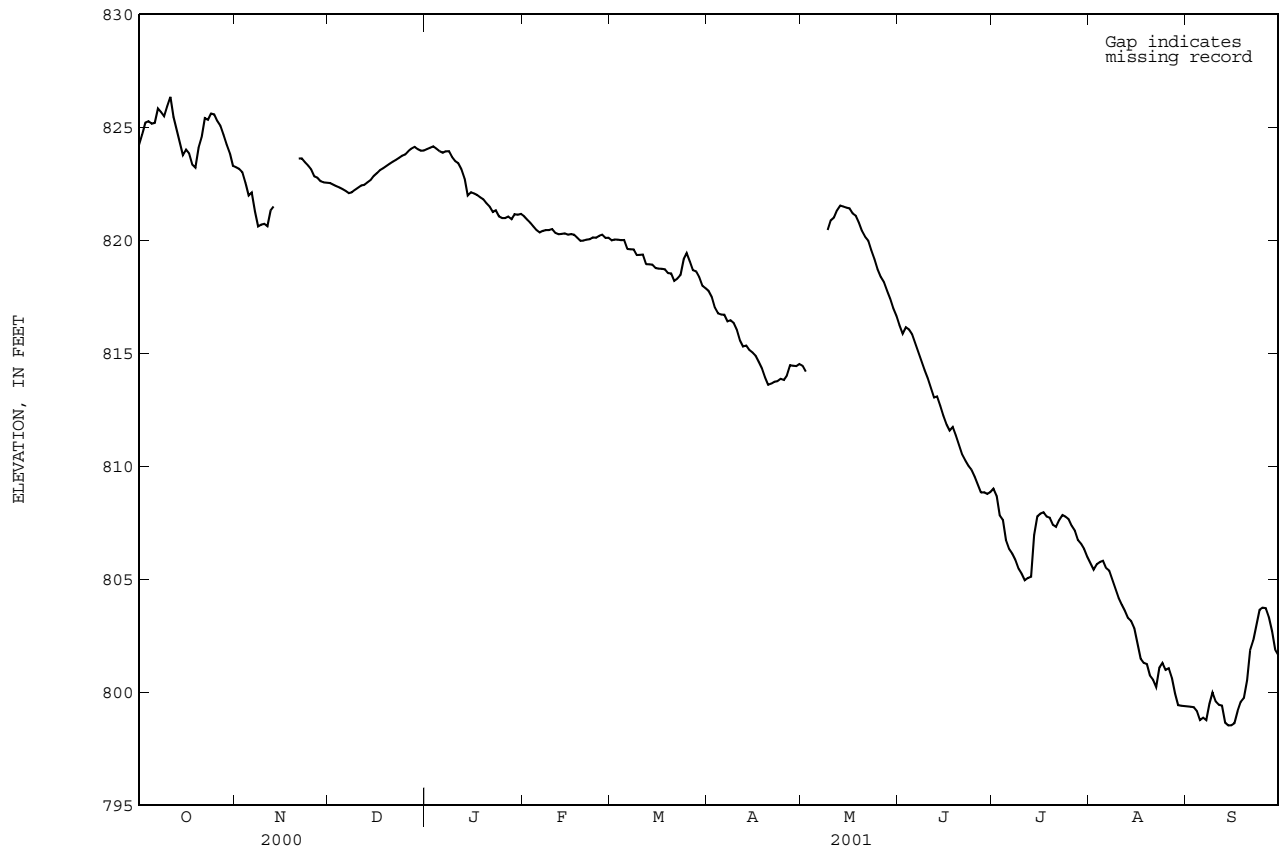
Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
689	0	745	6,015
705	778	764	10,077
725	2,919	830	42,295

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	824.22	823.23	822.54	824.04	821.07	820.00	817.76	814.45	816.24	809.01	805.70	799.37
2	824.69	823.16	822.47	824.10	820.92	820.04	817.49	814.19	815.87	808.69	805.43	799.36
3	825.21	823.01	822.40	824.16	820.78	820.03	817.02	A	816.15	807.83	805.67	799.34
4	825.27	822.55	822.34	824.06	820.61	820.01	816.77	A	816.06	807.62	805.76	799.16
5	825.17	821.99	822.27	823.95	820.46	820.02	816.72	A	815.84	806.74	805.82	798.76
6	825.20	822.12	822.19	823.88	820.35	819.62	816.71	A	815.44	806.34	805.50	798.87
7	825.84	821.29	822.09	823.94	820.42	819.61	816.41	A	815.04	806.13	805.38	798.76
8	825.68	820.62	822.13	823.95	820.46	819.60	816.46	A	814.66	805.86	804.99	799.50
9	825.49	820.70	822.24	823.69	820.46	819.35	816.34	820.46	814.26	805.47	804.57	799.99
10	825.93	820.73	822.33	823.51	820.50	819.36	816.05	820.88	813.91	805.25	804.17	799.59
11	826.35	820.63	822.43	823.42	820.33	819.37	815.57	821.01	813.48	804.95	803.88	799.44
12	825.47	821.32	822.46	823.15	820.27	818.95	815.30	821.33	813.04	805.05	803.60	799.41
13	824.90	821.50	822.57	822.73	820.29	818.94	815.34	821.54	813.09	805.11	803.29	798.65
14	824.32	A	822.67	821.99	820.31	818.93	815.15	821.50	812.67	806.95	803.15	798.53
15	823.77	A	822.85	822.13	820.25	818.78	815.04	821.45	812.24	807.78	802.84	798.54
16	824.02	A	822.98	822.08	820.28	818.75	814.89	821.42	811.85	807.91	802.19	798.63
17	823.85	A	823.11	822.01	820.25	818.74	814.63	821.19	811.58	807.96	801.48	799.17
18	823.35	A	823.20	821.91	820.12	818.72	814.34	821.09	811.74	807.77	801.30	799.56
19	823.22	A	823.30	821.82	819.98	818.55	813.95	820.79	811.37	807.72	801.24	799.74
20	824.10	A	823.39	821.65	819.99	818.54	813.61	820.41	810.93	807.41	800.74	800.52
21	824.56	823.62	823.48	821.50	820.03	818.21	813.66	820.16	810.51	807.32	800.55	801.85
22	825.41	823.63	823.56	821.26	820.05	818.31	813.74	819.98	810.26	807.62	800.23	802.30
23	825.34	823.46	823.65	821.33	820.13	818.47	813.77	819.56	810.02	807.84	801.09	802.97
24	825.61	823.31	823.74	821.06	820.12	819.17	813.87	819.16	809.85	807.77	801.30	803.64
25	825.58	823.14	823.80	820.99	820.20	819.44	813.82	818.72	809.54	807.66	800.99	803.74
26	825.29	822.83	823.94	820.99	820.25	819.06	814.02	818.38	809.21	807.37	801.06	803.72
27	825.07	822.77	824.06	821.05	820.11	818.68	814.47	818.15	808.84	807.15	800.64	803.33
28	824.68	822.62	824.14	820.94	820.12	818.62	814.45	817.78	808.85	806.74	799.94	802.71
29	824.24	822.57	824.04	821.16	---	818.36	814.44	817.42	808.78	806.57	799.43	801.87
30	823.85	822.55	823.97	821.14	---	817.99	814.53	817.00	808.86	806.34	799.40	801.64
31	823.30	---	823.98	821.17	---	817.88	---	816.66	---	805.99	799.39	---
MAX	826.35	---	824.14	824.16	821.07	820.04	817.76	---	816.24	809.01	805.82	803.74
MIN	823.22	---	822.09	820.94	819.98	817.88	813.61	---	808.78	804.95	799.39	798.53

A No gage-height record

RIO GRANDE DE ARECIBO BASIN
50026140 LAGO CAONILLAS AT DAMSITE NEAR UTUADO, PR--Continued



RIO GRANDE DE ARECIBO BASIN

50026200 RIO CAONILLAS BLW LAGO CAONILLAS TUNNEL, PR

LOCATION.--Lat 18°17'57", long 66°38'36", Hydrologic Unit 21010001, on left bank at Río Caonillas Tunnel, 1.6 mi (2.6 km) downstream of Lago Caonillas Dam, 3.1 mi (5.0 km) southeast from Central Hidroeléctrica of Lago Dos Bocas, 2.6 mi (4.2 km) west from Escuela Segunda Unidad de Mameyes.

DRAINAGE AREA.--Indeterminate.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 2000 to September 2001.

GAGE.--Water-stage recorder. Elevation of gage 295 ft (90 m), from topographic map.

REMARKS.--Records fair, except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	21	71	70	e64	e80	169	67	153	160
2	---	---	---	21	82	29	e108	e180	152	153	157	155
3	---	---	---	21	74	39	159	e170	77	190	192	154
4	---	---	---	69	80	31	105	e80	136	195	118	96
5	---	---	---	58	78	26	81	e83	154	190	66	186
6	---	---	---	59	64	142	71	e54	166	225	164	130
7	---	---	---	21	20	32	130	e26	174	102	107	150
8	---	---	---	35	24	27	26	e82	149	116	159	39
9	---	---	---	113	23	97	68	e157	147	133	162	94
10	---	---	---	94	21	27	e141	e254	137	151	151	231
11	---	---	---	64	73	25	e170	e277	154	163	139	137
12	---	---	---	121	64	140	106	e29	151	158	128	136
13	---	---	e23	164	24	29	e30	e27	107	153	126	268
14	---	---	22	157	24	29	e107	e107	157	59	111	112
15	---	---	23	92	53	67	e61	85	152	64	159	98
16	---	---	23	66	22	31	71	74	151	76	211	59
17	---	---	23	58	40	29	e118	129	157	74	230	31
18	---	---	24	67	67	29	e138	107	164	132	106	57
19	---	---	22	64	66	73	e147	167	167	93	105	59
20	---	---	e20	81	26	26	e148	168	159	150	182	124
21	---	---	20	79	25	124	e29	122	150	86	104	89
22	---	---	20	104	35	e35	e81	126	149	35	144	146
23	---	---	20	23	24	e35	e81	172	147	50	322	246
24	---	---	20	112	57	e40	e27	167	149	110	133	121
25	---	---	20	54	27	28	e144	172	159	101	185	136
26	---	---	20	32	28	155	e31	148	156	161	185	163
27	---	---	20	28	69	153	e30	154	141	151	211	216
28	---	---	20	102	31	64	e86	176	143	170	251	265
29	---	---	67	30	---	114	e79	159	113	131	196	293
30	---	---	61	82	---	142	e26	177	142	142	219	143
31	---	---	42	32	---	e64	---	178	---	152	199	---
TOTAL	---	---	---	2124	1292	1952	2663	4087	4429	3933	5075	4294
MEAN	---	---	---	68.5	46.1	63.0	88.8	132	148	127	164	143
MAX	---	---	---	164	82	155	170	277	174	225	322	293
MIN	---	---	---	21	20	25	26	26	77	35	66	31
AC-FT	---	---	---	4210	2560	3870	5280	8110	8780	7800	10070	8520
CFSM	---	---	---	1.35	.91	1.24	1.75	2.60	2.91	2.50	3.22	2.82
IN.	---	---	---	1.56	.95	1.43	1.95	2.99	3.24	2.88	3.72	3.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2001, BY WATER YEAR (WY)

	---	---	---	68.5	46.1	63.0	88.8	132	148	127	164	143
MEAN	---	---	---	68.5	46.1	63.0	88.8	132	148	127	164	143
MAX	---	---	---	68.5	46.1	63.0	88.8	132	148	127	164	143
(WY)	---	---	---	2001	2001	2001	2001	2001	2001	2001	2001	2001
MIN	---	---	---	68.5	46.1	63.0	88.8	132	148	127	164	143
(WY)	---	---	---	2001	2001	2001	2001	2001	2001	2001	2001	2001

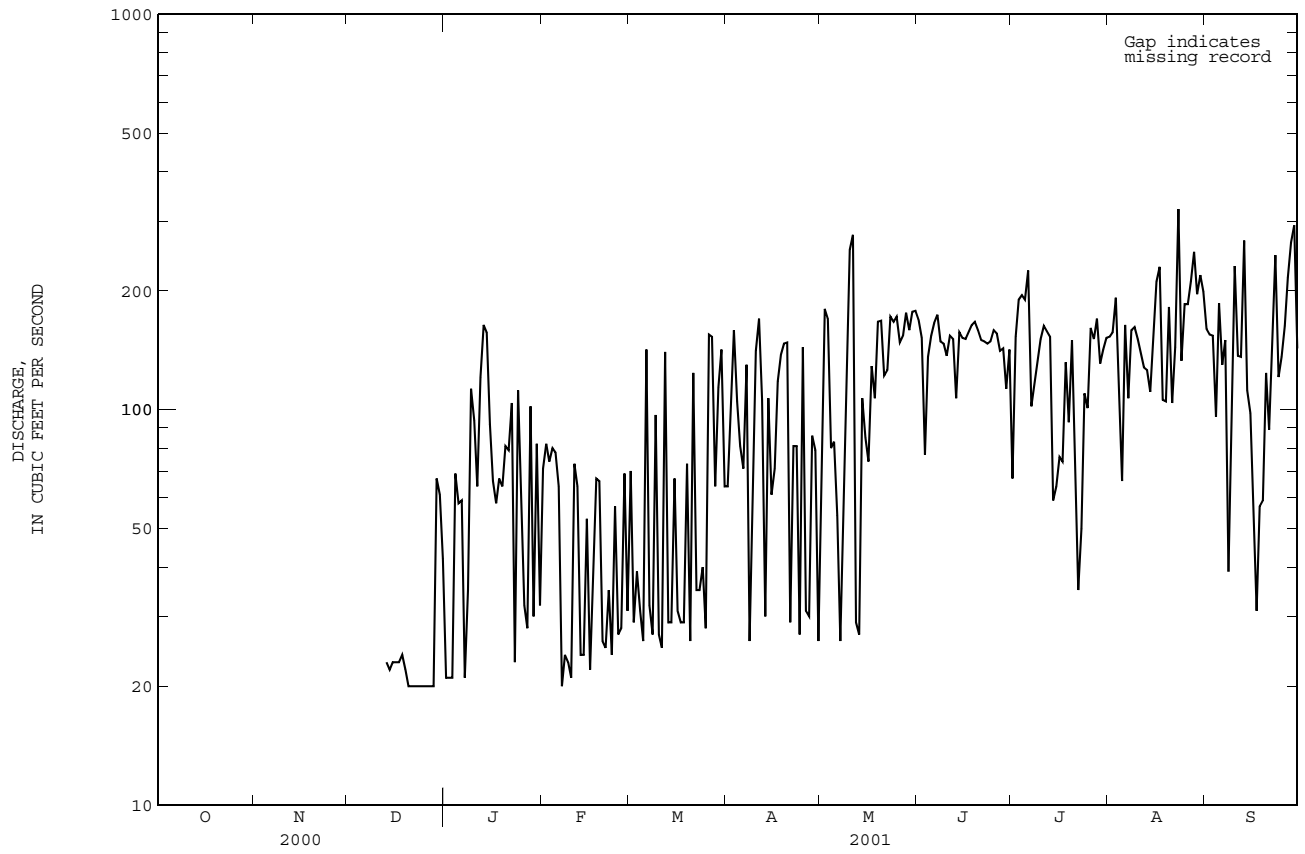
SUMMARY STATISTICS

FOR 2001 WATER YEAR

HIGHEST DAILY MEAN 322 Aug 23
 LOWEST DAILY MEAN 20 Dec 20
 ANNUAL SEVEN-DAY MINIMUM 20 Dec 20
 10 PERCENT EXCEEDS 175
 50 PERCENT EXCEEDS 104
 90 PERCENT EXCEEDS 24

e Estimated

RIO GRANDE DE ARECIBO BASIN
50026200 RIO CAONILLAS BLW LAGO CAONILLAS TUNNEL, PR--Continued



RIO GRANDE DE ARECIBO BASIN

50026400 RIO YUNES AT HWY 140 NEAR FLORIDA, PR

LOCATION.--Lat 18°19'27', long 66°35'13", Hydrologic Unit 21010002, on left bank, 600 ft downstream from bridge on Hwy 140, 3.07 mi (4.9 km) southwest from Florida Plaza, 2.41 mi (3.9 km) northwest from Escuela Segunda Unidad de Frontón, 1.9 mi (3.06km) northeast from Escuela Segunda Unidad de Mameyes.

DRAINAGE AREA.--13.9 mi² (36.1 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 2000 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 492 ft (150 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	194	17	9.9	9.7	8.6	5.7	13	12	9.5	10	18
2	20	97	16	9.7	8.8	8.4	5.7	9.0	9.7	7.8	10	17
3	42	122	15	9.8	8.1	7.9	5.7	7.9	8.7	6.5	205	13
4	34	50	15	9.1	7.5	7.7	5.3	7.4	12	14	46	11
5	19	39	15	8.8	7.3	7.7	13	7.1	8.6	11	20	10
6	16	34	14	8.7	7.3	7.4	21	75	8.0	6.8	16	9.7
7	15	31	14	8.6	7.2	7.1	13	130	7.1	6.2	14	9.5
8	17	30	13	8.5	6.9	6.7	7.3	55	7.0	5.8	12	9.2
9	15	29	13	8.3	7.0	6.5	6.9	50	6.9	5.6	12	9.0
10	16	27	13	8.4	6.9	6.1	6.4	75	6.6	5.7	13	9.0
11	72	26	13	8.0	9.1	6.0	7.0	56	6.4	51	11	9.0
12	31	26	14	7.9	9.1	6.0	6.4	24	6.2	121	10	9.3
13	17	e25	15	8.0	9.2	6.2	6.4	16	6.3	48	9.9	11
14	15	24	14	8.4	7.4	6.6	8.3	18	7.0	31	9.6	8.4
15	15	24	18	8.8	8.1	6.0	5.9	15	6.3	25	9.7	42
16	31	23	19	7.9	7.9	5.9	5.9	12	6.2	12	9.5	16
17	37	22	20	7.8	8.2	5.7	5.7	11	14	9.9	14	36
18	35	21	16	7.2	7.0	5.6	5.4	11	33	16	17	25
19	218	21	e13	6.9	6.9	5.6	5.4	17	18	14	13	13
20	62	21	e12	6.7	6.7	6.6	5.5	9.8	8.5	8.9	11	66
21	28	22	12	6.8	7.4	7.2	8.5	8.8	7.2	8.1	9.4	134
22	25	22	12	6.7	23	7.2	17	8.5	6.6	8.0	9.7	148
23	86	20	11	6.9	11	9.0	25	8.7	6.4	88	26	51
24	70	19	11	6.8	12	11	14	7.6	6.8	33	12	26
25	38	18	11	6.6	15	9.6	22	7.2	7.9	15	10	17
26	27	19	14	7.0	12	6.5	72	7.0	7.0	11	15	16
27	23	18	16	11	9.8	6.6	40	28	6.7	10	17	13
28	22	17	11	23	9.3	6.8	15	27	8.0	9.6	11	10
29	20	17	11	45	---	7.1	11	11	13	17	11	9.1
30	119	17	10	31	---	5.9	12	9.4	12	19	11	8.4
31	75	---	10	12	---	5.9	---	15	---	12	11	---
TOTAL	1273	1075	428	330.2	255.8	217.1	388.4	757.4	280.1	646.4	615.8	783.6
MEAN	41.1	35.8	13.8	10.7	9.14	7.00	12.9	24.4	9.34	20.9	19.9	26.1
MAX	218	194	20	45	23	11	72	130	33	121	205	148
MIN	13	17	10	6.6	6.7	5.6	5.3	7.0	6.2	5.6	9.4	8.4
AC-FT	2520	2130	849	655	507	431	770	1500	556	1280	1220	1550
CFSM	2.94	2.56	.99	.76	.65	.50	.93	1.75	.67	1.49	1.42	1.87
IN.	3.38	2.86	1.14	.88	.68	.58	1.03	2.01	.74	1.72	1.64	2.08

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2001, BY WATER YEAR (WY)

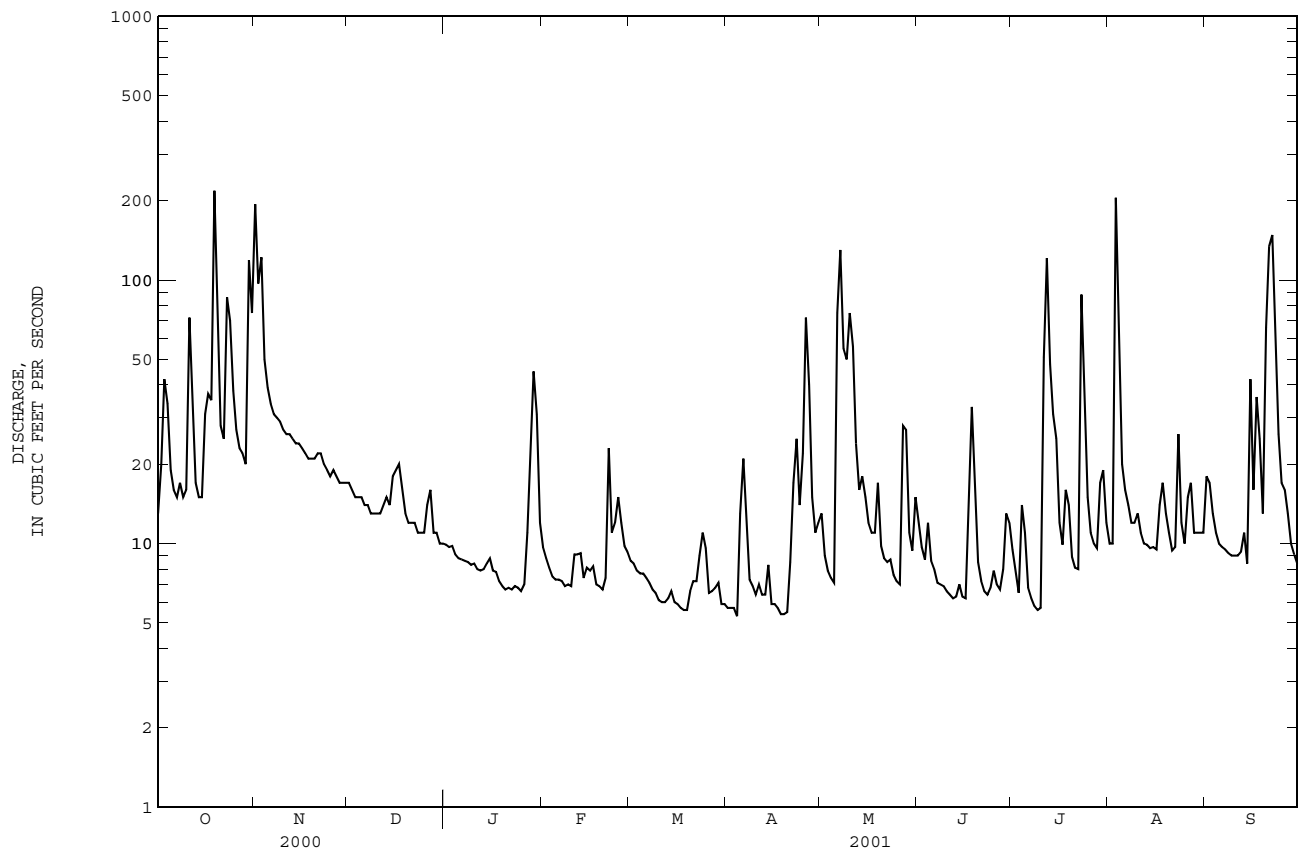
	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001
MEAN	41.1	35.8	13.8	10.7	9.14	7.00	12.9	24.4	9.34	14.6	15.4	25.9
MAX	41.1	35.8	13.8	10.7	9.14	7.00	12.9	24.4	9.34	20.9	19.9	26.1
(WY)	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001
MIN	41.1	35.8	13.8	10.7	9.14	7.00	12.9	24.4	9.34	8.39	11.0	25.8
(WY)	2001	2001	2001	2001	2001	2001	2001	2001	2001	2000	2000	2000

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 2000 - 2001

ANNUAL TOTAL							7050.8					
ANNUAL MEAN							19.3			19.3		
HIGHEST ANNUAL MEAN										19.3		2001
LOWEST ANNUAL MEAN										19.3		2001
HIGHEST DAILY MEAN				218	Oct 19		218	Oct 19		218	Oct 19	2000
LOWEST DAILY MEAN				4.7	Aug 12		5.3	Apr 4		4.7	Aug 12	2000
ANNUAL SEVEN-DAY MINIMUM				5.2	Aug 12		5.9	Mar 29		5.2	Aug 12	2000
MAXIMUM PEAK FLOW							3740	Aug 3		3740	Aug 3	2001
MAXIMUM PEAK STAGE							11.27	Aug 3		11.27	Aug 3	2001
INSTANTANEOUS LOW FLOW							5.0	Apr 18		4.4	Aug 12	2000
ANNUAL RUNOFF (AC-FT)							13990			13990		
ANNUAL RUNOFF (CFSM)							1.38			1.38		
ANNUAL RUNOFF (INCHES)							18.75			18.76		
10 PERCENT EXCEEDS				41			35			34		
50 PERCENT EXCEEDS				15			11			10		
90 PERCENT EXCEEDS				6.0			6.5			6.2		

e Estimated

RIO GRANDE DE ARECIBO BASIN
50026400 RIO YUNES AT HWY 140 NEAR FLORIDA, PR--Continued



WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 2000 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: June 2000 to current year.

INSTRUMENTATION.-- USDH-48 and automatic sediment samplers since 2000.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 740 mg/L November 1, 2000; Minimum daily mean, 1 mg/L several days during Water Year 2001.

SEDIMENT LOADS: Maximum daily mean, 2,580 tons (2,340 tonnes) August 3, 2001; Minimum daily mean, 0.02 ton (0.02 tonne) several days during Water Year 2001.

EXTREMES OBSERVED FOR WATER YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 270 mg/L September 4, 2000; Minimum daily mean, 2 mg/L July 12, 13, 16, 2000.

SEDIMENT LOADS: Maximum daily mean, 217 tons (197 tonnes) September 4, 2000; Minimum daily mean, 0.03 ton (0.03 tonne) July 12, 16, 2000.

EXTREMES FOR CURRENT YEAR 2001.--

SEDIMENT CONCENTRATION: Maximum daily mean, 740 mg/L November 1, 2000; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 2,580 tons (2,340 tonnes) August 3, 2001; Minimum daily mean, 0.02 ton (0.02 tonne) several days.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	APRIL			MAY			JUNE		
1	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	e8.6	e5	e.11
23	---	---	---	---	---	---	8.1	4	.09
24	---	---	---	---	---	---	7.7	5	.10
25	---	---	---	---	---	---	7.7	5	.10
26	---	---	---	---	---	---	8.3	5	.11
27	---	---	---	---	---	---	8.1	5	.10
28	---	---	---	---	---	---	7.5	5	.10
29	---	---	---	---	---	---	7.1	5	.09
30	---	---	---	---	---	---	6.9	5	.08
31	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	70.0	---	0.88

RIO GRANDE DE ARECIBO BASIN

50026400 RIO YUNES AT HWY 140 NEAR FLORIDA, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	6.9	4	.08	5.8	14	.22	27	55	16
2	7.1	4	.09	6.9	10	.20	38	51	8.8
3	7.1	4	.08	6.2	7	.11	13	8	.28
4	6.7	4	.08	9.0	7	.17	94	270	217
5	6.5	4	.07	7.5	5	.10	42	68	9.6
6	6.3	4	.07	5.7	4	.07	27	36	3.0
7	6.3	4	.07	5.5	4	.06	15	14	.56
8	7.9	6	.13	5.3	4	.06	12	7	.23
9	6.4	5	.08	5.0	4	.05	14	12	.74
10	6.5	4	.08	8.8	10	.30	27	40	7.7
11	6.2	3	.04	6.1	13	.22	19	19	1.2
12	6.4	2	.03	4.7	11	.14	11	5	.15
13	6.3	2	.04	4.9	10	.13	10	5	.14
14	6.1	3	.05	5.0	8	.11	9.7	5	.14
15	5.5	3	.04	6.0	7	.12	11	7	.24
16	5.4	2	.03	5.5	6	.09	9.6	5	.13
17	7.6	5	.13	5.2	5	.07	15	5	.20
18	8.1	7	.16	4.8	4	.05	63	129	56
19	6.7	6	.11	5.2	4	.05	35	22	2.3
20	51	129	63	5.3	3	.05	27	5	.36
21	16	20	1.1	5.0	3	.04	47	74	20
22	8.3	14	.31	8.2	5	.16	47	62	10
23	7.1	14	.27	95	212	66	34	22	2.3
24	6.7	14	.25	17	10	.60	23	6	.42
25	6.5	14	.25	13	5	.17	19	4	.21
26	6.5	13	.23	32	49	8.0	17	4	.18
27	6.0	8	.14	16	23	1.0	19	8	.45
28	5.6	4	.06	9.6	19	.49	18	6	.26
29	7.2	8	.19	8.1	18	.40	16	4	.17
30	7.2	19	.36	8.2	17	.38	14	4	.15
31	5.9	16	.26	10	16	.44	---	---	---
TOTAL	260.0	---	67.88	340.5	---	80.05	773.3	---	358.91
YEAR	1443.8		507.72						

e Estimated

RIO GRANDE DE ARECIBO BASIN

50027000 RIO LIMON ABOVE LAGO DOS BOCAS, PR

LOCATION.--Lat 18°19'32', long 66°37'24", Hydrologic Unit 21010002, on right bank off Hwy. 146 2.2 mi (3.5 km) northwest from Escuela Segunda Unidad de Mameyes, 3.0 mi (4.8 km) southwest from Lago Dos Bocas Dam, 3.8 mi (6.0 km) northeast from Lago Caonillas Dam.

DRAINAGE AREA.--33.2 mi² (86.0 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1999 to current year.

GAGE.--Water-stage recorder. Datum of gage is 311.6 ft (94.9 m), from topographic map.

REMARKS.--Records fair, except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	256	40	29	30	23	16	24	29	26	22	62
2	54	156	38	28	28	28	16	20	24	22	23	47
3	106	234	37	28	26	24	16	19	22	19	491	38
4	84	114	37	27	25	22	16	18	25	31	84	36
5	55	92	36	26	24	22	24	17	22	26	37	34
6	51	81	36	26	24	21	47	162	22	20	30	33
7	57	75	36	25	24	21	35	237	20	18	28	32
8	56	70	35	25	23	20	19	114	20	18	25	31
9	50	69	35	25	23	20	18	113	19	17	25	30
10	63	64	34	25	23	19	17	139	18	17	e26	30
11	142	61	35	24	27	19	17	112	18	54	e24	30
12	81	59	35	24	26	18	17	60	18	121	e23	31
13	56	58	37	24	28	18	17	47	49	72	e23	35
14	50	56	36	25	23	19	21	53	31	55	e23	30
15	58	56	45	27	25	18	17	53	19	51	e23	138
16	63	54	47	27	25	18	16	42	18	27	e23	52
17	128	51	49	24	25	17	15	35	33	23	29	105
18	92	50	41	23	23	17	14	34	118	28	32	66
19	477	49	35	23	23	17	14	44	50	28	25	45
20	183	47	34	22	22	18	14	31	25	21	24	138
21	112	48	33	22	24	20	20	28	21	20	22	458
22	112	49	32	22	57	21	34	33	20	20	22	240
23	152	46	32	22	30	24	53	29	19	148	46	96
24	140	44	31	22	30	27	50	24	19	58	30	65
25	103	42	32	e21	36	27	84	23	21	30	26	47
26	86	43	33	e21	30	19	120	23	20	25	115	46
27	76	42	47	e28	25	19	e68	34	18	23	62	39
28	73	40	32	e58	24	22	e30	45	20	21	41	32
29	68	39	31	e95	---	21	24	25	35	32	37	29
30	210	39	30	e78	---	18	23	23	29	36	35	28
31	150	---	29	36	---	17	---	34	---	24	35	---
TOTAL	3230	2184	1120	932	753	634	892	1695	822	1131	1511	2123
MEAN	104	72.8	36.1	30.1	26.9	20.5	29.7	54.7	27.4	36.5	48.7	70.8
MAX	477	256	49	95	57	28	120	237	118	148	491	458
MIN	42	39	29	21	22	17	14	17	18	17	22	28
AC-FT	6410	4330	2220	1850	1490	1260	1770	3360	1630	2240	3000	4210
CFSM	3.14	2.19	1.09	.91	.81	.62	.90	1.65	.83	1.10	1.47	2.13
IN.	3.62	2.45	1.25	1.04	.84	.71	1.00	1.90	.92	1.27	1.69	2.38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2001, BY WATER YEAR (WY)

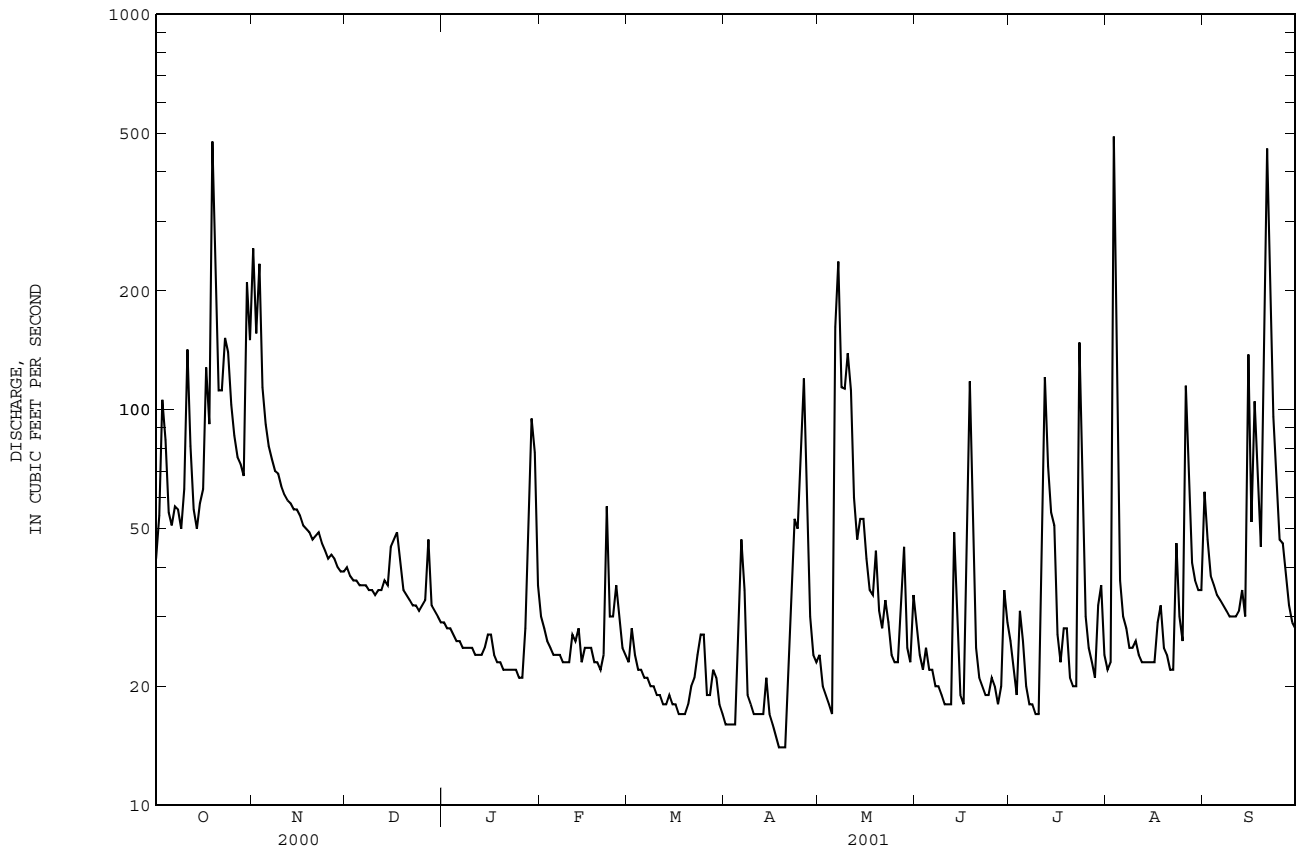
	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001
MEAN	104	72.8	36.1	69.1	44.1	33.1	33.1	76.1	32.2	33.7	40.2	64.0
MAX	104	72.8	36.1	108	60.8	45.7	36.4	97.5	37.0	36.5	48.7	70.8
(WY)	2001	2001	2001	2000	2000	2000	2000	2000	2000	2001	2001	2001
MIN	104	72.8	36.1	30.1	26.9	20.5	29.7	54.7	27.4	31.0	31.7	57.3
(WY)	2001	2001	2001	2001	2001	2001	2001	2001	2001	2000	2000	2000

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 2000 - 2001

ANNUAL TOTAL	21953	17027		
ANNUAL MEAN	60.0	46.6	46.6	
HIGHEST ANNUAL MEAN			46.6	2001
LOWEST ANNUAL MEAN			46.6	2001
HIGHEST DAILY MEAN	477	Oct 19	491	Aug 3
LOWEST DAILY MEAN	18	Aug 18	14	Apr 18
ANNUAL SEVEN-DAY MINIMUM	19	Aug 15	16	Apr 15
MAXIMUM PEAK FLOW			5700	Oct 19
MAXIMUM PEAK STAGE			12.89	Oct 19
INSTANTANEOUS LOW FLOW			13	Apr 18
ANNUAL RUNOFF (AC-FT)	43540	33770	33800	
ANNUAL RUNOFF (CFSM)	1.81	1.41	1.41	
ANNUAL RUNOFF (INCHES)	24.60	19.08	19.09	
10 PERCENT EXCEEDS	110	92	112	
50 PERCENT EXCEEDS	46	30	36	
90 PERCENT EXCEEDS	26	19	20	

e Estimated

RIO GRANDE DE ARECIBO BASIN
50027000 RIO LIMON ABOVE LAGO DOS BOCAS, PR--Continued



WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 2000 to September 2001.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: December 1999 to current year.

INSTRUMENTATION.-- USDH-48 and automatic sediment samplers since 1999.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 1,650 mg/L August 3, 2001; Minimum daily mean, 1 mg/L several days during Water Year 2001.

SEDIMENT LOADS: Maximum daily mean, 8,810 tons (7,992 tonnes) October 19, 2000; Minimum daily mean, 0.08 ton (0.07 tonne) February 6, 7, 2001.

EXTREMES OBSERVED FOR WATER YEAR 2000.--
SEDIMENT CONCENTRATION: Maximum daily mean, 820 mg/L May 3, 2000; Minimum daily mean, 3 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 2,580 tons (2,340 tonnes) May 3, 2000; Minimum daily mean, 0.24 ton (0.24 tonne) July 16, 2000.

EXTREMES FOR CURRENT YEAR 2001.--
SEDIMENT CONCENTRATION: Maximum daily mean, 1,650 mg/L August 3, 2001; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 8,810 tons (7,992 tonnes) October 19, 2000; Minimum daily mean, 0.08 ton (0.07 tonne) February 6, 7, 2001.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (MG/L) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
NOV 02...	1400	110	180	7.2	25.0	31	7.4	--	<10	3100	500	61	17.1
MAY 17...	1105	38	209	7.5	25.1	2.4	8.2	100	<10	240	220	83	24.0
SEP 10...	1040	26	198	7.4	26.5	--	8.3	104	<10	E100	E130	80	22.0

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS K) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE AT 105 DEG. C, SUS-PENDE (MG/L) (00530)
NOV 02...	4.54	7.6	.4	2.18	--	<1.0	6.0	7.9	E.1	26.4	109	32.3	27
MAY 17...	5.58	9.4	.5	1.62	82	<1.0	5.5	10.6	E.1	26.8	133	13.5	<10
SEP 10...	6.05	9.9	.5	2.09	79	--	4.7	10.4	<.2	26.2	128	9.08	<10

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM, TOTAL UNFLTRD WATER (UG/L AS CD) (01027)
NOV 02...	1.29	.01	1.3	.04	.35	.39	1.7	7.5	.060	<2	45.7	E17	<.11
MAY 17...	--	<.01	.6	<.01	--	.23	.85	3.8	.030	<2	39.9	E15	<.10
SEP 10...	--	<.01	.6	.01	--	<.20	--	--	<.020	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
NOV 02...	1	<20.0	730	<1	35	<.14	<2.6	<.43	<31	<.01	<16	<.02
MAY 17...	<1	<20.0	60	<1	9	<.01	<3.0	<.40	<31	<.01	E10	.03
SEP 10...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
E -- Estimated value

RIO GRANDE DE ARECIBO BASIN

50027000 RIO LIMON ABOVE LAGO DOS BOCAS, PR--Continued

WATER-QUALITY RECORDS

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)		DISCHARGE (CFS)	CONCEN- TRATION (MG/L)		DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	
	OCTOBER			NOVEMBER			DECEMBER		
1	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	150	133	54
18	---	---	---	---	---	---	139	119	45
19	---	---	---	---	---	---	139	120	45
20	---	---	---	---	---	---	140	120	45
21	---	---	---	---	---	---	142	124	48
22	---	---	---	---	---	---	164	157	70
23	---	---	---	---	---	---	138	117	44
24	---	---	---	---	---	---	135	115	42
25	---	---	---	---	---	---	134	112	40
26	---	---	---	---	---	---	129	108	38
27	---	---	---	---	---	---	117	91	29
28	---	---	---	---	---	---	133	116	46
29	---	---	---	---	---	---	171	165	79
30	---	---	---	---	---	---	131	107	38
31	---	---	---	---	---	---	121	91	30
TOTAL	---	---	---	---	---	---	2083	---	693

RIO GRANDE DE ARECIBO BASIN

50027000 RIO LIMON ABOVE LAGO DOS BOCAS, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	114	83	26	68	37	6.7	52	6	.89
2	113	75	23	66	35	6.3	51	6	.86
3	225	365	415	66	34	6.0	50	6	.82
4	180	181	89	65	32	5.6	49	6	.79
5	145	130	51	63	31	5.2	49	6	.76
6	149	134	61	61	29	4.8	48	6	.74
7	145	131	53	61	28	4.5	47	6	.71
8	130	108	39	60	26	4.2	47	5	.68
9	119	107	34	58	25	3.9	46	5	.66
10	111	83	25	57	23	3.6	45	5	.63
11	107	78	23	56	22	3.2	44	5	.64
12	103	73	20	55	20	3.0	44	9	1.1
13	110	81	24	54	19	2.7	44	13	1.6
14	106	77	22	54	17	2.5	43	12	1.4
15	109	90	31	52	16	2.2	42	10	1.1
16	144	143	66	51	14	2.0	42	7	.84
17	104	85	24	51	13	1.7	45	7	.80
18	97	81	21	52	11	1.6	41	6	.69
19	93	78	20	52	10	1.3	40	6	.62
20	90	75	18	50	8	1.1	39	5	.55
21	88	71	17	49	6	.86	40	5	.52
22	85	68	16	61	22	4.3	44	4	.52
23	83	64	14	106	93	65	38	4	.41
24	80	61	13	78	31	8.5	44	4	.41
25	78	58	12	83	44	11	39	3	.32
26	77	54	11	61	7	1.1	48	15	3.2
27	75	51	10	65	7	1.2	52	23	4.0
28	73	47	9.3	55	7	.99	38	7	.70
29	78	44	9.2	53	6	.94	48	22	3.1
30	73	41	8.0	---	---	---	65	39	13
31	69	38	7.1	---	---	---	52	17	2.9
TOTAL	3353	---	1211.6	1763	---	165.99	1416	---	45.96
	APRIL			MAY			JUNE		
1	39	5	.48	32	12	1.1	42	3	.34
2	38	7	.74	43	20	2.6	42	3	.34
3	42	10	1.2	298	820	2580	41	3	.33
4	38	13	1.3	201	346	406	40	3	.32
5	37	16	1.6	144	197	117	38	3	.31
6	35	19	1.8	64	46	8.0	38	3	.31
7	35	22	2.0	51	34	4.7	37	3	.30
8	34	25	2.3	205	436	656	38	3	.31
9	33	27	2.4	261	474	532	41	3	.33
10	32	28	2.4	143	142	61	38	3	.30
11	33	26	2.3	e262	e489	e664	35	3	.28
12	34	24	2.2	e131	e129	e47	e38	e3	e.31
13	32	22	1.9	e93	e43	e12	e58	e28	e6.5
14	31	21	1.7	e76	e7	e1.4	44	9	1.2
15	30	19	1.5	e67	e6	e1.2	36	3	.29
16	30	17	1.4	e62	e6	e1.0	40	8	1.1
17	31	15	1.3	e88	e61	e25	41	18	2.1
18	31	14	1.1	e79	e17	e4.5	34	13	1.2
19	30	12	.96	e63	e7	e1.1	33	12	1.1
20	74	47	18	e57	e7	e1.0	38	17	2.2
21	70	45	10	e53	e6	e.92	42	19	2.3
22	59	34	5.8	e52	e6	e.87	33	14	1.3
23	36	15	1.5	88	104	50	31	14	1.1
24	33	14	1.2	66	9	1.7	30	13	1.1
25	31	13	1.1	60	4	.67	30	12	1.0
26	30	13	1.0	52	4	.53	35	12	1.1
27	29	12	.94	48	4	.48	32	11	.96
28	28	12	.88	48	4	.45	29	11	.84
29	29	11	.85	46	3	.42	29	10	.77
30	29	10	.81	46	3	.39	28	9	.72
31	---	---	---	43	3	.35	---	---	---
TOTAL	1093	---	72.66	3022	---	5183.38	1111	---	30.66

RIO GRANDE DE ARECIBO BASIN

50027000 RIO LIMON ABOVE LAGO DOS BOCAS, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	28	9	.66	23	6	.39	44	37	12
2	29	8	.64	26	6	.43	72	41	12
3	28	8	.58	24	6	.38	37	7	.67
4	26	7	.50	e29	e6	e.46	94	209	144
5	26	6	.44	e28	e6	e.44	111	120	89
6	25	6	.39	22	6	.33	71	38	8.8
7	77	100	70	21	5	.31	47	8	1.0
8	40	17	2.2	20	5	.29	45	7	.85
9	28	6	.48	19	5	.27	69	40	13
10	26	7	.51	35	17	2.3	72	40	13
11	26	6	.42	23	7	.47	57	26	4.5
12	25	4	.27	19	5	.27	41	6	.67
13	25	4	.27	19	5	.28	36	6	.55
14	25	4	.27	19	6	.29	34	6	.59
15	23	4	.25	22	6	.35	35	8	.75
16	22	4	.24	21	6	.35	33	9	.82
17	e23	e6	e.52	19	6	.33	42	11	1.2
18	e29	e9	e.75	18	7	.33	115	108	65
19	24	6	.39	19	7	.36	74	21	4.6
20	109	138	114	19	7	.38	56	6	.91
21	49	27	4.9	18	8	.37	64	33	8.8
22	29	8	.61	24	12	1.0	67	22	4.7
23	26	8	.55	170	193	105	61	15	2.6
24	e25	e8	e.51	48	22	3.2	48	13	1.7
25	e24	e7	e.49	40	6	.64	68	60	22
26	24	7	.47	78	71	27	50	29	4.1
27	23	7	.44	43	16	2.1	49	23	3.1
28	22	7	.42	32	6	.50	48	58	8.0
29	25	7	.46	28	6	.43	41	74	8.4
30	26	7	.46	27	6	.39	37	56	5.6
31	23	6	.40	30	5	.42	---	---	---
TOTAL	960	---	203.49	983	---	150.06	1718	---	442.91
YEAR	17502		8199.71						

e Estimated

RIO GRANDE DE ARECIBO BASIN

50027000 RIO LIMON ABOVE LAGO DOS BOCAS, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	42	2	.22	256	836	1260	40	3	.32
2	54	20	3.6	156	208	98	38	3	.31
3	106	121	67	234	300	223	37	3	.30
4	84	60	16	114	117	37	37	3	.30
5	55	12	1.8	92	58	15	36	3	.32
6	51	6	.88	81	8	1.8	36	4	.34
7	57	22	4.5	75	3	.60	36	4	.37
8	56	22	3.4	70	3	.57	35	4	.38
9	50	14	1.9	69	3	.56	35	4	.39
10	63	31	7.6	64	3	.52	34	4	.41
11	142	296	283	61	3	.49	35	5	.43
12	81	56	14	59	3	.48	35	5	.46
13	56	19	2.9	58	3	.47	37	4	.43
14	50	14	1.8	56	3	.45	36	3	.29
15	58	29	5.3	56	3	.47	45	15	2.0
16	63	39	8.1	54	4	.58	47	20	2.9
17	128	508	481	51	5	.69	49	22	2.9
18	92	124	31	50	6	.80	41	13	1.5
19	477	1560	8810	49	6	.82	35	8	.75
20	183	141	87	47	6	.83	34	3	.32
21	112	25	7.6	48	7	.88	33	3	.24
22	112	73	32	49	7	.94	32	2	.20
23	152	196	120	46	8	1.0	32	2	.18
24	140	126	52	44	9	1.1	31	2	.20
25	103	55	15	42	10	1.1	32	3	.22
26	86	40	9.3	43	7	.81	33	4	.47
27	76	20	4.1	42	4	.48	47	19	3.0
28	73	19	3.7	40	4	.44	32	4	.35
29	68	18	3.4	39	4	.42	31	4	.33
30	210	1130	1390	39	3	.33	30	6	.45
31	150	168	84	---	---	---	29	7	.55
TOTAL	3230	---	11552.10	2184	---	1650.63	1120	---	21.61

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	29	8	.65	30	3	.23	23	3	.19
2	28	10	.75	28	2	.14	28	8	.76
3	28	10	.78	26	2	.12	24	4	.27
4	27	7	.53	25	2	.10	22	3	.16
5	26	4	.28	24	1	.09	22	2	.14
6	26	1	.09	24	1	.08	21	2	.12
7	25	1	.09	24	1	.08	21	2	.11
8	25	2	.10	23	4	.27	20	2	.11
9	25	2	.12	23	8	.51	20	3	.17
10	25	5	.36	23	12	.72	19	4	.23
11	24	7	.45	27	9	.67	19	6	.30
12	24	5	.31	26	5	.35	18	7	.36
13	24	3	.17	28	8	.54	18	8	.42
14	25	2	.13	23	7	.42	19	7	.37
15	27	5	.38	25	6	.41	18	5	.24
16	27	5	.37	25	7	.49	18	3	.13
17	24	3	.21	25	9	.57	17	3	.13
18	23	4	.22	23	8	.54	17	4	.17
19	23	4	.23	23	8	.48	17	5	.22
20	22	4	.23	22	7	.42	18	6	.28
21	22	3	.18	24	8	.55	20	6	.32
22	22	2	.13	57	32	5.8	21	6	.35
23	22	3	.19	30	6	.51	24	6	.38
24	22	4	.27	30	5	.42	27	12	.89
25	e21	e6	e.33	36	5	.52	27	16	1.2
26	e21	e6	e.31	30	6	.47	19	15	.77
27	e28	e5	e.39	25	6	.38	19	13	.69
28	e58	e34	e6.3	24	4	.29	22	14	.82
29	e95	e95	e44	---	---	---	21	15	.86
30	e78	e44	e12	---	---	---	18	12	.59
31	36	6	.61	---	---	---	17	7	.34
TOTAL	932	---	71.16	753	---	16.17	634	---	12.09

RIO GRANDE DE ARECIBO BASI

50027000 RIO LIMON ABOVE LAGO DOS BOCAS, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	16	7	.29	24	8	.52	29	14	1.1
2	16	6	.28	20	8	.44	24	11	.73
3	16	6	.26	19	8	.40	22	9	.56
4	16	6	.26	18	8	.39	25	8	.51
5	24	7	.53	17	8	.37	22	7	.40
6	47	22	4.9	162	154	377	22	6	.37
7	35	19	2.1	237	327	462	20	6	.32
8	19	10	.53	114	140	111	20	6	.33
9	18	11	.56	113	81	34	19	7	.34
10	17	13	.58	139	136	90	18	7	.35
11	17	13	.63	112	105	35	18	8	.36
12	17	14	.64	60	17	3.0	18	8	.37
13	17	14	.64	47	6	.77	49	97	41
14	21	13	.71	53	21	4.3	31	173	18
15	17	11	.50	53	26	4.5	19	12	.60
16	16	10	.42	42	15	1.7	18	10	.45
17	15	9	.35	35	13	1.2	33	18	2.0
18	14	7	.29	34	12	1.1	118	250	283
19	14	7	.26	44	17	2.2	50	35	5.8
20	14	6	.24	31	10	.81	25	21	1.4
21	20	6	.33	28	9	.70	21	16	.94
22	34	16	2.4	33	14	1.5	20	12	.64
23	53	30	4.8	29	15	1.2	19	10	.51
24	50	41	7.5	24	9	.59	19	8	.44
25	84	119	73	23	8	.48	21	7	.41
26	120	167	85	23	6	.39	20	6	.31
27	e68	e42	e9.7	34	16	2.6	18	4	.21
28	e30	e13	e1.1	45	23	3.4	20	4	.22
29	24	11	.71	25	6	.44	35	13	1.8
30	23	8	.53	23	6	.40	29	16	1.3
31	---	---	---	34	12	1.4	---	---	---
TOTAL	892	---	200.04	1695	---	1143.80	822	---	364.77
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	26	9	.65	22	2	.12	62	47	14
2	22	6	.35	23	2	.13	47	16	2.0
3	19	4	.22	491	1650	8400	38	11	1.1
4	31	12	1.4	84	105	37	36	10	.98
5	26	9	.65	37	20	2.0	34	9	.78
6	20	5	.25	30	12	.97	33	7	.63
7	18	4	.21	28	6	.47	32	6	.47
8	18	5	.22	25	4	.25	31	5	.39
9	17	5	.24	25	3	.23	30	4	.34
10	17	6	.25	e26	e3	e.23	30	4	.29
11	54	61	25	e24	e3	e.23	30	3	.25
12	121	163	126	e23	e3	e.22	31	4	.39
13	72	62	18	e23	e3	e.22	35	11	1.1
14	55	42	13	e23	e3	e.22	30	4	.34
15	51	33	6.4	e23	e3	e.22	138	733	765
16	27	7	.51	e23	e3	e.22	52	62	9.3
17	23	4	.25	29	9	1.0	105	165	117
18	28	8	.70	32	12	1.1	66	117	21
19	28	11	.86	25	5	.31	45	97	12
20	21	7	.40	24	4	.26	138	292	322
21	20	7	.38	22	4	.21	458	917	3570
22	20	7	.37	22	3	.19	240	364	614
23	148	276	298	46	23	3.5	96	128	35
24	58	71	12	30	15	1.4	65	55	10
25	30	40	3.3	26	11	.77	47	33	4.4
26	25	12	.82	115	368	308	46	7	.84
27	23	4	.28	62	32	6.8	39	5	.49
28	21	4	.22	41	6	.68	32	4	.37
29	32	11	1.2	37	6	.58	29	4	.29
30	36	16	1.8	35	6	.53	28	3	.25
31	24	4	.27	35	5	.50	---	---	---
TOTAL	1131	---	514.20	1511	---	8768.56	2123	---	5505.00
YEAR	17027		29820.13						

e Estimated

RIO GRANDE DE ARECIBO BASIN

50027100 LAGO DOS BOCAS AT DAMSITE NEAR UTUADO, PR

LOCATION.--Lat 1820'16", long 6640'05", Hydrologic Unit 21010001, on upstream side of road 146 over damsite, close to the center of dam, 10 mi (16 km) southeast of the city of Arecibo, 4.10 mi (6.60 km) north of Lago Caonillas Dam, 5.30 mi (8.53 km) northeast of Utuado Plaza, and 3.80 mi (6.11 km) southeast of Escuela Antonio Sánchez de Padilla.

DRAINAGE AREA.--169.45 mi² (438.87 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--March 1999 to current year.

GAGE.--Water stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Dos Bocas was completed in 1942. The dam is a concrete gravity structure with a total length of 1,317 ft (401.4 m), a maximum height of 188 ft (57.3 m), and a maximum base width of 158 ft (48.2 m). No-overflow sections on each abutment have a total length of 957 ft (292 m). The dam and the powerplant comprise the Dos Bocas Hydroelectric Project, and provides 32,000 acre-feet (39.456 km³). A three-unit powerplant is located on the right bank of the slitting basin. The dam is owned by Puerto Rico Electric Power Authority. The capacity of Lago Dos Bocas was computed to be 714.40 million ft³ (20.23 million m³) for June 1997. The Puerto Rico Aqueduct and Sewer Authority (PRASA) plans to withdraw water from the Rio Grande de Arecibo, south of the town of Arecibo, to supply potable water for areas between Arecibo and San Juan town. Gage-height and precipitation satellite telemetry at station.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 298.55 ft (90.99 m), Nov. 19, 1999; minimum elevation, 283.88 ft (86.526 m), Aug. 21, 2000.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 297.58 ft (90.702 m), May 7, 2001; minimum elevation, 284.58 ft (86.740 m), Mar 30.

Capacity Table
(based on data from Puerto Rico Electric Power Authority)

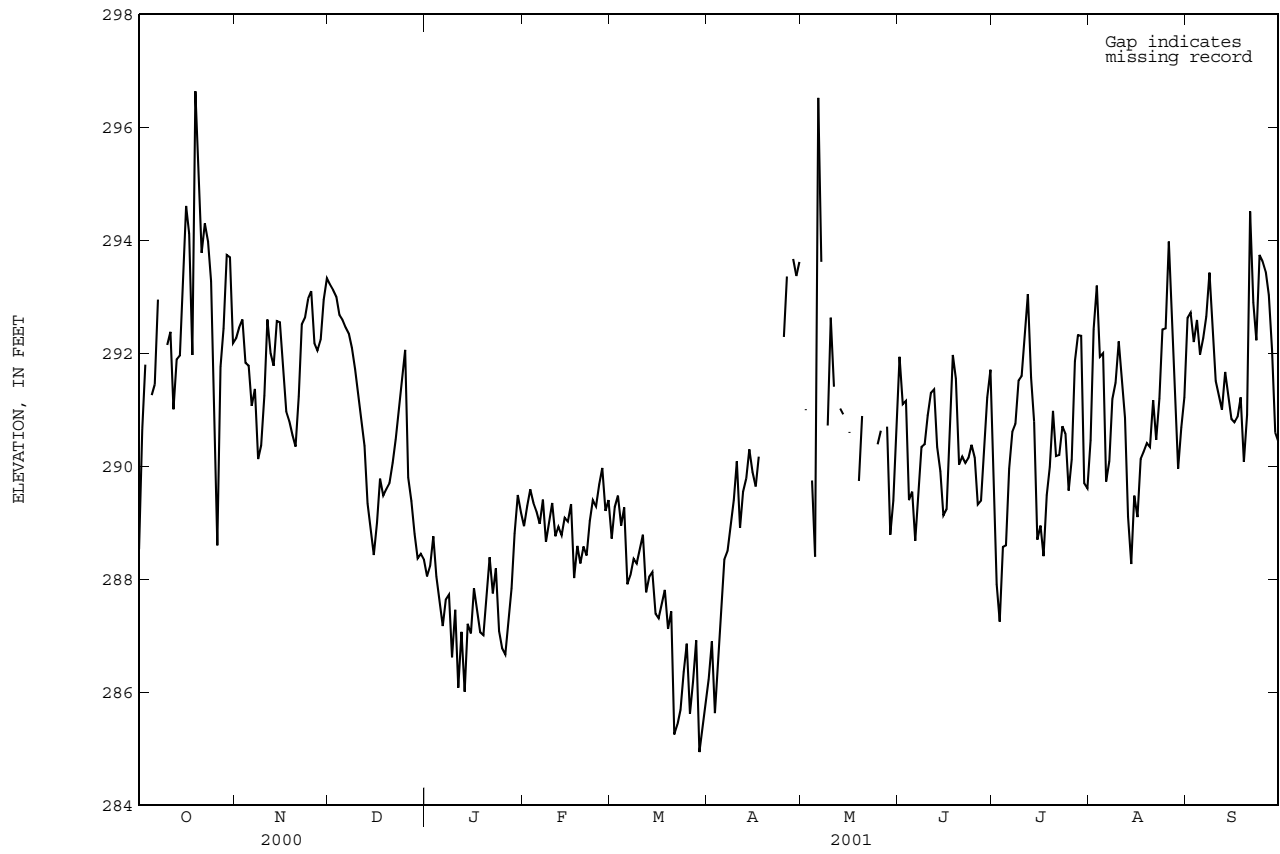
Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
216	0	275	9,283
236	1,403	288	13,684
256	4,491	295	16,400

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	288.53	292.27	293.22	288.05	288.94	288.72	286.23	A	291.94	289.89	290.46	292.63
2	290.66	292.46	293.12	288.23	289.30	289.28	286.90	291.00	291.10	287.91	292.43	292.72
3	291.80	292.60	293.00	288.76	289.59	289.48	285.63	A	291.16	287.25	293.20	292.20
4	A	291.83	292.68	288.05	289.35	288.95	286.36	289.75	289.40	288.57	291.94	292.59
5	291.26	291.78	292.59	287.63	289.20	289.27	287.21	288.40	289.55	288.60	292.00	291.98
6	291.45	291.07	292.46	287.17	288.98	287.91	288.35	296.52	288.68	289.96	289.73	292.27
7	292.95	291.37	292.35	287.64	289.41	288.07	288.50	293.62	289.44	290.61	290.09	292.65
8	A	290.13	292.10	287.73	288.66	288.36	288.94	A	290.34	290.75	291.19	293.43
9	A	290.37	291.72	286.62	289.02	288.28	289.40	290.72	290.39	291.52	291.48	292.49
10	292.15	291.25	291.27	287.46	289.35	288.54	290.09	292.63	290.90	291.60	292.21	291.51
11	292.38	292.60	290.82	286.08	288.76	288.79	288.91	291.41	291.30	292.30	291.61	291.24
12	291.01	292.00	290.36	287.07	288.93	287.77	289.55	A	291.36	293.05	290.86	291.00
13	291.89	291.78	289.34	286.01	288.78	288.05	289.79	291.02	290.34	291.57	289.11	291.67
14	291.96	292.57	288.88	287.21	289.09	288.13	290.30	290.92	289.91	290.79	288.27	291.24
15	293.51	292.55	288.43	287.04	289.02	287.39	289.90	A	289.13	288.70	289.48	290.84
16	294.61	291.74	289.00	287.84	289.33	287.31	289.64	290.60	289.24	288.95	289.10	290.78
17	294.12	290.97	289.78	287.45	288.02	287.57	290.17	A	290.57	288.41	290.13	290.88
18	291.97	290.80	289.48	287.06	288.59	287.81	A	A	291.97	289.49	290.26	291.22
19	296.64	290.55	289.60	287.01	288.28	287.12	A	289.74	291.55	289.99	290.41	290.08
20	294.87	290.35	289.70	287.75	288.58	287.43	A	290.89	290.03	290.98	290.34	290.91
21	293.78	291.24	290.06	288.39	288.42	285.25	A	A	290.17	290.18	291.17	294.51
22	294.30	292.51	290.48	287.75	289.03	285.43	A	A	290.06	290.20	290.47	292.90
23	293.98	292.63	291.03	288.19	289.40	285.69	A	A	290.15	290.71	291.20	292.23
24	293.28	292.97	291.55	287.08	289.29	286.36	A	A	290.38	290.58	292.42	293.74
25	291.58	293.10	292.06	286.78	289.68	286.86	292.29	290.39	290.15	289.57	292.44	293.63
26	288.60	292.18	289.80	286.67	289.97	285.62	293.36	290.63	289.32	290.12	293.98	293.44
27	291.76	292.05	289.38	287.19	289.21	286.18	A	A	289.39	291.86	292.97	293.03
28	292.44	292.24	288.80	287.84	289.40	286.92	293.67	290.70	290.25	292.32	291.47	292.06
29	293.74	292.95	288.37	288.81	---	284.94	293.37	288.79	291.22	292.31	289.96	290.60
30	293.70	293.33	288.45	289.49	---	285.35	293.62	289.39	291.71	289.70	290.69	290.44
31	292.18	---	288.35	289.18	---	285.82	---	290.84	---	289.61	291.22	---
MAX	---	293.33	293.22	289.49	289.97	289.48	---	---	291.97	293.05	293.98	294.51
MIN	---	290.13	288.35	286.01	288.02	284.94	---	---	288.68	287.25	288.27	290.08

A No gage-height record

RIO GRANDE DE ARECIBO BASIN
50027100 LAGO DOS BOCAS AT DAMSITE NEAR UTUADO, PR--Continued



RIO GRANDE DE ARECIBO BASIN

50027250 RIO GRANDE DE ARECIBO BELOW LAGO DOS BOCAS NEAR FLORIDA, PR

LOCATION.--Lat 18°20'50', long 66°40'02", Hydrologic Unit 21010001, at pedestrian bridge, 0.7 mi (1.1 km) downstream from Lago Dos Bocas and 6.6 mi, (10.6 km), west of Florida plaza.

DRAINAGE AREA.--170 mi² (440 km²) does not include 6.0 mi² (15.6 km²) above Lago Garzas.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 2000 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 102 ft (40 m), from topographic map.

REMARKS.--Records poor. Regulation at all stages by Puerto Rico Electric Power Authority reservoir upstream from gage. Gage-height satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	633	260	264	e884
2	---	---	---	---	---	---	---	---	369	27	315	e975
3	---	---	---	---	---	---	---	---	604	21	317	e811
4	---	---	---	---	---	---	---	---	577	35	e677	e908
5	---	---	---	---	---	---	---	---	32	192	e816	e642
6	---	---	---	---	---	---	---	---	283	21	38	e659
7	---	---	---	---	---	---	---	---	282	44	152	e954
8	---	---	---	---	---	---	---	---	294	139	e227	e303
9	---	---	---	---	---	---	---	---	297	248	e170	e721
10	---	---	---	---	---	---	---	---	e258	261	e33	e962
11	---	---	---	---	---	---	---	---	e274	767	e23	e882
12	---	---	---	---	---	---	---	---	e32	124	e87	e37
13	---	---	---	---	---	---	---	---	e280	e120	e75	e409
14	---	---	---	---	---	---	---	---	78	43	e49	e302
15	---	---	---	---	---	---	---	---	928	215	e337	e638
16	---	---	---	---	---	---	---	---	535	463	e246	e1160
17	---	---	---	---	---	---	---	---	e1160	1280	e55	e364
18	---	---	---	---	---	---	---	---	e1160	333	e60	e664
19	---	---	---	---	---	---	---	---	1100	463	153	e24
20	---	---	---	---	---	---	---	---	1110	283	466	e49
21	---	---	---	---	---	---	---	---	30	354	479	e680
22	---	---	---	---	---	---	---	---	26	543	98	e114
23	---	---	---	---	---	---	---	---	398	145	611	e2120
24	---	---	---	---	---	---	---	---	421	251	e223	e2040
25	---	---	---	---	---	---	---	---	e421	244	294	e1200
26	---	---	---	---	---	---	---	---	e283	210	223	e925
27	---	---	---	---	---	---	---	---	517	25	312	e1310
28	---	---	---	---	---	---	---	---	668	392	44	e889
29	---	---	---	---	---	---	---	---	701	205	e274	e478
30	---	---	---	---	---	---	---	---	589	405	e264	e465
31	---	---	---	---	---	---	---	---	812	---	274	e701
TOTAL	---	---	---	---	---	---	---	---	10889	6810	15229	29866
MEAN	---	---	---	---	---	---	---	---	363	220	491	996
MAX	---	---	---	---	---	---	---	---	1280	767	2120	2040
MIN	---	---	---	---	---	---	---	---	25	21	23	37
AC-FT	---	---	---	---	---	---	---	---	21600	13510	30210	59240
CFSM	---	---	---	---	---	---	---	---	2.14	1.29	2.89	5.86
IN.	---	---	---	---	---	---	---	---	2.38	1.49	3.33	6.54

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2000, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	---	---	---	363	220	491	996
MAX	---	---	---	---	---	---	---	---	363	220	491	996
(WY)	---	---	---	---	---	---	---	---	2000	2000	2000	2000
MIN	---	---	---	---	---	---	---	---	363	220	491	996
(WY)	---	---	---	---	---	---	---	---	2000	2000	2000	2000

SUMMARY STATISTICS

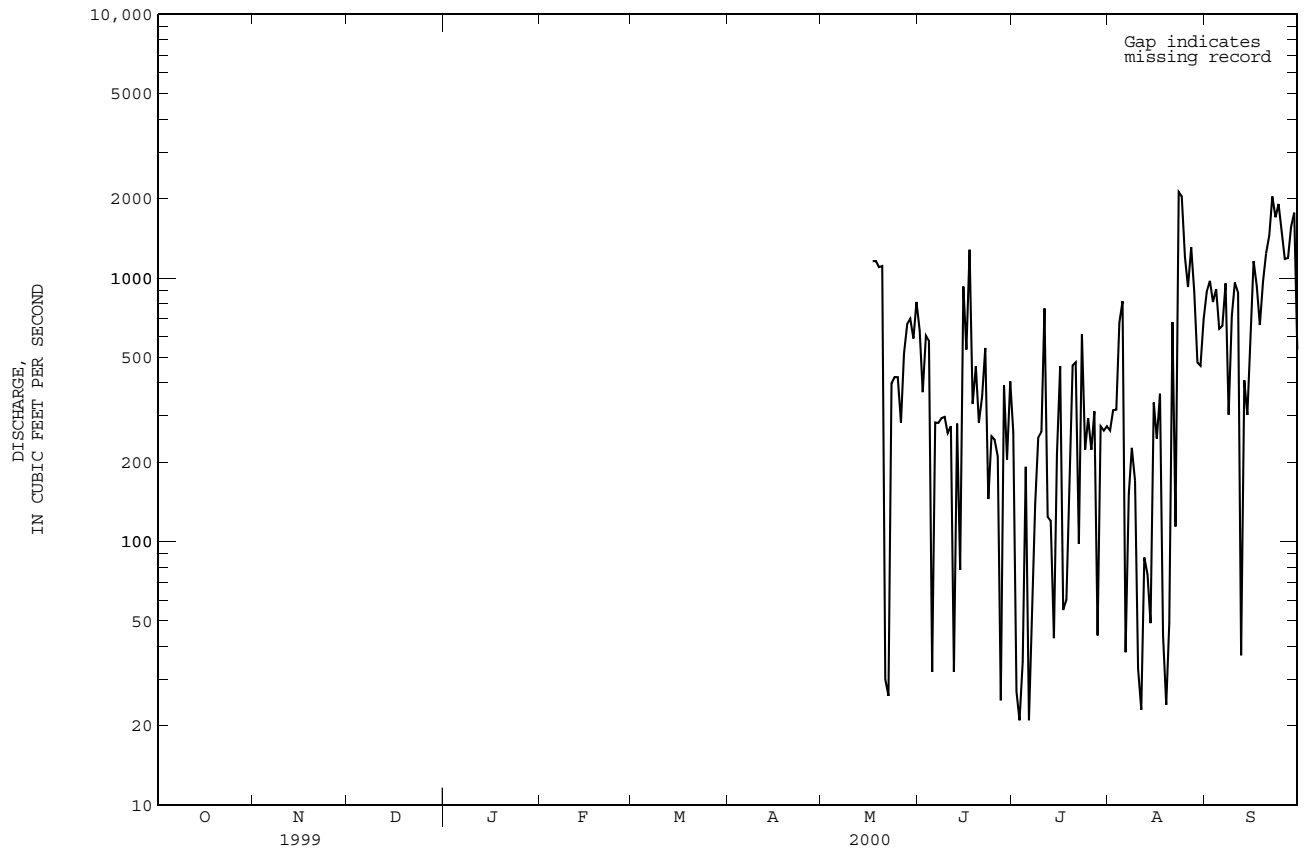
FOR 2000 WATER YEAR

HIGHEST DAILY MEAN	2120	Aug 23
LOWEST DAILY MEAN	21	Jul 3
ANNUAL SEVEN-DAY MINIMUM	68	Jul 2
10 PERCENT EXCEEDS	1190	
50 PERCENT EXCEEDS	354	
90 PERCENT EXCEEDS	38	

e Estimated

RIO GRANDE DE ARECIBO BASIN

50027250 RIO GRANDE DE ARECIBO BELOW LAGO DOS BOCAS NEAR FLORIDA, PR--Continued



RIO GRANDE DE ARECIBO BASIN

50027250 RIO GRANDE DE ARECIBO BELOW LAGO DOS BOCAS NEAR FLORIDA, PR--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e878	1420	427	e250	e303	e416	e26	386	30	862	227	462
2	e226	1070	390	e135	e143	e32	e26	882	588	961	44	602
3	e558	1160	e348	e28	e151	e109	e637	435	230	672	1120	711
4	e898	1170	e437	e412	e289	e300	e29	279	873	126	995	293
5	e958	925	368	337	e270	e35	e29	541	363	520	300	696
6	e644	1060	372	350	e281	e680	e42	516	645	33	1140	537
7	e958	577	365	32	e45	e104	e403	3230	140	49	248	573
8	e694	e878	361	158	e383	e30	e30	1440	30	204	34	287
9	e1370	e541	354	597	e29	e245	e55	1040	279	39	349	841
10	e1460	e228	e375	32	e29	e29	e26	1090	125	544	216	969
11	e1060	89	e375	591	e378	e29	e657	1500	187	432	598	553
12	e1170	672	e368	43	e178	e572	e29	784	270	455	608	672
13	e636	e697	e596	663	e232	e30	e30	30	819	1030	843	698
14	e727	219	e368	33	e43	e96	26	690	529	737	549	569
15	e610	e453	e395	314	e225	e368	264	469	567	987	206	665
16	e697	e525	e163	31	e36	e151	262	427	307	207	604	340
17	e1440	e558	e29	350	e573	e28	30	569	288	411	198	360
18	e1820	371	e330	336	e38	e28	462	681	435	30	269	277
19	e2260	412	e254	e250	e289	e357	374	176	646	150	283	605
20	2380	357	e389	e31	e39	e29	240	28	854	30	529	304
21	1550	226	e136	48	e233	e731	269	145	306	488	33	437
22	1220	34	e86	446	e123	e133	37	673	367	253	560	1560
23	1940	447	e27	29	e40	e97	27	307	360	423	812	1060
24	1630	e373	e28	597	e268	e28	34	541	392	455	87	371
25	1700	401	e28	274	e54	e27	270	288	464	619	494	582
26	1940	807	e991	e210	e68	e688	209	265	648	235	304	682
27	37	446	e443	e30	e438	e170	108	541	317	34	936	827
28	887	e341	e437	e213	e97	e28	328	300	222	259	1050	1010
29	677	167	e376	121	---	e776	289	902	217	363	977	1100
30	1360	275	e237	e211	---	e112	75	205	301	1310	426	508
31	1610	---	e249	e289	---	e26	---	33	---	391	545	---
TOTAL	35995	16899	10102	7441	5275	6484	5323	19393	11799	13309	15584	19151
MEAN	1161	563	326	240	188	209	177	626	393	429	503	638
MAX	2380	1420	991	663	573	776	657	3230	873	1310	1140	1560
MIN	37	34	27	28	29	26	26	28	30	30	33	277
AC-FT	71400	33520	20040	14760	10460	12860	10560	38470	23400	26400	30910	37990
CFSM	6.83	3.31	1.92	1.41	1.11	1.23	1.04	3.68	2.31	2.53	2.96	3.76
IN.	7.88	3.70	2.21	1.63	1.15	1.42	1.16	4.24	2.58	2.91	3.41	4.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2001, BY WATER YEAR (WY)

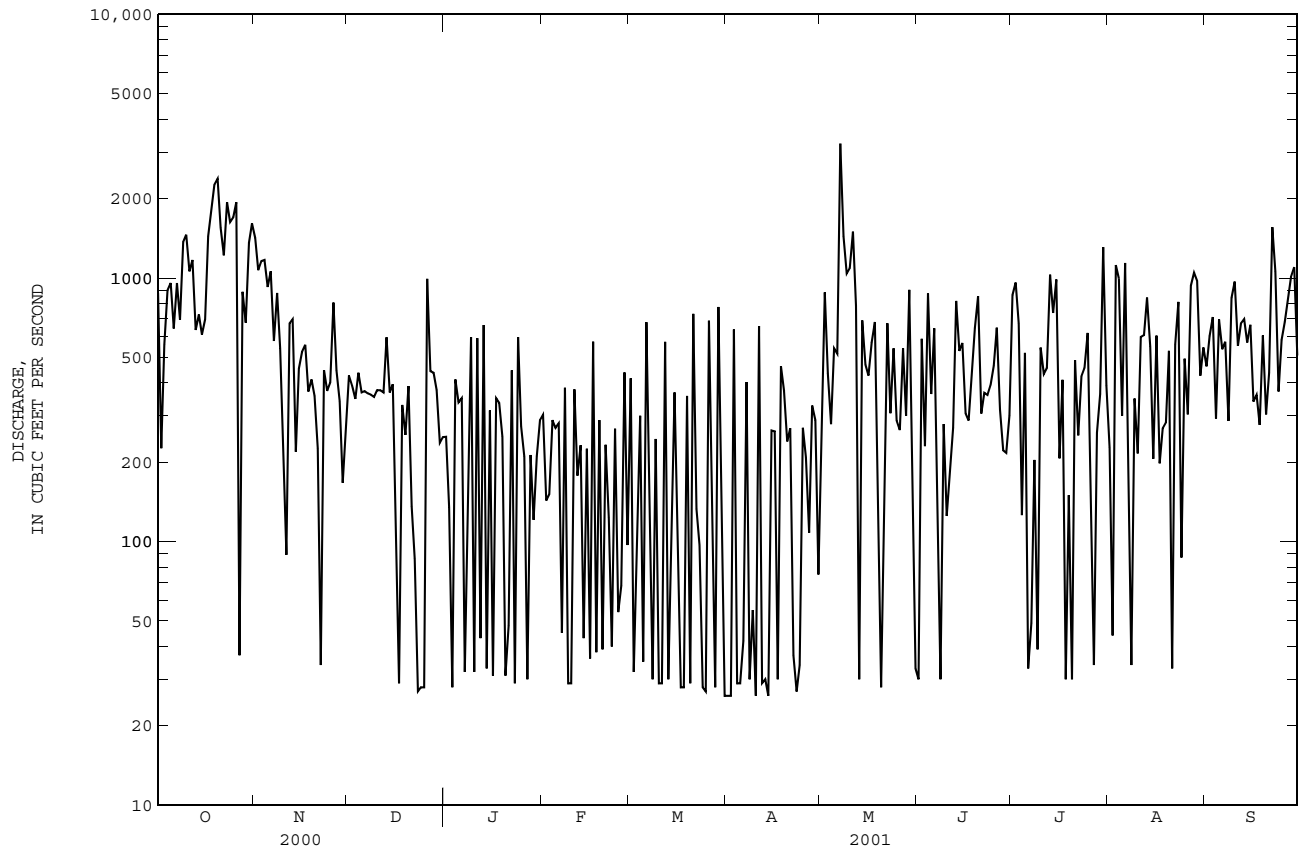
MEAN	1161	563	326	240	188	209	177	626	378	324	497	817
MAX	1161	563	326	240	188	209	177	626	393	429	503	996
(WY)	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2000
MIN	1161	563	326	240	188	209	177	626	363	220	491	638
(WY)	2001	2001	2001	2001	2001	2001	2001	2001	2001	2000	2000	2001

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 2000 - 2001	
ANNUAL TOTAL				166755		
ANNUAL MEAN				457		457
HIGHEST ANNUAL MEAN						457
LOWEST ANNUAL MEAN						457
HIGHEST DAILY MEAN			2380	Oct 20	3230	May 7
LOWEST DAILY MEAN			21	Jul 3	26	Mar 31
ANNUAL SEVEN-DAY MINIMUM			68	Jul 2	88	Apr 4
MAXIMUM PEAK FLOW					7390	May 7
MAXIMUM PEAK STAGE					14.62	May 7
ANNUAL RUNOFF (AC-FT)					330800	
ANNUAL RUNOFF (CFSM)					2.69	2.69
ANNUAL RUNOFF (INCHES)					36.49	36.51
10 PERCENT EXCEEDS		1360			993	1060
50 PERCENT EXCEEDS		412			361	360
90 PERCENT EXCEEDS		44			30	32

e Estimated

RIO GRANDE DE ARECIBO BASIN

50027250 RIO GRANDE DE ARECIBO BELOW LAGO DOS BOCAS NEAR FLORIDA, PR--Continued



RIO GRANDE DE ARECIBO BASIN

50027250 RIO GRANDE DE ARECIBO BELOW LAGO DOS BOCAS NEAR FLORIDA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°20'50", long 66°40'02", at pedestrian bridge, 0.7 mi (1.1 km) downstream from Lago Dos Bocas and 6.6 mi (10.6 km) west of Florida plaza.

DRAINAGE AREA.--169 mi² (436 km²). This does not include 6.0 mi² (15.5 km²) above Lago Garzas.

PERIOD OF RECORD.--Water years 1970-71, 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL AS (MG/L) (00900)	CALCIUM DIS-SOLVED AS (MG/L) (00915)	
NOV 01...	1050	--	190	7.3	25.5	35	7.8	94	14	E700	670	68	18.3	
FEB 27...	1115	73	230	7.4	24.0	.7	6.0	72	<10	<10	--	--	--	
MAY 17...	1400	E500	190	6.9	25.5	62	4.7	58	<10	E500	E600	70	19.5	
AUG 22...	1245	600	234	7.2	24.3	--	7.4	89	<10	210	E120	83	23.2	
DATE		MAGNE-SIUM, DIS-SOLVED AS (MG) (00925)	SODIUM, DIS-SOLVED AS (NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED AS (K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED AS (SO4) (00945)	CHLO-RIDE, DIS-SOLVED AS (CL) (00940)	FLUO-RIDE, DIS-SOLVED AS (F) (00950)	SILICA, DIS-SOLVED AS (SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
NOV 01...	5.34	9.2	.5	1.87	--	<1.0	10.9	8.0	E.1	22.1	114	--	35	
FEB 27...	--	--	--	--	82	--	--	--	--	--	--	--	<10	
MAY 17...	5.18	8.7	.5	2.02	64	<1.0	12.2	9.1	E.1	18.4	113	--	24	
AUG 22...	6.11	9.5	.5	1.86	82	--	11.5	10.1	E.1	20.3	132	213	13	
DATE		NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (MG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
NOV 01...	--	<.01	.7	.12	.71	.83	1.5	6.7	.070	<2	42.6	E12	<.11	
FEB 27...	.24	.03	.3	.14	.21	.35	.62	2.7	<.020	--	--	--	--	
MAY 17...	--	<.01	.7	<.01	--	.40	1.1	4.8	.070	<2	47.5	21	E.07	
AUG 22...	--	<.01	.2	.22	.36	.58	.79	3.5	.020	--	--	--	--	
DATE		CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)	
NOV 01...	1	<20.0	910	M	82	<.14	<2.6	<.43	E15	<.01	<16	<.04		
FEB 27...	--	--	--	--	--	--	--	--	--	--	--	--		
MAY 17...	M	<20.0	1130	2	97	<.01	<3.0	<.40	<31	<.01	E9	.02		
AUG 22...	--	--	--	--	--	--	--	--	--	--	--	--		

E -- Estimated value
 < -- Less than
 M -- Presence verified, not quantified

RIO GRANDE DE ARECIBO BASIN

50027600 RIO GRANDE DE ARECIBO NEAR SAN PEDRO, PR

LOCATION.--Lat 18°23'55', long 66°41'29", Hydrologic Unit 21010002, on left side of old Hwy 10, 4.5 mi (7.24 km) north of Lago Dos Bocas Dam, 5.4 mi (8.69 km) from Plaza Rosario at Arecibo town and 3.8 mi (6.11 km) east from La Esperanza School.

DRAINAGE AREA.--173.7 mi² (449 km²), approximately, of which an undetermined amount does not contribute directly to surface runoff.

PERIOD OF RECORD.--Feb. 1959 to Feb. 1962 yearly measurements only, May to September 2001.

GAGE.--Water-stage recorder. Elevation of gage is 49.2 ft (15 m), from topographic map.

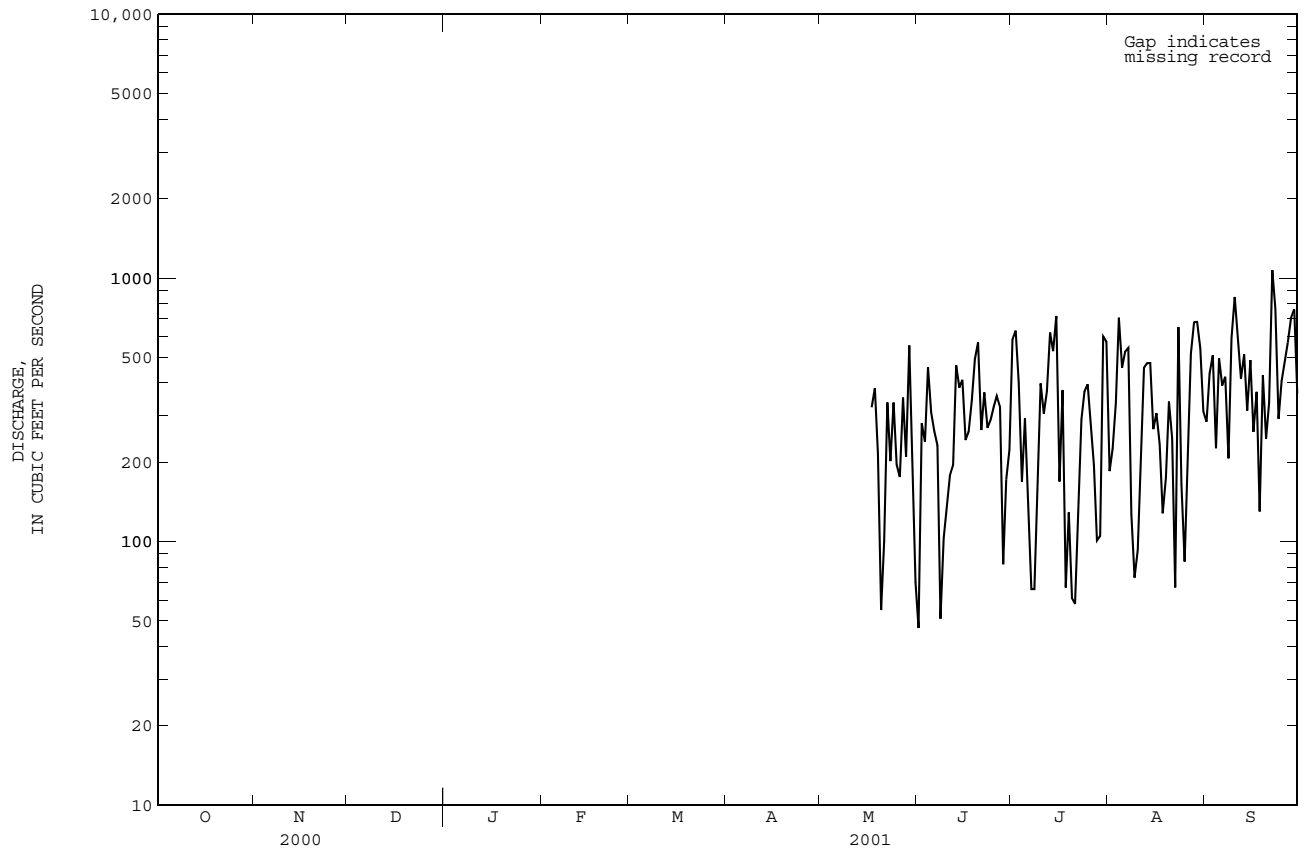
REMARKS.--Records fair. Flow affected by Lago Dos Bocas Dam 4.9 mi (7.24 km) upstream from gage. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									47	584	e185	285
2									281	631	e225	434
3									239	402	e335	509
4									459	169	e707	226
5									308	293	e457	496
6									263	129	e525	391
7									232	66	e543	422
8									51	66	e127	207
9									103	185	e73	e593
10									135	398	e93	e848
11									178	306	e233	e574
12									195	371	e457	e415
13									467	621	e475	e513
14									384	528	e476	e314
15									411	718	e267	e488
16									243	169	e307	261
17								323	261	375	e234	370
18								382	344	67	e128	130
19								216	492	129	e175	428
20								55	570	61	e340	246
21								100	265	e58	e246	337
22								337	368	e139	e67	1070
23								202	270	e291	e651	766
24								337	289	e371	e165	292
25								196	325	e395	e84	406
26								176	357	e282	e265	484
27								352	325	e195	e516	570
28								210	82	e101	e681	705
29								554	172	e105	e682	761
30								205	223	e600	e540	364
31								70	---	e574	312	---
TOTAL								---	8339	9379	10571	13905
MEAN								---	278	303	341	464
MAX								---	570	718	707	1070
MIN								---	47	58	67	130
AC-FT								---	16540	18600	20970	27580
CFSM								---	1.60	1.74	1.96	2.67
IN.								---	1.79	2.01	2.26	2.98

e Estimated

RIO GRANDE DE ARECIBO BASIN
50027600 RIO GRANDE DE ARECIBO NEAR SAN PEDRO, PR--Continued



RIO GRANDE DE ARECIBO BASIN

50027750 RIO GRANDE DE ARECIBO ABOVE ARECIBO, PR

LOCATION.--Lat 18°25'22', long 66°41'58", Hydrologic Unit 21010002, 0.5 mi (0.8 km) upstream from Río Tanamá, 3.6 mi (5.8 km), south of Arecibo and 4.9 mi (7.9 km) above mouth, and 10.4 mi (16.7 km) downstream from Lago Dos Bocas.

DRAINAGE AREA.--174 mi² (451 km²), approximately, of which an undetermined amount does not contribute directly to surface runoff.

PERIOD OF RECORD.--April 1982 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 30 ft (9 m), from topographic map.

REMARKS.--Records poor. Flow regulated by Lago Dos Bocas Dam 10.4 mi (16.7 km) upstream from gage. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	282	632	74	55	e76	22	3.4	85	5.9	319	90	113
2	237	469	119	66	e100	115	2.9	161	32	489	88	266
3	196	534	117	13	24	3.6	26	187	175	274	242	292
4	283	524	115	17	18	7.3	73	129	213	183	492	184
5	386	476	138	69	75	35	3.0	171	239	98	258	240
6	319	487	104	98	75	74	2.9	160	92	114	357	239
7	391	303	104	99	82	146	9.6	1480	214	12	297	304
8	357	454	99	1.2	60	9.0	14	644	20	12	31	130
9	477	356	95	35	29	13	2.2	654	7.7	34	22	210
10	533	241	92	137	1.5	6.1	1.5	554	28	137	31	446
11	456	43	e97	29	6.9	3.1	30	820	32	203	131	316
12	508	105	e101	149	19	47	77	395	72	247	252	252
13	e281	267	e156	138	40	53	1.6	230	159	263	303	281
14	e299	200	155	80	18	4.3	1.4	137	321	407	288	276
15	273	191	124	5.5	2.6	37	1.7	296	238	456	113	268
16	358	332	117	60	9.9	23	13	315	163	239	193	176
17	487	326	13	5.4	28	8.8	9.8	185	125	223	113	229
18	757	118	6.9	68	88	3.7	9.5	193	157	72	30	51
19	683	255	37	96	3.9	23	83	233	319	22	78	183
20	1190	59	33	57	36	5.7	104	23	313	11	179	173
21	756	110	55	1.3	e13	50	72	6.5	212	21	121	150
22	e485	95	4.5	42	58	207	68	88	227	86	17	557
23	e892	36	3.1	32	14	25	1.9	145	151	190	442	478
24	e753	149	1.1	51	3.2	5.7	1.2	158	e167	201	55	290
25	667	145	.91	104	43	4.9	2.8	135	205	252	23	240
26	801	301	43	88	3.9	49	14	131	205	158	125	302
27	244	242	142	27	11	124	58	162	245	85	303	392
28	185	73	124	1.5	94	e20	9.1	217	54	6.1	430	415
29	338	92	114	20	---	e128	86	267	79	55	429	473
30	549	29	116	17	---	e186	81	239	103	447	327	285
31	665	---	56	36	---	13	---	32	---	387	165	---
TOTAL	15088	7644	2556.51	1697.9	1032.9	1452.2	863.5	8632.5	4573.6	5703.1	6025	8211
MEAN	487	255	82.5	54.8	36.9	46.8	28.8	278	152	184	194	274
MAX	1190	632	156	149	100	207	104	1480	321	489	492	557
MIN	185	29	.91	1.2	1.5	3.1	1.2	6.5	5.9	6.1	17	51
AC-FT	29930	15160	5070	3370	2050	2880	1710	17120	9070	11310	11950	16290
CFSM	2.80	1.46	.47	.31	.21	.27	.17	1.60	.88	1.06	1.12	1.57
IN.	3.23	1.63	.55	.36	.22	.31	.18	1.85	.98	1.22	1.29	1.76

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 2001, BY WATER YEAR (WY)

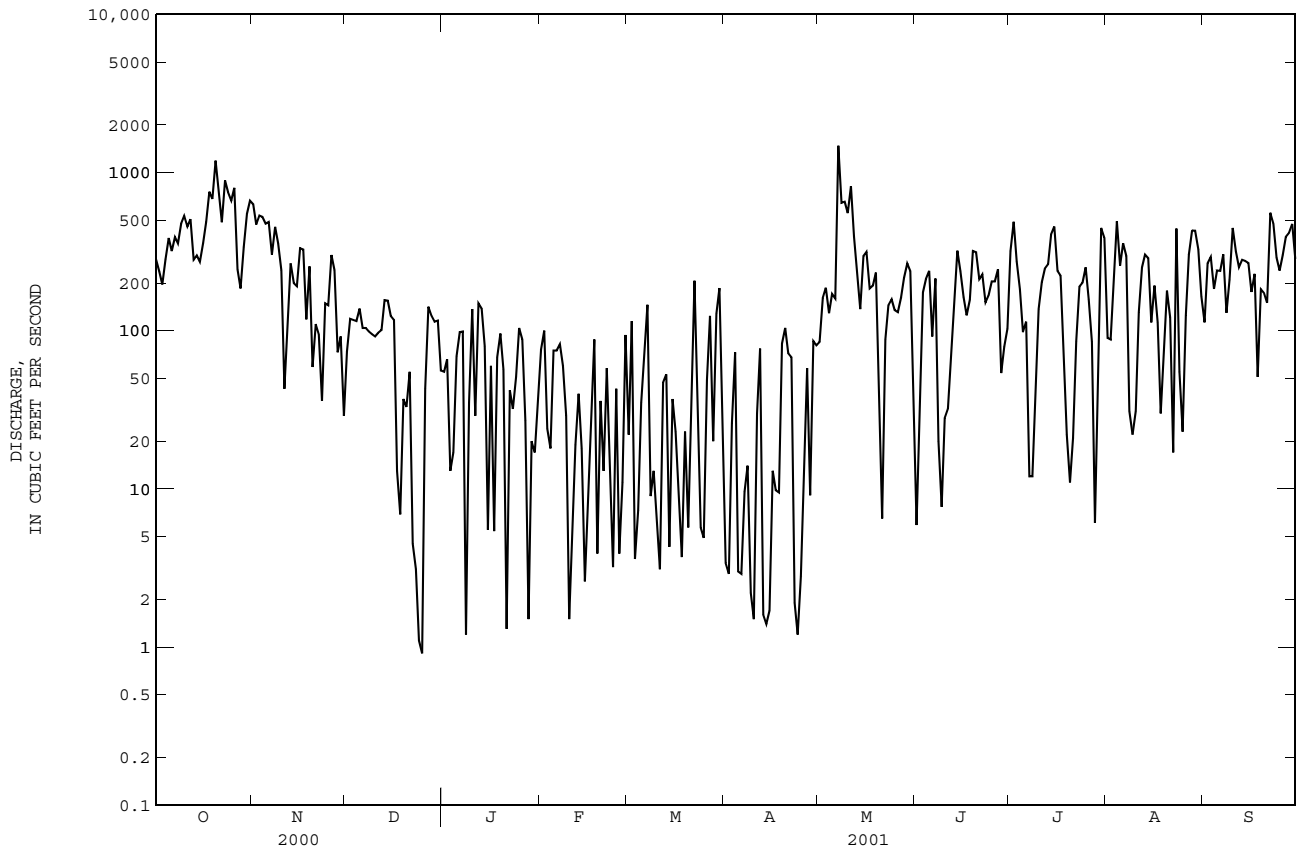
MEAN	577	499	285	234	210	200	304	514	333	235	259	510
MAX	1984	1413	570	437	428	351	617	2000	683	374	474	1479
(WY)	1986	1986	1988	1988	1988	1985	1986	1986	1987	1987	1988	1996
MIN	171	123	72.4	54.8	36.9	46.8	28.8	178	69.3	62.7	82.8	99.9
(WY)	1995	1995	1995	2001	2001	2001	2001	1994	1994	1994	1994	1994

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1982 - 2001

ANNUAL TOTAL	96147.51	63480.21	
ANNUAL MEAN	263	174	346
HIGHEST ANNUAL MEAN			729
LOWEST ANNUAL MEAN			132
HIGHEST DAILY MEAN	1190	1480	1480
LOWEST DAILY MEAN	.91	.91	.91
ANNUAL SEVEN-DAY MINIMUM	19	9.0	9.0
MAXIMUM PEAK FLOW		2270	45800
MAXIMUM PEAK STAGE		9.47	18.22
ANNUAL RUNOFF (AC-FT)	190700	125900	250700
ANNUAL RUNOFF (CFSM)	1.51	1.00	1.99
ANNUAL RUNOFF (INCHES)	20.56	13.57	27.02
10 PERCENT EXCEEDS	532	444	720
50 PERCENT EXCEEDS	207	114	230
90 PERCENT EXCEEDS	65	6.3	53

e Estimated

RIO GRANDE DE ARECIBO BASIN
50027750 RIO GRANDE DE ARECIBO ABOVE ARECIBO, PR--Continued



RIO GRANDE DE ARECIBO BASIN

50028000 RIO TANAMA NEAR UTUADO, PR

LOCATION.--Lat 18°18'02", long 66°46'58", Hydrologic Unit 21010001, on downstream side of left abutment of bridge on Highway 111, 1.2 mi (1.9 km) upstream from natural tunnel, 1.5 mi (2.4 km) northeast of Angeles, and 5.8 mi (9.3 km) northwest of Utuado.

DRAINAGE AREA.--18.4 mi² (47.7 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1944 to June 1958 (daily stage and two to four measurements per month by Puerto Rico Water Resources Authority), November 1959 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 938.32 ft (286.000 m) above mean sea level. Datum of gage was increased by 3.00 ft (0.914 m) on Oct. 1978.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	203	36	25	25	20	12	17	24	30	113	88
2	73	103	35	25	24	22	12	15	22	25	49	46
3	67	95	34	25	22	20	15	14	48	24	52	60
4	63	74	33	24	21	18	21	14	36	24	35	87
5	59	70	33	24	21	18	19	14	32	31	28	58
6	58	67	32	24	21	18	25	278	24	24	75	125
7	154	64	32	24	31	18	19	161	22	23	36	68
8	75	62	31	23	21	17	15	97	21	22	29	51
9	62	60	30	23	18	17	14	93	20	22	27	56
10	61	58	30	22	17	16	13	267	20	142	39	71
11	64	56	30	22	17	16	13	144	20	51	107	51
12	56	64	30	23	18	16	13	82	22	49	60	101
13	54	60	31	23	17	16	12	64	35	31	33	84
14	52	52	30	23	17	17	12	141	22	29	59	61
15	75	51	33	23	18	17	14	111	20	25	47	55
16	113	50	32	27	17	16	15	80	25	23	34	46
17	87	48	30	27	17	15	14	70	73	31	34	49
18	63	46	29	23	17	15	14	60	86	39	32	45
19	165	45	27	22	16	15	14	57	40	29	83	42
20	177	44	27	22	16	16	19	42	30	25	66	64
21	108	43	27	22	17	15	25	31	26	24	37	96
22	179	43	26	21	34	15	24	31	25	24	33	56
23	257	42	26	21	21	18	37	28	37	27	63	58
24	176	41	25	21	22	51	28	26	47	25	36	77
25	112	39	25	20	22	24	68	25	43	28	35	50
26	86	38	40	20	20	16	98	24	35	55	52	67
27	77	37	43	22	19	14	38	26	28	67	52	97
28	80	37	28	36	19	14	21	25	32	30	45	59
29	68	36	26	40	---	14	23	23	27	31	53	47
30	200	38	26	42	---	13	27	25	29	31	67	44
31	92	---	25	25	---	12	---	28	---	25	80	---
TOTAL	3081	1766	942	764	565	549	694	2113	971	1066	1591	1959
MEAN	99.4	58.9	30.4	24.6	20.2	17.7	23.1	68.2	32.4	34.4	51.3	65.3
MAX	257	203	43	42	34	51	98	278	86	142	113	125
MIN	52	36	25	20	16	12	12	14	20	22	27	42
AC-FT	6110	3500	1870	1520	1120	1090	1380	4190	1930	2110	3160	3890
CFSM	5.40	3.20	1.65	1.34	1.10	.96	1.26	3.70	1.76	1.87	2.79	3.55
IN.	6.23	3.57	1.90	1.54	1.14	1.11	1.40	4.27	1.96	2.16	3.22	3.96

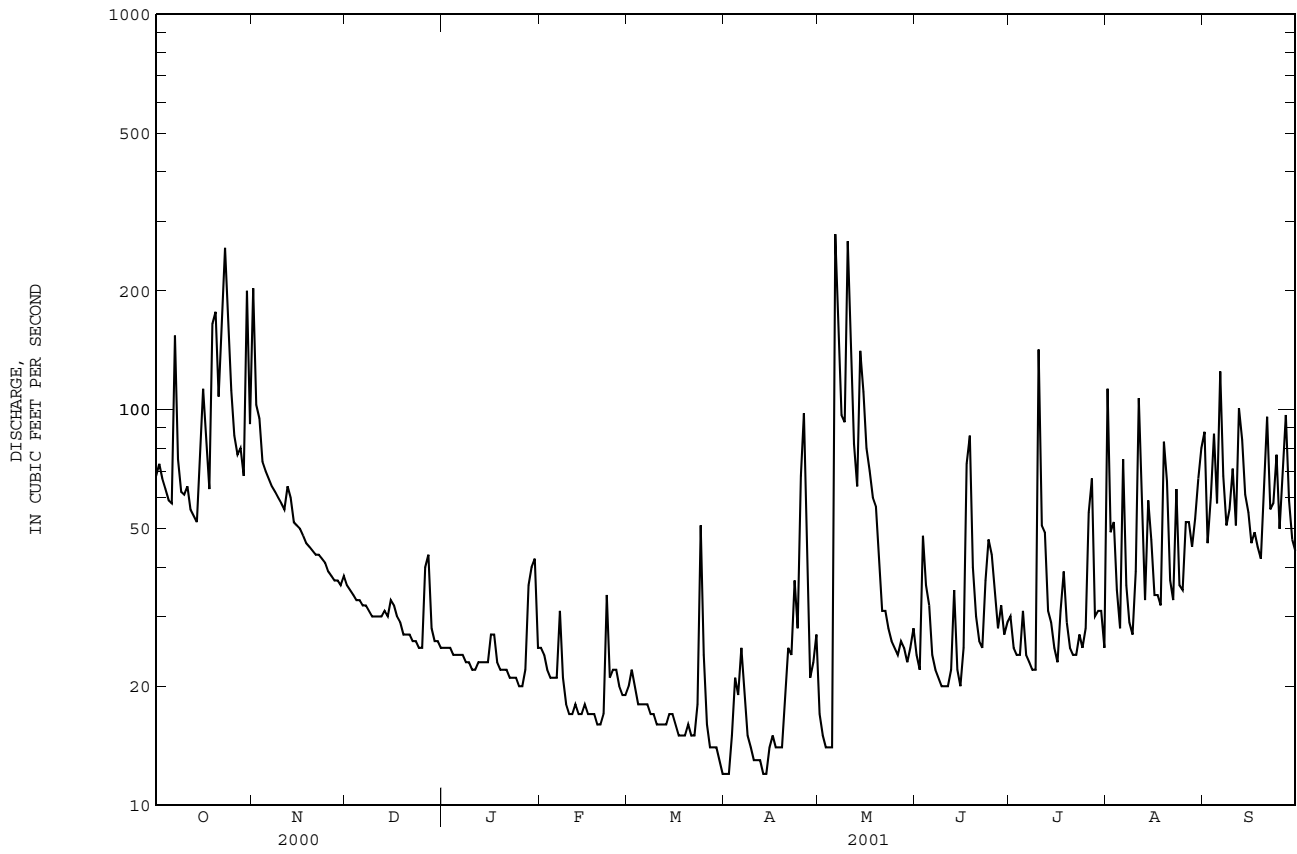
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2001, BY WATER YEAR (WY)

MEAN	81.7	69.0	43.3	30.2	26.0	25.0	35.6	57.1	44.2	36.2	47.6	78.5
MAX	195	159	121	71.0	50.8	71.2	142	193	117	65.7	110	208
(WY)	1990	1969	1966	1997	1996	1972	1969	1963	1999	1981	1979	1998
MIN	25.4	25.1	18.1	14.7	13.2	11.0	9.70	12.4	15.6	9.18	15.9	25.0
(WY)	1963	1995	1998	1998	1965	1984	1984	1977	1994	1994	1994	1994

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1960 - 2001

ANNUAL TOTAL	19914	16061		
ANNUAL MEAN	54.4	44.0	48.0	
HIGHEST ANNUAL MEAN			71.7	1999
LOWEST ANNUAL MEAN			20.7	1994
HIGHEST DAILY MEAN	424	Aug 23	278	May 6
LOWEST DAILY MEAN	20	Apr 28	12	Mar 31
ANNUAL SEVEN-DAY MINIMUM	21	Apr 24	13	Mar 27
MAXIMUM PEAK FLOW			1850	May 6
MAXIMUM PEAK STAGE			10.00	May 6
INSTANTANEOUS LOW FLOW			11	Apr 2
ANNUAL RUNOFF (AC-FT)	39500	31860	34740	
ANNUAL RUNOFF (CFSM)	2.96	2.39	2.61	
ANNUAL RUNOFF (INCHES)	40.26	32.47	35.41	
10 PERCENT EXCEEDS	112	83	86	
50 PERCENT EXCEEDS	36	30	33	
90 PERCENT EXCEEDS	23	16	16	

RIO GRANDE DE ARECIBO BASIN
50028000 RIO TANAMA NEAR UTUADO, PR--Continued



50028000 RIO TANAMA NEAR UTUADO, PR

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: January 1968 to current year.

INSTRUMENTATION.--USDH-48 sediment sampler since October 1968. Automatic sediment sampler since 1990.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 20,400 mg/L November 27, 1968; Minimum daily mean, 1 mg/L several days during several years.

SEDIMENT LOADS: Maximum daily mean, 240,000 tons (218,000 tonnes) September 22, 1998; Minimum daily mean, <0.01 ton (<0.01 tonne) several days during several years.

EXTREMES FOR CURRENT YEAR 2001.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,040 mg/L October 30, 2000; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 6,500 tons (5,897 tonnes) October 30, 2000; Minimum daily mean, 0.07 ton (0.06 tonne) several days.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00301)	COLI-FORM, FECAL, MF, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP, WATER (MG/L AS CACO3) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	
NOV 03...	1200	99	148	7.6	23.5	37	7.1	87	<10	25000	1000	54	13.9
FEB 26...	1015	21	169	7.5	21.4	3.0	9.4	110	<10	E40	E140	--	--
MAY 07...	1515	95	134	7.1	23.7	38	7.6	94	<10	2100	2200	45	11.9
SEP 12...	1143	44	162	6.9	24.8	--	8.0	101	<10	E780	270	61	14.8

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDEED (MG/L) (00530)
NOV 03...	4.66	7.0	.4	1.94	--	<1.0	9.9	6.9	.2	22.8	97	25.8	44
FEB 26...	--	--	--	--	52	--	--	--	--	--	--	--	<10
MAY 07...	3.81	5.8	.4	3.05	32	<1.0	11.4	7.6	<.2	17.3	80	20.6	17
SEP 12...	5.82	7.6	.4	2.16	52	--	9.8	7.5	<.2	24.7	103	12.3	<10

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
NOV 03...	.97	.01	1.0	.03	.24	.27	1.2	5.5	.040	<2	31.2	E9	<.11
FEB 26...	--	<.01	.5	.01	--	<.20	--	--	<.020	--	--	--	--
MAY 07...	--	<.01	1.6	.03	.35	.38	2.0	8.8	.030	<2	33.4	E17	<.11
SEP 12...	--	<.01	.8	.02	--	<.20	--	--	<.020	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
NOV 03...	2	E12.8	890	M	59	<.14	<2.6	<.43	E18	<.01	<16	<.04
FEB 26...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 07...	M	<20.0	730	M	60	<.01	<2.6	<.43	<31	<.01	<16	<.02
SEP 12...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

RIO GRANDE DE ARECIBO BASIN
50028000 RIO TANAMA NEAR UTUADO, PR

WATER-QUALITY RECORDS

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)		DISCHARGE (CFS)	CONCEN- TRATION (MG/L)		DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	
	OCTOBER			NOVEMBER			DECEMBER		
1	68	55	10	203	739	683	36	7	.66
2	73	158	35	103	269	77	35	7	.65
3	67	124	23	95	238	67	34	7	.65
4	63	113	19	74	152	30	33	7	.65
5	59	106	17	70	144	27	33	7	.65
6	58	99	16	67	136	25	32	7	.65
7	154	916	1080	64	128	22	32	8	.64
8	75	226	47	62	119	20	31	8	.64
9	62	41	7.1	60	111	18	30	8	.64
10	61	11	1.7	58	103	16	30	8	.65
11	64	63	13	56	95	14	30	8	.66
12	56	73	11	64	145	41	30	8	.66
13	54	16	2.3	60	99	17	31	8	.69
14	52	8	1.2	52	14	1.9	30	8	.68
15	75	165	62	51	8	1.2	33	8	.75
16	113	778	721	50	6	.88	32	9	.74
17	87	238	68	48	5	.66	30	9	.71
18	63	126	22	46	5	.65	29	9	.68
19	165	1030	1220	45	5	.65	27	5	.39
20	177	1430	2220	44	6	.65	27	1	.07
21	108	311	101	43	6	.65	27	1	.07
22	179	753	904	43	6	.66	26	1	.07
23	257	1380	2130	42	6	.66	26	1	.07
24	176	690	352	41	6	.65	25	1	.07
25	112	308	95	39	6	.65	25	1	.07
26	86	191	45	38	6	.64	40	128	36
27	77	155	32	37	6	.64	43	101	14
28	80	204	52	37	6	.64	28	78	5.9
29	68	144	27	36	7	.64	26	76	5.5
30	200	4040	6500	38	7	.68	26	74	5.2
31	92	269	68	---	---	---	25	73	5.0
TOTAL	3081	---	15902.3	1766	---	1070.10	942	---	84.46

RIO GRANDE DE ARECIBO BASIN

50028000 RIO TANAMA NEAR UTUADO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	25	71	4.8	25	40	2.7	20	4	.19
2	25	69	4.7	24	33	2.1	22	4	.25
3	25	68	4.5	22	25	1.5	20	6	.31
4	24	65	4.3	21	17	.96	18	8	.39
5	24	57	3.7	21	10	.60	18	10	.47
6	24	49	3.2	21	10	.53	18	9	.41
7	24	40	2.6	31	62	9.2	18	7	.35
8	23	32	2.0	21	116	6.7	17	6	.29
9	23	24	1.4	18	62	3.1	17	5	.24
10	22	15	.93	17	30	1.4	16	6	.27
11	22	8	.47	17	23	1.1	16	7	.31
12	23	6	.38	18	20	.95	16	8	.33
13	23	5	.33	17	23	1.1	16	7	.30
14	23	4	.28	17	26	1.2	17	6	.29
15	23	4	.23	18	29	1.4	17	6	.26
16	27	15	1.6	17	27	1.2	16	5	.21
17	27	27	2.2	17	24	1.1	15	4	.16
18	23	9	.54	17	21	.96	15	3	.12
19	22	6	.40	16	19	.83	15	2	.10
20	22	6	.35	16	17	.75	16	4	.17
21	22	6	.35	17	16	.76	15	6	.23
22	21	6	.34	34	54	5.4	15	7	.28
23	21	6	.37	21	15	.87	18	11	.60
24	21	7	.38	22	11	.64	51	157	46
25	20	7	.38	22	6	.34	24	29	2.2
26	20	7	.36	20	2	.13	16	18	.75
27	22	6	.38	19	3	.13	14	15	.58
28	36	46	5.3	19	3	.15	14	12	.46
29	40	64	11	---	---	---	14	9	.35
30	42	69	8.8	---	---	---	13	7	.23
31	25	47	3.2	---	---	---	12	9	.30
TOTAL	764	---	69.77	565	---	47.80	549	---	57.40
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	12	12	.40	17	40	1.9	24	33	2.2
2	12	15	.49	15	31	1.3	22	23	1.4
3	15	19	.78	14	22	.86	48	223	71
4	21	31	2.4	14	18	.70	36	64	7.6
5	19	30	2.1	14	15	.58	32	53	6.6
6	25	34	2.6	278	1030	3030	24	31	2.0
7	19	18	1.0	161	343	214	22	27	1.6
8	15	13	.53	97	424	269	21	24	1.4
9	14	11	.41	93	286	147	20	20	1.1
10	13	10	.34	267	1620	2370	20	17	.90
11	13	9	.31	144	494	235	20	14	.75
12	13	8	.28	82	31	6.9	22	33	3.8
13	12	8	.27	64	21	3.7	35	76	9.7
14	12	8	.27	141	682	732	22	26	1.5
15	14	8	.31	111	332	141	20	21	1.2
16	15	8	.30	80	163	35	25	33	3.4
17	14	6	.23	70	39	7.4	73	245	111
18	14	4	.16	60	87	15	86	465	258
19	14	2	.09	57	96	16	40	93	10
20	19	18	2.3	42	42	4.9	30	72	5.8
21	25	29	2.3	31	24	2.0	26	56	4.0
22	24	26	1.8	31	70	7.1	25	40	2.7
23	37	82	12	28	26	2.0	37	62	7.7
24	28	32	2.8	26	16	1.1	47	96	17
25	68	254	129	25	7	.46	43	79	9.7
26	98	323	191	24	6	.39	35	45	4.5
27	38	76	8.5	26	6	.42	28	27	2.0
28	21	47	2.8	25	8	.54	32	57	6.3
29	23	40	4.1	23	8	.53	27	35	2.5
30	27	62	5.1	25	14	1.1	29	32	2.5
31	---	---	---	28	30	2.5	---	---	---
TOTAL	694	---	374.97	2113	---	7250.38	971	---	559.85

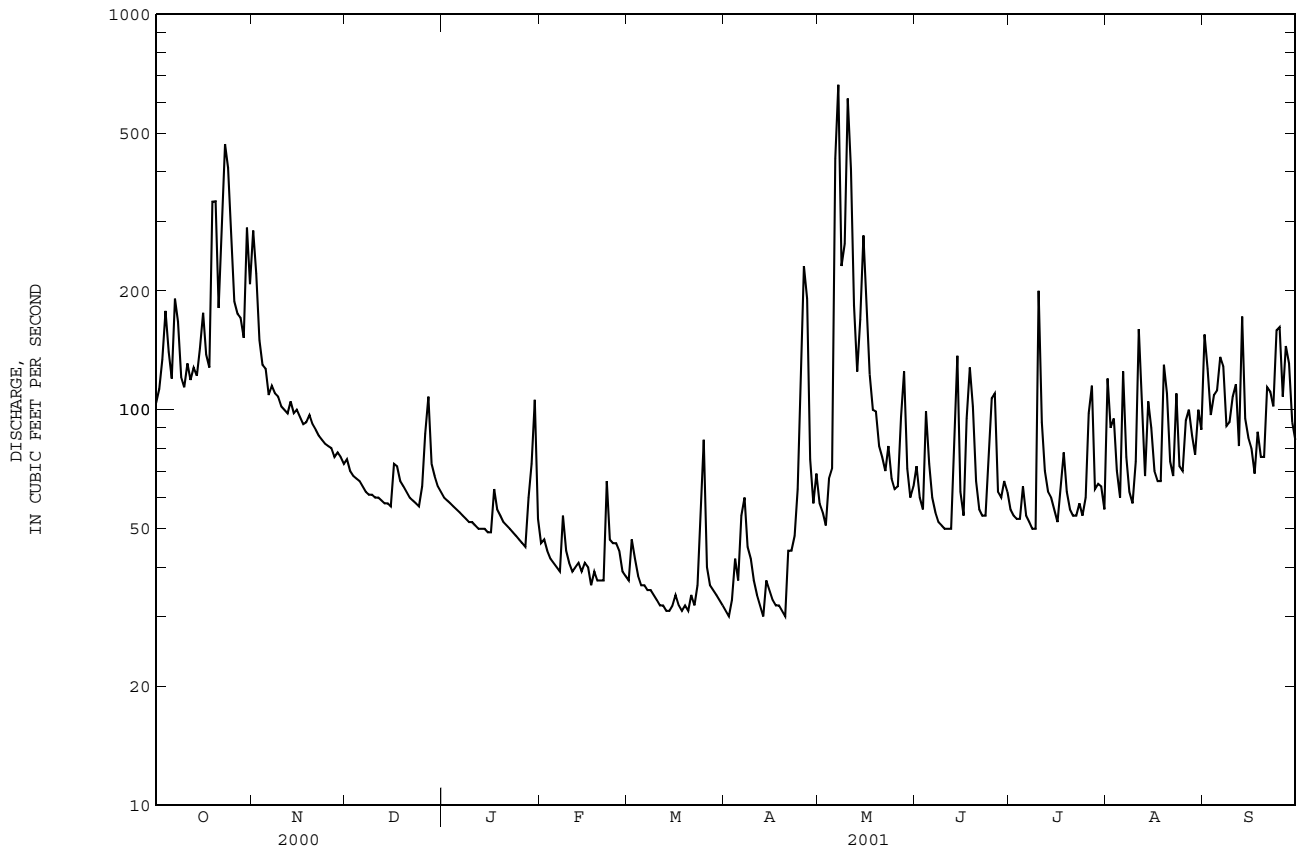
RIO GRANDE DE ARECIBO BASIN

50028000 RIO TANAMA NEAR UTUADO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	30	22	1.8	113	685	870	88	304	134
2	25	14	.94	49	113	20	46	69	8.7
3	24	10	.65	52	151	41	60	133	34
4	24	7	.44	35	45	4.4	87	323	212
5	31	29	3.6	28	24	1.8	58	124	20
6	24	24	1.5	75	302	204	125	660	853
7	23	21	1.3	36	55	5.8	68	155	30
8	22	17	1.0	29	34	2.7	51	109	15
9	22	14	.80	27	22	1.6	56	88	13
10	142	1250	1830	39	57	10	71	197	61
11	51	112	26	107	544	605	51	116	16
12	49	117	33	60	140	29	101	520	650
13	31	34	3.0	33	27	2.4	84	253	87
14	29	35	3.1	59	198	92	61	105	17
15	25	19	1.3	47	78	12	55	102	18
16	23	9	.54	34	24	2.1	46	76	9.6
17	31	41	5.4	34	21	1.9	49	86	12
18	39	69	9.5	32	20	1.7	45	73	9.0
19	29	36	3.0	83	359	231	42	54	6.1
20	25	23	1.5	66	187	56	64	258	102
21	24	18	1.2	37	43	4.3	96	1010	1040
22	24	14	.90	33	24	2.2	56	114	18
23	27	10	.75	63	109	22	58	137	26
24	25	17	1.3	36	43	4.2	77	244	117
25	28	33	3.1	35	32	3.1	50	89	12
26	55	148	50	52	116	33	67	172	41
27	67	231	90	52	97	17	97	346	213
28	30	43	3.4	45	81	11	59	118	19
29	31	32	2.7	53	119	33	47	89	11
30	31	26	2.2	67	161	38	44	66	7.8
31	25	24	1.6	80	275	130	---	---	---
TOTAL	1066	---	2085.52	1591	---	2492.2	1959	---	3812.2
YEAR	16061		33806.95						

RIO GRANDE DE ARECIBO BASIN
50028400 RIO TANAMA AT CHARCO HONDO, PR--Continued



50029000 RIO GRANDE DE ARECIBO AT CENTRAL CAMBALACHE, PR

LOCATION.--Lat 18°27'20", long 66°42'10", Hydrologic Unit 21010002, at bridge on unimproved road, about 500 ft (152 m) upstream from Central Cambalache, near Highway 2, 13.9 mi (22.4 km) downstream from Dos Bocas Reservoir, 1.9 mi (3.1 km) downstream from Río Tanamá junction, and 1.6 mi (2.6 km) southeast of Arecibo.

DRAINAGE AREA.--200 mi² (520 km²).

PERIOD OF RECORD.--January 1963 to January 1965 (monthly measurements only), February 1965 to April 1969 (occasional measurements only), May 1969 to September 1983, October 1996 to September 1997.

GAGE.--Water-stage recorder. Datum of gage is 3.73 ft (1.14 m) above mean sea level.

REMARKS.--Records poor. Flow regulated by Lago Dos Bocas dam, 13.9 mi (22.4 km) upstream. Gage-height satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	447	885	149	114	133	58	51	132	76	278	162	235
2	433	666	205	126	142	172	43	210	86	507	188	351
3	356	741	207	65	70	56	62	276	242	322	267	360
4	467	678	205	61	60	51	132	201	281	246	528	276
5	549	553	231	128	123	71	49	237	311	147	353	311
6	473	573	197	154	123	99	61	260	152	181	399	310
7	555	424	201	157	135	208	73	2600	273	63	409	379
8	560	541	198	53	109	53	67	803	76	58	116	208
9	626	452	196	69	94	50	50	821	58	61	78	242
10	694	333	192	207	52	62	45	827	67	152	94	512
11	629	146	201	63	52	54	67	1100	60	286	192	381
12	685	173	199	207	73	80	135	569	92	295	349	304
13	475	336	238	174	78	111	47	398	175	342	361	352
14	462	291	256	146	73	49	44	251	403	487	363	354
15	450	245	218	57	51	71	42	483	276	559	215	323
16	544	388	220	107	59	70	52	470	214	337	244	249
17	681	385	98	56	59	47	47	321	183	237	190	267
18	1020	196	83	111	154	45	43	305	232	150	116	141
19	994	307	119	147	53	59	124	369	370	95	150	214
20	2070	140	107	102	78	48	166	130	344	74	267	217
21	1110	190	127	48	53	67	133	100	265	71	200	216
22	698	167	80	74	115	286	131	165	249	127	75	587
23	1380	98	74	85	73	83	65	253	188	234	487	537
24	1160	217	72	84	54	66	66	242	213	292	143	462
25	971	207	73	169	82	113	83	235	261	308	86	382
26	1140	362	104	130	53	92	193	208	288	230	214	398
27	450	321	228	90	51	183	229	230	292	167	389	527
28	338	156	191	63	139	73	87	349	120	103	508	529
29	497	175	178	82	---	131	152	322	133	104	506	568
30	773	100	182	128	---	281	152	334	144	452	410	414
31	928	---	116	98	---	69	---	108	---	436	242	---
TOTAL	22615	10446	5145	3355	2391	2958	2691	13309	6124	7401	8301	10606
MEAN	730	348	166	108	85.4	95.4	89.7	429	204	239	268	354
MAX	2070	885	256	207	154	286	229	2600	403	559	528	587
MIN	338	98	72	48	51	45	42	100	58	58	75	141
AC-FT	44860	20720	10210	6650	4740	5870	5340	26400	12150	14680	16470	21040
CFSM	3.65	1.74	.83	.54	.43	.48	.45	2.15	1.02	1.19	1.34	1.77
IN.	4.21	1.94	.96	.62	.44	.55	.50	2.48	1.14	1.38	1.54	1.97

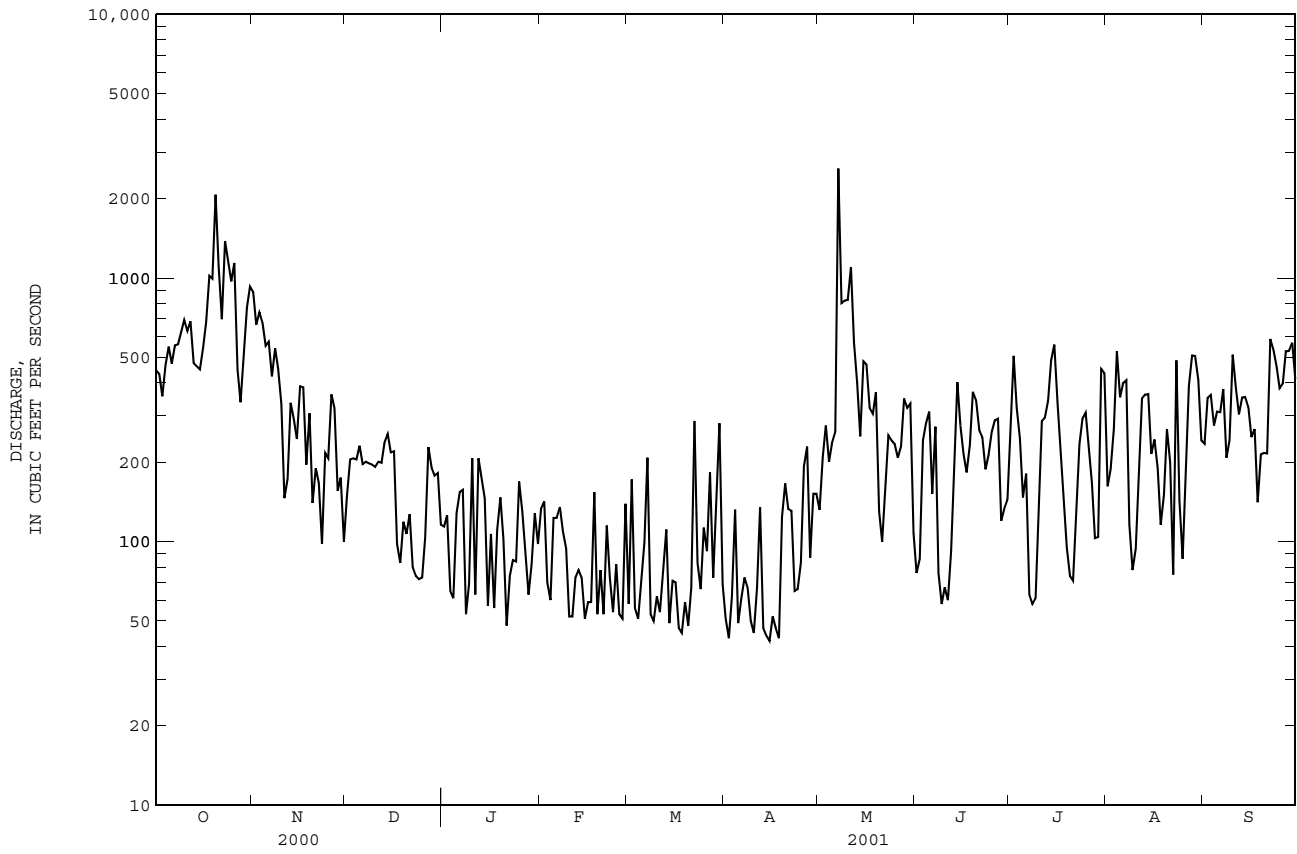
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2001, BY WATER YEAR (WY)

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001			
MEAN	806	741	530	347	286	301	353	539	452	366	435	691																								
MAX	1577	1529	1327	651	425	627	641	1192	1220	854	1269	1866																								
(WY)	1971	2000	1982	1997	1997	1972	1983	1980	1979	1979	1979	1979																								
MIN	404	201	150	108	85.4	95.4	89.7	188	139	189	218	271																								
(WY)	1983	1998	1998	2001	2001	2001	2001	1977	1977	1997	1974	1997																								

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1969 - 2001

ANNUAL TOTAL	141103	95342		
ANNUAL MEAN	386	261	495	
HIGHEST ANNUAL MEAN			691	1979
LOWEST ANNUAL MEAN			261	2001
HIGHEST DAILY MEAN	2070	Oct 20	2600	May 7
LOWEST DAILY MEAN	72	Aug 12	42	Apr 15
ANNUAL SEVEN-DAY MINIMUM	91	Dec 20	56	Mar 14
MAXIMUM PEAK FLOW			5000	May 7
MAXIMUM PEAK STAGE			10.29	May 7
INSTANTANEOUS LOW FLOW				19.28
ANNUAL RUNOFF (AC-FT)	279900	189100	358300	
ANNUAL RUNOFF (CFSM)	1.93	1.31	2.47	
ANNUAL RUNOFF (INCHES)	26.25	17.73	33.60	
10 PERCENT EXCEEDS	739	539	960	
50 PERCENT EXCEEDS	307	192	349	
90 PERCENT EXCEEDS	124	59	129	

RIO GRANDE DE ARECIBO BASIN
50029000 RIO GRANDE DE ARECIBO AT CENTRAL CAMBALACHE, PR--Continued



50029000 RIO GRANDE DE ARECIBO AT CENTRAL CAMBALACHE, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°27'20", long 66°42'10", Hydrologic Unit 21010002, at bridge on unimproved road, about 500 ft (152 m) upstream from Central Cambalache, near Highway 2, 8.3 mi (13.4 km) downstream from Lago Dos Bocas, 1.9 mi (3.1 km) downstream from Rio Tanamá, and 1.6 mi (2.6 km) southeast of Arecibo.

DRAINAGE AREA.--200 mi² (520 km²), approximately and does not include 6.0 mi² (15.6 km²) above Lago Garzas.

PERIOD OF RECORD.--Water years 1963-66, 1969 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (MG/L) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
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NOV	01...	1315	--	239	6.9	25.1	33	8.7	102	12	590	490	90	27.8
FEB	09...	1430	E57	285	8.1	26.5	30	10.4	129	<10	350	E20	--	--
MAY	10...	1230	--	249	7.5	25.0	71	6.8	83	16	E17000	6300	120	40.9
SEP	10...	0800	360	233	7.4	26.3	--	6.5	81	<10	2400	580	99	29.3

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS S04) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDE (MG/L) (00530)
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NOV	01...	5.10	7.8	.4	1.83	--	<1.0	10.8	8.2	E.1	19.4	132	--	39
FEB	09...	--	--	--	--	115	--	--	--	--	--	--	--	28
MAY	10...	3.34	5.2	.2	1.74	105	<1.0	8.4	7.2	E.1	8.5	138	--	96
SEP	10...	6.21	9.5	.4	2.07	87	--	12.7	11.2	<.2	19.6	143	139	18

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
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NOV	01...	--	<.01	.8	.04	.46	.50	1.3	5.8	.060	<2	39.9	E12	.54
FEB	09...	--	<.01	.5	.24	.96	1.2	1.7	7.4	<.020	--	--	--	--
MAY	10...	.69	.01	.7	.02	.54	.56	1.3	5.6	.110	<2	47.1	E13	E.11
SEP	10...	--	<.01	.5	.03	.17	.20	.71	3.1	<.020	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
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NOV	01...	2	<20.0	1130	M	78	<.14	<2.6	<.43	E31	<.01	<16	<.02
FEB	09...	--	--	--	--	--	--	--	--	--	--	--	--
MAY	10...	2	<20.0	2400	2	170	.02	<2.6	<.43	E16	<.01	<16	<.05
SEP	10...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
 E -- Estimated value
 M -- Presence verified, not quantified

RIO GRANDE DE ARECIBO BASIN

50029000 RIO GRANDE DE ARECIBO AT CENTRAL CAMBALACHE, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR- DANE, TECH- NICAL TOTAL (UG/L) (39350)	P,P'- DDD UNFILT RECOVER (UG/L) (39360)	P,P'- DDE, TOTAL (UG/L) (39365)	P,P'- DDT UNFILT RECOVER (UG/L) (39370)	DI- AZINON, TOTAL (UG/L) (39570)	DI- ELDRIN TOTAL (UG/L) (39380)	ENDO- SULFAN I TOTAL (UG/L) (39388)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)	
MAY 10...	1230	<.1	<.013	<.1	<.007	<.006	<.009	<.02	<.006	<.015	<.014	<.01	<.014	
DATE		HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALA- THON, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METHYL PARA- THON, TOTAL (UG/L) (39600)	MIREX, TOTAL (UG/L) (39755)	PARA- THON, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	CARBO- PHENO- THON WATER UNFLTRD TOTAL (UG/L) (39786)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	2,4-DP TOTAL (UG/L) (82183)	SILVEX, TOTAL (UG/L) (39760)
MAY 10...		<.009	<.006	<.03	<.01	<.01	<.01	<.01	<1	<.02	.24	<.01	<.04	<.01

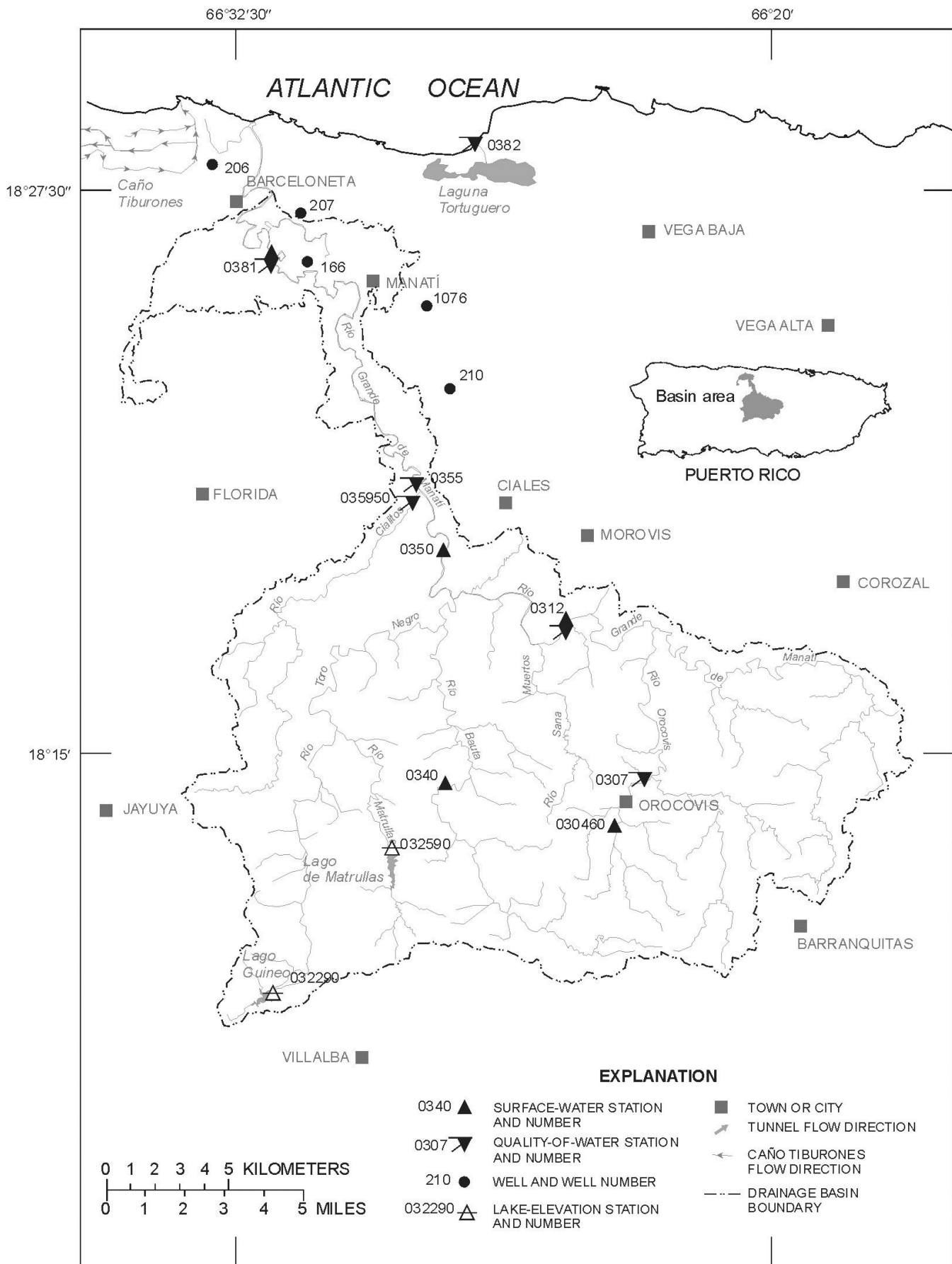


Figure 14. Río Grande de Manatí basin.

RIO GRANDE DE MANATI BASIN

50030460 RIO OROCOVIS AT OROCOVIS, PR

LOCATION.--Lat 18°13'25", long 66°23'34", Hydrologic Unit 21010001, on right bank, 0.4 mi (0.6 km) south of junction of Highways 155 and 156 in Orocovis, 2.1 mi (3.38 km) upstream from Río Botijas, and 250 ft (76 m) upstream from bridge on Highway 599.

DRAINAGE AREA.--5.03 mi² (13.03 km²).

PERIOD OF RECORD.--April 1981 to September 1982, October 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 500 ft (152 m), from topographic map.

REMARKS.--Records poor. Low flow affected by diversions for water supply. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e4.3	172	e2.4	2.1	e2.7	e2.4	e1.1	e1.6	.96	e1.0	1.4	2.2
2	e7.4	167	e2.4	2.6	e2.7	e2.3	e1.1	e1.6	.97	e1.3	25	23
3	e11	e59	e2.4	3.8	e2.2	e2.0	e1.0	e1.4	1.5	e1.3	13	12
4	e11	e23	e2.4	3.3	e2.2	e1.9	e1.7	e1.4	1.0	1.1	3.9	4.2
5	e6.0	13	e2.3	e1.9	e2.2	e1.9	20	e1.1	.86	1.1	2.2	2.8
6	e3.0	9.1	e2.5	e1.9	e2.2	e1.9	12	37	.95	1.2	2.2	2.3
7	e2.5	10	e2.4	3.3	e2.7	e2.1	e5.4	60	.91	1.2	1.9	2.6
8	e16	8.0	e2.3	e1.9	2.7	e2.0	e3.2	9.9	.97	1.2	1.6	2.4
9	e16	6.6	2.5	e1.9	e2.2	e2.0	e3.4	7.7	.91	1.1	1.3	2.3
10	e12	5.8	2.5	e1.9	e2.2	e1.7	e2.4	32	.92	1.2	1.3	1.9
11	e10	5.4	2.5	e3.0	e2.7	e1.8	e2.2	33	1.0	1.2	1.3	2.0
12	e11	16	e2.6	4.6	e2.7	e1.8	e2.2	6.8	.93	1.2	1.3	1.7
13	e5.6	11	e2.8	4.2	e2.7	e1.7	e2.4	2.8	.90	1.2	1.2	1.7
14	e2.7	e6.7	e4.1	e3.6	e2.7	e1.7	e2.5	1.8	.91	1.2	1.3	1.7
15	e2.8	e5.6	e3.2	e4.6	e2.2	e1.4	e2.0	1.8	1.1	1.1	1.7	1.8
16	e26	5.9	e3.2	e3.6	e2.2	e1.4	e1.7	1.8	1.1	1.1	1.6	1.8
17	e42	5.1	e2.8	e3.0	e2.2	e1.3	e1.7	1.5	1.4	1.1	2.3	1.7
18	e30	4.1	e2.5	e3.4	e2.0	e1.3	e1.6	1.8	.97	1.6	1.9	2.5
19	e28	e3.9	e2.4	e3.1	e1.9	e1.4	e1.5	1.8	.79	1.4	1.9	2.5
20	e42	e3.6	e2.3	e2.1	e1.9	e1.3	e1.7	1.1	.76	1.2	2.0	23
21	e33	e3.8	e2.3	e2.0	e2.0	e1.8	e2.0	1.0	.76	1.1	2.5	10
22	e16	e3.4	e2.1	e2.0	4.5	e2.3	e2.9	1.2	.76	1.1	4.6	29
23	e37	2.9	e2.1	e2.0	2.3	4.3	e2.8	1.2	.82	1.1	40	17
24	e62	2.9	e2.1	e2.0	4.0	3.7	e2.0	1.3	.87	1.1	8.2	9.2
25	e50	e2.8	e2.0	e1.6	5.9	3.7	e1.9	1.0	.87	1.0	3.2	6.7
26	e30	e2.7	e2.1	e1.6	e3.8	2.8	e28	1.2	.80	1.1	2.3	3.9
27	e20	e2.6	e2.4	e2.6	e2.5	3.7	e5.8	.99	e.82	1.2	2.0	3.3
28	e16	2.5	2.4	3.8	e2.4	e1.8	e2.8	1.2	e1.3	1.2	7.3	2.7
29	e11	2.4	2.2	e7.7	---	e1.6	e2.6	1.2	3.9	3.4	3.8	2.1
30	e29	e2.3	2.2	e5.1	---	e1.2	e1.7	1.0	1.5	2.8	2.0	2.5
31	51	---	2.1	e3.6	---	e1.2	---	.92	---	1.5	2.1	---
TOTAL	644.3	569.1	76.5	93.8	74.6	63.4	123.3	220.11	32.21	40.6	148.3	182.5
MEAN	20.8	19.0	2.47	3.03	2.66	2.05	4.11	7.10	1.07	1.31	4.78	6.08
MAX	62	172	4.1	7.7	5.9	4.3	28	60	3.9	3.4	40	29
MIN	2.5	2.3	2.0	1.6	1.9	1.2	1.0	.92	.76	1.0	1.2	1.7
AC-FT	1280	1130	152	186	148	126	245	437	64	81	294	362
CFSM	4.13	3.77	.49	.60	.53	.41	.82	1.41	.21	.26	.95	1.21
IN.	4.77	4.21	.57	.69	.55	.47	.91	1.63	.24	.30	1.10	1.35

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 2001, BY WATER YEAR (WY)

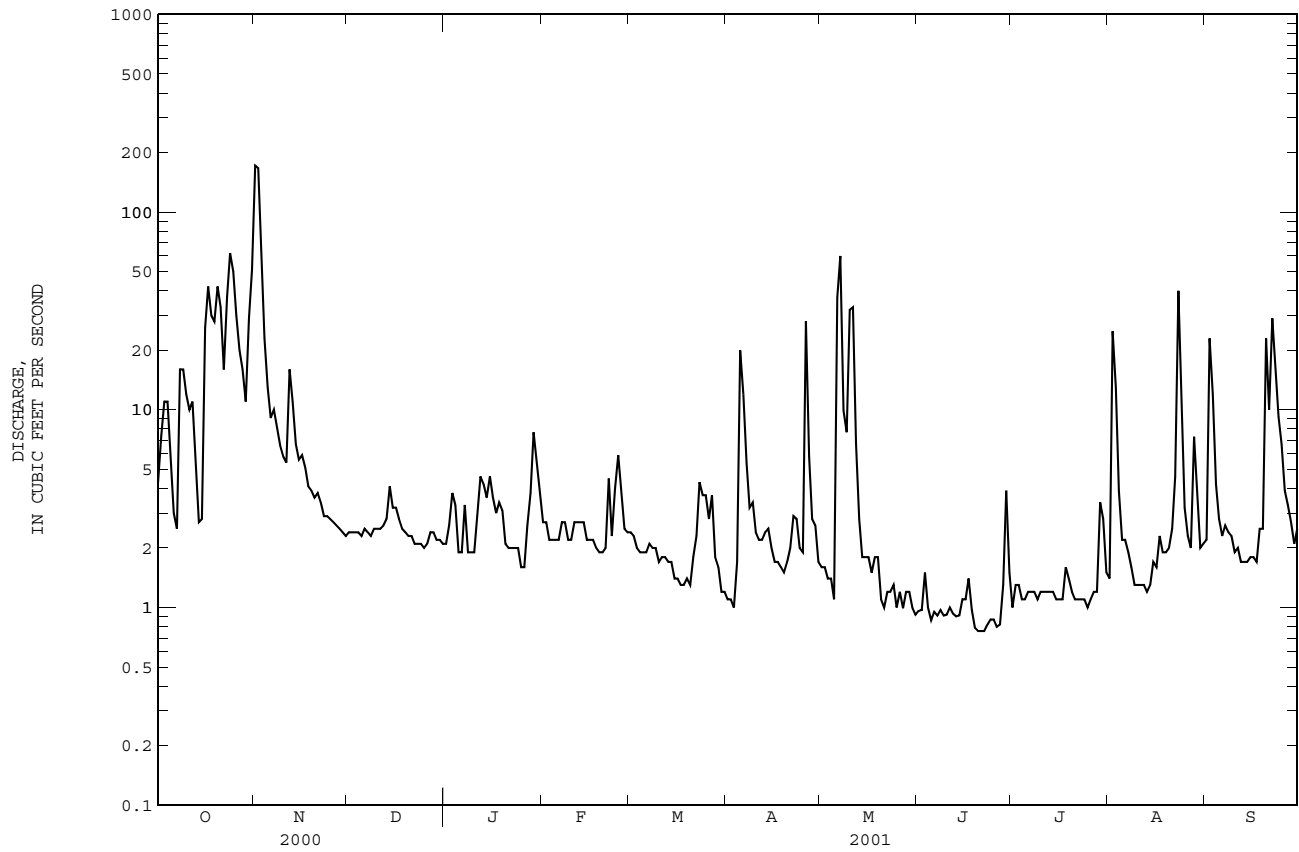
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	
MEAN	17.4	11.1	6.43	6.28	4.23	1.96	5.05	13.1	4.73	3.09	4.70	23.6										
MAX	58.0	39.9	17.9	34.3	15.7	3.47	21.0	45.9	17.1	9.07	12.3	83.0										
(WY)	1990	2000	2000	1992	1996	2000	1993	1995	1999	1996	1989	1998										
MIN	1.95	.93	.53	.77	.96	.90	.93	.86	.88	.88	1.03	.88										
(WY)	1994	1998	1998	1995	1995	1994	1995	1997	1994	1994	1982	1994										

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1981 - 2001

ANNUAL TOTAL	3042.1	2268.72		
ANNUAL MEAN	8.31	6.22	8.39	
HIGHEST ANNUAL MEAN			13.3	1999
LOWEST ANNUAL MEAN			1.49	1994
HIGHEST DAILY MEAN	172	Nov 1	172	Nov 1
LOWEST DAILY MEAN	1.5	Aug 17	.76	Jun 20
ANNUAL SEVEN-DAY MINIMUM	1.7	Aug 15	.80	Jun 19
MAXIMUM PEAK FLOW			1650	Nov 1
MAXIMUM PEAK STAGE			10.53	Nov 1
ANNUAL RUNOFF (AC-FT)	6030	4500	6080	
ANNUAL RUNOFF (CFSM)	1.65	1.24	1.67	
ANNUAL RUNOFF (INCHES)	22.50	16.78	22.66	
10 PERCENT EXCEEDS	18	12	15	
50 PERCENT EXCEEDS	3.0	2.2	2.1	
90 PERCENT EXCEEDS	1.9	1.1	.85	

e Estimated

RIO GRANDE DE MANATI BASIN
50030460 RIO OROCOVIS AT OROCOVIS, PR--Continued



RIO GRANDE DE MANATI BASIN

50030700 RIO OROCOVIS NEAR OROCOVIS, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°14'20", long 66°22'58", at flat low bridge about 300 ft (91 m) northwest of Highway 568, 1.0 mi (1.6 km) north of Orocovis plaza.

DRAINAGE AREA.--10.1 mi² (26.2 km²).

PERIOD OF RECORD.--Water year 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD WATER UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, (PER-CENT SATUR-ATION) (00301)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL AS (MG/L CaCO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT	10...	1100	12	8.0	23.8	20	7.7	97	<10	3000	430	110	28.1
FEB	21...	1450	7.9	8.2	24.2	2.9	7.9	101	<10	200	E20	--	--
APR	27...	1250	5.7	8.5	26.1	2.8	8.0	104	<10	E53	E130	140	36.8
SEP	06...	1045	7.2	7.6	24.9	--	7.8	100	<10	350	320	130	32.6

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	
OCT	10...	10.8	12.3	.5	2.14	116	<1.0	7.8	13.3	E.1	33.9	178	5.81	11
FEB	21...	--	--	--	--	145	--	--	--	--	--	--	--	<10
APR	27...	12.6	14.7	.5	1.73	141	<1.0	9.1	18.5	E.1	34.5	213	3.24	<10
SEP	06...	11.8	13.9	.5	1.73	127	--	8.0	18.5	E.1	31.1	194	3.79	<10

DATE	NITRO-GEN, NITRATE (MG/L AS N) (00620)	NITRO-GEN, NITRITE (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	
OCT	10...	1.09	.01	1.1	.02	<.20	--	--	.120	2	46.6	26	<.11	1
FEB	21...	--	<.01	1.2	.03	<.20	--	--	.180	--	--	--	--	--
APR	27...	--	<.01	1.4	<.01	.22	1.6	7.2	.230	<2	49.0	31	<.11	<1
SEP	06...	--	<.01	.8	.03	<.20	--	--	.180	--	--	--	--	--

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)	
OCT	10...	<20.0	490	<1	33	<.14	<2.6	<.43	<31	<.01	<16	<.02
FEB	21...	--	--	--	--	--	--	--	--	--	--	--
APR	27...	<20.0	130	<1	14	<.01	<2.6	<.43	<31	<.01	<16	<.04
SEP	06...	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
E -- Estimated value

RIO GRANDE DE MANATI BASIN

50031200 RIO GRANDE DE MANATI NEAR MOROVIS, PR

LOCATION.--Lat 18°17'45", long 66°24'47", Hydrologic Unit 21010001, on right bank , 0.1 mi (0.2 km) downstream from Quebrada Perchas, 0.8 mi (1.3 km) upstream from Río Sana Muerto, and 2.2 mi (3.5 km) south of Morovis.

DRAINAGE AREA.--55.2 mi² (143.0 km²).

PERIOD OF RECORD.--January 1965 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 440 ft (134 m), from topographic map. Feb.2,1966 to Apr. 27, 1967, only staff gage readings twice daily.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Public water-supply pumpage, about 1,000 ft (305 m) above the station, influences low-flow discharges. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	151	660	69	33	39	41	17	14	16	16	11	12
2	123	1140	58	32	36	70	16	13	18	12	15	20
3	79	535	55	31	31	37	16	12	15	11	46	71
4	55	198	52	31	28	30	17	13	29	13	16	25
5	45	145	51	31	26	28	18	13	17	21	11	15
6	38	121	49	30	27	27	72	30	15	12	10	12
7	36	382	49	30	28	26	31	411	14	9.6	13	11
8	91	207	48	28	25	26	21	115	13	9.0	10	10
9	70	137	47	27	23	24	21	111	13	8.6	9.8	9.6
10	44	116	48	27	23	23	19	72	12	8.4	14	9.1
11	37	104	47	26	34	21	19	87	11	8.4	12	8.2
12	33	101	44	28	32	21	19	46	11	8.9	10	9.2
13	85	111	47	27	35	20	19	34	11	9.8	8.7	9.4
14	44	95	44	31	26	19	24	28	12	9.1	8.0	7.6
15	35	93	69	32	28	19	18	26	14	8.6	13	8.1
16	53	84	64	27	28	18	16	23	24	8.0	10	9.2
17	60	80	86	29	28	18	15	21	29	7.5	21	11
18	57	76	83	26	24	17	14	22	29	8.8	33	9.7
19	296	74	56	25	22	17	14	33	17	11	15	19
20	153	72	50	24	24	18	14	23	12	10	10	12
21	87	73	44	24	23	21	19	18	11	9.5	8.7	44
22	96	90	43	23	71	26	39	18	9.8	7.8	9.3	e201
23	194	74	46	23	52	53	42	17	9.9	11	165	e74
24	175	67	40	23	44	75	30	17	13	11	68	e35
25	99	66	40	23	109	34	21	16	12	9.9	27	e22
26	71	65	39	21	69	23	22	16	16	8.9	18	e21
27	57	63	37	28	51	22	19	16	12	8.9	14	e18
28	50	61	38	47	37	21	15	16	11	8.0	13	e15
29	49	59	34	98	---	20	15	16	11	8.9	32	e13
30	81	58	32	132	---	18	14	16	14	51	17	e12
31	176	---	33	53	---	17	---	15	---	18	13	---
TOTAL	2720	5207	1542	1070	1023	850	656	1328	451.7	363.6	681.5	753.1
MEAN	87.7	174	49.7	34.5	36.5	27.4	21.9	42.8	15.1	11.7	22.0	25.1
MAX	296	1140	86	132	109	75	72	411	29	51	165	201
MIN	33	58	32	21	22	17	14	12	9.8	7.5	8.0	7.6
AC-FT	5400	10330	3060	2120	2030	1690	1300	2630	896	721	1350	1490
CFSM	1.59	3.14	.90	.63	.66	.50	.40	.78	.27	.21	.40	.45
IN.	1.83	3.51	1.04	.72	.69	.57	.44	.89	.30	.25	.46	.51

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2001, BY WATER YEAR (WY)

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001		
MEAN	149	145	110	81.7	63.8	61.7	99.0	149	59.6	44.2	52.2	109																											
MAX	1037	491	522	228	179	226	412	915	173	157	435	432																											
(WY)	1971	1971	1966	1997	1969	1972	1969	1985	1987	1979	1979	1996																											
MIN	24.0	11.4	8.65	10.4	15.3	12.7	8.80	15.7	6.75	5.54	9.70	6.87																											
(WY)	1978	1995	1995	1995	1994	1984	1995	1994	1994	1994	1984	1994																											

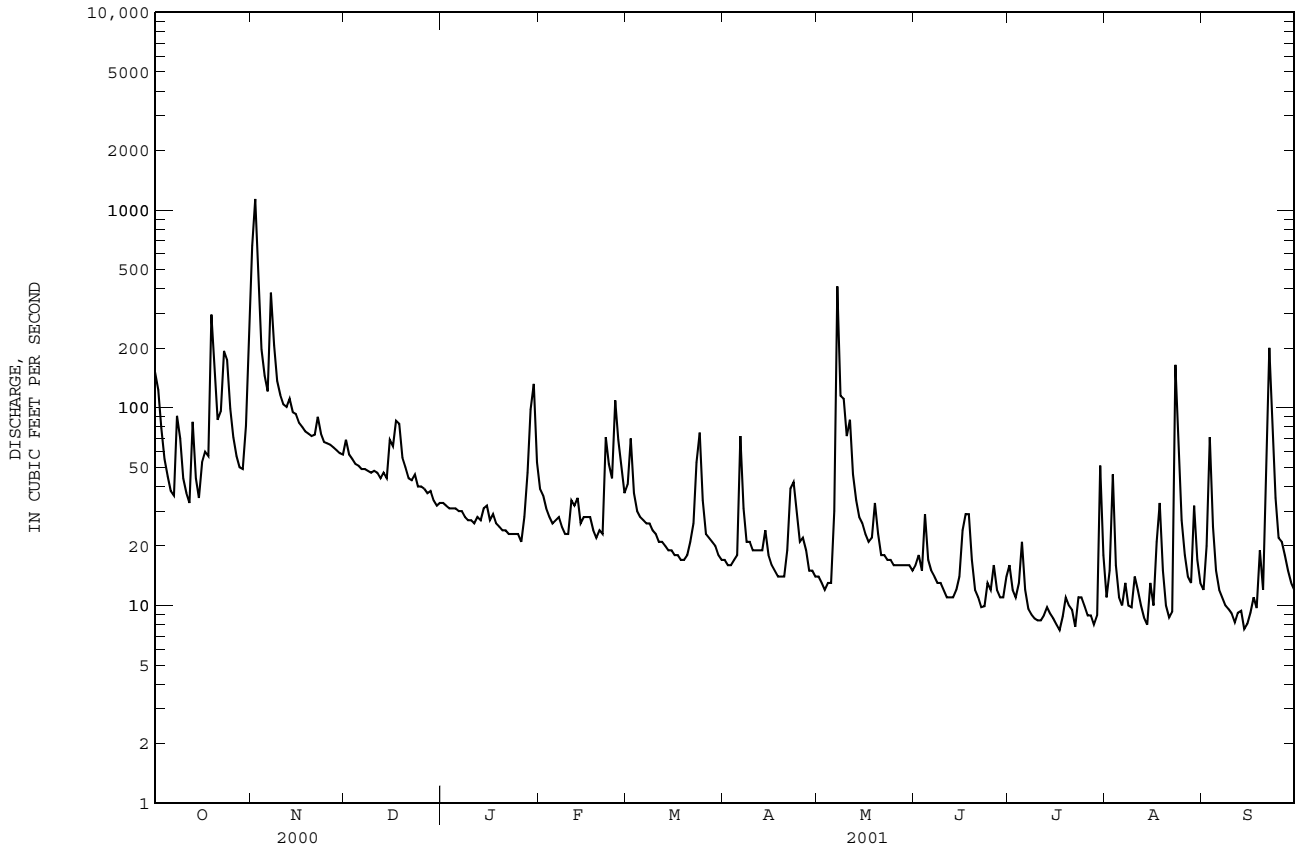
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1965 - 2001

ANNUAL TOTAL	26233.5	16645.9	
ANNUAL MEAN	71.7	45.6	93.4
HIGHEST ANNUAL MEAN			248
LOWEST ANNUAL MEAN			24.2
HIGHEST DAILY MEAN	1140	1140	17100
LOWEST DAILY MEAN	9.2	7.5	3.5
ANNUAL SEVEN-DAY MINIMUM	10	8.6	4.0
MAXIMUM PEAK FLOW		7650	48000
MAXIMUM PEAK STAGE		8.34	17.89
ANNUAL RUNOFF (AC-FT)	52030	33020	67700
ANNUAL RUNOFF (CFSM)	1.30	.83	1.69
ANNUAL RUNOFF (INCHES)	17.68	11.22	23.00
10 PERCENT EXCEEDS	148	86	170
50 PERCENT EXCEEDS	48	24	48
90 PERCENT EXCEEDS	14	10	19

e Estimated

RIO GRANDE DE MANATI BASIN

50031200 RIO GRANDE DE MANATI NEAR MOROVIS, PR--Continued



50031200 RIO GRANDE DE MANATI NEAR MOROVIS, PR

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CaCO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)
OCT 12...	1035	32	281	7.7	25.7	23	8.4	104	<10	560	E150	110	26.0
FEB 21...	1300	23	298	8.2	24.9	3.0	8.8	109	<10	<10	E60	--	--
APR 24...	1040	30	280	7.8	24.8	--	8.5	104	--	240	E130	110	26.5
SEP 06...	1315	12	246	7.3	29.5	--	7.9	105	<10	310	E54	98	23.6

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FIELD (MG/L AS CaCO3) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT 12...	10.5	12.3	.5	2.18	113	<1.0	8.2	22.8	<.2	28.3	178	15.3	22
FEB 21...	--	--	--	--	120	--	--	--	--	--	--	--	<10
APR 24...	11.0	15.1	.6	1.96	107	<1.0	7.7	16.6	E.1	25.2	168	13.4	--
SEP 06...	9.47	11.8	.5	1.99	92	--	7.9	15.2	E.1	24.3	149	4.83	14

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)
OCT 12...	<.01	.7	.15	<.20	.080	<2	49.1	33	<.11	2	<20.0	650	<1
FEB 21...	<.01	.4	.02	<.20	.040	--	--	--	--	--	--	--	--
APR 24...	<.01	.3	.02	<.20	.050	<2	46.6	27	<.11	<1	<20.0	230	<1
SEP 06...	<.01	.6	.05	<.20	.050	--	--	--	--	--	--	--	--

DATE	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 12...	42	<.14	<2.6	<.43	<31	<.01	<16	.02
FEB 21...	--	--	--	--	--	--	--	--
APR 24...	21	<.01	<2.6	<.43	<31	<.01	<16	.03
SEP 06...	--	--	--	--	--	--	--	--

< -- Less than
E -- Estimated value

RIO GRANDE DE MANATI BASIN

50032290 LAGO EL GUINEO AT DAMSITE NEAR VILLALBA, PR

LOCATION.--Lat 18°09'41", long 66°31'36", Hydrologic Unit 21010001, at damsite on Río Toro Negro, 3.0 mi (4.8 km) northwest from Villalba plaza and 1.9 mi (3.1 km) northeast of Cerro Maravillas. The reservoir itself fixes the territorial limits between the Municipality of Ciales and Orocovis.

DRAINAGE AREA.--1.64 mi² (4.25 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--May 1988 to current year. Prior to October 1994, published as Lago El Guineo at Damsite.

GAGE.--Water-stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago El Guineo was completed in 1931. It provides a maximum storage of approximately 2,180 ac-ft (2.688 hm³) for power and irrigation. Waters are discharged through an outlet power tunnel into the Río Toro Negro and conveyed to the head water works of Toro Negro Hydroelectric Plant No.2, for energy generation at Toro Negro Hydroelectric plant No.1, and are discharged into the Guayabal Reservoir to be later used for irrigation at South Coast Irrigation System. The dam is rockfill with a vertical concrete corewall, rock toes, and riprap facing of upstream slope, with a total length of 565 ft (172 m), a maximum structural height of 125 ft (38 m) to top of corewall. At a maximum reservoir water surface elevation the uncontrolled morning-glory tunnel spillway crest has an elevation of 2,960 ft (902 m) above mean sea level and a design capacity of 7,000 ft³/s. The dam is owned by Puerto Rico Electric Power Authority. Gage-height and precipitation satellite telemetry at station.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation 2,964.40 ft (903.55 m), Sept, 22 1998; minimum elevation, 2,919.79 ft (899.95 m), May 27, 1988.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 2,960.86 ft (902.47 m), Nov. 1; minimum elevation, 2,927.75 ft (892.38 m), June 12.

Capacity Table
(based on data from Puerto Rico Electric Power Authority)

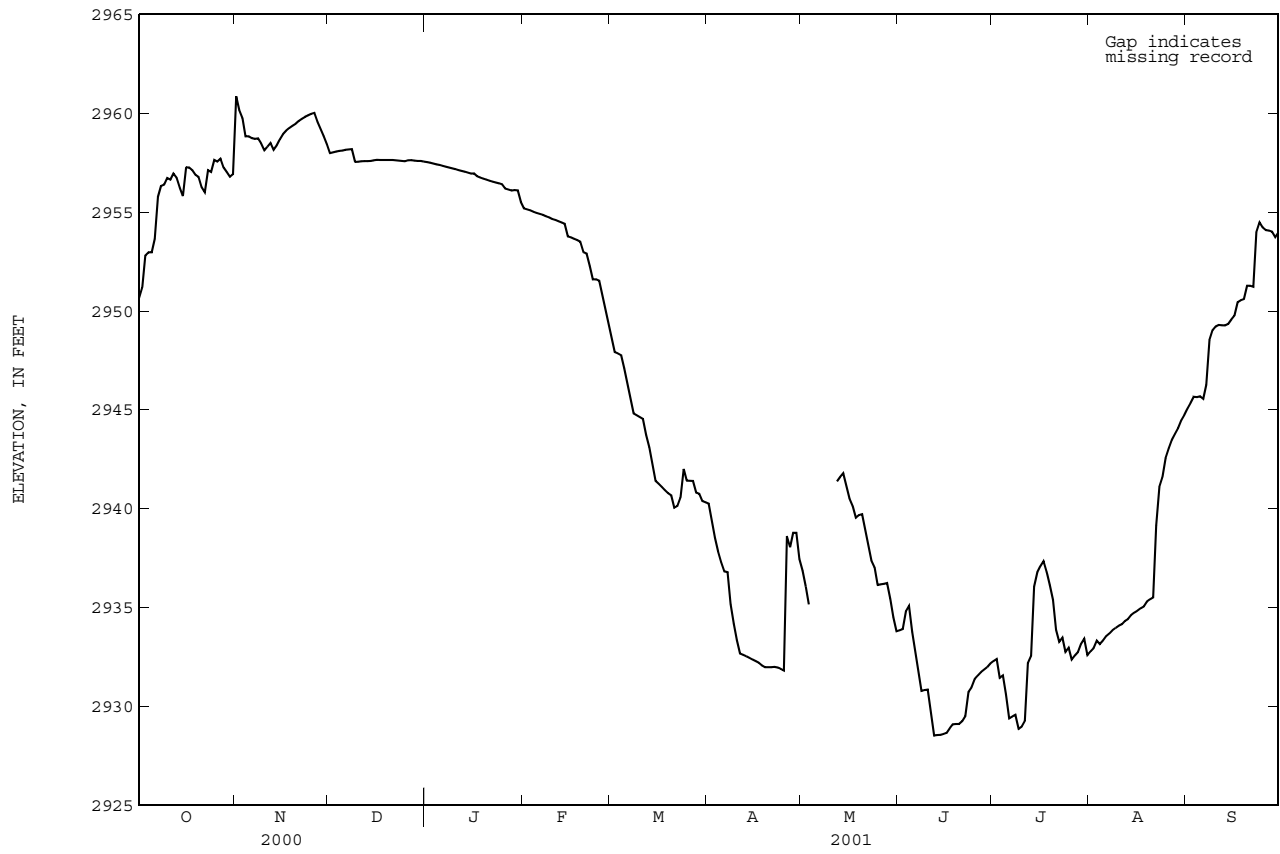
Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
2,872	0	2,950	1,308
2,919	361	2,961	1,852
2,925	491	2,966	2,180
2,943	1,029		

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2950.64	2960.86	2957.99	2957.53	2955.19	2948.67	2940.25	2936.86	2933.84	2932.29	2932.78	2945.07
2	2951.19	2960.17	2958.03	2957.50	2955.14	2947.92	2939.38	2936.05	2933.91	2932.39	2932.94	2945.34
3	2952.81	2959.77	2958.07	2957.46	2955.09	2947.85	2938.54	2935.15	2934.81	2931.44	2933.32	2945.66
4	2952.97	2958.84	2958.10	2957.42	2955.02	2947.76	2937.83	A	2935.08	2931.56	2933.15	2945.64
5	2952.97	2958.84	2958.12	2957.39	2954.96	2947.11	2937.30	A	2933.76	2930.60	2933.33	2945.68
6	2953.65	2958.75	2958.16	2957.34	2954.91	2946.33	2936.83	A	2932.81	2929.39	2933.54	2945.55
7	2955.78	2958.71	2958.17	2957.30	2954.86	2945.58	2936.79	A	2931.82	2929.49	2933.68	2946.27
8	2956.32	2958.73	2958.19	2957.26	2954.79	2944.82	2935.17	A	2930.77	2929.57	2933.84	2948.53
9	2956.39	2958.48	2957.54	2957.22	2954.73	2944.73	2934.17	A	2930.82	2928.86	2933.96	2949.02
10	2956.72	2958.13	2957.55	2957.18	2954.65	2944.63	2933.36	A	2930.85	2928.97	2934.08	2949.21
11	2956.64	2958.30	2957.57	2957.13	2954.60	2944.54	2932.67	A	2929.71	2929.26	2934.15	2949.29
12	2956.95	2958.50	2957.58	2957.09	2954.54	2943.73	2932.60	2941.38	2928.52	2932.18	2934.32	2949.28
13	2956.74	2958.16	2957.58	2957.05	2954.47	2943.10	2932.53	2941.60	2928.55	2932.55	2934.42	2949.27
14	2956.23	2958.38	2957.59	2957.00	2954.41	2942.28	2932.46	2941.79	2928.56	2936.06	2934.62	2949.34
15	2955.82	2958.68	2957.62	2956.95	2953.77	2941.40	2932.37	2941.15	2928.60	2936.78	2934.74	2949.57
16	2957.27	2958.95	2957.65	2956.96	2953.72	2941.26	2932.29	2940.52	2928.65	2937.10	2934.84	2949.76
17	2957.26	2959.13	2957.64	2956.81	2953.65	2941.10	2932.21	2940.14	2928.88	2937.35	2934.96	2950.44
18	2957.12	2959.26	2957.64	2956.75	2953.58	2940.94	2932.07	2939.54	2929.09	2936.79	2935.05	2950.54
19	2956.89	2959.37	2957.64	2956.69	2953.50	2940.79	2931.98	2939.67	2929.11	2936.14	2935.30	2950.60
20	2956.78	2959.47	2957.64	2956.64	2952.97	2940.67	2931.98	2939.72	2929.11	2935.39	2935.41	2951.28
21	2956.26	2959.61	2957.64	2956.59	2952.90	2940.05	2931.98	2938.95	2929.25	2933.87	2935.51	2951.28
22	2956.00	2959.72	2957.62	2956.54	2952.27	2940.14	2932.00	2938.16	2929.50	2933.26	2939.15	2951.22
23	2957.12	2959.82	2957.61	2956.50	2951.60	2940.56	2931.96	2937.38	2930.73	2933.47	2941.10	2953.98
24	2957.03	2959.90	2957.59	2956.46	2951.60	2942.01	2931.90	2937.03	2930.96	2932.75	2941.59	2954.48
25	2957.64	2959.97	2957.57	2956.41	2951.53	2941.42	2931.81	2936.14	2931.38	2932.96	2942.56	2954.23
26	2957.56	2960.02	2957.62	2956.19	2950.84	2941.41	2938.61	2936.17	2931.56	2932.36	2943.05	2954.09
27	2957.70	2959.58	2957.63	2956.14	2950.13	2941.40	2938.05	2936.20	2931.73	2932.57	2943.47	2954.07
28	2957.26	2959.21	2957.61	2956.09	2949.40	2940.81	2938.78	2936.24	2931.86	2932.74	2943.79	2954.01
29	2957.03	2958.85	2957.59	2956.12	---	2940.75	2938.78	2935.44	2931.98	2933.17	2944.07	2953.74
30	2956.79	2958.44	2957.59	2956.10	---	2940.38	2937.45	2934.51	2932.17	2933.42	2944.47	2953.96
31	2956.92	---	2957.56	2955.50	---	2940.32	---	2933.79	---	2932.59	2944.74	---
MAX	2957.70	2960.86	2958.19	2957.53	2955.19	2948.67	2940.25	---	2935.08	2937.35	2944.74	2954.48
MIN	2950.64	2958.13	2957.54	2955.50	2949.40	2940.05	2931.81	---	2928.52	2928.86	2932.78	2945.07

A No gage-height record

RIO GRANDE DE MANATI BASIN
50032290 LAGO EL GUINEO AT DAMSITE NEAR VILLALBA, PR--Continued



RIO GRANDE DE MANATI BASIN

50032590 LAGO DE MATRULLAS AT DAMSITE NEAR OROCOVIS, PR

LOCATION.--Lat 18°12'46", long 66°28'50", Hydrologic Unit 21010001, in shelter house at damsite, and 5.8 mi (9.3 km) southwest of Orocovis.

DRAINAGE AREA.--4.46 mi² (11.55 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--May 1988 to current year. Prior to October 1994, published as Lago de Matrullas at Damsite.

GAGE.--Water-stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Matrullas was completed in 1934. The dam is an earthfill structure about 120 ft (37 m) height, a top width of 30 ft (9 m) and a length of 710 ft (216 m), and has a maximum storage capacity of about 4,274 ac-ft (5.220 hm³) at top of dam elevation. The Matrullas Dam is owned by the Puerto Rico Electric Power Authority and is part of the Toro Negro Hydroelectric Project; a project developed by the P.R.E.P.A. for the primary purpose of generating electric power. Discharges from the Power Plants are collected by the Jacaguas River which flows into Guayabal Dam, at which dam they are regulated for irrigation of lands served by the Juana Diaz Canal. Gage-height and precipitation satellite telemetry at station.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation 2,419.90 ft (737.58 m), Sept. 10, 1996; minimum elevation, 2,375.55 ft (724.06 m), Sept. 24, 25, 1994.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 2,418.75 ft (737.24 m), Nov. 01; minimum elevation, 2,406.05 ft (733.36 m), Apr. 26.

Capacity Table
(based on data from Puerto Rico Electric Power Authority)

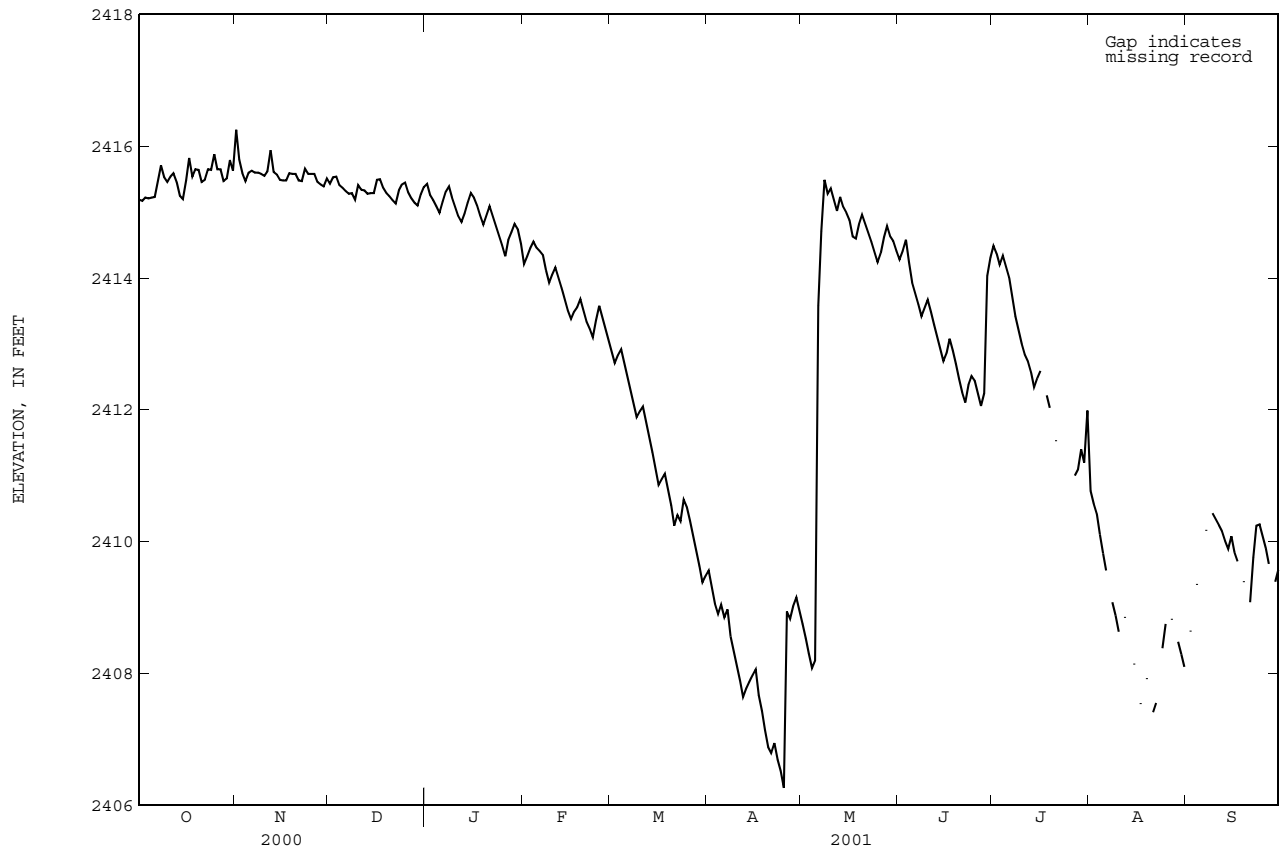
Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
2,338	2	2,399	1,845
2,360	302	2,420	3,331

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2415.19	2416.25	2415.43	2415.43	2414.21	2412.88	2409.56	2408.75	2414.28	2414.49	2410.77	A
2	2415.17	2415.80	2415.53	2415.26	2414.33	2412.71	2409.31	2408.53	2414.41	2414.37	2410.58	2408.64
3	2415.22	2415.59	2415.54	2415.18	2414.45	2412.83	2409.06	2408.30	2414.58	2414.20	2410.42	A
4	2415.21	2415.47	2415.41	2415.09	2414.55	2412.92	2408.90	2408.08	2414.24	2414.34	2410.11	2409.35
5	2415.22	2415.60	2415.37	2414.99	2414.46	2412.72	2409.04	2408.19	2413.93	2414.18	2409.82	A
6	2415.23	2415.63	2415.32	2415.16	2414.41	2412.51	2408.85	2413.58	2413.77	2414.01	2409.56	A
7	2415.47	2415.60	2415.28	2415.31	2414.35	2412.32	2408.97	2414.71	2413.60	2413.72	A	2410.17
8	2415.71	2415.60	2415.29	2415.39	2414.12	2412.10	2408.56	2415.49	2413.42	2413.42	2409.08	A
9	2415.53	2415.58	2415.19	2415.22	2413.93	2411.89	2408.34	2415.28	2413.55	2413.20	2408.88	2410.43
10	2415.46	2415.55	2415.41	2415.08	2414.05	2411.98	2408.11	2415.36	2413.67	2413.01	2408.63	2410.34
11	2415.54	2415.62	2415.34	2414.94	2414.16	2412.05	2407.89	2415.18	2413.49	2412.84	A	2410.25
12	2415.59	2415.94	2415.33	2414.85	2414.01	2411.81	2407.64	2415.02	2413.29	2412.74	2408.85	2410.16
13	2415.46	2415.61	2415.28	2414.98	2413.85	2411.58	2407.77	2415.23	2413.12	2412.57	A	2410.01
14	2415.25	2415.57	2415.29	2415.14	2413.68	2411.36	2407.87	2415.08	2412.93	2412.34	A	2409.89
15	2415.20	2415.49	2415.29	2415.29	2413.51	2411.10	2407.97	2414.99	2412.74	2412.48	2408.14	2410.08
16	2415.48	2415.48	2415.49	2415.22	2413.38	2410.86	2408.06	2414.88	2412.86	2412.59	A	2409.84
17	2415.82	2415.48	2415.50	2415.10	2413.49	2410.95	2407.67	2414.63	2413.08	A	2407.54	2409.70
18	2415.54	2415.59	2415.37	2414.95	2413.56	2411.03	2407.43	2414.60	2412.90	2412.22	A	A
19	2415.65	2415.58	2415.29	2414.81	2413.68	2410.79	2407.14	2414.81	2412.70	2412.03	2407.92	2409.39
20	2415.64	2415.58	2415.24	2414.95	2413.50	2410.55	2406.88	2414.96	2412.47	A	A	A
21	2415.46	2415.48	2415.18	2415.09	2413.34	2410.24	2406.79	2414.83	2412.26	2411.53	2407.41	2409.08
22	2415.49	2415.47	2415.13	2414.94	2413.23	2410.40	2406.94	2414.69	2412.11	A	2407.55	2409.76
23	2415.65	2415.66	2415.33	2414.80	2413.10	2410.31	2406.69	2414.55	2412.38	A	A	2410.24
24	2415.64	2415.58	2415.42	2414.65	2413.36	2410.64	2406.52	2414.39	2412.51	A	2408.38	2410.26
25	2415.88	2415.58	2415.45	2414.50	2413.58	2410.53	2406.26	2414.24	2412.44	A	2408.75	2410.08
26	2415.65	2415.58	2415.30	2414.33	2413.41	2410.32	2408.94	2414.38	2412.26	A	A	2409.90
27	2415.65	2415.46	2415.21	2414.58	2413.24	2410.10	2408.83	2414.62	2412.06	2411.00	2408.82	2409.66
28	2415.47	2415.42	2415.14	2414.70	2413.07	2409.86	2409.02	2414.79	2412.25	2411.09	A	A
29	2415.51	2415.39	2415.10	2414.82	---	2409.63	2409.15	2414.63	2414.03	2411.40	2408.48	2409.39
30	2415.79	2415.51	2415.27	2414.74	---	2409.38	2408.95	2414.56	2414.31	2411.20	2408.29	2409.57
31	2415.63	---	2415.38	2414.52	---	2409.48	---	2414.41	---	2411.99	2408.10	---
MAX	2415.88	2416.25	2415.54	2415.43	2414.55	2412.92	2409.56	2415.49	2414.58	---	---	---
MIN	2415.17	2415.39	2415.10	2414.33	2413.07	2409.38	2406.26	2408.08	2412.06	---	---	---

A No gage-height record

RIO GRANDE DE MANATI BASIN
50032590 LAGO DE MATRULLAS AT DAMSITE NEAR OROCOVIS, PR--Continued



RIO GRANDE DE MANATI BASIN

50034000 RIO BAUTA NEAR OROCOVIS, PR

LOCATION.--Lat 18°14'10", long 66°27'18", Hydrologic Unit 21010001, on left bank, at bridge on Highway 157 (12.1 km), and 4.2 mi (6.8 km) west of Orocovis.

DRAINAGE AREA.--16.7 mi² (43.3 km²).

PERIOD OF RECORD.--February 1959 to April 1966 (annual low-flow measurements only), February to September 1969 (occasional measurements only), October 1969 to September 1982, October 1988 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 772.82 ft (235.556 m) above mean sea level.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	380	21	14	11	9.6	8.1	9.8	11	22	8.8	10
2	35	403	19	14	11	9.6	8.1	9.6	11	15	25	129
3	43	306	19	14	10	9.0	8.1	9.0	21	12	23	88
4	44	125	18	14	9.8	8.5	9.6	8.8	13	12	11	29
5	32	79	17	13	9.9	8.4	89	8.6	11	11	9.4	17
6	24	59	17	13	10	8.6	54	136	11	11	8.8	62
7	22	56	17	14	11	8.9	18	388	9.4	9.7	7.9	115
8	54	46	16	13	11	8.9	13	162	9.1	8.9	7.4	98
9	54	40	16	13	10	8.6	13	145	8.8	8.3	7.7	45
10	45	35	16	13	10	8.3	11	177	8.6	8.2	7.3	24
11	42	31	16	14	11	8.3	13	151	8.4	8.1	7.2	18
12	43	155	17	15	11	8.3	11	61	8.0	22	6.9	15
13	31	110	17	15	11	8.1	11	34	7.9	13	6.7	14
14	24	56	19	14	10	8.0	11	23	7.9	9.3	6.7	13
15	25	46	24	15	10	7.6	10	20	7.8	8.6	7.0	55
16	76	39	22	14	e10	7.5	9.7	16	8.1	8.2	6.9	40
17	111	34	22	15	10	7.3	9.3	14	46	8.0	8.8	19
18	85	31	19	14	9.5	7.3	9.2	16	19	9.6	9.7	17
19	82	30	18	14	9.3	7.4	9.1	19	10	9.3	8.3	15
20	112	28	17	13	9.3	7.7	9.1	13	8.7	8.1	7.3	61
21	92	28	16	13	9.1	9.1	10	12	8.2	8.0	7.5	128
22	54	29	16	13	16	11	12	11	8.5	9.1	10	134
23	99	34	15	13	11	46	12	12	18	9.8	154	119
24	156	29	15	13	14	31	10	11	12	9.8	28	48
25	131	25	15	12	25	23	10	11	10	8.3	52	26
26	86	24	15	12	13	12	71	10	9.5	8.2	35	18
27	63	22	15	13	10	20	e48	12	8.5	8.2	14	15
28	53	21	15	17	9.8	10	e15	13	41	7.8	18	13
29	42	21	15	30	---	9.4	12	11	124	17	16	12
30	82	21	15	25	---	8.7	10	10	68	18	11	11
31	198	---	14	12	---	8.4	---	11	---	9.9	9.8	---
TOTAL	2068	2343	533	451	312.7	354.5	544.3	1544.8	553.4	336.4	547.1	1408
MEAN	66.7	78.1	17.2	14.5	11.2	11.4	18.1	49.8	18.4	10.9	17.6	46.9
MAX	198	403	24	30	25	46	89	388	124	22	154	134
MIN	22	21	14	12	9.1	7.3	8.1	8.6	7.8	7.8	6.7	10
AC-FT	4100	4650	1060	895	620	703	1080	3060	1100	667	1090	2790
CFSM	3.99	4.68	1.03	.87	.67	.68	1.09	2.98	1.10	.65	1.06	2.81
IN.	4.61	5.22	1.19	1.00	.70	.79	1.21	3.44	1.23	.75	1.22	3.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2001, BY WATER YEAR (WY)

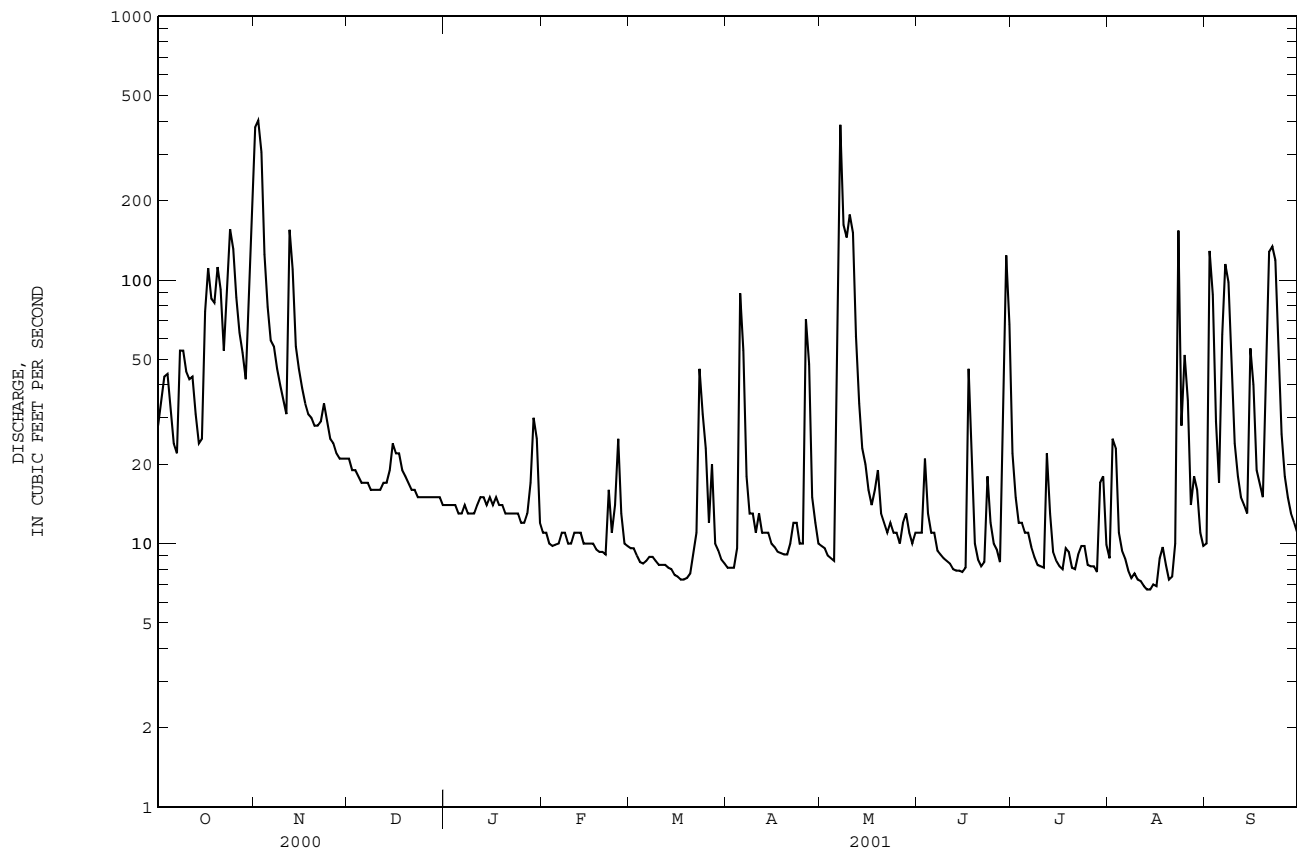
	MEAN	83.5	57.0	29.4	21.7	17.0	15.1	26.2	49.5	20.2	15.5	21.5	113
MAX	392	205	108	83.4	43.5	59.9	80.2	179	78.6	104	152	1104	
(WY)	1971	1971	1971	1992	1998	1972	1980	1981	1979	1979	1979	1996	
MIN	14.6	7.12	4.29	3.66	5.70	4.18	4.92	4.24	3.59	3.22	3.97	3.55	
(WY)	1994	1995	1995	1995	1994	1994	1995	1994	1994	1994	1994	1994	

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1969 - 2001

ANNUAL TOTAL	12781.2	10996.2	
ANNUAL MEAN	34.9	30.1	39.1
HIGHEST ANNUAL MEAN			117
LOWEST ANNUAL MEAN			6.56
HIGHEST DAILY MEAN	403	Nov 2	19500
LOWEST DAILY MEAN	7.4	Jul 28	2.8
ANNUAL SEVEN-DAY MINIMUM	7.8	Jul 22	2.8
MAXIMUM PEAK FLOW			28200
MAXIMUM PEAK STAGE			25.93
INSTANTANEOUS LOW FLOW			2.6
ANNUAL RUNOFF (AC-FT)	25350	21810	28350
ANNUAL RUNOFF (CFSM)	2.09	1.80	2.34
ANNUAL RUNOFF (INCHES)	28.47	24.49	31.83
10 PERCENT EXCEEDS	76	69	69
50 PERCENT EXCEEDS	19	13	14
90 PERCENT EXCEEDS	9.0	8.2	5.7

e Estimated

RIO GRANDE DE MANATI BASIN
50034000 RIO BAUTA NEAR OROCOVIS, PR--Continued

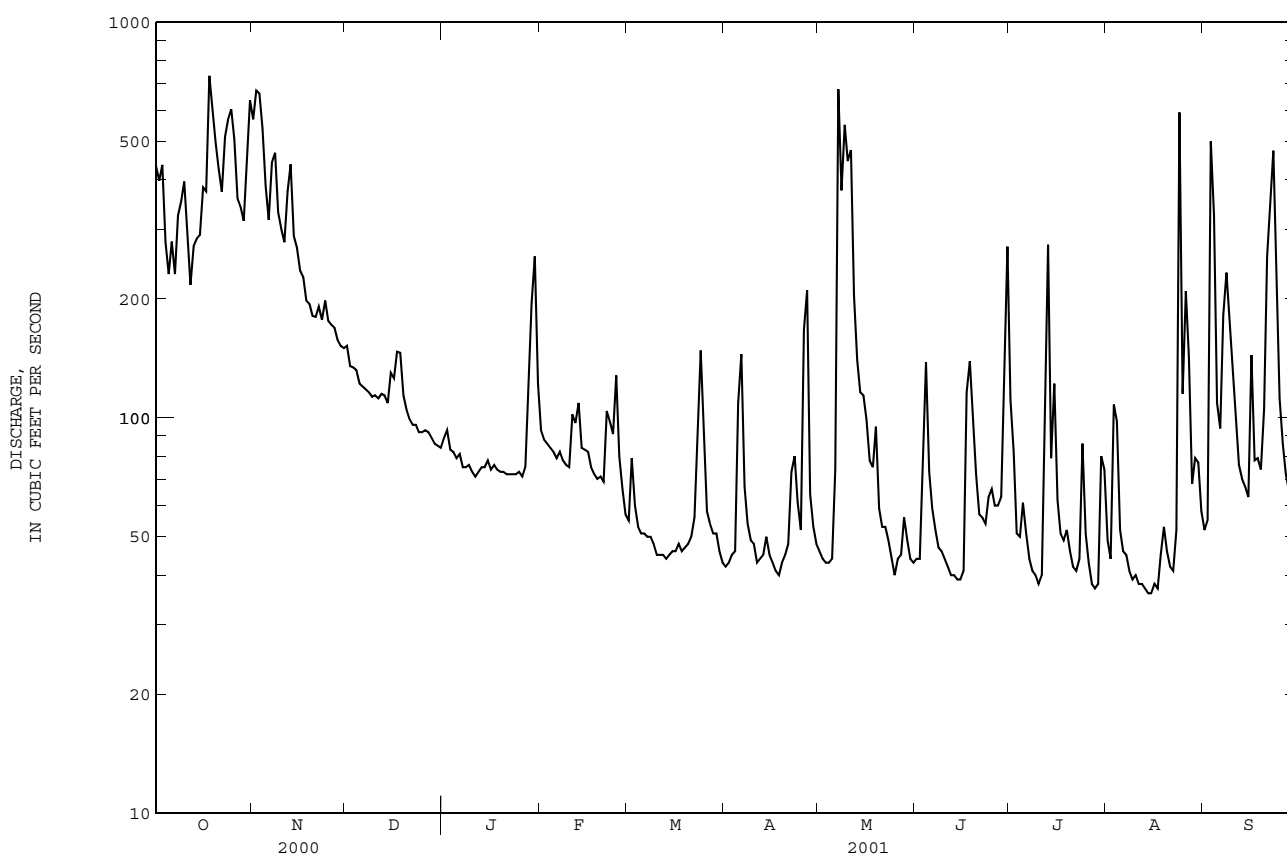


RIO GRANDE DE MANATI BASIN

50035000 RIO GRANDE DE MANATI AT CIALES, PR--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1946 - 2001	
ANNUAL TOTAL	67777		49188			
ANNUAL MEAN	185		135		242	
HIGHEST ANNUAL MEAN					520	1971
LOWEST ANNUAL MEAN					47.3	1994
HIGHEST DAILY MEAN	898	May 9	733	Oct 18	42700	May 18 1985
LOWEST DAILY MEAN	39	Aug 19	36	Aug 14	8.5	Jul 28 1994
ANNUAL SEVEN-DAY MINIMUM	45	Aug 8	37	Aug 11	9.5	Jul 24 1994
MAXIMUM PEAK FLOW			2920	Nov 1	128000	Sep 10 1996
MAXIMUM PEAK STAGE			6.44	Nov 1	25.20	Sep 10 1996
INSTANTANEOUS LOW FLOW			29	Jul 10	8.5	Jul 27 1994
ANNUAL RUNOFF (AC-FT)	134400		97560		175400	
ANNUAL RUNOFF (CFSM)	1.45		1.05		1.89	
ANNUAL RUNOFF (INCHES)	19.70		14.30		25.70	
10 PERCENT EXCEEDS	431		348		445	
50 PERCENT EXCEEDS	120		78		114	
90 PERCENT EXCEEDS	52		43		50	

e Estimated



RIO GRANDE DE MANATI BASIN

50035500 RIO GRANDE DE MANATI AT HIGHWAY 149 AT CIALES, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°20'46", long 66°28'06", at bridge on Highway 149, about 800 ft (244 m) upstream from confluence with Río Cialitos, 0.5 mi (0.8 km) north of Ciales plaza.

DRAINAGE AREA.--136 mi² (352 km²) this excludes the 6 mi² (15.5 km²) upstream from Lago El Guineo and Lago de Matrullas, flow from which is diverted to Río Jacaguas.

PERIOD OF RECORD.--Water years 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (MG/L) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT 12...	1515	172	209	8.2	28.3	7.5	8.0	104	<10	520	210	80	20.4
FEB 20...	1030	76	270	7.8	24.1	2.9	8.2	98	<10	22000	E20	--	--
MAY 01...	1320	59	256	7.5	27.8	7.0	8.4	108	<10	410	E140	97	25.4
AUG 29...	1400	140	210	7.5	28.4	--	8.8	114	<10	4300	870	84	21.6

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS S04) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT 12...	6.97	9.9	.5	1.51	82	<1.0	7.3	9.6	E.1	25.0	130	60.4	16
FEB 20...	--	--	--	--	105	--	--	--	--	--	--	--	<10
MAY 01...	8.18	11.5	.5	1.60	97	<1.0	9.6	12.5	E.1	25.3	152	24.1	11
AUG 29...	7.29	9.7	.5	1.46	81	--	9.0	10.6	E.1	22.8	131	49.7	10

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, ORGANIC (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)
OCT 12...	<.01	.3	.06	--	<.20	--	--	.060	<2	38.2	24	<.11	M
FEB 20...	<.01	.2	.02	--	<.20	--	--	<.020	--	--	--	--	--
MAY 01...	<.01	3.4	.20	.41	.61	4.0	17.8	.550	<2	45.3	E16	<.11	<1
AUG 29...	<.01	.2	.02	--	<.20	--	--	<.020	--	--	--	--	--

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 12...	<20.0	540	<1	39	<.14	<2.6	<.43	<31	<.01	<16	<.02
FEB 20...	--	--	--	--	--	--	--	--	--	--	--
MAY 01...	<20.0	310	<1	55	<.01	<2.6	<.43	<31	<.01	<16	<.04
AUG 29...	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
 E -- Estimated value
 M -- Presence verified, not quantified

50035950 RIO CIALITOS AT HIGHWAY 649 AT CIALES, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°20'18", long 66°28'28", 100 ft (30 m) upstream from bridge on Highway 649, 0.7 mi (1.1 km) upstream from mouth, and about 0.4 mi (0.6 km) west of Ciales plaza.

DRAINAGE AREA.--17.0 mi² (44.0 km²).

PERIOD OF RECORD.--Water years 1969-71, 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL AS (MG/L) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT 13...	1430	17	212	7.9	27.6	69	8.2	104	18	4500	800	77	21.5
FEB 20...	1200	9.8	256	7.8	22.4	2.5	8.9	104	<10	200	350	--	--
MAY 02...	1500	7.9	253	7.8	30.4	7.5	7.8	106	<10	E710	E120	100	29.5
AUG 20...	1110	16	212	7.2	27.0	--	6.0	76	<10	530	4700	100	30.3

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT 13...	5.53	9.8	.5	1.71	87	<1.0	5.8	9.6	E.1	26.8	133	6.16	66
FEB 20...	--	--	--	--	103	--	--	--	--	--	--	--	<10
MAY 02...	6.42	11.0	.5	1.61	99	<1.0	8.5	13.5	E.1	25.9	156	3.31	<10
AUG 20...	6.39	10.9	.5	1.91	69	--	6.8	11.0	E.1	25.9	135	5.73	11

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)
OCT 13...	<.01	.6	.07	.48	.55	1.1	5.1	.240	E1	62.7	E18	<.11	2
FEB 20...	<.01	.4	.02	--	<.20	--	--	.040	--	--	--	--	--
MAY 02...	<.01	.4	.03	.20	.23	.60	2.7	.070	<2	51.3	E12	<.11	<1
AUG 20...	<.01	.5	.03	.29	.32	.79	3.5	.080	--	--	--	--	--

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 13...	<20.0	1960	<1	112	<.14	<2.6	<.43	<31	<.01	<16	<.02
FEB 20...	--	--	--	--	--	--	--	--	--	--	--
MAY 02...	<20.0	160	<1	18	<.01	<2.6	<.43	<31	<.01	<16	--
AUG 20...	--	--	--	--	--	--	--	--	--	--	--

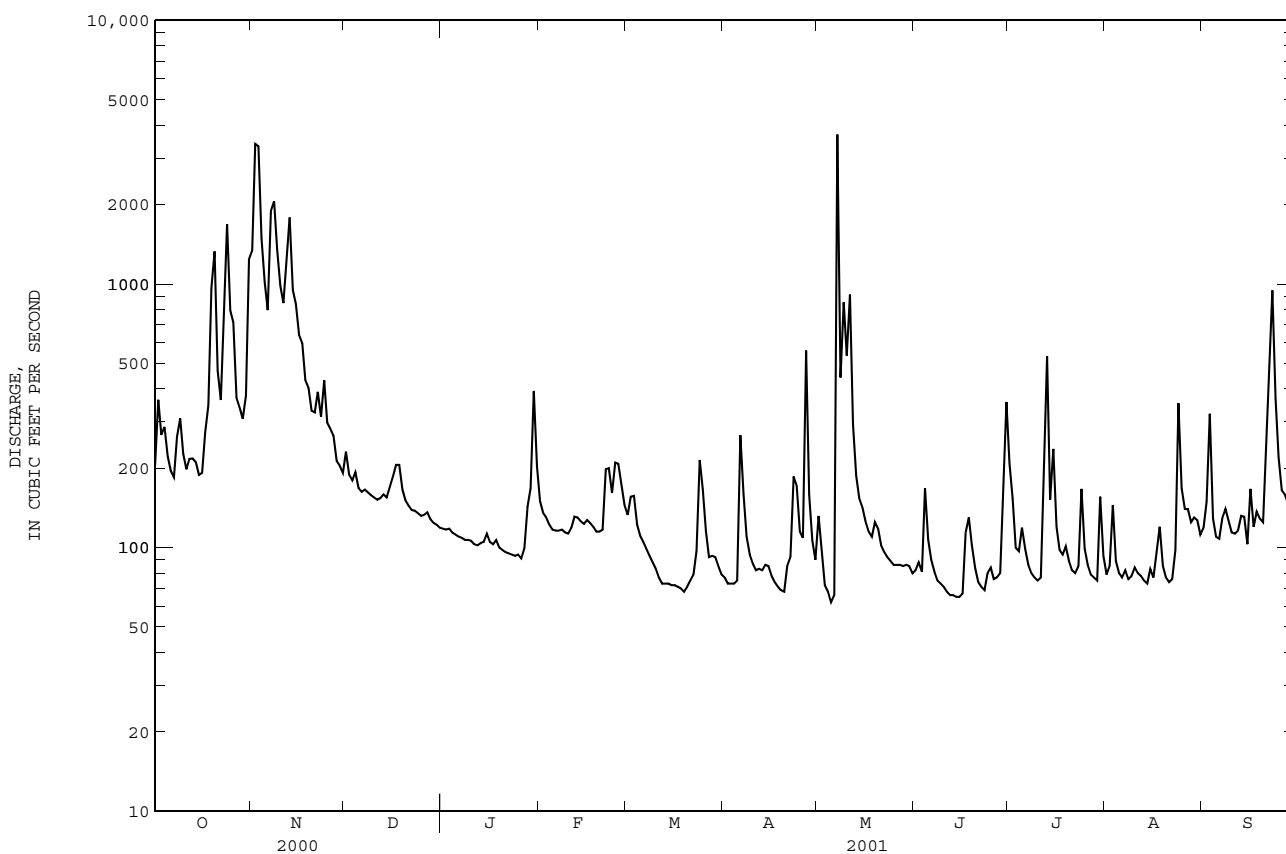
< -- Less than
E -- Estimated value

RIO GRANDE DE MANATI BASIN

50038100 RIO GRANDE DE MANATI AT HIGHWAY 2 NEAR MANATI, PR--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1970 - 2001	
ANNUAL TOTAL	117833		87033			
ANNUAL MEAN	322		238		379	
HIGHEST ANNUAL MEAN					756 1971	
LOWEST ANNUAL MEAN					96.5 1994	
HIGHEST DAILY MEAN	3400	Nov 2	3690	May 7	80400	Sep 22 1998
LOWEST DAILY MEAN	72	Aug 14	62	May 5	31	Jan 24 1995
ANNUAL SEVEN-DAY MINIMUM	76	Aug 9	67	Jun 10	33	Jul 23 1994
MAXIMUM PEAK FLOW			11000		198000 Sep 10 1996	
MAXIMUM PEAK STAGE			27.89		36.39 Sep 10 1996	
INSTANTANEOUS LOW FLOW			56		28 Jan 23 1995	
ANNUAL RUNOFF (AC-FT)	233700		172600		274700	
ANNUAL RUNOFF (CFSM)	1.63		1.21		1.93	
ANNUAL RUNOFF (INCHES)	22.25		16.43		26.16	
10 PERCENT EXCEEDS	726		415		680	
50 PERCENT EXCEEDS	192		119		166	
90 PERCENT EXCEEDS	89		75		82	

e Estimated



RIO GRANDE DE MANATI BASIN

50038100 RIO GRANDE DE MANATI AT HIGHWAY 2 NEAR MANATI, PR

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CaCO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)
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OCT	13...	1042	195	260	7.6	28.0	20	6.9	88	<10	3200	2500	110	31.6
FEB	27...	1505	172	289	8.0	25.8	4.5	9.5	117	<10	3700	560	--	--
APR	26...	1035	97	290	7.4	26.3	8.5	7.6	94	--	>6000	1600	120	38.0
AUG	27...	1100	152	259	7.4	28.9	--	6.7	87	--	E710	380	--	--

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
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OCT	13...	6.36	9.8	.4	1.78	106	<1.0	E.1	11.4	E.1	21.1	--	--	54
FEB	27...	--	--	--	--	117	--	--	--	--	--	--	--	15
APR	26...	6.34	9.1	.4	2.05	116	<1.0	8.3	12.1	E.1	15.0	161	42.2	13
AUG	27...	--	--	--	--	85	--	--	--	--	--	--	--	--

DATE	NITRO-GEN, NITRATE (MG/L AS N) (00620)	NITRO-GEN, NITRITE (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, ORGANIC (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS (MG/L AS P) (00665)	ARSENIC (MG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (MG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (MG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (MG/L AS CD) (01027)
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OCT	13...	.65	.02	.7	.12	.20	.32	.99	4.4	.120	<2	48.9	23	<.11
FEB	27...	--	<.01	.5	.06	.20	.26	.74	3.3	.070	--	--	--	--
APR	26...	--	<.01	.8	.05	.30	.35	1.1	4.9	.100	<2	46.8	21	<.11
AUG	27...	--	<.01	.8	.03	.26	.29	1.1	4.8	.090	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL RECOV-ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
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OCT	13...	2	<20.0	1220	<1	81	<.14	<2.6	<.43	<31	<.01	<16	<.02
FEB	27...	--	--	--	--	--	--	--	--	--	--	--	--
APR	26...	<1	<20.0	250	<1	27	<.01	<2.6	<.43	<31	<.01	<16	.05
AUG	27...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
 E -- Estimated value
 > -- Greater than

50038200 LAGUNA TORTUGUERO OUTLET NEAR VEGA BAJA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°28'29", long 66°26'50", at bridge on Highway 686, 4.2 mi (6.8 km) northeast of Manatí, and 4.4 mi (7.1 km) northwest of Vega Baja plaza.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--Water years 1964-66, 1969-71, 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	ANC WATER UNFLTRD FET FIELD MG/L AS CACO3 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDEED (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	
OCT														
02...	1015	1140	7.4	28.9	5.6	73	31	--	--	106	<1.0	<10	.30	
FEB														
06...	1055	1210	7.7	25.8	7.0	86	31	E28	84	112	--	<10	.51	
APR														
27...	1530	1290	7.6	29.7	6.9	91	35	E40	E46	107	<1.0	<10	--	
AUG														
29...	1035	1380	7.5	29.8	5.1	68	<10	96	480	104	--	27	--	

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	
OCT														
02...	.01	.3	.44	.86	1.3	1.6	7.1	<.020	71	<20.0	40	3	<31	
FEB														
06...	.01	.5	.24	.64	.88	1.4	6.2	<.020	--	--	--	--	--	
APR														
27...	<.01	.4	.22	1.1	1.3	1.7	7.7	<.020	76	<20.0	20	E2	<31	
AUG														
29...	<.01	.3	.36	1.0	1.4	1.7	7.5	<.020	--	--	--	--	--	

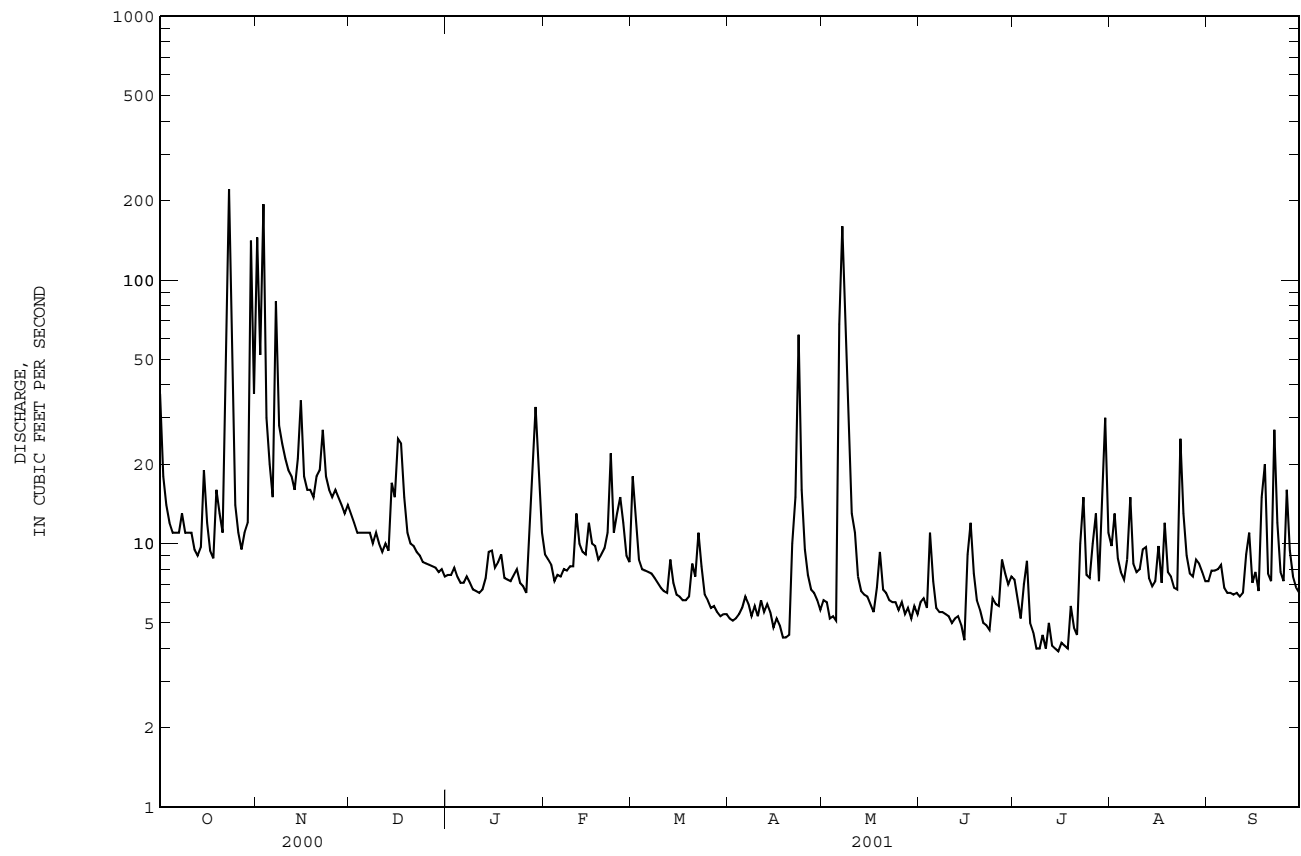
DATE	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L) (38260)
OCT			
02...	E.01	<16	.04
FEB			
06...	--	--	--
APR			
27...	<.01	<16	.10
AUG			
29...	--	--	--

< -- Less than
E -- Estimated value

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RIO CIBUCO BASIN

50038320 RIO CIBUCO BELOW COROZAL, PR--Continued



RIO CIBUCO BASIN

50038320 RIO CIBUCO BELOW COROZAL, PR

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-76, 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CaCO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)
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OCT	03...	0950	15	378	7.6	25.0	14	8.0	97	11	2600	560	140	35.2
FEB	07...	0915	8.3	401	7.7	22.0	4.9	7.9	91	<10	E1000	450	--	--
APR	30...	0950	6.2	432	7.7	24.7	3.3	7.9	95	<10	E850	350	160	42.9
SEP	07...	0915	5.3	467	7.5	26.5	--	6.4	80	10	39000	580	180	47.2

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
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OCT	03...	12.2	18.2	.7	3.21	123	<1.0	16.4	25.0	<.1	30.8	215	8.46	<10
FEB	07...	--	--	--	--	139	--	--	--	--	--	--	--	<10
APR	30...	13.6	20.2	.7	3.30	151	<1.0	15.8	29.1	E.1	30.9	246	4.12	<10
SEP	07...	14.0	25.6	.8	3.94	152	--	16.6	38.6	E.1	29.5	266	3.80	<10

DATE	NITRO-GEN, NITRATE (MG/L AS N) (00620)	NITRO-GEN, NITRITE (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, ORGANIC (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS (MG/L AS P) (00665)	ARSENIC (MG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
------	--	--	--	--	--	---	--------------------------------------	--	---------------------------------	------------------------------	---	---	--

OCT	03...	--	<.01	2.5	.05	.20	.25	2.8	12.2	.260	<2	51.6	29	<.11
FEB	07...	2.09	.01	2.1	.02	.29	.31	2.4	10.7	.260	--	--	--	--
APR	30...	1.79	.01	1.8	.02	.24	.26	2.1	9.1	.340	<2	51.0	42	<.11
SEP	07...	4.56	.14	4.7	.12	.33	.45	5.2	22.8	.690	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL RECOV-ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
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OCT	03...	M	<20.0	300	<1	39	<.14	<2.6	<.43	E17	<.01	<16	.19
FEB	07...	--	--	--	--	--	--	--	--	--	--	--	--
APR	30...	<1	<20.0	110	<1	35	<.01	<2.6	<.43	<31	<.01	<16	<.04
SEP	07...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
M -- Presence verified, not quantified
E -- Estimated value

50039500 RIO CIBUCO AT VEGA BAJA, PR

LOCATION.--Lat 18°26'53", long 66°22'29", Hydrologic Unit 21010002, on left bank, at bridge on Hwy 2, 0.6 mi (1.0 km) downstream from Río Indio, and 0.8 mi (1.3 km) east of Vega Baja.

DRAINAGE AREA.--99.1 mi² (256.7 km²), of which 25.4 mi² (65.8 km²), does not contribute directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1973 to current year.

GAGE.--Water-stage recorder. Datum of gage is 7.79 ft (2.374 m) above mean sea level.

REMARKS.--Records fair, except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 11, 1965 reached a stage of 26.2 ft (7.99 m), datum unknown, discharge about 28,000 ft³/s (793 m³/s).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84	293	46	33	52	59	29	26	18	31	46	22
2	137	420	41	32	46	143	27	26	28	28	84	29
3	56	1080	39	35	42	132	26	23	22	24	34	28
4	41	277	37	35	36	70	28	22	19	44	27	30
5	32	152	37	33	30	59	33	22	40	64	22	32
6	30	102	37	32	28	53	34	26	22	31	39	19
7	29	190	35	32	27	50	36	599	18	24	120	18
8	44	207	36	31	26	48	33	148	17	23	31	17
9	41	92	37	29	26	46	35	283	17	22	27	16
10	36	73	37	28	29	43	34	90	17	23	28	16
11	60	61	38	27	55	39	35	77	16	34	41	16
12	30	54	41	27	52	37	35	50	15	23	45	17
13	27	51	56	29	43	38	35	38	16	22	24	42
14	26	50	54	29	34	58	34	36	15	22	20	61
15	47	180	68	37	52	40	32	40	15	20	21	22
16	147	143	80	30	56	39	28	31	43	19	49	28
17	41	64	222	33	46	38	29	28	102	19	21	19
18	42	56	117	33	38	36	28	27	44	18	81	115
19	110	51	78	30	33	34	27	46	26	37	29	177
20	206	48	63	28	35	36	25	30	21	24	26	52
21	67	56	54	29	37	49	54	24	18	20	19	57
22	110	102	49	28	353	46	78	23	17	73	19	29
23	462	84	49	30	110	70	139	23	17	130	249	90
24	565	53	46	29	97	41	193	22	18	40	95	30
25	169	49	43	27	122	38	75	22	18	37	38	24
26	89	50	40	26	100	33	45	20	21	69	27	23
27	61	53	39	34	84	32	36	20	18	107	26	108
28	65	47	38	98	66	31	34	20	e46	35	36	35
29	69	44	36	135	---	31	31	20	27	123	33	30
30	196	43	32	243	---	32	26	17	35	322	28	23
31	383	---	34	76	---	30	---	18	---	60	23	---
TOTAL	3502	4225	1659	1378	1755	1531	1334	1897	766	1568	1408	1225
MEAN	113	141	53.5	44.5	62.7	49.4	44.5	61.2	25.5	50.6	45.4	40.8
MAX	565	1080	222	243	353	143	193	599	102	322	249	177
MIN	26	43	32	26	26	30	25	17	15	18	19	16
AC-FT	6950	8380	3290	2730	3480	3040	2650	3760	1520	3110	2790	2430
CFSM	1.14	1.42	.54	.45	.63	.50	.45	.62	.26	.51	.46	.41
IN.	1.31	1.59	.62	.52	.66	.57	.50	.71	.29	.59	.53	.46

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2001, BY WATER YEAR (WY)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	160	204	202	106	88.5	78.9	137	176	71.2	56.7	77.0	142																	
MAX	559	523	1316	339	190	339	667	655	239	235	461	690																	
(WY)	1986	1980	1982	1997	1988	1990	1987	1985	1987	1999	1979	1996																	
MIN	45.9	28.3	12.9	30.2	27.2	20.5	16.2	24.7	12.5	14.0	21.2	26.7																	
(WY)	1974	1998	1998	1995	1994	1994	1984	1977	1994	1994	1978	1994																	

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

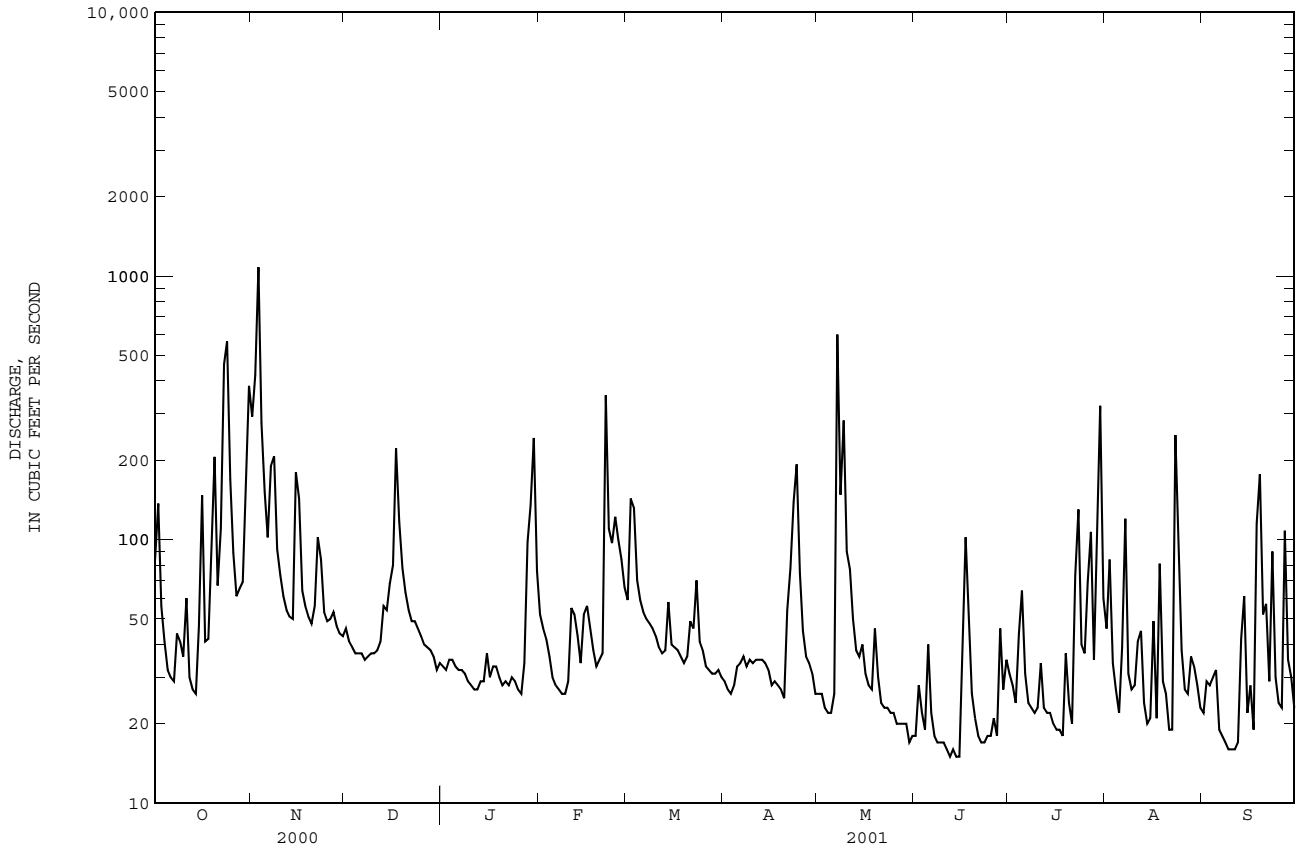
WATER YEARS 1973 - 2001

ANNUAL TOTAL	34628	22248	
ANNUAL MEAN	94.6	61.0	124
HIGHEST ANNUAL MEAN			236
LOWEST ANNUAL MEAN			38.5
HIGHEST DAILY MEAN	1080	Nov 3	1080
LOWEST DAILY MEAN	21	Aug 18	15
ANNUAL SEVEN-DAY MINIMUM	23	Aug 16	16
MAXIMUM PEAK FLOW			2140
MAXIMUM PEAK STAGE			12.31
INSTANTANEOUS LOW FLOW			13
ANNUAL RUNOFF (AC-FT)	68680	44130	89640
ANNUAL RUNOFF (CFSM)	.95	.62	1.25
ANNUAL RUNOFF (INCHES)	13.00	8.35	16.97
10 PERCENT EXCEEDS	205	116	235
50 PERCENT EXCEEDS	52	36	57
90 PERCENT EXCEEDS	28	20	22

e Estimated

RIO CIBUCO BASIN

50039500 RIO CIBUCO AT VEGA BAJA, PR--Continued



RIO CIBUCO BASIN

50039500 RIO CIBUCO AT VEGA BAJA, PR

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CaCO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)
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OCT	02...	1430	87	328	7.4	25.8	240	6.8	84	10	21000	E12000	140	43.0
FEB	06...	0835	30	477	7.8	23.8	3.0	6.7	80	<10	420	420	--	--
APR	30...	1220	23	488	7.6	26.4	3.5	6.5	81	<10	290	270	200	63.9
AUG	14...	1220	34	460	7.0	29.3	--	5.4	71	--	360	250	190	61.5

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
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OCT	02...	7.14	11.2	.4	3.24	121	<1.0	12.7	15.6	<.1	17.1	182	43.0	188
FEB	06...	--	--	--	--	182	--	--	--	--	--	--	--	<10
APR	30...	10.0	18.3	.6	3.09	189	<1.0	15.0	28.9	E.1	18.6	271	16.6	<10
AUG	14...	9.42	17.3	.5	3.19	184	--	15.2	27.8	E.1	18.1	263	24.2	--

DATE	NITRO-GEN, NITRATE (MG/L AS N) (00620)	NITRO-GEN, NITRITE (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, ORGANIC (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (MG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (MG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (MG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (MG/L AS CD) (01027)
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OCT	02...	1.17	.03	1.2	.07	.54	.61	1.8	8.0	.310	E2	67.4	26	<.11
FEB	06...	1.79	.01	1.8	.02	.52	.54	2.3	10.4	.140	--	--	--	--
APR	30...	1.38	.02	1.4	<.01	--	.21	1.6	7.1	.160	<2	48.5	43	<.11
AUG	14...	.95	.02	1.0	.04	.27	.31	1.3	5.7	.130	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL RECOV-ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
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OCT	02...	14	E16.9	5590	2	162	<.14	<2.6	<.43	E19	<.01	<16	<.02
FEB	06...	--	--	--	--	--	--	--	--	--	--	--	--
APR	30...	<1	<20.0	100	<1	23	<.01	<2.6	<.43	<31	<.01	<16	.06
AUG	14...	--	--	--	--	--	--	--	--	--	--	--	--

E -- Estimated value
 < -- Less than

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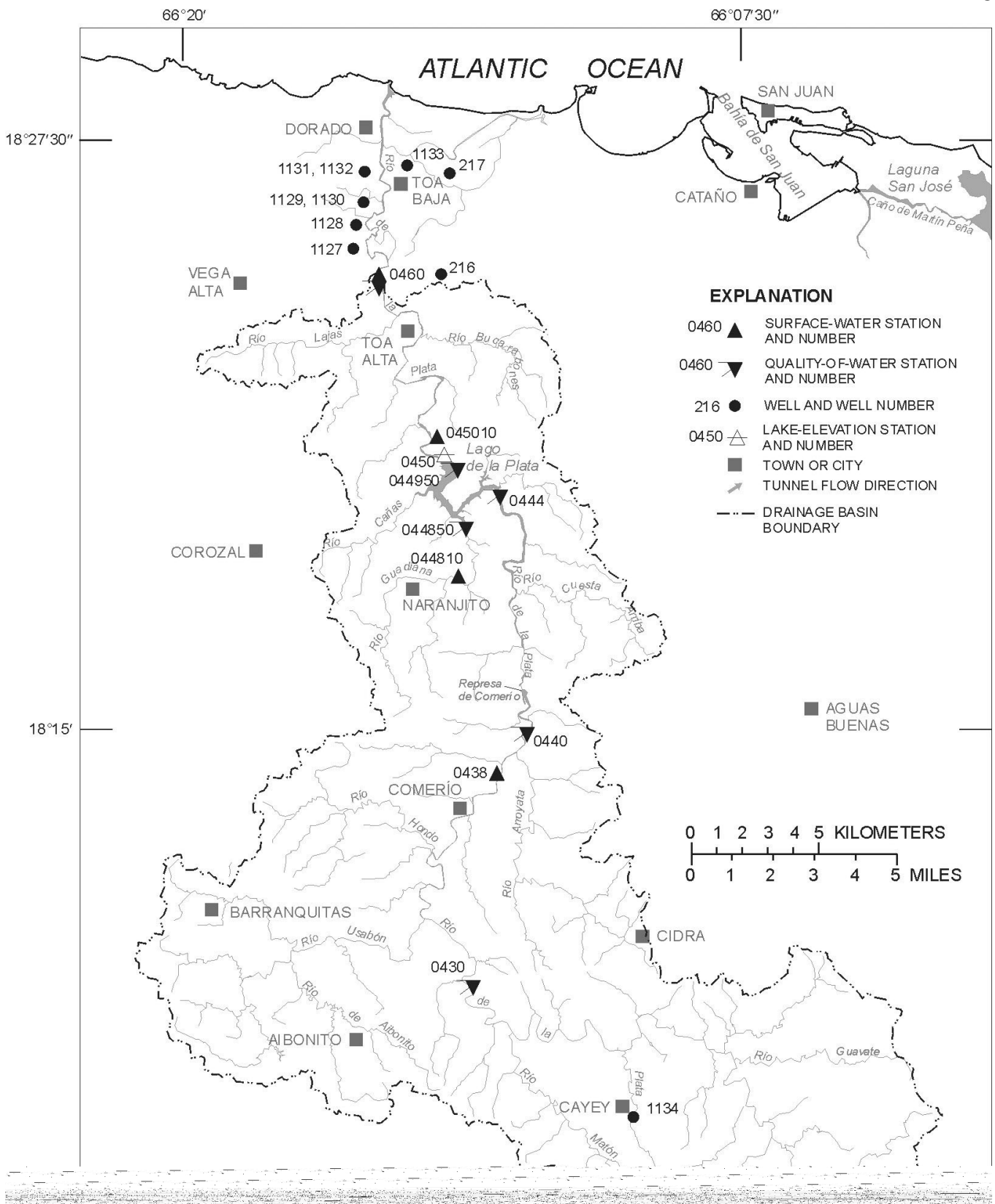


Figure 16. Río de la Plata basin.

RIO DE LA PLATA BASIN

50039990 LAGO CARITE AT GATE TOWER NEAR CAYEY, PR

LOCATION.--Lat 18°03'46", long 66°05'58", Hydrologic Unit 21010005, on top of a concrete tower at diversion tunnel on Carite Reservoir, 0.7 mi (1.1 km) northwest from Escuela Carite Chino, 1.2 mi (1.9 km) northeast from Central Hidroelectrica de Carite Num. 1 and 1.8 mi (2.9 km) northeast from Escuela Segunda Unidad.

DRAINAGE AREA.--8.20 mi² (21.24 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--May 1989 to current year. Prior to October 1994, published as Lago Carite at Gate Tower.

GAGE.--Water stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Carite Dam was completed in 1913. The operation of the reservoir is controlled by the utilization of water to meet the demands for domestic, industrial and agricultural purposes in the Guayama Area. The dam is an earthfill with crest elevation of 1,806 ft (550 m) above mean sea level, with a structural height of 104 ft (32 m) and a length of 500 ft (152 m). The dam has a capacity of approximately 11,310 acre-feet (13.9 hm³). The Dam is operated by the Puerto Rico Electric and Power Authority. Gage-height and precipitation satellite telemetry at station.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation 1,789.62 ft (545.48 m), Sep. 21, 1998; minimum elevation, 1,761.22 ft (536.81 m), May 28, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum elevation 1,778.55 ft (542.10 m), Oct. 11,12; minimum elevation, 1,763.58 ft (537.54 m), Aug. 22.

Capacity Table

(based on Data from Puerto Rico Electric Power Authority)

Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
1,746	0	1,775	6,194
1,760	2,471	1,780	7,704
1,769	4,561	1,790	11,048

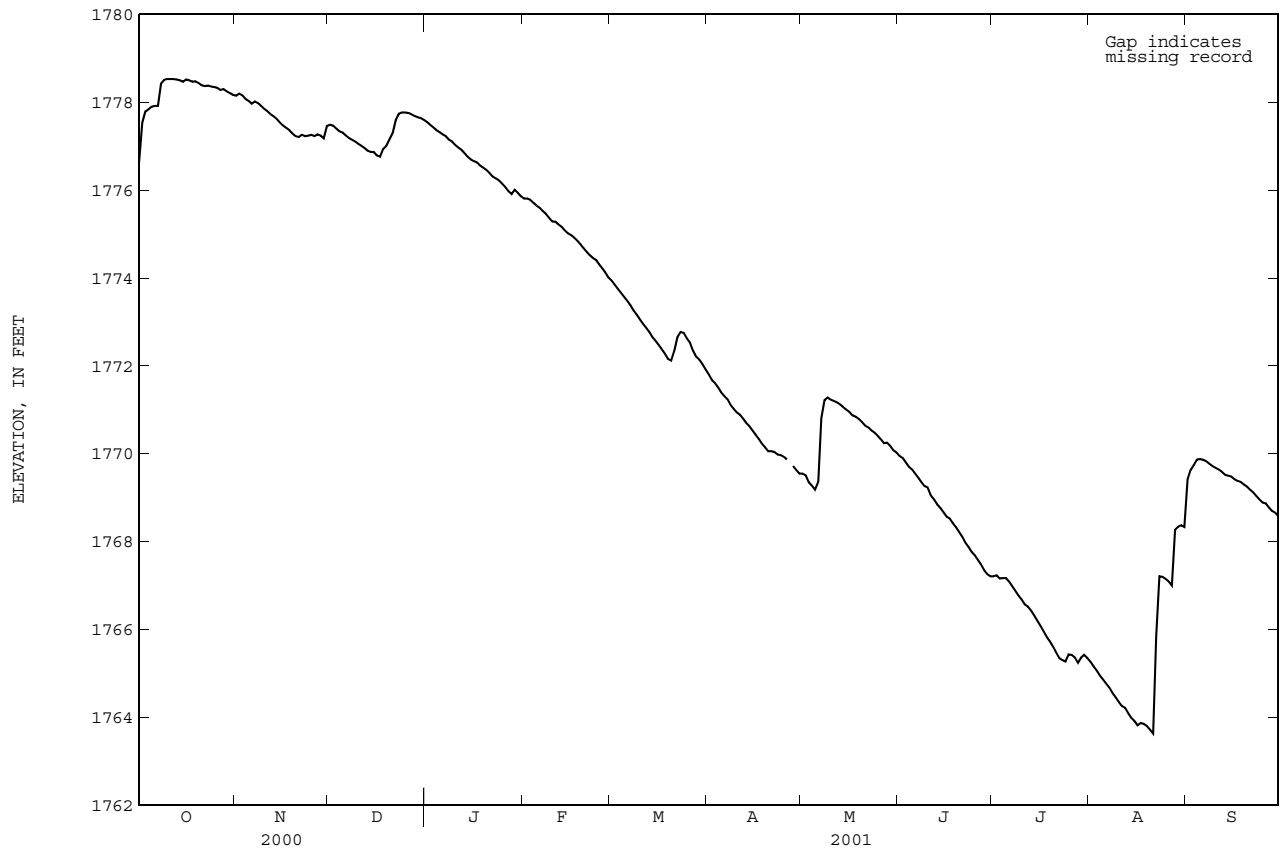
ELEVATION (FEET NGVD), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1776.63	1778.15	1777.49	1777.55	1775.81	1773.94	1771.81	1769.55	1769.95	1767.21	1765.26	1769.41
2	1777.54	1778.20	1777.47	1777.49	1775.81	1773.85	1771.68	1769.51	1769.90	1767.23	1765.16	1769.63
3	1777.79	1778.16	1777.40	1777.43	1775.78	1773.75	1771.61	1769.35	1769.80	1767.16	1765.06	1769.74
4	1777.84	1778.08	1777.34	1777.37	1775.71	1773.66	1771.51	1769.27	1769.70	1767.17	1764.95	1769.87
5	1777.90	1778.03	1777.31	1777.32	1775.65	1773.57	1771.40	1769.18	1769.64	1767.17	1764.86	1769.88
6	1777.92	1777.97	1777.25	1777.27	1775.60	1773.48	1771.31	1769.36	1769.55	1767.09	1764.77	1769.86
7	1777.92	1778.02	1777.19	1777.23	1775.52	1773.38	1771.24	1770.81	1769.45	1766.98	1764.68	1769.83
8	1778.42	1777.98	1777.15	1777.15	1775.46	1773.26	1771.11	1771.22	1769.35	1766.88	1764.56	1769.77
9	1778.51	1777.92	1777.11	1777.11	1775.37	1773.17	1771.02	1771.28	1769.26	1766.77	1764.46	1769.72
10	1778.53	1777.85	1777.06	1777.03	1775.29	1773.06	1770.94	1771.23	1769.23	1766.68	1764.35	1769.68
11	1778.53	1777.80	1777.01	1776.97	1775.28	1772.96	1770.89	1771.20	1769.05	1766.57	1764.26	1769.64
12	1778.53	1777.73	1776.96	1776.92	1775.22	1772.87	1770.80	1771.17	1768.96	1766.52	1764.22	1769.59
13	1778.52	1777.68	1776.90	1776.84	1775.17	1772.77	1770.70	1771.12	1768.85	1766.43	1764.10	1769.52
14	1778.50	1777.62	1776.87	1776.76	1775.09	1772.66	1770.63	1771.06	1768.77	1766.32	1763.99	1769.50
15	1778.47	1777.54	1776.87	1776.70	1775.02	1772.57	1770.53	1771.00	1768.67	1766.20	1763.92	1769.48
16	1778.52	1777.47	1776.79	1776.66	1774.98	1772.48	1770.43	1770.95	1768.57	1766.08	1763.82	1769.42
17	1778.50	1777.42	1776.76	1776.63	1774.92	1772.38	1770.34	1770.87	1768.53	1766.04	1763.87	1769.38
18	1778.47	1777.37	1776.94	1776.56	1774.85	1772.28	1770.23	1770.84	1768.42	1765.83	1763.85	1769.36
19	1778.48	1777.29	1777.01	1776.51	1774.77	1772.16	1770.15	1770.79	1768.33	1765.73	1763.80	1769.30
20	1778.44	1777.23	1777.15	1776.46	1774.68	1772.12	1770.06	1770.72	1768.22	1765.61	1763.72	1769.25
21	1778.39	1777.21	1777.30	1776.39	1774.60	1772.34	1770.06	1770.64	1768.11	1765.48	1763.63	1769.18
22	1778.37	1777.26	1777.59	1776.31	1774.52	1772.66	1770.04	1770.60	1767.98	1765.35	1765.84	1769.12
23	1778.38	1777.23	1777.74	1776.27	1774.46	1772.77	1769.98	1770.53	1767.88	1765.30	1767.21	1769.04
24	1778.36	1777.24	1777.77	1776.22	1774.41	1772.75	1769.97	1770.48	1767.77	1765.27	1767.20	1768.96
25	1778.35	1777.26	1777.77	1776.15	1774.31	1772.63	1769.93	1770.41	1767.69	1765.43	1767.15	1768.89
26	1778.33	1777.23	1777.76	1776.07	1774.22	1772.53	1769.87	1770.33	1767.59	1765.42	1767.09	1768.87
27	1778.28	1777.27	1777.73	1775.98	1774.12	1772.35	A	1770.24	1767.48	1765.36	1767.00	1768.78
28	1778.30	1777.24	1777.69	1775.91	1774.01	1772.21	1769.72	1770.25	1767.35	1765.24	1768.27	1768.70
29	1778.25	1777.18	1777.66	1776.01	---	1772.14	1769.63	1770.18	1767.26	1765.36	1768.34	1768.66
30	1778.21	1777.46	1777.64	1775.94	---	1772.04	1769.55	1770.08	1767.21	1765.42	1768.37	1768.58
31	1778.17	---	1777.60	1775.86	---	1771.92	---	1770.03	---	1765.35	1768.33	---
MAX	1778.53	1778.20	1777.77	1777.55	1775.81	1773.94	---	1771.28	1769.95	1767.23	1768.37	1769.88
MIN	1776.63	1777.18	1776.76	1775.86	1774.01	1771.92	---	1769.18	1767.21	1765.24	1763.63	1768.58

A No gage-height record

RIO DE LA PLATA BASIN

50039990 LAGO CARITE AT GATE TOWER NEAR CAYEY, PR--Continued



RIO DE LA PLATA BASIN

50043000 RIO DE LA PLATA AT PROYECTO LA PLATA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°09'37", long 66°13'44", Hydrologic Unit 21010005, at upstream side of bridge on Highway 173, 0.4 mi (0.6 km) northeast of Proyecto La Plata, and 2.5 mi (4.0 km) upstream from Río Usabón.

DRAINAGE AREA.--63.0 mi² (163.2 km²), excludes 8.2 mi² (21.1 km²) upstream from Lago Carite, the flow of which is diverted to Río Guamaní.

PERIOD OF RECORD.--Water years 1958 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, SOLVED (PER-CENT SATUR-ATION) (MG/L) (00301)	OXYGEN, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
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OCT	06...	0955	72	322	7.8	26.5	17	7.8	100	11	E910	E180	110	27.8
FEB	08...	1005	16	477	7.9	23.5	3.6	8.0	97	<10	E710	E73	--	--
MAY	03...	1530	16	434	8.3	29.3	5.4	10.6	143	--	430	E200	140	33.9
AUG	31...	1140	54	288	7.2	28.4	--	7.3	97	<10	420	330	93	23.0

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS S04) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDEd (MG/L) (00530)
------	---	---	-----------------------------------	--	---	-----------------------------------	--	--	---	---	---	---	--

OCT	06...	10.0	21.8	.9	2.07	113	<1.0	12.8	22.2	E.1	23.9	188	36.8	<10
FEB	08...	--	--	--	--	160	--	--	--	--	--	--	--	<10
MAY	03...	13.7	37.5	1	3.19	274	<1.0	16.3	42.3	E.1	22.5	334	14.0	<10
AUG	31...	8.74	20.7	.9	2.47	92	--	12.0	23.5	E.1	19.4	165	23.8	16

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
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OCT	06...	1.18	.02	1.2	.04	.21	.25	1.4	6.4	.100	<2	19.9	41	<.11
FEB	08...	2.57	.03	2.6	.06	.63	.69	3.3	14.6	.100	--	--	--	--
MAY	03...	2.17	.03	2.2	.04	.60	.64	2.8	12.6	.170	<2	22.2	84	<.11
AUG	31...	1.28	.02	1.3	.05	.68	.73	2.0	9.0	.090	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
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OCT	06...	M	<20.0	430	<1	19	<.14	<2.6	<.43	<31	<.01	<16	<.02
FEB	08...	--	--	--	--	--	--	--	--	--	--	--	--
MAY	03...	<1	<20.0	170	<1	18	<.01	<2.6	<.43	<31	<.01	<16	.05
AUG	31...	--	--	--	--	--	--	--	--	--	--	--	--

E -- Estimated value
 < -- Less than
 M -- Presence verified, not quantified

RIO DE LA PLATA BASIN

50043800 RIO DE LA PLATA AT COMERIO, PR

LOCATION.--Lat 18°13'23", long 66°13'30", Hydrologic Unit 21010005, on right bank 50 ft (15 m) upstream from bridge off Highway 167 in the Town of Comerio, 0.4 mi (0.6 km) southwest of Comerio High School, and 0.2 mi (0.3 km) northeast of Plaza de Comerio.

DRAINAGE AREA.--109 mi² (282 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1988 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 604.2 ft (184.160 m) above mean sea level.

REMARKS.--Records fair except those for estimated daily discharges, which are poo. Filtration plant more or less 500 feet upstream from station. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	379	2300	317	44	39	67	23	e22	27	71	54	59
2	1120	3420	111	42	33	129	23	e21	29	57	30	362
3	1010	1000	69	44	36	56	25	e21	25	45	24	166
4	311	334	56	40	32	46	26	e21	22	40	23	106
5	173	180	52	40	27	42	26	e20	27	75	22	81
6	121	135	49	40	25	42	208	e162	40	76	31	56
7	98	301	50	36	24	39	63	e207	26	34	38	44
8	121	391	53	35	24	36	34	e98	24	22	30	39
9	282	150	55	37	25	29	45	e58	22	17	35	36
10	116	109	56	36	31	26	29	e38	19	16	34	32
11	88	93	55	36	32	24	e25	e33	17	16	25	32
12	75	84	55	34	43	27	e23	e31	18	16	20	41
13	90	102	57	34	54	30	e23	e28	18	18	17	38
14	61	83	61	33	36	25	e23	e28	18	21	18	30
15	62	79	90	31	32	24	e22	e27	18	17	19	73
16	72	76	86	33	31	29	e22	e27	19	16	17	119
17	136	71	81	39	32	31	e22	e26	25	14	28	29
18	210	66	85	42	27	24	e20	e28	70	17	60	25
19	414	66	155	34	23	21	e20	e28	33	23	60	34
20	301	63	126	32	24	23	e21	e25	23	17	28	30
21	126	66	137	32	24	41	e56	e25	20	14	19	67
22	335	84	223	30	73	81	e68	e25	18	12	35	110
23	573	99	458	31	53	162	e71	e22	19	12	2790	218
24	450	76	146	31	90	328	e33	e23	21	13	356	56
25	140	69	96	28	118	101	e24	e22	23	18	129	38
26	123	94	84	27	59	54	e23	e22	28	44	67	31
27	88	82	77	26	44	e46	e21	e22	31	32	47	29
28	70	78	83	32	40	e39	e22	23	27	25	799	28
29	96	66	58	97	---	e34	e21	48	26	53	470	26
30	114	74	52	370	---	29	e21	39	23	209	148	27
31	329	---	49	53	---	27	---	29	---	128	85	---
TOTAL	7684	9891	3182	1499	1131	1712	1083	1249	756	1188	5558	2062
MEAN	248	330	103	48.4	40.4	55.2	36.1	40.3	25.2	38.3	179	68.7
MAX	1120	3420	458	370	118	328	208	207	70	209	2790	362
MIN	61	63	49	26	23	21	20	20	17	12	17	25
MED	126	84	77	35	32	36	23	27	23	21	34	38
AC-FT	15240	19620	6310	2970	2240	3400	2150	2480	1500	2360	11020	4090
CFSM	2.28	3.04	.95	.45	.37	.51	.33	.37	.23	.35	1.65	.63
IN.	2.63	3.39	1.09	.51	.39	.59	.37	.43	.26	.41	1.91	.71

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2001, BY WATER YEAR (WY)

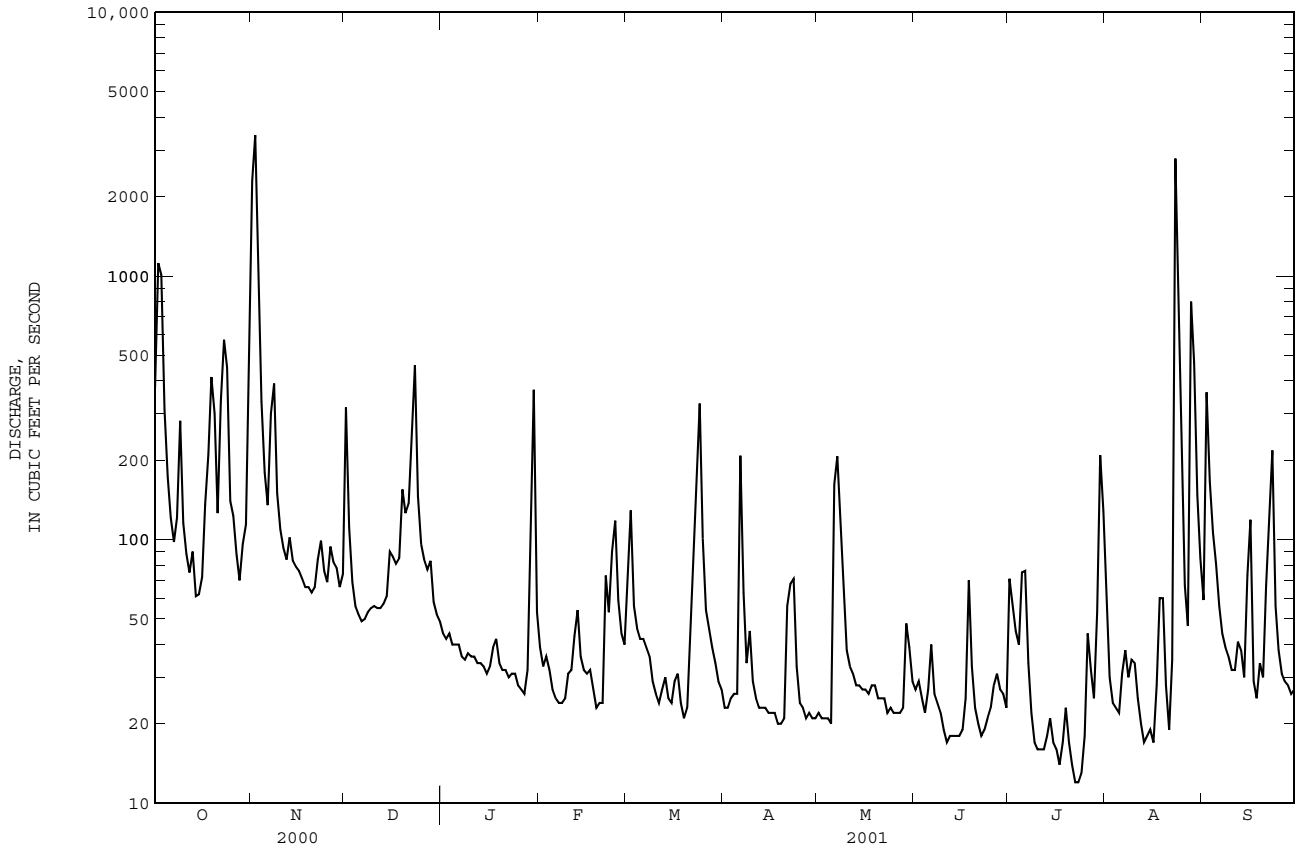
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	229	227	115	137	92.5	45.3	50.8	83.5	68.7	83.0	136	415	
MAX	866	1264	457	732	268	75.7	162	263	213	291	563	1433	
(WY)	1991	2000	1999	1992	1998	1989	1993	1992	1996	1993	2000	1996	
MIN	40.6	19.0	17.1	21.3	24.4	20.6	22.3	19.7	13.2	10.4	12.7	26.2	
(WY)	1992	1995	1995	1995	1990	1993	1991	1994	1994	1994	1994	1997	

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1989 - 2001

ANNUAL TOTAL	64220	36995		
ANNUAL MEAN	175	101	139	
HIGHEST ANNUAL MEAN			267	2000
LOWEST ANNUAL MEAN			35.3	1994
HIGHEST DAILY MEAN	14000	Aug 23	3420	Nov 2
LOWEST DAILY MEAN	17	Aug 21	12	Jul 22
ANNUAL SEVEN-DAY MINIMUM	20	Aug 15	15	Jul 18
MAXIMUM PEAK FLOW			17100	Nov 2
MAXIMUM PEAK STAGE			13.56	Nov 2
ANNUAL RUNOFF (AC-FT)	127400	73380	100500	
ANNUAL RUNOFF (CFSM)	1.62	.93	1.28	
ANNUAL RUNOFF (INCHES)	22.02	12.68	17.38	
10 PERCENT EXCEEDS	301	162	194	
50 PERCENT EXCEEDS	64	38	40	
90 PERCENT EXCEEDS	28	21	16	

e Estimated

RIO DE LA PLATA BASIN
50043800 RIO DE LA PLATA AT COMERIO, PR--Continued



50044000 RIO DE LA PLATA NEAR COMERIO, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°14'33", long 66°12'28", at bridge on Highway 156, 0.56 mi (0.9 km) upstream from dam, about 2.0 mi (3.2 km) northeast of Comerio plaza.

DRAINAGE AREA.--139 mi² (360 km²), excludes 8.2 mi² (21.1 km²) upstream from Lago Carite, the flow of which is diverted to Rio Guamaní.

PERIOD OF RECORD.--Water years 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, (PER-CENT SATUR-ATION) (MG/L) (00301)	OXYGEN CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT 11...	1035	109	345	7.5	26.9	7.8	8.6	110	<10	E660	360	120	28.7
FEB 12...	1515	83	425	8.3	25.1	1.9	8.8	109	<10	5000	890	--	--
MAY 03...	1130	39	411	8.1	27.4	5.5	9.4	122	<10	E45	250	140	31.5
AUG 30...	1200	111	257	7.2	28.1	--	7.3	96	18	2800	350	85	20.7

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)	SULFIDE (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS S04) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDE (MG/L) (00530)
OCT 11...	12.8	17.9	.7	2.60	121	<1.0	11.7	20.9	E.1	26.4	194	56.9	<10
FEB 12...	--	--	--	--	146	--	--	--	--	--	--	--	<10
MAY 03...	13.9	30.6	1	3.08	143	<1.0	16.4	36.9	E.1	24.5	242	25.8	<10
AUG 30...	8.10	16.5	.8	2.82	82	--	11.2	18.3	E.1	18.6	145	43.4	<10

DATE	NITRO-GEN, NITRATE (MG/L AS N) (00620)	NITRO-GEN, NITRITE (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, ORGANIC (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	NITRO-GEN, TOTAL (MG/L AS P) (00665)	PHOS-PHORUS TOTAL (MG/L AS P) (01002)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD (UG/L AS CD) (01027)
OCT 11...	--	<.01	.8	.02	--	<.20	--	--	.110	E1	29.4	47	<.11	
FEB 12...	1.29	.01	1.3	.03	.18	.21	1.5	6.7	.100	--	--	--	--	
MAY 03...	--	<.01	.3	.02	.34	.36	.69	3.1	.090	E1	35.3	73	<.11	
AUG 30...	.85	.02	.9	.06	.24	.30	1.2	5.2	.120	--	--	--	--	

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 11...	2	<20.0	390	<1	17	<.14	<2.6	<.43	<31	<.01	<16	.04
FEB 12...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 03...	<1	<20.0	120	<1	14	<.01	<2.6	<.43	<31	<.01	<16	.03
AUG 30...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
E -- Estimated value

RIO DE LA PLATA BASIN

50044810 RIO GUADIANA NEAR GUADIANA, PR

LOCATION.--Lat 18°13'42", long 66°18'05", Hydrologic Unit 21010005, at right bank 1.10 mi (2.1 km) east of Plaza de Naranjito, 0.9 mi (1.4 km) west from intersection of roads 167 and 164 at km 1.77 and 2.6 mi (4.16 km) northwest from Represa Comerio.

DRAINAGE AREA.--8.60 mi² (22.27 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March to September 2001.

GAGE.--Water-stage recorder and crest-stage gage. elevation of gage is 229 ft (69.8 m) from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

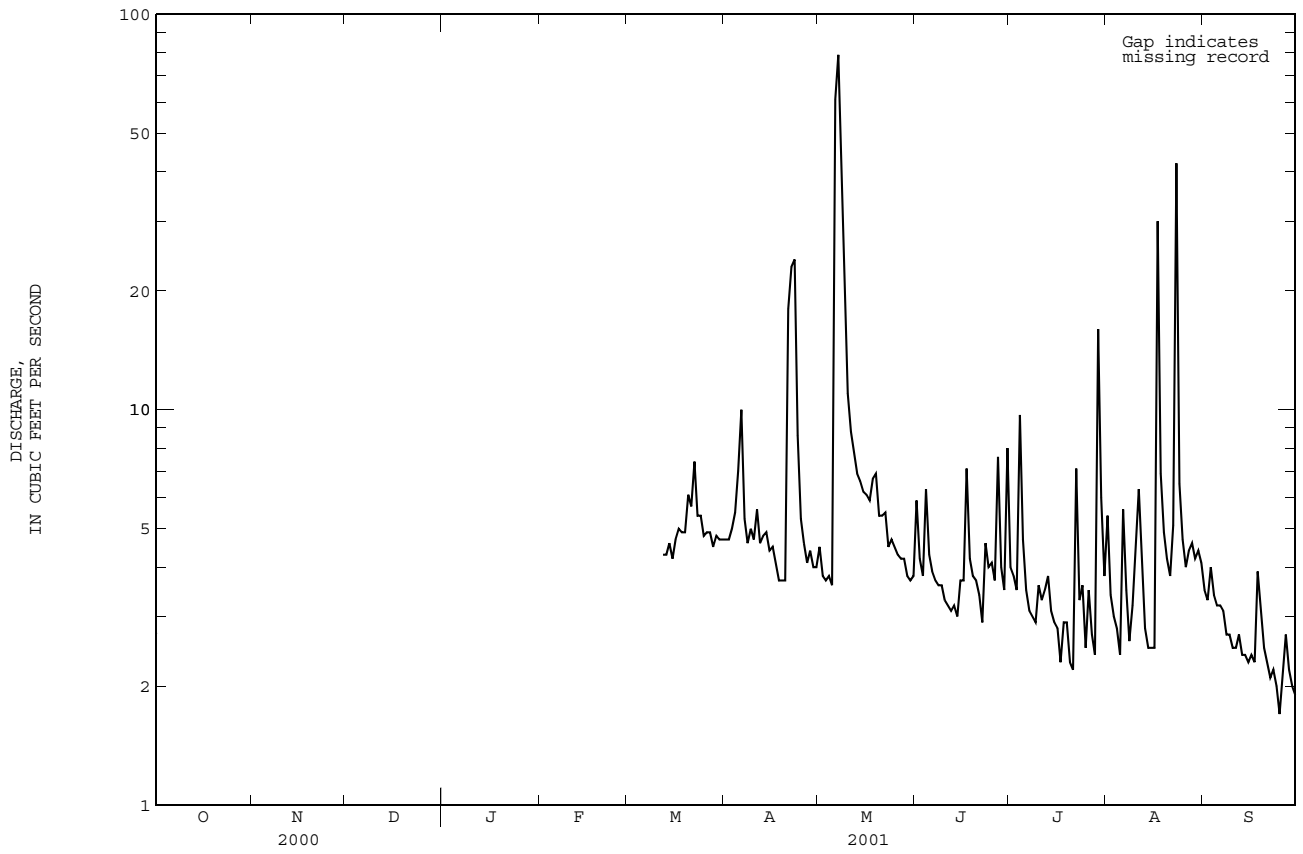
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							4.7	4.5	5.9	4.0	5.4	3.5
2							4.7	3.8	4.2	3.8	3.4	3.3
3							5.0	3.7	3.8	3.5	3.0	4.0
4							5.5	3.8	6.3	9.7	2.8	3.4
5							7.0	3.6	4.3	4.7	2.4	3.2
6												
7							10	61	3.9	3.5	5.6	3.2
8							5.3	79	3.7	3.1	3.5	3.1
9							4.6	35	3.6	3.0	2.6	2.7
10							5.0	19	3.6	2.9	3.2	2.7
							4.7	11	3.3	3.6	4.5	2.5
11												
12							5.6	8.8	3.2	3.3	6.3	2.5
13						e4.3	4.6	7.8	3.1	3.5	4.0	2.7
14						4.3	4.8	6.9	3.2	3.8	2.8	2.4
15						4.6	4.9	6.6	3.0	3.1	2.5	2.4
						4.2	4.4	6.2	3.7	2.9	2.5	2.3
16						4.7	4.5	6.1	3.7	2.8	2.5	2.4
17						5.0	4.1	5.9	7.1	2.3	30	2.3
18						4.9	3.7	6.7	4.2	2.9	6.9	3.9
19						4.9	3.7	e6.9	3.8	2.9	4.9	3.1
20						6.1	3.7	e5.4	3.7	2.3	4.2	2.5
21						5.7	18	e5.4	3.4	2.2	3.8	2.3
22						7.4	23	e5.5	2.9	7.1	5.1	2.1
23						5.4	24	e4.5	4.6	3.3	42	2.2
24						5.4	8.6	e4.7	4.0	3.6	6.5	2.0
25						4.8	5.3	e4.5	4.1	2.5	4.7	1.7
26						4.9	4.6	4.3	3.7	3.5	4.0	2.2
27						4.9	e4.1	4.2	7.6	2.7	4.4	2.7
28						4.5	e4.4	4.2	4.0	2.4	4.6	2.2
29						4.8	4.0	3.8	3.5	16	4.2	2.0
30						4.7	4.0	3.7	8.0	6.0	4.4	1.9
31						4.7	---	3.8	---	3.8	4.1	---
TOTAL						---	200.5	340.3	127.1	124.7	190.8	79.4
MEAN						---	6.68	11.0	4.24	4.02	6.15	2.65
MAX						---	24	79	8.0	16	42	4.0
MIN						---	3.7	3.6	2.9	2.2	2.4	1.7
AC-FT						---	398	675	252	247	378	157
CFSM						---	.83	1.36	.53	.50	.76	.33
IN.						---	.93	1.57	.59	.58	.88	.37

e Estimated

RIO DE LA PLATA BASIN

50044810 RIO GUADIANA NR GUADIANA, PR--Continued



RIO DE LA PLATA BASIN

50044850 RIO GUADIANA NEAR NARANJITO, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°18'39", long 66°13'28", at steel-cross-bridge 0.8 mi (1.3 km) northwest of Highway 164, 1.2 mi (1.9 km) upstream from mouth and about 2.0 mi (3.2 km) northeast of Naranjito plaza.

DRAINAGE AREA.--4.0 mi² (10.3 km²).

PERIOD OF RECORD.--Water year 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD WATER UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, CHEM-ICAL (PER-CENT (HIGH LEVEL) (MG/L) (00301)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL AS (MG/L) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT 11...	0730	8.6	354	7.8	23.9	28	7.0	83	<10	E8000	7100	140	31.3
FEB 12...	1245	6.9	363	8.0	24.8	.6	7.7	93	<10	2800	400	--	--
MAY 02...	1005	4.9	405	7.8	27.2	3.1	8.3	106	<10	380	370	150	36.2
AUG 30...	1405	4.3	411	7.7	29.5	--	6.8	90	22	590	830	170	39.9

DATE	MAGNE-SIUM, DIS-SOLVED AS (MG) (00925)	SODIUM, DIS-SOLVED AS (MG/L AS NA) (00930)	SODIUM, AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED AS (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT 11...	14.5	15.9	.6	2.32	123	<1.0	19.9	21.1	E.1	25.0	204	4.74	24
FEB 12...	--	--	--	--	126	--	--	--	--	--	--	--	<10
MAY 02...	15.3	18.3	.6	2.28	142	<1.0	19.1	27.9	E.1	26.6	231	3.03	<10
AUG 30...	16.8	21.8	.7	2.55	146	--	24.7	30.1	E.2	27.3	251	2.92	<10

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
OCT 11...	--	<.01	1.3	.02	--	<.20	--	--	.170	E2	59.6	34	<.11
FEB 12...	--	<.01	1.1	.02	.32	.34	1.4	6.4	.180	--	--	--	--
MAY 02...	.83	.01	.8	.01	.19	.20	1.0	4.6	.220	E2	55.9	34	<.11
AUG 30...	--	<.01	.7	.02	--	<.20	--	--	.170	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 11...	6	<20.0	1130	<1	49	<.14	<2.6	<.43	E16	E.01	<16	.05
FEB 12...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 02...	<1	<20.0	80	<1	24	<.01	<2.6	<.43	<31	<.01	<16	--
AUG 30...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
E -- Estimated value

50045000 LAGO LA PLATA AT DAMSITE NEAR TOA ALTA, PR

LOCATION.--Lat 18°20'40", long 66°14'10", Hydrologic Unit 21010005, 2.9 mi (4.7 km) at northeast of Plaza de Naranjito, 2.7 mi (4.3 km) West of Road 167, km 15.3, Buena Vista, Bayamón, 5.2 mi (8.4 km) east of Plaza de Corozal.

DRAINAGE AREA.--181 mi² (469 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--February 1989 to current year. Prior to October 1994, published as Lago La Plata at Damsite.

GAGE.--Water-stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago La Plata first construction phase was completed in 1974 and the second construction phase to provide the spillway with bascule gates was completed in October 1989. The maximum storage is 37,000 ac-ft (45.6 hm³) and its purpose is the supply of water for domestic and industrial use. La Plata Dam is a concrete gravity structure located across the Rio de la Plata, the dam has an overall length of 774 ft (236 m) and a maximum height of about 131 ft (40 m). The dam spillway is provided with 6 bascule gates. The spillway crest has a total clear length of 690 ft (210 m), an elevation of 155 ft (47 m). The Dam is owned and operated by Puerto Rico Aqueduct and Sewer Authority. Gage-height and precipitation satellite telemetry at station. New capacity table based on U.S. Geological Survey Water-Resources Investigations Report 00-40-45, October 1998.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 170.90 ft (52.09 m), Sept. 10, 1996; minimum elevation, 107.95 ft (32.90 m), Feb. 21, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 166.55 ft (50.76 m), May.07; minimum elevation, 152.42 ft (46.46 m), Aug. 22.

Capacity Table
(based on data from U.S. Geological Survey Water-Resources Investigations Report 00-4045, Puerto Rico-1998)

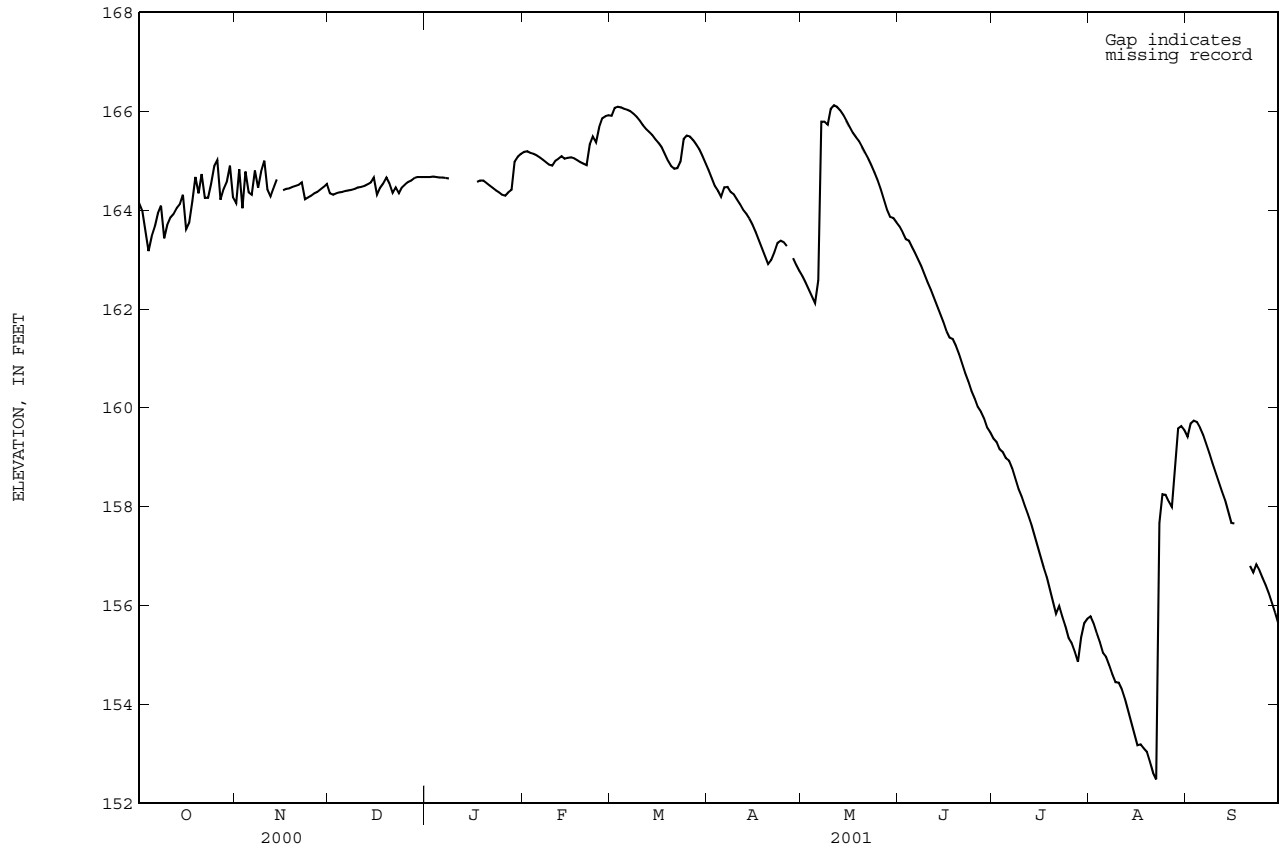
Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
82	0	144	12,915
105	1,873	164	24,021
125	5,943	171	28,748

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	164.15	164.14	164.34	164.67	165.18	165.91	164.81	162.66	163.67	159.38	155.78	159.42
2	163.99	164.83	164.31	164.67	165.19	166.07	164.64	162.53	163.55	159.31	155.64	159.68
3	163.60	164.04	164.34	164.68	165.16	166.09	164.49	162.39	163.41	159.16	155.44	159.74
4	163.17	164.78	164.36	164.67	165.14	166.08	164.39	162.25	163.38	159.10	155.26	159.71
5	163.47	164.36	164.37	164.66	165.11	166.05	164.27	162.12	163.25	158.98	155.04	159.60
6	163.66	164.31	164.39	164.66	165.07	166.03	164.46	162.58	163.13	158.93	154.96	159.45
7	163.94	164.80	164.40	164.65	165.02	166.00	164.47	165.79	162.99	158.77	154.79	159.27
8	164.09	164.45	164.41	164.64	164.97	165.95	164.37	165.79	162.86	158.57	154.61	159.08
9	163.43	164.78	164.43	A	164.92	165.89	164.32	165.73	162.70	158.36	154.45	158.88
10	163.70	165.00	164.46	A	164.90	165.81	164.22	166.05	162.54	158.21	154.44	158.69
11	163.85	164.42	164.47	A	165.00	165.72	164.12	166.12	162.39	158.02	154.31	158.50
12	163.92	164.28	164.49	A	165.04	165.64	164.01	166.09	162.23	157.85	154.11	158.31
13	164.04	164.45	164.52	A	165.09	165.58	163.93	166.02	162.07	157.66	153.88	158.13
14	164.12	164.62	164.56	A	165.04	165.52	163.83	165.93	161.90	157.44	153.64	157.90
15	164.31	A	164.66	A	165.06	165.43	163.71	165.81	161.74	157.22	153.41	157.67
16	163.61	164.40	164.31	A	165.07	165.36	163.56	165.69	161.55	157.00	153.17	157.66
17	163.74	164.43	164.45	164.57	165.05	165.27	163.40	165.57	161.42	156.78	153.19	A
18	164.18	164.44	164.54	164.60	165.01	165.14	163.24	165.48	161.39	156.58	153.11	A
19	164.67	164.47	164.66	164.60	164.97	165.00	163.08	165.40	161.26	156.34	153.04	A
20	164.34	164.49	164.54	164.55	164.94	164.89	162.91	165.28	161.09	156.08	152.84	A
21	164.73	164.51	164.35	164.50	164.91	164.84	162.99	165.16	160.89	155.83	152.61	156.80
22	164.25	164.56	164.46	164.45	165.33	164.85	163.15	165.04	160.70	155.99	152.48	156.67
23	164.25	164.22	164.34	164.40	165.49	164.98	163.34	164.91	160.53	155.77	157.67	156.83
24	164.53	164.26	164.46	164.36	165.37	165.44	163.38	164.76	160.34	155.58	158.25	156.71
25	164.89	164.29	164.52	164.31	165.68	165.51	163.35	164.61	160.19	155.34	158.24	156.56
26	165.01	164.34	164.57	164.29	165.86	165.49	163.27	164.42	160.02	155.24	158.10	156.41
27	164.21	164.37	164.60	164.36	165.90	165.42	A	164.21	159.92	155.06	157.99	156.25
28	164.42	164.42	164.65	164.41	165.92	165.33	163.03	164.01	159.78	154.86	158.75	156.05
29	164.57	164.47	164.67	164.98	---	165.23	162.89	163.86	159.60	155.36	159.58	155.85
30	164.90	164.53	164.67	165.08	---	165.10	162.77	163.84	159.50	155.64	159.63	155.64
31	164.26	---	164.67	165.14	---	164.95	---	163.75	---	155.73	159.55	---
MAX	165.01	---	164.67	---	165.92	166.09	---	166.12	163.67	159.38	159.63	---
MIN	163.17	---	164.31	---	164.90	164.84	---	162.12	159.50	154.86	152.48	---

A No gage-height record

RIO DE LA PLATA BASIN
50045000 LAGO LA PLATA AT DAMSITE NEAR TOA ALTA, PR--Continued



50045010 RIO DE LA PLATA BELOW LA PLATA DAM

LOCATION.--Lat 18°20'45", long 66°14'17", Hydrologic Unit 21010005, 2.8 mi (4.5 km) west of Road 167, km 15.3, Buena Vista, Bayamón, 5.0 mi (8.0 km) east of Plaza de Corozal, 3.0 mi (4.8 km) northeast of Plaza de Naranjito.

DRAINAGE AREA.--173 mi² (448 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1989 to current year.

GAGE.--Water-stage recorder. Elevation of gage 66 ft (20 m), from topographic map.

REMARKS.--Records poor. Regulation at all stages by Puerto Rico Aqueduct and Sewer Authority reservoir upstream from gage. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	2120	338	1.1	1.3	3.1	2.5	1.6	2.0	.83	.34	26
2	770	4830	124	1.1	.66	2.9	1.6	1.2	2.0	.53	.16	25
3	944	2050	1.8	1.4	.61	2.3	1.3	1.1	1.8	.38	.10	23
4	401	132	1.9	1.6	.55	2.3	1.8	.94	2.2	.51	1.8	20
5	1.2	352	1.9	1.5	.76	2.4	1.7	1.2	1.7	.42	.30	18
6	1.1	169	1.9	1.6	.61	2.5	1.4	1.8	1.5	.39	.34	17
7	1.6	1.1	1.5	1.5	.68	2.5	2.0	658	1.8	.29	.14	16
8	1.1	440	1.9	1.3	.74	2.4	2.0	416	1.6	.20	.05	14
9	421	3.4	2.1	1.2	1.0	2.2	1.4	349	1.4	.12	.07	12
10	14	4.1	2.3	1.3	1.4	1.8	1.5	3.2	1.3	.14	.12	11
11	.94	265	2.1	2.2	1.3	1.8	2.0	2.6	1.2	.11	.09	9.4
12	.95	119	2.1	2.0	1.3	2.2	1.9	2.4	1.3	.09	.04	8.2
13	.68	3.3	2.9	2.1	1.4	2.3	1.8	3.4	1.4	.08	.02	6.9
14	.35	3.0	5.9	2.3	31	2.3	2.0	2.2	1.3	.07	.02	5.8
15	20	3.0	1.3	2.5	2.8	1.8	1.9	3.4	1.2	.06	.07	4.9
16	367	2.5	412	2.0	1.9	2.0	1.6	3.6	1.5	.05	.09	4.2
17	1.1	2.5	2.4	1.9	1.6	1.9	1.4	2.5	1.6	.04	.13	4.4
18	.87	3.1	1.5	1.8	1.6	1.9	1.3	2.3	1.7	.08	.10	3.8
19	2.3	2.9	1.3	1.7	1.8	2.2	1.5	1.8	1.8	.06	1.2	3.1
20	426	2.7	191	1.7	1.7	2.3	1.7	1.6	1.7	.03	.60	2.7
21	1.8	16	276	2.1	1.8	2.4	2.3	1.9	1.6	.02	.54	2.4
22	452	1.9	1.5	2.0	2.0	2.5	1.8	2.4	1.4	1.5	.82	2.1
23	965	353	426	2.0	2.0	2.4	1.9	1.9	1.5	.25	28	2.0
24	416	2.3	1.9	2.6	135	2.5	2.2	1.9	1.7	.06	45	1.8
25	.72	1.7	1.1	1.2	31	2.3	2.6	2.0	1.6	.01	38	1.6
26	28	1.7	1.1	1.3	3.1	2.3	2.1	2.0	1.2	.29	34	1.4
27	371	1.5	1.0	1.3	3.3	2.2	2.1	2.0	1.2	.10	30	1.2
28	1.5	1.5	1.3	1.7	3.0	2.4	2.1	1.9	1.2	.69	27	.92
29	1.0	1.4	1.3	1.8	---	1.6	1.9	1.8	1.0	3.8	29	.68
30	.98	1.8	1.3	387	---	1.7	1.8	2.0	1.0	.61	27	.50
31	492	---	.98	43	---	1.9	---	1.8	---	.15	26	---
TOTAL	6122.19	10891.4	1813.28	479.8	235.91	69.3	55.1	1481.44	45.4	11.96	291.14	250.00
MEAN	197	363	58.5	15.5	8.43	2.24	1.84	47.8	1.51	.39	9.39	8.33
MAX	965	4830	426	387	135	3.1	2.6	658	2.2	3.8	45	26
MIN	.35	1.1	.98	1.1	.55	1.6	1.3	.94	1.0	.01	.02	.50
AC-FT	12140	21600	3600	952	468	137	109	2940	90	24	577	496
CFSM	1.14	2.10	.34	.09	.05	.01	.01	.28	.01	.00	.05	.05
IN.	1.32	2.34	.39	.10	.05	.01	.01	.32	.01	.00	.06	.05

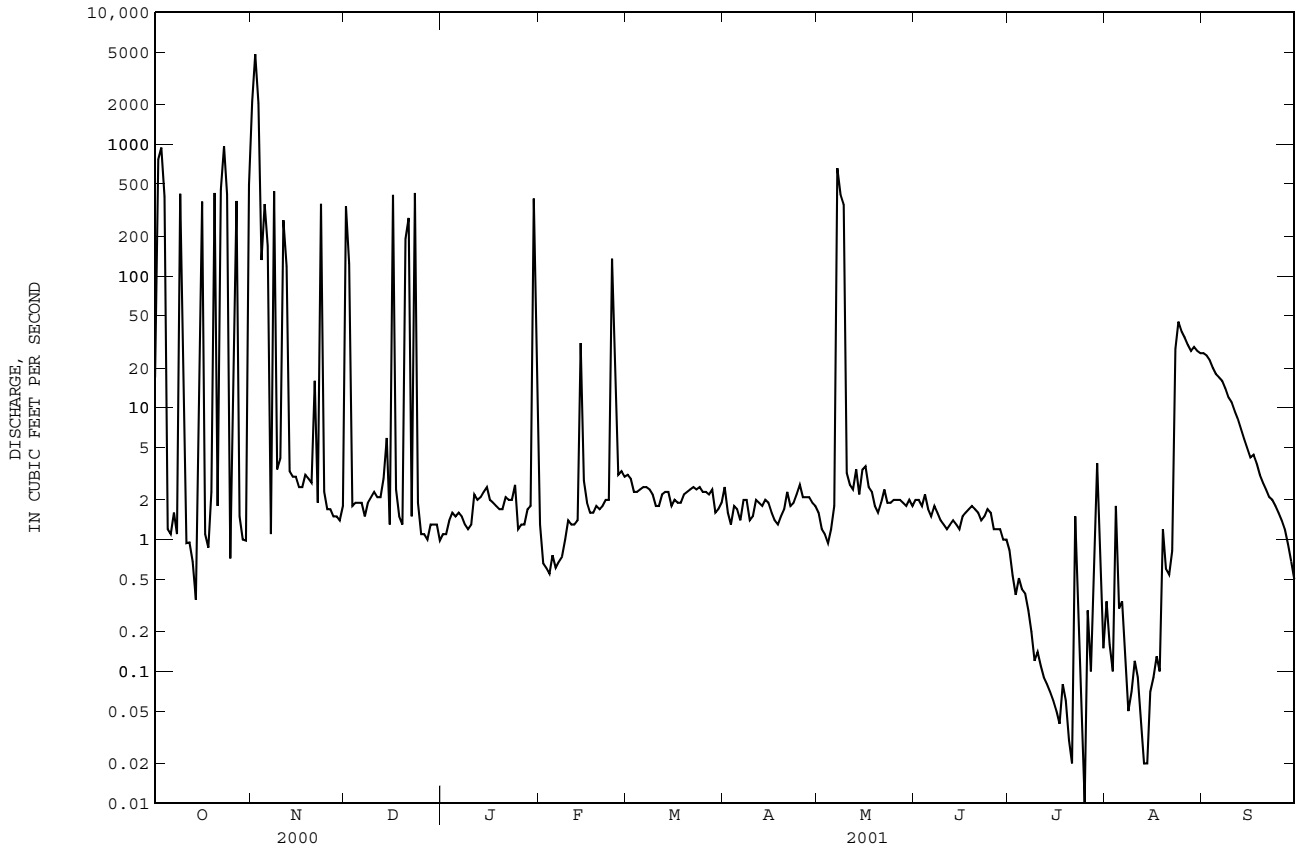
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2001, BY WATER YEAR (WY)

MEAN	192	218	163	198	51.9	12.4	23.8	86.4	30.8	60.9	59.0	882
MAX	1107	1368	926	1581	241	83.2	231	494	220	384	322	8046
(WY)	1991	2000	1999	1992	1998	1990	1993	1993	1993	1993	2000	1996
MIN	.048	.004	.000	.19	.14	.022	.011	.000	.002	.037	.020	.001
(WY)	1992	1995	1995	1990	1995	1995	1995	1994	1994	1994	1989	1991

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1989 - 2001

ANNUAL TOTAL	43036.62	21746.92	
ANNUAL MEAN	118	59.6	168
HIGHEST ANNUAL MEAN			714
LOWEST ANNUAL MEAN			8.62
HIGHEST DAILY MEAN	8370	Aug 23	4830
LOWEST DAILY MEAN	.00	Sep 7	.01
ANNUAL SEVEN-DAY MINIMUM	.11	Jun 5	.05
MAXIMUM PEAK FLOW			31500
MAXIMUM PEAK STAGE			19.77
ANNUAL RUNOFF (AC-FT)	85360		43140
ANNUAL RUNOFF (CFSM)	.68		.34
ANNUAL RUNOFF (INCHES)	9.26		4.68
10 PERCENT EXCEEDS	335		32
50 PERCENT EXCEEDS	2.1		1.8
90 PERCENT EXCEEDS	.48		.32

RIO DE LA PLATA BASIN
50045010 RIO DE LA PLATA BELOW LA PLATA DAM--Continued

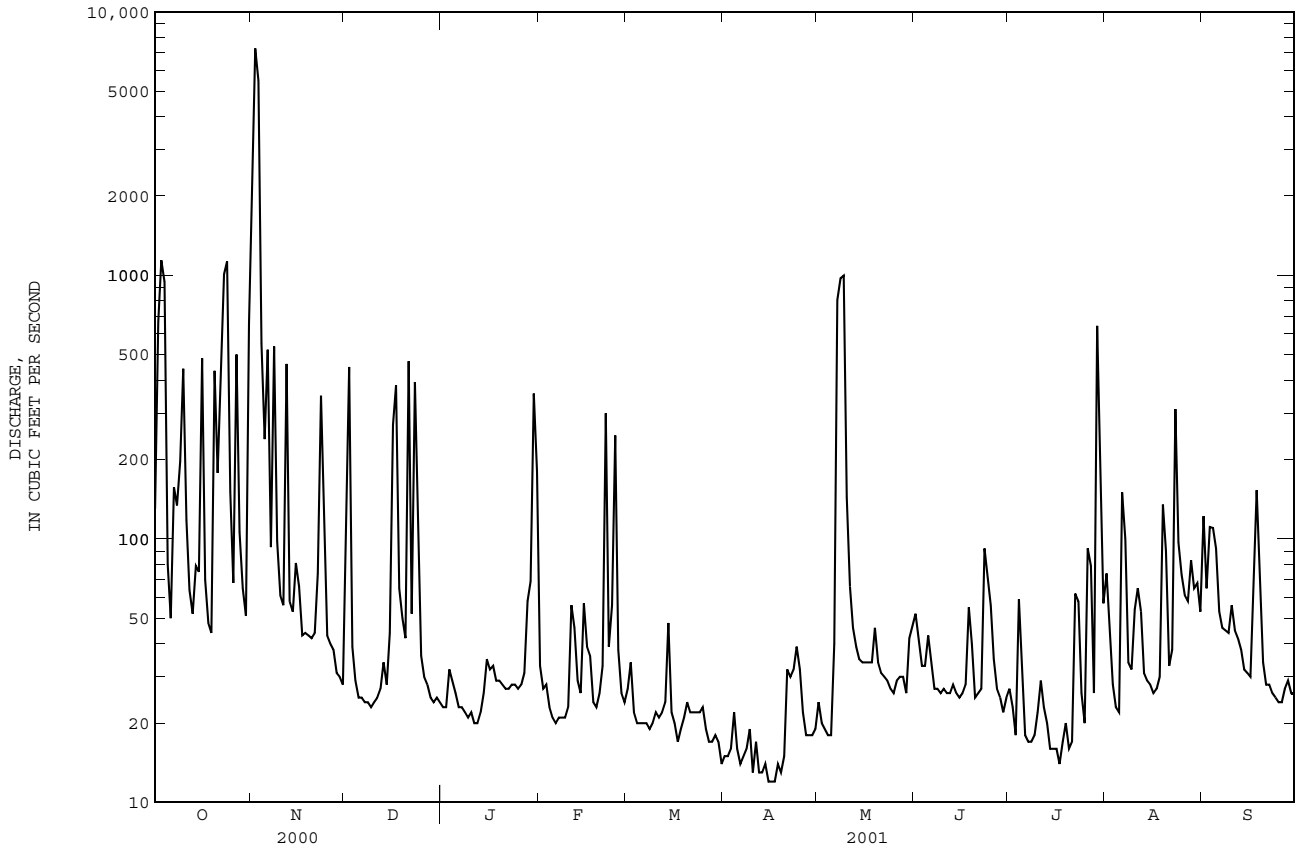


RIO DE LA PLATA BASIN

50046000 RIO DE LA PLATA AT HIGHWAY 2 NEAR TOA ALTA, PR--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1960 - 2001	
ANNUAL TOTAL	74735.4		45015			
ANNUAL MEAN	204		123		257	
HIGHEST ANNUAL MEAN					824 1971	
LOWEST ANNUAL MEAN					31.5 1994	
HIGHEST DAILY MEAN	11100	Aug 23	7260	Nov 2	68100	Sep 10 1996
LOWEST DAILY MEAN	9.4	Aug 8	12	Apr 15	2.7	Apr 17 1984
ANNUAL SEVEN-DAY MINIMUM	13	Jul 22	13	Apr 12	2.9	Apr 15 1984
MAXIMUM PEAK FLOW			34500		160000	
MAXIMUM PEAK STAGE			21.07		27.33	
ANNUAL RUNOFF (AC-FT)	148200		89290		185900	
ANNUAL RUNOFF (CFSM)	.98		.59		1.23	
ANNUAL RUNOFF (INCHES)	13.37		8.05		16.76	
10 PERCENT EXCEEDS	461		179		477	
50 PERCENT EXCEEDS	36		30		78	
90 PERCENT EXCEEDS	18		18		18	

e Estimated



50046000 RIO DE LA PLATA AT HWY 2 NR TOA ALTA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°24'41", long 66°15'39", at Highway 2, 1.3 mi (2.1 km) downstream from Río Lajas, and 1.6 mi (2.6 km) northwest of Toa Alta, 11.3 mi (18.2 km) downstream from Lago La Plata.

DRAINAGE AREA.--208 mi² (539 km²), exclude 8.2 mi² (21.2 km²) upstream from Lago Carite, flow from which is diverted to Río Guamaní.

PERIOD OF RECORD.--Water years 1958 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, SOLVED (PER-CENT SATUR-ATION) (MG/L) (00301)	OXYGEN, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL KF STRP WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT 11...	1340	68	340	7.3	28.6	34	5.9	76	19	5800	2600	130	38.1
FEB 07...	1130	21	445	7.5	25.6	2.7	5.7	70	12	310	<10	--	--
APR 23...	1300	35	488	7.4	28.3	2.0	6.0	77	<10	430	210	180	50.5
AUG 16...	1050	24	481	7.1	30.4	--	4.9	65	20	270	E120	180	55.5

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDE (MG/L) (00530)
OCT 11...	8.12	15.6	.6	3.11	128	<1.0	12.5	19.0	E.1	17.3	191	34.8	28
FEB 07...	--	--	--	--	163	--	--	--	--	--	--	--	14
APR 23...	12.2	27.3	.9	3.39	171	<1.0	14.9	37.6	E.1	20.9	269	25.1	<10
AUG 16...	11.0	24.6	.8	3.19	185	--	17.0	33.3	E.1	19.2	275	17.5	<10

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
OCT 11...	.67	.04	.7	.18	.39	.57	1.3	5.7	.090	E2	51.2	43	<.11
FEB 07...	.93	.07	1.0	.19	.37	.56	1.6	6.9	.060	--	--	--	--
APR 23...	.98	.12	1.1	.23	.45	.68	1.8	7.9	.130	E2	54.5	64	<.11
AUG 16...	.74	.04	.8	.05	.41	.46	1.2	5.5	.030	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 11...	2	<20.0	810	<1	96	<.14	<2.6	<.43	<31	<.01	<16	.04
FEB 07...	--	--	--	--	--	--	--	--	--	--	--	--
APR 23...	<1	<20.0	60	M	68	<.01	<2.6	<.43	<31	<.01	<16	.06
AUG 16...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
 E -- Estimated value
 M -- Presence verified, not quantified

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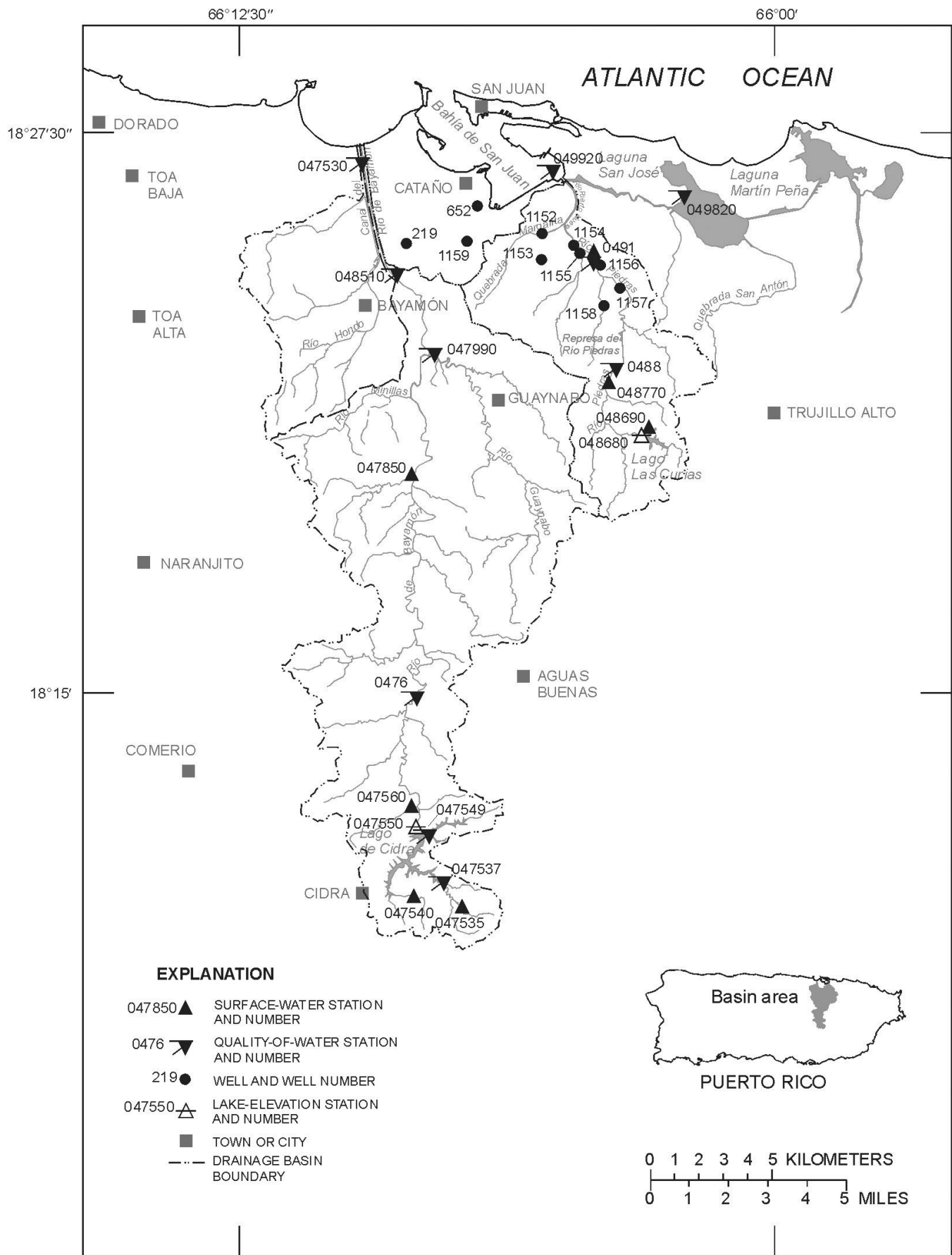


Figure 17. Río Hondo to Río Puerto Nuevo basins.

RIO HONDO BASIN

50047530 RIO HONDO AT FLOOD CHANNEL NEAR CATAÑO, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°26'13", long 66°09'36", at Río Hondo Channel, 800 ft (245 m) below junction with Río Hondo, 0.9 mi (1.5 km) downstream from bridge on de Diego Expressway and 1.1 mi (1.8 km) above mouth.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--Water years 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD TEMPERATURE (STANDARD WATER) (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	FECAL STREP, MP, WATER (COL/100 ML) (31673)	HARDNESS TOTAL (MG/L CaCO3) (00900)	CALCIUM DIS-SOLVED (MG/L Ca) (00915)	MAGNESIUM, DIS-SOLVED (MG/L Mg) (00925)			
OCT 03...	1340	29800	8.1	30.3	21	10.6	156	150	4300	5700	3200	198	657	
FEB 05...	1345	14400	7.7	27.0	5.5	3.3	43	<40	E1700	540	--	--	--	
APR 23...	1600	4790	7.5	28.5	25	2.7	35	46	5900	800	860	72.7	165	
DATE		SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)
OCT 03...	5400	42	208	128	<1.0	1410	10400	.4	4.4	18400	90	.02	.01	
FEB 05...	--	--	--	157	--	--	--	--	--	--	20	.09	.06	
APR 23...	1370	20	49.3	118	<1.0	348	2610	.3	10.8	4700	35	.13	.04	
DATE		NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	ARSENIC, TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	CADMIUM, WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)
OCT 03...	M	.05	.68	.73	.76	3.4	.130	E2	73.6	2330	<.22	<1	<200	
FEB 05...	.1	1.20	.50	1.7	1.8	8.2	.190	--	--	--	--	--	--	
APR 23...	.2	.71	.69	1.4	1.6	6.9	.260	3	37.7	657	<.22	1	<20.0	
DATE		IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MERCURY, TOTAL RECOVERABLE (UG/L AS HG) (71900)	SELENIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	CYANIDE, TOTAL (MG/L AS CN) (00720)	PHENOLS, TOTAL (UG/L) (32730)	METHYLENE BLUE, ACTIVE SUBSTANCE (MG/L) (38260)			
OCT 03...		610	<4	282	<.14	<2.6	<.43	<310	<.01	<16	.03			
FEB 05...		--	--	--	--	--	--	--	--	--	--			
APR 23...		770	3	185	<.01	<2.6	<.43	<31	<.01	<16	.49			

< -- Less than
M -- Presence verified, not quantified
E -- Estimated value

50047535 RIO DE BAYAMON AT ARENAS, PR

LOCATION.--Lat 18°10'11", long 66°07'18", Hydrologic Unit 21010005, at left bank, 2.6 mi (4.2 km) southeast of plaza de Cidra, 0.6 mi (0.9 km) southwest from Escuela Segunda Unidad de Bayamón, and 2.7 mi (4.3 km) northeast from Central Cayey.

DRAINAGE AREA.--0.45 mi² (1.16 km²).

PERIOD OF RECORD.--July 1992 to September 1993, October 1995 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,378 ft (420 m), from topographic map.

REMARKS.--Records fair, except those for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.24	4.0	e.49	e.19	e.37	.16	e.12	.32	.23	.21	.15	.77
2	e.49	1.1	e.33	e.22	e.26	.16	e.13	.26	.21	.19	.13	.45
3	e.67	1.7	e.28	e.20	e.32	.16	.17	.23	.18	.17	.13	.28
4	e.32	.42	e.25	e.21	e.25	.16	.17	.21	.18	.17	.31	.22
5	e.24	.29	e.25	e.20	e.23	.17	1.6	.19	.29	.27	.20	.18
6	e.21	.26	e.24	e.17	e.23	.16	.33	.51	.20	.14	.22	.16
7	e.20	.61	e.24	e.15	e.21	.15	.21	8.4	.18	.13	.21	.15
8	e.21	.38	e.23	e.15	e.19	.15	.24	.51	.17	.12	.16	.23
9	e.33	.28	e.23	e.14	e.19	.15	.23	.32	.16	.11	.15	.19
10	e.30	.25	e.24	e.14	e.25	.14	.17	.22	.17	.11	.16	.18
11	e.23	.24	e.24	e.15	e.50	.13	.32	.21	.16	.12	.15	.42
12	e.25	.25	e.26	e.16	e.66	.12	.20	.21	.15	.12	.18	.34
13	e.22	e.25	e.25	e.16	e.24	.12	.43	.20	.15	.16	.17	.21
14	e.19	e.28	e.35	e.16	e.29	.13	.32	.19	.14	.12	e.50	.17
15	e.22	.39	e.53	e.16	e.40	.12	.21	.18	.14	.11	e.12	.16
16	e.19	.36	e.95	e.22	e.38	.12	.19	.17	.14	.11	e.13	.13
17	.20	.29	e.64	e.22	.36	.13	.16	.17	.14	.10	e.78	.25
18	.19	.30	e2.2	e.20	.25	.11	.15	.21	.15	.11	e.46	.19
19	.22	.29	1.4	e.20	.23	.11	.15	.22	.14	.13	e.14	.16
20	.22	.29	1.9	e.19	.26	.12	.15	.17	.14	.11	.12	.14
21	.32	.53	.67	e.25	.25	.18	.30	.16	.13	.09	.36	.13
22	.34	.55	5.4	e.27	.28	.27	.52	.20	.14	.09	.94	.12
23	2.0	e.31	1.3	e.25	.22	4.1	.55	.18	.14	.10	2.9	.12
24	.46	e.38	.47	e.24	.43	.84	2.2	.18	.14	.13	.43	.12
25	.31	e.34	.46	e.22	.32	.32	.60	.20	.21	.30	.20	.12
26	.33	e.32	.30	e.22	.24	.23	.36	.19	.19	.19	.15	.12
27	.24	e.30	.24	e.23	.20	.19	e.29	.18	.15	.15	.13	.11
28	.46	e.29	.21	e.29	.17	e.16	e.26	.40	.17	.11	10	.11
29	.37	e.28	e.23	e4.3	---	e.14	.27	.19	.15	.51	.84	.10
30	.31	e1.1	e.18	e1.1	---	e.12	.25	.20	.16	.37	.39	.11
31	.29	---	e.16	e.29	---	e.14	---	.31	---	.22	.28	---
TOTAL	10.77	16.63	21.12	11.25	8.20	9.46	11.25	15.49	5.00	5.07	21.19	6.14
MEAN	.35	.55	.68	.36	.29	.31	.38	.50	.17	.16	.68	.20
MAX	2.0	4.0	5.4	4.3	.66	4.1	2.2	8.4	.29	.51	10	.77
MIN	.19	.24	.16	.14	.17	.11	.12	.16	.13	.09	.12	.10
AC-FT	21	33	42	22	16	19	22	31	9.9	10	42	12
CFSM	.77	1.23	1.51	.81	.65	.68	.83	1.11	.37	.36	1.52	.45
IN.	.89	1.37	1.75	.93	.68	.78	.93	1.28	.41	.42	1.75	.51

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2001, BY WATER YEAR (WY)

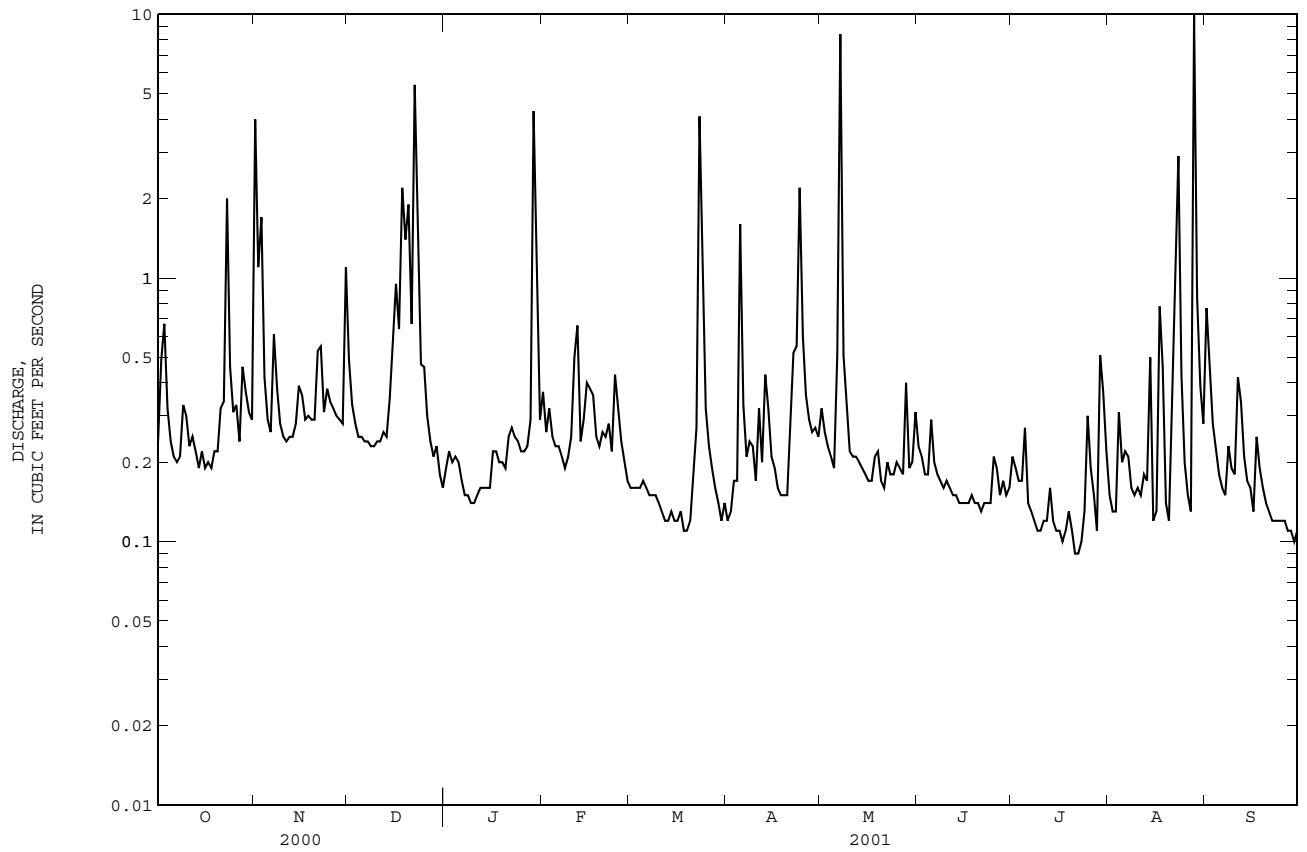
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001		
MEAN	.69	1.20	1.17	.66	.61	.27	.23	.48	.55	.76	.96	2.25
MAX	1.73	3.82	4.63	1.17	2.38	.65	.45	2.02	1.79	2.12	1.87	6.52
(WY)	1998	2000	1999	2000	1998	1998	1993	1993	1996	1993	1996	1998
MIN	.30	.32	.048	.36	.16	.097	.095	.10	.10	.092	.46	.20
(WY)	1997	1998	1998	2001	1993	1993	1997	1999	1998	1998	1992	1997

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1992 - 2001

ANNUAL TOTAL	203.89	141.57	
ANNUAL MEAN	.56	.39	.83
HIGHEST ANNUAL MEAN			1.16
LOWEST ANNUAL MEAN			.31
HIGHEST DAILY MEAN	34	Aug 23	141
LOWEST DAILY MEAN	.05	May 7	.02
ANNUAL SEVEN-DAY MINIMUM	.06	May 2	.10
MAXIMUM PEAK FLOW			126
MAXIMUM PEAK STAGE			4.32
INSTANTANEOUS LOW FLOW			.08
ANNUAL RUNOFF (AC-FT)	404	281	603
ANNUAL RUNOFF (CFSM)	1.24	.86	1.85
ANNUAL RUNOFF (INCHES)	16.85	11.70	25.14
10 PERCENT EXCEEDS	.84	.51	1.1
50 PERCENT EXCEEDS	.26	.21	.20
90 PERCENT EXCEEDS	.11	.13	.07

e Estimated

RIO DE BAYAMON BASIN
50047535 RIO DE BAYAMON AT ARENAS, PR--Continued



50047540 RIO SABANA AT VISTA MONTE, PR

LOCATION.--Lat 18°10'28", long 66°08'38", Hydrologic Unit 21010005, at left bank, 1.2 mi (1.9 km) southeast of Plaza de Cidra, 1.2 mi (1.9 km) southwest from Escuela Segunda Unidad de Bayamón, and 0.4 mi (0.6 km) upstream from Lago de Cidra.

DRAINAGE AREA.--0.80 mi² (2.07 km²).

PERIOD OF RECORD.--August 1992 to September 1993, October 1995 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,345 ft (410 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.63	2.7	e.77	.45	.61	.38	.21	.23	.28	.23	e.19	e.69
2	e2.4	4.4	e.57	.49	.46	.39	.21	.17	.21	.26	e.17	e.35
3	e2.0	3.1	e.50	.47	.53	.38	.20	.15	.19	.18	e.17	e.27
4	e.95	.95	e.47	.48	.42	.40	.22	.15	.17	.36	e.37	e.23
5	e.65	.64	e.47	.47	.39	.34	1.0	.15	.21	.39	e.21	e.21
6	e.49	.58	e.46	.40	.40	.31	.67	2.3	.18	.19	e.29	e.20
7	e.42	.65	e.45	.38	.36	.30	.27	8.6	.17	.15	e.25	e.18
8	e.53	.66	e.44	.35	.34	.29	1.9	.59	.17	.14	e.22	e.26
9	e1.2	.58	e.44	.31	.39	.30	.37	.62	.18	.15	e.21	e.27
10	e.59	.49	e.45	.30	.43	.31	.25	.40	.20	.15	e.23	e.21
11	e.55	.46	e.45	.32	.77	.29	.39	.31	.20	.16	e.22	e.42
12	e.59	.47	e.48	.33	.97	.25	.58	.28	.19	e.19	e.24	e.31
13	e.53	.47	e.47	.33	.44	.21	.38	.23	.18	e.18	e.28	e.23
14	e.53	1.1	e.59	.33	.51	.22	.24	.22	.18	e.15	e.39	e.18
15	e.52	.74	e.82	.33	.64	.21	.22	.22	.18	e.14	e.22	e.18
16	.51	.51	1.5	.41	.58	.21	.21	.23	.17	e.14	e.23	e.14
17	.57	.50	1.2	.41	.51	.17	.22	.22	2.0	e.13	e.51	e.25
18	.53	.56	3.2	.38	.45	.17	.21	.38	.21	e.15	e.37	e.18
19	.81	.55	2.1	.38	.42	.18	.21	.29	.17	e.16	e.23	e.16
20	.58	.56	2.4	.37	.45	.22	.21	.23	.16	e.14	e.42	e.16
21	1.0	1.0	1.5	.44	.47	.62	.60	.22	.16	e.13	e.36	e.15
22	.60	e.85	7.0	.47	.57	.25	.76	.26	.16	e.13	e1.3	e.15
23	4.9	e.54	3.0	.45	.43	4.7	.31	.23	.15	e.12	e1.1	e.15
24	1.1	e.63	1.1	.44	1.3	.52	2.3	.23	.21	e.23	e.43	e.14
25	.68	e.58	.95	.41	.73	.26	.37	.28	.44	e.19	e.28	e.15
26	.57	e.55	.60	.41	.47	.23	.21	.21	.30	e.23	e.25	e.14
27	.48	e.53	.48	.42	.42	.22	.18	.20	.22	e.17	e.23	e.13
28	1.5	e.52	.48	.50	.41	.22	.18	.68	.21	e.15	e4.5	e.13
29	1.1	e.50	.50	5.6	---	.23	.17	.23	.18	e.54	e.59	e.13
30	.74	e1.7	.40	1.5	---	.21	.23	.25	.21	e.33	e.37	e.13
31	.64	---	.37	.49	---	.22	---	.60	---	e.24	e.28	---
TOTAL	28.89	28.07	34.61	18.82	14.87	13.21	13.48	19.36	7.84	6.20	15.11	6.42
MEAN	.93	.94	1.12	.61	.53	.43	.45	.62	.26	.20	.49	.21
MAX	4.9	4.4	7.0	5.6	1.3	4.7	2.3	8.6	2.0	.54	4.5	.69
MIN	.42	.46	.37	.30	.34	.17	.17	.15	.12	.12	.17	.13
AC-FT	57	56	69	37	29	26	27	38	16	12	30	13
CFSM	1.16	1.17	1.40	.76	.66	.53	.56	.78	.33	.25	.61	.27
IN.	1.34	1.31	1.61	.88	.69	.61	.63	.90	.36	.29	.70	.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2001, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001		
MEAN	1.88	2.09	1.98	1.00	1.06	.50	.56	.68	.71	1.17	1.51	4.55
MAX	4.51	5.02	7.83	1.91	3.50	1.01	1.23	2.26	1.57	3.02	3.44	16.7
(WY)	1998	2000	1999	1999	1998	1998	1993	1993	1999	1993	2000	1996
MIN	.76	.86	.31	.33	.33	.15	.19	.20	.25	.20	.48	.21
(WY)	1997	1998	1998	1998	1993	1993	2000	2000	1997	2001	1997	2001

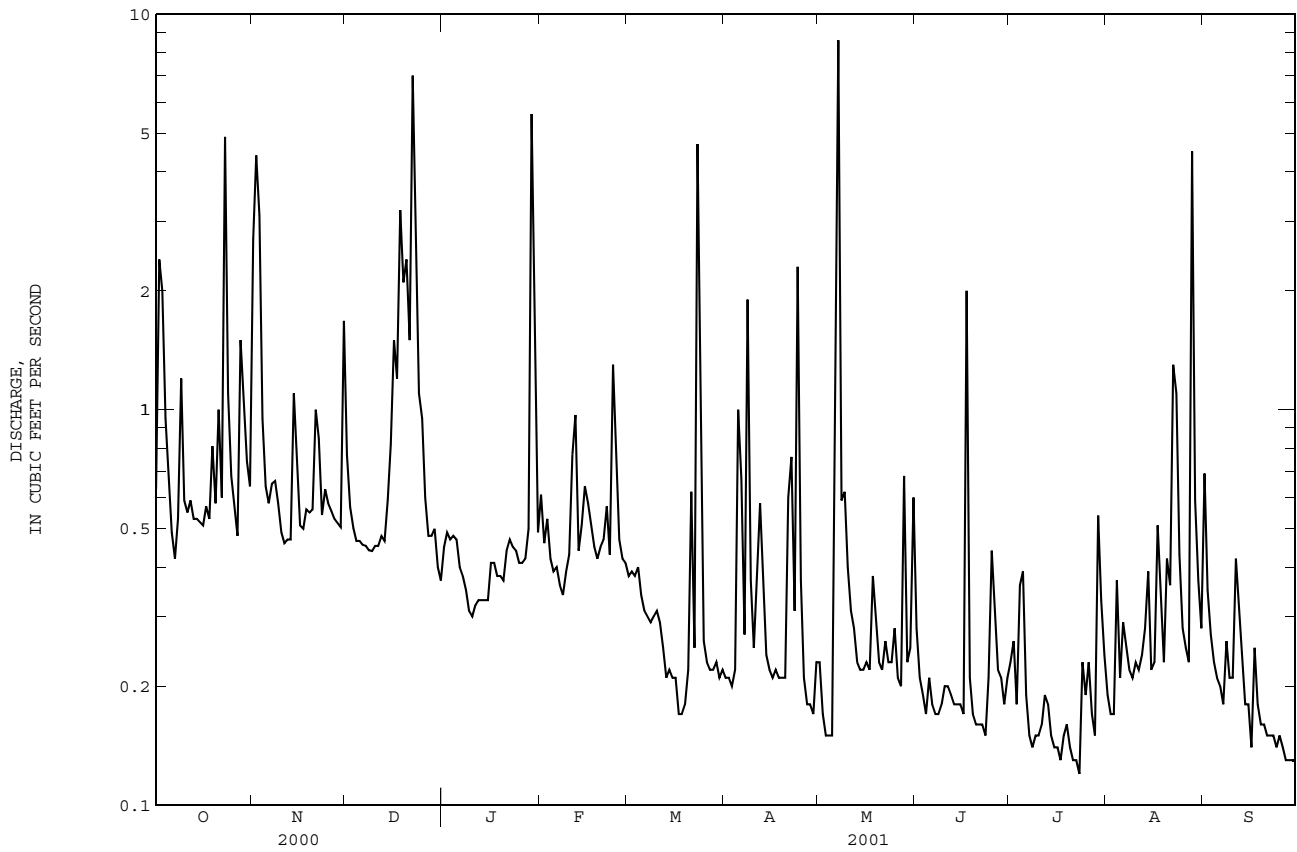
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1992 - 2001

ANNUAL TOTAL	350.71	206.88	
ANNUAL MEAN	.96	.57	1.51
HIGHEST ANNUAL MEAN			2.37
LOWEST ANNUAL MEAN			.57
HIGHEST DAILY MEAN	84	Aug 23	8.6
LOWEST DAILY MEAN	.08	Jun 8	.12
ANNUAL SEVEN-DAY MINIMUM	.09	Jun 5	.14
MAXIMUM PEAK FLOW			52
MAXIMUM PEAK STAGE			2.46
INSTANTANEOUS LOW FLOW			12.02
ANNUAL RUNOFF (AC-FT)	696	410	1100
ANNUAL RUNOFF (CFSM)	1.20	.71	1.89
ANNUAL RUNOFF (INCHES)	16.31	9.62	25.68
10 PERCENT EXCEEDS	1.5	.98	1.7
50 PERCENT EXCEEDS	.45	.37	.47
90 PERCENT EXCEEDS	.15	.17	.19

e Estimated

RIO DE BAYAMON BASIN

50047540 RIO SABANA AT VISTA MONTE, PR--Continued



RIO DE BAYAMON BASIN

50047550 LAGO CIDRA AT DAMSITE NEAR CIDRA, PR

LOCATION.--Lat 18°11'57", long 66°08'29", Hydrologic Unit 21010005, at Lago de Cidra Dam on Río de Bayamón, 1.9 mi (3.0 km) northeast of Plaza de Cidra and 1.8 mi (2.9 km) northwest of Escuela Segunda Unidad de Bayamón.

DRAINAGE AREA.--8.26 mi² (21.39 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--January 1988 to current year.

GAGE.--Water-stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago de Cidra was completed in 1946. The maximum storage is 5,300 ac-ft (6.53 hm³) and provides supplemental water to metropolitan San Juan. The dam is a concrete gravity and earthfill structure approximately 541 ft (165 m) long between abutments with a maximum structural height of about 78.7 ft (24.0 m). The spillway portion of the dam, length 131 ft (40 m) and crest elevation 1,322 ft (403 m), is an ungated ogee crest located 131 ft (40 m) from the right abutment. This dam is owned by Puerto Rico Aqueduct and Sewer Authority. Gage-height and precipitation satellite telemetry at station. New capacity table based on U.S. Geological Survey Water-Resources Investigations Report 99-4144, November 1997.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation 1,328.09 ft (404.80 m), Sep. 10, 1996; minimum elevation 1,295.86 ft (394.98 m), April 22, 1995.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 1,314.84 ft (400.76 m), Feb.17; minimum elevation, 1,297.16ft (395.37 m), July 21.

Capacity Table

(based on data from U.S. Geological Survey Water-Resources Investigations Report 99-4144, Puerto Rico-1997)

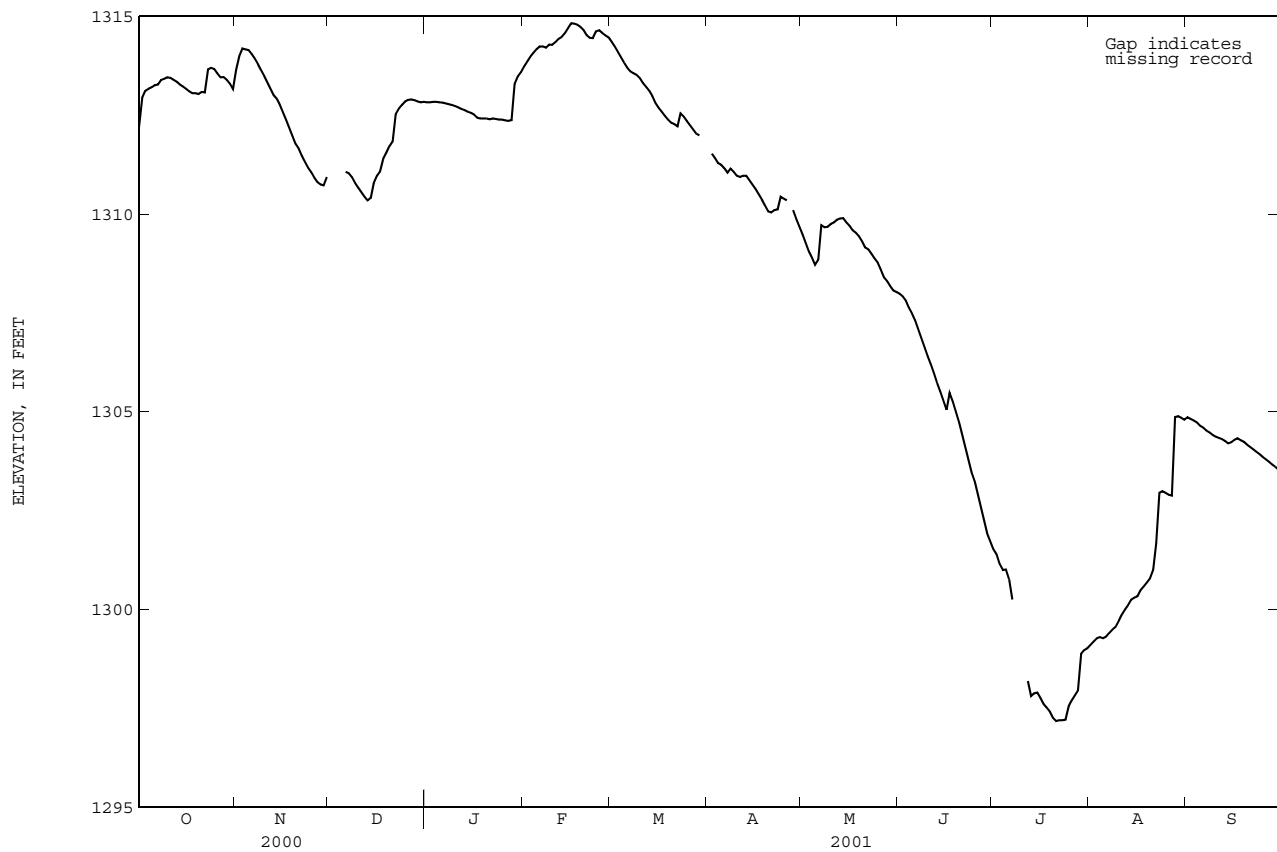
Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
1,260	0	1,309	2,059
1,276	97	1,315	3,170
1,296	762	1,322	4,670

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1312.21	1313.66	A	1312.83	1313.73	1314.36	A	1309.49	1307.99	1301.52	1299.11	1304.86
2	1312.95	1313.99	A	1312.83	1313.86	1314.24	1311.53	1309.27	1307.92	1301.39	1299.19	1304.82
3	1313.12	1314.19	A	1312.84	1313.98	1314.10	1311.42	1309.06	1307.81	1301.15	1299.27	1304.78
4	1313.17	1314.17	A	1312.84	1314.08	1313.96	1311.29	1308.90	1307.63	1301.00	1299.30	1304.73
5	1313.21	1314.15	A	1312.83	1314.17	1313.83	1311.25	1308.72	1307.48	1301.01	1299.27	1304.65
6	1313.26	1314.05	1311.07	1312.82	1314.24	1313.70	1311.16	1308.85	1307.31	1300.76	1299.31	1304.60
7	1313.28	1313.93	1311.03	1312.80	1314.24	1313.61	1311.05	1309.72	1307.08	1300.25	1299.41	1304.53
8	1313.39	1313.79	1310.94	1312.78	1314.21	1313.56	1311.15	1309.67	1306.86	A	1299.49	1304.48
9	1313.42	1313.64	1310.79	1312.76	1314.29	1313.52	1311.07	1309.68	1306.63	A	1299.56	1304.42
10	1313.46	1313.49	1310.67	1312.73	1314.28	1313.44	1310.97	1309.75	1306.41	A	1299.71	1304.37
11	1313.45	1313.33	1310.56	1312.70	1314.35	1313.32	1310.94	1309.79	1306.20	A	1299.87	1304.34
12	1313.40	1313.17	1310.44	1312.66	1314.43	1313.22	1310.97	1309.86	1305.97	1298.19	1300.00	1304.31
13	1313.35	1313.01	1310.35	1312.63	1314.48	1313.12	1310.97	1309.89	1305.73	1297.81	1300.11	1304.26
14	1313.28	1312.92	1310.41	1312.59	1314.57	1312.99	1310.86	1309.90	1305.51	1297.88	1300.25	1304.20
15	1313.23	1312.77	1310.79	1312.56	1314.70	1312.81	1310.75	1309.79	1305.29	1297.90	1300.30	1304.23
16	1313.17	1312.57	1310.97	1312.52	1314.83	1312.69	1310.63	1309.71	1305.05	1297.76	1300.33	1304.29
17	1313.11	1312.38	1311.08	1312.44	1314.82	1312.59	1310.50	1309.59	1305.48	1297.61	1300.49	1304.33
18	1313.06	1312.19	1311.40	1312.42	1314.79	1312.49	1310.37	1309.53	1305.26	1297.52	1300.58	1304.28
19	1313.06	1311.98	1311.56	1312.42	1314.74	1312.39	1310.22	1309.44	1305.01	1297.42	1300.68	1304.24
20	1313.04	1311.78	1311.72	1312.42	1314.66	1312.31	1310.07	1309.31	1304.74	1297.26	1300.78	1304.17
21	1313.09	1311.66	1311.84	1312.40	1314.53	1312.28	1310.04	1309.16	1304.41	1297.18	1301.00	1304.11
22	1313.08	1311.48	1312.53	1312.42	1314.46	1312.22	1310.10	1309.11	1304.10	1297.20	1301.67	1304.05
23	1313.66	1311.32	1312.67	1312.41	1314.45	1312.55	1310.12	1309.00	1303.78	1297.20	1302.95	1303.99
24	1313.70	1311.17	1312.76	1312.39	1314.62	1312.47	1310.44	1308.88	1303.47	1297.21	1302.99	1303.93
25	1313.67	1311.06	1312.85	1312.39	1314.65	1312.36	1310.39	1308.78	1303.24	1297.55	1302.95	1303.86
26	1313.56	1310.92	1312.89	1312.37	1314.58	1312.25	1310.35	1308.60	1302.93	1297.70	1302.90	1303.80
27	1313.46	1310.81	1312.90	1312.36	1314.52	1312.15	A	1308.40	1302.60	1297.83	1302.88	1303.74
28	1313.47	1310.75	1312.88	1312.38	1314.47	1312.04	1310.10	1308.31	1302.25	1297.95	1304.87	1303.67
29	1313.40	1310.73	1312.85	1313.29	---	1311.99	1309.88	1308.18	1301.92	1298.88	1304.89	1303.61
30	1313.30	1310.94	1312.83	1313.48	---	---	1309.69	1308.07	1301.71	1298.97	1304.85	1303.54
31	1313.16	---	1312.84	1313.59	---	---	---	1308.03	---	1299.02	1304.80	---
MAX	1313.70	1314.19	---	1313.59	1314.83	---	---	1309.90	1307.99	---	1304.89	1304.86
MIN	1312.21	1310.73	---	1312.36	1313.73	---	---	1308.03	1301.71	---	1299.11	1303.54

A No gage-height record

RIO DE BAYAMON BASIN
50047550 LAGO CIDRA AT DAMSITE NEAR CIDRA, PR--Continued



RIO DE BAYAMON BASIN

201

50047560 RIO DE BAYAMON BELOW LAGO CIDRA, PR

LOCATION.--Lat 18°12'04", long 66°08'26", Hydrologic Unit 21010005, 0.2 mi (0.3 km) downstream of Lago Cidra Dam on right bank, 2.1 mi (3.4 km) northwest of Plaza de Cidra.

DRAINAGE AREA.--8.32 mi² (21.5 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1990 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,279 ft (390 m), from topographic map.

REMARKS.--Records poor. Regulation at all stages by Puerto Rico Aqueduct and Sewer Authority reservoir upstream from gage. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	28	e4.3	7.5	5.6	14	15	18	e18	18	2.4	3.1
2	4.5	16	4.3	6.7	5.5	14	15	16	e14	17	2.4	2.9
3	3.9	7.5	3.9	6.5	5.4	17	16	15	e15	17	2.3	2.9
4	3.8	6.9	4.2	6.8	4.9	16	18	14	e20	17	2.3	2.8
5	4.5	e6.2	4.4	7.4	5.0	14	19	16	e22	12	2.4	2.8
6	4.9	e5.8	4.8	6.3	7.4	16	19	18	e23	43	2.4	2.7
7	5.5	e5.3	3.9	7.3	10	12	18	17	e23	59	2.3	2.6
8	5.6	e5.1	7.9	7.2	10	12	18	8.4	e22	9.4	2.2	2.5
9	6.1	e5.6	12	7.0	10	12	15	8.1	e23	34	2.2	2.5
10	5.8	e5.4	11	7.6	11	12	14	7.9	e25	38	2.2	2.5
11	7.7	e5.5	e11	7.8	11	10	12	7.4	e23	23	2.2	2.4
12	11	e4.9	e12	8.1	12	14	14	7.5	e21	23	2.4	2.4
13	13	e14	7.3	8.5	8.4	16	17	11	e17	21	2.4	2.3
14	12	e13	4.6	8.5	7.0	16	16	13	e28	2.7	2.4	2.3
15	12	e12	4.9	8.3	6.5	17	16	16	e30	4.8	2.5	2.3
16	12	e12	6.2	7.6	7.7	15	16	19	e37	6.2	2.4	2.3
17	13	e12	4.9	7.3	20	15	17	19	e35	5.9	2.5	2.6
18	11	e4.8	5.3	6.3	19	15	19	19	e25	5.2	2.4	2.4
19	10	e4.9	e5.1	6.3	18	15	19	19	e21	5.2	2.3	2.5
20	10	e5.5	e5.5	6.6	24	16	17	18	e18	7.9	2.4	2.6
21	12	e5.5	5.1	6.8	38	16	17	19	e21	6.2	2.5	2.5
22	12	e4.8	e5.7	6.6	30	17	18	20	19	2.4	3.2	2.5
23	9.9	e5.0	e5.3	7.0	17	19	12	19	18	2.4	2.9	2.4
24	6.2	e5.1	e5.3	6.5	15	20	11	17	21	2.4	2.3	2.5
25	17	e5.0	e4.8	6.2	15	18	10	21	20	2.5	2.4	2.5
26	25	e4.6	e4.8	6.4	14	18	11	26	20	2.3	2.5	2.4
27	24	e4.9	e4.8	6.9	13	16	14	30	e20	2.3	2.4	2.4
28	24	e5.0	e10	7.5	14	17	18	34	19	2.2	5.6	2.3
29	23	e5.2	e10	9.7	---	17	18	26	19	2.8	3.4	2.1
30	24	e4.1	10	5.5	---	19	18	e19	18	2.3	3.3	2.1
31	26	---	7.9	5.7	---	19	---	e16	---	2.3	3.2	---
TOTAL	363.4	229.6	201.2	220.4	364.4	484	477	534.3	655	399.4	80.7	75.1
MEAN	11.7	7.65	6.49	7.11	13.0	15.6	15.9	17.2	21.8	12.9	2.60	2.50
MAX	26	28	12	9.7	38	20	19	34	37	59	5.6	3.1
MIN	3.8	4.1	3.9	5.5	4.9	10	10	7.4	14	2.2	2.2	2.1
AC-FT	721	455	399	437	723	960	946	1060	1300	792	160	149
CFSM	1.41	.92	.78	.85	1.56	1.88	1.91	2.07	2.62	1.55	.31	.30
IN.	1.62	1.03	.90	.99	1.63	2.16	2.13	2.39	2.93	1.79	.36	.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2001, BY WATER YEAR (WY)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	
MEAN	15.8	21.7	29.2	19.4	17.8	17.2	14.5	13.2	12.7	14.0	13.5	38.7
MAX	31.2	41.2	117	59.6	36.5	26.3	24.5	23.2	21.8	39.6	29.2	233
(WY)	1999	1992	2000	1992	1991	1998	1996	1998	2001	1993	1996	1996
MIN	3.74	7.65	4.36	5.45	7.24	11.4	5.72	4.13	3.47	1.56	1.18	1.64
(WY)	1995	2001	1994	1995	1994	1994	1997	1993	1994	1994	1995	1994

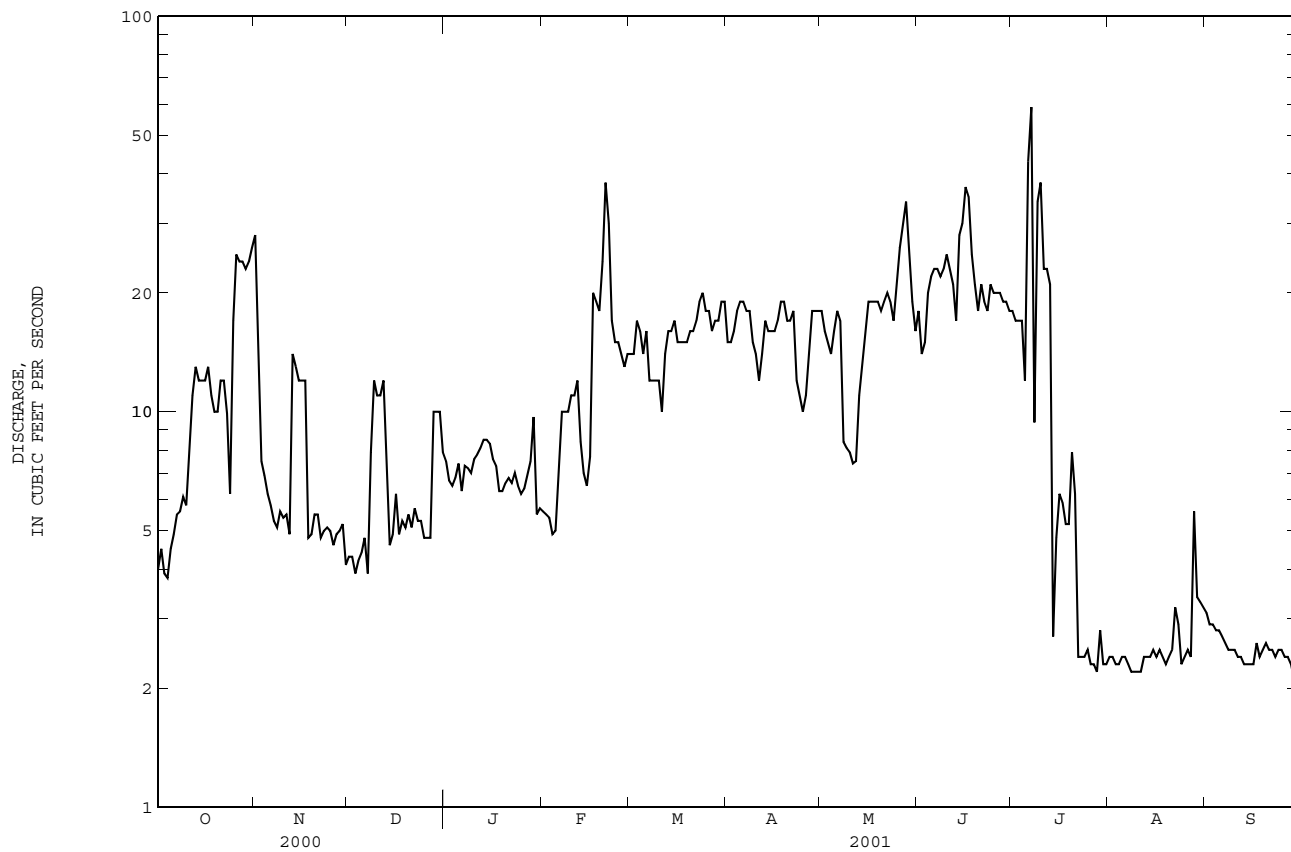
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1991 - 2001

ANNUAL TOTAL	5853.8	4084.5	
ANNUAL MEAN	16.0	11.2	
HIGHEST ANNUAL MEAN			36.1 1996
LOWEST ANNUAL MEAN			5.93 1994
HIGHEST DAILY MEAN	497 Jan 3	59 Jul 7	5420 Sep 10 1996
LOWEST DAILY MEAN	2.0 Jan 20	2.1 Sep 29	.60 Aug 6 1992
ANNUAL SEVEN-DAY MINIMUM	3.1 Jan 18	2.3 Aug 5	.80 May 1 1995
MAXIMUM PEAK FLOW		132 Jul 6	15000 Sep 10 1996
MAXIMUM PEAK STAGE		9.81 Jul 6	27.34 Sep 10 1996
ANNUAL RUNOFF (AC-FT)	11610	8100	13750
ANNUAL RUNOFF (CFSM)	1.92	1.35	2.28
ANNUAL RUNOFF (INCHES)	26.17	18.26	30.99
10 PERCENT EXCEEDS	21	21	27
50 PERCENT EXCEEDS	14	8.5	13
90 PERCENT EXCEEDS	4.9	2.4	3.3

e Estimated

RIO DE BAYAMON BASIN

50047560 RIO DE BAYAMON BELOW LAGO CIDRA, PR--Continued



RIO DE BAYAMON BASIN

50047600 RIO DE BAYAMON NEAR AGUAS BUENAS, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°14'39", long 66°08'39", at bridge on Highway 156, and 2.9 mi (4.7 km) west of Aguas Buenas plaza.

DRAINAGE AREA.--18.5 mi² (47.9 km²).

PERIOD OF RECORD.--Water years 1958-65, 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT 06...	1350	18	322	8.0	25.8	16	8.1	103	<10	500	850	130	29.7
FEB 08...	1230	19	297	7.8	23.2	6.9	8.3	101	<10	220	330	--	--
MAY 04...	0720	20	291	7.5	23.7	4.0	7.3	89	<10	E170	370	100	24.1
AUG 31...	0835	10	325	7.5	24.6	--	6.9	86	<10	520	570	130	29.8

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDEED (MG/L) (00530)
OCT 06...	13.1	14.9	.6	1.89	123	<1.0	10.4	19.9	E.1	30.1	194	9.66	<10
FEB 08...	--	--	--	--	107	--	--	--	--	--	--	--	<10
MAY 04...	10.8	18.5	.8	1.77	105	<1.0	8.5	20.0	E.1	23.2	170	9.32	<10
AUG 31...	13.0	16.1	.6	1.88	122	--	12.2	23.2	E.1	27.7	197	5.36	12

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, ORGANIC (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)
OCT 06...	<.01	.8	.05	--	<.20	--	--	<.020	<2	21.9	27	<.11	1
FEB 08...	<.01	.6	<.01	--	.33	.95	4.2	<.020	--	--	--	--	--
MAY 04...	<.01	.3	.01	.29	.30	.59	2.6	<.020	<2	19.4	27	<.11	<1
AUG 31...	<.01	.7	.02	--	<.20	--	--	<.020	--	--	--	--	--

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 06...	<20.0	420	M	48	<.14	<2.6	<.43	<31	<.01	<16	<.02
FEB 08...	--	--	--	--	--	--	--	--	--	--	--
MAY 04...	<20.0	110	<1	32	<.01	<2.6	<.43	<31	<.01	<16	.03
AUG 31...	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

RIO DE BAYAMON BASIN

50047850 RIO BAYAMON NR BAYAMON, PR

LOCATION.--Lat 18°20'08", long 66°08'13", Hydrologic Unit 21010005, on left bank, at rock quarry near Highway 174, 1.3 mi (2.1 km) south of colonia Santa Rosa and 4.7 mi (7.6 km) south of Bayamón.

DRAINAGE AREA.--41.8 mi² (108.3 km²).

PERIOD OF RECORD.--September 1964 to October 1970, June 1988 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 98 ft (30 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Diversion to the Guaynabo water treatment plant, for municipal supply, made upstream from station (at Represa de San Juan). Flow is regulated by storage and release of water at Lago de Cidra (capacity 5,220 acre-ft), 10.5 mi (16.9 km) upstream. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	166	21	12	10	17	8.6	12	7.4	8.4	53	19
2	104	516	14	11	11	13	8.4	8.6	7.7	7.4	12	10
3	60	383	13	14	9.7	8.6	8.6	7.5	7.1	7.5	8.1	12
4	15	74	13	12	9.2	8.5	12	7.2	11	8.7	7.4	15
5	12	32	13	12	9.1	8.3	10	6.8	8.5	8.0	6.7	9.9
6	12	24	12	11	8.9	8.1	16	16	6.9	6.7	34	8.8
7	18	21	12	11	8.9	8.1	12	169	6.4	7.1	12	8.5
8	17	20	12	11	8.8	7.9	8.8	65	6.2	12	9.1	8.2
9	14	19	12	11	9.0	7.9	8.5	42	5.9	6.1	9.0	8.1
10	12	18	13	10	9.1	7.8	7.8	18	5.8	13	12	8.3
11	11	17	12	10	24	7.9	11	15	5.4	12	12	8.3
12	11	16	13	11	11	7.8	8.1	9.5	5.2	11	10	8.0
13	10	15	16	10	10	8.6	8.3	8.7	5.0	20	9.2	8.2
14	10	17	16	12	9.6	8.7	8.4	8.1	5.0	19	8.8	7.7
15	9.9	29	28	12	12	8.5	8.1	7.6	5.6	8.3	8.6	7.7
16	25	18	21	11	11	8.5	7.9	7.3	6.3	6.7	8.9	7.6
17	12	16	47	13	10	8.2	7.6	7.3	7.7	6.4	22	7.6
18	10	15	30	11	10	8.1	7.6	8.0	6.7	8.4	17	7.5
19	19	15	20	11	10	8.0	7.6	9.0	5.6	12	11	7.4
20	13	17	20	11	11	8.6	8.2	7.2	5.4	7.2	9.4	e7.4
21	29	23	16	11	11	9.5	31	6.6	5.4	6.9	8.3	e7.3
22	74	20	14	12	104	9.4	49	6.3	5.8	62	11	e7.3
23	89	16	14	12	18	9.8	91	6.4	65	11	282	7.2
24	41	20	13	11	23	9.0	31	6.1	8.9	8.8	23	7.1
25	18	18	13	11	38	8.6	11	6.1	10	8.2	9.6	7.2
26	14	21	13	11	19	7.8	9.6	6.1	7.6	12	8.2	7.5
27	13	17	12	15	9.7	7.7	e8.9	6.0	8.9	8.5	20	15
28	17	15	12	28	8.6	7.6	9.1	6.2	11	7.7	18	9.8
29	16	14	12	95	---	7.8	9.2	5.8	7.4	111	27	8.1
30	13	19	12	163	---	8.2	8.1	15	8.0	21	11	7.8
31	13	---	12	12	---	8.2	---	8.1	---	12	9.0	---
TOTAL	745.9	1631	501	608	443.6	271.7	441.4	518.5	268.8	465.0	707.3	269.5
MEAN	24.1	54.4	16.2	19.6	15.8	8.76	14.7	16.7	8.96	15.0	22.8	8.98
MAX	104	516	47	163	104	17	91	169	65	111	282	19
MIN	9.9	14	12	10	8.6	7.6	7.6	5.8	5.0	6.1	6.7	7.1
AC-FT	1480	3240	994	1210	880	539	876	1030	533	922	1400	535
CFSM	.58	1.30	.39	.47	.38	.21	.35	.40	.21	.36	.55	.21
IN.	.66	1.45	.45	.54	.39	.24	.39	.46	.24	.41	.63	.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2001, BY WATER YEAR (WY)

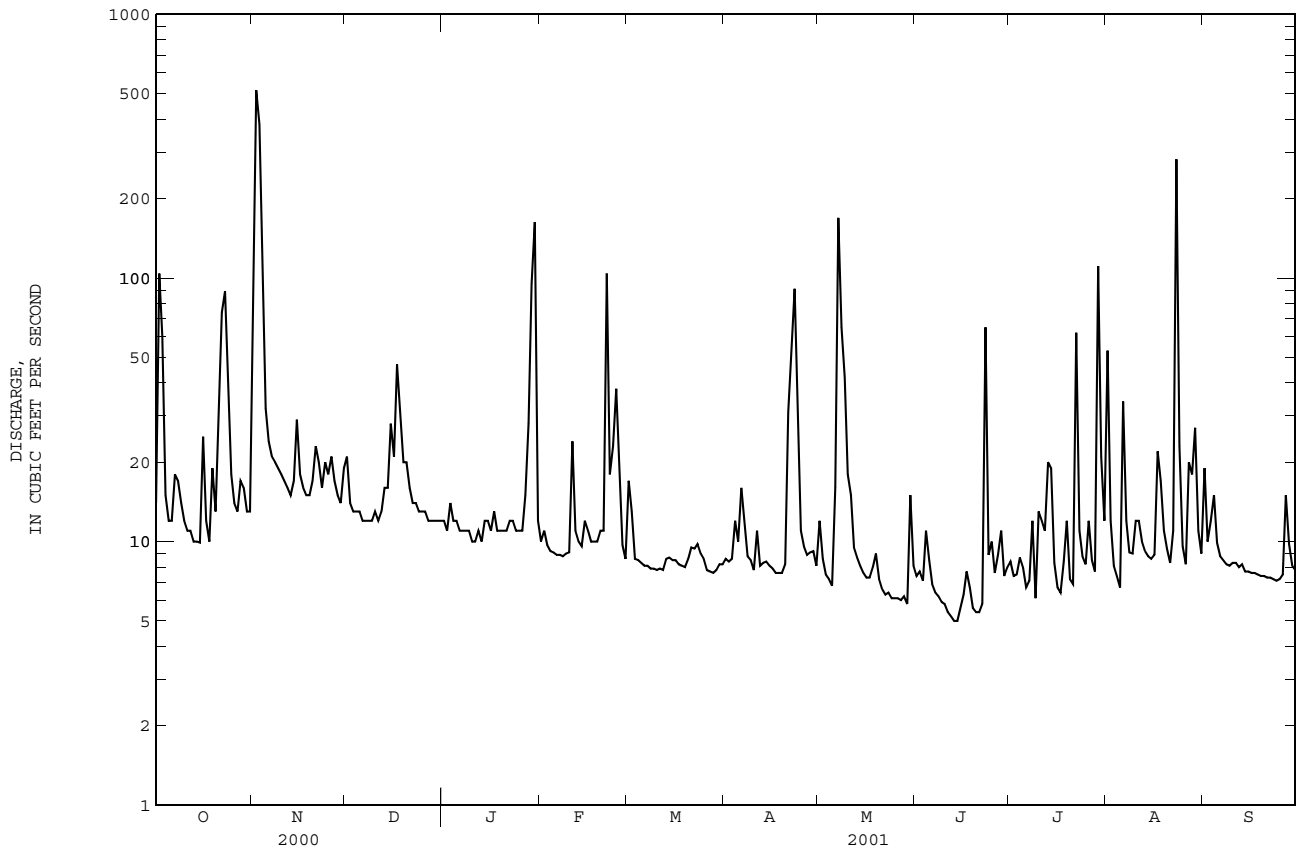
	MEAN	MAX	(WY)	MIN	(WY)
MEAN	40.4	55.6	54.8	37.6	23.5
MAX	129	232	263	159	75.3
(WY)	1991	2000	1966	1969	1989
MIN	4.30	7.91	3.45	5.30	4.75
(WY)	1969	1965	1998	1968	1965

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1964 - 2001

ANNUAL TOTAL	12189.0	6871.7	
ANNUAL MEAN	33.3	18.8	
HIGHEST ANNUAL MEAN			69.5 1999
LOWEST ANNUAL MEAN			10.9 1994
HIGHEST DAILY MEAN	2320	Aug 23	516 Nov 2 8640 Sep 10 1996
LOWEST DAILY MEAN	4.7	Aug 21	5.0 Jun 13 2.2 Apr 19 1965
ANNUAL SEVEN-DAY MINIMUM	5.5	Aug 15	5.4 Jun 9 2.4 Apr 14 1965
MAXIMUM PEAK FLOW			3650 Nov 2 65000 Sep 10 1996
MAXIMUM PEAK STAGE			9.99 Nov 2 29.07 Sep 10 1996
ANNUAL RUNOFF (AC-FT)	24180	13630	26200
ANNUAL RUNOFF (CFSM)	.80	.45	.87
ANNUAL RUNOFF (INCHES)	10.85	6.12	11.76
10 PERCENT EXCEEDS	47	24	62
50 PERCENT EXCEEDS	14	11	13
90 PERCENT EXCEEDS	7.9	7.2	5.2

e Estimated

RIO DE BAYAMON BASIN
50047850 RIO BAYAMON NR BAYAMON, PR--Continued



RIO DE BAYAMON BASIN

50047990 RIO GUAYNABO NEAR BAYAMON, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°22'32", long 66°07'59", at bridge on Highway 833, 0.2 mi (0.3 km) upstream from Río de Bayamón, and 2.3 mi (3.7 km) southeast of Bayamón plaza.

DRAINAGE AREA.--73.2 mi² (189.6 km²).

PERIOD OF RECORD.--Water years 1958, 1964, 1971-73, 1976, 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	SPE-CIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD WATER) (US/CM) (00400)	TEMPERATURE (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (PERCENT SATURATION) (MG/L) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORMS, UM-MF (COLS./100 ML) (31625)	FECAL STREPTOCOCCI, KF STRPMF, WATER (COL/100 ML) (31673)	HARDNESS, TOTAL AS (MG/L) (00900)	CALCIUM, DIS-SOLVED AS (MG/L) (00915)	MAGNESIUM, DIS-SOLVED AS (MG/L) (00925)
OCT 13...	0900	516	7.8	26.4	6.5	4.6	57	10	3900	760	170	46.9	12.8
FEB 23...	1345	438	7.6	24.9	85	6.7	80	12	E60000	810	--	--	--
MAY 30...	1330	209	7.5	28.5	--	5.5	70	16	5900	2200	110	30.7	7.52
AUG 23...	1430	344	7.4	29.5	--	5.8	76	15	2300	E17000	120	34.6	9.21

DATE	SODIUM, DIS-SOLVED (MG/L) (00930)	SODIUM, AD-SORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED AS (MG/L) (00935)	ANC WATER UNFLTRD FIELD (MG/L) (00410)	SULFIDE TOTAL AS (MG/L) (00745)	SULFATE, DIS-SOLVED AS (MG/L) (00945)	CHLORIDE, DIS-SOLVED AS (MG/L) (00940)	FLUORIDE, DIS-SOLVED AS (MG/L) (00950)	SILICA, DIS-SOLVED AS (MG/L) (00955)	SOLIDS, SUM OF DIS-SOLVED AS (MG/L) (70301)	RESIDUE, TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITROGEN, TOTAL AS (MG/L) (00620)	NITROGEN, TOTAL AS (MG/L) (00615)
OCT 13...	26.9	.9	2.79	175	<1.0	16.6	27.8	E.1	29.3	268	19	.72	.03
FEB 23...	--	--	--	154	--	--	--	--	--	--	142	.96	.03
MAY 30...	17.3	.7	2.19	112	<1.0	9.3	21.0	E.1	17.8	173	18	.33	.02
AUG 23...	16.2	.6	2.87	120	--	18.9	19.3	E.1	21.0	194	136	.96	.04

DATE	NITROGEN, NO2+NO3 TOTAL AS (MG/L) (00630)	NITROGEN, AMMONIA AS (MG/L) (00610)	NITROGEN, ORGANIC AS (MG/L) (00605)	NITROGEN, AMMONIA + ORGANIC AS (MG/L) (00625)	NITROGEN, TOTAL AS (MG/L) (00600)	NITROGEN, TOTAL AS (MG/L) (71887)	PHOSPHORUS, TOTAL AS (MG/L) (00665)	ARSENIC, TOTAL AS (MG/L) (01002)	BARIUM, TOTAL RECOVERABLE AS (MG/L) (01007)	BORON, TOTAL RECOVERABLE AS (MG/L) (01022)	CADMIUM, WATER UNFLTRD TOTAL AS (MG/L) (01027)	CHROMIUM, TOTAL RECOVERABLE AS (MG/L) (01034)	COPPER, TOTAL RECOVERABLE AS (MG/L) (01042)
OCT 13...	.8	.24	.04	.28	1.0	4.6	.160	<2	118	41	<.11	M	<20.0
FEB 23...	1.0	.08	.87	.95	1.9	8.6	.360	--	--	--	--	--	--
MAY 30...	.3	.07	.42	.49	.84	3.7	.120	<2	75.1	29	<.10	M	<20.0
AUG 23...	1.0	.15	.68	.83	1.8	8.1	.260	--	--	--	--	--	--

DATE	IRON, TOTAL RECOVERABLE AS (UG/L) (01045)	LEAD, TOTAL RECOVERABLE AS (UG/L) (01051)	MANGANESE, TOTAL RECOVERABLE AS (UG/L) (01055)	MERCURY, TOTAL RECOVERABLE AS (UG/L) (71900)	SELENIUM, TOTAL AS (UG/L) (01147)	SILVER, TOTAL RECOVERABLE AS (UG/L) (01077)	ZINC, TOTAL RECOVERABLE AS (UG/L) (01092)	CYANIDE, TOTAL AS (MG/L) (00720)	PHENOLS, TOTAL AS (UG/L) (32730)	METHYLENE BLUE, ACTIVE SUBSTANCE AS (MG/L) (38260)
OCT 13...	1030	M	229	<.14	<2.6	<.43	E18	E.01	<16	.06
FEB 23...	--	--	--	--	--	--	--	--	--	--
MAY 30...	590	1	134	.01	<3.0	<.40	E16	<.01	E10	.10
AUG 23...	--	--	--	--	--	--	--	--	--	--

< -- Less than
 E -- Estimated value
 M -- Presence verified, not quantified

50048510 RIO DE BAYAMON AT FLOOD CHANNEL AT BAYAMON, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°24'29", long 66°09'04", at bridge on Highway 890, 1.0 mi (1.6 km) downstream from bridge on Highway 2, and 3.2 mi (5.1 km) above mouth.

DRAINAGE AREA.--71.9 mi² (186.2 km²).

PERIOD OF RECORD.--Water years 1974 to current year.

REMARKS.--Prior to 1979 sampling site was 0.8 mile (1.3 km) downstream but was changed because of flood channel construction.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CaCO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)
OCT 23...	1000	120	330	7.9	26.2	1.4	6.6	81	15	53000	29000	120	32.7
FEB 23...	1100	63	345	7.6	24.9	45	7.7	93	14	660000	620	--	--
MAY 30...	1145	52	395	7.6	29.3	--	7.9	102	<10	4300	470	150	39.6
SEP 07...	1045	36	485	7.6	28.5	--	7.8	100	<10	<1000	<27	170	45.3

DATE	MAGNE-SIUM, DIS-SOLVED AS MG (00925)	SODIUM, DIS-SOLVED AS NA (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED AS K (00935)	ANC WATER UNFLTRD FIELD (MG/L AS CaCO3) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED AS SO4 (00945)	CHLO-RIDE, DIS-SOLVED AS CL (00940)	FLUO-RIDE, DIS-SOLVED AS F (00950)	SILICA, DIS-SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT 23...	10.1	16.8	.7	2.79	118	<1.0	15.5	17.2	.2	21.1	187	60.5	98
FEB 23...	--	--	--	--	126	--	--	--	--	--	--	--	35
MAY 30...	12.3	22.5	.8	2.22	154	<1.0	13.1	28.8	.2	24.4	236	32.8	<10
SEP 07...	14.6	24.8	.8	2.17	169	--	16.7	30.7	E.1	26.5	262	25.5	22

DATE	NITRO-GEN, NITRATE (MG/L AS N) (00620)	NITRO-GEN, NITRITE (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, ORGANIC (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, (MG/L AS N) (00600)	NITRO-GEN, (MG/L AS NO3) (71887)	PHOS-PHORUS (MG/L AS P) (00665)	ARSENIC (MG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (MG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (MG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
OCT 23...	1.15	.05	1.2	.34	.76	1.1	2.3	10.2	.200	<2	87.6	35	<.11
FEB 23...	.69	.03	.7	.22	.26	.48	1.2	5.3	.140	--	--	--	--
MAY 30...	--	<.01	.1	.02	.34	.36	.51	2.3	.040	M	64.7	37	<.10
SEP 07...	.45	.02	.5	.10	.14	.24	.71	3.1	.060	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL RECOV-ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 23...	2	E18.2	3990	2	213	<.14	<2.6	<.43	E20	<.01	<16	<.08
FEB 23...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 30...	<1	<20.0	260	<1	113	<.01	<3.0	<.40	<31	<.01	E5	.05
SEP 07...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
 E -- Estimated value
 M -- Presence verified, not quantified

RIO DE BAYAMON BASIN

50048510 RIO DE BAYAMON AT FLOOD CHANNEL AT BAYAMON, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR- DANE, TECH- NICAL TOTAL (UG/L) (39350)	P,P'- DDD UNFILT RECOVER (UG/L) (39360)	P,P'- DDE, TOTAL (UG/L) (39365)	P,P'- DDT UNFILT RECOVER (UG/L) (39370)	DI- AZINON, TOTAL (UG/L) (39570)	DI- ELDRIN TOTAL (UG/L) (39380)	ENDO- SULFAN I TOTAL (UG/L) (39388)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)	
MAY 30...	1145	<.1	<.013	<.1	<.007	<.006	<.009	.04	<.006	<.015	<.014	<.01	<.014	
DATE		HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALA- THON, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METHYL PARA- THON, TOTAL (UG/L) (39600)	MIREX, TOTAL (UG/L) (39755)	PARA- THON, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	CARBO- PHENO- THON WATER UNFLTRD TOTAL (UG/L) (39786)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	2,4-DP TOTAL (UG/L) (82183)	SILVEX, TOTAL (UG/L) (39760)
MAY 30...		<.009	<.006	1.76	<.01	<.01	<.01	<.01	<1	<.02	.06	<.01	<.04	<.01

50048680 LAGO LAS CURIAS AT DAMSITE NEAR RIO PIEDRAS, PR

LOCATION.--Lat 18°20'40", long 66°03'03", Hydrologic Unit 21010005 at Lago Las Curias Dam on Río Piedras, 4.2 mi (6.7 km) south of University of Puerto Rico Tower, 1.6 mi (2.6 km) northwest from Escuela José F. Díaz and 0.8 mi (1.3 km) north of Escuela Cupey Alto.

DRAINAGE AREA.--0.97 mi² (2.51 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--April 1997 to current year.

GAGE.--Water stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Las Curias was completed in 1946. The reservoir has a capacity of 1,135 ac-ft (1.40 hm³) at spillway crest elevation 315.78 ft (96.25 m) for water supply. The dam is earthfill and has a crest elevation of 327.3 ft (99.75 m). Masonry parapet walls continuous from abutment on each side of the 25 ft (7.62 m) wide crest. The dam is about 82.0 ft (25.0 m) high and 984.2 ft (300.0 m) long. The morning-glory inlet conduit spillway in located along the left abutment of the dam and has an uncontrolled capacity of about 5,000 ft³/s (141.6 m³/s) at reservoir elevation 321.5 ft (98.0 m). This dam is operated by Puerto Rico Aqueduct and Sewer Authority. Gage-height and precipitation satellite telemetry at station.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 317.01 ft (96.62 m), Aug. 11, 1998; minimum elevation, 313.04 ft (95.41 m), Oct. 5, 1998.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 316.71 ft (96.53 m), Oct. 22; minimum elevation, 315.66 ft (96.21 m), June 15.

Capacity Table
(based on data from Puerto Rico Electric Power Authority)

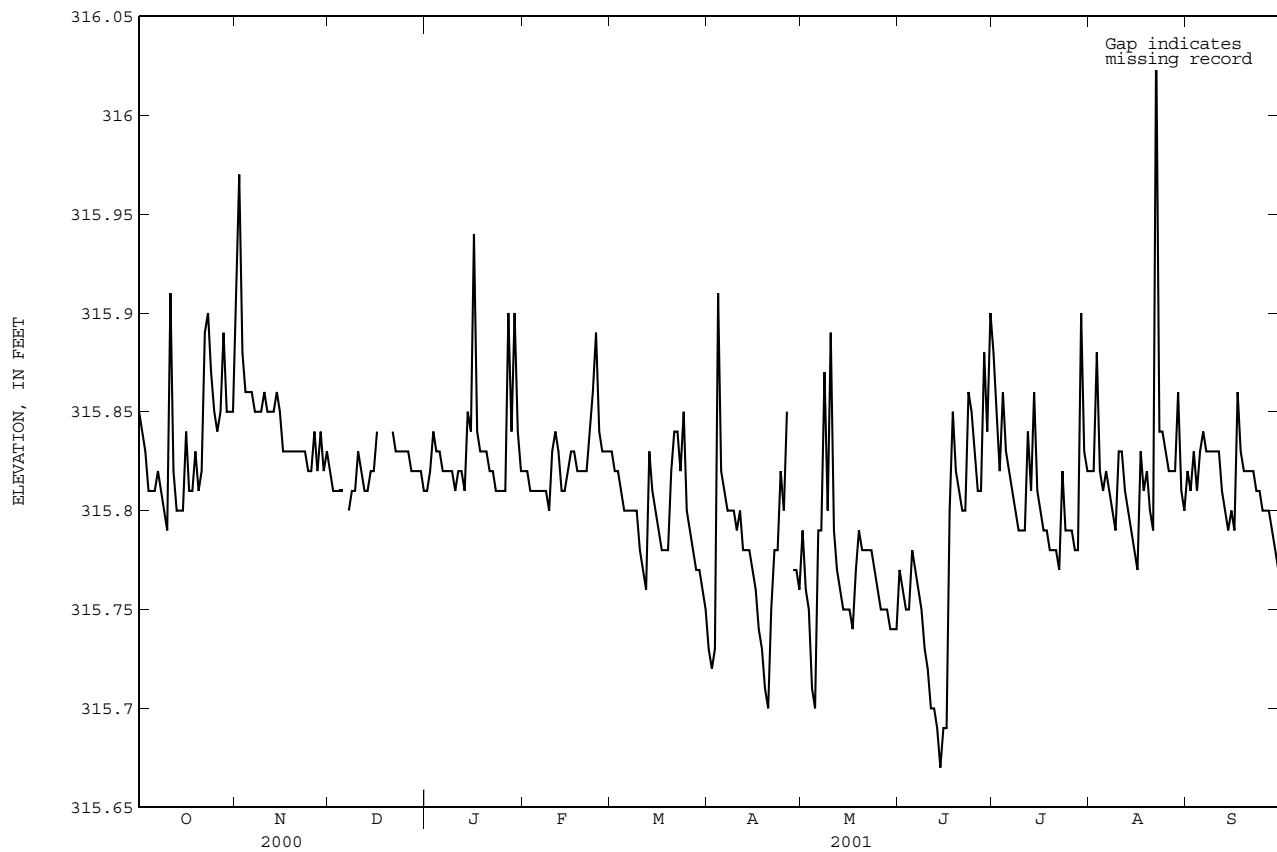
Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
284.7	154	313.0	677
298.2	462	314.3	1,078
307.1	770	317.5	1,232

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	315.85	315.92	315.82	315.81	315.82	315.83	315.73	315.79	315.77	315.88	315.82	315.82
2	315.84	315.97	315.81	315.82	315.82	315.82	315.72	315.76	315.76	315.85	315.82	315.81
3	315.83	315.88	315.81	315.84	315.81	315.82	315.73	315.75	315.75	315.82	315.88	315.83
4	315.81	315.86	315.81	315.83	315.81	315.81	315.91	315.71	315.75	315.86	315.82	315.81
5	315.81	315.86	315.81	315.83	315.81	315.80	315.82	315.70	315.78	315.83	315.81	315.83
6	315.81	315.86	A	315.82	315.81	315.80	315.81	315.79	315.77	315.82	315.82	315.84
7	315.82	315.85	315.80	315.82	315.81	315.80	315.80	315.79	315.76	315.81	315.81	315.83
8	315.81	315.85	315.81	315.82	315.81	315.80	315.80	315.87	315.75	315.80	315.80	315.83
9	315.80	315.85	315.81	315.82	315.80	315.80	315.80	315.80	315.73	315.79	315.79	315.83
10	315.79	315.86	315.83	315.81	315.83	315.78	315.79	315.89	315.72	315.79	315.83	315.83
11	315.91	315.85	315.82	315.82	315.84	315.77	315.80	315.79	315.70	315.79	315.83	315.83
12	315.82	315.85	315.81	315.82	315.83	315.76	315.78	315.77	315.70	315.84	315.81	315.81
13	315.80	315.85	315.81	315.81	315.81	315.83	315.78	315.76	315.69	315.81	315.80	315.80
14	315.80	315.86	315.82	315.85	315.81	315.81	315.78	315.75	315.67	315.86	315.79	315.79
15	315.80	315.85	315.82	315.84	315.82	315.80	315.77	315.75	315.69	315.81	315.78	315.80
16	315.84	315.83	315.84	315.94	315.83	315.79	315.76	315.75	315.69	315.80	315.77	315.79
17	315.81	315.83	A	315.84	315.83	315.78	315.74	315.74	315.80	315.79	315.83	315.86
18	315.81	315.83	A	315.83	315.82	315.78	315.73	315.77	315.85	315.79	315.81	315.83
19	315.83	315.83	A	315.83	315.82	315.78	315.71	315.79	315.82	315.78	315.82	315.82
20	315.81	315.83	A	315.83	315.82	315.82	315.70	315.78	315.81	315.78	315.80	315.82
21	315.82	315.83	315.84	315.82	315.82	315.84	315.75	315.78	315.80	315.78	315.79	315.82
22	315.89	315.83	315.83	315.82	315.84	315.84	315.78	315.78	315.80	315.77	316.04	315.82
23	315.90	315.83	315.83	315.81	315.86	315.82	315.78	315.78	315.86	315.82	315.84	315.81
24	315.87	315.82	315.83	315.81	315.89	315.85	315.82	315.77	315.85	315.79	315.84	315.81
25	315.85	315.82	315.83	315.81	315.84	315.80	315.80	315.76	315.83	315.79	315.83	315.80
26	315.84	315.84	315.83	315.81	315.83	315.79	315.85	315.75	315.81	315.79	315.82	315.80
27	315.85	315.82	315.82	315.90	315.83	315.78	A	315.75	315.81	315.78	315.82	315.80
28	315.89	315.84	315.82	315.84	315.83	315.77	315.77	315.75	315.88	315.78	315.82	315.79
29	315.85	315.82	315.82	315.90	--	315.77	315.77	315.74	315.84	315.90	315.86	315.78
30	315.85	315.83	315.82	315.84	--	315.76	315.76	315.74	315.90	315.83	315.81	315.77
31	315.85	--	315.81	315.82	--	315.75	--	315.74	--	315.82	315.80	--
MAX	315.91	315.97	--	315.94	315.89	315.85	--	315.89	315.90	315.90	316.04	315.86
MIN	315.79	315.82	--	315.81	315.80	315.75	--	315.70	315.67	315.77	315.77	315.77

A No gage-height record

RIO PUERTO NUEVO BASIN
50048680 LAGO LAS CURIAS AT DAMSITE NEAR RIO PIEDRAS, PR--Continued



50048690 QUEBRADA LAS CURIAS BELOW LAS CURIAS DAM, PR

LOCATION.--Lat 18°20'44", long 66°03'15", Hydrologic Unit 21010005, at 0.2 miles (0.3 km) from Lago Las Curias Dam on Río Piedras, 4.1 mi (6.6 km) south of University of Puerto Rico Tower, 2.6 mi (4.1 km) northwest from Lago Loíza spillway crest and 0.8 mi (1.37 km) north of Escuela Cupey Alto.

DRAINAGE AREA.--1.08 mi² (2.79 km²).

PERIOD OF RECORD.--August 1997 to current year.

GAGE.--Water stage recorder. Elevation of gage is 262.47 ft (80.0 km), from topographic map.

REMARKS.--Records poor. Flow completely regulated by Lago Las Curías Dam, 0.20 mi (0.32 km) from gage. Gage-height and precipitation satellite telemetry at station..

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	25	1.3	.45	.74	.40	.31	1.2	.28	6.2	1.6	.67
2	2.6	24	1.2	.40	.89	.52	.20	1.0	.36	2.6	.65	.73
3	1.7	28	.90	2.7	.74	.51	.20	.35	.28	1.3	12	.79
4	.79	3.7	.71	1.2	.70	.47	23	1.0	.28	4.0	3.2	.96
5	.39	2.4	.68	.61	.47	.71	3.8	.34	.30	2.1	.91	.53
6	.29	2.1	.75	.69	.43	.29	.62	.34	.54	.58	.77	.62
7	.32	2.2	.81	.48	.37	.27	.57	7.5	.38	.55	.79	.57
8	.53	1.7	.78	.68	.70	.30	.33	11	.39	.44	.55	.39
9	.50	1.6	.75	.66	.88	.49	.54	3.8	.38	.40	.55	1.1
10	.29	1.3	1.2	.36	.79	.79	.36	18	.37	.36	.49	1.3
11	27	1.3	1.3	.33	4.8	.34	1.6	5.1	.28	.26	1.5	1.4
12	5.2	1.5	1.4	.38	1.8	.39	.60	1.2	.26	1.7	1.0	.68
13	1.0	1.6	1.7	.45	1.1	.63	.42	.65	.28	1.3	.69	.53
14	.57	1.9	1.5	.87	.70	1.4	.25	.52	.27	4.0	.45	.51
15	.46	2.7	3.3	1.3	1.2	.64	.23	.36	.28	1.7	.33	.36
16	4.8	2.2	2.7	7.6	1.0	.63	.49	.26	.29	.58	.48	.43
17	1.5	1.5	4.0	5.3	.78	.62	.41	.33	.38	.33	.74	2.9
18	.62	1.4	4.8	.99	.71	.32	.38	.33	1.7	.35	.91	2.0
19	1.7	1.5	e3.5	.71	.46	.29	.36	.87	1.3	.28	.56	1.1
20	1.3	1.5	e2.0	.57	.69	1.2	.27	.67	.59	.23	.80	.27
21	2.1	1.4	.87	.60	.52	1.7	.29	.28	.37	.26	.60	.35
22	33	1.4	1.2	.45	7.4	2.4	.35	.22	.35	.25	4.5	.36
23	27	1.9	.69	.80	2.8	1.4	.50	.27	3.0	.50	13	.30
24	17	1.2	.80	.42	3.0	4.9	1.7	.60	3.1	.85	1.6	.34
25	4.1	1.3	.74	.42	4.0	2.1	1.1	.40	2.0	.32	1.2	.35
26	1.4	1.8	.47	.30	1.0	.79	10	.30	.97	.31	.65	.31
27	1.2	1.8	.63	1.8	.44	.57	e2.7	.25	4.6	.36	.65	.25
28	12	1.4	.51	4.3	.40	.27	.63	.37	10	.31	.73	.32
29	3.8	1.4	.53	8.3	---	.31	.27	.28	2.1	19	.95	.38
30	2.2	1.3	.75	4.7	---	.30	.50	.24	11	4.0	2.5	.32
31	1.8	---	.60	1.1	---	.35	---	.35	---	1.7	.57	---
TOTAL	159.56	124.0	43.07	49.92	39.51	26.30	52.98	58.38	42.54	57.12	55.92	21.12
MEAN	5.15	4.13	1.39	1.61	1.41	.85	1.77	1.88	1.42	1.84	1.80	.70
MAX	33	28	4.8	8.3	7.4	4.9	23	18	11	19	13	2.9
MIN	.29	1.2	.47	.30	.37	.27	.20	.22	.26	.23	.33	.25
AC-FT	316	246	85	99	78	52	105	116	84	113	111	42
CFSM	4.77	3.83	1.29	1.49	1.31	.79	1.64	1.74	1.31	1.71	1.67	.65
IN.	5.50	4.27	1.48	1.72	1.36	.91	1.82	2.01	1.47	1.97	1.93	.73

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2001, BY WATER YEAR (WY)

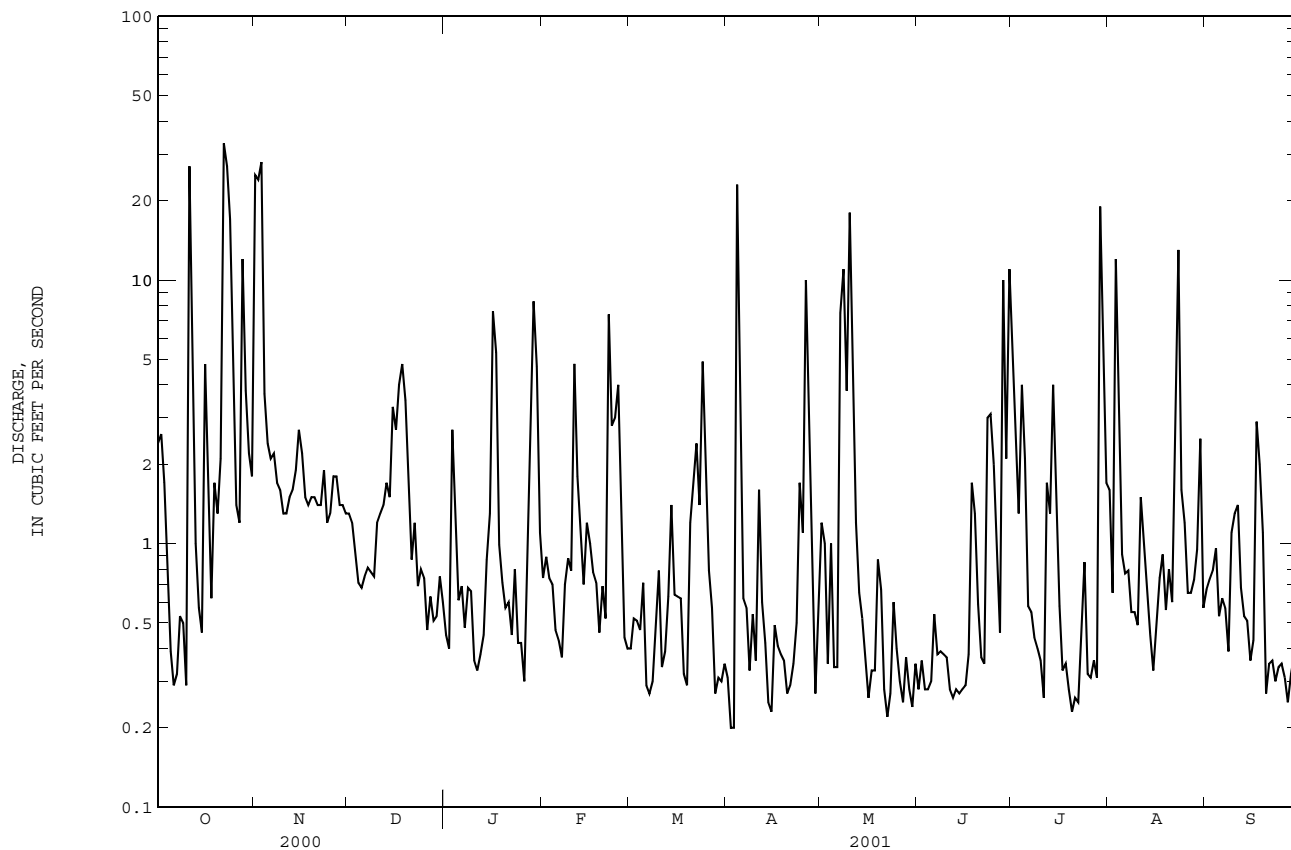
	1997	1998	1999	2000	2001
MEAN	4.87	5.86	4.74	2.47	1.67
MAX	5.90	11.4	10.2	4.63	2.51
(WY)	1999	2000	1999	1999	1999
MIN	3.46	.92	.51	.83	1.16
(WY)	1998	1998	1998	1998	2000

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1997 - 2001

ANNUAL TOTAL	742.40	730.42	
ANNUAL MEAN	2.03	2.00	2.87
HIGHEST ANNUAL MEAN			3.95
LOWEST ANNUAL MEAN			2.00
HIGHEST DAILY MEAN	66	Aug 23	96
LOWEST DAILY MEAN	.22	Jul 13	.17
ANNUAL SEVEN-DAY MINIMUM	.24	Aug 9	.28
MAXIMUM PEAK FLOW			261
MAXIMUM PEAK STAGE			10.66
ANNUAL RUNOFF (AC-FT)	1470	1450	2080
ANNUAL RUNOFF (CFSM)	1.88	1.85	2.66
ANNUAL RUNOFF (INCHES)	25.57	25.16	36.11
10 PERCENT EXCEEDS	3.3	4.0	7.2
50 PERCENT EXCEEDS	.68	.71	.76
90 PERCENT EXCEEDS	.28	.30	.29

e Estimated

RIO PUERTO NUEVO BASIN
50048690 QUEBRADA LAS CURIAS BELOW LAS CURIAS DAM, PR--Continued



50048770 RIO PIEDRAS AT EL SEÑORIAL, PR

LOCATION.--Lat 18°21'51", long 66°03'56", Hydrologic Unit 21010005, on right bank, in the Riberas of Señorial Housing area, 0.6 mi (1.0 km) west of Highway 176 and 2.7 mi (4.3 km) southwest of Río Piedras Plaza.

DRAINAGE AREA.--7.49 mi² (19.40 km²).

WATER DISCHARGE RECORDS

PERIOD OF RECORDS.--March 1988 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 98.4 ft (30.0 m), from topographic map.

REMARKS.--Records poor. Low flow is affected by discharges from water treatment plant of PRASA and others dispersed pollution points directly to the river. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	106	11	7.7	9.0	8.6	6.3	23	13	64	24	46
2	30	160	e10	7.8	9.4	9.2	6.0	7.9	8.1	27	12	14
3	25	182	e9.1	24	8.3	9.7	9.1	6.2	5.5	13	67	18
4	11	32	e12	8.5	8.3	8.2	165	8.5	6.1	60	22	15
5	9.0	20	9.2	8.0	7.9	8.5	23	5.8	24	15	14	12
6	8.3	16	9.0	7.8	7.7	8.1	8.0	39	8.4	9.2	24	9.2
7	10	14	8.8	7.8	7.6	8.2	7.5	78	5.5	8.1	12	8.6
8	9.3	13	10	8.0	8.1	9.2	6.4	119	5.4	7.6	9.5	8.1
9	8.5	e14	8.3	7.6	7.6	8.1	8.9	30	5.2	7.1	10	20
10	7.9	e12	8.1	7.4	13	7.8	6.1	156	5.1	9.3	56	26
11	102	e14	8.6	7.3	63	7.0	25	33	5.0	17	51	13
12	18	11	10	6.9	14	7.1	7.0	12	5.0	33	20	8.8
13	9.1	12	e12	7.0	11	25	e8.2	9.2	5.3	9.4	13	8.3
14	9.2	13	e11	10	8.9	9.0	6.5	7.9	5.0	64	13	8.1
15	7.6	24	e29	8.0	18	8.3	8.0	7.8	5.4	12	12	10
16	32	14	24	69	9.9	8.3	6.6	6.7	7.0	9.9	12	9.9
17	10	e12	33	31	8.7	7.4	5.7	6.5	20	7.9	28	68
18	8.6	12	28	9.3	7.6	7.1	5.8	12	37	9.3	16	17
19	14	e13	e22	8.7	8.1	7.1	7.0	8.7	7.3	8.3	27	9.5
20	17	14	e11	8.6	7.8	25	5.7	7.6	6.0	8.1	14	7.2
21	48	13	9.1	7.8	7.8	16	21	7.0	5.5	7.0	11	7.1
22	218	11	11	8.2	65	29	18	8.1	5.3	7.0	78	6.7
23	153	14	8.3	8.4	25	9.5	8.6	6.3	119	35	102	6.6
24	142	11	8.1	7.6	31	20	32	7.1	40	8.6	22	6.7
25	34	12	8.1	7.5	23	9.6	12	6.6	20	7.3	13	6.4
26	17	18	8.1	7.3	17	6.9	105	6.1	8.9	8.1	11	6.4
27	21	e12	8.3	30	8.9	11	15	6.2	8.5	7.5	14	8.6
28	78	e13	8.2	25	10	12	7.8	6.6	194	6.9	14	6.9
29	21	11	e7.4	83	---	12	8.2	5.7	21	192	16	6.6
30	17	12	7.6	23	---	7.1	6.6	15	102	35	34	6.4
31	14	---	7.8	9.5	---	6.5	---	8.1	---	39	12	---
TOTAL	1123.5	835	376.1	477.7	431.6	336.5	566.0	667.6	713.5	752.6	783.5	405.1
MEAN	36.2	27.8	12.1	15.4	15.4	10.9	18.9	21.5	23.8	24.3	25.3	13.5
MAX	218	182	33	83	65	29	165	156	194	192	102	68
MIN	7.6	11	7.4	6.9	7.6	6.5	5.7	5.7	5.0	6.9	9.5	6.4
AC-FT	2230	1660	746	948	856	667	1120	1320	1420	1490	1550	804
CFSM	4.84	3.72	1.62	2.06	2.06	1.45	2.52	2.88	3.18	3.24	3.37	1.80
IN.	5.58	4.15	1.87	2.37	2.14	1.67	2.81	3.32	3.54	3.74	3.89	2.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2001, BY WATER YEAR (WY)

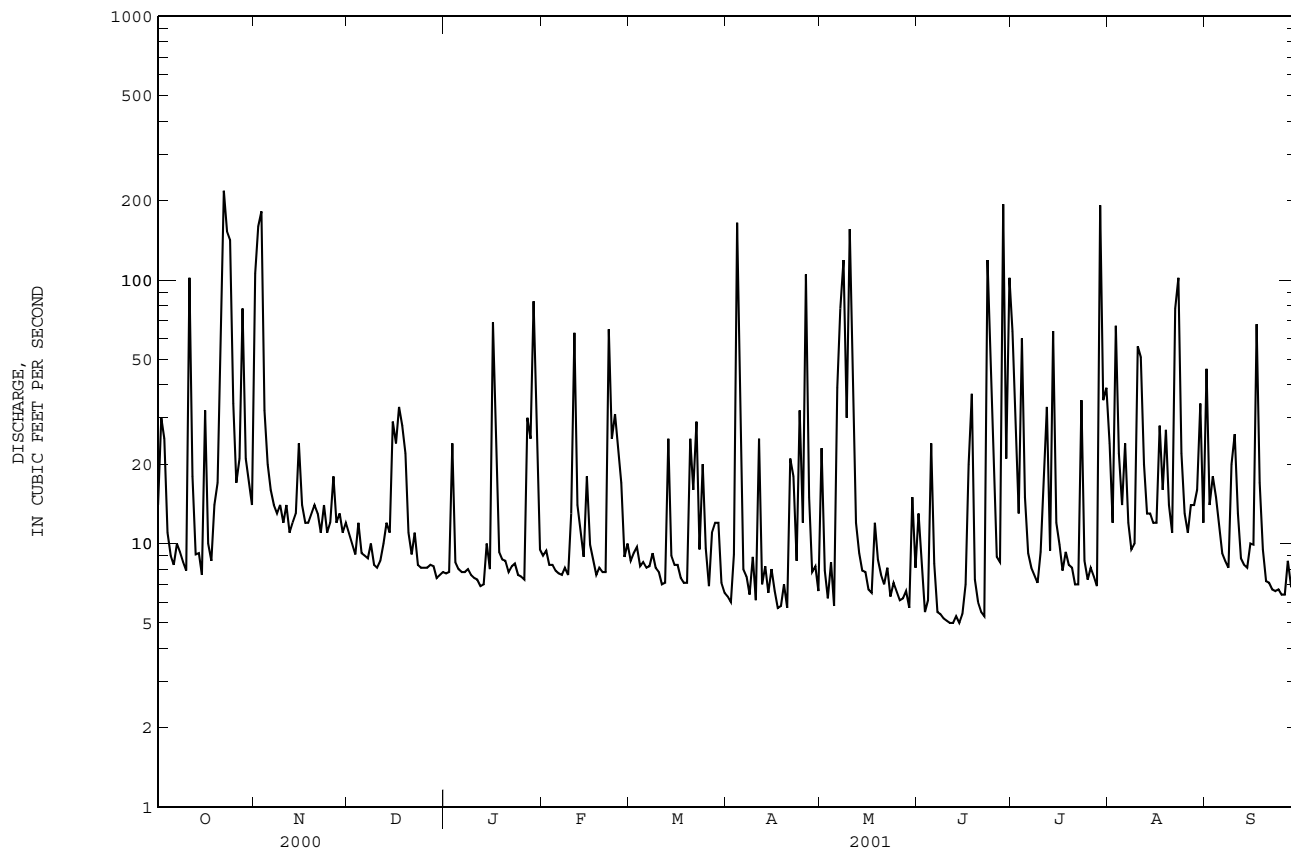
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	27.9	27.2	20.5	16.3	13.2	11.4	11.9	14.7	13.2	15.5	23.0	30.2		
MAX	57.3	79.5	66.3	29.1	23.6	20.1	23.9	47.2	25.5	38.0	66.9	80.8		
(WY)	1991	2000	1999	2000	1991	1999	1993	1992	1999	1993	1992	1998		
MIN	8.48	5.93	4.32	6.95	2.70	1.85	2.83	3.38	2.66	4.22	6.60	6.90		
(WY)	1992	1996	1996	1995	1996	1996	1995	1994	1994	1994	1990	1991		

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1988 - 2001

ANNUAL TOTAL	7268.5	7468.7		
ANNUAL MEAN	19.9	20.5	18.6	
HIGHEST ANNUAL MEAN			28.6	1999
LOWEST ANNUAL MEAN			7.76	1994
HIGHEST DAILY MEAN	646	Aug 23	218	Oct 22
LOWEST DAILY MEAN	4.2	Aug 13	5.0	Jun 11
ANNUAL SEVEN-DAY MINIMUM	4.8	Aug 8	5.1	Jun 8
MAXIMUM PEAK FLOW			2550	Oct 22
MAXIMUM PEAK STAGE			12.10	Oct 22
ANNUAL RUNOFF (AC-FT)	14420	14810	1650	Sep 10 1996
ANNUAL RUNOFF (CFSM)	2.65	2.73	.84	Aug 13 1995
ANNUAL RUNOFF (INCHES)	36.10	37.09	.97	Jun 30 1996
10 PERCENT EXCEEDS	32	36	38	Sep 10 1996
50 PERCENT EXCEEDS	10	9.5	8.4	Sep 10 1996
90 PERCENT EXCEEDS	5.4	6.6	3.0	

e Estimated

RIO PUERTO NUEVO BASIN
50048770 RIO PIEDRAS AT EL SEÑORIAL, PR--Continued



RIO PUERTO NUEVO BASIN

50048800 RIO PIEDRAS NEAR RIO PIEDRAS, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°22'15", long 66°03'40", at bridge on Winston Churchill Avenue in the El Señorial Housing area, 0.5 mi (0.8 km) west of Highway 176, and 2.5 mi (4.0 km) southwest of Río Piedras plaza.

DRAINAGE AREA.--8.17 mi² (20.9 km²).

PERIOD OF RECORD.--Water years 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, CHEM-ICAL (PER-CENT (HIGH LEVEL) (MG/L) (00301)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL AS (MG/L) (00900)	CALCIUM DIS-SOLVED (MG/L) (00915)
OCT 18...	1030	8.8	435	8.1	25.3	3.0	8.1	98	13	5200	E1500	150	40.4
FEB 21...	1130	6.9	423	8.0	24.2	2.6	9.3	110	<10	21000	4000	--	--
MAY 31...	1335	6.2	377	8.0	28.5	--	7.1	91	18	5800	3200	140	36.4
AUG 29...	1300	9.3	488	7.7	28.5	--	7.3	93	<10	3200	450	160	42.6

DATE	MAGNE-SIUM, DIS-SOLVED AS (MG) (00925)	SODIUM, DIS-SOLVED AS (MG/L) (00930)	SODIUM, AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED AS (MG/L) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL AS (MG/L) (00745)	SULFATE DIS-SOLVED AS (MG/L) (00945)	CHLO-RIDE, DIS-SOLVED AS (MG/L) (00940)	FLUO-RIDE, DIS-SOLVED AS (MG/L) (00950)	SILICA, DIS-SOLVED AS (MG/L) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDEDED (MG/L) (00530)
OCT 18...	13.0	25.5	.9	2.35	153	<1.0	15.9	31.9	E.2	33.3	254	6.06	<10
FEB 21...	--	--	--	--	159	--	--	--	--	--	--	--	<10
MAY 31...	11.3	22.3	.8	2.39	133	<1.0	13.4	27.8	.2	28.0	221	3.68	17
AUG 29...	13.6	26.2	.9	2.08	156	--	16.7	32.6	.2	32.3	260	6.54	180

DATE	NITRO-GEN, NITRATE TOTAL (MG/L) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L) (00625)	NITRO-GEN, TOTAL (MG/L) (00600)	NITRO-GEN, TOTAL (MG/L) (71887)	PHOS-PHORUS TOTAL (MG/L) (00665)	ARSENIC TOTAL (MG/L) (01002)	BARIUM, TOTAL RECOV-ERABLE AS (MG/L) (01007)	BORON, TOTAL RECOV-ERABLE AS (MG/L) (01022)	CADMIUM WATER UNFLTRD TOTAL (MG/L) (01027)
OCT 18...	.83	.02	.8	.07	.29	.36	1.2	5.4	.080	<2	107	34	<.11
FEB 21...	.86	.04	.9	.25	.18	.43	1.3	5.9	.120	--	--	--	--
MAY 31...	.70	.09	.8	.17	.47	.64	1.4	6.3	.120	E1	91.9	32	<.10
AUG 29...	.78	.01	.8	.04	--	<.20	--	--	.170	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L) (71900)	SELE-NIUM, TOTAL (UG/L) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L) (01092)	CYANIDE TOTAL (MG/L) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 18...	M	<20.0	260	<1	54	<.14	<2.6	<.43	<31	<.01	<16	.06
FEB 21...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 31...	M	<20.0	710	<1	211	.01	<3.0	<.40	<31	<.01	E3	.03
AUG 29...	--	--	--	--	--	--	--	--	--	--	--	--

E -- Estimated value
 < -- Less than
 M -- Presence verified, not quantified

RIO PUERTO NUEVO BASIN

50048800 RIO PIEDRAS NEAR RIO PIEDRAS, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR- DANE, TECH- NICAL TOTAL (UG/L) (39350)	P,P'- DDD UNFILT RECOVER (UG/L) (39360)	P,P'- DDE, TOTAL (UG/L) (39365)	P,P'- DDT UNFILT RECOVER (UG/L) (39370)	DI- AZINON, TOTAL (UG/L) (39570)	DI- ELDRIN TOTAL (UG/L) (39380)	ENDO- SULFAN I TOTAL (UG/L) (39388)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)
MAY 31...	1335	<.1	<.013	<.1	<.007	<.006	<.009	.13	<.006	<.015	<.014	<.01	<.014
DATE	HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALA- THON, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METHYL PARA- THON, TOTAL (UG/L) (39600)	MIREX, TOTAL (UG/L) (39755)	PARA- THON, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	CARBO- PHENO- THON WATER UNFLTRD TOTAL (UG/L) (39786)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	2,4-DP TOTAL (UG/L) (82183)	SILVEX, TOTAL (UG/L) (39760)
MAY 31...	<.009	<.006	E.01	<.01	<.01	<.01	<.01	<1	<.01	.09	<.01	<.04	<.01

50049100 RIO PIEDRAS AT HATO REY, PR

LOCATION.--Lat 18°24'34", long 66°04'10", Hydrologic Unit 21010005, at bridge on Avenida Piñeiro near Expreso Las Américas (Luis A. Ferré), and 0.8 mi (1.3 km) southwest of Hato Rey.

DRAINAGE AREA.--15.2 mi² (39.4 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1970 to December 1987 (discharge measurements only), 1972 to December 1982 (maximum discharge only), January 1988 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 16 ft (5 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Mean daily discharge affected by sewage discharges (approximately 2.0 ft³/s (0.06 m³/s)), 20 ft (6 m) upstream from gaging station.

REVISIONS.--The peak discharges and annual maximum (*) reported for water years 1999 and 2000 have been revised as shown in the following table. They supersede figures published on those corresponding water years Data Reports.

Water Year	Date	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
1999	Dec. 3, 1999	*3,070	87.0	13.59	4.140
2000	Aug. 13, 2000	*6,120	173	18.05	4.502

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	217	23	18	19	17	e14	50	23	63	46	51
2	52	344	22	19	21	18	e13	21	14	35	79	52
3	37	514	21	42	17	16	e20	18	12	25	65	27
4	25	47	23	18	17	16	e134	19	12	103	33	19
5	24	37	22	17	17	16	28	16	49	31	21	18
6	23	34	22	17	17	16	17	88	14	23	27	16
7	24	32	21	17	16	16	17	161	13	22	20	15
8	31	31	22	18	16	17	17	525	12	20	17	15
9	23	33	21	17	16	16	26	51	12	21	24	21
10	23	30	20	17	22	16	15	196	11	21	46	25
11	108	35	21	17	101	15	47	38	11	65	52	24
12	29	29	27	17	32	16	16	21	11	436	24	17
13	23	29	27	17	19	32	18	18	13	38	17	23
14	23	37	26	18	19	19	16	17	12	73	21	14
15	22	46	39	18	31	16	16	16	14	26	20	46
16	43	30	71	101	22	e17	16	15	14	23	15	16
17	24	25	65	47	17	e16	15	15	28	21	38	126
18	22	25	33	22	16	e15	15	23	28	21	169	22
19	28	26	31	21	15	e15	16	19	15	20	29	17
20	26	32	23	19	20	e35	16	14	13	20	18	15
21	50	29	20	18	38	e28	40	14	12	19	15	28
22	266	36	23	18	106	e38	34	16	11	22	206	33
23	158	35	19	18	50	e19	29	14	101	40	176	68
24	268	28	19	17	63	e30	100	14	33	24	25	114
25	65	40	19	17	29	e19	56	14	42	20	22	21
26	49	33	19	16	26	e15	378	13	14	32	18	18
27	190	25	19	27	18	e25	e44	18	15	18	19	28
28	129	34	19	43	18	e26	e24	17	233	17	33	17
29	49	24	e17	100	---	e26	22	12	37	527	18	16
30	52	24	18	30	---	e17	23	33	107	59	50	15
31	49	---	18	18	---	e14	---	15	---	57	17	---
TOTAL	1965	1941	790	819	818	617	1242	1521	936	1942	1380	937
MEAN	63.4	64.7	25.5	26.4	29.2	19.9	41.4	49.1	31.2	62.6	44.5	31.2
MAX	268	514	71	101	106	38	378	525	233	527	206	126
MIN	22	24	17	16	15	14	13	12	11	17	15	14
AC-FT	3900	3850	1570	1620	1620	1220	2460	3020	1860	3850	2740	1860
CFSM	4.17	4.26	1.68	1.74	1.92	1.31	2.72	3.23	2.05	4.12	2.93	2.05
IN.	4.81	4.75	1.93	2.00	2.00	1.51	3.04	3.72	2.29	4.75	3.38	2.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 2001, BY WATER YEAR (WY)

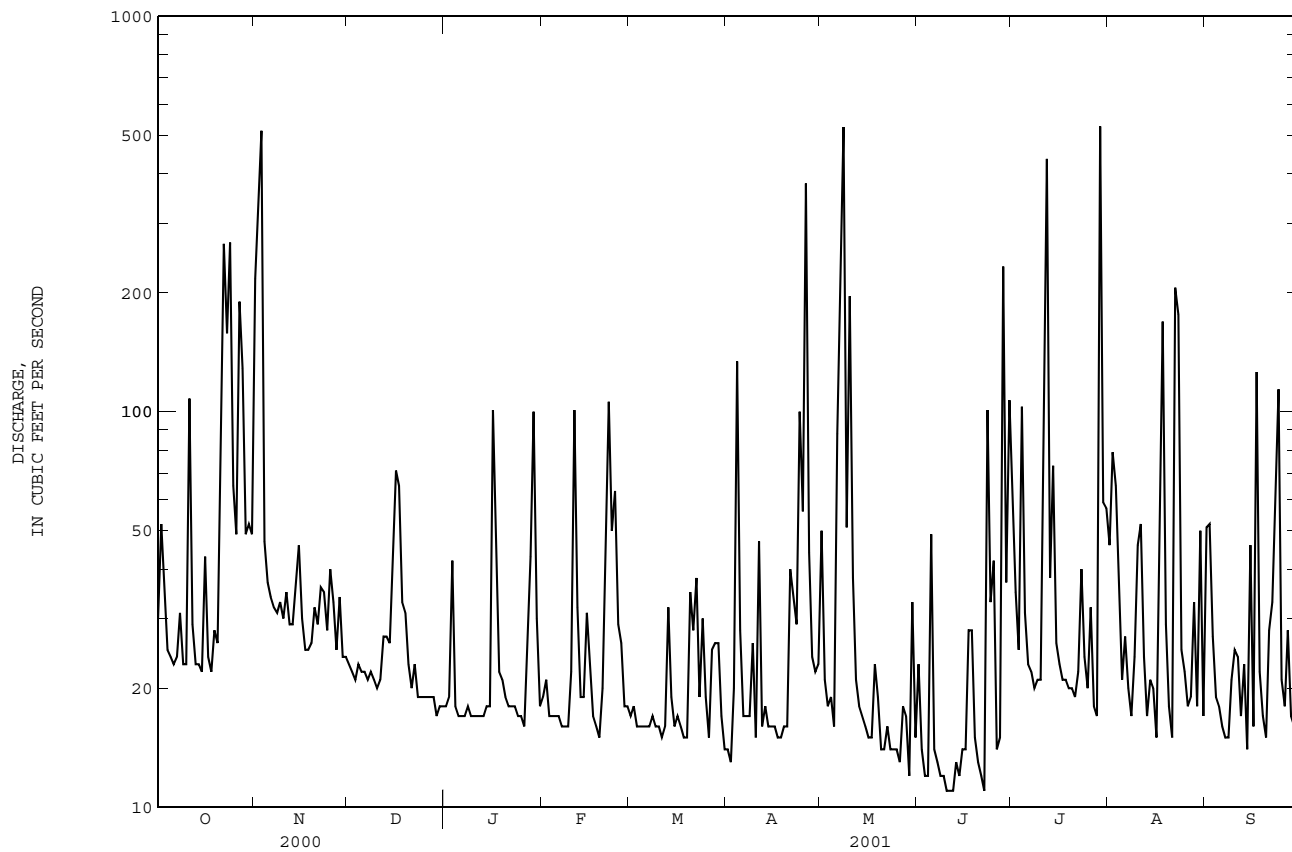
	MEAN	MAX (WY)	MIN (WY)
1972	70.4	138	16.6
1973	74.0	235	23.9
1974	52.3	168	18.8
1975	44.8	97.4	12.9
1976	40.6	86.9	10.8
1977	35.5	78.5	11.5
1978	48.8	150	13.6
1979	43.3	97.5	4.12
1980	39.7	81.9	19.6
1981	47.5	97.4	12.8
1982	57.7	91.0	20.2
1983	90.5	261	26.3
1984			
1985			
1986			
1987			
1988			
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1993			
1994			
1995			
1996			
1997			
1998			
1999			
2000			
2001			

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1972 - 2001

ANNUAL TOTAL	15378	14908	
ANNUAL MEAN	42.0	40.8	53.0
HIGHEST ANNUAL MEAN			84.0
LOWEST ANNUAL MEAN			28.7
HIGHEST DAILY MEAN	1640	Aug 23	4550
LOWEST DAILY MEAN	12	Jun 10	1.2
ANNUAL SEVEN-DAY MINIMUM	13	Jun 5	1.2
MAXIMUM PEAK FLOW			10500
MAXIMUM PEAK STAGE			22.11
ANNUAL RUNOFF (AC-FT)	30500	29570	38420
ANNUAL RUNOFF (CFSM)	2.76	2.69	3.49
ANNUAL RUNOFF (INCHES)	37.64	36.49	47.40
10 PERCENT EXCEEDS	61	65	115
50 PERCENT EXCEEDS	24	22	23
90 PERCENT EXCEEDS	14	15	10

e Estimated

RIO PUERTO NUEVO BASIN
50049100 RIO PIEDRAS AT HATO REY, PR--Continued



50049100 RIO PIEDRAS AT HATO REY, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°24'34", long 66°04'10", at bridge on Avenida Piñeiro at Expreso Las Americas, and 0.8 mi (1.3 km) southwest of Hato Rey.

DRAINAGE AREA.--15.4 mi² (39.9 km²).

PERIOD OF RECORD.--Water years 1971 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL AS (MG/L) (00900)	CALCIUM DIS-SOLVED AS (MG/L) (00915)
OCT 18...	1245	24	434	8.0	30.0	6.0	6.2	81	12	38000	1200	150	42.4
FEB 21...	1500	16	496	7.8	28.5	4.2	6.3	81	15	63000	3300	--	--
MAY 31...	1120	18	396	7.8	27.3	--	5.3	66	12	--	--	140	40.3
AUG 29...	1500	18	429	7.5	30.5	--	5.0	--	<10	60000	6100	150	41.9

DATE	MAGNE-SIUM, DIS-SOLVED AS (MG) (00925)	SODIUM, DIS-SOLVED AS (MG/L) (00930)	SODIUM, AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED AS (MG/L) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL AS (MG/L) (00745)	SULFATE DIS-SOLVED AS (MG/L) (00945)	CHLO-RIDE, DIS-SOLVED AS (MG/L) (00940)	FLUO-RIDE, DIS-SOLVED AS (MG/L) (00950)	SILICA, DIS-SOLVED AS (MG/L) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDEDED (MG/L) (00530)
OCT 18...	10.8	25.0	.9	2.96	149	<1.0	12.9	33.0	E.1	30.8	247	15.8	12
FEB 21...	--	--	--	--	154	--	--	--	--	--	--	--	<10
MAY 31...	10.5	22.9	.8	2.74	136	<1.0	13.6	28.6	E.1	26.3	227	10.8	21
AUG 29...	10.2	25.3	.9	2.72	162	--	13.6	33.1	E.1	25.1	249	11.8	16

DATE	NITRO-GEN, NITRATE TOTAL AS (MG/L) (00620)	NITRO-GEN, NITRITE TOTAL AS (MG/L) (00615)	NITRO-GEN, NO2+NO3 TOTAL AS (MG/L) (00630)	NITRO-GEN, AMMONIA TOTAL AS (MG/L) (00610)	NITRO-GEN, ORGANIC TOTAL AS (MG/L) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL AS (MG/L) (00625)	NITRO-GEN, TOTAL AS (MG/L) (00600)	NITRO-GEN, TOTAL AS (MG/L) (71887)	PHOS-PHORUS TOTAL AS (MG/L) (00665)	ARSENIC TOTAL AS (MG/L) (01002)	BARIUM, TOTAL RECOV-ERABLE AS (MG/L) (01007)	BORON, TOTAL RECOV-ERABLE AS (MG/L) (01022)	CADMIUM WATER UNFLTRD TOTAL AS (MG/L) (01027)
OCT 18...	.85	.06	.9	.40	.51	.91	1.8	8.1	.160	E2	110	29	<.11
FEB 21...	.84	.16	1.0	.91	.29	1.2	2.2	9.7	.220	--	--	--	--
MAY 31...	.71	.07	.8	.38	.62	1.0	1.8	7.9	.170	E1	95.3	38	<.10
AUG 29...	.66	.11	.8	.71	.29	1.0	1.8	7.8	.160	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE AS (UG/L) (01034)	COPPER, TOTAL RECOV-ERABLE AS (UG/L) (01042)	IRON, TOTAL RECOV-ERABLE AS (UG/L) (01045)	LEAD, TOTAL RECOV-ERABLE AS (UG/L) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE AS (UG/L) (01055)	MERCURY TOTAL RECOV-ERABLE AS (UG/L) (71900)	SELE-NIUM, TOTAL AS (UG/L) (01147)	SILVER, TOTAL RECOV-ERABLE AS (UG/L) (01077)	ZINC, TOTAL RECOV-ERABLE AS (UG/L) (01092)	CYANIDE TOTAL AS (MG/L) (00720)	PHENOLS TOTAL AS (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 18...	1	<20.0	670	<1	86	<.14	<2.6	<.43	<31	<.01	<16	.10
FEB 21...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 31...	1	<20.0	760	M	106	.01	<3.0	<.40	<31	<.01	E3	.08
AUG 29...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
 E -- Estimated value
 M -- Presence verified, not quantified

RIO PUERTO NUEVO BASIN

50049820 LAGUNA SAN JOSE NO. 2 AT SAN JUAN, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°25'46", long 66°02'10", 0.2 mi (0.3 km) east of Caño de Martin Peña, and 650 ft (200 m) south of Isla Guachinango.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--Water years 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK (IN) (00077)	OXYGEN, DIS- SOLVED (PER- CENT (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	ANC WATER UNPLTRD FET FIELD CACO3 MG/L AS (00410)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDEED (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)
NOV 13...	0915	17600	7.9	28.0	48.0	2.5	34	2800	E60	146	15	.000	.02
MAR 07...	0945	26900	6.9	27.9	42.0	5.1	72	4500	E110	130	11	.01	.02
JUN 19...	1055	17500	8.7	30.0	42.0	10.0	140	E8400	2000	141	244	--	<.01

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
NOV 13...	M	.70	1.2	1.9	1.9	8.5	.180	6.2
MAR 07...	M	.59	.71	1.3	1.3	5.9	.230	7.2
JUN 19...	<.02	2.60	8.4	11	--	--	.970	34

E -- Estimated value
M -- Presence verified, not quantified
< -- Less than

RIO PUERTO NUEVO BASIN

50049920 BAHIA DE SAN JUAN NO.5 AT SAN JUAN, PR

WATER-QUALITY RECORDS

LOCATION--Lat 18°26'37", long 66°05'11", 0.4 mi (0.6 km) west of Puente de la Constitucion, and 0.5 mi (0.8 km) south from U.S. Naval Reservation.

DRAINAGE--Indeterminate.

PERIOD OF RECORD--Water years 1974 to present.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK) (IN) (00077)	OXYGEN, DIS- SOLVED (PER- CENT SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MP, WATER (COL/ 100 ML) (31673)	ANC WATER UNFLTRD FET MG/L AS CACO3 (00410)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)
NOV 13...	1025	50600	7.6	29.2	--	7.7	122	32000	E30	41	38	.05	.03
MAR 07...	1110	53200	8.1	27.0	30.0	4.5	69	50000	E1500	135	34	.05	.04
JUN 19...	1310	37500	7.8	30.5	30.0	6.1	92	28000	2300	131	34	.03	.02

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
NOV 13...	.1	.31	1.7	2.0	2.1	9.2	.190	4.2
MAR 07...	.1	.55	.85	1.4	1.5	6.6	.170	6.4
JUN 19...	.1	.90	1.00	1.9	1.9	8.6	.220	6.8

E -- Estimated value

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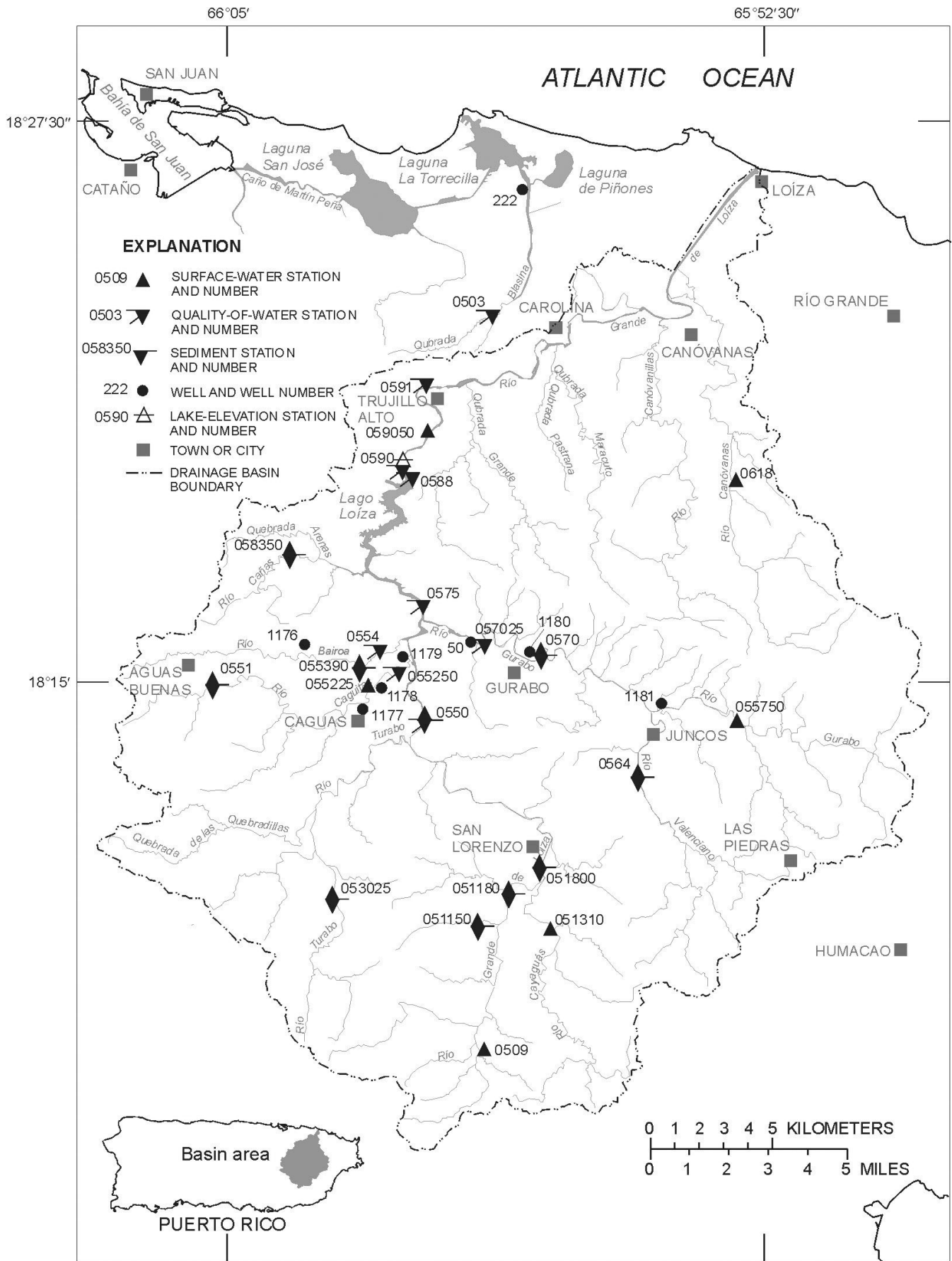


Figure 18. Río Grande de Loíza basin.

RIO GRANDE DE LOIZA BASIN

50050300 QUEBRADA BLASINA NEAR CAROLINA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°23'27", long 65°58'28", at bridge on Highway 3, 1.4 mi (2.3 km) south of Valle Arriba Heights housing area, and 1.2 mi (1.9 km) west-southwest of Carolina plaza.

DRAINAGE AREA.--2.96 mi² (7.67 km²).

PERIOD OF RECORD.--Water years 1973 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, CHEM-ICAL (PER-CENT (HIGH LEVEL) (MG/L) (00301)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL AS (MG/L) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT 05...	1100	7.6	426	7.8	26.9	35	6.8	84	15	E19000	2600	160	48.3
FEB 27...	1400	11	528	7.5	24.6	420	4.7	56	200	370000	4300	--	--
JUN 05...	1200	7.5	312	7.4	26.9	--	5.4	67	17	E60000	40000	110	34.8
AUG 13...	1330	3.8	580	7.7	30.0	--	7.1	94	23	2700	E170	200	62.0

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT 05...	8.39	22.5	.8	2.89	156	<1.0	10.9	36.6	E.1	22.4	245	5.04	38
FEB 27...	--	--	--	--	479	--	--	--	--	--	--	--	916
JUN 05...	5.42	16.9	.7	2.91	110	<1.0	11.6	18.2	E.1	13.2	169	3.41	64
AUG 13...	10.2	32.4	1	3.41	203	--	12.3	45.7	E.1	27.6	316	3.27	13

DATE	NITRO-GEN, NITRATE (MG/L AS N) (00620)	NITRO-GEN, NITRITE (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, ORGANIC (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (MG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
OCT 05...	1.02	.08	1.1	.26	.43	.69	1.8	7.9	.090	<2	69.0	44	<.11
FEB 27...	.86	.12	1.0	2.40	13	15	16	70.7	3.00	--	--	--	--
JUN 05...	.67	.11	.8	.45	.95	1.4	2.2	9.6	.200	<2	56.0	43	<.10
AUG 13...	.55	.22	.8	.86	.54	1.4	2.2	9.6	.270	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 05...	1	<20.0	650	<1	178	<.14	<2.6	<.43	<31	<.01	<16	.04
FEB 27...	--	--	--	--	--	--	--	--	--	--	--	--
JUN 05...	M	<20.0	1250	2	157	.03	<3.0	<.40	E24	<.01	E5	.13
AUG 13...	--	--	--	--	--	--	--	--	--	--	--	--

E -- Estimated value
 < -- Less than
 M -- Presence verified, not quantified

50050900 RIO GRANDE DE LOIZA AT QUEBRADA ARENAS, PR

LOCATION.--Lat 18°07'10", long 65°59'22", Hydrologic Unit 21010005, at intersection of Highways 181 and 9990, 0.2 mi (0.3 km) upstream from confluence with Río Emajagua and about 7.1 mi (11.4 km) southwest of San Lorenzo.

DRAINAGE AREA.--6.00 mi² (15.54 km²).

PERIOD OF RECORD.--October 1977 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 640 ft (195 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	13	34	12	11	6.6	7.4	104	13	11	7.5	572
2	203	105	18	11	11	6.4	6.8	12	13	15	7.6	96
3	47	20	15	11	17	6.2	6.7	8.4	7.9	11	7.3	50
4	26	14	13	11	8.9	6.2	6.9	7.6	7.2	32	8.4	115
5	22	13	12	10	8.4	6.2	6.6	7.0	8.6	21	10	28
6	20	12	12	10	14	6.0	6.5	10	7.1	9.3	17	19
7	18	18	11	9.9	9.2	5.8	6.4	398	6.6	7.5	14	17
8	67	13	11	9.9	8.2	5.7	6.3	78	6.6	6.6	11	16
9	31	11	11	10	7.9	5.7	6.3	25	6.3	6.2	22	15
10	22	11	12	9.4	7.7	5.6	6.0	68	6.7	6.5	20	26
11	19	11	11	9.1	13	5.5	16	17	6.2	6.2	14	19
12	17	10	11	8.9	16	5.5	7.4	13	5.9	6.3	14	15
13	16	10	13	8.7	9.4	5.4	7.4	11	6.4	37	14	14
14	16	10	13	8.5	8.5	5.5	6.8	11	5.8	9.0	12	13
15	15	11	13	8.4	9.6	6.1	6.3	9.5	5.5	7.1	12	13
16	15	10	12	9.4	10	6.7	6.1	9.0	5.4	6.8	15	12
17	15	9.9	16	10	10	5.7	5.7	8.6	7.0	6.1	126	12
18	16	10	31	8.8	8.3	5.4	5.4	9.6	5.8	5.8	21	12
19	16	9.7	18	9.1	7.7	5.2	5.3	9.8	5.5	6.2	21	11
20	16	9.5	41	8.6	7.7	6.2	5.5	8.2	5.5	5.5	15	11
21	15	12	20	8.5	7.8	32	24	7.8	5.1	5.1	33	11
22	17	35	168	8.3	7.3	78	13	7.9	4.9	5.3	942	11
23	14	14	40	8.1	7.4	226	8.4	7.5	4.9	8.0	600	11
24	13	22	20	7.8	8.1	23	12	8.5	5.5	12	64	11
25	19	55	30	7.6	8.8	12	8.7	7.4	6.5	82	34	12
26	15	17	17	7.5	7.1	10	8.3	8.5	5.8	41	32	12
27	14	14	15	7.4	6.7	9.4	e6.7	8.0	5.2	33	26	12
28	28	26	13	7.5	6.7	8.1	6.3	17	5.6	17	249	11
29	15	19	13	14	---	8.3	6.7	8.8	5.2	107	47	10
30	13	226	12	11	---	7.6	6.1	7.7	13	16	41	10
31	28	---	12	8.0	---	7.3	---	7.9	---	8.3	30	---
TOTAL	831	771.1	688	289.4	263.4	539.3	238.0	921.7	203.7	556.8	2486.8	1197
MEAN	26.8	25.7	22.2	9.34	9.41	17.4	7.93	29.7	6.79	18.0	80.2	39.9
MAX	203	226	168	14	17	226	24	398	13	107	942	572
MIN	13	9.5	11	7.4	6.7	5.2	5.3	7.0	4.9	5.1	7.3	10
AC-FT	1650	1530	1360	574	522	1070	472	1830	404	1100	4930	2370
CFSM	4.47	4.28	3.70	1.56	1.57	2.90	1.32	4.96	1.13	2.99	13.4	6.65
IN.	5.15	4.78	4.27	1.79	1.63	3.34	1.48	5.71	1.26	3.45	15.42	7.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2001, BY WATER YEAR (WY)

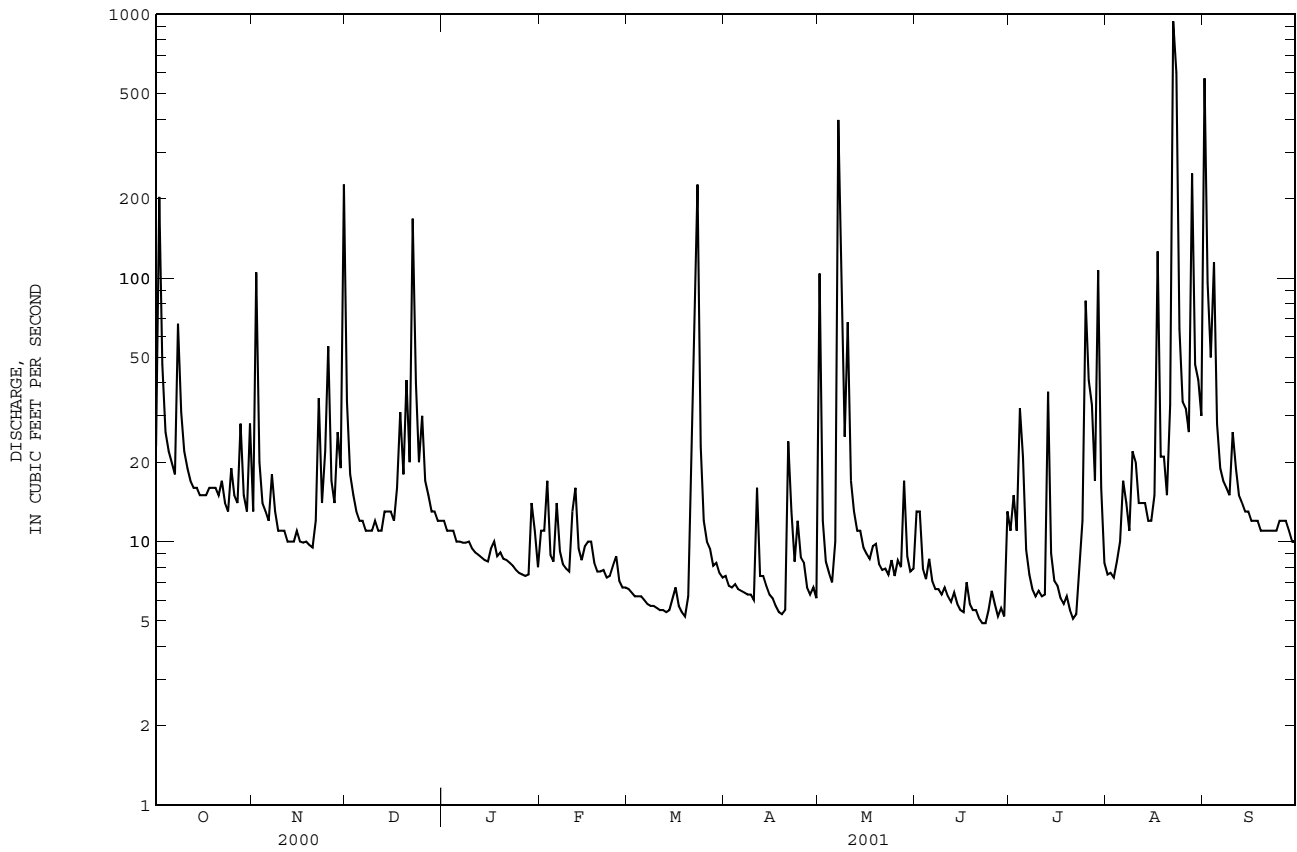
	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	
MEAN	41.5	45.9	26.0	21.0	18.6	15.3	13.8	30.0	34.6	34.4	36.7	59.5													
MAX	123	122	59.5	56.1	38.0	53.6	31.5	77.5	122	92.3	90.0	351													
(WY)	1986	1988	1999	1992	1982	1998	1998	1985	1979	1993	1979	1998													
MIN	13.1	8.34	6.65	8.16	6.36	5.07	4.64	7.20	6.79	12.2	9.30	11.8													
(WY)	1990	1990	1990	1990	1979	1979	1979	1999	2001	2000	1991	1981													

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1978 - 2001

ANNUAL TOTAL	9454.5	8986.2		
ANNUAL MEAN	25.8	24.6	31.5	
HIGHEST ANNUAL MEAN			62.7	1998
LOWEST ANNUAL MEAN			14.5	1990
HIGHEST DAILY MEAN	979	Aug 23	4690	Sep 22 1998
LOWEST DAILY MEAN	5.6	Apr 11	3.1	May 7 1979
ANNUAL SEVEN-DAY MINIMUM	5.8	Apr 7	5.3	Jun 18 1979
MAXIMUM PEAK FLOW			8580	Aug 22 1998
MAXIMUM PEAK STAGE			13.17	Aug 22 1998
INSTANTANEOUS LOW FLOW			4.5	Jun 22 1998
ANNUAL RUNOFF (AC-FT)	18750	17820	22790	
ANNUAL RUNOFF (CFSM)	4.31	4.10	5.24	
ANNUAL RUNOFF (INCHES)	58.62	55.71	71.22	
10 PERCENT EXCEEDS	31	32	50	
50 PERCENT EXCEEDS	12	11	15	
90 PERCENT EXCEEDS	6.8	6.1	7.0	

e Estimated

RIO GRANDE DE LOIZA BASIN
50050900 RIO GRANDE DE LOIZA AT QUEBRADA ARENAS, PR--Continued



RIO GRANDE DE LOIZA BASIN

50051150 QUEBRADA BLANCA AT EL JAGUAL, PR

LOCATION.--Lat 18°09'40",long 65°58'58", Hydrologic Unit 21010005, 0.1 mi (0.2 km) upstream from bridge on Highway 181, and 2.8 mi (4.5 km) southwest of San Lorenzo.

DRAINAGE AREA.--3.25 mi² (8.42 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1984 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 459 ft (140 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	6.6	13	2.6	3.8	1.7	1.1	9.4	1.4	e.97	1.5	e11
2	18	8.2	7.6	2.3	2.9	1.7	1.0	3.5	1.3	e4.1	1.2	e7.9
3	13	7.2	5.5	2.2	3.3	1.6	.94	1.3	1.1	e1.5	1.0	5.0
4	8.4	4.0	4.4	2.3	2.4	1.6	.95	1.1	1.0	e.96	.91	3.9
5	6.1	3.3	3.8	2.2	2.2	1.6	.95	1.1	1.5	e2.6	.95	3.1
6	4.7	2.8	3.4	2.1	2.0	1.5	1.0	2.4	1.7	e1.3	.81	2.5
7	3.9	3.7	3.1	2.0	1.9	1.5	.98	34	1.2	e.95	.97	2.1
8	7.7	2.9	3.0	2.0	1.8	1.4	.95	15	1.1	e.81	e.82	1.8
9	8.0	2.5	2.9	2.0	1.8	1.4	1.0	12	1.0	e.78	e.89	1.6
10	5.2	2.3	3.8	1.9	1.7	1.3	.94	5.7	1.1	.76	e.86	1.8
11	3.7	2.2	2.8	1.8	2.2	1.4	1.8	3.6	1.0	.78	e.73	2.4
12	3.0	2.2	2.8	1.7	3.9	1.4	1.1	2.7	.91	.78	e.95	1.9
13	2.7	2.2	2.5	1.7	2.2	1.3	1.0	2.1	.85	1.2	e.99	1.4
14	2.5	2.1	3.7	1.7	1.9	1.5	.93	1.9	.80	.90	e.76	1.1
15	2.3	2.2	3.7	1.6	2.2	1.5	.90	1.5	.77	.85	e.70	1.1
16	4.0	2.1	2.9	3.7	3.3	1.5	.82	1.3	.76	.76	e7.7	1.0
17	2.9	1.9	2.9	3.9	3.7	1.4	.78	1.2	e.73	.69	e2.8	1.1
18	2.1	1.8	11	2.3	2.5	1.3	.75	1.9	e.69	.70	e2.4	.99
19	2.0	1.8	11	2.4	2.1	1.3	.74	2.0	.66	.70	e3.8	.92
20	1.9	1.9	18	2.2	1.9	2.2	.74	1.4	.65	.68	e2.8	.86
21	1.8	3.5	11	2.1	1.8	3.7	2.0	1.2	.63	.64	e8.6	.83
22	6.6	11	14	2.0	1.8	5.6	3.1	1.6	.61	.86	e109	.87
23	14	6.2	8.8	1.9	1.9	3.1	2.2	1.3	.62	.70	e32	e1.6
24	6.6	4.6	6.2	1.8	2.0	2.2	2.3	1.1	.60	1.6	e11	e1.4
25	7.5	16	5.0	1.7	1.9	1.8	1.9	1.2	.79	4.9	e6.4	e1.2
26	4.9	7.8	4.1	1.6	1.7	1.7	1.4	1.1	.68	5.0	e6.6	e1.2
27	3.8	5.2	3.5	1.6	1.6	1.6	e1.1	.96	.65	3.6	e4.1	e1.1
28	9.9	4.7	3.1	1.6	1.6	1.3	1.0	3.2	.75	1.5	e10	e.98
29	4.8	3.9	2.9	7.3	---	1.2	.97	1.8	.64	3.7	e8.4	e.90
30	4.5	16	2.9	4.2	---	1.2	1.1	1.4	e.90	4.5	e5.0	e.83
31	5.4	---	2.7	2.4	---	1.2	---	1.3	---	2.3	e3.6	---
TOTAL	177.9	142.8	176.0	72.8	64.0	54.7	36.44	121.26	27.09	52.07	238.24	64.38
MEAN	5.74	4.76	5.68	2.35	2.29	1.76	1.21	3.91	.90	1.68	7.69	2.15
MAX	18	16	18	7.3	3.9	5.6	3.1	34	1.7	5.0	109	11
MIN	1.8	1.8	2.5	1.6	1.6	1.2	.74	.96	.60	.64	.70	.83
AC-FT	353	283	349	144	127	108	72	241	54	103	473	128
CFSM	1.77	1.46	1.75	.72	.70	.54	.37	1.20	.28	.52	2.36	.66
IN.	2.04	1.63	2.01	.83	.73	.63	.42	1.39	.31	.60	2.73	.74

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2001, BY WATER YEAR (WY)

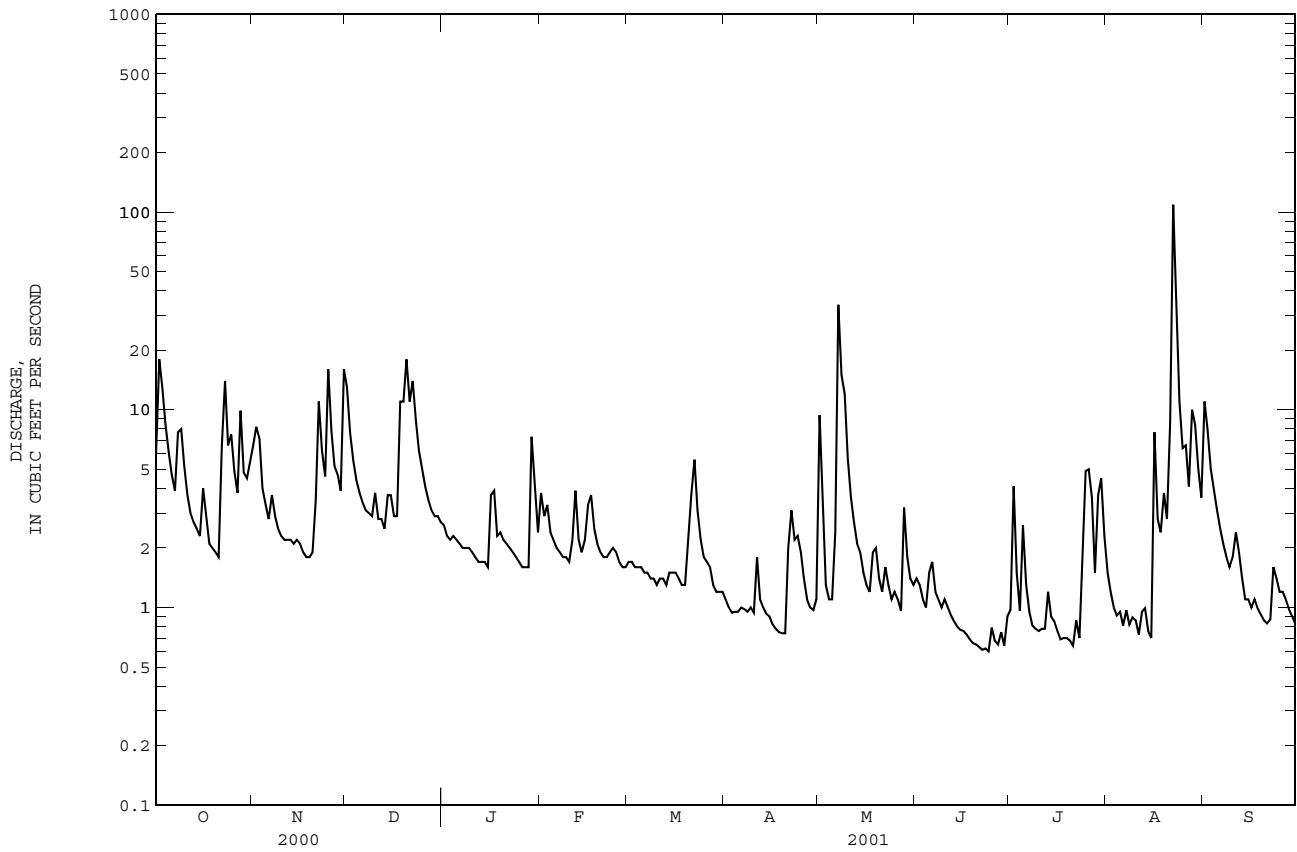
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	9.76	13.6	7.07	5.18	4.16	4.08	2.39	6.07	5.66	5.72	7.24	9.64						
MAX	47.8	36.9	30.1	12.0	8.21	20.7	5.47	31.5	21.3	15.0	20.2	27.7						
(WY)	1986	1985	1988	1999	1989	1989	1998	1985	1987	1993	1988	1996						
MIN	2.75	2.49	1.49	1.74	1.32	1.64	.75	.62	.90	1.68	1.95	1.36						
(WY)	1993	1990	1990	1995	1985	1993	1994	1994	2001	2001	1994	1990						

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1984 - 2001

ANNUAL TOTAL	1781.6	1227.68		
ANNUAL MEAN	4.87	3.36	6.72	
HIGHEST ANNUAL MEAN			12.3	1988
LOWEST ANNUAL MEAN			2.50	1990
HIGHEST DAILY MEAN	149	Aug 23	109	Aug 22
LOWEST DAILY MEAN	1.2	Apr 7	.60	Jun 24
ANNUAL SEVEN-DAY MINIMUM	1.2	Apr 6	.64	Jun 18
MAXIMUM PEAK FLOW			1090	Aug 22
MAXIMUM PEAK STAGE			8.08	Aug 22
INSTANTANEOUS LOW FLOW				.30
ANNUAL RUNOFF (AC-FT)	3530	2440	4870	
ANNUAL RUNOFF (CFSM)	1.50	1.03	2.07	
ANNUAL RUNOFF (INCHES)	20.39	14.05	28.11	
10 PERCENT EXCEEDS	9.5	6.8	12	
50 PERCENT EXCEEDS	2.8	1.9	2.7	
90 PERCENT EXCEEDS	1.6	.82	1.1	

e Estimated

RIO GRANDE DE LOIZA BASIN
50051150 QUEBRADA BLANCA AT EL JAGUAL, PR--Continued



RIO GRANDE DE LOIZA BASIN

50051150 QUEBRADA BLANCA AT EL JAGUAL, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water years 1985 to 1986 and water year 1989 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1984 to September 1986 and from October 1989 to current year.

INSTRUMENTATION.-- USDH-48 and automatic sediment samplers since 1989.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 7,300 mg/L October 06, 1985; Minimum daily mean, <1 mg/L several days during Water Year 1996.

SEDIMENT LOADS: Maximum daily mean, 4,940 tons (4,480 tonnes) May 17, 1985; Minimum daily mean, <0.01 ton (<0.01 tonne) several days during several years.

EXTREMES FOR CURRENT YEAR 2001.--

SEDIMENT CONCENTRATION: Maximum daily mean, e657 mg/L August 22, 2001; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, e1,080 tons (e980 tonnes) August 22, 2001; Minimum daily mean, <0.01 ton (<0.01 tonne) several days.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)
	DISCHARGE (CFS)	CONCENTRATION (MG/L)		DISCHARGE (CFS)	CONCENTRATION (MG/L)		DISCHARGE (CFS)	CONCENTRATION (MG/L)	
	OCTOBER			NOVEMBER			DECEMBER		
1	6.0	16	.25	6.6	21	.62	13	46	1.7
2	18	71	6.2	8.2	26	.85	7.6	10	.20
3	13	45	1.7	7.2	27	.57	5.5	7	.11
4	8.4	14	.33	4.0	18	.20	4.4	6	.07
5	6.1	7	.12	3.3	18	.16	3.8	4	.04
6	4.7	3	.04	2.8	18	.14	3.4	2	.02
7	3.9	3	.03	3.7	19	.21	3.1	2	.02
8	7.7	24	.82	2.9	17	.13	3.0	2	.02
9	8.0	33	1.2	2.5	16	.11	2.9	2	.02
10	5.2	15	.23	2.3	13	.08	3.8	2	.02
11	3.7	7	.07	2.2	10	.06	2.8	2	.02
12	3.0	5	.04	2.2	7	.04	2.8	2	.01
13	2.7	3	.02	2.2	4	.02	2.5	2	.01
14	2.5	3	.02	2.1	3	.02	3.7	2	.02
15	2.3	3	.02	2.2	2	.01	3.7	2	.02
16	4.0	11	.18	2.1	1	<.01	2.9	2	.02
17	2.9	12	.09	1.9	1	<.01	2.9	2	.02
18	2.1	10	.06	1.8	1	<.01	11	34	1.5
19	2.0	9	.05	1.8	1	<.01	11	51	2.0
20	1.9	9	.05	1.9	1	<.01	18	84	4.7
21	1.8	9	.04	3.5	8	.14	11	42	1.3
22	6.6	28	.97	11	44	1.6	14	54	2.3
23	14	57	4.3	6.2	22	.39	8.8	32	.78
24	6.6	26	.52	4.6	17	.39	6.2	20	.33
25	7.5	24	.85	16	52	2.6	5.0	12	.16
26	4.9	12	.18	7.8	26	.56	4.1	6	.07
27	3.8	5	.05	5.2	16	.23	3.5	11	.10
28	9.9	39	1.7	4.7	17	.21	3.1	14	.12
29	4.8	14	.20	3.9	18	.19	2.9	14	.11
30	4.5	6	.07	16	103	13	2.9	13	.10
31	5.4	17	.37	---	---	---	2.7	12	.09
TOTAL	177.9	---	20.77	142.8	---	22.58	176.0	---	16.00

RIO GRANDE DE LOIZA BASIN

50051150 QUEBRADA BLANCA AT EL JAGUAL, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	2.6	11	.08	3.8	17	.19	1.7	4	.02
2	2.3	8	.05	2.9	19	.15	1.7	6	.03
3	2.2	6	.03	3.3	19	.16	1.6	8	.03
4	2.3	8	.05	2.4	19	.12	1.6	10	.04
5	2.2	10	.06	2.2	20	.12	1.6	12	.05
6	2.1	12	.07	2.0	20	.11	1.5	13	.06
7	2.0	15	.08	1.9	20	.10	1.5	10	.04
8	2.0	16	.09	1.8	17	.08	1.4	7	.03
9	2.0	12	.06	1.8	14	.07	1.4	4	.02
10	1.9	7	.04	1.7	11	.05	1.3	4	.01
11	1.8	3	.02	2.2	9	.05	1.4	4	.02
12	1.7	3	.01	3.9	7	.07	1.4	4	.01
13	1.7	3	.01	2.2	4	.03	1.3	4	.01
14	1.7	3	.01	1.9	2	.01	1.5	3	.01
15	1.6	3	.01	2.2	2	.01	1.5	2	<.01
16	3.7	11	.17	3.3	9	.10	1.5	2	<.01
17	3.9	11	.13	3.7	12	.12	1.4	2	<.01
18	2.3	8	.05	2.5	9	.06	1.3	2	<.01
19	2.4	10	.07	2.1	8	.04	1.3	3	<.01
20	2.2	9	.06	1.9	9	.04	2.2	3	.02
21	2.1	6	.03	1.8	10	.05	3.7	8	.14
22	2.0	3	.02	1.8	8	.04	5.6	19	.32
23	1.9	2	.01	1.9	6	.03	3.1	6	.06
24	1.8	2	<.01	2.0	4	.02	2.2	3	.02
25	1.7	2	<.01	1.9	3	.01	1.8	3	.01
26	1.6	2	<.01	1.7	1	<.01	1.7	2	.01
27	1.6	2	<.01	1.6	2	<.01	1.6	2	<.01
28	1.6	2	<.01	1.6	2	.01	1.3	2	<.01
29	7.3	24	.72	---	---	---	1.2	3	.01
30	4.2	17	.20	---	---	---	1.2	5	.02
31	2.4	10	.07	---	---	---	1.2	6	.02
TOTAL	72.8	---	2.25	64.0	---	1.86	54.7	---	1.08
DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	APRIL			MAY			JUNE		
1	1.1	7	.02	9.4	37	1.7	1.4	1	<.01
2	1.0	9	.02	3.5	13	.16	1.3	1	<.01
3	.94	10	.03	1.3	3	.01	1.1	1	<.01
4	.95	10	.03	1.1	1	<.01	1.0	1	<.01
5	.95	6	.02	1.1	1	<.01	1.5	1	<.01
6	1.0	2	<.01	2.4	2	.04	1.7	1	<.01
7	.98	2	<.01	34	361	113	1.2	1	<.01
8	.95	2	<.01	15	47	2.4	1.1	1	<.01
9	1.0	1	<.01	12	15	.61	1.0	3	<.01
10	.94	1	<.01	5.7	2	.03	1.1	5	.02
11	1.8	16	.08	3.6	2	.01	1.0	6	.02
12	1.1	15	.05	2.7	1	<.01	.91	4	<.01
13	1.0	13	.03	2.1	1	<.01	.85	2	<.01
14	.93	10	.03	1.9	1	<.01	.80	3	<.01
15	.90	8	.02	1.5	1	<.01	.77	4	<.01
16	.82	6	.01	1.3	1	<.01	.76	6	.01
17	.78	4	<.01	1.2	2	<.01	e.73	e7	e.01
18	.75	2	<.01	1.9	5	.04	e.69	e8	e.02
19	.74	4	<.01	2.0	5	.03	.66	10	.02
20	.74	5	<.01	1.4	2	<.01	.65	10	.02
21	2.0	8	.06	1.2	1	<.01	.63	6	.01
22	3.1	10	.10	1.6	1	<.01	.61	3	<.01
23	2.2	8	.05	1.3	1	<.01	.62	3	<.01
24	2.3	11	.08	1.1	1	<.01	.60	2	<.01
25	1.9	14	.07	1.2	1	<.01	.79	2	<.01
26	1.4	12	.05	1.1	1	<.01	.68	2	<.01
27	e1.1	e10	e.03	.96	1	<.01	.65	2	<.01
28	1.0	9	.02	3.2	10	.10	.75	1	<.01
29	.97	7	.02	1.8	5	.03	.64	1	<.01
30	1.1	6	.02	1.4	2	<.01	e.90	e1	<.01
31	---	---	---	1.3	1	<.01	---	---	---
TOTAL	36.44	---	0.93	121.26	---	118.34	27.09	---	0.35

RIO GRANDE DE LOIZA BASIN

50051150 QUEBRADA BLANCA AT EL JAGUAL, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	e.97	e1	e.01	1.5	10	.04	e11	e42	e1.9
2	e4.1	e12	e.17	1.2	9	.03	e7.9	e27	e.60
3	e1.5	e4	e.02	1.0	8	.02	5.0	7	.10
4	e.96	e1	<.01	.91	6	.02	3.9	8	.09
5	e2.6	e1	<.01	.95	5	.01	3.1	11	.09
6	e1.3	e1	<.01	.81	4	<.01	2.5	11	.07
7	e.95	e1	<.01	.97	6	.01	2.1	10	.06
8	e.81	e1	<.01	e.82	e7	e.01	1.8	10	.05
9	e.78	e1	<.01	e.89	e6	e.02	1.6	10	.04
10	.76	1	<.01	e.86	e6	e.01	1.8	9	.04
11	.78	1	<.01	e.73	e5	e.01	2.4	11	.08
12	.78	1	<.01	e.95	e4	e.01	1.9	16	.09
13	1.2	2	<.01	e.99	e4	e.01	1.4	11	.04
14	.90	2	<.01	e.76	e4	<.01	1.1	8	.02
15	.85	2	<.01	e.70	e4	<.01	1.1	7	.02
16	.76	2	<.01	e7.7	e27	e.74	1.0	6	.02
17	.69	3	<.01	e2.8	e7	e.05	1.1	5	.01
18	.70	3	<.01	e2.4	e6	e.04	.99	5	.01
19	.70	2	<.01	e3.8	e11	e.14	.92	5	.01
20	.68	2	<.01	e2.8	e6	e.05	.86	5	.01
21	.64	6	.01	e8.6	e32	e.93	.83	5	.01
22	.86	11	.03	e109	e657	e1080	.87	5	.01
23	.70	14	.03	e32	e165	e29	e1.6	e6	e.03
24	1.6	10	.05	e11	e38	e1.1	e1.4	e4	e.02
25	4.9	28	.42	e6.4	e25	e.44	e1.2	e5	e.02
26	5.0	20	.33	e6.6	e26	e.56	e1.2	e6	e.02
27	3.6	12	.13	e4.1	e14	e.15	e1.1	e7	e.02
28	1.5	6	.03	e10	e40	e1.6	e.98	e8	e.02
29	3.7	13	.24	e8.4	e31	e.74	e.90	e8	e.02
30	4.5	15	.20	e5.0	e17	e.23	e.83	e7	e.02
31	2.3	11	.07	e3.6	e11	e.11	---	---	---
TOTAL	52.07	---	1.91	238.24	---	1116.11	64.38	---	3.54
YEAR	1227.68		1305.72						

e Estimated

< Actual value is known to be less than the value shown

RIO GRANDE DE LOIZA BASIN

50051180 QUEBRADA SALVATIERRA NEAR SAN LORENZO, PR

LOCATION.--Lat 18°10'24", long 65°58'38", Hydrologic Unit 21010005, on right bank 50 ft upstream from bridge on Highway 181, 0.2 mi (0.3 km) upstream from Río Grande de Loiza, and 1.5 mi (2.4 km) southwest of San Lorenzo.

DRAINAGE AREA.--3.74 mi² (9.69 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1984 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 330 ft (100 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	26	4.7	1.9	2.4	1.0	.51	9.9	1.4	.98	.94	12
2	19	15	2.6	1.7	1.8	1.0	.47	2.8	1.1	2.2	1.1	2.2
3	11	9.2	2.2	1.7	1.7	.96	.47	.99	.91	1.3	.84	1.3
4	6.6	4.1	2.0	1.6	1.4	.92	.46	.76	.82	1.1	.72	1.0
5	3.9	2.9	1.9	1.5	1.5	.96	.93	.66	.89	1.9	.64	.84
6	2.9	2.5	1.8	1.5	1.3	.95	.95	1.2	.96	.81	.97	.74
7	2.4	3.1	1.7	1.4	1.3	.88	.54	42	.78	.56	1.2	.67
8	4.8	2.4	1.7	1.4	1.2	.89	.51	15	.74	.45	.88	.69
9	4.5	2.0	1.7	1.5	1.2	.89	.56	10	.69	.40	.67	.73
10	3.4	1.8	1.8	1.4	1.1	.88	.48	3.9	.96	.37	.67	.87
11	2.2	1.7	1.7	1.3	2.2	.85	1.2	2.6	.82	.41	.60	5.6
12	1.9	1.6	1.7	1.3	3.2	.85	.61	2.1	.67	.43	.61	1.4
13	1.8	1.7	1.6	1.3	1.7	.82	.50	1.7	.65	.85	.44	1.1
14	1.6	1.6	2.5	1.2	1.4	.90	.48	1.5	.61	.49	.40	.69
15	1.5	1.6	3.1	1.2	1.6	.82	.46	1.3	.60	.39	.42	.68
16	6.2	1.6	2.1	1.8	1.4	.82	.43	1.2	.58	.34	1.3	.61
17	3.0	1.5	2.2	2.6	1.6	.82	.41	1.1	.59	.29	.73	.84
18	1.9	1.4	8.7	1.7	1.2	.77	.42	1.6	.85	.29	.91	1.0
19	1.7	1.3	e11	1.7	1.1	.74	.43	1.7	.72	.29	.73	.94
20	1.6	1.4	e17	1.6	.97	.83	.44	1.1	.60	.29	.64	.69
21	1.5	1.9	6.4	1.6	.96	2.5	1.5	.95	.55	.26	.50	.66
22	4.3	2.0	8.6	1.7	1.0	2.7	1.8	1.3	.51	.25	149	.65
23	8.9	2.2	4.6	1.6	1.0	1.2	1.6	1.1	.48	.29	86	1.0
24	4.4	1.7	3.2	1.4	1.1	.77	3.0	.97	.50	1.1	4.0	.81
25	3.6	3.7	2.8	1.3	1.0	.64	1.4	1.1	.86	3.2	1.7	.76
26	2.7	2.1	2.3	1.2	.93	.58	.72	1.0	.75	2.4	1.2	.75
27	2.0	2.0	2.1	1.2	.87	.62	e.58	.86	.54	1.7	1.0	.70
28	2.9	1.8	1.9	1.3	.94	.53	.53	1.9	.66	1.0	9.4	.69
29	2.4	1.8	1.8	5.8	---	.54	.50	1.1	.61	2.5	2.5	.56
30	2.0	8.5	1.8	3.9	---	.51	.55	.93	.98	2.5	1.5	.49
31	2.9	---	1.8	1.7	---	.53	---	1.8	---	1.4	1.1	---
TOTAL	123.7	112.1	111.0	54.0	39.07	28.67	23.44	116.12	22.38	30.74	273.31	41.66
MEAN	3.99	3.74	3.58	1.74	1.40	.92	.78	3.75	.75	.99	8.82	1.39
MAX	19	26	17	5.8	3.2	2.7	3.0	42	1.4	3.2	149	12
MIN	1.5	1.3	1.6	1.2	.87	.51	.41	.66	.48	.25	.40	.49
AC-FT	245	222	220	107	77	57	46	230	44	61	542	83
CFSM	1.07	1.00	.96	.47	.37	.25	.21	1.00	.20	.27	2.36	.37
IN.	1.23	1.12	1.10	.54	.39	.29	.23	1.15	.22	.31	2.72	.41

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2001, BY WATER YEAR (WY)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	9.62	12.0	5.68	4.92	3.42	3.33	2.25	5.58	5.58	5.27	7.05	15.9						
MAX	36.2	33.4	22.8	23.4	10.3	17.4	6.60	35.8	17.5	20.5	14.5	76.5						
(WY)	1986	1988	1988	1992	1984	1989	1985	1985	1996	1993	1996	1996						
MIN	2.31	2.72	1.17	1.16	1.23	.92	.66	.86	.75	.99	1.51	1.39						
(WY)	1987	1990	1990	1990	1990	2001	1995	1995	2001	2001	1994	2001						

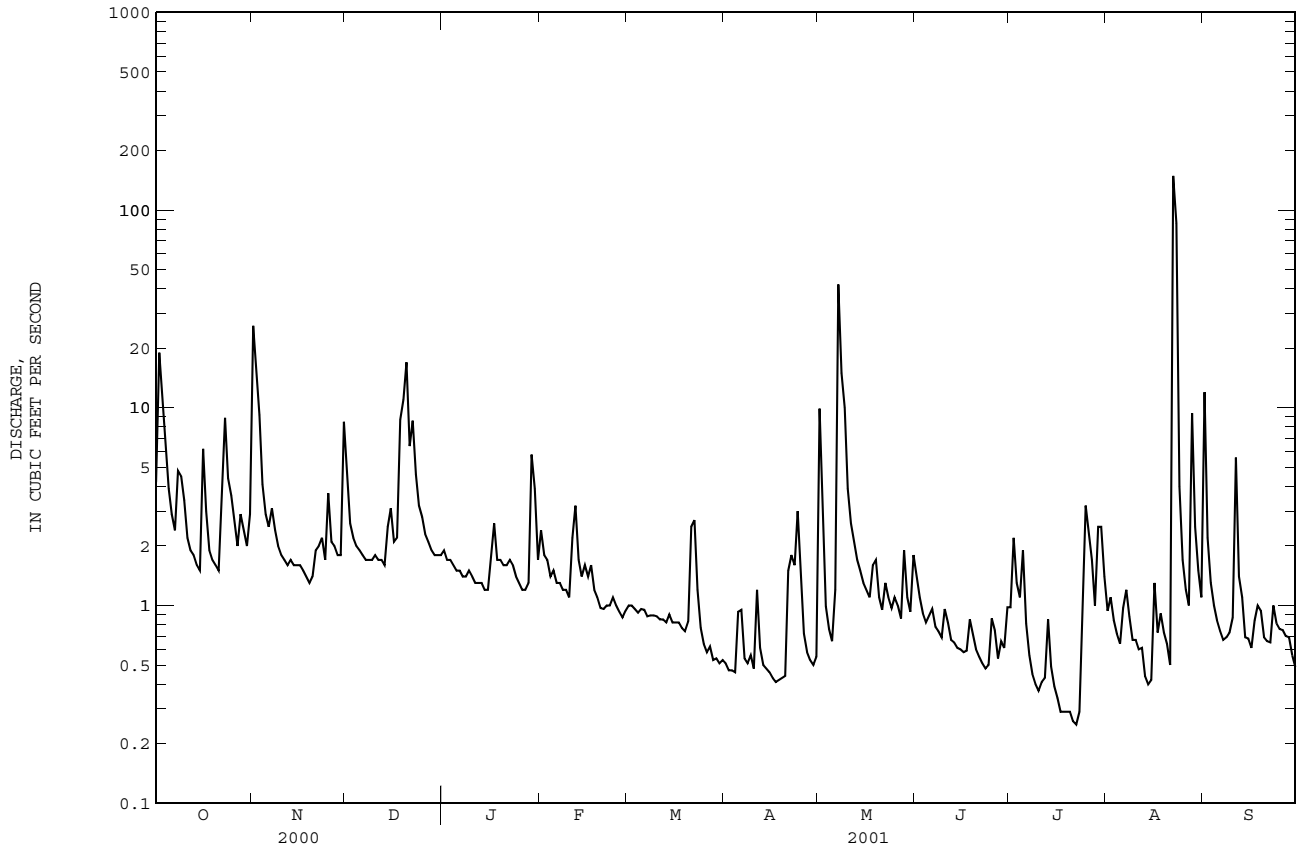
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1984 - 2001

ANNUAL TOTAL	1489.85	976.19		
ANNUAL MEAN	4.07	2.67	6.71	
HIGHEST ANNUAL MEAN			12.4	1996
LOWEST ANNUAL MEAN			2.67	2001
HIGHEST DAILY MEAN	281	Aug 23	149	Aug 22
LOWEST DAILY MEAN	.63	Aug 14	.25	Jul 22
ANNUAL SEVEN-DAY MINIMUM	.81	Aug 8	.28	Jul 17
MAXIMUM PEAK FLOW			2460	Aug 22
MAXIMUM PEAK STAGE			12.92	Aug 22
INSTANTANEOUS LOW FLOW			.23	Jul 21
ANNUAL RUNOFF (AC-FT)	2960	1940	4860	
ANNUAL RUNOFF (CFSM)	1.09	.72	1.79	
ANNUAL RUNOFF (INCHES)	14.82	9.71	24.38	
10 PERCENT EXCEEDS	6.9	3.8	9.6	
50 PERCENT EXCEEDS	1.8	1.2	2.0	
90 PERCENT EXCEEDS	.95	.51	.89	

e Estimated

RIO GRANDE DE LOIZA BASIN

50051180 QUEBRADA SALVATIERRA NEAR SAN LORENZO, PR--Continued



RIO GRANDE DE LOIZA BASIN

50051180 QUEBRADA SALVATIERRA NEAR SAN LORENZO, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.-- Water years 1984 to 1986 and water years 1989 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1984 to September 1986 and from October 1989 to current year.

INSTRUMENTATION.-- USDH-48 and automatic sediment samplers since 1989.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 7,300 mg/L October 06, 1985; Minimum daily mean, 1 mg/L several days during several years.

SEDIMENT LOADS: Maximum daily mean, 33,000 tons (29,900 tonnes) September 10, 1996; Minimum daily mean, <0.01 ton (<0.01 tonne) several days during several years.

EXTREMES FOR CURRENT YEAR 2001.--

SEDIMENT CONCENTRATION: Maximum daily mean, 735 mg/L August 22, 2001; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 1,540 tons (1,397 tonnes) August 22, 2001; Minimum daily mean, <0.01 ton (<0.01 tonne) several days.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	4.2	30	.34	26	606	260	4.7	18	.27
2	19	90	8.2	15	66	3.3	2.6	5	.04
3	11	40	1.4	9.2	42	1.2	2.2	5	.03
4	6.6	15	.27	4.1	20	.23	2.0	5	.03
5	3.9	14	.15	2.9	11	.09	1.9	5	.03
6	2.9	14	.11	2.5	4	.03	1.8	5	.02
7	2.4	14	.09	3.1	4	.03	1.7	4	.02
8	4.8	22	.37	2.4	5	.03	1.7	4	.02
9	4.5	21	.35	2.0	6	.03	1.7	5	.02
10	3.4	18	.16	1.8	5	.03	1.8	7	.04
11	2.2	16	.10	1.7	5	.02	1.7	9	.04
12	1.9	12	.06	1.6	4	.02	1.7	7	.03
13	1.8	8	.04	1.7	4	.02	1.6	6	.03
14	1.6	8	.03	1.6	6	.03	2.5	6	.04
15	1.5	8	.03	1.6	8	.03	3.1	6	.05
16	6.2	29	1.3	1.6	9	.04	2.1	6	.03
17	3.0	15	.13	1.5	8	.03	2.2	6	.04
18	1.9	10	.05	1.4	8	.03	8.7	28	1.1
19	1.7	7	.03	1.3	7	.03	e11	e47	e2.8
20	1.6	7	.03	1.4	7	.03	e17	e77	e4.3
21	1.5	6	.03	1.9	6	.03	6.4	25	.45
22	4.3	19	.41	2.0	6	.03	8.6	38	1.2
23	8.9	48	1.9	2.2	6	.04	4.6	20	.26
24	4.4	29	.37	1.7	6	.03	3.2	9	.08
25	3.6	27	.28	3.7	14	.16	2.8	6	.04
26	2.7	22	.16	2.1	11	.07	2.3	6	.04
27	2.0	18	.10	2.0	10	.05	2.1	6	.03
28	2.9	15	.11	1.8	10	.05	1.9	6	.03
29	2.4	12	.07	1.8	10	.05	1.8	5	.02
30	2.0	8	.04	8.5	45	2.8	1.8	3	.02
31	2.9	12	.14	---	---	---	1.8	2	.01
TOTAL	123.7	---	16.85	112.1	---	268.56	111.0	---	11.16

RIO GRANDE DE LOIZA BASIN

50051180 QUEBRADA SALVATIERRA NEAR SAN LORENZO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1.9	2	<.01	2.4	2	.01	1.0	1	<.01
2	1.7	5	.02	1.8	3	.02	1.0	1	<.01
3	1.7	8	.04	1.7	5	.03	.96	1	<.01
4	1.6	7	.03	1.4	8	.03	.92	1	<.01
5	1.5	6	.02	1.5	10	.04	.96	1	<.01
6	1.5	4	.02	1.3	7	.02	.95	1	<.01
7	1.4	2	<.01	1.3	7	.02	.88	1	<.01
8	1.4	1	<.01	1.2	5	.02	.89	1	<.01
9	1.5	1	<.01	1.2	3	<.01	.89	1	<.01
10	1.4	1	<.01	1.1	3	<.01	.88	1	<.01
11	1.3	1	<.01	2.2	2	.01	.85	1	<.01
12	1.3	1	<.01	3.2	2	.02	.85	1	<.01
13	1.3	1	<.01	1.7	1	<.01	.82	1	<.01
14	1.2	1	<.01	1.4	1	<.01	.90	1	<.01
15	1.2	1	<.01	1.6	1	<.01	.82	1	<.01
16	1.8	1	<.01	1.4	1	<.01	.82	1	<.01
17	2.6	2	.01	1.6	1	<.01	.82	1	<.01
18	1.7	4	.02	1.2	1	<.01	.77	1	<.01
19	1.7	6	.03	1.1	1	<.01	.74	1	<.01
20	1.6	5	.02	.97	1	<.01	.83	1	<.01
21	1.6	3	.01	.96	1	<.01	2.5	5	.09
22	1.7	1	<.01	1.0	1	<.01	2.7	29	.21
23	1.6	1	<.01	1.0	1	<.01	1.2	21	.07
24	1.4	1	<.01	1.1	1	<.01	.77	17	.03
25	1.3	1	<.01	1.0	1	<.01	.64	13	.02
26	1.2	1	<.01	.93	1	<.01	.58	8	.01
27	1.2	1	<.01	.87	1	<.01	.62	4	<.01
28	1.3	1	<.01	.94	1	<.01	.53	1	<.01
29	5.8	21	.53	---	---	---	.54	1	<.01
30	3.9	16	.20	---	---	---	.51	1	<.01
31	1.7	2	.01	---	---	---	.53	1	<.01
TOTAL	54.0	---	1.14	39.07	---	0.40	28.67	---	0.68

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.51	1	<.01	9.9	41	2.4	1.4	9	.03
2	.47	2	<.01	2.8	12	.12	1.1	8	.03
3	.47	2	<.01	.99	10	.03	.91	8	.02
4	.46	2	<.01	.76	11	.02	.82	8	.02
5	.93	3	<.01	.66	11	.02	.89	7	.02
6	.95	3	<.01	1.2	12	.06	.96	7	.02
7	.54	6	<.01	42	500	139	.78	6	.01
8	.51	8	.01	15	60	2.6	.74	5	.01
9	.56	10	.02	10	13	.50	.69	7	.01
10	.48	11	.01	3.9	4	.04	.96	8	.02
11	1.2	8	.03	2.6	4	.03	.82	8	.02
12	.61	5	<.01	2.1	4	.02	.67	5	<.01
13	.50	4	<.01	1.7	4	.02	.65	2	<.01
14	.48	4	<.01	1.5	3	.01	.61	2	<.01
15	.46	3	<.01	1.3	3	.01	.60	2	<.01
16	.43	3	<.01	1.2	3	.01	.58	2	<.01
17	.41	2	<.01	1.1	5	.01	.59	2	<.01
18	.42	2	<.01	1.6	6	.02	.85	2	<.01
19	.43	1	<.01	1.7	6	.03	.72	2	<.01
20	.44	1	<.01	1.1	5	.02	.60	3	<.01
21	1.5	1	<.01	.95	5	.01	.55	6	<.01
22	1.8	1	<.01	1.3	3	<.01	.51	9	.01
23	1.6	1	<.01	1.1	1	<.01	.48	8	.01
24	3.0	12	.12	.97	2	<.01	.50	7	<.01
25	1.4	7	.03	1.1	2	<.01	.86	6	.01
26	.72	5	.01	1.0	2	<.01	.75	5	<.01
27	e.58	e5	<.01	.86	3	<.01	.54	4	<.01
28	.53	5	<.01	1.9	3	.02	.66	3	<.01
29	.50	5	<.01	1.1	4	.01	.61	2	<.01
30	.55	5	<.01	.93	5	.01	.98	3	<.01
31	---	---	---	1.8	9	.05	---	---	---
TOTAL	23.44	---	0.46	116.12	---	145.13	22.38	---	0.40

RIO GRANDE DE LOIZA BASIN

50051180 QUEBRADA SALVATIERRA NEAR SAN LORENZO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	.98	4	.01	.94	6	.02	12	60	9.2
2	2.2	6	.03	1.1	6	.02	2.2	21	.13
3	1.3	7	.02	.84	6	.01	1.3	16	.06
4	1.1	8	.02	.72	5	.01	1.0	14	.04
5	1.9	6	.03	.64	5	<.01	.84	12	.03
6	.81	4	<.01	.97	5	.01	.74	10	.02
7	.56	3	<.01	1.2	6	.02	.67	9	.02
8	.45	3	<.01	.88	7	.02	.69	8	.01
9	.40	2	<.01	.67	7	.01	.73	6	.01
10	.37	2	<.01	.67	7	.01	.87	5	.01
11	.41	1	<.01	.60	6	.01	5.6	27	1.6
12	.43	2	<.01	.61	6	.01	1.4	7	.03
13	.85	2	<.01	.44	6	<.01	1.1	6	.02
14	.49	3	<.01	.40	6	<.01	.69	6	.01
15	.39	3	<.01	.42	6	<.01	.68	7	.01
16	.34	4	<.01	1.3	5	.02	.61	8	.01
17	.29	4	<.01	.73	5	<.01	.84	8	.02
18	.29	5	<.01	.91	5	.01	1.0	7	.02
19	.29	6	<.01	.73	5	<.01	.94	7	.02
20	.29	7	<.01	.64	5	<.01	.69	6	.01
21	.26	10	<.01	.50	5	<.01	.66	6	.01
22	.25	12	<.01	149	735	1540	.65	5	<.01
23	.29	15	.01	86	85	46	1.0	5	.01
24	1.1	14	.04	4.0	18	.21	.81	4	<.01
25	3.2	17	.16	1.7	14	.06	.76	2	<.01
26	2.4	12	.08	1.2	11	.04	.75	1	<.01
27	1.7	10	.05	1.0	8	.02	.70	1	<.01
28	1.0	10	.03	9.4	51	4.6	.69	1	<.01
29	2.5	14	.12	2.5	12	.08	.56	1	<.01
30	2.5	9	.07	1.5	10	.04	.49	1	<.01
31	1.4	6	.02	1.1	7	.02	---	---	---
TOTAL	30.74	---	0.86	273.31	---	1591.33	41.66	---	11.38
YEAR	976.19		2048.35						

e Estimated

< Actual value is known to be less than the value shown

50051310 RIO CAYAGUAS AT CERRO GORDO, PR

LOCATION.--Lat 18°09'13", long 65°57'24", Hydrologic Unit 21010005, at downstream side of bridge on Highway 912, at Barrio Cerro Gordo, 2.8 mi (4.5 km) south of San Lorenzo.

DRAINAGE AREA.--10.2 mi² (26.4 km²).

PERIOD OF RECORD.--October 1977 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 490 ft (150 m), from topographic map. Prior to Oct. 1, 1983, at site 2,000 ft (610 m) downstream at different datum.

REMARKS.--Records poor. Sand removal at a commercial level is practiced at times during the year. This takes place about 100 ft (30.5 m) downstream from gage. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113	31	49	21	25	12	e16	209	15	13	11	254
2	118	200	26	24	20	12	e14	76	17	18	11	45
3	e91	92	25	24	27	11	e13	26	15	14	27	9.9
4	e40	e43	25	23	16	11	e13	23	13	16	11	58
5	e30	e37	23	23	15	11	11	e24	18	27	12	30
6	e27	e34	23	22	14	11	11	27	13	12	12	e30
7	e29	e34	23	21	13	10	11	397	12	10	14	e29
8	e67	e31	23	22	12	10	11	48	12	10	12	e27
9	e40	e30	23	22	12	11	10	31	12	9.5	15	e26
10	e41	e30	26	21	12	11	9.9	37	12	10	18	e37
11	e31	e30	24	20	14	10	30	23	11	12	18	e31
12	e30	e29	25	20	18	9.4	18	16	11	11	16	e24
13	e31	e28	26	19	14	9.2	18	15	13	23	14	e22
14	e27	e28	27	19	12	9.6	15	15	11	14	11	e25
15	e29	e26	30	18	14	9.6	12	15	11	10	10	24
16	e27	e24	27	21	15	11	11	15	11	10	25	21
17	e28	e24	29	24	15	10	11	15	11	9.8	19	21
18	e25	e25	38	18	12	8.3	11	18	11	10	29	19
19	e27	e24	30	17	12	8.2	11	18	11	11	21	18
20	27	e24	40	18	12	9.0	14	14	11	9.9	13	18
21	27	e27	33	17	12	16	20	14	11	9.6	19	18
22	38	47	46	18	12	105	33	15	10	9.7	1450	18
23	36	27	38	19	12	66	16	14	10	12	e348	17
24	29	32	29	17	14	48	21	14	11	14	e86	17
25	51	53	29	16	15	15	e17	14	12	35	e39	18
26	35	32	25	14	12	e14	e14	14	11	28	e36	17
27	32	28	24	13	12	e14	e12	15	11	17	e27	17
28	55	28	24	13	12	e13	e11	29	11	12	37	16
29	35	29	24	22	---	e14	e12	16	11	32	34	16
30	31	57	24	20	---	e16	e11	14	11	38	e28	16
31	48	---	21	16	---	e15	---	15	---	16	e26	---
TOTAL	1295	1184	879	602	405	540.3	437.9	1236	360	483.5	2431.9	957
MEAN	41.8	39.5	28.4	19.4	14.5	17.4	14.6	39.9	12.0	15.6	78.4	31.9
MAX	118	200	49	24	27	105	33	397	18	38	1450	254
MIN	25	24	21	13	12	8.2	9.9	14	10	9.5	9.9	16
AC-FT	2570	2350	1740	1190	803	1070	869	2450	714	959	4820	1900
CFSM	4.10	3.87	2.78	1.90	1.42	1.71	1.43	3.91	1.18	1.53	7.69	3.13
IN.	4.72	4.32	3.21	2.20	1.48	1.97	1.60	4.51	1.31	1.76	8.87	3.49

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2001, BY WATER YEAR (WY)

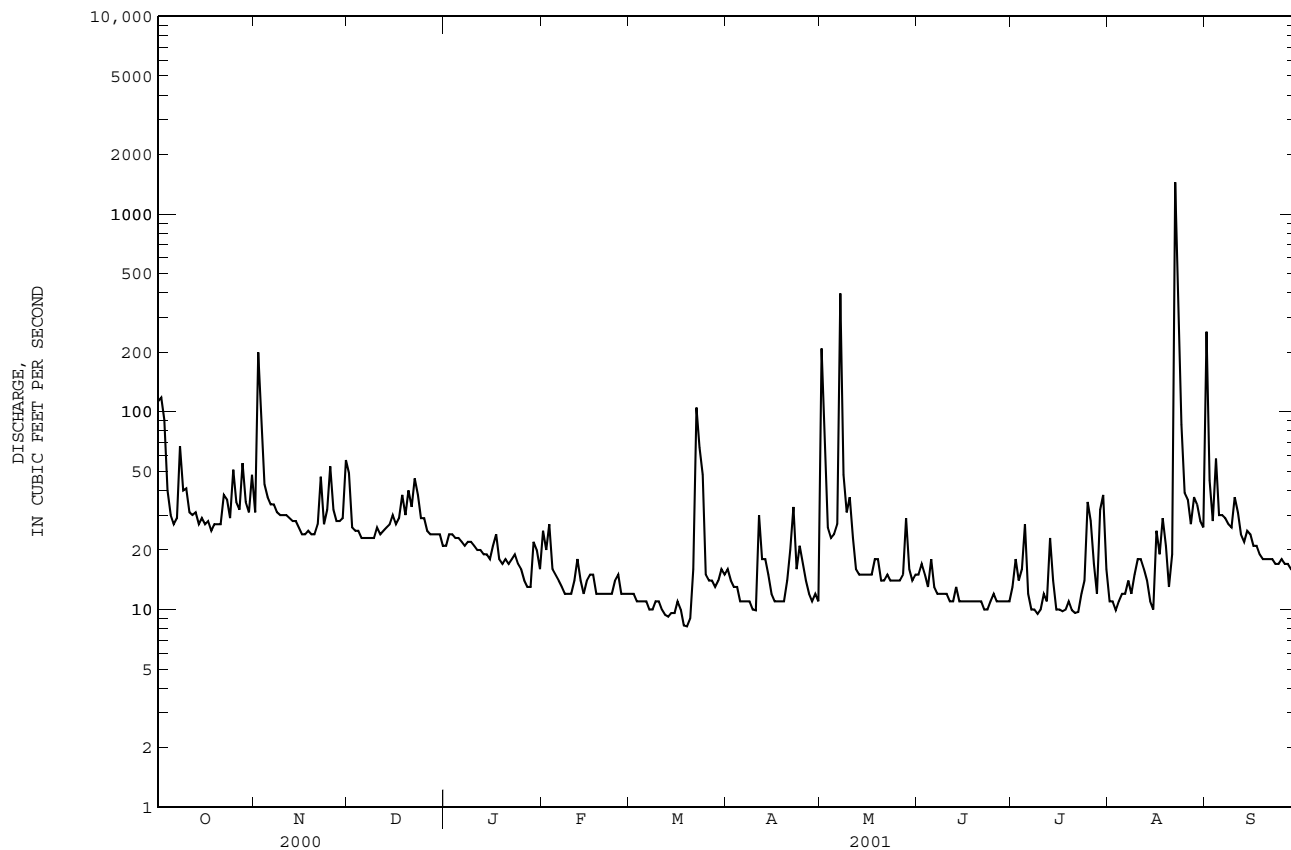
	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	64.0	71.9	46.9	34.5	29.9	23.7	20.6	44.0	42.9	42.5	53.6	78.3													
MAX	176	196	163	99.5	74.1	64.1	46.0	155	140	118	202	330													
(WY)	1986	1988	1988	1998	1997	1998	1985	1985	1979	1979	1979	1998													
MIN	14.4	19.2	12.5	14.6	11.0	11.3	10.7	9.68	10.9	15.4	14.5	16.9													
(WY)	1992	1982	1992	1990	1992	1992	1980	1990	1994	1994	1991	1980													

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1977 - 2001

ANNUAL TOTAL	14429	10811.6		
ANNUAL MEAN	39.4	29.6	46.1	
HIGHEST ANNUAL MEAN			89.7	1979
LOWEST ANNUAL MEAN			18.6	1990
HIGHEST DAILY MEAN	1190	May 11	1450	Aug 22
LOWEST DAILY MEAN	11	Mar 19	8.2	Mar 19
ANNUAL SEVEN-DAY MINIMUM	11	Apr 7	9.4	Mar 14
MAXIMUM PEAK FLOW			14200	Aug 22
MAXIMUM PEAK STAGE			24.21	Aug 22
ANNUAL RUNOFF (AC-FT)	28620	21440	33410	
ANNUAL RUNOFF (CFSM)	3.87	2.90	4.52	
ANNUAL RUNOFF (INCHES)	52.62	39.43	61.44	
10 PERCENT EXCEEDS	52	38	71	
50 PERCENT EXCEEDS	26	18	25	
90 PERCENT EXCEEDS	13	11	12	

e Estimated

RIO GRANDE DE LOIZA BASIN
50051310 RIO CAYAGUAS AT CERRO GORDO, PR--Continued



50051800 RIO GRANDE DE LOIZA AT HWY 183 NEAR SAN LORENZO, PR

LOCATION.--Lat 18°11'09", long 65°57'42", Hydrologic Unit 21010005, at upstream side of bridge on Highway 183 by-pass, 0.4 mi (0.6 km) south from Plaza de San Lorenzo, 1.4 mi (2.2 km), southwest from Escuela Rafael Colón García and 2.0 mi (3.2 km) northwest from Escuela Segunda Unidad de Carlos Zayas.

DRAINAGE AREA.--25.0 mi² (64.8 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1990 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 262 ft (80 m), from topographic map.

REMARKS.--Records fair except those for estimated discharges, which are poor. Water purification plant located about 0.2 mi (0.3 km) upstream from gage. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	157	136	140	55	65	26	30	179	34	47	41	e439
2	290	205	84	51	62	27	25	108	45	54	41	e152
3	228	159	75	48	73	26	23	42	31	44	33	e88
4	138	94	67	45	49	25	24	35	25	39	31	e140
5	121	82	61	43	42	23	24	31	36	e85	34	e80
6	112	75	61	43	46	24	25	32	33	35	35	e63
7	105	117	58	44	46	21	24	597	25	27	48	e55
8	175	94	59	42	39	21	23	143	24	23	36	e55
9	146	74	60	44	36	20	23	119	24	18	46	e55
10	130	68	62	42	37	21	22	98	24	18	42	e68
11	106	64	57	38	52	20	50	72	22	22	51	e72
12	101	63	57	40	68	20	34	53	19	20	50	e57
13	96	61	62	37	48	19	26	44	22	59	46	e54
14	94	60	66	37	38	20	26	40	21	34	36	e60
15	91	63	74	35	42	19	22	36	17	21	31	63
16	92	59	62	49	48	25	20	33	20	19	71	53
17	86	56	66	62	56	25	20	31	20	18	60	55
18	79	56	113	45	40	21	19	35	18	17	82	51
19	79	56	104	45	36	17	19	47	17	18	71	50
20	78	54	163	40	33	21	18	32	18	16	49	44
21	75	57	109	41	33	44	32	30	17	16	83	43
22	108	127	169	43	31	154	76	35	16	15	e1960	46
23	112	73	143	38	30	155	48	29	16	17	e796	45
24	87	71	92	37	35	114	49	28	17	28	e140	42
25	104	134	98	36	37	50	46	29	18	89	e84	46
26	95	84	80	34	29	38	30	31	21	72	e78	41
27	82	73	71	33	28	40	e28	29	18	70	e58	41
28	131	75	63	34	26	31	e25	68	17	34	e187	36
29	96	78	60	68	---	29	26	41	16	85	e121	34
30	83	199	58	65	---	33	23	31	24	121	e78	31
31	126	---	54	38	---	29	---	34	---	66	e59	---
TOTAL	3603	2667	2548	1352	1205	1158	880	2192	675	1247	4578	2159
MEAN	116	88.9	82.2	43.6	43.0	37.4	29.3	70.7	22.5	40.2	148	72.0
MAX	290	205	169	68	73	155	76	597	45	121	1960	439
MIN	75	54	54	33	26	17	18	28	16	15	31	31
AC-FT	7150	5290	5050	2680	2390	2300	1750	4350	1340	2470	9080	4280
CFSM	4.65	3.56	3.29	1.74	1.72	1.49	1.17	2.83	.90	1.61	5.91	2.88
IN.	5.36	3.97	3.79	2.01	1.79	1.72	1.31	3.26	1.00	1.86	6.81	3.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2001, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	150	150	105	106	76.8	56.9	41.3	68.1	94.8	86.7	114	198
MAX	340	298	253	192	160	158	104	186	290	208	196	631
(WY)	1999	2000	1999	1992	1998	1998	1998	1992	1992	1993	1996	1996
MIN	77.6	69.2	59.2	43.6	21.0	17.4	16.8	25.2	22.5	40.2	39.3	59.7
(WY)	1993	1996	1998	2001	1992	1992	1992	1995	2001	2001	1994	1990

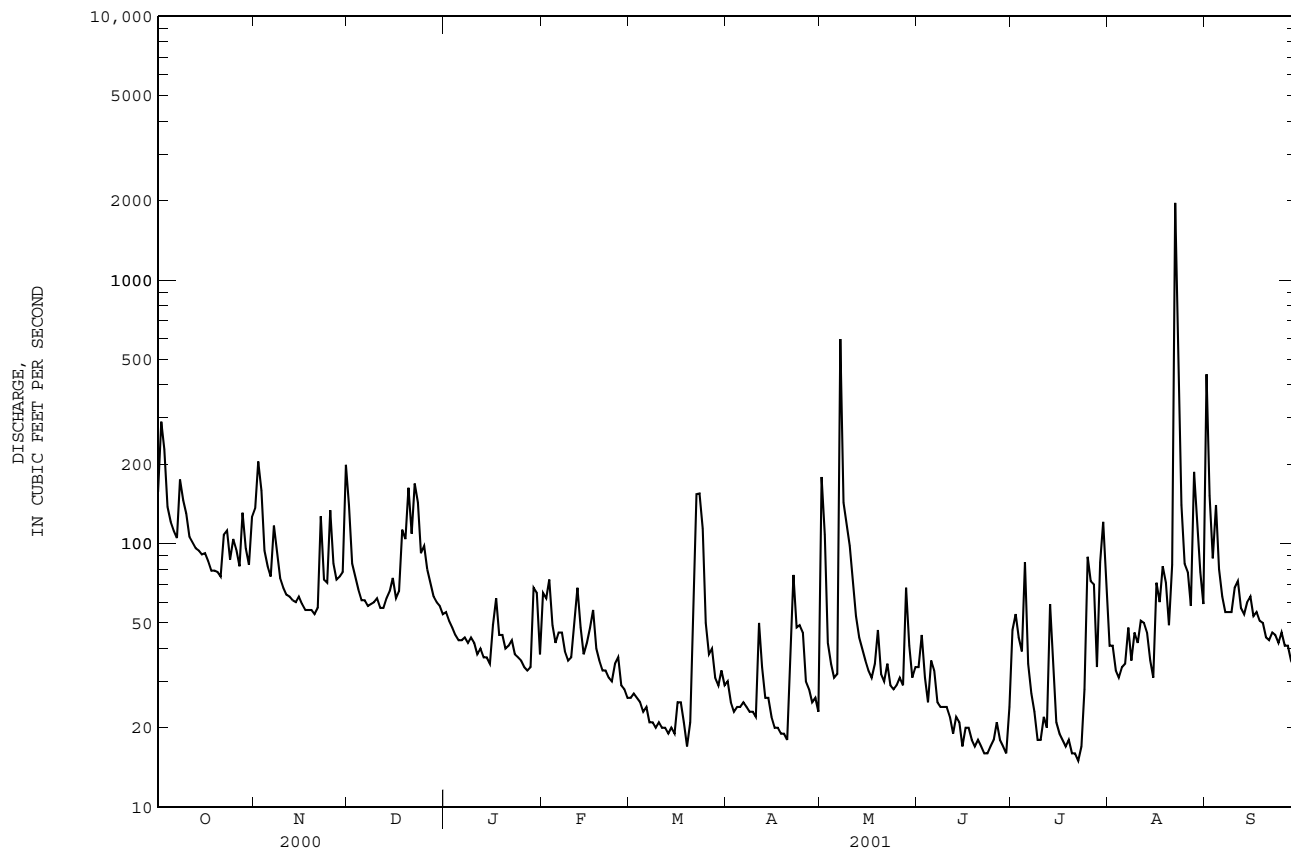
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1990 - 2001

ANNUAL TOTAL	32031	24264		
ANNUAL MEAN	87.5	66.5	106	
HIGHEST ANNUAL MEAN			154	1996
LOWEST ANNUAL MEAN			66.5	2001
HIGHEST DAILY MEAN	2450	Aug 23	1960	Aug 22
LOWEST DAILY MEAN	20	May 4	15	Jul 22
ANNUAL SEVEN-DAY MINIMUM	24	Apr 7	17	Jul 17
MAXIMUM PEAK FLOW			19100	Aug 22
MAXIMUM PEAK STAGE			23.67	Aug 22
ANNUAL RUNOFF (AC-FT)	63530	48130	76810	
ANNUAL RUNOFF (CFSM)	3.50	2.66	4.24	
ANNUAL RUNOFF (INCHES)	47.66	36.10	57.62	
10 PERCENT EXCEEDS	137	115	179	
50 PERCENT EXCEEDS	62	45	62	
90 PERCENT EXCEEDS	29	20	26	

e Estimated

RIO GRANDE DE LOIZA BASIN

50051800 RIO GRANDE DE LOIZA AT HWY 183 NEAR SAN LORENZO, PR--Continued



50051800 RIO GRANDE DE LOIZA AT HWY 183 NEAR SAN LORENZO, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water years 1990 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: February 1990 to current year.

INSTRUMENTATION.-- USDH-48 and automatic sediment samplers since 1990.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 3,080 mg/L November 10, 1997; Minimum daily mean, 3 mg/L several days during Water Year 2001.

SEDIMENT LOADS: Maximum daily mean, 80,600 tons (73,100 tonnes) September 10, 1996; Minimum daily mean, 0.15 ton (0.14 tonne) July 18, 2001.

EXTREMES FOR CURRENT YEAR 2001.--

SEDIMENT CONCENTRATION: Maximum daily mean, e2,050 mg/L August 22, 2001; Minimum daily mean, 3 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, e70,800 tons (e64,230 tonnes) August 22, 2001; Minimum daily mean, 0.15 ton (0.14 tonne) July 18, 2001.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	157	115	48	136	122	62	140	118	50
2	290	286	362	205	197	206	84	73	17
3	228	209	144	159	150	74	75	60	12
4	138	28	11	94	45	12	67	45	8.1
5	121	10	3.3	82	8	1.8	61	24	4.0
6	112	5	1.6	75	8	1.6	61	6	1.1
7	105	4	1.3	117	65	34	58	5	.79
8	175	116	79	94	48	14	59	5	.81
9	146	115	48	74	6	1.2	60	5	.88
10	130	69	25	68	7	1.2	62	6	.96
11	106	44	13	64	7	1.2	57	6	.91
12	101	31	8.5	63	8	1.3	57	6	.92
13	96	21	5.4	61	8	1.3	62	6	1.0
14	94	20	5.0	60	9	1.4	66	6	1.1
15	91	19	4.8	63	9	1.6	74	6	1.2
16	92	29	7.9	59	10	1.6	62	6	1.0
17	86	8	1.9	56	10	1.6	66	19	3.6
18	79	6	1.2	56	11	1.6	113	88	29
19	79	3	.68	56	10	1.6	104	99	29
20	78	3	.63	54	10	1.4	163	138	63
21	75	3	.61	57	15	2.6	109	53	16
22	108	53	23	127	109	54	169	152	88
23	112	72	24	73	57	11	143	130	54
24	87	60	15	71	45	8.6	92	65	16
25	104	73	23	134	108	42	98	40	11
26	95	73	19	84	37	8.4	80	20	4.4
27	82	47	10	73	14	2.8	71	11	2.2
28	131	98	43	75	30	7.0	63	6	1.1
29	96	73	19	78	128	27	60	10	1.6
30	83	50	11	199	255	298	58	14	2.1
31	126	90	41	---	---	---	54	18	2.6
TOTAL	3603	---	1000.82	2667	---	883.8	2548	---	425.37

RIO GRANDE DE LOIZA BASIN

50051800 RIO GRANDE DE LOIZA AT HWY 183 NEAR SAN LORENZO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	55	20	3.0	65	55	11	26	63	4.5
2	51	16	2.2	62	54	9.2	27	55	4.0
3	48	14	1.8	73	54	11	26	46	3.2
4	45	21	2.5	49	35	4.7	25	37	2.5
5	43	29	3.4	42	30	3.4	23	29	1.8
6	43	37	4.4	46	30	3.9	24	22	1.4
7	44	46	5.4	46	19	2.5	21	21	1.2
8	42	51	5.8	39	27	2.9	21	21	1.2
9	44	47	5.6	36	38	3.7	20	22	1.2
10	42	41	4.6	37	34	3.4	21	22	1.3
11	38	36	3.7	52	39	5.6	20	22	1.2
12	40	35	3.8	68	53	9.8	20	22	1.2
13	37	34	3.4	48	35	4.6	19	23	1.2
14	37	33	3.3	38	25	2.6	20	23	1.2
15	35	32	3.0	42	17	2.0	19	26	1.4
16	49	31	4.1	48	20	2.8	25	43	2.9
17	62	29	4.8	56	41	6.2	25	61	4.0
18	45	22	2.7	40	27	2.9	21	78	4.3
19	45	16	2.0	36	18	1.7	17	96	4.4
20	40	16	1.7	33	16	1.5	21	114	6.4
21	41	16	1.8	33	16	1.4	44	123	14
22	43	16	1.9	31	16	1.3	154	128	54
23	38	15	1.6	30	16	1.3	155	148	128
24	37	15	1.5	35	17	1.6	114	98	37
25	36	15	1.4	37	17	1.7	50	48	6.4
26	34	14	1.3	29	22	1.7	38	36	3.7
27	33	14	1.2	28	48	3.7	40	25	2.7
28	34	13	1.2	26	69	4.9	31	15	1.2
29	68	45	10	---	---	---	29	10	.79
30	65	63	11	---	---	---	33	6	.57
31	38	45	4.7	---	---	---	29	6	.51
TOTAL	1352	---	108.8	1205	---	113.0	1158	---	299.37
	APRIL			MAY			JUNE		
1	30	7	.55	179	238	222	34	77	7.1
2	25	7	.49	108	108	40	45	75	9.0
3	23	8	.47	42	38	4.4	31	73	6.0
4	24	9	.55	35	29	2.7	25	71	4.8
5	24	11	.73	31	28	2.4	36	69	6.7
6	25	13	.89	32	28	2.5	33	67	6.1
7	24	12	.76	597	809	3550	25	68	4.6
8	23	10	.62	143	135	63	24	64	4.1
9	23	8	.48	119	76	27	24	49	3.2
10	22	6	.36	98	78	23	24	32	2.1
11	50	37	6.0	72	57	11	22	24	1.4
12	34	19	1.9	53	42	5.9	19	38	2.0
13	26	14	.98	44	32	3.8	22	49	3.0
14	26	13	.89	40	22	2.4	21	46	2.6
15	22	12	.70	36	13	1.2	17	41	1.9
16	20	11	.59	33	7	.60	20	37	1.9
17	20	10	.52	31	16	1.3	20	33	1.8
18	19	10	.51	35	23	2.2	18	28	1.4
19	19	14	.74	47	23	2.9	17	24	1.1
20	18	18	.86	32	23	2.0	18	19	.90
21	32	24	2.7	30	26	2.1	17	14	.65
22	76	56	12	35	44	4.1	16	10	.45
23	48	36	5.0	29	58	4.6	16	10	.40
24	49	35	4.9	28	58	4.4	17	9	.41
25	46	32	4.2	29	57	4.5	18	9	.43
26	30	33	2.7	31	56	4.7	21	8	.47
27	e28	e37	e2.7	29	56	4.3	18	8	.41
28	e25	e36	e2.5	68	77	15	17	10	.46
29	26	36	2.5	41	90	10	16	12	.49
30	23	35	2.2	31	81	6.7	24	19	1.5
31	---	---	---	34	79	7.3	---	---	---
TOTAL	880	---	60.99	2192	---	4038.00	675	---	77.37

RIO GRANDE DE LOIZA BASIN

50051800 RIO GRANDE DE LOIZA AT HWY 183 NEAR SAN LORENZO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	47	34	4.6	41	98	11	e439	e487	e1880
2	54	36	5.9	41	82	9.1	e152	e141	e64
3	44	33	4.2	33	64	5.6	e88	e65	e15
4	39	23	3.0	31	46	3.8	e140	e117	e50
5	e85	e67	e16	34	27	2.5	e80	e30	e6.7
6	35	18	1.8	35	14	1.3	e63	e21	e3.7
7	27	13	.94	48	14	1.8	e55	e20	e3.0
8	23	12	.76	36	17	1.6	e55	e19	e2.8
9	18	11	.56	46	22	2.7	e55	e17	e2.6
10	18	11	.52	42	27	3.0	e68	e33	e7.0
11	22	10	.58	51	32	4.4	e72	e49	e11
12	20	10	.55	50	37	5.0	e57	e20	e3.2
13	59	42	8.1	46	41	5.1	e54	e14	e2.1
14	34	26	2.6	36	40	3.9	e60	e12	e1.9
15	21	10	.61	31	39	3.3	63	9	1.6
16	19	7	.37	71	55	11	53	7	1.0
17	18	5	.23	60	46	11	55	5	.79
18	17	3	.15	82	60	14	51	6	.85
19	18	4	.20	71	36	6.9	50	7	.96
20	16	5	.21	49	28	3.8	44	8	.98
21	16	5	.20	83	63	16	43	9	.99
22	15	4	.17	e1960	e2050	e70800	46	7	.88
23	17	4	.18	e796	e1030	e5100	45	5	.65
24	28	4	.30	e140	e139	e56	42	4	.46
25	89	103	28	e84	e69	e16	46	4	.46
26	72	57	11	e78	e41	e8.6	41	4	.38
27	70	56	11	e58	e20	e3.1	41	3	.35
28	34	29	2.7	e187	e175	e180	36	3	.29
29	85	108	54	e121	e107	e36	34	3	.27
30	121	100	36	e78	e85	e18	31	3	.25
31	66	86	15	e59	e69	e11	---	---	---
TOTAL	1247	---	210.43	4578	---	76355.5	2159	---	2064.16
YEAR	24264		85637.61						

e Estimated

RIO GRANDE DE LOIZA BASIN

50053025 RIO TURABO ABOVE BORINQUEN, PR

LOCATION.--Lat 18°09'35", long 66°02'26", Hydrologic Unit 21010005, on left bank at Highway 765, 1.12 mi (1.8 km) south of Villa Borinquén, 1.35 mi (2.17 km), north from Mercedes Palma school and 0.83 mi (1.34 km) east from Atravezada school on road 763.

DRAINAGE AREA.--7.49 mi² (18.49 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1990 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 492 ft (150 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	38	35	11	19	8.0	5.9	9.6	11	11	7.1	72
2	44	22	20	11	15	7.6	5.8	6.8	7.5	11	6.2	29
3	36	19	16	11	14	7.4	5.6	5.7	6.4	8.8	5.6	16
4	25	14	14	11	11	7.2	5.6	5.5	6.1	8.9	6.2	18
5	22	13	13	10	10	7.2	8.6	5.0	10	e16	6.0	14
6	20	12	12	10	11	7.1	7.9	7.7	7.1	6.9	7.4	12
7	19	15	12	9.9	10	7.0	5.9	112	6.2	5.7	7.8	11
8	21	13	12	9.7	9.2	7.0	5.8	34	6.1	5.5	6.4	9.7
9	27	11	11	10	9.2	6.7	5.8	22	5.9	5.0	7.1	9.2
10	23	11	12	9.4	8.7	6.6	5.5	12	6.4	4.8	6.9	11
11	e22	10	11	9.2	11	6.6	8.3	9.4	6.0	4.7	7.2	14
12	e17	10	11	9.1	16	6.6	5.7	8.8	5.6	4.5	12	11
13	16	10	12	8.8	11	6.5	5.4	8.1	5.8	9.3	8.8	8.7
14	16	10	13	8.6	9.7	6.6	5.4	8.3	5.4	5.0	6.8	9.5
15	15	10	13	8.5	11	6.5	5.2	7.8	5.3	4.4	6.4	8.4
16	15	9.5	12	14	15	7.2	5.1	7.5	5.2	4.3	8.7	7.8
17	14	9.2	12	12	14	6.6	5.0	7.3	5.5	4.5	11	7.9
18	13	9.1	23	9.9	10	6.1	5.0	8.3	5.6	4.3	9.5	8.0
19	14	9.1	e19	9.4	9.3	6.0	4.8	9.0	5.3	4.6	8.0	7.6
20	e13	9.0	35	9.2	8.9	6.8	4.9	7.4	5.2	4.3	6.7	7.6
21	13	14	23	9.4	8.6	12	8.7	7.0	5.0	4.1	25	7.5
22	15	43	64	9.2	8.9	17	13	7.6	4.9	4.5	102	7.3
23	30	17	36	9.6	8.8	44	8.4	7.0	4.8	4.6	150	7.5
24	15	13	21	8.8	9.1	16	11	7.3	5.1	5.3	22	7.3
25	16	31	22	8.3	8.6	9.0	7.8	7.1	6.0	17	13	7.7
26	14	23	17	8.2	8.3	7.4	6.5	6.8	5.4	9.1	11	7.3
27	13	18	15	8.2	7.9	7.1	5.7	6.5	4.9	10	9.1	7.0
28	27	22	14	8.5	7.9	6.6	5.5	20	5.0	5.7	153	6.6
29	16	18	13	33	---	6.3	5.5	7.5	5.0	32	38	6.1
30	14	97	12	17	---	6.1	5.8	7.0	8.5	20	19	6.0
31	12	---	12	11	---	5.9	---	7.2	---	10	14	---
TOTAL	599	559.9	567	332.9	301.1	274.7	195.1	393.2	182.2	255.8	707.9	362.7
MEAN	19.3	18.7	18.3	10.7	10.8	8.86	6.50	12.7	6.07	8.25	22.8	12.1
MAX	44	97	64	33	19	44	13	112	11	32	153	72
MIN	12	9.0	11	8.2	7.9	5.9	4.8	5.0	4.8	4.1	5.6	6.0
MED	16	13	13	9.6	9.9	7.0	5.8	7.5	5.6	5.5	8.7	8.2
AC-FT	1190	1110	1120	660	597	545	387	780	361	507	1400	719
CFSM	2.71	2.61	2.56	1.50	1.51	1.24	.91	1.78	.85	1.16	3.20	1.69
IN.	3.12	2.92	2.95	1.73	1.57	1.43	1.02	2.05	.95	1.33	3.69	1.89

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2001, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	26.9	27.8	21.5	22.5	16.8	12.8	9.74	15.1	22.8	20.3	22.3	44.2
MAX	51.3	70.5	42.7	47.5	25.0	26.9	20.2	31.9	67.9	54.6	41.4	123
(WY)	1998	2000	1999	1992	1997	1998	1998	1993	1996	1993	1996	1996
MIN	10.3	18.6	10.6	7.85	8.93	7.35	6.18	6.11	6.07	8.25	6.98	12.1
(WY)	1994	1996	1994	1990	1990	1993	1990	1994	2001	2001	1994	2001

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

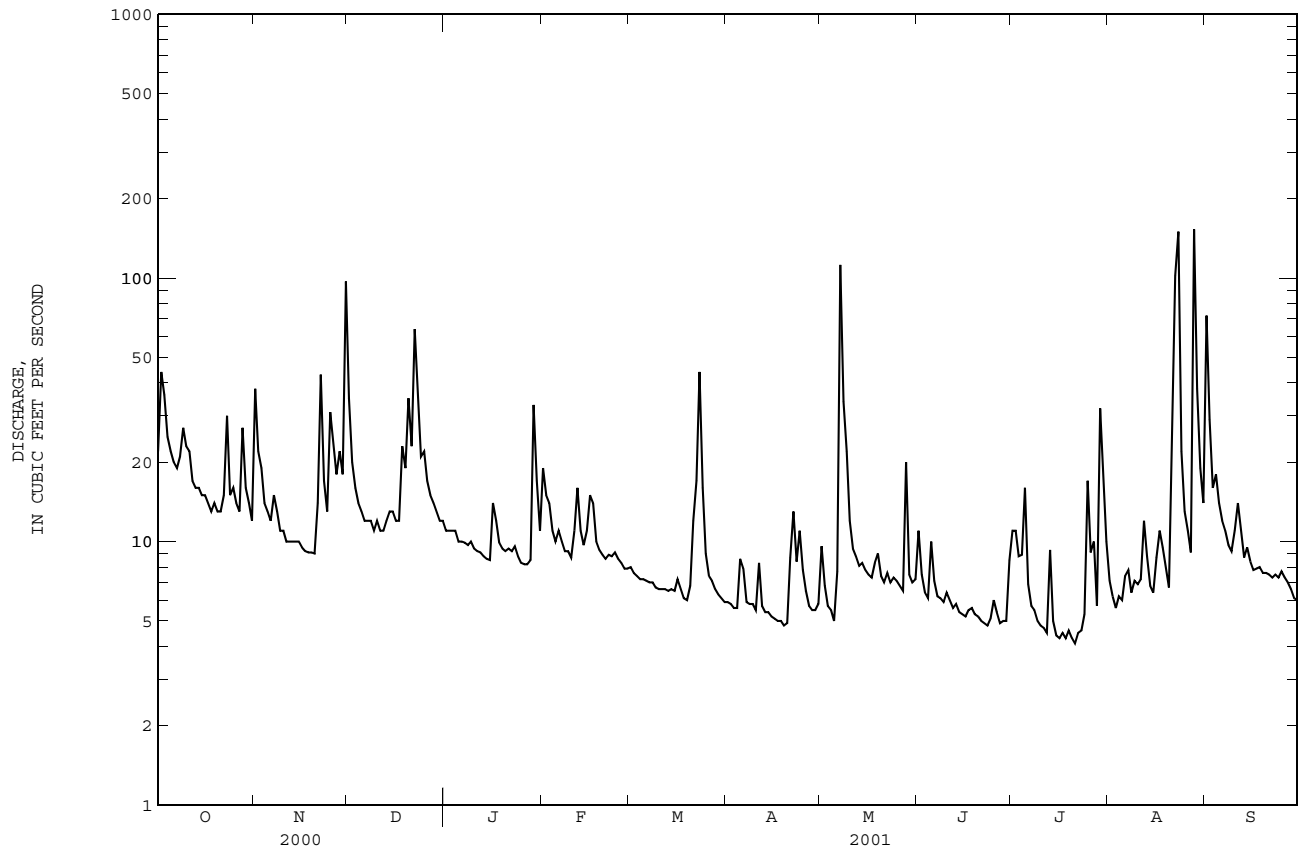
FOR 2001 WATER YEAR

WATER YEARS 1990 - 2001

ANNUAL TOTAL	7201.5	4731.5	
ANNUAL MEAN	19.7	13.0	22.4
HIGHEST ANNUAL MEAN			38.1
LOWEST ANNUAL MEAN			12.1
HIGHEST DAILY MEAN	265	Aug 23	1940
LOWEST DAILY MEAN	4.5	May 8	3.3
ANNUAL SEVEN-DAY MINIMUM	6.4	Apr 28	3.8
MAXIMUM PEAK FLOW			1330
MAXIMUM PEAK STAGE			8.82
INSTANTANEOUS LOW FLOW			2.6
ANNUAL RUNOFF (AC-FT)	14280	9380	16250
ANNUAL RUNOFF (CFSM)	2.76	1.82	3.14
ANNUAL RUNOFF (INCHES)	37.52	24.65	42.67
10 PERCENT EXCEEDS	35		22
50 PERCENT EXCEEDS	13		12
90 PERCENT EXCEEDS	8.0		6.2

e Estimated

RIO GRANDE DE LOIZA BASIN
50053025 RIO TURABO ABOVE BORINQUEN, PR--Continued



WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water years 1990 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: January 1990 to current year.

INSTRUMENTATION.-- USDH-48 and automatic sediment samplers since 1990.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 9,230 mg/L September 10, 1996; Minimum daily mean, 1 mg/L several days during several years.

SEDIMENT LOADS: Maximum daily mean, 80,900 tons (73,400 tonnes) September 10, 1996; Minimum daily mean, 0.01 ton (0.01 tonne) several days during several years.

EXTREMES FOR CURRENT YEAR 2001.--

SEDIMENT CONCENTRATION: Maximum daily mean, 1,180 mg/L August 28, 2001; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 1,670 tons (1,515 tonnes) August 28, 2001; Minimum daily mean, 0.02 ton (0.02 tonne) several days.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	22	8	.46	38	111	33	35	49	5.0
2	44	48	8.2	22	26	1.6	20	23	1.2
3	36	43	4.6	19	23	1.2	16	17	.73
4	25	8	.55	14	9	.36	14	11	.43
5	22	8	.47	13	7	.25	13	6	.22
6	20	7	.37	12	8	.24	12	5	.16
7	19	4	.19	15	15	.93	12	5	.16
8	21	3	.17	13	12	.45	12	4	.14
9	27	17	1.6	11	7	.22	11	4	.11
10	23	17	1.2	11	6	.18	12	4	.13
11	e22	e6	e.32	10	5	.15	11	4	.12
12	e17	e5	e.25	10	6	.16	11	4	.12
13	16	5	.22	10	6	.18	12	4	.13
14	16	5	.21	10	7	.20	13	4	.14
15	15	5	.20	10	8	.21	13	4	.14
16	15	5	.20	9.5	6	.17	12	4	.12
17	14	5	.19	9.2	5	.13	12	4	.13
18	13	5	.18	9.1	4	.10	23	23	2.1
19	14	5	.18	9.1	5	.12	e19	e21	e1.1
20	e13	e5	e.18	9.0	6	.15	35	83	8.3
21	13	5	.17	14	7	.26	23	68	4.3
22	15	5	.21	43	204	48	64	272	88
23	30	78	16	17	20	.94	36	61	8.3
24	15	8	.35	13	11	.36	21	9	.48
25	16	14	.69	31	51	4.4	22	11	.65
26	14	12	.47	23	35	2.3	17	12	.55
27	13	9	.31	18	44	2.1	15	10	.40
28	27	29	3.4	22	38	2.2	14	8	.29
29	16	10	.41	18	34	1.6	13	6	.20
30	14	6	.23	97	461	315	12	4	.12
31	12	6	.19	---	---	---	12	4	.12
TOTAL	599	---	42.37	559.9	---	417.16	567	---	124.09

RIO GRANDE DE LOIZA BASIN

50053025 RIO TURABO ABOVE BORINQUEN, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	11	4	.14	19	23	1.6	8.0	6	.13
2	11	5	.15	15	13	.54	7.6	4	.07
3	11	6	.17	14	6	.23	7.4	2	.03
4	11	5	.15	11	5	.13	7.2	1	.02
5	10	4	.12	10	5	.15	7.2	1	.02
6	10	3	.09	11	6	.18	7.1	1	.02
7	9.9	5	.13	10	7	.18	7.0	1	.02
8	9.7	7	.17	9.2	6	.15	7.0	1	.02
9	10	8	.23	9.2	5	.13	6.7	1	.02
10	9.4	8	.21	8.7	5	.12	6.6	1	.02
11	9.2	7	.18	11	5	.14	6.6	1	.02
12	9.1	6	.15	16	16	.74	6.6	2	.03
13	8.8	5	.12	11	6	.18	6.5	2	.04
14	8.6	5	.11	9.7	5	.12	6.6	4	.07
15	8.5	4	.10	11	4	.12	6.5	4	.06
16	14	13	.65	15	11	.62	7.2	3	.06
17	12	9	.30	14	11	.48	6.6	3	.05
18	9.9	6	.17	10	5	.13	6.1	3	.04
19	9.4	5	.14	9.3	3	.07	6.0	2	.04
20	9.2	4	.10	8.9	2	.04	6.8	2	.04
21	9.4	3	.08	8.6	4	.09	12	8	.35
22	9.2	2	.05	8.9	7	.17	17	18	.86
23	9.6	1	.03	8.8	10	.24	44	192	77
24	8.8	2	.06	9.1	12	.31	16	23	1.2
25	8.3	4	.08	8.6	12	.27	9.0	14	.34
26	8.2	5	.10	8.3	11	.24	7.4	11	.21
27	8.2	6	.13	7.9	9	.20	7.1	7	.14
28	8.5	6	.14	7.9	8	.17	6.6	4	.07
29	33	42	6.0	---	---	---	6.3	2	.04
30	17	20	1.0	---	---	---	6.1	2	.03
31	11	7	.21	---	---	---	5.9	2	.03
TOTAL	332.9	---	11.46	301.1	---	7.74	274.7	---	81.09

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	APRIL			MAY			JUNE		
1	5.9	4	.07	9.6	4	.11	11	11	.46
2	5.8	5	.08	6.8	3	.06	7.5	6	.13
3	5.6	6	.09	5.7	3	.04	6.4	6	.10
4	5.6	6	.09	5.5	4	.06	6.1	6	.10
5	8.6	9	.34	5.0	5	.07	10	7	.19
6	7.9	15	.33	7.7	21	1.9	7.1	8	.15
7	5.9	11	.18	112	661	641	6.2	7	.12
8	5.8	10	.15	34	107	18	6.1	6	.10
9	5.8	8	.13	22	45	2.9	5.9	5	.08
10	5.5	7	.10	12	13	.43	6.4	5	.08
11	8.3	5	.12	9.4	6	.15	6.0	4	.07
12	5.7	5	.07	8.8	4	.09	5.6	4	.05
13	5.4	4	.06	8.1	4	.08	5.8	4	.06
14	5.4	4	.06	8.3	4	.08	5.4	6	.10
15	5.2	4	.06	7.8	3	.07	5.3	8	.12
16	5.1	4	.06	7.5	3	.06	5.2	10	.13
17	5.0	4	.05	7.3	3	.06	5.5	8	.11
18	5.0	4	.05	8.3	3	.07	5.6	5	.08
19	4.8	4	.05	9.0	3	.07	5.3	3	.04
20	4.9	4	.05	7.4	3	.06	5.2	2	.03
21	8.7	9	.28	7.0	3	.05	5.0	2	.03
22	13	18	.71	7.6	3	.05	4.9	3	.04
23	8.4	13	.32	7.0	2	.05	4.8	3	.04
24	11	11	.34	7.3	2	.05	5.1	3	.04
25	7.8	11	.23	7.1	2	.04	6.0	3	.05
26	6.5	9	.16	6.8	2	.04	5.4	3	.04
27	5.7	7	.10	6.5	2	.04	4.9	3	.04
28	5.5	5	.07	20	25	2.0	5.0	3	.04
29	5.5	5	.07	7.5	6	.12	5.0	3	.04
30	5.8	4	.07	7.0	3	.06	8.5	8	.30
31	---	---	---	7.2	3	.06	---	---	---
TOTAL	195.1	---	4.54	393.2	---	667.92	182.2	---	2.96

RIO GRANDE DE LOIZA BASIN

50053025 RIO TURABO ABOVE BORINQUEN, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	11	15	.45	7.1	4	.07	72	5	.55
2	11	13	.38	6.2	4	.06	29	1	.08
3	8.8	12	.27	5.6	3	.05	16	1	.04
4	8.9	11	.29	6.2	3	.05	18	1	.05
5	e16	e22	e1.0	6.0	4	.07	14	1	.04
6	6.9	18	.33	7.4	5	.11	12	1	.03
7	5.7	18	.27	7.8	7	.14	11	1	.03
8	5.5	17	.26	6.4	8	.13	9.7	1	.03
9	5.0	17	.23	7.1	6	.12	9.2	1	.03
10	4.8	17	.22	6.9	4	.07	11	1	.03
11	4.7	17	.21	7.2	2	.04	14	8	.46
12	4.5	16	.20	12	2	.07	11	8	.25
13	9.3	16	.41	8.8	2	.05	8.7	4	.11
14	5.0	16	.21	6.8	2	.04	9.5	4	.10
15	4.4	13	.16	6.4	2	.03	8.4	3	.08
16	4.3	9	.11	8.7	2	.05	7.8	3	.06
17	4.5	5	.06	11	9	.39	7.9	2	.05
18	4.3	2	.02	9.5	10	.27	8.0	2	.04
19	4.6	2	.02	8.0	6	.14	7.6	1	.02
20	4.3	2	.03	6.7	5	.12	7.6	1	.02
21	4.1	3	.03	25	80	14	7.5	1	.02
22	4.5	3	.04	102	565	1070	7.3	1	.02
23	4.6	3	.04	150	670	512	7.5	1	.02
24	5.3	3	.04	22	27	1.7	7.3	1	.02
25	17	17	.96	13	6	.23	7.7	1	.02
26	9.1	9	.23	11	1	.03	7.3	1	.02
27	10	7	.19	9.1	1	.02	7.0	1	.02
28	5.7	4	.06	153	1180	1670	6.6	1	.02
29	32	105	30	38	62	7.0	6.1	1	.02
30	20	20	1.2	19	20	1.0	6.0	1	.02
31	10	5	.14	14	12	.45	---	---	---
TOTAL	255.8	---	38.06	707.9	---	3278.50	362.7	---	2.30
YEAR	4731.5		4678.19						

e Estimated

RIO GRANDE DE LOIZA BASIN

50055000 RIO GRANDE DE LOIZA AT CAGUAS, PR

LOCATION.--Lat 18°14'33", long 66°00'34", Hydrologic Unit 21010005, on right bank 250 ft (76 m) upstream from bridge on Highway 189, 1.2 mi (1.9 km) downstream from Río Turabo, and 1.8 mi (2.9 km) east of Plaza de Caguas.

DRAINAGE AREA.--89.8 mi² (232.6 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1959 (low-flow measurement only), February to November 1959 (monthly measurements only), December 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 143.28 ft (43.672 m) above mean sea level.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	208	530	308	104	e95	70	e63	e294	e83	e82	e66	837
2	559	641	e164	97	e118	66	e55	e178	e53	e82	e67	395
3	493	405	e134	92	e108	63	e51	e74	e43	e65	e52	226
4	e234	e164	e122	89	e87	64	e53	e65	e41	e65	e50	269
5	e194	e126	e112	88	e73	59	e53	e57	e74	e125	e54	206
6	173	e112	e106	85	e69	59	e54	e62	e48	e47	e54	168
7	168	e127	e104	85	e70	58	e53	e948	e40	e37	e77	150
8	283	e148	e103	84	e62	50	e51	e385	e40	e36	e58	239
9	e247	e101	e100	84	e58	e54	e51	e212	e40	e31	e73	151
10	e201	e93	e105	84	e56	50	e50	e147	e44	e29	e66	149
11	e155	e89	e101	78	71	51	e89	e103	e39	e37	e82	178
12	e143	e86	e100	76	100	49	e63	e74	e36	e34	e80	178
13	e132	e85	e102	76	e72	48	e53	e67	e37	e97	e73	150
14	e126	e88	e110	74	e57	e49	e54	e62	e34	e31	e57	132
15	e121	89	e158	72	e63	e47	e48	e55	e33	e26	e50	139
16	e162	e83	e116	82	68	e52	e45	e52	e33	e25	e113	119
17	e125	e78	e114	124	90	e51	e44	e48	e36	e27	e95	122
18	e114	e74	221	e88	68	e46	e43	e58	e36	e25	e130	129
19	e114	e72	e224	e79	61	e45	e42	e64	e34	e26	e113	116
20	e112	e70	e446	e76	61	e48	e41	e47	e33	e25	57	109
21	e140	e84	197	e72	58	e68	e64	e42	e30	e25	83	106
22	208	199	318	e74	64	232	e134	e47	e30	e25	3110	108
23	298	e148	262	e90	61	243	e89	e41	e29	e26	2850	108
24	e158	e113	152	e78	73	271	e91	e43	e31	e41	376	110
25	e113	200	151	e71	92	97	e86	e42	e32	e143	227	116
26	e136	161	137	e70	70	e76	e61	e39	e37	e114	191	106
27	e101	138	120	e67	63	e79	e58	e36	e32	e110	169	106
28	e161	115	109	e73	68	e64	e52	e151	e31	e53	714	100
29	e138	128	100	e173	---	e61	e54	e52	e29	e134	347	94
30	e110	368	99	e208	---	e68	e50	e48	e61	e192	217	90
31	e147	---	99	e87	---	e61	---	e50	---	e104	175	---
TOTAL	5774	4915	4794	2780	2056	2399	1795	3643	1199	1919	9926	5206
MEAN	186	164	155	89.7	73.4	77.4	59.8	118	40.0	61.9	320	174
MAX	559	641	446	208	118	271	134	948	83	192	3110	837
MIN	101	70	99	67	56	45	41	36	29	25	50	90
AC-FT	11450	9750	9510	5510	4080	4760	3560	7230	2380	3810	19690	10330
CFSM	2.07	1.82	1.72	1.00	.82	.86	.67	1.31	.45	.69	3.57	1.93
IN.	2.39	2.04	1.99	1.15	.85	.99	.74	1.51	.50	.79	4.11	2.16

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2001, BY WATER YEAR (WY)

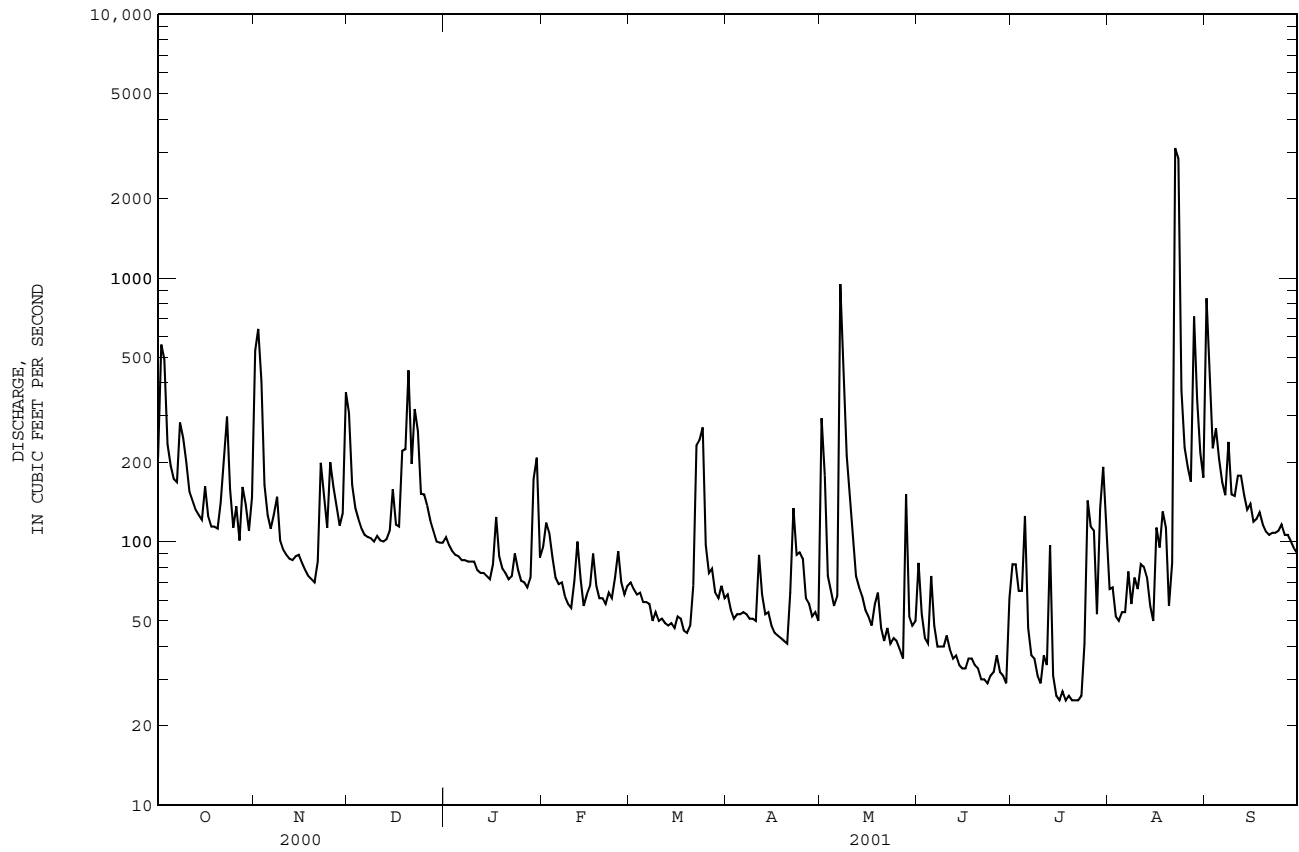
	351	319	224	151	112	94.1	89.2	218	233	217	267	321
MEAN	351	319	224	151	112	94.1	89.2	218	233	217	267	321
MAX	1910	1131	714	559	291	306	355	863	1283	660	949	1438
(WY)	1971	1988	1988	1992	1984	1989	1978	1985	1979	1961	1979	1960
MIN	44.2	64.9	33.6	45.3	35.6	23.2	30.6	33.7	34.1	21.8	51.4	37.4
(WY)	1968	1968	1968	1968	1968	1968	1995	1974	1975	1974	1994	1967

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1960 - 2001

ANNUAL TOTAL	62072	46406	
ANNUAL MEAN	170	127	
HIGHEST ANNUAL MEAN			214
LOWEST ANNUAL MEAN			526
HIGHEST DAILY MEAN	7250	Aug 23	3110
LOWEST DAILY MEAN	30	Apr 28	25
ANNUAL SEVEN-DAY MINIMUM	36	Apr 27	25
MAXIMUM PEAK FLOW			33800
MAXIMUM PEAK STAGE			21.96
INSTANTANEOUS LOW FLOW			17
ANNUAL RUNOFF (AC-FT)	123100	92050	155200
ANNUAL RUNOFF (CFSM)	1.89	1.42	2.39
ANNUAL RUNOFF (INCHES)	25.71	19.22	32.41
10 PERCENT EXCEEDS	265	208	357
50 PERCENT EXCEEDS	106	82	106
90 PERCENT EXCEEDS	48	39	40

e Estimated

RIO GRANDE DE LOIZA BASIN
50055000 RIO GRANDE DE LOIZA AT CAGUAS, PR--Continued



50055000 RIO GRANDE DE LOIZA AT CAGUAS, PR

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1959 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: October 1983 to current year.

INSTRUMENTATION.-- USDH-48 sediment sampler since October 1983. Automatic sediment sampler since 1984.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 14,500 mg/L November 27, 1987; Minimum daily mean, 5 mg/L September 30, 2001.

SEDIMENT LOADS: Maximum daily mean, 396,000 tons (359,000 tonnes) September 10, 1996; Minimum daily mean, 0.65 ton (0.59 tonne) May 25, 1995.

EXTREMES FOR CURRENT YEAR 2001.--
SEDIMENT CONCENTRATION: Maximum daily mean, 984 mg/L August 22, 2001; Minimum daily mean, 5 mg/L September 30, 2001.

SEDIMENT LOADS: Maximum daily mean, 63,000 tons (57,154 tonnes) August 22 2001; Minimum daily mean, e.86 ton (e.78 tonne) June 21-25, 2001.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (HIGH U-M-F SATUR-ATION) (MG/L) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH U-M-F SATUR-ATION) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 MF WATER (COLS./100 ML) (31625)	FECAL STREP, KF STRP, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT 11...	1200	155	218	7.8	28.4	25	7.4	95	<10	2400	200	67	17.0
FEB 14...	1315	57	284	7.6	25.6	31	8.0	96	11	3500	420	--	--
MAY 29...	1515	33	254	7.7	31.5	--	7.9	106	<10	4200	<40	78	19.6
AUG 24...	1345	339	195	7.3	28.0	--	7.1	90	<10	29000	4800	51	13.2

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT 11...	5.82	17.2	.9	1.66	79	<1.0	9.9	14.9	E.1	30.6	144	60.5	30
FEB 14...	--	--	--	--	90	--	--	--	--	--	--	--	32
MAY 29...	6.93	21.7	1	1.74	85	<1.0	10.7	19.4	.2	31.6	163	14.4	280
AUG 24...	4.45	13.1	.8	2.27	48	--	12.9	16.4	E.1	22.3	113	104	500

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
OCT 11...	.35	.02	.4	.10	.11	.21	.58	2.6	.090	<2	34.6	32	<.11
FEB 14...	.52	.08	.6	1.40	.70	2.1	2.7	12.0	.310	--	--	--	--
MAY 29...	.21	.01	.2	.08	.36	.44	.66	2.9	.110	<2	34.1	33	<.10
AUG 24...	.62	.02	.6	.09	.53	.62	1.3	5.6	.270	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 11...	M	<20.0	1380	<1	165	<.14	<2.6	<.43	<31	<.01	<16	.03
FEB 14...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 29...	<1	<20.0	930	M	172	M	<3.0	<.40	<31	<.01	--	--
AUG 24...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

RIO GRANDE DE LOIZA BASIN
50055000 RIO GRANDE DE LOIZA AT CAGUAS, PR.

WATER-QUALITY RECORDS

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)		DISCHARGE (CFS)	CONCEN- TRATION (MG/L)		DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	
	OCTOBER			NOVEMBER			DECEMBER		
1	208	82	55	530	217	625	308	400	355
2	559	157	389	641	239	740	e164	e80	e38
3	493	268	374	405	145	189	e134	e42	e16
4	e234	e161	e104	e164	e62	e29	e122	e20	e6.4
5	e194	e70	e37	e126	e22	e7.5	e112	e19	e5.5
6	173	42	20	e112	e26	e8.1	e106	e19	e5.5
7	168	20	9.2	e127	e94	e51	e104	e17	e4.6
8	283	71	88	e148	e153	e74	e103	e17	e4.6
9	e247	e95	e71	e101	e17	e4.6	e100	e17	e4.6
10	e201	e88	e56	e93	e29	e6.9	e105	e17	e4.6
11	e155	e25	e10	e89	e29	e6.9	e101	e17	e4.6
12	e143	e22	e8.1	e86	e29	e6.9	e100	e17	e4.6
13	e132	e22	e8.1	e85	e29	e6.9	e102	e17	e4.6
14	e126	e20	e6.4	e88	e23	e5.9	e110	e19	e5.5
15	e121	e20	e6.4	89	29	6.9	e158	e68	e33
16	e162	e20	e9.2	e83	e27	e6.1	e116	e55	e17
17	e125	e20	e6.4	e78	e29	e6.9	e114	e54	e17
18	e114	e19	e5.5	e74	e29	e6.9	221	84	58
19	e114	e19	e5.5	e72	e29	e6.9	e224	e223	e244
20	e112	e19	e5.5	e70	e29	e6.9	e446	e305	e424
21	e140	e42	e25	e84	e45	e13	197	77	41
22	208	88	56	199	114	88	318	129	130
23	298	121	141	e148	e134	e60	262	42	33
24	e158	e79	e46	e113	e58	e20	152	28	11
25	e113	e19	e5.5	200	83	46	151	25	10
26	e136	e36	e13	161	64	28	137	22	8.1
27	e101	e25	e7.0	138	42	16	120	20	6.4
28	e161	e45	e28	115	26	8.1	109	19	5.5
29	e138	e59	e23	128	22	7.5	100	17	4.6
30	e110	e26	e8.1	368	164	403	99	18	4.8
31	e147	e65	e32	---	---	---	99	26	6.8
TOTAL	5774	---	1658.9	4915	---	2491.9	4794	---	1518.3

RIO GRANDE DE LOIZA BASIN

50055000 RIO GRANDE DE LOIZA AT CAGUAS, PR.--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	104	34	9.4	e95	e103	e27	70	92	17
2	97	42	11	e118	e72	e24	66	96	17
3	92	49	12	e108	e49	e15	63	98	17
4	89	52	13	e87	e53	e13	64	96	17
5	88	55	13	e73	e90	e18	59	94	15
6	85	59	14	e69	e90	e16	59	91	14
7	85	67	15	e70	e88	e17	58	89	14
8	84	76	17	e62	e86	e14	50	86	12
9	84	85	19	e58	e80	e13	e54	e84	e12
10	84	93	21	e56	e111	e17	50	82	11
11	78	95	20	71	99	19	51	79	11
12	76	97	20	100	94	25	49	77	10
13	76	97	20	e72	e90	e18	48	74	9.6
14	74	95	19	e57	e80	e13	e49	e74	e9.6
15	72	93	18	e63	e89	e15	e47	e77	e10
16	82	110	26	68	92	17	e52	e79	e11
17	124	188	65	90	93	23	e51	e79	e11
18	e88	e46	e12	68	90	16	e46	e77	e10
19	e79	e95	e20	61	86	14	e45	e77	e10
20	e76	e97	e20	61	82	14	e48	e77	e10
21	e72	e93	e18	58	80	13	e68	e85	e18
22	e74	e61	e15	64	83	14	232	104	66
23	e90	e269	e63	61	87	14	243	99	96
24	e78	e95	e20	73	90	18	271	159	153
25	e71	e93	e18	92	89	22	97	74	19
26	e70	e93	e18	70	88	17	e76	e72	e16
27	e67	e93	e18	63	88	15	e79	e72	e16
28	e73	e93	e18	68	88	16	e64	e98	e17
29	e173	e83	e57	---	---	---	e61	e98	e17
30	e208	e158	e90	---	---	---	e68	e85	e18
31	e87	e55	e13	---	---	---	e61	e98	e17
TOTAL	2780	---	732.4	2056	---	477	2399	---	701.2
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	APRIL			MAY			JUNE		
1	e63	e33	e7.0	e294	e71	e88	e83	e85	e19
2	e55	e19	e2.9	e178	e23	e11	e53	e59	e8.4
3	e51	e23	e3.9	e74	e38	e10	e43	e28	e3.0
4	e53	e20	e2.8	e65	e83	e14	e41	e28	e3.0
5	e53	e19	e2.5	e57	e353	e8.1	e74	e95	e19
6	e54	e19	e2.9	e62	e53	e8.1	e48	e46	e5.9
7	e53	e20	e2.7	e948	e310	e2470	e40	e28	e3.0
8	e51	e23	e3.9	e385	e159	e170	e40	e28	e3.0
9	e51	e25	e4.1	e212	e51	e32	e40	e28	e3.0
10	e50	e25	e4.1	e147	e44	e18	e44	e28	e3.0
11	e89	e32	e6.3	e103	e38	e11	e39	e28	e3.0
12	e63	e33	e7.0	e74	e29	e6.9	e36	e21	e1.9
13	e53	e20	e2.7	e67	e29	e6.9	e37	e21	e1.9
14	e54	e19	e2.9	e62	e33	e7.0	e34	e21	e1.9
15	e48	e23	e3.9	e55	e19	e2.9	e33	e21	e1.9
16	e45	e23	e3.9	e52	e19	e2.5	e33	e21	e1.9
17	e44	e23	e3.9	e48	e23	e3.9	e36	e29	e2.6
18	e43	e23	e3.9	e58	e14	e2.4	e36	e29	e2.6
19	e42	e23	e3.9	e64	e14	e2.4	e34	e29	e2.6
20	e41	e23	e3.9	e47	e18	e2.3	e33	e29	e2.6
21	e64	e33	e7.0	e39	e22	e2.3	e37	e12	e1.0
22	e134	e22	e8.1	e47	e18	e2.3	e30	e11	e.86
23	e89	e32	e6.3	e41	e9	e1.0	e29	e11	e.86
24	e91	e32	e6.3	e43	e9	e1.0	e31	e11	e.86
25	e86	e32	e6.3	e42	e9	e1.0	e32	e11	e.86
26	e61	e33	e7.0	e39	e22	e2.3	e37	e12	e1.0
27	e58	e20	e3.1	e36	e22	e2.3	e32	e12	e1.0
28	e52	e20	e2.7	e151	e25	e10	e31	e12	e1.0
29	e54	e20	e2.7	e52	e18	e2.3	e29	e12	e1.0
30	e50	e20	e2.7	e48	e18	e2.3	e61	e87	e14
31	---	---	---	e50	e18	e2.3	---	---	---
TOTAL	1795	---	131.3	3643	---	2905.2	1199	---	115.50

RIO GRANDE DE LOIZA BASIN

50055000 RIO GRANDE DE LOIZA AT CAGUAS, PR.--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	e82	e38	e10	e66	e95	e17	837	310	2470
2	e82	e38	e10	e67	e95	e17	395	157	183
3	e65	e95	e17	e52	e95	e13	226	88	54
4	e65	e95	e17	e50	e20	e3.1	269	96	73
5	e125	e42	e14	e54	e20	e3.1	206	33	19
6	e47	e24	e2.0	e54	e20	e3.1	168	21	9.6
7	e37	e24	e2.0	e77	e38	e10	150	16	6.3
8	e36	e24	e2.0	e58	e88	e14	239	65	81
9	e31	e24	e2.0	e73	e92	e17	151	65	27
10	e29	e16	e1.5	e66	e92	e17	149	44	18
11	e37	e16	e1.5	e82	e13	e2.9	178	23	11
12	e34	e16	e1.5	e80	e13	e2.9	178	10	5.0
13	e97	e8	e2.2	e73	e92	e17	150	12	4.8
14	e31	e16	e1.5	e57	e20	e3.1	132	12	4.3
15	e26	e22	e1.5	e50	e61	e8.2	139	12	4.5
16	e25	e22	e1.5	e113	e22	e3.8	119	12	3.7
17	e27	e22	e1.5	e95	e6	e1.6	122	15	5.3
18	e25	e16	e1.1	e130	e40	e10	129	88	31
19	e26	e16	e1.1	e113	e22	e3.8	116	66	21
20	e25	e16	e1.1	57	20	3.1	109	53	15
21	e25	e16	e1.1	83	38	10	106	39	11
22	e25	e16	e1.1	3110	984	63000	108	26	7.5
23	e26	e16	e1.1	2850	737	16300	108	20	5.8
24	e41	e9	e1.0	376	159	170	110	17	5.1
25	e143	e12	e4.5	227	51	32	116	14	4.5
26	e114	e86	e26	191	43	22	106	12	3.3
27	e110	e17	e5.1	169	42	19	106	10	2.8
28	e53	e20	e3.1	714	513	2120	100	8	2.2
29	e134	e12	e4.3	347	134	128	94	6	1.6
30	e192	e43	e22	217	87	52	90	5	1.3
31	e104	e40	e11	175	40	19	---	---	---
TOTAL	1919	---	172.3	9926	---	82042.7	5206	---	3091.6
YEAR	46406		96038.30						

e Estimated

50055100 RIO CAGÜITAS NEAR AGUAS BUENAS, PR

LOCATION.--Lat 18°14'48", long 66°05'37", Hydrologic Unit 21010005, on right bank 450 ft (137 m) upstream from bridge on Highway 777, 1.0 mi (1.6 km) southeast from Aguas Buenas, 3.9 mi (6.3 km) northwest from Caguas, and 2.1 mi (3.4 km) southwest from Las Carolinas.

DRAINAGE AREA.--5.30 mi² (13.72 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1990 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 394 ft (120 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	62	8.2	5.5	6.3	5.0	3.6	6.6	3.7	5.0	3.2	4.4
2	50	65	6.5	5.4	5.4	5.2	3.3	4.0	2.6	5.0	e3.9	e4.3
3	22	40	5.9	5.5	5.1	4.4	3.4	3.5	2.4	3.8	e3.6	e4.7
4	14	14	5.6	5.3	4.8	4.4	3.6	3.5	2.8	e3.4	3.2	e4.1
5	11	11	5.5	5.3	4.7	4.3	3.4	3.3	e5.0	4.9	e3.1	e3.8
6	9.3	9.6	5.5	5.2	4.6	4.3	4.9	6.4	e4.0	e3.5	e5.7	e3.7
7	8.4	8.9	5.5	5.1	4.4	4.1	3.7	25	3.2	e3.2	e3.8	e3.5
8	10	8.3	5.4	5.1	4.3	4.0	4.9	5.4	3.3	e3.1	3.0	e3.4
9	8.1	8.0	5.4	5.1	4.6	3.9	5.2	5.1	3.1	e3.0	e5.5	e3.3
10	7.3	7.7	5.4	5.0	4.8	3.9	3.8	5.1	3.1	e3.0	e4.0	e3.2
11	6.9	7.3	5.4	4.9	8.6	3.9	4.8	4.2	e2.9	e2.9	3.1	e3.2
12	6.6	7.1	5.7	4.8	7.3	3.8	3.7	3.6	2.7	e2.9	2.8	e3.6
13	6.3	6.9	5.6	4.8	5.2	3.9	5.4	3.3	2.6	e3.8	3.8	e3.8
14	6.1	6.8	6.7	4.8	5.4	3.9	3.9	3.2	2.6	e2.9	3.3	e3.6
15	5.9	7.1	8.6	4.7	6.0	4.0	3.5	3.0	2.7	e2.7	2.8	e3.4
16	6.6	6.6	6.9	5.3	7.4	3.9	3.6	2.9	2.7	e2.9	3.1	e3.2
17	6.0	6.4	7.5	5.0	7.3	3.8	3.5	2.9	3.5	e3.3	7.8	e3.3
18	5.7	6.4	10	4.6	5.1	3.8	3.3	3.5	3.1	e7.3	4.6	e3.4
19	8.3	6.3	14	4.5	4.8	3.7	3.3	3.7	e2.7	e3.9	3.2	e3.0
20	10	6.8	16	4.6	4.9	3.5	3.8	2.8	2.6	e3.4	3.0	e2.9
21	10	8.7	9.3	4.5	4.7	5.1	7.1	2.7	2.6	e2.8	3.0	e3.0
22	11	6.7	9.7	4.4	12	5.5	7.1	2.8	2.6	e2.9	9.3	e2.9
23	7.8	6.2	8.4	4.7	8.9	6.3	6.8	2.6	2.6	e3.3	34	e2.9
24	7.6	7.0	7.2	4.4	8.5	5.9	6.9	2.5	2.5	e5.0	6.4	e2.8
25	6.5	6.5	6.7	4.3	8.2	4.8	4.7	2.5	e3.9	e4.1	4.6	e2.7
26	6.1	6.3	6.4	4.2	5.7	4.4	4.0	2.4	2.8	e4.2	e4.1	e7.4
27	5.7	6.1	6.2	4.3	5.2	4.2	3.8	2.3	2.6	e3.8	e3.8	e3.1
28	7.0	6.0	6.0	5.0	4.8	4.0	3.9	2.9	3.7	e3.5	e12	e2.8
29	6.0	5.8	5.8	25	---	3.9	3.8	2.4	e2.9	e11	6.0	e2.6
30	5.6	15	5.8	13	---	3.9	4.3	2.3	e3.0	e5.2	e4.7	e2.4
31	5.4	---	5.6	6.3	---	3.9	---	2.5	---	3.7	e4.2	---
TOTAL	312.2	376.5	222.4	180.6	169.0	133.6	131.0	128.9	90.5	123.4	168.6	104.4
MEAN	10.1	12.6	7.17	5.83	6.04	4.31	4.37	4.16	3.02	3.98	5.44	3.48
MAX	50	65	16	25	12	6.3	7.1	25	5.0	11	34	7.4
MIN	5.4	5.8	5.4	4.2	4.3	3.5	3.3	2.3	2.4	2.7	2.8	2.4
AC-FT	619	747	441	358	335	265	260	256	180	245	334	207
CFSM	1.90	2.37	1.35	1.10	1.14	.81	.82	.78	.57	.75	1.03	.66
IN.	2.19	2.64	1.56	1.27	1.19	.94	.92	.90	.64	.87	1.18	.73

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2001, BY WATER YEAR (WY)

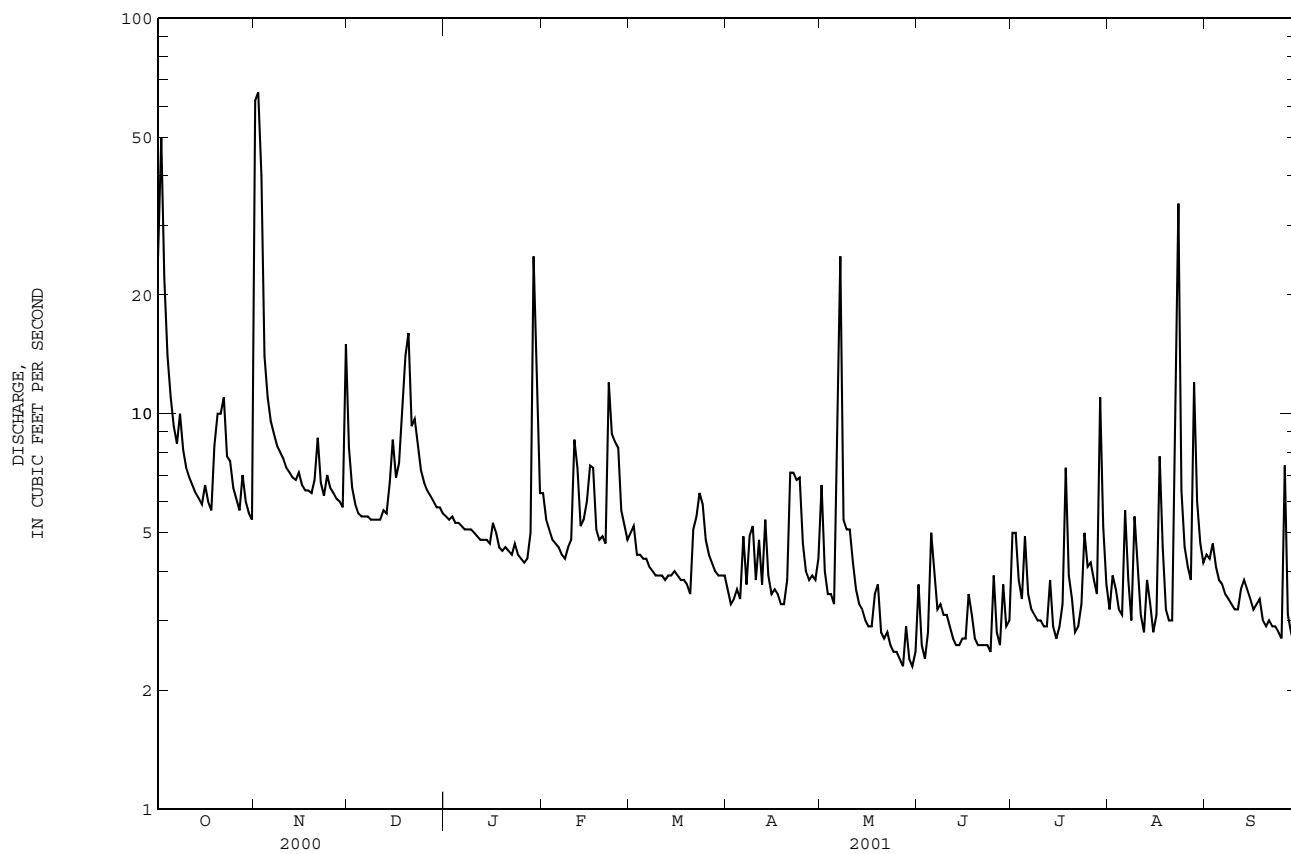
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	9.90	11.3	10.6	9.00	6.04	5.10	4.68	5.16	4.98	6.39	7.85	14.4
MAX	20.9	32.7	39.2	16.7	10.1	8.87	13.1	18.0	12.1	18.6	18.9	52.9
(WY)	1991	2000	1999	1992	1999	1990	1993	1993	1999	1993	2000	1996
MIN	3.17	2.66	2.34	2.48	2.96	2.09	1.84	2.00	1.84	1.86	1.85	2.43
(WY)	1996	1995	1995	1995	1995	1996	1995	1997	1997	1994	1994	1997

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1990 - 2001

ANNUAL TOTAL	3402.5	2141.1	
ANNUAL MEAN	9.30	5.87	8.09
HIGHEST ANNUAL MEAN			14.5
LOWEST ANNUAL MEAN			4.31
HIGHEST DAILY MEAN	393	Aug 23	65
LOWEST DAILY MEAN	3.5	Jul 22	2.3
ANNUAL SEVEN-DAY MINIMUM	3.6	Jul 21	2.5
MAXIMUM PEAK FLOW			587
MAXIMUM PEAK STAGE			12.81
INSTANTANEOUS LOW FLOW			.82
ANNUAL RUNOFF (AC-FT)	6750	4250	5860
ANNUAL RUNOFF (CFSM)	1.75	1.11	1.53
ANNUAL RUNOFF (INCHES)	23.88	15.03	20.74
10 PERCENT EXCEEDS	13	8.4	12
50 PERCENT EXCEEDS	6.1	4.6	4.7
90 PERCENT EXCEEDS	4.1	2.9	2.1

e Estimated

RIO GRANDE DE LOIZA BASIN
50055100 RIO CAGÜITAS NEAR AGUAS BUENAS, PR--Continued



50055100 RIO CAGÜITAS NEAR AGUAS BUENAS, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water years 1990 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: February 1990 to current year.

INSTRUMENTATION.-- USDH-48 and automatic sediment samplers since 1990.

REMARKS:-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 5,300 mg/L September 10, 1996; Minimum daily mean, 1 mg/L several days during several years.

SEDIMENT LOADS: Maximum daily mean, 24,500 tons (22,200 tonnes) September 10, 1996; Minimum daily mean, <0.01 ton (<0.01 tonne) June 15, 16, 2001.

EXTREMES FOR CURRENT YEAR 2001.--

SEDIMENT CONCENTRATION: Maximum daily mean, 919 mg/L November 1, 2000; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 530 tons (508 tonnes) November 1, 2000; Minimum daily mean, <0.01 ton (<0.01 tonne) June 15, 16, 2001.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	25	270	61	62	919	530	8.2	37	.90
2	50	781	254	65	477	236	6.5	20	.35
3	22	119	7.6	40	447	69	5.9	14	.23
4	14	32	1.2	14	31	1.3	5.6	11	.17
5	11	24	.69	11	8	.25	5.5	9	.13
6	9.3	19	.48	9.6	9	.22	5.5	8	.12
7	8.4	15	.34	8.9	9	.22	5.5	7	.10
8	10	31	1.0	8.3	11	.25	5.4	6	.09
9	8.1	54	1.2	8.0	13	.29	5.4	8	.11
10	7.3	34	.68	7.7	15	.32	5.4	10	.15
11	6.9	19	.36	7.3	12	.24	5.4	12	.17
12	6.6	6	.12	7.1	8	.15	5.7	12	.18
13	6.3	5	.08	6.9	4	.07	5.6	12	.18
14	6.1	5	.08	6.8	3	.05	6.7	11	.21
15	5.9	4	.07	7.1	2	.05	8.6	11	.26
16	6.6	12	.26	6.6	2	.04	6.9	11	.21
17	6.0	13	.21	6.4	2	.04	7.5	21	.50
18	5.7	9	.14	6.4	3	.05	10	86	3.3
19	8.3	87	3.9	6.3	4	.07	14	211	22
20	10	132	8.7	6.8	5	.09	16	100	5.0
21	10	148	6.1	8.7	17	.50	9.3	28	.71
22	11	253	11	6.7	22	.39	9.7	18	.48
23	7.8	202	4.3	6.2	17	.29	8.4	15	.35
24	7.6	108	2.2	7.0	13	.24	7.2	15	.28
25	6.5	51	.90	6.5	13	.22	6.7	14	.25
26	6.1	19	.32	6.3	14	.23	6.4	13	.22
27	5.7	17	.27	6.1	15	.24	6.2	12	.20
28	7.0	15	.29	6.0	14	.22	6.0	11	.18
29	6.0	12	.19	5.8	12	.19	5.8	11	.17
30	5.6	8	.12	15	262	23	5.8	10	.15
31	5.4	5	.07	---	---	---	5.6	8	.13
TOTAL	312.2	---	367.87	376.5	---	864.22	222.4	---	37.48

RIO GRANDE DE LOIZA BASIN

50055100 RIO CAGÜITAS NEAR AGUAS BUENAS, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	5.5	7	.11	6.3	47	.80	5.0	2	.03
2	5.4	6	.09	5.4	30	.44	5.2	3	.04
3	5.5	5	.07	5.1	14	.20	4.4	4	.05
4	5.3	4	.05	4.8	9	.12	4.4	4	.04
5	5.3	2	.03	4.7	7	.09	4.3	4	.04
6	5.2	1	.02	4.6	5	.06	4.3	3	.04
7	5.1	1	.01	4.4	3	.03	4.1	3	.03
8	5.1	1	.01	4.3	2	.02	4.0	2	.03
9	5.1	2	.02	4.6	1	.01	3.9	2	.02
10	5.0	4	.05	4.8	1	.01	3.9	1	.01
11	4.9	4	.05	8.6	17	.46	3.9	2	.02
12	4.8	4	.05	7.3	14	.32	3.8	2	.02
13	4.8	5	.07	5.2	3	.04	3.9	3	.03
14	4.8	7	.09	5.4	2	.03	3.9	3	.04
15	4.7	8	.11	6.0	2	.03	4.0	3	.04
16	5.3	8	.11	7.4	10	.29	3.9	3	.03
17	5.0	6	.08	7.3	18	.42	3.8	2	.02
18	4.6	4	.06	5.1	8	.12	3.8	2	.02
19	4.5	3	.04	4.8	7	.09	3.7	2	.02
20	4.6	1	.02	4.9	5	.07	3.5	2	.02
21	4.5	1	.01	4.7	4	.05	5.1	2	.03
22	4.4	1	.01	12	204	9.9	5.5	11	.26
23	4.7	1	.01	8.9	154	5.4	6.3	14	.52
24	4.4	2	.02	8.5	37	.90	5.9	16	.26
25	4.3	2	.03	8.2	24	.59	4.8	8	.11
26	4.2	3	.04	5.7	11	.16	4.4	7	.09
27	4.3	4	.04	5.2	6	.09	4.2	6	.07
28	5.0	4	.05	4.8	2	.03	4.0	5	.06
29	25	259	63	---	---	---	3.9	4	.05
30	13	186	7.8	---	---	---	3.9	3	.03
31	6.3	79	1.4	---	---	---	3.9	2	.02
TOTAL	180.6	---	73.55	169.0	---	20.77	133.6	---	2.09
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	APRIL			MAY			JUNE		
1	3.6	3	.03	6.6	10	.22	3.7	6	.06
2	3.3	7	.06	4.0	7	.08	2.6	5	.03
3	3.4	13	.12	3.5	5	.05	2.4	5	.03
4	3.6	13	.12	3.5	6	.05	2.8	6	.05
5	3.4	11	.10	3.3	6	.05	e5.0	e13	e.23
6	4.9	14	.21	6.4	27	1.1	e4.0	e6	e.06
7	3.7	7	.07	25	249	40	3.2	5	.04
8	4.9	9	.14	5.4	53	.80	3.3	4	.04
9	5.2	13	.22	5.1	32	.45	3.1	4	.03
10	3.8	9	.09	5.1	19	.31	3.1	3	.03
11	4.8	8	.11	4.2	13	.15	e2.9	e3	e.02
12	3.7	7	.07	3.6	12	.12	2.7	2	.02
13	5.4	11	.20	3.3	12	.11	2.6	2	.01
14	3.9	5	.05	3.2	12	.10	2.6	2	.01
15	3.5	3	.03	3.0	11	.09	2.7	1	<.01
16	3.6	3	.03	2.9	11	.09	2.7	1	<.01
17	3.5	3	.03	2.9	10	.08	3.5	3	.03
18	3.3	3	.03	3.5	9	.08	3.1	4	.04
19	3.3	3	.03	3.7	7	.08	e2.7	e6	e.04
20	3.8	3	.03	2.8	7	.06	2.6	8	.05
21	7.1	19	.51	2.7	8	.06	2.6	10	.07
22	7.1	20	.48	2.8	8	.06	2.6	11	.08
23	6.8	21	.40	2.6	9	.06	2.6	13	.09
24	6.9	13	.23	2.5	9	.06	2.5	15	.10
25	4.7	12	.15	2.5	10	.06	e3.9	e16	e.17
26	4.0	10	.10	2.4	10	.06	2.8	18	.13
27	3.8	7	.07	2.3	10	.06	2.6	17	.11
28	3.9	4	.05	2.9	11	.08	3.7	15	.17
29	3.8	4	.04	2.4	11	.07	e2.9	e5	e.04
30	4.3	4	.05	2.3	10	.06	e3.0	e4	e.04
31	---	---	---	2.5	8	.06	---	---	---
TOTAL	131.0	---	3.85	128.9	---	44.76	90.5	---	1.84

RIO GRANDE DE LOIZA BASIN

50055100 RIO CAGÜITAS NEAR AGUAS BUENAS, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	5.0	15	.36	3.2	25	.22	4.4	27	.32
2	5.0	14	.22	e3.9	e23	e.25	e4.3	e25	e.29
3	3.8	8	.09	e3.6	e22	e.21	e4.7	e22	e.28
4	e3.4	e49	e.89	3.2	20	.17	e4.1	e19	e.21
5	4.9	47	.62	e3.1	e18	e.14	e3.8	e17	e.17
6	e3.5	e41	e.38	e5.7	e34	e1.1	e3.7	e14	e.14
7	e3.2	e34	e.30	e3.8	e14	e.14	e3.5	e11	e.10
8	e3.1	e27	e.22	3.0	9	.07	e3.4	e9	e.08
9	e3.0	e20	e.16	e5.5	e16	e.35	e3.3	e9	e.08
10	e3.0	e12	e.09	e4.0	e11	e.13	e3.2	e10	e.08
11	e2.9	e5	e.04	3.1	8	.06	e3.2	e11	e.09
12	e2.9	e5	e.04	2.8	6	.05	e3.6	e12	e.12
13	e3.8	e5	e.05	3.8	6	.06	e3.8	e13	e.13
14	e2.9	e6	e.05	3.3	6	.05	e3.6	e14	e.13
15	e2.7	e6	e.04	2.8	5	.04	e3.4	e15	e.13
16	e2.9	e6	e.05	3.1	5	.04	e3.2	e14	e.12
17	e3.3	e6	e.05	7.8	63	2.8	e3.3	e12	e.11
18	e7.3	e36	e1.2	4.6	18	.27	e3.4	e10	e.09
19	e3.9	e13	e.14	3.2	6	.05	e3.0	e8	e.07
20	e3.4	e11	e.10	3.0	6	.05	e2.9	e7	e.05
21	e2.8	e10	e.08	3.0	5	.04	e3.0	e5	e.04
22	e2.9	e10	e.08	9.3	858	64	e2.9	e4	e.03
23	e3.3	e10	e.09	34	644	85	e2.9	e3	e.02
24	e5.0	e9	e.12	6.4	91	1.6	e2.8	e2	e.02
25	e4.1	e9	e.10	4.6	60	.75	e2.7	e2	e.02
26	e4.2	e9	e.10	e4.1	e53	e.58	e7.4	e42	e1.2
27	e3.8	e8	e.09	e3.8	e51	e.52	e3.1	e15	e.18
28	e3.5	e8	e.08	e12	e173	e9.9	e2.8	e8	e.06
29	e11	e48	e2.0	6.0	22	.38	e2.6	e6	e.04
30	e5.2	e38	e.57	e4.7	e9	e.12	e2.4	e6	e.04
31	3.7	28	.28	e4.2	e18	e.20	---	---	---
TOTAL	123.4	---	8.68	168.6	---	169.34	104.4	---	4.44
YEAR	2141.1		1598.89						

e Estimated

< Actual value is known to be less than the value shown

RIO GRANDE DE LOIZA BASIN

50055225 RIO CAGÜITAS AT VILLA BLANCA AT CAGUAS, PR

LOCATION.--Lat 18°14'55", long 66°01'40", Hydrologic Unit 21010005, on left bank, at C. 4 street Villa Blanca housing area at Caguas, 1.8 mi (2.9 km) upstream from Río Grande de Loíza, and 0.95 mi (1.53 km) northeast from Caguas Plaza.

DRAINAGE AREA.--11.7 mi² (30.3 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1990 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 164 ft (50 m), from topographic map.

REMARKS.--Records poor. Gage-height and precipitation satellite telemetry at station. Low-flow affected by pluvial discharges above 50 ft (15.24 m), upstream from station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114	162	22	12	18	11	e8.9	e22	e11	e16	e8.8	e14
2	143	257	15	12	14	12	e7.7	e12	e6.4	e16	e12	e13
3	76	143	14	13	13	10	e8.1	e10	e5.7	e11	e10	e15
4	39	43	13	12	11	10	e8.9	e10	e7.2	e9.6	e8.8	e12
5	30	31	13	12	12	10	e8.1	e9.2	e16	e16	e8.4	e11
6	24	27	13	11	11	10	e14	e22	e12	e10	e19	e11
7	31	24	13	11	11	10	e9.3	e96	e8.9	e8.8	e11	e10
8	34	22	13	11	11	10	e14	e18	e9.2	e8.4	e8.0	e9.6
9	22	21	13	11	11	9.3	e15	e16	e8.4	e8.0	e18	e9.2
10	19	20	13	11	17	9.0	e9.7	e16	e8.4	e8.0	e12	e8.8
11	17	19	13	10	37	8.8	e14	e13	e7.6	e7.6	e8.4	e8.8
12	16	18	14	10	21	8.6	e9.3	e10	e6.8	e7.6	e7.2	e10
13	15	17	15	9.9	14	8.5	e16	e9.2	e6.4	e11	e11	e11
14	14	18	23	9.8	19	8.7	e10	e8.8	e6.4	e7.6	e9.2	e10
15	14	20	39	9.6	18	8.8	e8.5	e8.0	e6.8	e6.8	e7.2	e9.6
16	66	18	21	21	24	8.9	e8.9	e7.6	e6.8	e7.7	e8.5	e8.8
17	21	17	22	12	18	8.7	e8.5	e7.6	e10	e9.2	e27	e9.2
18	17	17	35	10	12	8.4	e7.7	e10	e8.4	e25	e14	e9.6
19	17	17	e52	11	11	8.2	e7.7	e11	e6.8	e12	e8.9	e8.0
20	35	19	62	10	16	9.4	e9.7	e7.2	e6.4	e9.6	e8.0	e7.6
21	28	35	22	10	12	18	e24	e6.8	e6.4	e7.2	e8.0	e8.0
22	60	18	30	15	28	27	e24	e7.2	e6.4	e7.6	e33	e7.6
23	46	17	19	11	27	e20	e23	e6.4	e6.4	e9.2	e132	e7.6
24	30	19	18	10	33	e18	e24	e6.1	e6.0	e16	e22	e7.2
25	19	23	16	9.2	20	e14	e15	e6.1	e12	e12	e14	e6.8
26	15	16	15	9.1	15	e12	e12	e5.7	e7.2	e13	e12	e26
27	14	17	15	10	12	e11	e11	e5.3	e6.4	e11	e11	e8.4
28	18	15	e14	22	11	e10	e12	e7.7	e11	e10	e44	e7.2
29	18	15	13	108	---	e10	e11	e5.7	e7.6	e40	e20	e6.4
30	14	40	13	53	---	e10	e13	e5.2	e8.0	e17	e15	e5.6
31	16	---	13	17	---	e10	---	e6.1	---	e11	e13	---
TOTAL	1042	1145	626	503.6	477	348.3	373.0	391.9	243.0	369.9	549.4	297.0
MEAN	33.6	38.2	20.2	16.2	17.0	11.2	12.4	12.6	8.10	11.9	17.7	9.90
MAX	143	257	62	108	37	27	24	96	16	40	132	26
MIN	14	15	13	9.1	11	8.2	7.7	5.2	5.7	6.8	7.2	5.6
MED	21	19	15	11	14	10	10	8.8	7.2	10	11	9.2
AC-FT	2070	2270	1240	999	946	691	740	777	482	734	1090	589
CFSM	2.87	3.26	1.72	1.39	1.45	.96	1.06	1.08	.69	1.02	1.51	.85
IN.	3.31	3.64	1.99	1.60	1.52	1.11	1.18	1.24	.77	1.18	1.75	.94

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2001, BY WATER YEAR (WY)

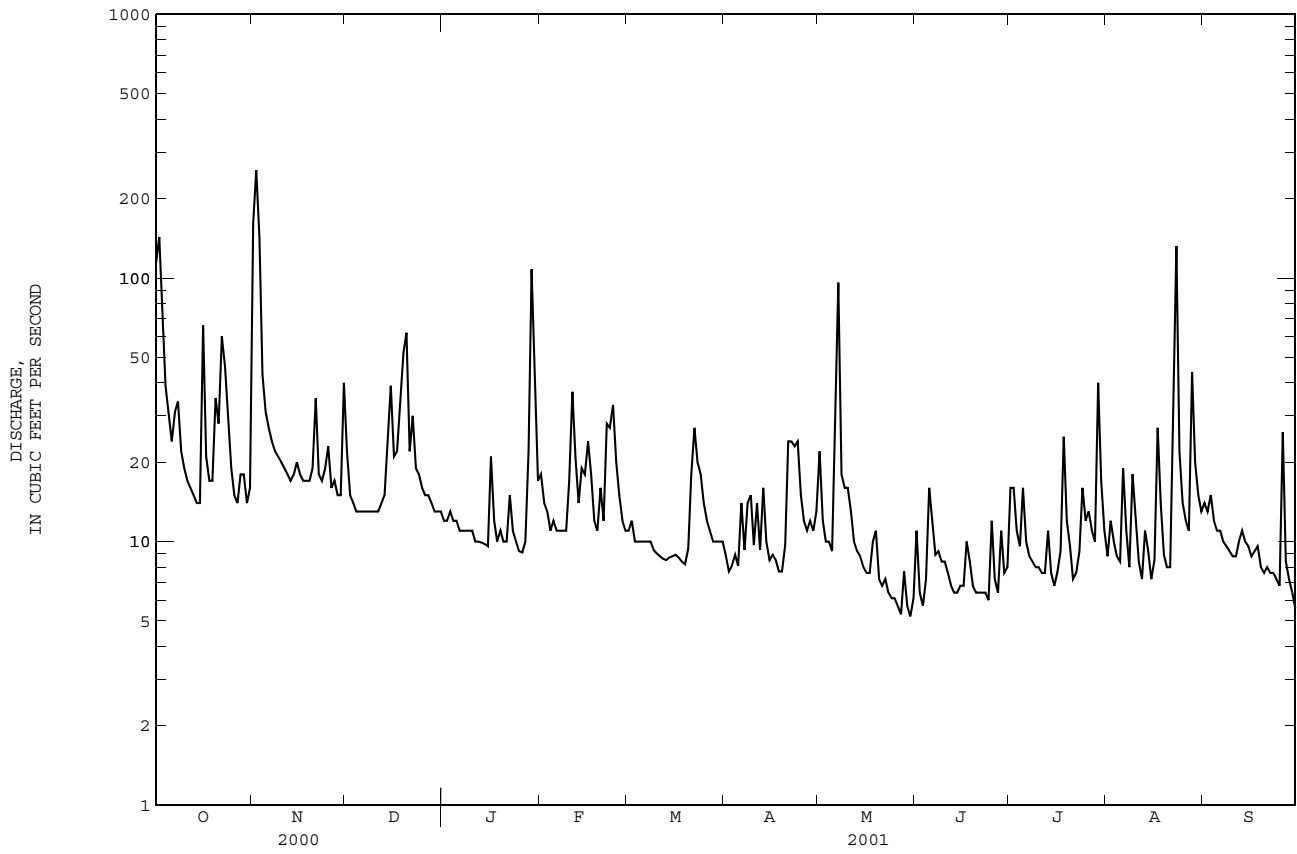
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	
MEAN	41.8	48.5	35.0	36.2	24.9	17.8	16.5	22.0	25.0	30.9	43.1	91.8
MAX	130	114	123	120	67.9	42.6	39.8	59.8	55.9	74.6	109	364
(WY)	1999	1999	1999	1992	1998	1998	1993	1993	1999	1993	1998	1996
MIN	18.7	12.2	8.87	14.2	10.8	7.54	5.49	3.35	2.86	4.13	3.82	8.82
(WY)	1996	1995	1995	1995	1992	1994	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1991 - 2001

ANNUAL TOTAL	12510.6	6366.1	
ANNUAL MEAN	34.2	17.4	37.4
HIGHEST ANNUAL MEAN			64.0
LOWEST ANNUAL MEAN			11.9
HIGHEST DAILY MEAN	1990	Aug 23	257
LOWEST DAILY MEAN	5.0	Jul 26	5.2
ANNUAL SEVEN-DAY MINIMUM	5.7	Jul 21	6.0
MAXIMUM PEAK FLOW			2340
MAXIMUM PEAK STAGE			13.54
ANNUAL RUNOFF (AC-FT)	24810	12630	27080
ANNUAL RUNOFF (CFSM)	2.92	1.49	3.19
ANNUAL RUNOFF (INCHES)	39.74	20.22	43.38
10 PERCENT EXCEEDS	52	27	53
50 PERCENT EXCEEDS	19	12	16
90 PERCENT EXCEEDS	9.8	7.4	6.6

e Estimated

RIO GRANDE DE LOIZA BASIN
50055225 RIO CAGÜITAS AT VILLA BLANCA AT CAGUAS, PR--Continued



RIO GRANDE DE LOIZA BASIN

50055250 RIO CAGÜITAS AT HIGHWAY 30 AT CAGUAS, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°15'11", long 66°01'26", at Highway 30 bridge, and 0.8 mi (1.3 km) east of Caguas plaza.

DRAINAGE AREA.--14.1 mi² (36.5 km²).

PERIOD OF RECORD.--Water years 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, SOLVED (PER-CENT (HIGH LEVEL) (MG/L) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT 12...	1530	17	512	7.9	32.2	5.1	7.8	107	11	6300	E640	180	46.9
FEB 14...	1530	38	470	7.5	26.4	40	5.2	64	33	E60000	31000	--	--
MAY 21...	1130	6.3	545	7.1	29.2	18	5.8	75	11	3100	<10	180	46.0
AUG 20...	1145	11	559	7.7	29.3	--	3.8	50	10	21000	4400	180	49.3

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS S04) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (TONS PER DAY) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDEd (MG/L) (00530)
OCT 12...	15.3	29.1	.9	2.84	161	<1.0	41.8	32.9	E.1	33.0	298	13.4	14
FEB 14...	--	--	--	--	130	--	--	--	--	--	--	--	36
MAY 21...	14.8	32.8	1	2.03	151	<1.0	44.8	38.5	.2	33.8	303	5.17	<10
AUG 20...	14.2	32.0	1	2.38	148	--	51.9	39.7	E.1	33.8	312	9.54	62

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, ORGANIC (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
OCT 12...	.68	.10	.8	.25	.11	.36	1.1	5.0	.130	<2	38.1	45	<.11
FEB 14...	--	<.01	.2	<.01	--	.38	.61	2.7	<.020	--	--	--	--
MAY 21...	.37	.16	.5	.39	.46	.85	1.4	6.1	.250	E2	37.2	62	<.10
AUG 20...	.34	.11	.5	1.10	.50	1.6	2.1	9.1	.320	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL RECOV-ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 12...	M	<20.0	560	<1	184	<.14	<2.6	<.43	<31	<.01	<16	.06
FEB 14...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 21...	<1	<20.0	530	M	354	<.01	<3.0	<.40	<31	<.01	E3	.03
AUG 20...	--	--	--	--	--	--	--	--	--	--	--	--

E -- Estimated value
 < -- Less than
 M -- Presence verified, not quantified

50055390 RIO BAIROA AT BAIROA, PR

LOCATION.--Lat 18°15'32", long 66°02'24", Hydrologic Unit 21010005, on left bank, in the Bairoa Housing Area, 1.6 mi (2.6 km) northwest of Caguas Plaza, 4.1 mi (6.6 km) east of Aguas Buenas Plaza, and 0.9 mi (1.4 km) northwest of Escuela Pepita Garriga.

DRAINAGE AREA.--5.08 mi² (13.15 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1990 to current year.

REVISED RECORDS.--WDR PR-2,000-1; 1999. The maximum discharge, 2,480 ft³/s, revised, June 15, 1999, gage-height, 12.04 ft.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 131 ft (40 m), from topographic map.

REMARKS.--Records poor. Gage-height and precipitation satellite telemetry at station. Mean daily discharge affected by domestic discharges from school nearby station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	131	6.9	6.1	6.2	5.1	4.7	14	5.6	e5.0	e3.2	17
2	43	83	6.2	6.0	5.5	5.1	4.5	5.2	4.5	e4.1	e3.4	6.3
3	12	60	6.1	5.7	5.3	4.8	4.5	4.8	4.1	e3.3	e4.6	11
4	7.8	13	6.5	5.8	5.3	4.9	6.9	4.7	3.9	e3.8	e4.3	6.6
5	7.9	11	5.8	5.9	5.3	5.1	4.7	4.3	3.8	e5.2	e4.1	5.3
6	7.4	9.7	5.7	6.3	5.3	4.8	32	16	3.7	e3.3	e6.9	5.2
7	12	9.9	5.5	6.5	5.3	4.5	5.7	90	3.7	e3.5	e5.4	5.0
8	16	8.9	5.4	6.2	5.4	4.5	4.9	5.9	3.6	e3.2	4.8	5.1
9	8.4	8.7	5.3	6.1	5.8	4.7	4.8	5.7	3.8	e3.3	21	4.7
10	7.6	9.6	5.9	6.2	6.2	4.8	4.5	5.3	3.9	e3.4	8.2	4.7
11	7.5	8.3	e5.7	6.3	11	4.8	5.2	6.3	4.0	e3.6	5.1	5.1
12	7.4	7.3	e6.3	6.2	9.6	4.8	4.8	5.3	4.0	e3.1	4.5	5.2
13	7.1	7.2	7.0	6.0	5.3	4.9	4.9	5.0	3.9	e4.0	4.9	4.8
14	7.1	8.2	7.0	6.1	4.9	5.4	4.5	4.7	3.8	3.1	4.9	4.6
15	6.8	14	8.2	6.0	4.7	5.4	5.5	4.6	4.6	3.1	4.7	4.5
16	60	7.9	6.7	7.4	5.2	4.7	5.4	4.7	e5.9	2.8	7.4	4.5
17	12	7.0	15	6.8	5.3	4.5	5.7	4.9	e4.2	2.7	9.3	4.6
18	11	7.3	9.4	6.2	4.6	4.8	4.8	5.9	e4.3	125	6.8	4.8
19	22	8.1	e8.1	6.1	4.8	4.9	4.1	6.1	e3.9	4.7	6.3	4.5
20	46	8.7	e12	6.1	5.0	5.1	4.1	5.0	e3.9	e3.2	6.0	4.4
21	14	9.4	7.1	6.2	5.0	7.0	20	4.8	e4.1	e3.1	6.0	4.5
22	18	7.8	7.0	6.7	10	9.5	16	5.3	e3.8	e3.3	17	4.5
23	11	6.9	6.9	6.2	9.6	6.1	49	5.4	e3.7	e3.4	23	4.4
24	10	8.2	6.3	5.8	6.5	5.2	8.5	5.5	e3.9	e4.5	6.8	4.4
25	9.3	7.4	6.2	5.9	6.0	5.2	5.5	5.3	e5.1	e4.2	6.2	4.6
26	8.9	6.9	6.2	6.0	5.5	5.0	5.2	5.4	e3.9	e3.9	6.1	13
27	8.5	7.6	6.1	6.2	5.3	5.0	e4.9	5.0	e3.9	e3.5	6.2	5.5
28	11	7.9	6.1	7.5	4.9	5.0	e5.1	5.5	e16	e3.3	13	4.5
29	9.0	7.3	6.1	45	---	4.9	4.8	4.3	e3.7	e27	6.9	4.3
30	8.7	11	6.4	12	---	4.6	5.1	4.1	e3.6	e13	7.3	4.4
31	8.6	---	6.6	6.6	---	4.5	---	4.0	---	e3.6	6.9	---
TOTAL	452.0	509.2	215.7	238.1	168.8	159.6	250.3	263.0	134.8	266.2	231.2	172.0
MEAN	14.6	17.0	6.96	7.68	6.03	5.15	8.34	8.48	4.49	8.59	7.46	5.73
MAX	60	131	15	45	11	9.5	49	90	16	125	23	17
MIN	6.8	6.9	5.3	5.7	4.6	4.5	4.1	4.0	3.6	2.7	3.2	4.3
AC-FT	897	1010	428	472	335	317	496	522	267	528	459	341
CFSM	2.87	3.34	1.37	1.51	1.19	1.01	1.64	1.67	.88	1.69	1.47	1.13
IN.	3.31	3.73	1.58	1.74	1.24	1.17	1.83	1.93	.99	1.95	1.69	1.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2001, BY WATER YEAR (WY)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	
MEAN	12.4	13.4	11.8	9.35	6.42	5.05	5.26	6.82	7.48	8.75	11.9	20.0
MAX	25.3	30.8	29.8	14.7	8.81	8.41	9.23	13.6	27.4	22.0	37.5	76.9
(WY)	1991	2000	2000	1996	1997	1999	1996	2000	1999	1999	2000	1996
MIN	4.30	3.74	3.07	4.12	3.42	2.87	2.61	2.91	2.72	3.49	4.09	4.50
(WY)	1992	1998	1998	1995	1994	1994	1992	1994	1995	2000	1991	1991

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

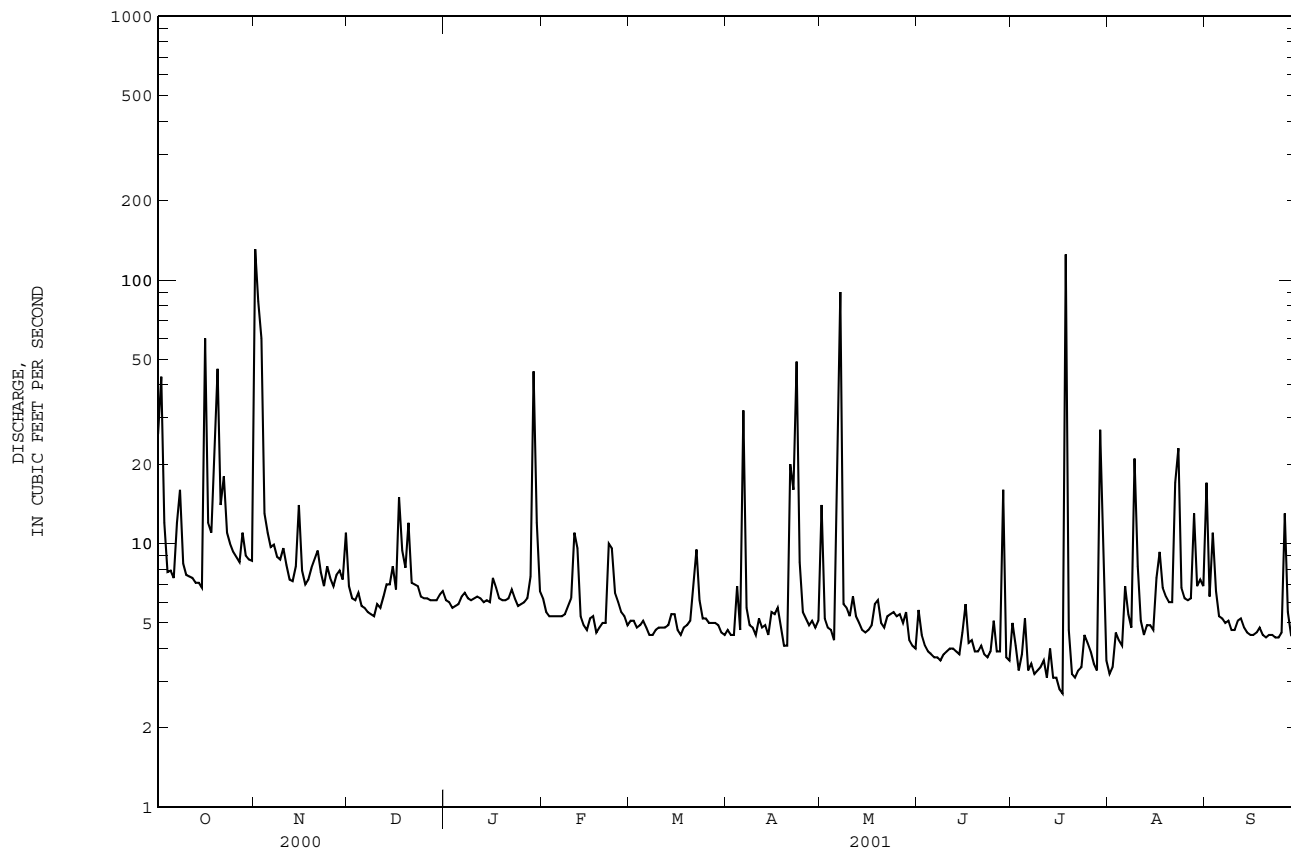
FOR 2001 WATER YEAR

WATER YEARS 1991 - 2001

ANNUAL TOTAL	4931.2	3060.9
ANNUAL MEAN	13.5	8.39
HIGHEST ANNUAL MEAN		9.89
LOWEST ANNUAL MEAN		16.8
HIGHEST DAILY MEAN	894	131
LOWEST DAILY MEAN	2.3	2.7
ANNUAL SEVEN-DAY MINIMUM	2.4	3.2
MAXIMUM PEAK FLOW		1050
MAXIMUM PEAK STAGE		9.10
ANNUAL RUNOFF (AC-FT)	9780	6070
ANNUAL RUNOFF (CFSM)	2.65	1.65
ANNUAL RUNOFF (INCHES)	36.11	22.41
10 PERCENT EXCEEDS	19	12
50 PERCENT EXCEEDS	6.9	5.5
90 PERCENT EXCEEDS	3.5	3.9

e Estimated

RIO GRANDE DE LOIZA BASIN
50055390 RIO BAIROA AT BAIROA, PR--Continued



RIO GRANDE DE LOIZA BASIN

50055390 RIO BAIROA AT BAIROA, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water years 1991 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1994 to current year.

INSTRUMENTATION.-- USDH-48 and automatic sediment samplers since 1991.

REMARKS:-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 7,040 mg/L September 10, 1996; Minimum daily mean, 1 mg/L several days during several years.

SEDIMENT LOADS: Maximum daily mean, 37,900 tons (34,300 tonnes) September 10, 1996; Minimum daily mean, 0.01 ton (0.01 tonne) several days during several years.

EXTREME FOR CURRENT YEAR 2001.--

SEDIMENT CONCENTRATION: Maximum daily mean, 410 mg/L November 1, 2001; Minimum daily mean, 1 mg/L June 6 and September 25, 2001.

SEDIMENT LOADS: Maximum daily mean, 511 tons (464 tonnes) November 1, 2001; Minimum daily mean, 0.01 ton (0.01 tonne) June 6 and July 17, 2001.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)
	DISCHARGE (CFS)	CONCENTRATION (MG/L)		DISCHARGE (CFS)	CONCENTRATION (MG/L)		DISCHARGE (CFS)	CONCENTRATION (MG/L)	
OCTOBER			NOVEMBER			DECEMBER			
1	26	72	18	131	410	511	6.9	10	.19
2	43	86	25	83	249	214	6.2	7	.12
3	12	37	1.2	60	172	54	6.1	7	.12
4	7.8	29	.61	13	36	1.3	6.5	7	.12
5	7.9	22	.46	11	27	.79	5.8	6	.09
6	7.4	15	.29	9.7	22	.57	5.7	6	.10
7	12	29	1.6	9.9	21	.57	5.5	9	.13
8	16	40	3.5	8.9	21	.51	5.4	11	.16
9	8.4	21	.49	8.7	20	.47	5.3	11	.16
10	7.6	20	.40	9.6	16	.42	5.9	11	.18
11	7.5	17	.35	8.3	13	.28	e5.7	e12	e.18
12	7.4	12	.25	7.3	10	.19	e6.3	e12	e.20
13	7.1	7	.14	7.2	7	.14	7.0	12	.22
14	7.1	3	.06	8.2	4	.10	7.0	11	.22
15	6.8	3	.05	14	29	3.9	8.2	14	.40
16	60	226	229	7.9	16	.34	6.7	6	.11
17	12	25	.85	7.0	9	.16	15	34	2.9
18	11	13	.38	7.3	4	.07	9.4	22	.58
19	22	53	11	8.1	4	.08	e8.1	e24	e.61
20	46	161	95	8.7	4	.10	e12	e24	e.91
21	14	41	1.7	9.4	5	.13	7.1	15	.30
22	18	48	3.7	7.8	6	.13	7.0	13	.24
23	11	12	.38	6.9	7	.13	6.9	11	.21
24	10	7	.19	8.2	8	.18	6.3	12	.20
25	9.3	7	.18	7.4	9	.17	6.2	13	.21
26	8.9	7	.17	6.9	10	.18	6.2	13	.22
27	8.5	7	.15	7.6	10	.21	6.1	11	.18
28	11	17	.68	7.9	8	.17	6.1	9	.15
29	9.0	17	.42	7.3	6	.12	6.1	9	.15
30	8.7	13	.33	11	20	.89	6.4	8	.15
31	8.6	17	.40	---	---	---	6.6	7	.12
TOTAL	452.0	---	396.93	509.2	---	791.30	215.7	---	9.83

RIO GRANDE DE LOIZA BASIN

50055390 RIO BAIROA AT BAIROA, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	6.1	5	.08	6.2	17	.29	5.1	4	.06
2	6.0	4	.06	5.5	13	.20	5.1	5	.07
3	5.7	8	.12	5.3	10	.14	4.8	5	.07
4	5.8	15	.23	5.3	9	.13	4.9	6	.08
5	5.9	22	.34	5.3	8	.12	5.1	7	.09
6	6.3	27	.45	5.3	8	.11	4.8	7	.10
7	6.5	23	.40	5.3	7	.10	4.5	8	.10
8	6.2	19	.31	5.4	6	.09	4.5	8	.09
9	6.1	14	.23	5.8	6	.09	4.7	7	.09
10	6.2	10	.17	6.2	5	.08	4.8	7	.09
11	6.3	9	.15	11	30	1.4	4.8	7	.09
12	6.2	8	.13	9.6	26	.98	4.8	7	.09
13	6.0	7	.11	5.3	14	.21	4.9	7	.10
14	6.1	6	.10	4.9	13	.17	5.4	7	.11
15	6.0	7	.12	4.7	11	.14	5.4	8	.11
16	7.4	8	.16	5.2	9	.12	4.7	8	.10
17	6.8	9	.17	5.3	6	.09	4.5	8	.09
18	6.2	10	.16	4.6	6	.08	4.8	8	.10
19	6.1	10	.17	4.8	7	.09	4.9	8	.10
20	6.1	11	.18	5.0	8	.11	5.1	8	.11
21	6.2	10	.17	5.0	9	.12	7.0	8	.15
22	6.7	10	.18	10	29	1.1	9.5	25	1.3
23	6.2	9	.16	9.6	32	1.9	6.1	17	.28
24	5.8	9	.14	6.5	6	.11	5.2	14	.20
25	5.9	9	.15	6.0	4	.07	5.2	11	.16
26	6.0	10	.16	5.5	4	.07	5.0	9	.12
27	6.2	10	.17	5.3	5	.07	5.0	6	.08
28	7.5	10	.20	4.9	4	.06	5.0	7	.09
29	45	227	113	---	---	---	4.9	7	.09
30	12	45	2.0	---	---	---	4.6	5	.07
31	6.6	25	.45	---	---	---	4.5	4	.05
TOTAL	238.1	---	120.62	168.8	---	8.24	159.6	---	4.43
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	4.7	5	.06	14	35	2.9	5.6	8	.11
2	4.5	6	.07	5.2	20	.28	4.5	6	.08
3	4.5	6	.08	4.8	17	.22	4.1	5	.06
4	6.9	18	.55	4.7	14	.18	3.9	4	.04
5	4.7	10	.13	4.3	11	.13	3.8	2	.02
6	32	94	33	16	25	4.5	3.7	1	.01
7	5.7	37	.58	90	161	108	3.7	3	.03
8	4.9	33	.43	5.9	15	.25	3.6	4	.04
9	4.8	30	.38	5.7	7	.10	3.8	6	.06
10	4.5	26	.32	5.3	5	.07	3.9	5	.05
11	5.2	23	.32	6.3	4	.07	4.0	4	.04
12	4.8	18	.24	5.3	3	.05	4.0	3	.03
13	4.9	14	.19	5.0	3	.05	3.9	2	.02
14	4.5	11	.13	4.7	4	.05	3.8	3	.03
15	5.5	12	.17	4.6	4	.05	4.6	3	.04
16	5.4	13	.19	4.7	5	.06	e5.9	e9	e.39
17	5.7	15	.23	4.9	5	.07	e4.2	e11	e.13
18	4.8	15	.20	5.9	6	.09	e4.3	e11	e.13
19	4.1	14	.15	6.1	6	.10	e3.9	e11	e.12
20	4.1	12	.13	5.0	6	.08	e3.9	e10	e.11
21	20	76	8.1	4.8	6	.07	e4.1	e8	e.09
22	16	49	4.3	5.3	5	.07	e3.8	e5	e.05
23	49	163	58	5.4	5	.07	e3.7	e3	e.03
24	8.5	22	.59	5.5	5	.07	e3.9	e4	e.04
25	5.5	10	.16	5.3	5	.07	e5.1	e5	e.07
26	5.2	8	.11	5.4	5	.07	e3.9	e6	e.06
27	e4.9	e6	.08	5.0	5	.07	e3.9	e6	e.07
28	e5.1	e4	.06	5.5	15	.31	e16	e54	e23
29	4.8	4	.05	4.3	12	.14	e3.7	e7	e.07
30	5.1	8	.24	4.1	10	.12	e3.6	e6	e.06
31	---	---	---	4.0	9	.10	---	---	---
TOTAL	250.3	---	109.24	263.0	---	118.46	134.8	---	25.08

RIO GRANDE DE LOIZA BASIN

50055390 RIO BAIROA AT BAIROA, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	e5.0	e6	e.08	e3.2	e17	e.14	17	317	68
2	e4.1	e8	e.11	e3.4	e15	e.13	6.3	15	.26
3	e3.3	e6	e.05	e4.6	e13	e.16	11	29	1.3
4	e3.8	e6	e.06	e4.3	e13	e.15	6.6	15	.27
5	e5.2	e12	e.34	e4.1	e13	e.14	5.3	11	.16
6	e3.3	e6	e.05	e6.9	e19	e.53	5.2	9	.12
7	e3.5	e4	e.04	e5.4	e21	e.31	5.0	6	.08
8	e3.2	e3	e.03	4.8	20	.26	5.1	4	.06
9	e3.3	e2	e.02	21	74	16	4.7	4	.05
10	e3.4	e2	e.02	8.2	24	.75	4.7	4	.04
11	e3.6	e2	e.02	5.1	29	.39	5.1	3	.04
12	e3.1	e2	e.02	4.5	25	.30	5.2	3	.04
13	e4.0	e2	e.02	4.9	22	.29	4.8	3	.03
14	3.1	2	.02	4.9	19	.25	4.6	2	.03
15	3.1	2	.02	4.7	16	.21	4.5	2	.03
16	2.8	2	.02	7.4	16	.32	4.5	2	.02
17	2.7	2	.01	9.3	25	.89	4.6	2	.03
18	125	319	357	6.8	24	.43	4.8	2	.03
19	4.7	37	.49	6.3	20	.34	4.5	2	.02
20	e3.2	e30	e.26	6.0	17	.28	4.4	2	.02
21	e3.1	e24	e.20	6.0	14	.23	4.5	2	.02
22	e3.3	e18	e.16	17	48	7.1	4.5	2	.02
23	e3.4	e14	e.13	23	58	6.2	4.4	2	.02
24	e4.5	e15	e.18	6.8	14	.25	4.4	2	.02
25	e4.2	e16	e.18	6.2	7	.12	4.6	1	.02
26	e3.9	e17	e.18	6.1	7	.12	13	35	2.8
27	e3.5	e17	e.16	6.2	7	.12	5.5	12	.19
28	e3.3	e17	e.15	13	54	3.3	4.5	8	.10
29	e27	e115	e19	6.9	10	.18	4.3	5	.06
30	e13	e40	e2.7	7.3	6	.13	4.4	4	.05
31	e3.6	e19	e.18	6.9	4	.08	---	---	---
TOTAL	266.2	---	381.90	231.2	---	40.10	172.0	---	73.93
YEAR	3060.9		2080.06						

e Estimated

RIO GRANDE DE LOIZA BASIN

50055400 RIO BAIROA NEAR CAGUAS, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°15'28", long 66°02'13", at bridge on Highway 1, about 2.5 mi (4.0 km) upstream from Río Grande de Loíza, and 1.4 mi (2.3 km) north of Caguas plaza.

DRAINAGE AREA.--5.4 mi² (14.0 km²).

PERIOD OF RECORD.--Water years 1958, 1962-66, 1973-74, 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL AS (MG/L) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT 12...	1330	7.0	407	8.0	28.4	1.5	6.7	86	<10	34000	E360	150	37.1
FEB 22...	1345	12	287	7.5	25.1	38	7.5	91	13	40000	5300	--	--
MAY 21...	1345	4.1	424	7.8	28.6	2.7	9.2	.0	<10	4000	210	150	36.9
AUG 20...	1400	3.7	419	7.4	29.2	--	5.7	74	<10	3800	730	150	37.1

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT 12...	15.0	20.4	.7	3.77	149	<1.0	15.1	28.5	E.1	29.9	239	4.50	<10
FEB 22...	--	--	--	--	95	--	--	--	--	--	--	--	31
MAY 21...	14.9	23.8	.8	3.40	146	10	13.8	32.5	.2	31.1	244	2.68	<10
AUG 20...	14.6	21.7	.8	3.59	139	--	14.3	34.6	E.1	30.8	240	2.38	20

DATE	NITRO-GEN, NITRATE (MG/L AS N) (00620)	NITRO-GEN, NITRITE (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, ORGANIC (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	ARSENIC, TOTAL (MG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
OCT 12...	1.26	.04	1.3	.15	.14	.29	1.6	7.0	.210	E2	85.8	37	<.11
FEB 22...	1.34	.06	1.4	.26	.52	.78	2.2	9.6	.340	--	--	--	--
MAY 21...	--	<.01	1.0	.06	.30	.36	1.4	6.0	.310	3	73.3	52	<.10
AUG 20...	1.15	.05	1.2	.10	.39	.49	1.7	7.5	.320	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY, TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE, TOTAL (MG/L AS CN) (00720)	PHENOLS, TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 12...	1	<20.0	210	<1	60	<.14	<2.6	<.43	<31	<.01	<16	.05
FEB 22...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 21...	<1	<20.0	110	<1	50	<.01	<3.0	<.40	<31	<.01	E2	.03
AUG 20...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
E -- Estimated value

RIO GRANDE DE LOIZA BASIN

50055750 RIO GURABO BELOW EL MANGO, PR

LOCATION.--Lat 18°14'02", long 65°53'07", Hydrologic Unit 21010005, on left bank, 2.43 mi (3.91 km) northeast of Plaza de Juncos, 1.3 mi (2.1 km) southeast of Escuela La Placita and 0.35 mi (0.56 km) southwest of El Mango.

DRAINAGE AREA.--22.3 mi² (57.8 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1990 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 230 ft (70 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station. Low-flow is affected by sewage discharges from a water treatment plant, 0.60 mi (0.96 m) upstream from gaging station since 1990.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	463	14	9.4	9.8	5.2	6.7	69	67	28	12	441
2	188	557	12	8.9	9.2	5.6	6.1	37	41	13	e8.7	288
3	147	159	15	8.9	8.1	4.5	5.7	11	15	30	7.9	130
4	52	42	12	8.8	7.5	4.1	5.9	7.6	8.3	8.9	e8.6	48
5	28	26	10	8.2	7.3	4.0	6.5	6.4	26	19	31	23
6	20	21	9.3	7.8	7.0	4.0	9.6	6.2	15	12	e9.7	17
7	17	19	9.0	7.8	6.8	3.8	6.9	316	7.4	7.0	8.4	14
8	31	17	8.9	7.7	6.7	3.4	5.6	62	6.0	5.7	6.2	13
9	23	15	9.0	7.6	6.4	3.4	5.2	44	5.3	4.9	5.6	11
10	18	15	8.9	7.4	6.3	3.4	5.6	27	4.6	4.6	38	12
11	14	13	8.4	7.2	17	3.3	5.2	32	4.2	5.1	17	12
12	12	12	8.9	6.7	14	3.2	6.8	14	4.0	82	8.4	10
13	11	12	17	6.6	13	3.0	6.9	13	4.6	146	6.6	15
14	11	11	16	6.3	8.3	3.0	7.3	11	4.4	21	5.2	12
15	11	16	49	6.1	8.6	3.4	5.4	8.4	3.8	11	4.9	80
16	9.8	15	17	10	10	3.3	4.7	7.2	3.6	7.9	8.2	28
17	9.7	11	28	16	19	3.1	4.3	6.9	4.4	6.4	6.1	379
18	9.3	11	92	7.8	8.8	3.0	4.1	7.0	5.7	5.4	14	122
19	9.1	11	140	7.3	6.7	2.8	3.7	9.6	4.5	5.1	8.3	22
20	9.4	9.9	93	7.4	5.8	3.1	3.6	7.1	3.6	4.8	20	13
21	9.0	12	55	7.0	5.7	8.5	4.7	6.3	3.1	4.1	11	20
22	40	18	31	6.8	7.1	277	11	8.0	3.0	3.8	1220	13
23	29	23	20	7.1	7.5	66	10	7.0	2.8	3.9	651	16
24	17	17	15	6.8	9.8	41	28	6.6	3.0	7.3	100	18
25	12	94	13	6.8	16	22	22	8.3	4.1	8.4	33	16
26	11	22	12	7.4	6.7	12	17	7.9	4.1	8.9	23	9.7
27	9.7	16	11	7.3	5.4	13	e16	6.2	3.0	9.8	19	8.3
28	18	18	10	9.3	4.7	8.9	8.5	94	6.0	6.0	159	7.6
29	16	22	12	41	---	7.8	5.8	16	6.8	26	39	15
30	11	14	14	37	---	7.4	5.2	8.4	60	59	21	9.7
31	9.8	---	10	11	---	7.3	---	16	---	17	16	---
TOTAL	849.8	1711.9	780.4	311.4	249.2	543.5	244.0	887.1	334.3	582.0	2526.8	1823.3
MEAN	27.4	57.1	25.2	10.0	8.90	17.5	8.13	28.6	11.1	18.8	81.5	60.8
MAX	188	557	140	41	19	277	28	316	67	146	1220	441
MIN	9.0	9.9	8.4	6.1	4.7	2.8	3.6	6.2	2.8	3.8	4.9	7.6
AC-FT	1690	3400	1550	618	494	1080	484	1760	663	1150	5010	3620
CFSM	1.23	2.56	1.13	.45	.40	.79	.36	1.28	.50	.84	3.66	2.73
IN.	1.42	2.86	1.30	.52	.42	.91	.41	1.48	.56	.97	4.22	3.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2001, BY WATER YEAR (WY)

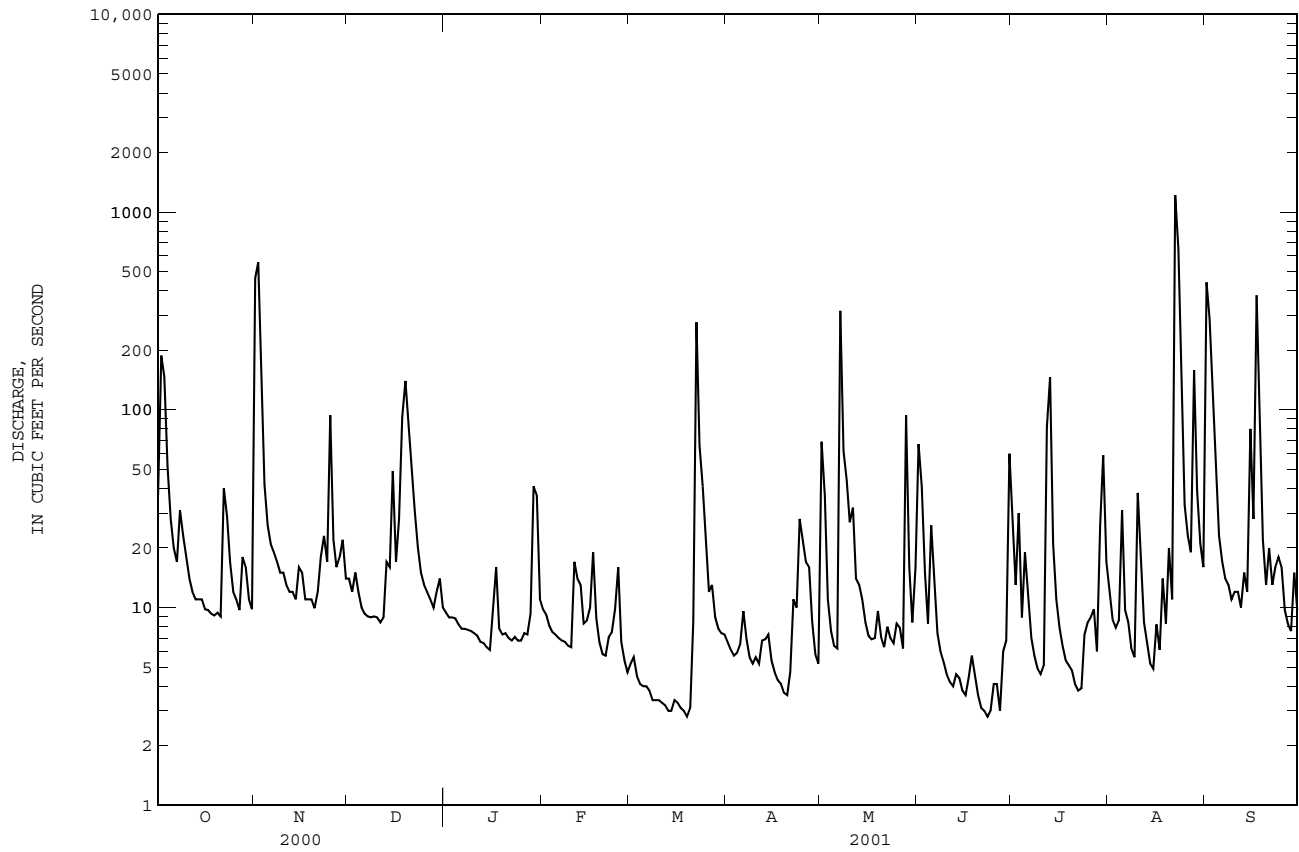
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	55.1	82.0	44.7	37.6	27.0	11.8	8.37	24.8	38.4	39.8	44.7	85.7
MAX	161	252	166	103	66.7	18.1	11.0	123	117	147	110	196
(WY)	1991	2000	1999	1996	1995	1991	1993	1992	1992	1993	1998	1998
MIN	4.01	13.6	10.7	6.34	8.90	5.63	5.29	4.83	9.65	6.64	10.2	21.4
(WY)	1993	1996	1998	1995	2001	1993	1995	1990	2000	2000	1993	1997

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1990 - 2001

ANNUAL TOTAL	9948.7	10843.7	
ANNUAL MEAN	27.2	29.7	42.4
HIGHEST ANNUAL MEAN			54.4
LOWEST ANNUAL MEAN			22.0
HIGHEST DAILY MEAN	557	Nov 2	1220
LOWEST DAILY MEAN	3.6	May 9	2.8
ANNUAL SEVEN-DAY MINIMUM	4.2	May 4	3.1
MAXIMUM PEAK FLOW			8630
MAXIMUM PEAK STAGE			19.06
ANNUAL RUNOFF (AC-FT)	19730	21510	30730
ANNUAL RUNOFF (CFSM)	1.22	1.33	1.90
ANNUAL RUNOFF (INCHES)	16.60	18.09	25.84
10 PERCENT EXCEEDS	56	41	74
50 PERCENT EXCEEDS	11	9.7	12
90 PERCENT EXCEEDS	5.1	4.4	4.8

e Estimated

RIO GRANDE DE LOIZA BASIN
50055750 RIO GURABO BELOW EL MANGO, PR--Continued



50056400 RIO VALENCIANO NEAR JUNCOS, PR

LOCATION.--Lat 18°12'58", long 65°55'34", Hydrologic Unit 21010005, on left bank at Highway 919, 0.5 mi (0.8 km) upstream from Quebrada Don Víctor, 1.7 mi (2.7 km) upstream from Río Gurabo and 1.0 mi (1.6 km) south of Juncos.

DRAINAGE AREA.--16.4 mi² (42.5 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1971 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 320 ft (98 m), from topographic map.

REMARKS.--Records poor. Minor diversion from public water supply tank, 0.5 mi upstream, during low flow. Gage-height and precipitation satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Approximate discharges (no stages were recorded) of major floods are as follows: Sept. 6, 1960, 37,100 ft³/s (1,050 m³/s), Oct. 9, 1970, 18,200 ft³/s (515 m³/s).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	293	41	13	26	8.3	4.8	120	6.4	22	5.3	265
2	198	367	23	12	18	7.5	5.2	34	5.0	14	5.8	63
3	114	112	24	13	17	6.3	4.0	9.0	3.3	8.7	5.3	37
4	48	45	17	11	11	5.9	4.5	6.1	3.0	6.6	7.1	31
5	36	33	15	11	13	6.2	4.1	5.0	4.4	39	4.9	26
6	30	28	14	9.8	11	5.6	3.3	6.7	3.8	9.2	11	e19
7	31	24	13	9.9	8.9	5.5	4.8	408	5.1	5.6	18	13
8	49	21	13	10	9.1	5.4	5.4	67	2.5	5.7	7.0	12
9	40	20	12	14	9.1	5.7	4.8	29	2.2	4.4	9.2	12
10	42	17	16	10	10	5.0	3.9	15	1.8	4.3	15	15
11	32	16	13	9.6	33	5.1	14	16	1.8	13	8.3	13
12	28	15	13	9.1	39	4.4	5.4	6.6	1.5	80	5.2	11
13	25	14	14	10	16	4.7	3.6	5.3	2.6	77	4.4	24
14	24	14	23	8.8	12	3.5	3.7	4.9	1.6	14	3.7	21
15	24	18	27	8.1	15	3.1	3.7	4.2	1.4	8.6	4.5	34
16	21	16	16	42	21	4.0	2.7	3.8	2.5	8.9	23	13
17	20	14	17	42	25	3.4	2.3	3.7	2.0	4.8	5.5	203
18	19	17	79	11	11	3.5	2.6	5.2	1.9	7.3	5.0	53
19	19	14	75	23	9.5	3.2	2.0	7.9	1.8	6.0	13	16
20	19	11	197	13	8.8	4.5	1.8	3.6	1.3	4.5	17	12
21	18	17	51	9.5	8.1	24	9.5	3.7	e1.4	4.1	6.6	e25
22	68	53	105	11	8.1	234	19	8.7	1.2	3.8	1800	e18
23	57	44	31	16	10	36	17	6.1	1.9	3.3	616	20
24	31	29	21	9.1	12	16	26	7.0	e2.9	12	60	11
25	28	76	17	8.9	12	8.7	13	7.9	3.3	23	29	9.8
26	21	29	16	9.2	8.5	8.0	6.9	5.1	2.1	30	19	11
27	24	24	15	8.0	7.7	8.9	3.5	3.7	1.5	7.7	18	9.3
28	53	20	14	8.9	7.2	6.2	2.9	38	4.9	4.1	81	6.3
29	22	30	20	29	---	5.6	3.0	5.8	6.8	23	62	11
30	16	61	15	16	---	6.5	3.7	4.1	34	32	25	7.9
31	17	---	13	11	---	6.0	---	14	---	8.1	17	---
TOTAL	1228	1492	980	426.9	397.0	460.7	191.1	865.1	115.9	494.7	2911.8	1022.3
MEAN	39.6	49.7	31.6	13.8	14.2	14.9	6.37	27.9	3.86	16.0	93.9	34.1
MAX	198	367	197	42	39	234	26	408	34	80	1800	265
MIN	16	11	12	8.0	7.2	3.1	1.8	3.6	1.2	3.3	3.7	6.3
AC-FT	2440	2960	1940	847	787	914	379	1720	230	981	5780	2030
CFSM	2.42	3.03	1.93	.84	.86	.91	.39	1.70	.24	.97	5.73	2.08
IN.	2.79	3.38	2.22	.97	.90	1.05	.43	1.96	.26	1.12	6.60	2.32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2001, BY WATER YEAR (WY)

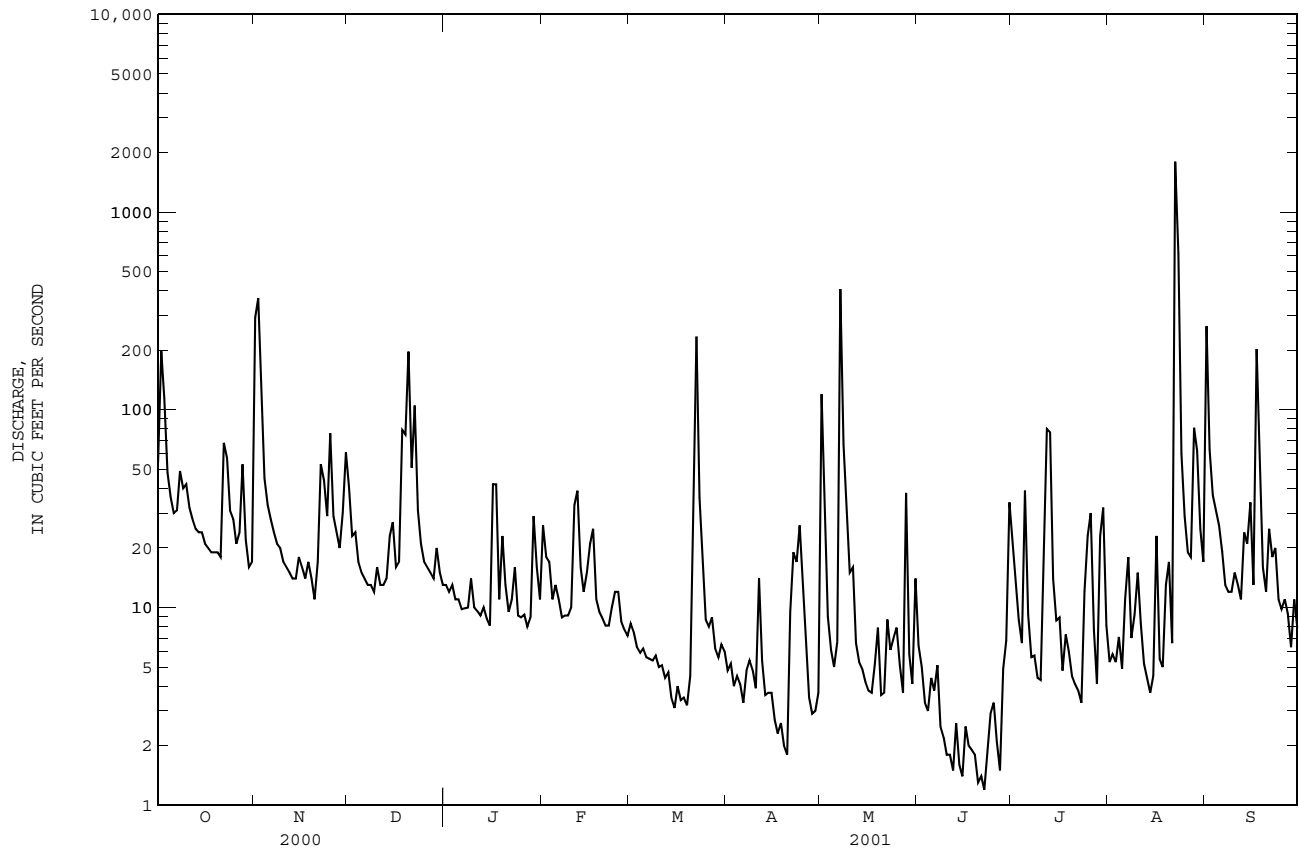
	76.0	89.3	53.2	27.3	19.8	18.2	14.5	44.6	47.2	44.8	62.1	86.3
MEAN	76.0	89.3	53.2	27.3	19.8	18.2	14.5	44.6	47.2	44.8	62.1	86.3
MAX	293	461	550	79.6	47.9	39.7	41.7	268	188	163	231	285
(WY)	1986	1988	1988	1998	1984	1973	1985	1985	1979	1981	1979	1998
MIN	19.9	16.8	11.0	11.4	7.21	6.04	5.17	5.02	3.86	4.61	4.71	10.8
(WY)	1993	1996	1990	1976	1974	2000	1995	1990	2001	1994	1994	1987

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1971 - 2001

ANNUAL TOTAL	10378.4	10585.5	
ANNUAL MEAN	28.4	29.0	48.8
HIGHEST ANNUAL MEAN			121
LOWEST ANNUAL MEAN			17.1
HIGHEST DAILY MEAN	1020	Aug 23	1800
LOWEST DAILY MEAN	2.3	May 3	1.2
ANNUAL SEVEN-DAY MINIMUM	3.2	Apr 27	1.6
MAXIMUM PEAK FLOW			23000
MAXIMUM PEAK STAGE			22.04
ANNUAL RUNOFF (AC-FT)	20590	21000	35330
ANNUAL RUNOFF (CFSM)	1.73	1.77	2.97
ANNUAL RUNOFF (INCHES)	23.54	24.01	40.40
10 PERCENT EXCEEDS	54	43	72
50 PERCENT EXCEEDS	13	12	18
90 PERCENT EXCEEDS	3.9	3.5	6.6

e Estimated

RIO GRANDE DE LOIZA BASIN
50056400 RIO VALENCIANO NEAR JUNCOS, PR--Continued



RIO GRANDE DE LOIZA BASIN

50056400 RIO VALENCIANO NEAR JUNCOS, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water years 1983 to 1986 and water year 1989 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1994 to current year.

INSTRUMENTATION.-- USDH-48 and automatic sediment samplers since 1984.

REMARKS:-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 8,340 mg/L September 10, 1996; Minimum daily mean, 1 mg/L several days during several years.

SEDIMENT LOADS: Maximum daily mean, 263,000 tons (238,000 tonnes) September 10,1996; Minimum daily mean, 0.01 ton (0.01 tonne) several days.

EXTREMES FOR CURRENT YEAR 2001.--

SEDIMENT CONCENTRATION: Maximum daily mean, 2,440 mg/L August 22, 2001; Minimum daily mean, 2 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 69,400 tons (62,960 tonnes) August 22, 2001; Minimum daily mean, 0.02 ton (.02 tonne) April 20, 2001.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	54	146	24	293	1190	2400	41	46	6.8
2	198	638	913	367	1090	2140	23	12	.77
3	114	214	108	112	245	91	24	14	.88
4	48	52	6.6	45	52	6.5	17	15	.69
5	36	53	5.2	33	37	3.3	15	15	.61
6	30	54	4.4	28	33	2.5	14	12	.44
7	31	53	4.4	24	30	1.9	13	8	.28
8	49	95	15	21	26	1.5	13	5	.18
9	40	37	4.5	20	20	1.1	12	5	.17
10	42	65	9.0	17	14	.63	16	5	.21
11	32	9	.76	16	9	.39	13	5	.18
12	28	12	.88	15	9	.36	13	5	.18
13	25	16	1.1	14	9	.34	14	5	.19
14	24	20	1.3	14	9	.35	23	5	.32
15	24	19	1.2	18	9	.44	27	71	5.6
16	21	18	1.0	16	9	.38	16	122	5.2
17	20	17	.90	14	9	.35	17	109	4.9
18	19	16	.82	17	9	.42	79	172	48
19	19	16	.79	14	9	.33	75	192	71
20	19	16	.80	11	9	.28	197	544	482
21	18	15	.75	17	8	.38	51	187	26
22	68	246	119	53	100	30	105	270	149
23	57	138	32	44	122	18	31	106	9.1
24	31	162	14	29	69	5.4	21	52	3.0
25	28	113	8.5	76	183	48	17	37	1.7
26	21	95	5.4	29	77	6.1	16	30	1.3
27	24	85	5.6	24	74	4.8	15	23	.89
28	53	154	28	20	70	3.7	14	15	.55
29	22	170	10	30	63	5.9	20	32	2.2
30	16	168	7.1	61	159	62	15	23	.94
31	17	166	7.8	---	---	---	13	31	1.1
TOTAL	1228	---	1341.80	1492	---	4836.35	980	---	824.38

RIO GRANDE DE LOIZA BASIN

50056400 RIO VALENCIANO NEAR JUNCOS, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	13	48	1.7	26	79	6.6	8.3	10	.22
2	12	65	2.1	18	37	1.9	7.5	6	.12
3	13	73	2.5	17	28	1.3	6.3	2	.04
4	11	51	1.5	11	24	.67	5.9	3	.05
5	11	26	.78	13	20	.68	6.2	4	.07
6	9.8	10	.27	11	15	.46	5.6	5	.08
7	9.9	27	.72	8.9	12	.28	5.5	6	.10
8	10	46	1.3	9.1	9	.23	5.4	9	.13
9	14	65	2.3	9.1	7	.17	5.7	11	.17
10	10	74	2.0	10	5	.14	5.0	12	.17
11	9.6	50	1.3	33	63	7.9	5.1	11	.15
12	9.1	24	.60	39	163	18	4.4	9	.10
13	10	4	.09	16	169	7.2	4.7	7	.09
14	8.8	2	.05	12	142	4.5	3.5	5	.05
15	8.1	2	.04	15	105	4.4	3.1	6	.05
16	42	82	21	21	74	4.1	4.0	6	.07
17	42	100	20	25	139	9.8	3.4	7	.06
18	11	26	.79	11	101	3.2	3.5	7	.07
19	23	39	2.7	9.5	68	1.7	3.2	7	.06
20	13	31	1.1	8.8	34	.80	4.5	7	.08
21	9.5	23	.58	8.1	12	.27	24	7	.46
22	11	19	.60	8.1	28	.62	234	439	521
23	16	35	1.8	10	47	1.3	36	94	10
24	9.1	19	.47	12	60	1.9	16	24	1.1
25	8.9	15	.36	12	48	1.6	8.7	15	.36
26	9.2	11	.27	8.5	33	.77	8.0	11	.23
27	8.0	7	.16	7.7	19	.39	8.9	6	.17
28	8.9	7	.17	7.2	12	.24	6.2	4	.06
29	29	70	8.5	---	---	---	5.6	3	.05
30	16	127	5.8	---	---	---	6.5	3	.04
31	11	79	2.3	---	---	---	6.0	2	.04
TOTAL	426.9	---	83.85	397.0	---	81.12	460.7	---	535.44
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	APRIL			MAY			JUNE		
1	4.8	4	.05	120	450	457	6.4	13	.22
2	5.2	5	.07	34	80	11	5.0	9	.12
3	4.0	7	.07	9.0	20	.51	3.3	8	.07
4	4.5	8	.09	6.1	10	.17	3.0	7	.06
5	4.1	7	.08	5.0	4	.06	4.4	6	.07
6	3.3	6	.05	6.7	4	.07	3.8	5	.05
7	4.8	5	.07	408	1180	4330	5.1	6	.08
8	5.4	6	.08	67	163	53	2.5	7	.05
9	4.8	6	.08	29	78	7.9	2.2	8	.05
10	3.9	6	.07	15	27	1.1	1.8	8	.04
11	14	7	.26	16	11	.56	1.8	8	.04
12	5.4	7	.10	6.6	13	.22	1.5	9	.04
13	3.6	8	.07	5.3	13	.19	2.6	9	.06
14	3.7	8	.08	4.9	12	.16	1.6	10	.05
15	3.7	7	.07	4.2	11	.12	1.4	11	.04
16	2.7	6	.05	3.8	10	.10	2.5	16	.24
17	2.3	6	.04	3.7	9	.09	2.0	50	.26
18	2.6	5	.03	5.2	8	.11	1.9	45	.23
19	2.0	5	.03	7.9	7	.15	1.8	41	.20
20	1.8	4	.02	3.6	6	.06	1.3	35	.13
21	9.5	4	.10	3.7	5	.05	e1.4	e25	e.09
22	19	4	.21	8.7	5	.11	1.2	15	.05
23	17	4	.18	6.1	4	.07	1.9	8	.04
24	26	74	6.0	7.0	6	.11	e2.9	e12	e.07
25	13	76	2.8	7.9	8	.17	3.3	17	.15
26	6.9	55	1.1	5.1	7	.10	2.1	23	.13
27	3.5	34	.33	3.7	5	.05	1.5	29	.11
28	2.9	11	.08	38	82	14	4.9	33	.45
29	3.0	5	.04	5.8	19	.32	6.8	33	.61
30	3.7	5	.05	4.1	14	.16	34	69	11
31	---	---	---	14	36	2.5	---	---	---
TOTAL	191.1	---	12.35	865.1	---	4880.21	115.9	---	14.80

RIO GRANDE DE LOIZA BASIN

50056400 RIO VALENCIANO NEAR JUNCOS, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	22	52	3.6	5.3	15	.22	265	1250	3680
2	14	30	1.2	5.8	10	.15	63	262	54
3	8.7	28	.66	5.3	5	.07	37	78	7.9
4	6.6	26	.47	7.1	5	.09	31	51	4.3
5	39	75	11	4.9	4	.06	26	50	3.7
6	9.2	10	.27	11	16	1.6	e19	e50	e2.6
7	5.6	9	.13	18	38	2.3	13	38	1.4
8	5.7	8	.12	7.0	11	.23	12	27	.85
9	4.4	7	.08	9.2	9	.23	12	24	.75
10	4.3	6	.07	15	35	2.0	15	21	.87
11	13	5	.17	8.3	23	.54	13	18	.63
12	80	514	502	5.2	15	.21	11	15	.46
13	77	194	64	4.4	11	.14	24	47	4.0
14	14	55	2.1	3.7	8	.08	21	40	3.4
15	8.6	36	.85	4.5	5	.06	34	150	16
16	8.9	21	.50	23	48	3.9	13	148	5.2
17	4.8	19	.25	5.5	25	.38	203	569	874
18	7.3	19	.36	5.0	17	.23	53	287	48
19	6.0	17	.28	13	20	1.1	16	134	5.9
20	4.5	15	.18	17	35	1.9	12	112	3.5
21	4.1	12	.13	6.6	20	.36	e25	e85	e6.7
22	3.8	9	.10	1800	2440	69400	e18	e81	e3.8
23	3.3	7	.06	616	808	2430	20	78	4.5
24	12	7	.24	60	111	21	11	25	.71
25	23	41	3.6	29	38	3.4	9.8	17	.45
26	30	68	9.0	19	28	1.4	11	10	.30
27	7.7	28	.61	18	26	1.3	9.3	9	.23
28	4.1	25	.27	81	229	94	6.3	9	.15
29	23	50	7.8	62	150	34	11	8	.22
30	32	66	7.6	25	84	5.7	7.9	7	.16
31	8.1	21	.46	17	45	2.2	---	---	---
TOTAL	494.7	---	618.16	2911.8	---	72008.85	1022.3	---	4734.68
YEAR	10585.5		89971.99						

e Estimated

RIO GRANDE DE LOIZA BASIN

50057000 RIO GURABO AT GURABO, PR

LOCATION.--Lat 18°15'30", long 65°58'05", Hydrologic Unit 21010005, on left bank, at bridge on Highway 181, 0.3 mi (0.5 km) east of Gurabo, and 4.5 mi (7.6 km) upstream from Río Grande de Loíza.

DRAINAGE AREA.--60.2 mi² (155.9 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1958 (occasional low-flow measurements only), January to September 1959 (monthly measurements only), October 1959 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 131.58 ft (40.106 m) above mean sea level. Prior to Oct. 1, 1989 datum 5.0 ft (1.5 m) higher.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station. Low flow affected by diversions for water supply about, 400 ft (121 m) upstream from station by PRASA.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	146	895	76	41	30	22	21	121	52	80	24	580
2	318	1420	46	38	34	25	18	147	76	35	20	311
3	418	468	47	38	27	18	17	47	44	38	18	204
4	151	133	43	36	23	14	33	32	27	25	17	102
5	119	84	36	33	22	14	24	24	34	40	29	72
6	89	68	34	32	22	13	68	26	44	33	22	56
7	90	57	33	31	19	13	64	802	27	19	27	49
8	89	52	32	34	19	12	49	127	22	14	22	53
9	98	48	32	36	19	11	38	128	18	12	21	39
10	79	44	35	31	19	11	27	60	15	11	29	41
11	60	40	34	30	49	9.4	26	76	12	13	48	41
12	53	38	33	28	54	8.7	32	40	10	29	25	39
13	47	39	44	28	37	9.9	25	34	9.8	254	19	44
14	44	41	52	27	25	10	21	30	11	53	16	40
15	44	91	97	27	26	11	19	27	8.9	27	14	92
16	49	57	69	42	30	12	15	23	7.6	21	30	77
17	41	43	73	85	52	12	10	20	14	18	25	412
18	39	42	177	37	29	11	8.6	21	11	19	21	253
19	38	40	240	34	22	11	8.0	33	e19	16	20	61
20	42	37	343	35	20	11	5.4	23	11	14	35	38
21	100	38	152	28	20	28	8.8	19	8.7	12	28	46
22	138	65	154	27	23	451	41	25	8.5	11	1930	38
23	129	79	95	34	26	139	60	e27	7.2	10	4250	39
24	90	60	68	26	29	104	87	24	7.0	16	195	33
25	67	185	57	23	44	61	81	23	14	29	115	39
26	57	71	51	22	29	37	50	28	14	e26	88	25
27	52	54	47	21	22	34	e43	21	9.7	e23	75	25
28	83	44	44	23	17	28	e32	127	12	17	196	18
29	75	67	44	78	---	22	19	54	19	23	132	20
30	51	61	55	88	---	21	16	30	55	92	82	28
31	51	---	43	31	---	22	---	39	---	39	62	---
TOTAL	2947	4461	2386	1124	788	1206.0	966.8	2258	628.4	1069	7635	2915
MEAN	95.1	149	77.0	36.3	28.1	38.9	32.2	72.8	20.9	34.5	246	97.2
MAX	418	1420	343	88	54	451	87	802	76	254	4250	580
MIN	38	37	32	21	17	8.7	5.4	19	7.0	10	14	18
AC-FT	5850	8850	4730	2230	1560	2390	1920	4480	1250	2120	15140	5780
CFSM	1.58	2.47	1.28	.60	.47	.65	.54	1.21	.35	.57	4.09	1.61
IN.	1.82	2.76	1.47	.69	.49	.75	.60	1.40	.39	.66	4.72	1.80

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2001, BY WATER YEAR (WY)

	MEAN	219	216	147	63.9	47.2	38.4	39.8	132	122	108	161	231
MAX	1414	1045	863	204	131	97.5	108	746	468	376	610	1225	
(WY)	1971	1988	1988	1992	1989	1985	1978	1985	1970	1993	1979	1960	
MIN	16.0	23.7	10.7	16.4	12.6	11.2	13.1	12.7	16.8	14.9	24.8	8.76	
(WY)	1968	1996	1968	1968	1968	1965	1995	1990	1972	2000	1967	1967	

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

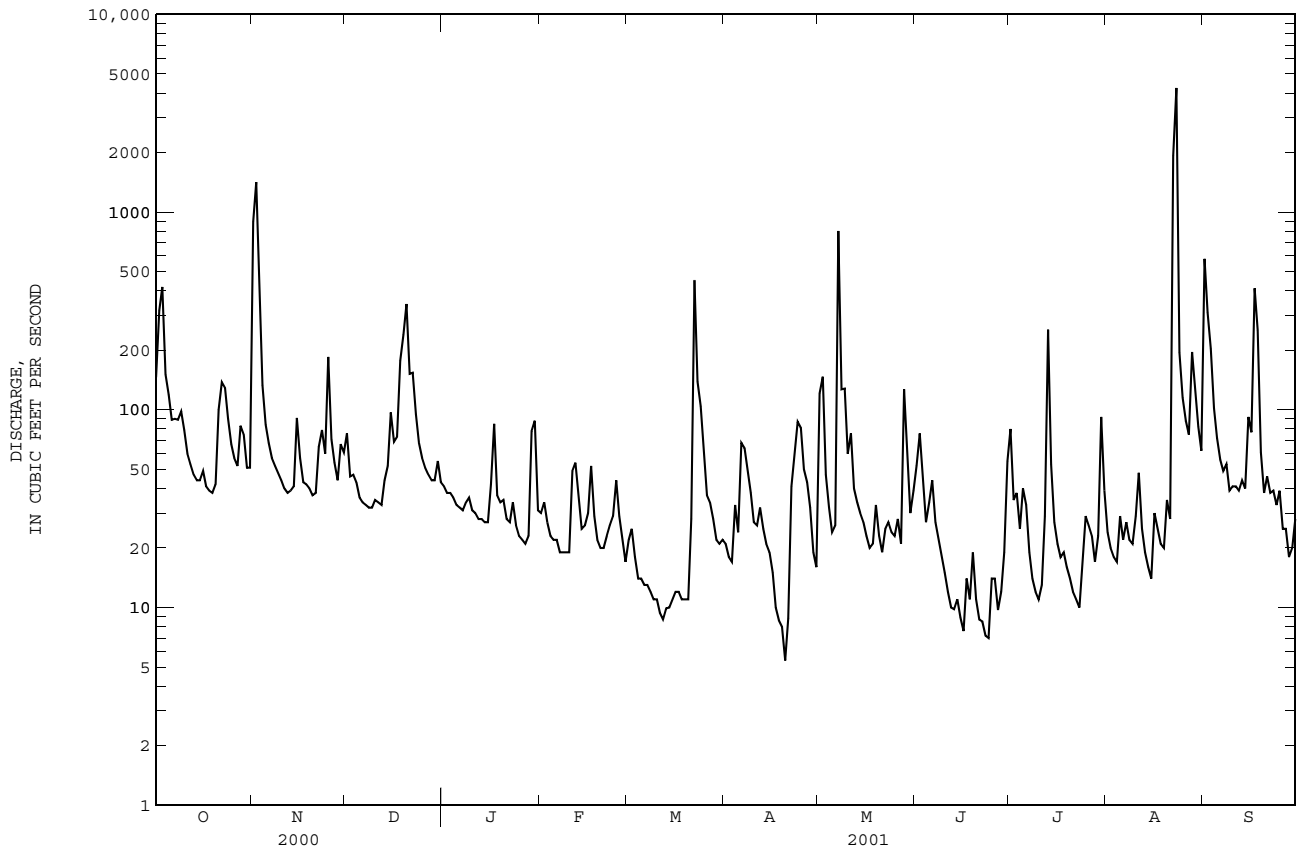
FOR 2001 WATER YEAR

WATER YEARS 1960 - 2001

ANNUAL TOTAL	26863.0	28384.2	
ANNUAL MEAN	73.4	77.8	127
HIGHEST ANNUAL MEAN			286
LOWEST ANNUAL MEAN			42.2
HIGHEST DAILY MEAN	1650	Aug 23	26200
LOWEST DAILY MEAN	7.3	Jul 23	3.7
ANNUAL SEVEN-DAY MINIMUM	8.1	Jul 22	5.2
MAXIMUM PEAK FLOW			32600
MAXIMUM PEAK STAGE			27.39
ANNUAL RUNOFF (AC-FT)	53280		56300
ANNUAL RUNOFF (CFSM)	1.22		1.29
ANNUAL RUNOFF (INCHES)	16.60		17.54
10 PERCENT EXCEEDS	147		117
50 PERCENT EXCEEDS	38		34
90 PERCENT EXCEEDS	13		12

e Estimated

RIO GRANDE DE LOIZA BASIN
50057000 RIO GURABO AT GURABO, PR--Continued



RIO GRANDE DE LOIZA BASIN

50057000 RIO GURABO AT GURABO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.-- Water years 1985 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1983 to current year.

INSTRUMENTATION.-- USDH-48 and automatic sediment samplers since 1984.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 9,220 mg/L November 27, 1987; Minimum daily mean, 3 mg/L August 09, 1994.

SEDIMENT LOADS: Maximum daily mean, 686,000 tons (622,340 tonnes) November 27, 1987; Minimum daily mean, 0.08 ton (0.07 tonne) August 09, 1994.

EXTREMES FOR CURRENT YEAR 2001.--

SEDIMENT CONCENTRATION: Maximum daily mean, 767 mg/L November 2, 2000; Minimum daily mean, 4 mg/L May 25 and June 12, 2001.

SEDIMENT LOADS: Maximum daily mean, 9,790 tons (8,881 tonnes) August 23, 2001; Minimum daily mean, 0.12 ton (0.11 tonne) June 12, 2001.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	146	160	63	895	466	3130	76	66	15
2	318	368	737	1420	767	5380	46	45	5.6
3	418	410	687	468	403	728	47	36	4.6
4	151	121	50	133	93	34	43	28	3.3
5	119	109	36	84	73	17	36	21	2.1
6	89	57	14	68	56	10	34	19	1.8
7	90	63	17	57	39	6.1	33	17	1.5
8	89	53	15	52	25	3.6	32	16	1.4
9	98	93	25	48	21	2.8	32	16	1.4
10	79	80	17	44	18	2.1	35	16	1.5
11	60	72	12	40	15	1.6	34	15	1.4
12	53	73	10	38	14	1.4	33	15	1.4
13	47	74	9.4	39	12	1.3	44	26	3.2
14	44	74	8.8	41	11	1.2	52	21	2.9
15	44	71	8.4	91	46	27	97	53	16
16	49	68	9.1	57	19	3.0	69	59	11
17	41	65	7.2	43	18	2.1	73	47	9.3
18	39	62	6.5	42	17	1.9	177	117	77
19	38	62	6.5	40	16	1.7	240	248	171
20	42	63	7.1	37	15	1.5	343	352	395
21	100	111	46	38	15	1.6	152	127	55
22	138	128	78	65	91	24	154	144	70
23	129	114	46	79	161	33	95	153	40
24	90	119	29	60	33	5.2	68	87	16
25	67	85	16	185	168	113	57	43	6.7
26	57	64	9.9	71	69	13	51	32	4.4
27	52	44	6.2	54	68	9.9	47	22	2.8
28	83	66	18	44	68	8.1	44	21	2.4
29	75	67	14	67	61	11	44	24	3.0
30	51	44	6.1	61	60	11	55	68	10
31	51	36	4.9	---	---	---	43	72	8.4
TOTAL	2947	---	2020.1	4461	---	9586.1	2386	---	945.1

RIO GRANDE DE LOIZA BASIN

50057000 RIO GURABO AT GURABO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	41	72	8.0	30	85	6.8	22	60	3.6
2	38	71	7.2	34	83	7.6	25	62	4.3
3	38	71	7.2	27	82	5.9	18	64	3.1
4	36	72	7.1	23	81	5.0	14	63	2.4
5	33	73	6.5	22	80	4.7	14	63	2.4
6	32	75	6.5	22	80	4.6	13	62	2.3
7	31	82	6.8	19	78	4.1	13	63	2.2
8	34	89	8.2	19	75	3.9	12	65	2.1
9	36	96	9.5	19	72	3.6	11	68	1.9
10	31	101	8.4	19	70	3.6	11	69	2.0
11	30	92	7.5	49	75	10	9.4	68	1.7
12	28	82	6.2	54	80	12	8.7	66	1.6
13	28	74	5.5	37	86	8.5	9.9	64	1.7
14	27	69	5.1	25	89	6.1	10	63	1.8
15	27	65	4.7	26	86	6.0	11	64	1.9
16	42	64	7.6	30	83	6.6	12	65	2.0
17	85	120	31	52	80	11	12	66	2.2
18	37	65	6.5	29	77	6.1	11	66	2.0
19	34	62	5.7	22	73	4.3	11	66	1.9
20	35	60	5.7	20	70	3.8	11	66	2.0
21	28	60	4.5	20	67	3.6	28	66	5.0
22	27	60	4.4	23	68	4.2	451	516	972
23	34	60	5.5	26	69	4.8	139	123	55
24	26	61	4.3	29	69	5.5	104	92	29
25	23	67	4.1	44	66	7.8	61	72	12
26	22	74	4.4	29	62	4.9	37	67	6.6
27	21	78	4.4	22	59	3.5	34	61	5.6
28	23	74	4.5	17	58	2.7	28	57	4.2
29	78	97	24	---	---	---	22	57	3.4
30	88	119	29	---	---	---	21	58	3.4
31	31	90	7.7	---	---	---	22	56	3.3
TOTAL	1124	---	257.7	788	---	161.2	1206.0	---	1144.6

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	APRIL			MAY			JUNE		
1	21	44	2.5	121	93	86	52	31	7.3
2	18	31	1.5	147	158	84	76	51	13
3	17	19	.86	47	40	5.2	44	27	3.3
4	33	25	4.5	32	27	2.4	27	26	1.9
5	24	34	2.3	24	17	1.1	34	27	2.5
6	68	54	14	26	15	1.0	44	24	3.2
7	64	65	11	802	658	2450	27	17	1.2
8	49	51	6.7	127	104	39	22	17	.99
9	38	38	4.0	128	149	55	18	16	.78
10	27	24	1.8	60	87	14	15	12	.50
11	26	14	.97	76	59	13	12	8	.28
12	32	13	1.1	40	21	2.4	10	4	.12
13	25	12	.84	34	15	1.3	9.8	6	.15
14	21	12	.70	30	14	1.1	11	6	.18
15	19	12	.61	27	13	.97	8.9	6	.14
16	15	11	.45	23	13	.78	7.6	6	.13
17	10	11	.30	20	11	.60	14	7	.24
18	8.6	11	.25	21	9	.53	11	7	.21
19	8.0	11	.23	33	8	.71	e19	e8	e.27
20	5.4	10	.15	23	7	.46	11	8	.23
21	8.8	10	.24	19	7	.36	8.7	8	.18
22	41	10	1.1	25	6	.42	8.5	7	.17
23	60	9	1.5	e27	e6	e.44	7.2	7	.14
24	87	45	16	24	5	.33	7.0	8	.14
25	81	61	14	23	4	.29	14	8	.31
26	50	43	5.8	28	5	.41	14	8	.30
27	e43	e30	e3.5	21	6	.33	9.7	7	.19
28	e32	e20	e1.8	127	91	51	12	12	.41
29	19	18	.91	54	25	3.9	19	13	.68
30	16	16	.69	30	22	1.8	55	39	14
31	---	---	---	39	21	2.2	---	---	---
TOTAL	966.8	---	100.30	2258	---	2821.03	628.4	---	53.14

RIO GRANDE DE LOIZA BASIN

50057000 RIO GURABO AT GURABO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	80	68	18	24	29	1.9	580	531	2060
2	35	32	3.0	20	19	1.0	311	284	354
3	38	26	2.7	18	13	.61	204	97	88
4	25	22	1.5	17	13	.58	102	28	7.8
5	40	33	3.9	29	13	1.0	72	26	5.2
6	33	33	3.0	22	14	.83	56	24	3.7
7	19	20	1.0	27	15	1.1	49	22	2.9
8	14	18	.69	22	15	.89	53	38	7.8
9	12	15	.49	21	14	.80	39	26	2.7
10	11	13	.37	29	22	2.0	41	10	1.1
11	13	10	.35	48	23	3.5	41	8	.91
12	29	19	4.6	25	13	.89	39	7	.74
13	254	249	198	19	11	.56	44	7	.84
14	53	57	8.4	16	9	.38	40	7	.76
15	27	36	2.7	14	7	.26	92	60	18
16	21	21	1.2	30	23	2.1	77	62	14
17	18	18	.86	25	24	1.7	412	312	1630
18	19	16	.80	21	11	.59	253	169	247
19	16	14	.63	20	7	.40	61	55	9.4
20	14	12	.47	35	24	2.5	38	41	4.3
21	12	10	.33	28	16	1.2	46	39	5.3
22	11	8	.25	1930	494	9070	38	17	1.8
23	10	7	.20	4250	668	9790	39	11	1.1
24	16	7	.32	195	170	96	33	11	.96
25	29	8	.60	115	52	16	39	11	1.1
26	e26	e8	e.57	88	42	10	25	10	.69
27	e23	e8	e.50	75	41	8.3	25	10	.70
28	17	8	.36	196	213	164	18	10	.49
29	23	13	1.1	132	115	41	20	14	.94
30	92	74	19	82	78	18	28	21	1.7
31	39	39	4.2	62	40	6.8	---	---	---
TOTAL	1069	---	280.09	7635	---	19244.89	2915	---	4473.93
YEAR	28384.2		41088.18						

e Estimated

RIO GRANDE DE LOIZA BASIN

50057025 RIO GURABO NEAR GURABO, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°15'56", long 65°59'04", at bridge on Highway 941, 1.2 mi (1.9 km) west-northwest from gaging station 50057000, and 1.0 mi (1.6 km) northwest of Gurabo plaza.

DRAINAGE AREA.--62.8 mi² (162.7 km²).

PERIOD OF RECORD.--Water years 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	HARD- NESS TOTAL AS (MG/L CACO3) (00900)	CALCIUM DIS- SOLVED AS (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED AS (MG/L AS MG) (00925)
OCT 06...	1355	312	7.5	28.2	120	.7	9	26	E13000	2200	96	22.9	9.39
FEB 12...	1130	426	7.5	25.8	4.4	2.6	31	12	4000	760	--	--	--
MAY 24...	1045	436	7.5	29.7	25	6.9	90	<10	200	<50	130	29.9	14.3
AUG 14...	1330	368	7.5	31.0	--	6.3	85	26	E100	--	120	26.7	12.4

DATE	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD MG/L AS CACO3 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)
OCT 06...	22.3	1.0	3.39	105	<1.0	12.8	22.6	E.1	25.9	182	84	.71	.06
FEB 12...	--	--	--	134	--	--	--	--	--	--	15	1.11	.09
MAY 24...	34.2	1	4.15	143	<1.0	16.6	37.3	.2	32.6	255	21	.59	.03
AUG 14...	28.8	1	3.86	125	--	10.9	30.7	E.1	29.8	218	38	.70	.03

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)
OCT 06...	.8	.22	.71	.93	1.7	7.5	.270	E1	105	30	<.11	4	E14.3
FEB 12...	1.2	.53	.42	.95	2.1	9.5	.370	--	--	--	--	--	--
MAY 24...	.6	.02	.62	.64	1.3	5.6	.240	<2	85.0	59	<.10	M	<20.0
AUG 14...	.7	.06	.69	.75	1.5	6.6	.270	--	--	--	--	--	--

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L) (38260)
OCT 06...	4170	1	327	<.14	<2.6	<.43	E30	<.01	<16	<.02
FEB 12...	--	--	--	--	--	--	--	--	--	--
MAY 24...	670	M	246	<.01	<3.0	<.40	<31	<.01	<16	.05
AUG 14...	--	--	--	--	--	--	--	--	--	--

E -- Estimated value
 < -- Less than
 M -- Presence verified, not quantified

RIO GRANDE DE LOIZA BASIN

50058350 RIO CAÑAS AT RIO CAÑAS, PR

LOCATION.--Lat 18°17'41", long 66°02'44", Hydrologic Unit 21010005, at right bank, off road 798, upstream side of bridge on Highway 52, 0.5 mi (0.8 km) northeast from Escuela Segunda Unidad de Francisco Valdés, and 0.8 mi (1.3 km) north of La Barra.

DRAINAGE AREA.--7.53 mi² (19.50 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1990 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 164 ft (50 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	67	10	8.2	8.1	9.3	e4.9	14	6.8	6.4	38	47
2	20	95	9.6	8.3	8.4	7.4	e4.7	6.6	5.3	6.2	12	13
3	13	79	9.3	10	7.6	6.1	e4.6	6.3	5.0	5.6	14	33
4	12	26	9.2	7.9	7.6	6.2	e15	5.8	8.1	6.7	8.2	19
5	12	22	9.1	7.9	7.7	6.2	6.5	5.4	6.1	5.7	7.1	10
6	10	18	9.0	7.8	7.8	6.1	28	12	5.4	4.9	14	8.6
7	31	15	9.3	7.7	7.6	5.9	8.8	35	5.3	5.0	8.3	7.6
8	14	14	9.2	7.8	7.5	5.5	6.9	16	5.2	4.7	7.1	7.1
9	11	14	9.0	7.9	7.3	5.7	6.8	8.0	5.1	4.7	8.2	6.9
10	10	13	9.2	7.8	7.9	5.5	6.0	22	5.1	18	17	9.4
11	9.5	13	9.1	8.1	16	5.6	7.5	9.1	5.0	5.5	18	7.0
12	8.5	13	11	8.1	7.7	5.5	6.4	6.8	4.9	4.8	9.0	7.0
13	8.2	12	12	8.1	7.4	5.9	6.2	6.3	4.9	4.6	7.2	7.4
14	7.9	13	14	8.3	7.6	6.0	6.2	6.2	4.9	4.3	7.1	7.7
15	7.8	16	18	7.9	8.1	5.8	6.2	5.9	4.9	4.4	6.5	7.7
16	39	12	14	9.8	8.2	5.2	6.0	6.1	5.8	4.4	8.3	7.6
17	11	11	17	9.2	7.4	5.1	5.5	6.0	8.7	4.2	19	6.8
18	8.9	11	11	8.1	6.8	5.2	5.4	7.6	6.4	9.4	8.6	6.9
19	38	11	11	7.9	6.9	5.2	5.3	7.2	5.3	5.7	6.9	6.3
20	42	13	11	8.1	7.1	5.6	5.3	6.3	5.1	4.6	6.3	6.4
21	23	13	9.2	7.9	7.1	e6.4	16	6.1	4.9	4.5	6.2	6.1
22	79	11	9.0	8.8	21	e11	14	5.7	4.9	17	32	6.1
23	25	12	8.6	8.1	15	e6.5	22	5.7	10	5.6	44	5.9
24	18	25	8.4	7.6	12	e5.3	8.2	5.7	5.6	6.2	9.3	5.7
25	12	12	8.4	7.5	10	e5.3	5.8	5.5	6.5	5.1	7.5	7.0
26	11	12	8.2	7.5	8.2	e5.1	5.6	5.5	4.7	9.6	7.0	7.6
27	11	11	8.0	8.7	6.7	e5.0	5.4	5.3	13	5.4	15	22
28	15	11	8.0	12	6.5	e5.1	8.6	5.9	7.7	5.0	17	8.1
29	8.5	10	7.9	31	---	e5.1	7.1	5.2	5.4	30	11	6.9
30	7.7	12	7.8	13	---	e4.9	5.9	9.2	14	9.7	13	6.7
31	7.3	---	7.9	8.1	---	e4.7	---	5.5	---	6.8	9.9	---
TOTAL	543.3	617	312.4	285.1	247.2	183.4	250.8	263.9	190.0	224.7	402.7	314.5
MEAN	17.5	20.6	10.1	9.20	8.83	5.92	8.36	8.51	6.33	7.25	13.0	10.5
MAX	79	95	18	31	21	11	28	35	14	30	44	47
MIN	7.3	10	7.8	7.5	6.5	4.7	4.6	5.2	4.7	4.2	6.2	5.7
AC-FT	1080	1220	620	565	490	364	497	523	377	446	799	624
CFSM	2.33	2.73	1.34	1.22	1.17	.79	1.11	1.13	.84	.96	1.73	1.39
IN.	2.68	3.05	1.54	1.41	1.22	.91	1.24	1.30	.94	1.11	1.99	1.55

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2001, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	20.7	20.5	16.3	12.8	10.5	6.21	5.70	8.04	9.77	9.41	16.4	25.7
MAX	51.0	53.8	45.3	24.5	18.8	12.0	11.1	19.5	35.2	25.9	36.8	81.6
(WY)	1999	1999	2000	1992	1995	1999	1993	1992	1999	1999	1996	1996
MIN	4.60	7.18	5.55	4.48	4.29	2.48	3.24	2.50	1.78	3.40	4.36	4.25
(WY)	1992	1991	1994	1994	1994	1994	1995	1994	1994	1990	1990	1997

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

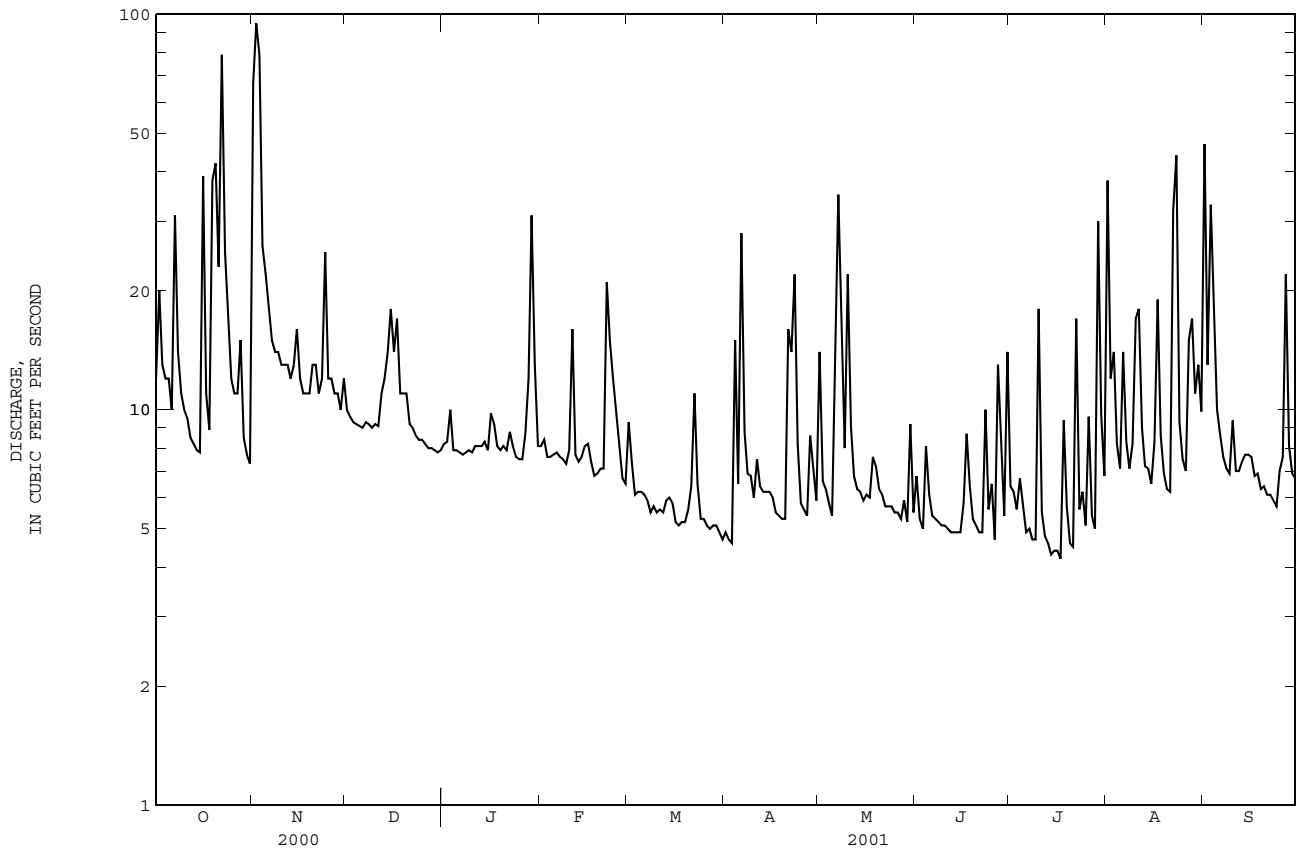
FOR 2001 WATER YEAR

WATER YEARS 1990 - 2001

ANNUAL TOTAL	5011.2	3835.0										
ANNUAL MEAN	13.7	10.5								13.9		
HIGHEST ANNUAL MEAN										24.8		1999
LOWEST ANNUAL MEAN										5.77		1994
HIGHEST DAILY MEAN	422	Aug 23					95	Nov 2		1670	Sep 10	1996
LOWEST DAILY MEAN	3.4	Jul 22					4.2	Jul 17		1.1	Jun 8	1994
ANNUAL SEVEN-DAY MINIMUM	3.4	Jul 21					4.6	Jul 11		1.2	Jun 8	1994
MAXIMUM PEAK FLOW							890	Nov 2		7500	Sep 10	1996
MAXIMUM PEAK STAGE							14.24	Nov 2		24.60	Sep 10	1996
INSTANTANEOUS LOW FLOW							4.0	Jul 14		1.0	Jun 21	1994
ANNUAL RUNOFF (AC-FT)	9940						7610			10060		
ANNUAL RUNOFF (CFSM)	1.82						1.40			1.84		
ANNUAL RUNOFF (INCHES)	24.76						18.95			25.06		
10 PERCENT EXCEEDS	23						17			26		
50 PERCENT EXCEEDS	9.1						7.8			6.1		
90 PERCENT EXCEEDS	4.1						5.2			2.9		

e Estimated

RIO GRANDE DE LOIZA BASIN
50058350 RIO CAÑAS AT RIO CAÑAS, PR--Continued



RIO GRANDE DE LOIZA BASIN

50058350 RIO CAÑAS AT RIO CAÑAS , PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water years 1990 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1994 to current year.

INSTRUMENTATION.-- USDH-48 and automatic sediment samplers since 1990.

REMARKS:-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 12,900 mg/L September 10, 1996; Minimum daily mean, 1 mg/L several days during several years.

SEDIMENT LOADS: Maximum daily mean, 95,000 tons (86,200 tonnes) September 10, 1996; Minimum daily mean, 0.01 ton (0.01 tonne) several days.

EXTREMES FOR CURRENT YEAR 2001.--

SEDIMENT CONCENTRATION: Maximum daily mean, 1,530 mg/L October 22, 2000; Minimum daily mean, 2 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 1,030 tons (934 tonnes) October 22, 2000; Minimum daily mean, 0.03 ton (0.03 tonne) several days.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	12	34	1.1	67	1260	801	10	12	.34
2	20	74	6.2	95	1110	911	9.6	7	.19
3	13	27	.93	79	927	439	9.3	7	.17
4	12	21	.66	26	43	3.1	9.2	6	.16
5	12	19	.62	22	31	1.8	9.1	6	.14
6	10	19	.52	18	27	1.3	9.0	5	.12
7	31	184	31	15	23	.97	9.3	4	.10
8	14	37	1.5	14	20	.74	9.2	4	.09
9	11	21	.64	14	16	.59	9.0	4	.09
10	10	15	.42	13	12	.43	9.2	4	.09
11	9.5	10	.27	13	9	.32	9.1	3	.08
12	8.5	9	.20	13	9	.30	11	13	.82
13	8.2	8	.17	12	8	.28	12	26	.94
14	7.9	7	.15	13	8	.28	14	35	1.5
15	7.8	6	.13	16	30	1.8	18	146	7.1
16	39	1070	594	12	17	.53	14	113	4.2
17	11	19	.58	11	13	.41	17	62	3.0
18	8.9	11	.25	11	12	.35	11	61	1.8
19	38	867	414	11	10	.29	11	51	1.5
20	42	811	249	13	8	.27	11	42	1.2
21	23	158	14	13	22	.91	9.2	33	.82
22	79	1530	1030	11	36	1.1	9.0	23	.57
23	25	262	23	12	29	.93	8.6	16	.37
24	18	481	23	25	129	15	8.4	13	.30
25	12	264	8.8	12	23	.78	8.4	11	.24
26	11	63	1.9	12	18	.59	8.2	8	.18
27	11	34	1.0	11	14	.43	8.0	14	.29
28	15	64	4.6	11	12	.34	8.0	16	.35
29	8.5	23	.53	10	12	.33	7.9	14	.30
30	7.7	18	.38	12	26	1.0	7.8	12	.25
31	7.3	13	.26	---	---	---	7.9	11	.24
TOTAL	543.3	---	2409.81	617	---	2186.17	312.4	---	27.54

RIO GRANDE DE LOIZA BASIN

50058350 RIO CAÑAS AT RIO CAÑAS , PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	8.2	11	.24	8.1	7	.15	9.3	28	1.4
2	8.3	10	.23	8.4	6	.13	7.4	17	.42
3	10	50	1.9	7.6	5	.10	6.1	8	.13
4	7.9	11	.23	7.6	5	.10	6.2	7	.12
5	7.9	9	.20	7.7	4	.09	6.2	7	.12
6	7.8	8	.17	7.8	4	.09	6.1	6	.11
7	7.7	8	.17	7.6	4	.08	5.9	6	.10
8	7.8	8	.17	7.5	4	.08	5.5	6	.09
9	7.9	8	.17	7.3	4	.08	5.7	6	.09
10	7.8	8	.17	7.9	4	.09	5.5	6	.09
11	8.1	7	.16	16	64	5.7	5.6	6	.09
12	8.1	6	.14	7.7	10	.20	5.5	6	.08
13	8.1	6	.13	7.4	7	.13	5.9	5	.08
14	8.3	6	.13	7.6	4	.09	6.0	5	.08
15	7.9	5	.11	8.1	4	.08	5.8	5	.08
16	9.8	14	.45	8.2	3	.07	5.2	5	.07
17	9.2	19	.50	7.4	3	.06	5.1	5	.07
18	8.1	7	.16	6.8	3	.06	5.2	5	.07
19	7.9	6	.12	6.9	4	.07	5.2	5	.07
20	8.1	5	.11	7.1	4	.07	5.6	5	.08
21	7.9	5	.10	7.1	4	.07	e6.4	e7	e.10
22	8.8	4	.11	21	119	14	e11	e50	e1.9
23	8.1	4	.09	15	37	2.1	e6.5	e12	e.20
24	7.6	4	.09	12	57	1.8	e5.3	e8	e.11
25	7.5	5	.10	10	43	1.2	e5.3	e7	e.10
26	7.5	6	.12	8.2	30	.67	e5.1	e5	e.07
27	8.7	12	.53	6.7	16	.29	e5.0	e5	e.07
28	12	29	1.6	6.5	6	.10	e5.1	e5	e.07
29	31	198	39	---	---	---	e5.1	e5	e.07
30	13	44	2.5	---	---	---	e4.9	e2	e.03
31	8.1	8	.18	---	---	---	e4.7	e2	e.03
TOTAL	285.1	---	50.08	247.2	---	27.75	183.4	---	6.19
	APRIL			MAY			JUNE		
1	e4.9	e3	e.04	14	58	4.8	6.8	10	.27
2	e4.7	e3	e.04	6.6	24	.44	5.3	8	.11
3	e4.6	e4	e.05	6.3	18	.31	5.0	7	.09
4	e15	e78	e5.4	5.8	14	.23	8.1	15	.50
5	6.5	12	.20	5.4	11	.16	6.1	7	.11
6	28	1360	433	12	38	4.6	5.4	6	.08
7	8.8	56	1.3	35	345	87	5.3	5	.08
8	6.9	49	.92	16	113	11	5.2	4	.05
9	6.8	48	.88	8.0	49	1.1	5.1	2	.03
10	6.0	46	.75	22	806	338	5.1	2	.03
11	7.5	43	.88	9.1	24	.62	5.0	2	.03
12	6.4	33	.57	6.8	12	.23	4.9	2	.03
13	6.2	22	.38	6.3	8	.14	4.9	2	.03
14	6.2	13	.22	6.2	6	.10	4.9	2	.03
15	6.2	11	.18	5.9	4	.06	4.9	3	.04
16	6.0	10	.16	6.1	2	.03	5.8	8	.21
17	5.5	9	.13	6.0	2	.03	8.7	19	.83
18	5.4	8	.12	7.6	6	.18	6.4	8	.16
19	5.3	8	.11	7.2	6	.12	5.3	3	.04
20	5.3	7	.10	6.3	3	.06	5.1	2	.03
21	16	42	3.8	6.1	3	.05	4.9	3	.04
22	14	35	1.8	5.7	2	.04	4.9	4	.05
23	22	134	21	5.7	2	.03	10	37	2.4
24	8.2	31	.71	5.7	2	.04	5.6	27	.41
25	5.8	11	.17	5.5	3	.04	6.5	17	.33
26	5.6	9	.14	5.5	9	.13	4.7	4	.05
27	5.4	9	.13	5.3	12	.18	13	53	5.5
28	8.6	15	.56	5.9	11	.18	7.7	68	1.4
29	7.1	8	.15	5.2	11	.15	5.4	40	.59
30	5.9	7	.11	9.2	30	1.9	14	68	5.5
31	---	---	---	5.5	6	.09	---	---	---
TOTAL	250.8	---	474.00	263.9	---	452.04	190.0	---	19.05

RIO GRANDE DE LOIZA BASIN

50058350 RIO CAÑAS AT RIO CAÑAS , PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	6.4	29	.51	38	830	335	47	702	332
2	6.2	27	.44	12	28	.94	13	16	.55
3	5.6	25	.39	14	36	2.5	33	415	117
4	6.7	24	.43	8.2	24	.54	19	83	7.1
5	5.7	22	.35	7.1	16	.31	10	62	1.7
6	4.9	20	.27	14	44	4.0	8.6	42	.98
7	5.0	17	.23	8.3	9	.20	7.6	23	.48
8	4.7	15	.19	7.1	8	.15	7.1	9	.17
9	4.7	12	.16	8.2	8	.16	6.9	7	.14
10	18	141	24	17	143	24	9.4	16	.77
11	5.5	22	.34	18	88	8.1	7.0	6	.12
12	4.8	10	.13	9.0	28	.69	7.0	6	.12
13	4.6	8	.10	7.2	24	.46	7.4	6	.12
14	4.3	6	.07	7.1	19	.37	7.7	6	.12
15	4.4	4	.05	6.5	16	.28	7.7	6	.12
16	4.4	3	.04	8.3	21	.55	7.6	5	.11
17	4.2	3	.03	19	154	21	6.8	4	.08
18	9.4	30	2.0	8.6	57	1.3	6.9	4	.07
19	5.7	30	.47	6.9	24	.46	6.3	3	.05
20	4.6	27	.34	6.3	6	.10	6.4	4	.06
21	4.5	26	.32	6.2	5	.08	6.1	4	.07
22	17	73	6.2	32	567	326	6.1	5	.08
23	5.6	29	.45	44	483	113	5.9	5	.08
24	6.2	22	.36	9.3	13	.34	5.7	4	.07
25	5.1	16	.22	7.5	6	.13	7.0	8	.21
26	9.6	37	2.5	7.0	6	.10	7.6	5	.10
27	5.4	15	.22	15	43	3.5	22	181	37
28	5.0	12	.16	17	52	4.1	8.1	16	.34
29	30	1170	315	11	18	.54	6.9	8	.15
30	9.7	30	.80	13	17	.59	6.7	6	.11
31	6.8	22	.40	9.9	17	.44	---	---	---
TOTAL	224.7	---	357.17	402.7	---	849.93	314.5	---	500.07
YEAR	3835.0		7359.80						

e Estimated

50059000 LAGO LOIZA AT DAMSITE NEAR TRUJILLO ALTO, PR

LOCATION.--Lat 18°19'49", long 66°01'00", Hydrologic Unit 21010005, at pumpsite at damsite, and 1.9 mi (3.1 km) south of Trujillo Alto plaza.

DRANAIGE AREA.--208 mi² (539 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--December 1987 to current year. Prior to October 1994, published as Lago Loiza at Damsite.

GAGE.--Water-stage recorder. Datum of gage is mean sea level.

REMARKS.--Lake is formed by Loiza Dam, a concrete structure completed in 1954. Useable capacity of impoundment is 30,000 acre-ft (37.0 hm³). Out flow from lake is controlled by five slide gates in powerplant and pump intake structure, four sluiceways, and concrete spillway with eight radial gates. Lake is used for municipal water supply and intermittent power generation. Gage-height satellite telemetry at station. New capacity table based on U.S. Geological Survey Water-Resources Investigations Report 97-4108, November, 1994 .

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation 147.42 ft (44.93 m), Sept. 18, 1989; minimum elevation, 108.52 ft (33.08 m), July 18, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum elevation 134.18 ft (40.89 m), Aug. 24; minimum elevation, 119.98 ft (36.57 m), Aug. 21.

Capacity Table
(based on data from U.S. Geological Survey Water-Resources Investigations Report 97-4108, Puerto Rico-1994)

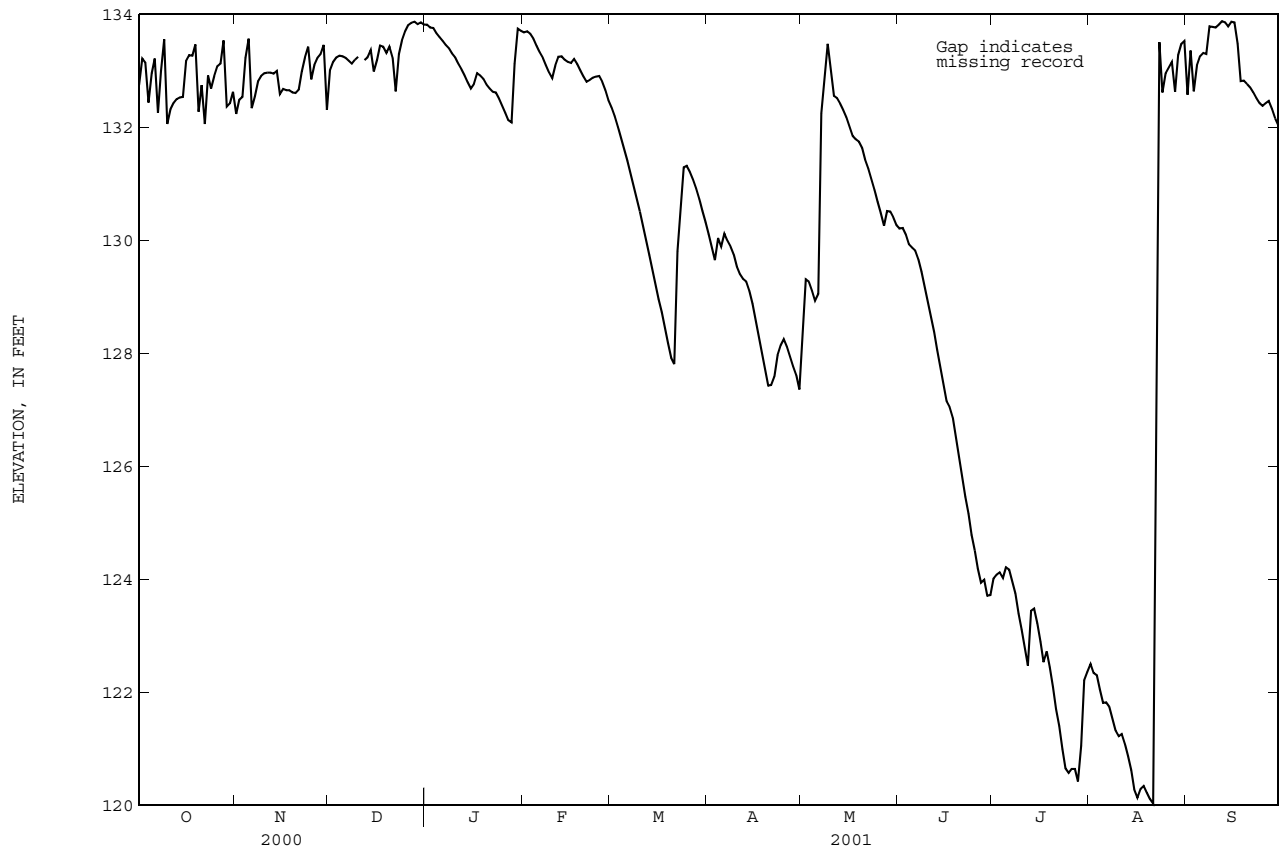
Elevation, in feet	Contents in acre-feet	Elevation, in feet	Contents in acre-feet
75	0	125	5,861
95	73	131	9,218
115	2,205	135	11,504

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132.75	132.24	133.01	133.82	133.68	132.35	130.11	128.42	130.21	124.01	122.50	132.58
2	133.22	132.49	133.16	133.77	133.70	132.20	129.87	129.31	130.22	124.08	122.34	133.36
3	133.15	132.54	133.24	133.76	133.66	132.01	129.65	129.27	130.10	124.12	122.30	132.64
4	132.44	133.23	133.27	133.67	133.57	131.80	130.04	129.11	129.93	124.02	122.05	133.10
5	132.96	133.57	133.26	133.60	133.45	131.61	129.89	128.93	129.87	124.21	121.81	133.26
6	133.22	132.34	133.23	133.53	133.33	131.41	130.12	129.05	129.82	124.17	121.82	133.32
7	132.26	132.55	133.18	133.46	133.23	131.20	129.99	132.25	129.66	123.95	121.74	133.30
8	133.00	132.82	133.13	133.40	133.10	130.97	129.89	132.90	129.45	123.75	121.53	133.79
9	133.56	132.91	133.20	133.31	132.97	130.75	129.75	133.48	129.19	123.39	121.32	133.78
10	132.06	132.96	133.25	133.24	132.87	130.51	129.54	133.01	128.93	123.11	121.22	133.77
11	132.32	132.97	A	133.13	133.10	130.26	129.40	132.56	128.66	122.77	121.26	133.82
12	132.43	132.97	133.19	133.03	133.25	129.99	129.32	132.52	128.38	122.47	121.08	133.88
13	132.50	132.95	133.24	132.92	133.26	129.74	129.27	132.42	128.06	123.44	120.87	133.86
14	132.53	133.00	133.37	132.80	133.20	129.48	129.11	132.31	127.76	123.48	120.62	133.79
15	132.54	132.59	132.99	132.69	133.16	129.22	128.88	132.18	127.47	123.22	120.28	133.87
16	133.18	132.68	133.19	132.77	133.14	128.96	128.62	132.02	127.15	122.89	120.13	133.86
17	133.28	132.66	133.45	132.96	133.21	128.73	128.35	131.85	127.05	122.53	120.29	133.48
18	133.27	132.66	133.43	132.92	133.12	128.47	128.05	131.79	126.86	122.72	120.34	132.82
19	133.47	132.62	133.32	132.86	133.01	128.18	127.74	131.75	126.52	122.44	120.22	132.83
20	132.28	132.61	133.43	132.76	132.90	127.92	127.43	131.64	126.18	122.09	120.11	132.77
21	132.75	132.67	133.23	132.69	132.81	127.81	127.44	131.43	125.82	121.70	120.03	132.71
22	132.06	132.99	132.64	132.63	132.84	129.81	127.59	131.27	125.46	121.40	130.07	132.62
23	132.92	133.24	133.30	132.62	132.88	130.53	127.97	131.09	125.16	120.99	133.51	132.52
24	132.69	133.43	133.54	132.51	132.90	131.29	128.14	130.89	124.79	120.65	132.62	132.43
25	132.91	132.85	133.70	132.39	132.91	131.32	128.25	130.68	124.51	120.57	132.96	132.38
26	133.08	133.11	133.81	132.26	132.81	131.21	128.12	130.48	124.19	120.64	133.06	132.43
27	133.13	133.23	133.85	132.13	132.66	131.08	127.94	130.26	123.94	120.64	133.16	132.47
28	133.54	133.30	133.87	132.09	132.48	130.92	127.77	130.52	123.99	120.42	132.63	132.33
29	132.37	133.46	133.83	133.13	---	130.73	127.61	130.51	123.71	121.05	133.28	132.16
30	132.43	132.31	133.86	133.75	---	130.52	127.36	130.41	123.72	122.21	133.48	132.04
31	132.63	---	133.82	133.71	---	130.32	---	130.27	---	122.36	133.53	---
MAX	133.56	133.57	133.87	133.82	133.70	132.35	130.12	133.48	130.22	124.21	133.53	133.88
MIN	132.06	132.24	132.64	132.09	132.48	127.81	127.36	128.42	123.71	120.42	120.03	132.04

A No gage-height record

RIO GRANDE DE LOIZA BASIN
50059000 LAGO LOIZA AT DAMSITE NEAR TRUJILLO ALTO, PR--Continued



RIO GRANDE DE LOIZA BASIN
50059000 LAGO LOIZA AT DAMSITE, PR

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP WATER (COL/ 100 ML) (31673)	ANC WATER UNFLTRD FET FIELD MG/L AS CACO3 (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	
OCT														
12...	1030	242	7.3	27.9	1.3	16	19	100	500	80	<1.0	17	.56	
FEB														
12...	1000	346	7.0	26.3	2.6	31	18	21	120	112	--	<10	--	
MAY														
24...	1315	285	6.6	29.2	3.3	43	<10	46	49	87	<1.0	10	--	
AUG														
14...	1115	349	7.1	31.5	1.9	26	--	E7	--	107	--	--	.42	

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
OCT													
12...	.01	.6	.19	.25	.44	1.0	4.5	.130	29	<20.0	1290	88	<31
FEB													
12...	<.01	.4	.08	.46	.54	.91	4.0	.040	--	--	--	--	--
MAY													
24...	<.01	M	.25	.63	.88	.92	4.1	.100	47	<20.0	390	294	<31
AUG													
14...	.09	.5	.10	.57	.67	1.2	5.2	.080	--	--	--	--	--

DATE	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L) (38260)
OCT			
12...	<.01	<16	<.04
FEB			
12...	--	--	--
MAY			
24...	<.01	E3	.03
AUG			
14...	--	--	--

< -- Less than
M -- Presence verified, not quantified
E -- Estimated value

RIO GRANDE DE LOIZA BASIN

50059050 RIO GRANDE DE LOIZA BELOW DAMSITE, PR

LOCATION.--Lat 18°20'33", long 66°00'20", Hydrologic Unit 21010005, on left bank of Highway 175, 1.1 mi (1.8 km) downstream of Lago Loiza Dam.

DRAINAGE AREA.--209 mi² (541 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1986 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 32 ft (10 m), from topographic map.

REMARKS.--Records poor. Flow regulated by Lago Loiza Dam. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	170	2240	44	12	11	6.1	2.2	3.3	8.1	6.1	3.0	2070
2	930	3450	26	12	11	5.9	2.3	3.1	7.7	3.9	2.9	383
3	1200	1610	26	13	11	5.4	2.6	2.9	7.7	3.4	2.9	811
4	599	29	26	12	10	5.3	8.5	2.8	7.6	4.7	3.4	16
5	32	29	26	11	9.9	5.3	3.9	2.8	8.1	3.6	2.7	15
6	33	601	25	11	9.4	5.3	3.3	3.1	7.5	2.9	2.8	15
7	776	28	25	10	9.4	4.8	3.3	1890	7.3	2.7	2.7	16
8	30	28	24	10	9.0	4.4	2.7	18	7.4	2.3	2.7	15
9	31	28	25	9.9	8.5	4.1	2.7	12	7.4	2.2	2.5	15
10	789	28	25	9.5	8.5	3.8	2.6	356	7.0	2.1	2.7	15
11	70	28	24	9.3	10	3.9	3.3	257	6.4	2.1	3.5	15
12	30	28	22	9.1	8.6	3.9	2.7	11	6.7	3.1	2.8	15
13	29	29	21	8.9	8.5	4.3	2.7	9.3	6.8	3.1	2.5	14
14	29	28	21	9.1	8.5	4.1	2.8	9.1	6.8	2.5	2.4	14
15	30	473	376	9.0	8.4	3.2	2.6	8.9	6.9	2.1	2.5	14
16	33	29	15	15	8.1	3.3	2.5	8.8	6.5	2.0	2.5	14
17	32	28	15	11	8.1	3.0	2.5	8.7	8.1	2.0	3.0	572
18	31	27	318	8.9	7.8	2.7	2.4	9.1	7.6	2.0	3.5	733
19	33	27	454	9.0	7.4	2.6	2.6	8.9	6.7	1.9	2.9	13
20	763	27	773	8.9	7.5	2.7	2.8	8.8	6.1	2.0	2.7	13
21	29	27	329	8.6	7.4	2.7	3.0	8.7	6.9	2.3	2.6	14
22	980	27	622	8.6	9.2	2.4	3.0	8.6	5.1	2.0	266	13
23	112	28	11	8.4	7.8	2.6	2.9	8.4	4.4	1.9	10400	13
24	576	28	10	8.6	7.4	5.7	3.8	8.0	4.8	2.0	879	13
25	31	579	11	8.6	7.4	2.8	3.3	8.3	4.7	2.2	21	13
26	29	28	12	8.7	7.0	2.5	3.4	8.0	4.4	2.0	19	13
27	29	27	12	9.4	6.4	2.5	3.3	8.2	4.2	1.9	19	13
28	32	28	12	10	6.0	2.6	2.9	8.0	6.6	1.9	1220	14
29	604	28	13	14	---	2.5	2.8	8.1	4.3	12	19	13
30	28	885	12	12	---	2.3	2.7	8.0	7.0	4.6	18	13
31	28	---	12	12	---	2.2	---	8.0	---	3.3	17	---
TOTAL	8148	10480	3367	317.5	239.2	114.9	92.1	2723.9	196.8	92.8	12937.2	4920
MEAN	263	349	109	10.2	8.54	3.71	3.07	87.9	6.56	2.99	417	164
MAX	1200	3450	773	15	11	6.1	8.5	1890	8.1	12	10400	2070
MIN	28	27	10	8.4	6.0	2.2	2.2	2.8	4.2	1.9	2.4	13
AC-FT	16160	20790	6680	630	474	228	183	5400	390	184	25660	9760
CFSM	1.26	1.67	.52	.05	.04	.02	.01	.42	.03	.01	2.00	.78
IN.	1.45	1.87	.60	.06	.04	.02	.02	.48	.04	.02	2.30	.88

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2001, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	385	559	366	162	72.8	46.4	24.3	81.7	152	140	271	802			
MAX	1281	2732	2603	733	242	299	112	367	784	672	718	4255			
(WY)	1999	1988	1988	1992	1989	1989	1987	1992	1987	1993	1988	1996			
MIN	44.7	37.6	17.2	2.49	4.52	3.71	1.20	1.03	1.96	1.62	2.21	29.7			
(WY)	1992	1996	1994	1995	1990	2001	1995	1995	1994	1994	1994	1990			

SUMMARY STATISTICS

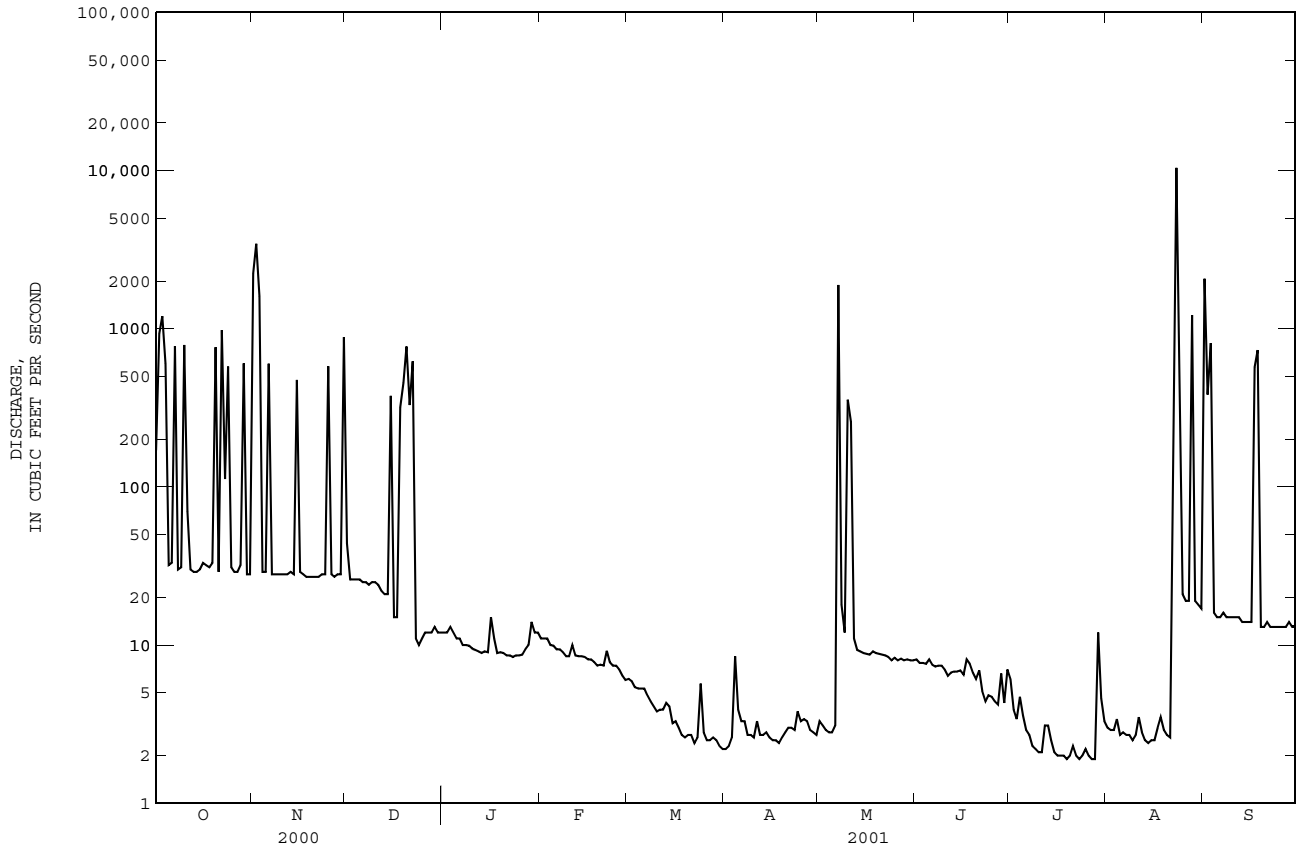
FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

WATER YEARS 1987 - 2001

ANNUAL TOTAL	75485.5	43629.4		
ANNUAL MEAN	206	120	256	
HIGHEST ANNUAL MEAN			652	1988
LOWEST ANNUAL MEAN			37.8	1994
HIGHEST DAILY MEAN	18500	Aug 23	110000	Sep 10 1996
LOWEST DAILY MEAN	4.2	Aug 17	.42	May 13 1995
ANNUAL SEVEN-DAY MINIMUM	4.3	Aug 12	.49	Aug 11 1994
MAXIMUM PEAK FLOW			68200	Sep 10 1996
MAXIMUM PEAK STAGE			30.42	Sep 10 1996
ANNUAL RUNOFF (AC-FT)	149700	86540	185400	
ANNUAL RUNOFF (CFSM)	.99	.57	1.22	
ANNUAL RUNOFF (INCHES)	13.44	7.77	16.64	
10 PERCENT EXCEEDS	577	87	434	
50 PERCENT EXCEEDS	13	8.7	8.6	
90 PERCENT EXCEEDS	5.4	2.6	2.6	

RIO GRANDE DE LOIZA BASIN
50059050 RIO GRANDE DE LOIZA BELOW DAMSITE, PR--Continued



RIO GRANDE DE LOIZA BASIN

50059100 RIO GRANDE DE LOIZA BELOW TRUJILLO ALTO, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°21'35", long 66°00'15", 100 ft (30 m) downstream of Highway 181 bridge, 0.4 mi (0.6 km) northwest of Trujillo Alto plaza, and 2.2 mi (3.5 km) northeast of Lago Loiza.

DRAINAGE AREA.--213 mi² (552 km²).

PERIOD OF RECORD.--Water years 1981 to current year.

REMARKS: Flow controlled by Lago Loiza.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, SOLVED (PER-CENT (HIGH LEVEL) (MG/L) (00301)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT 13...	1330	28	302	7.9	29.8	74	6.7	88	16	E1500	540	100	26.5
FEB 22...	1100	18	287	7.4	23.8	240	7.2	84	19	22000	59000	--	--
MAY 29...	1245	8.9	371	8.1	31.9	--	9.2	123	10	500	<90	130	31.0
AUG 31...	1150	8.2	322	7.3	30.0	--	4.9	65	10	580	1000	94	23.6

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FIELD (MG/L AS CACO3) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDEd (MG/L) (00530)
OCT 13...	9.31	19.2	.8	2.79	105	<1.0	12.9	17.3	E.1	24.6	175	13.2	54
FEB 22...	--	--	--	--	95	--	--	--	--	--	--	--	88
MAY 29...	12.7	27.6	1	2.51	136	<1.0	15.1	28.9	.2	26.1	226	5.44	<10
AUG 31...	8.43	17.4	.8	3.20	98	--	11.6	18.2	E.1	18.4	160	3.52	38

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
OCT 13...	1.08	.02	1.1	.04	.39	.43	1.5	6.8	.160	<2	34.4	34	<.11
FEB 22...	.81	.04	.8	.08	.72	.80	1.6	7.3	.270	--	--	--	--
MAY 29...	.27	.02	.3	.09	.50	.59	.88	3.9	.090	<2	29.5	54	<.10
AUG 31...	.93	.07	1.0	.13	.58	.71	1.7	7.6	.150	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL RECOV-ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 13...	3	<20.0	3760	M	110	<.14	<2.6	<.43	<31	E.01	<16	<.04
FEB 22...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 29...	<1	<20.0	230	<1	167	<.01	<3.0	<.40	<31	<.01	E6	.05
AUG 31...	--	--	--	--	--	--	--	--	--	--	--	--

E -- Estimated value
 < -- Less than
 M -- Presence verified, not quantified

RIO GRANDE DE LOIZA BASIN

50061800 RIO CANOVANAS NEAR CAMPO RICO, PR

LOCATION.--Lat 18°19'08", long 65°53'21", Hydrologic Unit 21010005, at upstream side of bridge, on paved secondary road, 0.4 mi (0.6 km) northeast of junction of Highways 185 and 186, 1.5 mi (2.4 km) south of Campo Rico, and 4.4 mi (7.1 km) south of Loíza.

DRAINAGE AREA.--9.84 mi² (25.48 km²).

PERIOD OF RECORD.--March 1967 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 225 ft (68 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	19	11	7.7	9.3	6.9	5.8	12	6.0	e6.7	6.5	58
2	38	97	10	7.5	8.4	6.8	5.3	14	9.2	e9.6	5.1	36
3	45	46	9.6	7.4	7.7	6.5	5.1	6.4	7.1	e15	5.2	23
4	23	17	9.0	7.1	7.5	6.1	6.0	5.2	5.0	e12	4.7	9.9
5	16	12	8.6	6.9	6.8	6.1	17	4.8	5.0	e13	9.5	7.9
6	14	11	8.3	6.7	6.5	6.0	28	5.4	6.3	e7.1	6.0	7.0
7	13	10	8.1	6.6	6.3	5.8	8.5	176	4.7	4.6	5.1	7.2
8	17	9.6	8.1	6.5	6.3	5.8	6.5	12	4.1	3.8	4.3	8.7
9	19	9.3	8.3	6.2	6.4	5.6	5.9	8.3	4.1	3.4	4.4	7.9
10	13	9.2	8.1	6.2	6.7	5.4	6.2	7.1	3.7	3.4	9.7	7.1
11	11	8.8	7.9	6.1	25	5.2	6.8	6.3	3.6	3.5	7.4	7.2
12	9.8	8.8	9.2	6.3	12	5.2	6.5	5.6	3.5	11	5.6	6.8
13	9.3	8.6	18	6.1	10	5.3	7.7	5.7	3.4	19	5.0	9.5
14	8.7	14	13	5.7	7.9	6.6	6.9	5.2	3.2	7.8	4.2	7.7
15	8.1	20	47	5.8	8.0	5.7	5.6	5.0	3.3	4.6	3.9	14
16	13	14	22	7.9	8.4	5.5	5.0	4.8	3.6	3.8	4.4	13
17	9.2	9.5	41	7.1	11	5.4	4.8	4.7	3.6	3.9	5.6	6.9
18	8.0	9.8	34	6.0	7.9	5.2	4.4	4.8	3.6	3.5	11	8.9
19	8.1	9.6	24	6.0	7.0	5.1	4.3	6.2	3.4	3.4	6.5	8.1
20	8.8	10	29	6.2	8.1	5.1	4.4	5.2	3.7	3.2	5.1	6.4
21	8.9	12	16	5.8	7.5	8.1	6.1	4.6	3.5	3.0	5.0	6.9
22	30	13	15	5.6	13	100	6.9	4.5	3.1	3.1	415	7.5
23	13	26	14	5.6	12	17	5.9	4.4	3.1	3.1	159	7.5
24	11	15	11	5.4	11	9.3	7.6	4.3	3.2	3.7	15	6.7
25	7.9	28	9.9	5.1	18	9.0	8.1	4.6	e3.7	4.8	7.0	8.6
26	7.6	19	9.5	5.1	11	7.3	6.4	4.5	e3.5	5.7	5.3	6.1
27	7.1	14	9.1	5.7	8.2	7.8	6.3	4.2	e3.2	5.0	4.7	5.8
28	e7.2	11	8.7	11	7.5	6.6	5.7	5.6	e4.5	4.0	70	5.4
29	e7.6	13	9.1	143	---	6.1	5.1	6.3	e3.6	22	15	6.7
30	6.9	11	10	54	---	5.7	5.0	4.5	e3.7	20	8.3	7.3
31	7.7	---	8.3	12	---	5.8	---	4.3	---	8.3	5.6	---
TOTAL	422.9	515.2	454.8	390.3	265.4	298.0	213.8	356.5	125.2	225.0	829.1	329.7
MEAN	13.6	17.2	14.7	12.6	9.48	9.61	7.13	11.5	4.17	7.26	26.7	11.0
MAX	45	97	47	143	25	100	28	176	9.2	22	415	58
MIN	6.9	8.6	7.9	5.1	6.3	5.1	4.3	4.2	3.1	3.0	3.9	5.4
AC-FT	839	1020	902	774	526	591	424	707	248	446	1640	654
CFSM	1.39	1.75	1.49	1.28	.96	.98	.72	1.17	.42	.74	2.72	1.12
IN.	1.60	1.95	1.72	1.48	1.00	1.13	.81	1.35	.47	.85	3.13	1.25

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2001, BY WATER YEAR (WY)

	MEAN	41.5	45.9	34.7	25.7	19.4	13.7	14.3	25.7	16.9	17.8	26.2	40.4
MAX	273	125	116	62.4	48.4	36.2	53.2	93.2	63.7	63.7	137	196	196
(WY)	1971	1985	1971	1969	1988	1969	1971	1969	1970	1979	1979	1996	1996
MIN	6.74	6.66	5.82	6.66	4.04	3.54	4.36	4.28	2.80	3.72	5.69	5.20	5.20
(WY)	1968	1981	1968	1977	1977	1977	1994	1974	1974	1974	1991	1967	1967

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

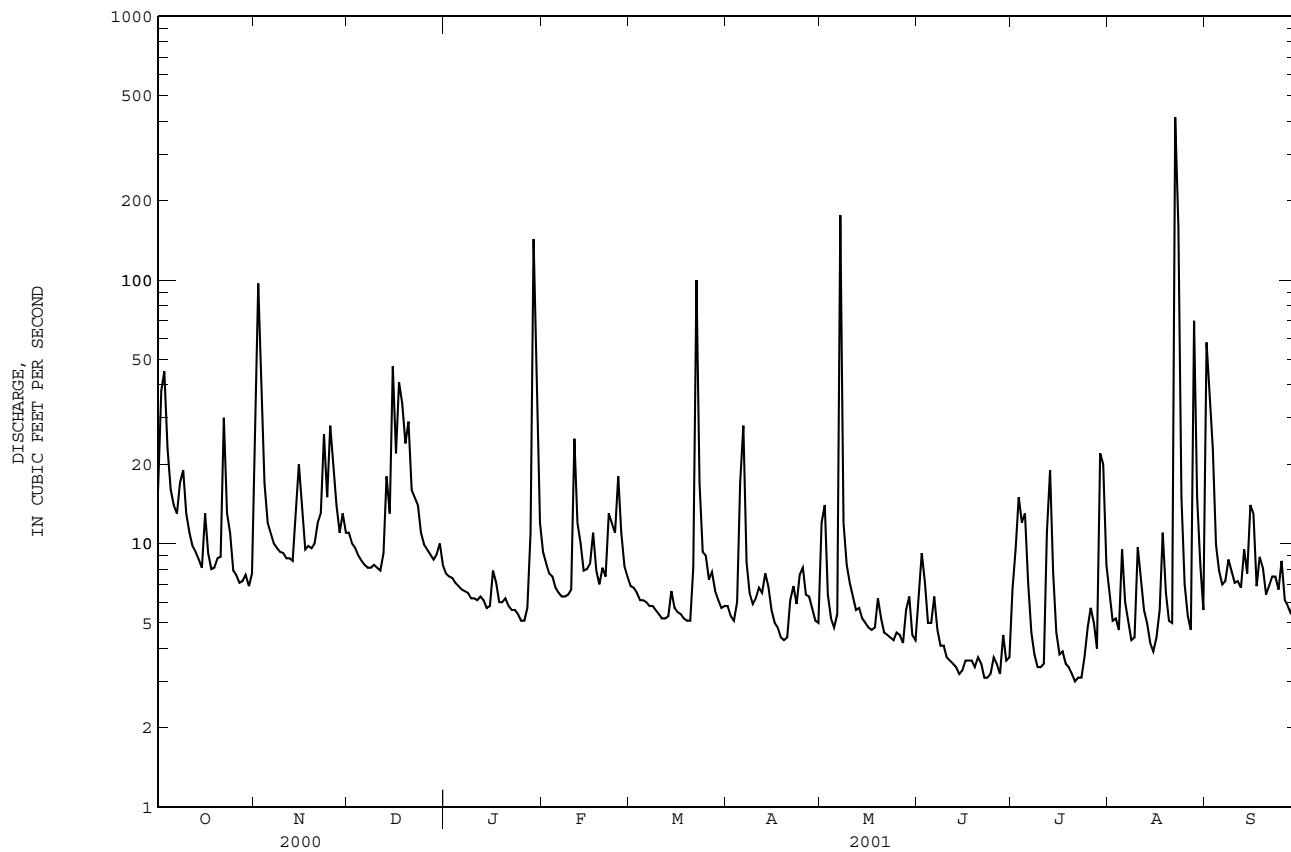
FOR 2001 WATER YEAR

WATER YEARS 1967 - 2001

ANNUAL TOTAL	6252.1	4425.9											
ANNUAL MEAN	17.1	12.1								27.1			
HIGHEST ANNUAL MEAN										58.0			1971
LOWEST ANNUAL MEAN										10.5			1994
HIGHEST DAILY MEAN				374	Aug 23		415	Aug 22		4230			Sep 10 1996
LOWEST DAILY MEAN				2.7	Jul 22		3.0	Jul 21		.80			Jul 24 1977
ANNUAL SEVEN-DAY MINIMUM				3.0	Jul 21		3.3	Jul 18		1.5			Jul 18 1977
MAXIMUM PEAK FLOW							6320	Aug 22		17300			Sep 21 1998
MAXIMUM PEAK STAGE							11.39	Aug 22		15.90			Sep 21 1998
INSTANTANEOUS LOW FLOW							2.8	Jun 22		.80			Jul 24 1977
ANNUAL RUNOFF (AC-FT)	12400						8780			19650			
ANNUAL RUNOFF (CFSM)		1.74					1.23			2.76			
ANNUAL RUNOFF (INCHES)		23.64					16.73			37.46			
10 PERCENT EXCEEDS		31					17			45			
50 PERCENT EXCEEDS		10					7.1			12			
90 PERCENT EXCEEDS		5.6					4.1			5.1			

e Estimated

RIO GRANDE DE LOIZA BASIN
50061800 RIO CANOVANAS NEAR CAMPO RICO, PR--Continued



RIO GRANDE DE LOIZA BASIN

50061800 RIO CANOVANAS NEAR CAMPO RICO, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.-- Water years 1967 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1994 to current year.

INSTRUMENTATION.-- USDH-48 and automatic sediment samplers since 1992.

REMARKS.-- During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 1,560 mg/L September 21, 1998; Minimum daily mean, 2 mg/L several days during several years.

SEDIMENT LOADS: Maximum daily mean, 40,900 tons (37,100 tonnes) September 21, 1998; Minimum daily mean, 0.03 ton (0.03 tonne) several days during several years.

EXTREMES FOR CURRENT YEAR 2001.--

SEDIMENT CONCENTRATION: Maximum daily mean, 203 mg/L May 7, 2001; Minimum daily mean, 2 mg/L August 8, 9, 2001.

SEDIMENT LOADS: Maximum daily mean, 1,410 tons (1,279 tonnes) August 22, 2001; Minimum daily mean, 0.03 ton (.03 tonne) several days.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCENTRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	16	19	.80	19	29	2.8	11	17	.52
2	38	49	7.9	97	138	116	10	17	.47
3	45	55	7.4	46	60	8.1	9.6	17	.44
4	23	33	2.0	17	24	1.1	9.0	17	.40
5	16	30	1.3	12	19	.60	8.6	16	.38
6	14	26	.99	11	18	.51	8.3	16	.36
7	13	23	.80	10	17	.48	8.1	16	.34
8	17	24	1.2	9.6	16	.43	8.1	15	.33
9	19	26	1.4	9.3	16	.39	8.3	15	.34
10	13	22	.78	9.2	15	.37	8.1	15	.32
11	11	21	.61	8.8	14	.34	7.9	14	.31
12	9.8	19	.50	8.8	13	.32	9.2	14	.35
13	9.3	17	.43	8.6	13	.29	18	24	1.3
14	8.7	15	.37	14	16	.71	13	18	.65
15	8.1	14	.30	20	25	1.4	47	57	8.6
16	13	19	1.1	14	19	.71	22	31	1.9
17	9.2	16	.40	9.5	18	.47	41	49	6.0
18	8.0	13	.28	9.8	18	.46	34	43	4.0
19	8.1	13	.30	9.6	17	.44	24	29	1.9
20	8.8	15	.37	10	16	.46	29	36	3.0
21	8.9	13	.31	12	16	.53	16	21	.91
22	30	37	7.6	13	15	.52	15	17	.69
23	13	25	.93	26	35	2.8	14	16	.59
24	11	24	.72	15	20	.83	11	14	.41
25	7.9	22	.48	28	36	3.0	9.9	12	.33
26	7.6	21	.42	19	20	1.0	9.5	10	.27
27	7.1	19	.37	14	19	.71	9.1	9	.21
28	e7.2	e19	e.37	11	18	.56	8.7	7	.16
29	e7.6	e16	e.32	13	18	.63	9.1	7	.16
30	6.9	14	.27	11	18	.51	10	7	.18
31	7.7	13	.27	---	---	---	8.3	7	.15
TOTAL	422.9	---	41.29	515.2	---	147.47	454.8	---	35.97

RIO GRANDE DE LOIZA BASIN

50061800 RIO CANOVANAS NEAR CAMPO RICO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	7.7	7	.14	9.3	27	.67	6.9	13	.25
2	7.5	7	.13	8.4	25	.58	6.8	13	.24
3	7.4	7	.13	7.7	24	.50	6.5	13	.23
4	7.1	7	.13	7.5	23	.46	6.1	13	.21
5	6.9	7	.12	6.8	21	.39	6.1	12	.20
6	6.7	7	.12	6.5	20	.35	6.0	12	.20
7	6.6	7	.12	6.3	19	.32	5.8	12	.19
8	6.5	7	.12	6.3	17	.30	5.8	12	.18
9	6.2	7	.11	6.4	16	.28	5.6	12	.17
10	6.2	7	.11	6.7	15	.27	5.4	11	.17
11	6.1	7	.11	25	33	2.8	5.2	11	.16
12	6.3	7	.11	12	18	.61	5.2	11	.15
13	6.1	7	.11	10	17	.48	5.3	11	.15
14	5.7	7	.10	7.9	17	.37	6.6	10	.19
15	5.8	7	.10	8.0	17	.36	5.7	10	.16
16	7.9	10	.26	8.4	16	.37	5.5	10	.15
17	7.1	8	.16	11	16	.49	5.4	10	.14
18	6.0	7	.11	7.9	15	.33	5.2	10	.13
19	6.0	7	.11	7.0	15	.28	5.1	9	.13
20	6.2	7	.11	8.1	15	.32	5.1	9	.13
21	5.8	7	.10	7.5	14	.29	8.1	10	.21
22	5.6	7	.10	13	17	.61	100	112	37
23	5.6	7	.10	12	16	.53	17	25	1.3
24	5.4	7	.10	11	17	.56	9.3	14	.36
25	5.1	7	.09	18	24	1.2	9.0	12	.30
26	5.1	7	.09	11	14	.41	7.3	11	.22
27	5.7	7	.10	8.2	14	.30	7.8	10	.21
28	11	7	.19	7.5	13	.27	6.6	10	.18
29	143	156	83	---	---	---	6.1	10	.16
30	54	65	14	---	---	---	5.7	10	.15
31	12	28	.95	---	---	---	5.8	10	.16
TOTAL	390.3	---	101.33	265.4	---	14.70	298.0	---	43.78
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	APRIL			MAY			JUNE		
1	5.8	10	.16	12	14	.91	6.0	10	.18
2	5.3	10	.14	14	19	.87	9.2	13	.34
3	5.1	10	.14	6.4	11	.19	7.1	10	.19
4	6.0	10	.16	5.2	9	.13	5.0	10	.13
5	17	21	4.7	4.8	8	.11	5.0	10	.13
6	28	38	4.0	5.4	7	.10	6.3	10	.16
7	8.5	14	.31	176	203	321	4.7	10	.12
8	6.5	11	.19	12	22	.77	4.1	9	.10
9	5.9	9	.14	8.3	18	.39	4.1	9	.10
10	6.2	8	.14	7.1	17	.33	3.7	9	.09
11	6.8	8	.15	6.3	17	.29	3.6	9	.09
12	6.5	8	.14	5.6	16	.25	3.5	9	.08
13	7.7	8	.15	5.7	16	.24	3.4	9	.08
14	6.9	7	.13	5.2	16	.22	3.2	9	.08
15	5.6	7	.10	5.0	15	.20	3.3	9	.08
16	5.0	7	.09	4.8	15	.19	3.6	9	.08
17	4.8	6	.08	4.7	14	.18	3.6	8	.08
18	4.4	6	.07	4.8	14	.18	3.6	8	.08
19	4.3	6	.07	6.2	14	.23	3.4	8	.08
20	4.4	6	.07	5.2	13	.19	3.7	8	.08
21	6.1	6	.10	4.6	13	.16	3.5	8	.08
22	6.9	6	.11	4.5	12	.15	3.1	8	.07
23	5.9	6	.09	4.4	12	.14	3.1	8	.07
24	7.6	8	.17	4.3	11	.13	3.2	8	.07
25	8.1	7	.15	4.6	11	.14	e3.7	e8	e.08
26	6.4	6	.10	4.5	11	.13	e3.5	e8	e.07
27	6.3	6	.10	4.2	10	.11	e3.2	e8	e.07
28	5.7	6	.09	5.6	10	.15	e4.5	e7	e.09
29	5.1	6	.08	6.3	9	.16	e3.6	e7	e.07
30	5.0	6	.08	4.5	9	.11	e3.7	e7	e.07
31	---	---	---	4.3	9	.10	---	---	---
TOTAL	213.8	---	12.20	356.5	---	328.45	125.2	---	3.09

RIO GRANDE DE LOIZA BASIN

50061800 RIO CANOVANAS NEAR CAMPO RICO, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	e6.7	e7	e.13	6.5	12	.20	58	61	28
2	e9.6	e12	e.41	5.1	10	.14	36	47	7.0
3	e15	e22	e1.1	5.2	8	.12	23	33	2.3
4	e12	e18	e.77	4.7	6	.07	9.9	15	.41
5	e13	e19	e.70	9.5	12	.33	7.9	14	.29
6	e7.1	e11	e.22	6.0	7	.11	7.0	12	.24
7	4.6	5	.06	5.1	5	.06	7.2	11	.22
8	3.8	4	.04	4.3	2	.03	8.7	12	.30
9	3.4	4	.04	4.4	2	.03	7.9	10	.22
10	3.4	4	.03	9.7	11	.29	7.1	10	.19
11	3.5	3	.03	7.4	3	.06	7.2	10	.19
12	11	12	1.3	5.6	3	.04	6.8	10	.18
13	19	26	1.4	5.0	3	.04	9.5	10	.25
14	7.8	13	.28	4.2	3	.03	7.7	10	.21
15	4.6	8	.10	3.9	3	.03	14	18	1.3
16	3.8	6	.06	4.4	3	.03	13	16	.65
17	3.9	5	.06	5.6	5	.10	6.9	10	.19
18	3.5	5	.05	11	16	.49	8.9	10	.24
19	3.4	5	.04	6.5	5	.09	8.1	10	.22
20	3.2	5	.04	5.1	3	.04	6.4	10	.17
21	3.0	4	.04	5.0	3	.04	6.9	10	.19
22	3.1	4	.03	415	198	1410	7.5	10	.20
23	3.1	4	.03	159	72	48	7.5	10	.20
24	3.7	4	.04	15	24	1.0	6.7	10	.18
25	4.8	4	.05	7.0	19	.35	8.6	12	.30
26	5.7	4	.05	5.3	17	.25	6.1	10	.16
27	5.0	3	.04	4.7	16	.20	5.8	10	.16
28	4.0	3	.03	70	84	35	5.4	10	.14
29	22	25	3.7	15	25	1.1	6.7	11	.21
30	20	28	1.9	8.3	18	.40	7.3	11	.23
31	8.3	13	.29	5.6	13	.20	---	---	---
TOTAL	225.0	---	13.06	829.1	---	1498.87	329.7	---	44.74
YEAR	4425.9		2284.95						

e Estimated

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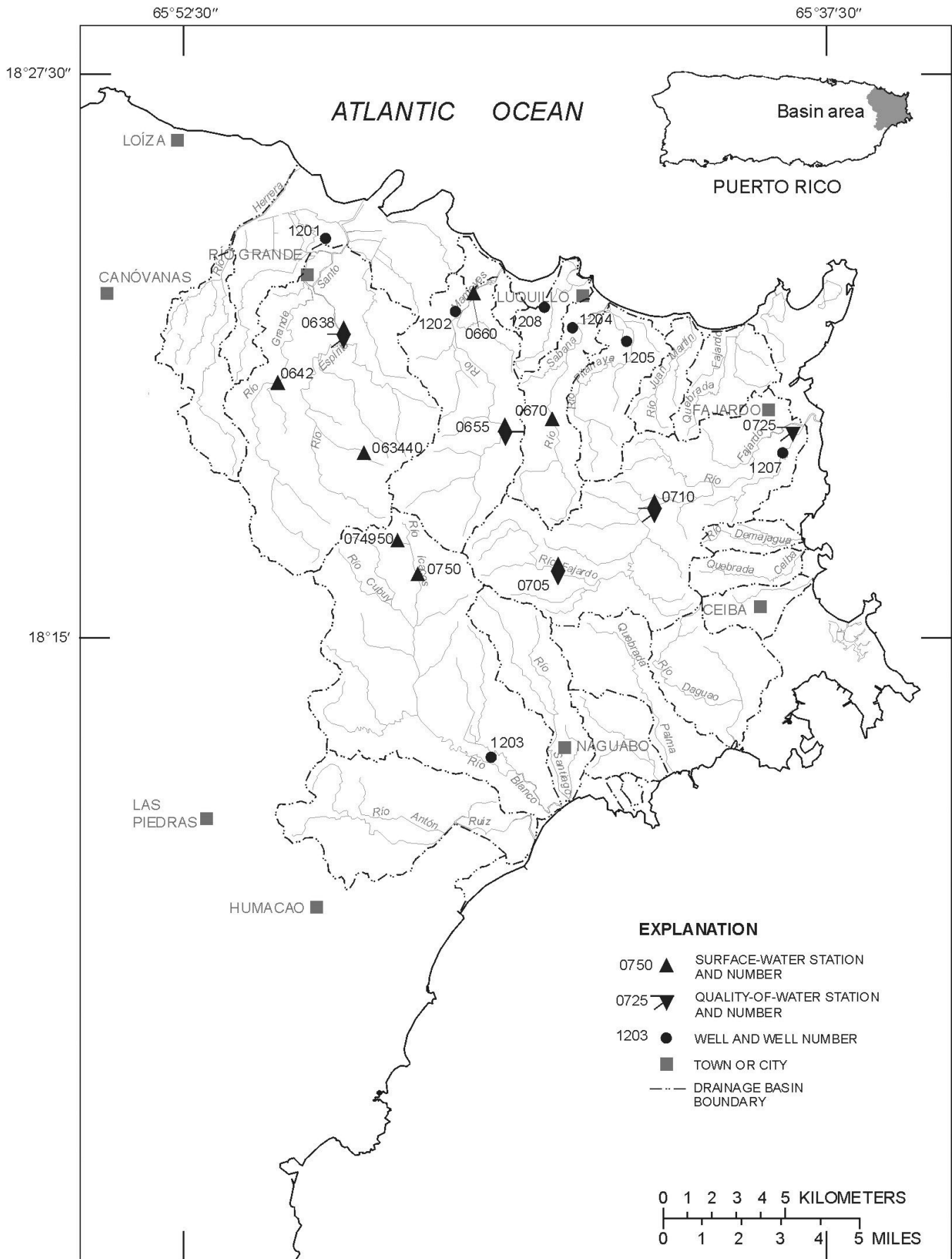


Figure 19. Northeastern river basins -- Río Herrera to Río Antón Ruíz basins.

RIO ESPIRITU SANTO BASIN

50063440 QUEBRADA SONADORA NEAR EL VERDE, PR

LOCATION.--Lat 18°19'24", long 65°49'03", Hydrologic Unit 21010005, in Caribbean National Forest, at El Yunque, 0.6 mi (1.0 km) upstream from Río Espiritu Santo, 0.2 mi (0.3 km) upstream from Highway 186, and about 1.2 mi (1.9 km) south of El Verde.

DRAINAGE AREA.--1.01 mi² (2.62 km²).

PERIOD OF RECORD.--March 1983 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,230 ft (375 m), from topographic map.

REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	1.3	5.5	1.6	e2.6	e3.8	e2.6	e33	e7.3	4.1	4.8	18
2	13	21	3.1	1.5	e2.5	e3.7	e2.6	e5.9	e3.2	16	24	4.7
3	5.6	8.8	2.4	1.7	e3.2	e3.4	e3.0	e2.0	e1.1	5.9	11	3.8
4	2.5	2.3	2.0	1.5	e1.8	e3.1	e4.4	e1.4	e1.1	21	11	2.9
5	1.6	1.5	1.7	1.5	e1.4	e3.1	e39	e1.2	e1.5	7.8	6.0	2.1
6	1.4	1.3	1.5	1.2	e5.1	e3.1	e18	e1.1	e1.3	2.9	5.6	1.6
7	1.5	1.3	1.4	1.1	e2.7	e3.0	e4.2	e41	e.89	1.7	7.1	1.4
8	6.6	1.3	1.3	1.0	e1.5	e2.9	e3.8	e4.2	e.81	1.4	3.0	1.2
9	2.2	1.9	1.2	1.0	e1.2	e2.8	e4.0	e2.6	e.72	1.1	9.2	1.1
10	1.5	1.4	1.3	e.97	e2.4	e2.7	e2.4	e1.6	e.81	1.0	14	1.1
11	1.2	.97	1.3	e.90	e37	e2.6	e8.5	e1.1	e.81	.99	8.8	1.0
12	1.1	.87	7.9	e.89	e12	e2.6	e3.2	e1.4	e.72	1.2	11	1.1
13	1.1	.73	13	e.87	e3.8	e2.9	e4.5	e1.7	e.54	15	4.2	3.8
14	1.0	2.7	12	e.83	e2.3	e6.9	e3.5	e1.5	e.55	2.1	4.5	1.1
15	.91	9.7	21	e.81	e7.8	e3.3	e2.3	e1.3	e.46	1.3	4.8	1.0
16	.84	5.5	6.6	e1.7	e6.2	e2.8	e2.0	e1.1	e.72	1.1	4.9	.87
17	.80	2.6	34	e2.2	e6.3	e2.8	e1.8	e.94	e2.5	.96	16	.92
18	.76	1.6	15	e1.4	e2.3	e2.8	e1.7	e.94	e.89	.87	6.0	1.5
19	.79	2.3	14	e.99	e1.6	e2.8	e1.6	e1.0	e1.4	.82	2.9	1.3
20	.79	12	9.6	e.82	e6.8	e3.0	e1.8	e1.1	3.6	.78	2.9	.69
21	1.7	9.8	13	e.76	e2.7	e5.7	e10	e1.3	1.0	.65	e2.7	.61
22	3.4	8.2	18	e.72	e14	e43	e4.9	e1.5	.62	.56	e80	11
23	8.5	20	9.8	e.76	e10	e5.5	e3.8	e1.5	.48	.94	e28	2.4
24	6.9	9.1	5.0	e.75	e7.4	e3.9	e7.9	e1.1	.44	7.8	e4.5	3.8
25	2.9	19	3.5	e.75	e5.5	e3.4	e3.7	e1.3	.87	4.4	e3.3	3.0
26	1.2	13	2.6	e.73	e5.6	e3.3	e9.9	e1.3	.86	3.3	2.9	1.1
27	1.2	7.6	2.1	e.92	e4.5	e3.5	e3.5	e1.3	.58	5.5	5.8	3.9
28	2.6	14	1.8	e11	e4.0	e3.1	e2.0	e5.9	5.0	1.5	16	1.3
29	2.2	7.2	1.7	e80	---	e2.9	e1.8	e2.5	1.1	25	4.0	3.2
30	1.5	13	1.7	e9.0	---	e2.9	e48	e1.4	3.4	11	9.0	1.1
31	1.3	---	1.6	e2.3	---	e2.8	---	e1.3	---	5.8	2.8	---
TOTAL	84.29	201.97	216.6	132.17	164.2	144.1	210.4	126.48	45.27	154.47	320.7	82.59
MEAN	2.72	6.73	6.99	4.26	5.86	4.65	7.01	4.08	1.51	4.98	10.3	2.75
MAX	13	21	34	80	37	43	48	41	7.3	25	80	18
MIN	.76	.73	1.2	.72	1.2	2.6	1.6	.94	.44	.56	2.7	.61
AC-FT	167	401	430	262	326	286	417	251	90	306	636	164
CFSM	2.69	6.67	6.92	4.22	5.81	4.60	6.94	4.04	1.49	4.93	10.2	2.73
IN.	3.10	7.44	7.98	4.87	6.05	5.31	7.75	4.66	1.67	5.69	11.81	3.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2001, BY WATER YEAR (WY)

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	5.52	9.19	8.85	6.99	5.81	4.72	4.52	6.93	5.43	5.97	7.26	7.43							
MAX	16.8	19.8	22.3	11.1	11.9	14.3	9.76	14.3	13.7	12.7	14.2	23.2							
(WY)	1986	1985	2000	1996	1988	1990	1987	1992	1987	1983	1988	1998							
MIN	.22	2.47	.92	3.42	1.56	1.53	.90	2.00	.98	1.90	.50	2.45							
(WY)	1993	1991	1990	1985	1992	1993	1997	1999	1985	2000	1993	1986							

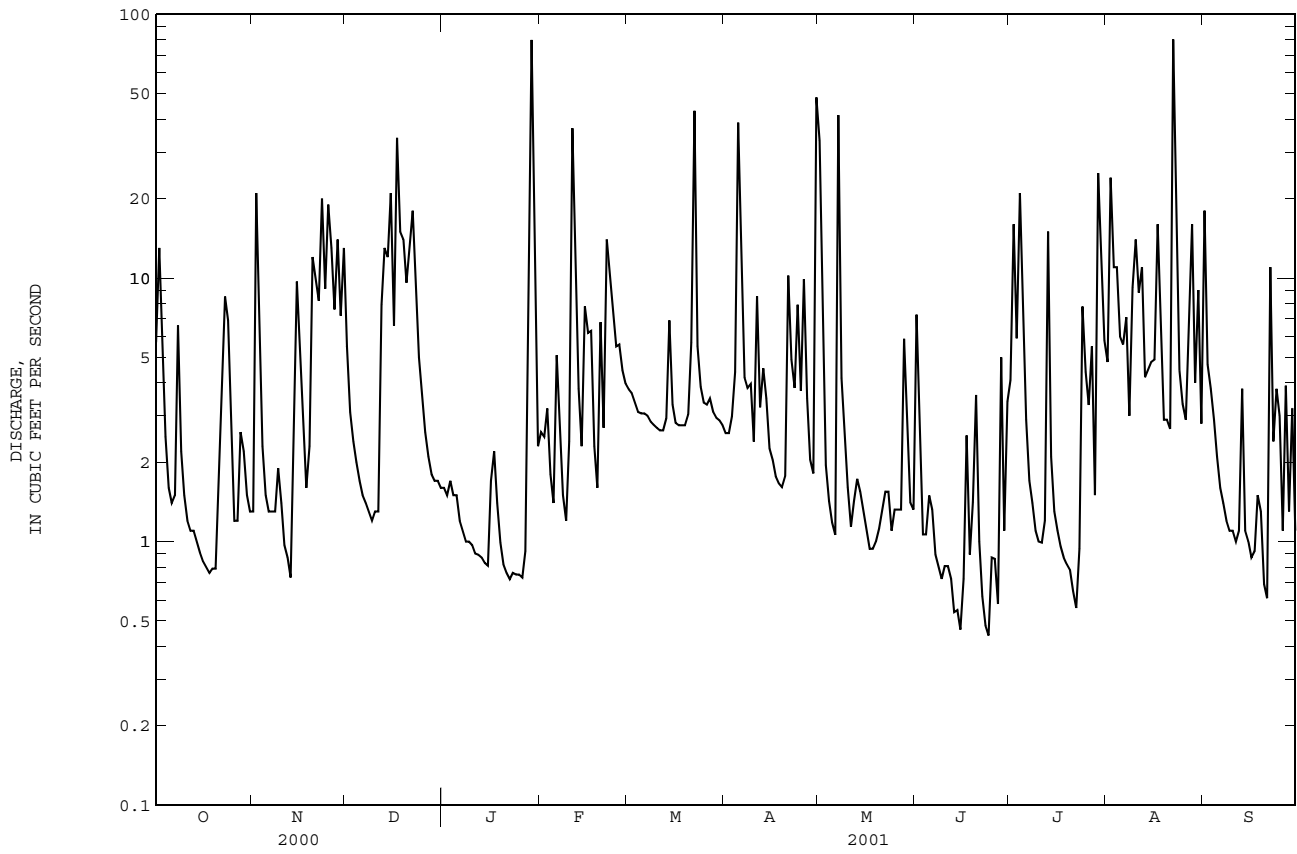
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1983 - 2001

ANNUAL TOTAL	2044.36	1883.24		
ANNUAL MEAN	5.59	5.16	6.50	
HIGHEST ANNUAL MEAN			9.32	1988
LOWEST ANNUAL MEAN			3.91	1994
HIGHEST DAILY MEAN	101	Aug 23	80	Jan 29
LOWEST DAILY MEAN	.73	Nov 13	.44	Jun 24
ANNUAL SEVEN-DAY MINIMUM	.84	Oct 14	.66	Jun 9
MAXIMUM PEAK FLOW				2230
MAXIMUM PEAK STAGE			Unknown	Aug 22
INSTANTANEOUS LOW FLOW			Unknown	Aug 22
ANNUAL RUNOFF (AC-FT)	4050	3740	4710	
ANNUAL RUNOFF (CFSM)	5.53	5.11	6.44	
ANNUAL RUNOFF (INCHES)	75.30	69.36	87.47	
10 PERCENT EXCEEDS	12	12	16	
50 PERCENT EXCEEDS	3.1	2.6	2.7	
90 PERCENT EXCEEDS	1.3	.87	.55	

e Estimated

RIO ESPIRITU SANTO BASIN

50063440 QUEBRADA SONADORA NEAR EL VERDE, PR--Continued



RIO ESPIRITU SANTO BASIN

50063800 RIO ESPIRITU SANTO NEAR RIO GRANDE, PR

LOCATION.--Lat 18°21'37", long 65°48'49", Hydrologic Unit 21010005, at left abutment, on downstream side of bridge on Highway 966, 0.1 mi (0.2 km) upstream from Quebrada Jiménez, and 1.9 mi (3.1 km) southeast of Río Grande.

DRAINAGE AREA.--8.62 mi² (22.33 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1959 to April 1963 (annual low-flow and occasional measurements only), August 1966 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 40 ft (12 m), from topographic map.

REMARKS.--Records poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	18	e31	17	19	16	8.0	271	62	e22	e42	e58
2	259	225	e27	16	20	14	9.5	53	29	e39	e292	e44
3	63	70	e26	37	19	12	8.3	21	11	e32	e46	e43
4	27	20	e24	18	15	12	23	16	11	e103	e113	e30
5	20	13	e24	15	13	11	307	14	15	e81	e39	e24
6	18	12	e23	14	30	11	144	13	13	e33	e30	e20
7	20	11	e21	14	21	10	31	340	9.6	e19	e24	e22
8	53	13	e21	13	12	9.5	28	31	9.2	e16	e21	e22
9	27	13	e20	13	11	8.9	29	22	8.6	e11	e40	e22
10	17	14	e20	12	11	8.2	16	17	8.9	e9.0	e76	e22
11	14	10	e20	11	269	7.6	67	15	8.9	e9.9	e34	e22
12	13	9.5	e27	10	82	7.1	23	15	8.1	e29	e40	e22
13	13	9.3	e74	9.6	30	11	34	18	7.2	e118	e22	e41
14	12	20	46	9.0	19	28	25	15	6.7	e22	e25	e24
15	11	52	125	8.9	39	12	15	13	e6.3	e12	e22	e32
16	11	37	37	12	35	8.8	13	12	e8.2	e11	e33	e30
17	10	16	205	21	42	8.2	11	12	e23	e10	e62	e26
18	10	14	105	14	20	7.4	10	12	e9.4	e9.1	e41	e40
19	11	17	e54	12	17	6.8	9.5	13	e8.0	e8.8	e26	e24
20	11	55	e49	11	33	11	11	13	e15	9.1	e23	e22
21	16	58	e43	10	24	33	81	13	e9.7	7.4	e22	e24
22	48	42	e81	9.2	83	342	37	17	e7.0	7.1	e666	e107
23	43	124	54	9.0	54	32	28	15	e7.0	8.4	e236	e43
24	29	59	32	8.2	43	16	62	13	e6.9	24	e37	e37
25	22	105	26	7.5	42	14	27	13	e11	18	e27	e31
26	12	65	23	7.4	32	12	28	12	e13	e9.3	e25	e24
27	17	46	21	8.0	20	15	e25	13	e7.9	e27	e25	e27
28	21	54	20	54	17	10	e13	51	e14	e8.7	e108	e24
29	22	35	20	652	---	10	11	23	e7.9	e281	e38	e40
30	12	e41	20	90	---	10	398	14	e11	e124	e40	e27
31	12	---	18	22	---	8.8	---	13	---	e51	e27	---
TOTAL	908	1277.8	1337	1164.8	1072	723.3	1532.3	1133	373.5	1169.8	2302	974
MEAN	29.3	42.6	43.1	37.6	38.3	23.3	51.1	36.5	12.4	37.7	74.3	32.5
MAX	259	225	205	652	269	342	398	340	62	281	666	107
MIN	10	9.3	18	7.4	11	6.8	8.0	12	6.3	7.1	21	20
AC-FT	1800	2530	2650	2310	2130	1430	3040	2250	741	2320	4570	1930
CFSM	3.40	4.94	5.00	4.36	4.44	2.71	5.93	4.24	1.44	4.38	8.61	3.77
IN.	3.92	5.51	5.77	5.03	4.63	3.12	6.61	4.89	1.61	5.05	9.93	4.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2001, BY WATER YEAR (WY)

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001			
MEAN	62.1	88.2	79.0	56.4	50.3	38.5	43.1	63.6	44.6	51.6	63.9	63.2																											
MAX	202	196	248	119	117	153	119	185	120	114	126	235																											
(WY)	1971	1985	1999	1969	1982	1990	1981	1979	1970	1983	1998	1998																											
MIN	12.3	29.1	16.8	18.5	10.8	9.53	6.27	14.9	10.0	11.1	18.5	17.7																											
(WY)	1969	1982	1994	1977	1983	1996	1984	1973	1975	1975	1994	1991																											

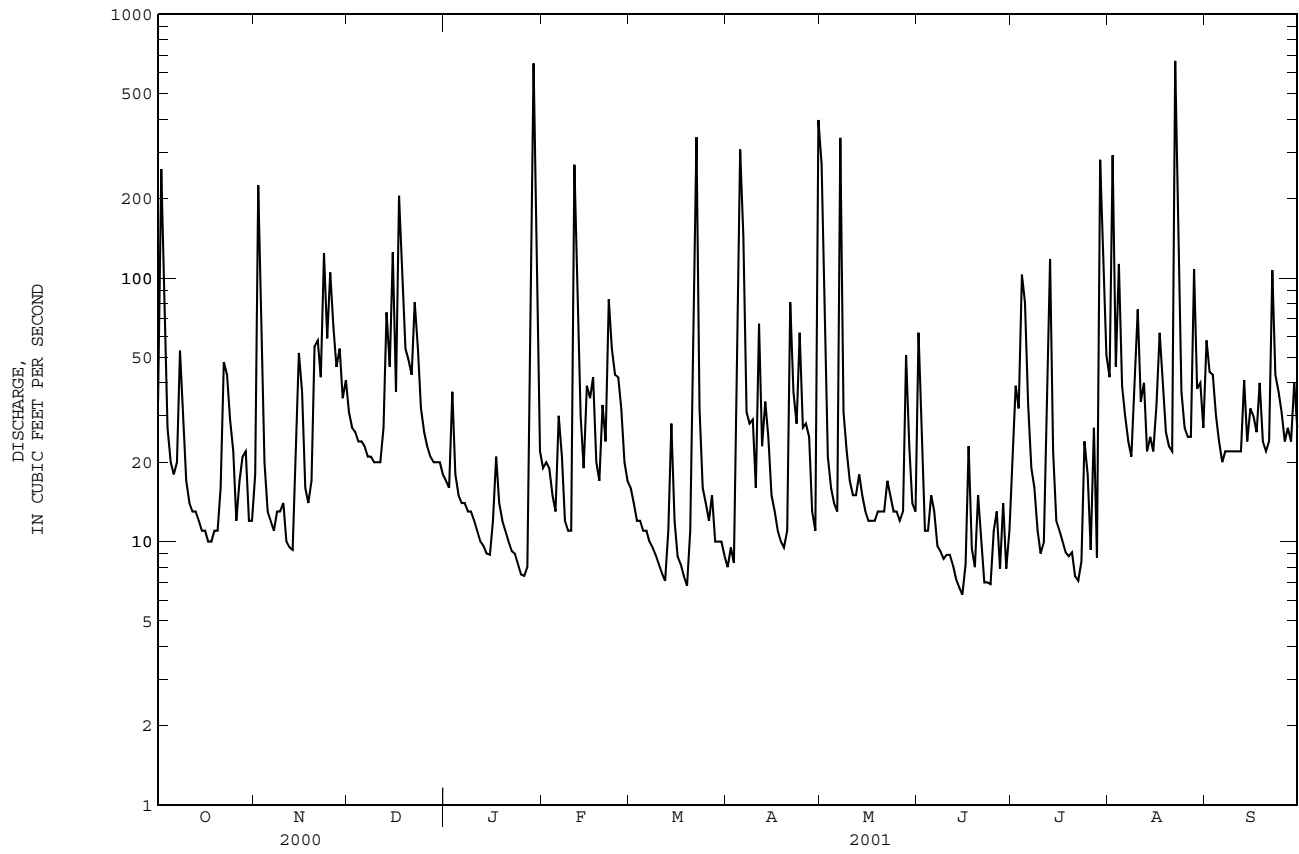
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1966 - 2001

ANNUAL TOTAL	18342.4	13967.5	
ANNUAL MEAN	50.1	38.3	58.8
HIGHEST ANNUAL MEAN			98.6
LOWEST ANNUAL MEAN			21.6
HIGHEST DAILY MEAN	1240	Aug 23	2600
LOWEST DAILY MEAN	7.4	Jul 19	3.6
ANNUAL SEVEN-DAY MINIMUM	9.0	Jul 15	4.0
MAXIMUM PEAK FLOW			13200
MAXIMUM PEAK STAGE			12.70
ANNUAL RUNOFF (AC-FT)	36380	27700	42610
ANNUAL RUNOFF (CFSM)	5.81	4.44	6.82
ANNUAL RUNOFF (INCHES)	79.16	60.28	92.71
10 PERCENT EXCEEDS	90	64	124
50 PERCENT EXCEEDS	25	20	26
90 PERCENT EXCEEDS	12	9.0	10

e Estimated

RIO ESPIRITU SANTO BASIN

50063800 RIO ESPIRITU SANTO NEAR RIO GRANDE, PR--Continued



RIO ESPIRITU SANTO BASIN

50063800 RIO ESPIRITU SANTO NEAR RIO GRANDE, PR

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958, 1961-66, 1968 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST-CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CaCO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)
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OCT	05...	1415	20	96	7.9	28.7	10	7.5	97	<10	240	E80	29	6.22
FEB	27...	1145	19	108	7.8	22.4	4.0	9.0	102	<10	E100	E70	--	--
JUN	01...	1420	21	117	7.7	26.5	--	7.4	91	10	210	<140	33	7.02
AUG	13...	1045	20	85	6.7	27.3	--	7.9	98	19	220	200	23	4.96

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
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OCT	05...	3.15	7.3	.6	.43	27	<1.0	1.7	8.8	<.2	17.9	62	3.30	<10
FEB	27...	--	--	--	--	33	--	--	--	--	--	--	--	<10
JUN	01...	3.69	7.3	.6	.75	34	<1.0	1.9	9.0	<.2	17.7	68	3.93	10
AUG	13...	2.63	6.3	.6	.40	21	--	2.0	8.2	<.2	13.8	51	2.81	<10

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, ORGANIC (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)
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OCT	05...	<.01	.1	.04	--	<.20	--	--	<.020	<2	4.1	E10	<.11	M
FEB	27...	<.01	.1	.01	.23	.24	.29	1.3	<.020	--	--	--	--	--
JUN	01...	<.01	.1	<.01	--	.42	.49	2.2	.050	<2	5.7	E11	<.10	M
AUG	13...	<.01	M	.02	--	<.20	--	--	<.020	--	--	--	--	--

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL RECOV-ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
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OCT	05...	<20.0	140	<1	8	<.14	<2.6	<.43	<31	<.01	<16	<.02
FEB	27...	--	--	--	--	--	--	--	--	--	--	--
JUN	01...	<20.0	620	<1	33	<.01	<3.0	<.40	<31	<.01	E7	.03
AUG	13...	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
 E -- Estimated value
 M -- Presence verified, not quantified

RIO ESPIRITU SANTO BASIN

50064200 RIO GRANDE NEAR EL VERDE, PR

LOCATION.--Lat 18°20'42", long 65°50'30", Hydrologic Unit 21010005, on left bank 250 ft (7.6 m) upstream side of bridge at Hwy 960, 0.05 mi (0.08 km) southwest of junction of Highways 956 and 960, 1.1 mi (1.8 km) west of El Verde, and 2.7 mi (4.3 km) south of Rio Grande.

DRAINAGE AREA.--7.31 mi² (18.93 km²).

PERIOD OF RECORD.--May 1967 to December 1970, January 1972 to September 1982, August 1990 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 131 ft (40 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	19	24	11	15	13	13	107	31	12	14	e45
2	118	199	16	10	16	13	10	37	17	19	119	e31
3	61	56	15	17	13	12	10	17	9.6	27	33	e30
4	27	16	14	10	13	11	18	14	7.5	24	33	e17
5	17	12	13	9.7	11	11	148	13	9.1	27	26	e12
6	15	11	14	9.1	11	11	105	12	9.8	14	17	e11
7	16	11	12	8.8	11	11	20	311	7.2	8.0	12	e10
8	58	11	12	8.5	9.8	10	15	27	6.9	6.4	8.9	e9.6
9	25	10	12	8.1	9.4	9.9	18	19	6.5	5.5	27	e9.6
10	16	11	12	7.3	10	9.5	14	14	6.5	5.4	63	e9.8
11	13	9.5	12	7.1	158	8.9	30	12	6.2	5.4	21	e9.9
12	12	8.9	20	7.1	57	8.7	21	11	6.2	19	27	e9.2
13	12	8.7	83	6.9	24	10	26	13	6.2	64	15	28
14	11	38	47	6.6	15	14	19	11	5.8	12	13	12
15	10	74	148	6.5	22	9.8	13	9.5	5.7	7.7	10	19
16	10	28	41	7.5	30	8.6	12	e8.9	5.9	6.1	20	17
17	10	13	150	10	34	8.2	11	e8.8	6.2	e5.6	49	14
18	9.5	17	87	8.1	15	8.1	10	e8.9	6.3	5.5	28	27
19	11	18	e47	7.8	12	7.7	10	e12	5.8	5.5	14	12
20	10	42	44	9.2	18	8.2	10	e9.4	6.2	5.4	11	9.9
21	16	58	32	8.0	17	45	30	e8.2	6.3	5.0	10	12
22	32	47	42	7.2	66	361	25	e7.8	5.5	5.1	e649	94
23	58	102	28	7.0	35	34	19	e7.6	5.5	5.2	e222	30
24	21	37	19	6.5	46	17	37	e7.8	5.7	7.3	e24	24
25	13	108	16	6.4	41	16	21	8.8	6.5	17	e15	19
26	11	56	14	6.2	27	14	19	8.4	6.6	e10	e13	12
27	10	38	14	6.3	17	15	e17	8.1	5.6	14	e13	15
28	12	22	13	65	15	12	12	22	8.0	7.8	e95	12
29	15	21	e16	514	---	12	11	13	6.1	141	e25	27
30	10	22	16	106	---	11	91	7.9	6.4	44	e27	14
31	10	---	12	20	---	10	---	7.6	---	16	e15	---
TOTAL	685.5	1124.1	1045	928.9	768.2	750.6	815	782.7	233.8	556.9	1668.9	602.0
MEAN	22.1	37.5	33.7	30.0	27.4	24.2	27.2	25.2	7.79	18.0	53.8	20.1
MAX	118	199	150	514	158	361	148	311	31	141	649	94
MIN	9.5	8.7	12	6.2	9.4	7.7	10	7.6	5.5	5.0	8.9	9.2
AC-FT	1360	2230	2070	1840	1520	1490	1620	1550	464	1100	3310	1190
CFSM	3.03	5.13	4.61	4.10	3.75	3.31	3.72	3.45	1.07	2.46	7.36	2.75
IN.	3.49	5.72	5.32	4.73	3.91	3.82	4.15	3.98	1.19	2.83	8.49	3.06

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2001, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
	56.2	392	1971	8.45	1969
	67.6	172	1970	14.3	1981
	51.9	140	1971	12.0	1998
	44.5	151	1969	10.1	1977
	30.7	76.4	1969	5.80	1977
	20.5	54.4	1969	4.50	1977
	25.9	119	1978	6.29	1995
	46.2	203	1969	10.2	1974
	29.1	86.5	1968	6.22	1975
	34.8	109	1969	8.66	1994
	45.2	90.0	1968	7.39	1991
	50.8	153	1975	12.4	1967

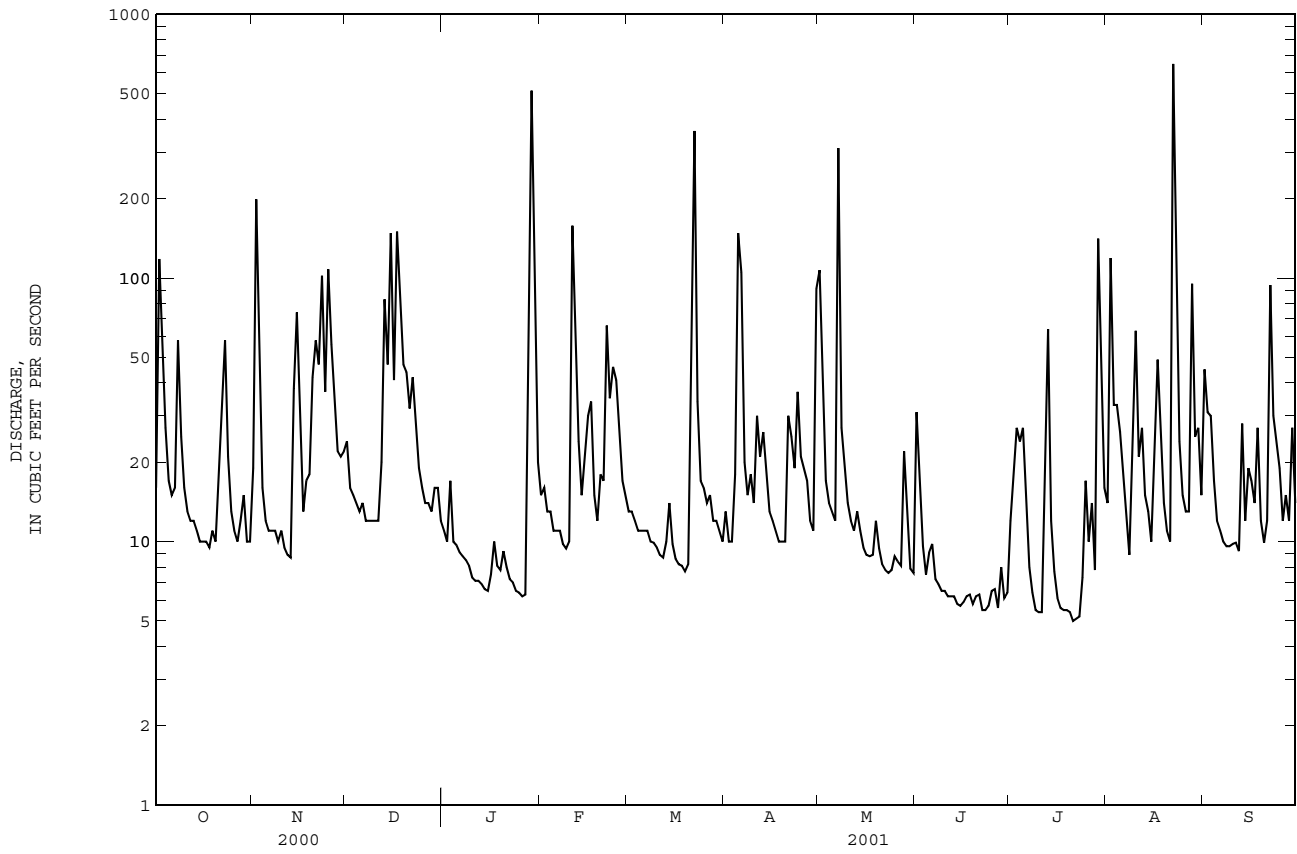
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1967 - 2001

ANNUAL TOTAL	11581.7	9961.6	
ANNUAL MEAN	31.6	27.3	40.6
HIGHEST ANNUAL MEAN			87.1
LOWEST ANNUAL MEAN			17.3
HIGHEST DAILY MEAN	754	649	3470
LOWEST DAILY MEAN	4.8	5.0	2.2
ANNUAL SEVEN-DAY MINIMUM	5.1	5.3	2.5
MAXIMUM PEAK FLOW		12600	22000
MAXIMUM PEAK STAGE		16.77	19.30
INSTANTANEOUS LOW FLOW		4.7	1.6
ANNUAL RUNOFF (AC-FT)	22970	19760	29390
ANNUAL RUNOFF (CFSM)	4.33	3.73	5.55
ANNUAL RUNOFF (INCHES)	58.94	50.69	75.40
10 PERCENT EXCEEDS	73	48	80
50 PERCENT EXCEEDS	14	13	17
90 PERCENT EXCEEDS	7.5	6.5	6.7

e Estimated

RIO ESPIRITU SANTO BASIN

50064200 RIO GRANDE NEAR EL VERDE, PR--Continued



50065500 RIO MAMEYES NEAR SABANA, PR

LOCATION.--Lat 18°19'46", long 65°45'04", Hydrologic Unit 21010005, on left bank, at bridge on Highway 988, 1.4 mi (2.3 km) west of Sabana, 2.0 mi (3.2 km) downstream from Río de la Mina, and 3.2 mi (5.1 km) southeast of Mameyes.

DRAINAGE AREA.--6.88 mi² (17.82 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1967 to December 1973, June 1983 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 275 ft (84 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	63	33	21	19	19	20	204	95	22	49	e157
2	150	e134	28	21	18	17	22	57	32	38	87	57
3	63	54	25	25	19	17	22	34	21	27	56	42
4	36	28	24	21	17	16	45	29	18	60	77	29
5	30	24	23	20	16	16	126	26	41	41	54	24
6	29	22	22	19	43	15	109	25	22	23	53	21
7	30	21	21	19	22	15	48	165	18	21	53	19
8	53	20	21	19	18	15	35	31	18	20	41	18
9	32	21	20	18	17	15	38	27	17	17	64	18
10	31	19	20	18	19	15	25	24	17	17	69	18
11	25	18	20	17	89	15	61	22	15	19	60	16
12	24	20	29	17	39	e18	34	24	15	20	61	17
13	23	20	50	17	23	e20	41	29	15	67	44	47
14	22	30	40	16	20	e39	30	23	15	22	53	22
15	21	37	89	16	34	e26	24	21	14	26	48	45
16	22	33	41	19	35	e19	21	20	20	22	47	20
17	20	29	109	28	34	e15	19	20	46	19	73	20
18	20	28	72	21	21	e14	19	20	15	19	53	41
19	29	29	54	18	18	e14	19	20	13	27	43	22
20	23	45	52	17	27	e17	22	18	17	21	47	18
21	38	46	50	16	21	39	84	18	14	19	44	18
22	150	39	76	15	63	e244	35	20	13	20	e736	92
23	61	80	50	14	42	35	30	18	14	23	211	35
24	33	37	36	13	34	30	63	18	15	34	63	33
25	26	80	32	13	30	25	27	17	15	52	40	29
26	40	53	30	13	24	23	40	18	14	62	31	22
27	29	39	28	15	20	22	34	17	14	68	51	41
28	30	49	27	35	20	20	23	34	21	45	79	26
29	26	38	26	215	---	21	21	18	15	122	31	24
30	33	52	23	45	---	20	147	16	23	70	40	19
31	35	---	22	21	---	19	---	18	---	56	26	---
TOTAL	1249	1208	1193	802	802	855	1284	1051	642	1119	2484	1010
MEAN	40.3	40.3	38.5	25.9	28.6	27.6	42.8	33.9	21.4	36.1	80.1	33.7
MAX	150	134	109	215	89	244	147	204	95	122	736	157
MIN	20	18	20	13	16	14	19	16	13	17	26	16
AC-FT	2480	2400	2370	1590	1590	1700	2550	2080	1270	2220	4930	2000
CFSM	5.86	5.85	5.59	3.76	4.16	4.01	6.22	4.93	3.11	5.25	11.6	4.89
IN.	6.75	6.53	6.45	4.34	4.34	4.62	6.94	5.68	3.47	6.05	13.43	5.46

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2001, BY WATER YEAR (WY)

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001			
MEAN	63.9	81.2	61.7	54.1	41.1	36.1	39.3	61.4	52.4	49.1	56.5	62.7																										
MAX	240	191	164	105	68.0	79.7	83.1	147	112	93.4	85.2	166																										
(WY)	1971	1985	1971	1969	1988	1990	1973	1970	1970	1969	2000	1989																										
MIN	20.3	36.3	16.6	25.0	21.7	16.8	14.5	18.7	12.4	20.3	20.4	26.6																										
(WY)	1969	1974	1990	1985	1968	2000	1984	1973	1985	1994	1994	1986																										

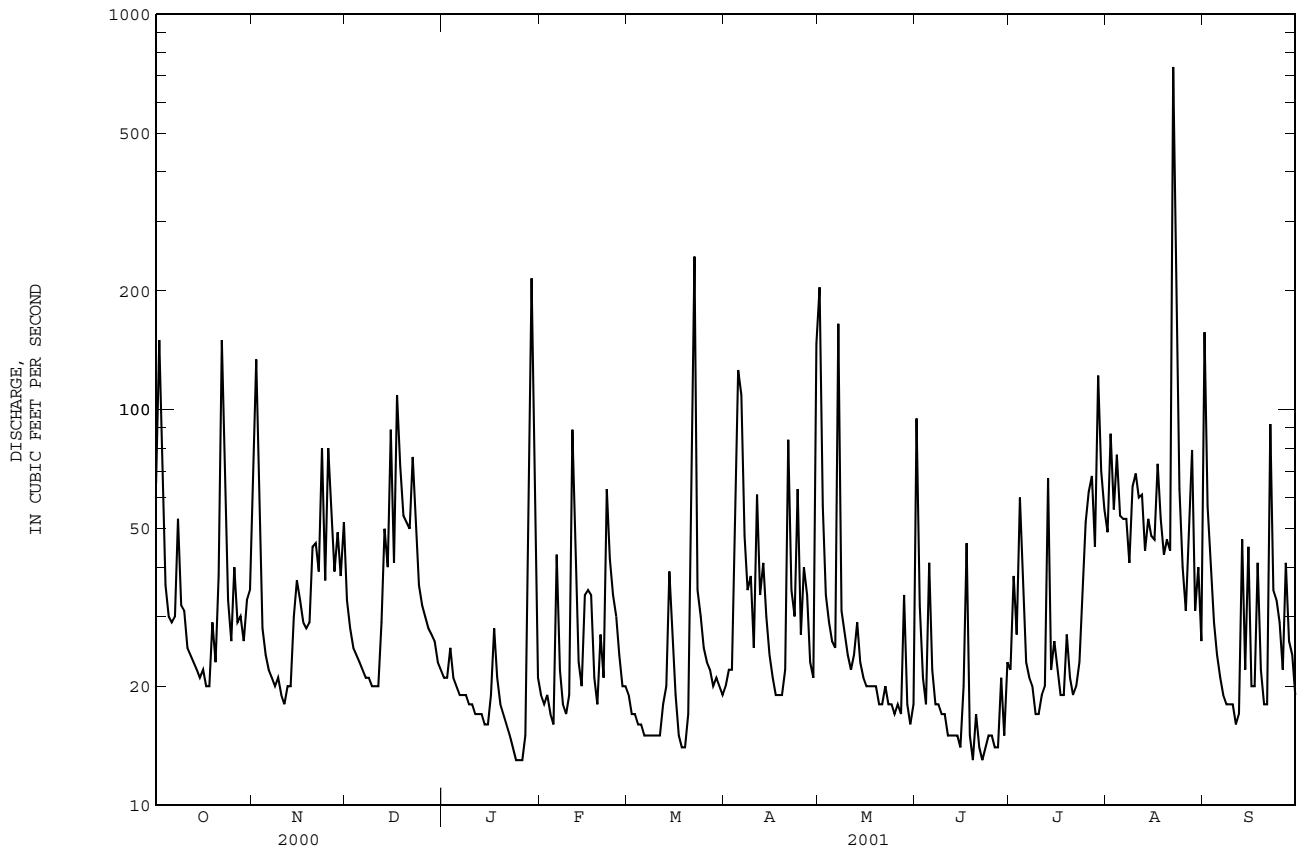
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1967 - 2001

ANNUAL TOTAL	16143	13699	
ANNUAL MEAN	44.1	37.5	
HIGHEST ANNUAL MEAN			78.0
LOWEST ANNUAL MEAN			33.1
HIGHEST DAILY MEAN	704	Aug 23	736
LOWEST DAILY MEAN	11	Apr 9	13
ANNUAL SEVEN-DAY MINIMUM	12	Apr 5	14
MAXIMUM PEAK FLOW			13800
MAXIMUM PEAK STAGE			11.40
INSTANTANEOUS LOW FLOW			12
ANNUAL RUNOFF (AC-FT)	32020	27170	40210
ANNUAL RUNOFF (CFSM)	6.41	5.46	8.07
ANNUAL RUNOFF (INCHES)	87.28	74.07	109.61
10 PERCENT EXCEEDS	78	63	100
50 PERCENT EXCEEDS	32	24	33
90 PERCENT EXCEEDS	15	16	16

e Estimated

RIO MAMEYES BASIN

50065500 RIO MAMEYES NEAR SABANA, PR--Continued



RIO MAMEYES BASIN

50065500 RIO MAMEYES NEAR SABANA, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.-- Water years 1992 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1992 to current year.

INSTRUMENTATION.-- USDH-48 and automatic sediment samplers since 1993.

REMARKS.-- During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 484 mg/L September 10, 1996; Minimum daily mean, 1 mg/L several days during several years.

SEDIMENT LOADS: Maximum daily mean, 5,390 tons (4,890 tonnes) September 21, 1998; Minimum daily mean, 0.03 ton (0.03 tonne) October 05, 1994 and June 19, 2001.

EXTREMES FOR CURRENT YEAR 2001.--

SEDIMENT CONCENTRATION: Maximum daily mean, e200 mg/L August 22, 2001; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, e2,260 tons (e2,050 tonnes) August 22, 2001; Minimum daily mean, 0.03 ton (.03 tonne) June 19, 2001.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	65	14	3.8	63	15	4.6	33	6	.57
2	150	50	77	e134	e37	e59	28	4	.34
3	63	23	3.9	54	9	1.4	25	6	.40
4	36	19	1.9	28	4	.33	24	8	.49
5	30	12	.99	24	3	.21	23	9	.57
6	29	5	.36	22	3	.20	22	7	.41
7	30	3	.24	21	4	.20	21	4	.21
8	53	10	2.0	20	4	.20	21	4	.20
9	32	5	.47	21	4	.22	20	4	.22
10	31	4	.33	19	4	.18	20	5	.26
11	25	4	.30	18	3	.15	20	5	.28
12	24	4	.26	20	4	.19	29	6	.46
13	23	3	.20	20	4	.22	50	11	1.9
14	22	3	.18	30	4	.36	40	6	.66
15	21	3	.17	37	5	.49	89	20	5.9
16	22	3	.18	33	5	.45	41	6	.71
17	20	3	.16	29	5	.40	109	23	8.2
18	20	3	.16	28	5	.37	72	15	3.2
19	29	6	.64	29	5	.40	54	10	1.7
20	23	5	.30	45	5	.61	52	9	1.3
21	38	9	1.3	46	5	.62	50	7	.91
22	150	39	45	39	6	.71	76	20	5.3
23	61	14	2.5	80	18	6.3	50	10	1.5
24	33	7	.64	37	5	.52	36	7	.65
25	26	5	.38	80	17	5.1	32	5	.48
26	40	10	1.4	53	11	2.2	30	4	.35
27	29	9	.70	39	8	.85	28	4	.29
28	30	9	.69	49	9	1.4	27	4	.26
29	26	8	.60	38	7	.76	26	3	.24
30	33	8	.73	52	11	1.8	23	3	.20
31	35	8	.75	---	---	---	22	3	.17
TOTAL	1249	---	148.23	1208	---	90.44	1193	---	38.33

RIO MAMEYES BASIN

50065500 RIO MAMEYES NEAR SABANA, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	21	3	.16	19	4	.19	19	1	.07
2	21	2	.14	18	4	.17	17	2	.07
3	25	2	.15	19	4	.17	17	2	.08
4	21	2	.11	17	3	.15	16	2	.08
5	20	2	.08	16	3	.14	16	2	.09
6	19	1	.06	43	10	2.4	15	2	.09
7	19	2	.12	22	4	.24	15	2	.10
8	19	4	.18	18	3	.16	15	3	.10
9	18	3	.13	17	3	.14	15	3	.12
10	18	1	.06	19	3	.17	15	3	.12
11	17	1	.05	89	29	9.0	15	2	.10
12	17	1	.06	39	26	2.8	e18	e2	e.08
13	17	1	.06	23	23	1.4	e20	e2	e.19
14	16	2	.07	20	14	.78	e39	e7	e.77
15	16	2	.07	34	4	.39	e26	e6	e.39
16	19	2	.09	35	5	.65	e19	e6	e.30
17	28	2	.15	34	7	.73	e15	e5	e.25
18	21	2	.11	21	5	.26	e14	e5	e.22
19	18	2	.10	18	3	.17	e14	e4	e.20
20	17	2	.09	27	2	.16	e17	e4	e.20
21	16	2	.09	21	2	.11	39	4	.44
22	15	2	.08	63	13	3.6	e244	e58	e82
23	14	2	.08	42	7	.79	35	6	.56
24	13	2	.07	34	7	.61	30	3	.25
25	13	2	.07	30	5	.41	25	3	.21
26	13	2	.07	24	3	.21	23	3	.20
27	15	2	.09	20	1	.08	22	3	.20
28	35	7	.82	20	1	.06	20	3	.18
29	215	56	39	---	---	---	21	4	.20
30	45	9	1.6	---	---	---	20	4	.19
31	21	4	.22	---	---	---	19	4	.19
TOTAL	802	---	44.23	802	---	26.14	855	---	88.24

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	20	4	.20	204	56	49	95	23	12
2	22	4	.22	57	13	2.2	32	8	.74
3	22	4	.23	34	3	.32	21	7	.42
4	45	4	.48	29	2	.16	18	7	.33
5	126	34	30	26	2	.14	41	10	1.3
6	109	28	10	25	2	.13	22	6	.35
7	48	13	1.8	165	40	67	18	5	.26
8	35	11	1.0	31	6	.51	18	5	.22
9	38	8	.82	27	5	.36	17	4	.18
10	25	5	.36	24	5	.30	17	4	.16
11	61	13	3.6	22	4	.26	15	3	.12
12	34	6	.59	24	4	.25	15	2	.09
13	41	8	.96	29	3	.26	15	2	.07
14	30	7	.57	23	3	.17	15	1	.06
15	24	7	.44	21	2	.12	14	4	.17
16	21	7	.37	20	2	.09	20	9	.82
17	19	6	.33	20	1	.06	46	8	1.4
18	19	6	.31	20	1	.06	15	2	.07
19	19	6	.30	20	1	.05	13	1	.03
20	22	6	.35	18	1	.05	17	1	.04
21	84	19	5.9	18	1	.05	14	1	.04
22	35	7	.65	20	1	.05	13	1	.04
23	30	6	.47	18	1	.05	14	1	.04
24	63	14	3.7	18	1	.05	15	1	.04
25	27	6	.48	17	1	.05	15	1	.04
26	40	8	1.1	18	1	.05	14	1	.04
27	34	7	.73	17	1	.05	14	1	.04
28	23	6	.37	34	4	.53	21	1	.06
29	21	5	.31	18	4	.20	15	1	.04
30	147	76	145	16	3	.13	23	1	.06
31	---	---	---	18	2	.10	---	---	---
TOTAL	1284	---	211.64	1051	---	122.80	642	---	19.27

RIO MAMEYES BASIN

50065500 RIO MAMEYES NEAR SABANA, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	22	1	.06	49	1	.13	e157	e32	e58
2	38	5	.60	87	14	6.9	57	14	2.3
3	27	1	.07	56	12	1.8	42	7	.83
4	60	13	4.4	77	16	4.7	29	4	.36
5	41	8	1.1	54	1	.18	24	4	.23
6	23	7	.44	53	1	.14	21	3	.17
7	21	7	.37	53	1	.14	19	3	.13
8	20	6	.33	41	1	.11	18	2	.10
9	17	6	.26	64	6	2.1	18	2	.08
10	17	5	.23	69	15	3.1	18	1	.05
11	19	4	.23	60	13	2.2	16	1	.04
12	20	4	.21	61	12	2.1	17	1	.05
13	67	14	4.7	44	6	.74	47	8	1.6
14	22	4	.24	53	8	1.6	22	1	.06
15	26	4	.36	48	9	1.2	45	8	3.1
16	22	2	.13	47	5	.58	20	3	.19
17	19	1	.05	73	14	4.5	20	2	.11
18	19	1	.05	53	10	1.5	41	8	1.3
19	27	4	.38	43	7	.79	22	4	.24
20	21	4	.25	47	5	.62	18	3	.13
21	19	4	.21	44	3	.36	18	3	.16
22	20	4	.20	e736	e200	e2260	92	25	7.8
23	23	3	.20	211	23	19	35	7	.69
24	34	7	.72	63	13	2.2	33	5	.42
25	52	9	1.5	40	11	1.2	29	4	.30
26	62	11	2.0	31	9	.73	22	2	.14
27	68	7	1.3	51	13	5.1	41	1	.14
28	45	7	.86	79	17	4.3	26	1	.07
29	122	30	23	31	9	.74	24	1	.06
30	70	12	2.5	40	8	.84	19	1	.05
31	56	1	.17	26	7	.48	---	---	---
TOTAL	1119	---	47.12	2484	---	2330.08	1010	---	78.90
YEAR	13699		3245.42						

e Estimated

RIO MAMEYES BASIN

50066000 RIO MAMEYES AT MAMEYES, PR

LOCATION.--Lat 18°22'27", long 65°45'50", Hydrologic Unit 21010005, on right bank, at bridge on Highway 3, 3.1 mi (5.0 km), southwest from Luquillo, 0.4 mi (0.6 km) downstream from Quebrada Anón, and 2.9 mi (4.7 km) east from Escuela Juan González.

DRAINAGE AREA.--13.5 mi² (34.7 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1997 to current year

GAGE.--Water-stage recorder. Elevation of gage is 16.4 ft (5.0 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Discharges above 5,000 ft³/s (141.6 m³/s), are based on a rating curve extension and are rated poor. Low flow affected by water supply intake about 1,000 ft (305 m), upstream from station. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75	209	55	29	25	22	13	719	360	44	37	245
2	257	360	37	28	26	19	16	123	73	62	101	73
3	104	169	31	39	25	17	14	54	29	49	48	52
4	53	52	27	29	19	16	40	42	22	93	80	40
5	42	38	25	27	18	16	199	35	53	57	47	29
6	38	33	23	25	58	16	184	32	30	24	38	26
7	41	31	22	25	33	14	50	382	23	17	45	22
8	67	30	21	25	20	13	37	53	22	14	26	21
9	48	31	20	25	17	13	42	44	20	13	38	18
10	41	28	20	23	17	12	26	37	18	14	87	20
11	33	25	20	22	188	11	81	33	18	18	55	19
12	31	24	31	22	79	11	34	38	15	17	60	19
13	30	23	67	21	36	17	43	44	15	122	34	54
14	27	31	50	20	26	46	32	33	14	31	38	33
15	26	45	138	21	50	e22	22	25	13	27	50	53
16	27	49	45	25	47	e14	18	23	15	29	41	34
17	25	35	181	40	57	11	16	22	78	18	92	21
18	23	33	131	29	29	9.6	15	22	24	19	56	278
19	32	36	75	24	22	9.0	15	25	16	25	31	50
20	28	59	118	22	35	9.5	20	20	21	21	40	23
21	42	68	75	24	27	39	121	19	18	14	38	19
22	265	60	122	21	98	496	50	22	15	13	e32	111
23	111	190	79	21	58	51	38	19	14	18	543	42
24	58	77	50	19	51	35	96	19	15	33	80	27
25	36	131	43	19	46	28	33	17	16	30	48	41
26	52	113	39	17	33	23	45	18	20	32	42	25
27	36	70	36	20	28	22	37	18	18	36	43	63
28	46	65	34	51	23	18	23	48	34	20	144	40
29	41	57	34	495	---	18	21	26	23	174	40	25
30	41	106	33	108	---	16	260	19	33	77	46	19
31	47	---	30	29	---	15	---	21	---	52	31	---
TOTAL	1823	2278	1712	1345	1191	1079.1	1641	2052	1085	1213	2131	1542
MEAN	58.8	75.9	55.2	43.4	42.5	34.8	54.7	66.2	36.2	39.1	68.7	51.4
MAX	265	360	181	495	188	496	260	719	360	174	543	278
MIN	23	23	20	17	17	9.0	13	17	13	13	26	18
AC-FT	3620	4520	3400	2670	2360	2140	3250	4070	2150	2410	4230	3060
CFSM	4.39	5.67	4.12	3.24	3.17	2.60	4.08	4.94	2.70	2.92	5.13	3.84
IN.	5.06	6.32	4.75	3.73	3.31	3.00	4.56	5.70	3.01	3.37	5.92	4.28

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2001, BY WATER YEAR (WY)

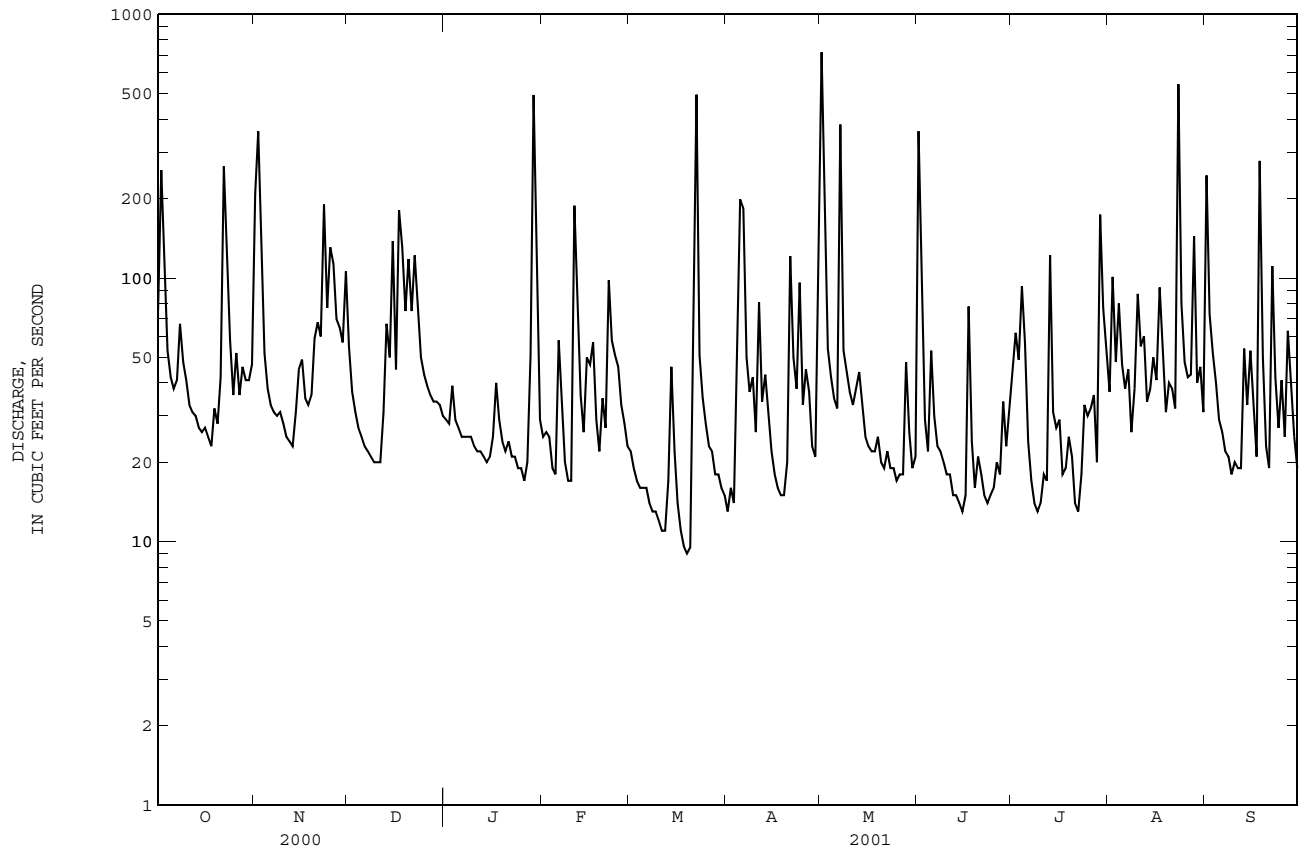
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001		
MEAN	103	150	135	78.8	50.9	41.5	47.6	74.8	51.7	54.0	95.4	113
MAX	135	271	264	122	72.5	80.6	96.8	129	86.2	93.0	126	274
(WY)	1999	2000	1999	1999	2000	1998	1998	1998	1998	1999	2000	1998
MIN	58.8	75.9	18.4	43.4	38.2	17.5	17.5	32.7	36.2	25.8	60.5	51.4
(WY)	2001	2001	1998	2001	1999	2000	2000	1999	2001	2000	1997	2001

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1997 - 2001

ANNUAL TOTAL	21437.3	19092.1	
ANNUAL MEAN	58.6	52.3	84.5
HIGHEST ANNUAL MEAN			101
LOWEST ANNUAL MEAN			52.3
HIGHEST DAILY MEAN	2130	719	2660
LOWEST DAILY MEAN	6.0	9.0	6.0
ANNUAL SEVEN-DAY MINIMUM	7.3	13	7.3
MAXIMUM PEAK FLOW		Not determined	Not determined
MAXIMUM PEAK STAGE		15.64	15.64
ANNUAL RUNOFF (AC-FT)	42520	37870	61220
ANNUAL RUNOFF (CFSM)	4.37	3.90	6.31
ANNUAL RUNOFF (INCHES)	59.51	53.00	85.69
10 PERCENT EXCEEDS	114	99	172
50 PERCENT EXCEEDS	34	32	39
90 PERCENT EXCEEDS	13	16	16

e Estimated

RIO MAMEYES BASIN
50066000 RIO MAMEYES AT MAMEYES, PR--Continued



RIO SABANA BASIN

50067000 RIO SABANA AT SABANA, PR

LOCATION.--Lat 18°19'52", long 65°43'52", Hydrologic Unit 21010005, on right bank along Highway 988, 0.3 mi (0.5 km) north of junction of Highways 988 and 983 in Sabana, and 3.3 mi (5.3 km) south of Luquillo.

DRAINAGE AREA.--3.96 mi² (10.26 km²).

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 260 ft (80 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Low-flow affected by Puerto Rico Aqueduct and Sewer Authority Water Intake 1.0 mi (1.6 km) upstream, and filtration plant 0.2 mi (0.32 km). Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.6	44	7.3	2.8	2.4	1.6	1.3	260	165	3.1	2.5	106
2	56	91	4.1	2.6	2.7	1.4	1.3	34	19	5.1	2.3	17
3	30	e36	3.5	2.9	2.4	1.6	1.7	8.7	5.8	4.3	1.9	4.3
4	9.4	e10	3.2	2.7	2.0	1.5	4.7	5.4	4.4	20	1.9	3.0
5	7.3	e7.4	3.2	2.4	1.9	1.4	12	4.7	23	6.2	1.7	2.5
6	7.4	e7.0	3.1	2.4	1.8	1.5	43	5.4	6.0	2.3	2.5	2.4
7	7.6	e7.7	3.0	2.4	2.3	1.5	3.5	139	3.3	1.7	2.3	2.0
8	38	e6.1	3.0	2.5	2.0	1.4	2.0	17	3.0	1.9	2.2	2.0
9	12	e7.5	3.1	2.4	1.7	1.4	2.8	13	2.9	1.6	2.7	2.0
10	13	e6.1	2.9	2.2	2.0	1.4	2.0	11	2.7	2.2	4.7	1.8
11	9.6	e5.6	2.9	2.1	23	1.4	9.4	7.0	2.3	1.9	3.9	1.8
12	16	e5.4	5.8	1.9	5.9	1.4	3.2	7.3	2.2	1.7	3.0	2.5
13	10	e5.4	11	2.1	2.8	2.4	2.3	6.7	2.1	14	2.2	12
14	6.8	6.5	9.3	2.3	2.1	2.6	2.3	5.9	3.7	2.0	2.1	3.8
15	5.9	6.7	33	2.3	4.8	1.3	1.5	4.2	2.1	1.6	2.8	2.4
16	5.8	7.7	5.7	2.3	3.6	1.3	1.5	3.9	2.7	1.8	3.3	2.1
17	5.5	6.6	35	4.9	5.8	1.3	1.4	3.6	43	1.5	11	1.7
18	5.2	5.9	25	2.8	2.8	1.4	1.4	3.8	6.8	1.8	6.8	39
19	e6.6	e5.4	9.7	2.3	1.8	1.4	1.6	4.4	2.7	2.5	2.4	4.0
20	e5.7	7.9	19	2.2	2.7	1.5	2.5	3.2	2.3	1.8	2.7	2.2
21	7.3	7.3	7.3	2.5	2.1	e8.2	25	3.0	2.0	1.6	2.1	1.6
22	22	7.8	11	2.0	6.3	e50	7.5	4.0	2.1	1.6	382	3.7
23	38	e32	8.6	2.2	3.4	5.7	3.1	2.8	2.2	1.8	120	2.6
24	12	e10	4.3	2.1	2.8	1.9	25	2.9	2.2	2.2	15	2.8
25	e7.1	14	3.7	1.9	3.0	1.7	4.7	2.5	2.5	1.9	4.7	3.2
26	6.3	7.6	3.3	1.8	2.0	2.2	8.1	2.5	1.9	1.9	6.0	2.3
27	5.9	6.6	3.1	2.2	1.7	5.6	e7.5	2.7	2.0	2.6	16	6.2
28	e6.8	e6.4	2.9	3.9	1.8	2.4	2.8	8.5	2.9	1.8	31	11
29	e5.8	5.5	2.8	93	---	1.7	2.3	3.5	2.5	31	4.2	2.2
30	e6.5	15	3.0	21	---	e1.4	4.3	2.7	2.7	12	3.6	1.7
31	e6.6	---	2.9	3.4	---	1.4	---	2.5	---	4.5	2.9	---
TOTAL	388.7	398.1	245.7	186.5	99.6	112.9	191.7	585.8	328.0	141.9	652.4	251.8
MEAN	12.5	13.3	7.93	6.02	3.56	3.64	6.39	18.9	10.9	4.58	21.0	8.39
MAX	56	91	35	93	23	50	43	260	165	31	382	106
MIN	5.2	5.4	2.8	1.8	1.7	1.3	1.3	2.5	1.9	1.5	1.7	1.6
AC-FT	771	790	487	370	198	224	380	1160	651	281	1290	499
CFSM	3.17	3.35	2.00	1.52	.90	.92	1.61	4.77	2.76	1.16	5.31	2.12
IN.	3.65	3.74	2.31	1.75	.94	1.06	1.80	5.50	3.08	1.33	6.13	2.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2001, BY WATER YEAR (WY)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	
MEAN	23.3	34.5	26.3	16.0	12.4	10.6	10.7	29.3	18.8	15.4	18.5	24.2											
MAX	66.4	82.2	64.1	48.5	23.2	36.0	33.5	63.9	50.6	36.0	39.9	74.2											
(WY)	1986	2000	1982	1996	1997	1987	1990	1982	1987	1996	1995	1996											
MIN	6.48	8.15	3.92	6.02	2.94	2.71	2.20	4.65	3.64	2.82	3.09	7.23											
(WY)	1983	1981	1990	2001	1983	1994	1984	1994	1997	2000	1994	1987											

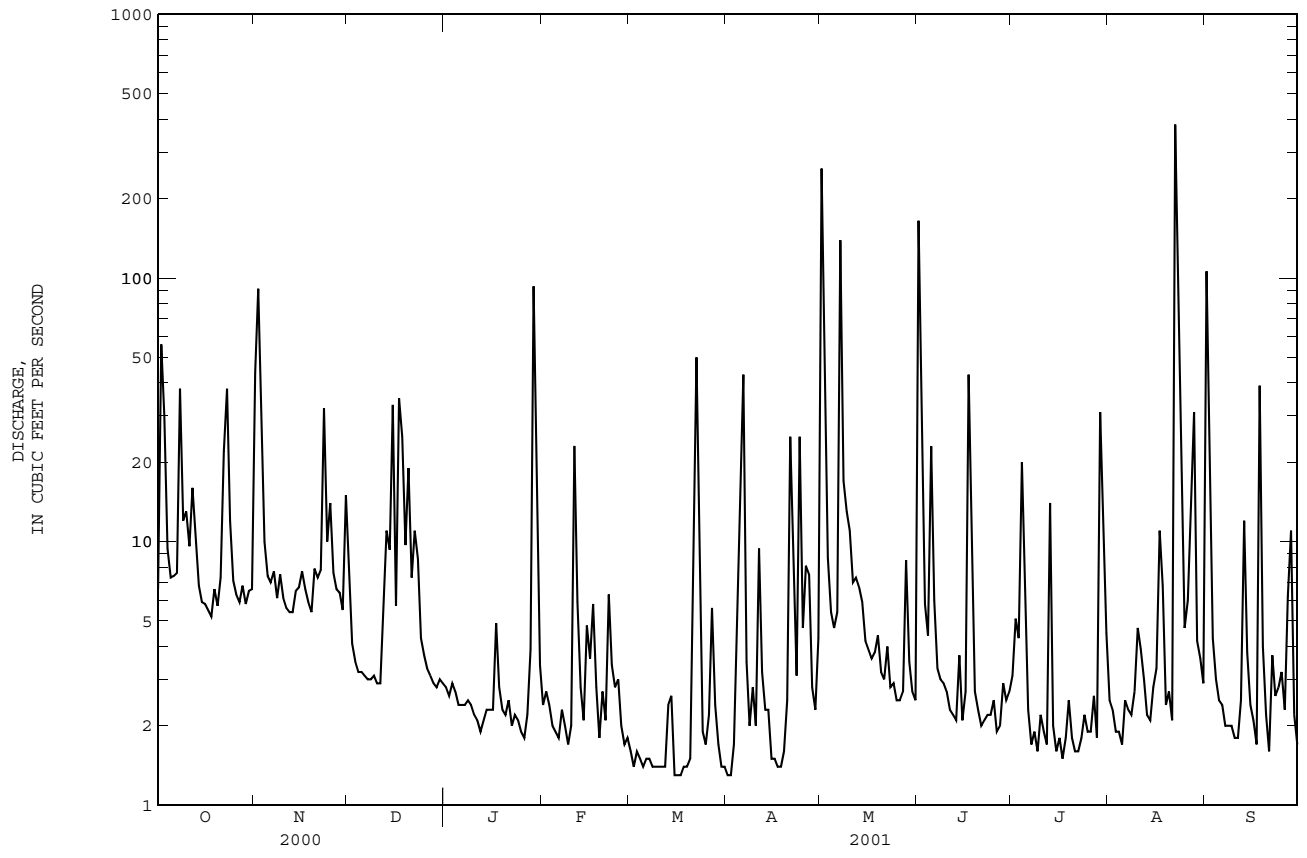
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1980 - 2001

ANNUAL TOTAL	3779.3	3583.1		
ANNUAL MEAN	10.3	9.82	20.0	
HIGHEST ANNUAL MEAN			31.9	1996
LOWEST ANNUAL MEAN			7.85	1994
HIGHEST DAILY MEAN	458	Aug 23	1100	Sep 10 1996
LOWEST DAILY MEAN	1.7	Apr 9	.96	Apr 10 1983
ANNUAL SEVEN-DAY MINIMUM	1.9	Apr 5	1.0	Apr 6 1983
MAXIMUM PEAK FLOW			4500	Aug 22 1992
MAXIMUM PEAK STAGE			15.79	Aug 22 1992
INSTANTANEOUS LOW FLOW				.86
ANNUAL RUNOFF (AC-FT)	7500	7110	14510	
ANNUAL RUNOFF (CFSM)	2.61	2.48	5.06	
ANNUAL RUNOFF (INCHES)	35.50	33.66	68.73	
10 PERCENT EXCEEDS	16	16	38	
50 PERCENT EXCEEDS	5.7	3.0	8.6	
90 PERCENT EXCEEDS	2.3	1.7	2.6	

e Estimated

RIO SABANA BASIN

50067000 RIO SABANA AT SABANA, PR--Continued



RIO FAJARDO BASIN

50070500 RIO FAJARDO ABOVE FAJARDO, PR

LOCATION.--Lat 18°16'21", long 65°43'18", Hydrologic Unit 21010005, on right bank, 4.1 mi (6.6 km) from Plaza de Naguabo, 0.5 mi (0.8 km) northeast from Escuela Sonadora, 1.5 mi (2.4 km) southwest of Colonia Paraíso, and 2.5 mi (4.0 km) north from Escuela Segunda Unidad Mariana.

DRAINAGE AREA.--3.69 mi² (9.56 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Oct. 1, 1995 to Nov. 8, 1995 (estimated discharge). Nov. 9, 1995 to current year.

GAGE.--Water-stage recorder. Datum of gage is 328 ft (100 m) above mean sea level, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	53	20	14	12	9.9	8.4	131	81	e10	e19	214
2	97	61	20	14	12	9.6	8.0	28	18	e12	e26	36
3	44	36	17	20	14	9.3	7.9	18	14	e12	e21	29
4	25	22	15	14	12	9.1	11	16	15	e15	e44	23
5	24	20	15	13	11	8.9	27	14	23	e26	e24	21
6	21	19	14	12	15	8.8	36	14	17	e13	e20	20
7	20	20	13	12	13	8.6	16	130	13	e12	e17	20
8	37	19	13	12	11	8.5	22	30	e11	e11	e16	19
9	25	20	13	12	12	8.4	34	21	e10	e10	e20	19
10	27	18	13	11	13	8.7	16	16	e12	e9.6	e8.7	22
11	20	17	e12	11	35	8.9	32	15	e11	e9.2	e22	23
12	19	16	24	11	20	8.5	29	16	e12	e15	e22	25
13	18	16	41	11	13	11	29	20	e11	e45	e16	51
14	17	17	37	11	12	16	19	15	e12	e17	e16	22
15	17	25	54	11	20	9.9	16	13	e11	e24	e17	39
16	17	19	22	11	22	9.3	14	12	e13	e20	e17	21
17	16	22	61	13	17	9.1	14	12	e54	e12	e20	19
18	16	22	41	12	12	8.9	13	12	e30	e18	e17	19
19	16	17	36	11	11	8.7	13	12	e17	e28	e16	17
20	15	30	26	11	13	9.7	15	11	e11	e16	e16	16
21	27	32	24	10	11	18	57	11	e11	e11	e16	20
22	74	24	35	10	17	166	25	12	e11	e10	e488	42
23	41	52	28	9.8	17	14	22	11	e10	e10	114	24
24	23	21	20	9.8	17	11	33	13	e11	e12	27	24
25	18	70	18	9.8	14	11	18	11	e11	17	22	21
26	19	32	17	9.6	13	9.6	37	12	e11	11	19	19
27	20	24	16	10	11	9.4	e34	10	e12	15	27	19
28	26	26	16	16	10	8.9	e16	26	e15	10	30	19
29	20	23	e16	146	---	10	14	12	e12	e85	19	19
30	29	31	16	26	---	9.1	28	10	e10	e45	20	17
31	20	---	15	14	---	8.5	---	14	---	e28	17	---
TOTAL	867	824	728	518.0	410	465.3	664.3	698	510	588.8	1216	899
MEAN	28.0	27.5	23.5	16.7	14.6	15.0	22.1	22.5	17.0	19.0	39.2	30.0
MAX	97	70	61	146	35	166	57	131	81	85	488	214
MIN	15	16	12	9.6	10	8.4	7.9	10	10	9.2	16	16
AC-FT	1720	1630	1440	1030	813	923	1320	1380	1010	1170	2410	1780
CFSM	7.58	7.44	6.36	4.53	3.97	4.07	6.00	6.10	4.61	5.15	10.6	8.12
IN.	8.74	8.31	7.34	5.22	4.13	4.69	6.70	7.04	5.14	5.94	12.26	9.06

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2001, BY WATER YEAR (WY)

	1996	1997	1998	1999	2000	2001	1996	1997	1998	1999	2000	2001
MEAN	30.0	48.3	41.4	34.2	19.6	12.5	14.5	21.6	23.7	24.9	32.4	47.7
MAX	50.9	100	92.4	49.9	33.6	15.0	22.2	30.2	50.3	42.4	41.1	121
(WY)	1999	2000	1999	1996	1997	2001	1998	1996	1996	1996	1996	1996
MIN	20.4	20.1	17.4	16.7	14.6	10.0	8.98	11.7	12.2	12.4	18.7	26.0
(WY)	1997	1996	1998	2001	2001	1999	2000	1999	1997	2000	1997	1999

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

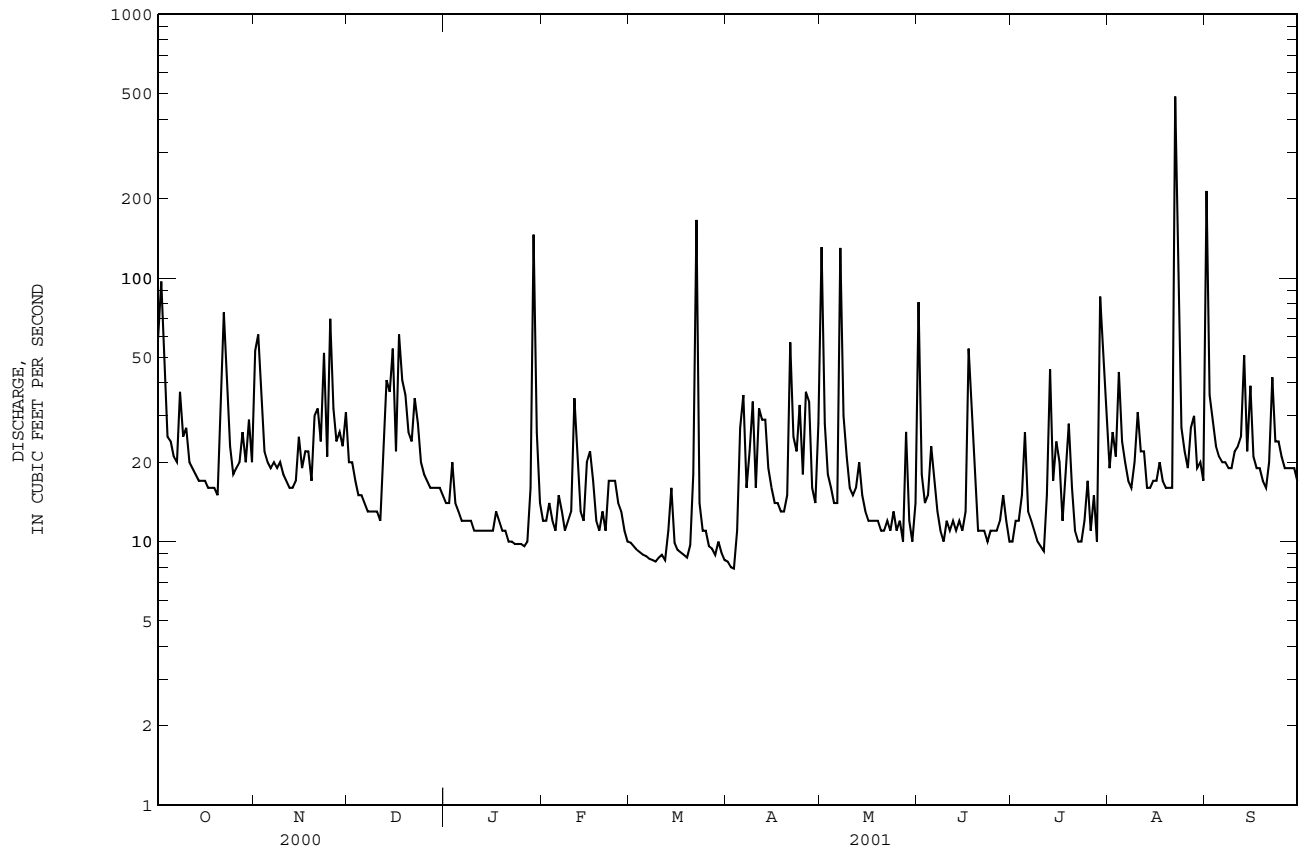
WATER YEARS 1996 - 2001

ANNUAL TOTAL	8239.7	8388.4		
ANNUAL MEAN	22.5	23.0	29.3	
HIGHEST ANNUAL MEAN			37.5	1996
LOWEST ANNUAL MEAN			23.0	2001
HIGHEST DAILY MEAN	374	Aug 23	488	Aug 22
LOWEST DAILY MEAN	5.3	Apr 29	7.9	Apr 3
ANNUAL SEVEN-DAY MINIMUM	5.8	Apr 23	8.6	Mar 6
MAXIMUM PEAK FLOW			4380	Aug 22
MAXIMUM PEAK STAGE			10.06	Aug 22
INSTANTANEOUS LOW FLOW				5.3
ANNUAL RUNOFF (AC-FT)	16340	16640	21200	
ANNUAL RUNOFF (CFSM)	6.10	6.23	7.93	
ANNUAL RUNOFF (INCHES)	83.07	84.57	107.73	
10 PERCENT EXCEEDS	41	36	51	
50 PERCENT EXCEEDS	16	16	18	
90 PERCENT EXCEEDS	8.3	10	9.5	

e Estimated

RIO FAJARDO BASIN

50070500 RIO FAJARDO ABOVE FAJARDO, PR--Continued



LOCATION.--Lat 18°17'56", long 65°41'42", Hydrologic Unit 21010005, on left bank off Highway 976, 0.1 mi (0.2 km) upstream from Highway 977 bridge, 0.3 mi (0.5 km) downstream from Quebrada Peñón, 1.1 mi (1.8 km) northeast of Colonia Paraíso, and 3.3 mi (5.3 km) southwest of Fajardo.

DRAINAGE AREA.--14.9 mi² (38.6 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1960-61 (occasional low and peak-flow measurements only), March 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 137.60 ft (41.940 m) above mean sea level. Due to flood damage, gage datum has had changes as follows: Mar. 24, 1961 to May 5, 1969, 138.95 ft (42.352 m); May 6, 1969 to Mar. 16, 1972, 135.05 ft (41.163 m); Mar. 17, 1972 to Mar 25, 1975, 138.60 ft (42.245 m).

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Low flow affected by diversions for water supply about 0.25 mi (0.40 km) upstream from gaging station (estimated mean daily discharges is 9.0 ft³/s (0.255 m³/s). Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	160	105	26	12	9.5	e9.5	7.0	419	296	13	10	e506
2	293	150	23	10	9.4	e9.3	7.6	94	37	12	15	e17
3	204	84	19	19	12	e9.0	6.6	32	17	11	12	e15
4	69	31	16	10	9.2	e8.8	11	23	14	9.5	34	e13
5	52	23	15	8.7	7.7	e8.6	17	19	23	15	14	e13
6	42	20	14	7.8	11	e8.5	67	18	16	7.6	11	e13
7	36	19	13	7.4	12	e8.3	13	416	e9.8	5.0	8.8	e12
8	106	19	12	6.8	8.2	e8.2	14	120	e9.3	4.0	7.7	e12
9	49	18	11	6.9	e7.7	e8.1	45	52	9.6	3.7	11	e12
10	69	15	11	6.6	e7.5	e8.4	15	29	8.3	3.4	18	17
11	40	14	11	6.4	e68	e8.6	35	22	8.3	3.6	11	18
12	41	15	24	6.2	e29	e8.2	24	22	6.7	8.3	11	22
13	33	13	69	6.1	e17	e11	37	29	8.2	62	e9.3	74
14	29	15	56	6.2	e11	e17	21	21	7.1	9.8	e9.4	18
15	27	21	100	5.9	e33	e9.5	12	18	6.2	16	e9.7	33
16	27	21	29	7.2	e27	e9.0	10	16	6.5	12	e9.8	21
17	25	15	103	9.3	e38	e8.7	9.0	11	201	5.7	e14	13
18	23	27	85	10	e13	e8.6	9.3	12	30	8.4	e9.7	17
19	26	16	76	6.9	e11	e8.3	6.9	14	15	17	e9.4	11
20	22	31	44	6.6	e15	e9.6	9.7	10	12	9.0	e9.3	9.3
21	50	40	32	6.8	e12	e52	103	9.3	11	5.6	e9.4	8.8
22	174	31	54	5.6	e27	e530	38	11	9.6	4.2	e790	47
23	86	123	44	5.8	e24	e50	28	11	8.0	4.1	e32	21
24	45	27	25	5.0	e29	e12	65	11	7.2	5.1	e14	20
25	29	135	21	4.7	e27	e11	24	10	7.1	10	e12	e18
26	32	59	18	4.4	e18	e15	48	9.8	9.0	6.5	e12	12
27	29	35	17	4.5	e14	e36	e74	9.4	7.0	8.2	e13	e11
28	42	31	15	13	e12	12	18	35	17	5.0	e16	e11
29	36	30	15	244	---	10	14	14	9.4	100	e12	e8.2
30	54	41	14	58	---	9.7	29	9.9	15	30	e13	e7.7
31	36	---	13	14	---	7.7	---	12	---	17	e11	---
TOTAL	1986	1224	1025	531.8	519.2	930.6	818.1	1539.4	841.3	431.7	1178.5	1031.0
MEAN	64.1	40.8	33.1	17.2	18.5	30.0	27.3	49.7	28.0	13.9	38.0	34.4
MAX	293	150	103	244	68	530	103	419	296	100	790	506
MIN	22	13	11	4.4	7.5	7.7	6.6	9.3	6.2	3.4	7.7	7.7
AC-FT	3940	2430	2030	1050	1030	1850	1620	3050	1670	856	2340	2040
CFSM	4.30	2.74	2.22	1.15	1.24	2.01	1.83	3.33	1.88	.93	2.55	2.31
IN.	4.96	3.06	2.56	1.33	1.30	2.32	2.04	3.84	2.10	1.08	2.94	2.57

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2001, BY WATER YEAR (WY)

MEAN	94.8	111	84.4	49.9	38.6	34.5	42.2	87.1	57.6	49.0	58.4	88.6
MAX	260	328	237	150	80.4	109	129	399	166	132	159	421
(WY)	1971	2000	1976	1996	1982	1987	1963	1979	1962	1969	1979	1989
MIN	19.1	26.0	14.9	15.4	10.8	9.70	4.02	17.7	10.0	10.6	9.70	18.9
(WY)	1969	1994	1990	1977	1983	1977	1984	1973	1985	2000	1994	1994

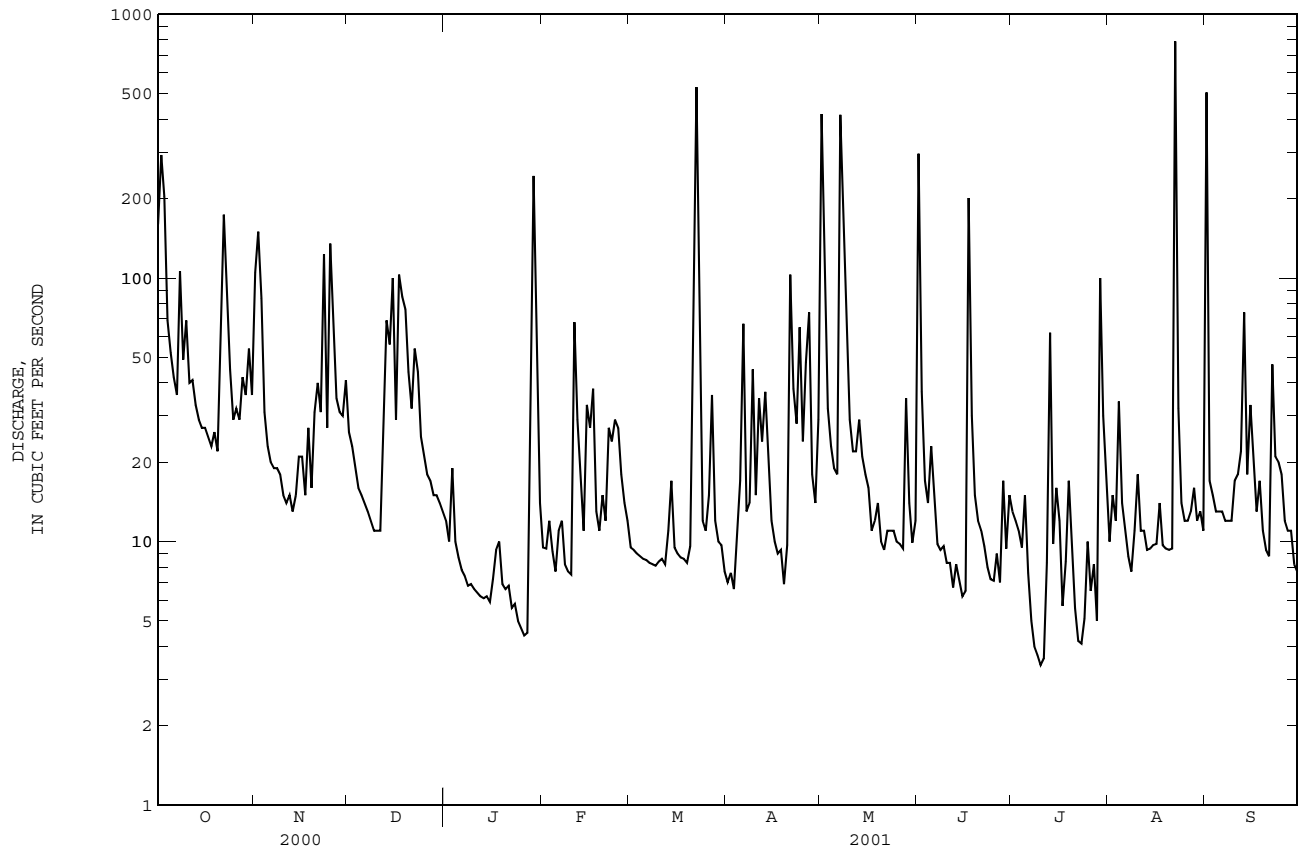
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1961 - 2001

ANNUAL TOTAL	15733.1	12056.6	
ANNUAL MEAN	43.0	33.0	66.7
HIGHEST ANNUAL MEAN			140
LOWEST ANNUAL MEAN			19.0
HIGHEST DAILY MEAN	1420	790	8800
LOWEST DAILY MEAN	2.6	3.4	1.0
ANNUAL SEVEN-DAY MINIMUM	3.3	5.1	1.5
MAXIMUM PEAK FLOW		unknown	21700
MAXIMUM PEAK STAGE		unknown	20.00
INSTANTANEOUS LOW FLOW			.86
ANNUAL RUNOFF (AC-FT)	31210	23910	48340
ANNUAL RUNOFF (CFSM)	2.89	2.22	4.48
ANNUAL RUNOFF (INCHES)	39.28	30.10	60.85
10 PERCENT EXCEEDS	86	60	130
50 PERCENT EXCEEDS	23	14	32
90 PERCENT EXCEEDS	6.7	7.1	10

e Estimated

RIO FAJARDO BASIN

50071000 RIO FAJARDO NEAR FAJARDO, PR--Continued



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (MG/L) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT	10...	49	106	7.8	27.6	2.8	8.3	105	<10	210	E82	26	5.61
FEB	28...	12	137	7.3	23.7	.9	8.8	103	<10	E140	E90	--	--
JUN	04...	71	131	7.4	28.8	--	8.2	106	<10	<40	<10	33	7.26
AUG	10...	17	104	6.9	30.0	--	7.6	100	13	E40	E100	24	5.22

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDE (MG/L) (00530)	
OCT	10...	2.83	9.3	.8	.93	31	<1.0	3.0	10.3	<.2	23.7	74	9.74	<10
FEB	28...	--	--	--	--	38	--	--	--	--	--	--	--	<10
JUN	04...	3.69	11.2	.8	.98	34	1.3	3.8	12.4	<.2	23.8	84	16.1	<10
AUG	10...	2.59	9.0	.8	.80	21	--	2.9	11.2	<.2	20.4	65	3.06	<10

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM, WATER UNFLTRD (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)
OCT	10...	<.01	.1	<.01	--	<.20	--	<.020	<2	19.5	21	<.11	<1
FEB	28...	<.01	.1	.02	.20	.22	.31	1.4	<.020	--	--	--	--
JUN	04...	<.01	.1	<.01	--	<.20	--	<.020	<2	22.3	E17	<.10	<1
AUG	10...	<.01	M	.01	--	<.20	--	<.020	--	--	--	--	--

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)	
OCT	10...	<20.0	270	<1	11	<.14	<2.6	<.43	<31	<.01	<16	.04
FEB	28...	--	--	--	--	--	--	--	--	--	--	--
JUN	04...	<20.0	200	<1	15	<.01	<3.0	<.40	<31	<.01	E6	<.02
AUG	10...	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
 E -- Estimated value
 M -- Presence verified, not quantified

RIO FAJARDO BASIN

50071000 RIO FAJARDO NEAR FAJARDO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR- DANE, TECH- NICAL TOTAL (UG/L) (39350)	P, P'- DDD UNFILT RECOVER (UG/L) (39360)	P, P'- DDE, TOTAL (UG/L) (39365)	P, P'- DDT UNFILT RECOVER (UG/L) (39370)	DI- AZINON, TOTAL (UG/L) (39570)	DI- ELDRIN TOTAL (UG/L) (39380)	ENDO- SULFAN I TOTAL (UG/L) (39388)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)
DATE		HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALA- THON, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METHYL PARA- THON, TOTAL (UG/L) (39600)	PARA- THON, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	CARBO- PHENO- THON WATER UNFLTRD TOTAL (UG/L) (39786)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	2,4-DP TOTAL (UG/L) (82183)	SILVEX, TOTAL (UG/L) (39760)
JUN 04...	1230	<.1	<.013	<.1	<.007	<.006	<.009	<.02	<.006	<.015	<.014	<.01	<.014
JUN 04...		<.009	<.006	<.03	<.01	<.01	<.01	<1	<.02	<.01	<.01	<.04	<.01

RIO FAJARDO BASIN

50072500 RIO FAJARDO BELOW FAJARDO, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°19'35", long 65°38'47", 1.2 mi (1.9 km) southwest of Playa de Fajardo, and 0.5 mi (0.8 km) east of Fajardo plaza.

DRAINAGE AREA.--23.4 mi² (60.6 km²).

PERIOD OF RECORD.--Water years 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00301)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL AS (MG/L) (00900)	CALCIUM DIS-SOLVED AS (MG/L) (00915)
OCT 10...	1340	47	126	8.0	29.6	4.6	9.3	121	<10	E260	E30	33	7.32
FEB 28...	1345	6.5	174	8.0	25.2	.9	10	120	<10	210	E300	--	--
JUN 04...	1445	13	143	8.3	32.0	--	9.1	123	<10	<60	<40	36	7.87
AUG 10...	1100	22	124	7.6	30.0	--	8.2	108	11	E200	E150	32	6.97

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L) AS (MG) (00925)	SODIUM, DIS-SOLVED (MG/L) AS (NA) (00930)	SODIUM, AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L) AS (K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L) AS (CACO3) (00410)	SULFIDE TOTAL (MG/L) AS (S) (00745)	SULFATE DIS-SOLVED (MG/L) AS (SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L) AS (CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L) AS (F) (00950)	SILICA, DIS-SOLVED (MG/L) AS (SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT 10...	3.56	11.2	.8	1.12	39	<1.0	3.5	11.3	<.2	23.3	85	10.8	<10
FEB 28...	--	--	--	--	64	--	--	--	--	--	--	--	<10
JUN 04...	3.96	12.2	.9	1.06	37	<1.0	4.4	13.9	<.2	20.8	86	2.99	<10
AUG 10...	3.62	11.4	.9	.91	36	--	3.4	13.3	<.2	22.8	84	4.93	<10

DATE	NITRO-GEN, NITRITE TOTAL (MG/L) AS (N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L) AS (N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L) AS (N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L) AS (N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L) AS (N) (00625)	PHOS-PHORUS TOTAL (MG/L) AS (P) (00665)	ARSENIC TOTAL (UG/L) AS (AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L) AS (BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L) AS (B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L) AS (CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L) AS (CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L) AS (CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L) AS (FE) (01045)
OCT 10...	<.01	.1	<.01	--	<.20	<.020	<2	25.4	E18	<.11	M	<20.0	240
FEB 28...	<.01	<.02	.02	.20	.22	<.020	--	--	--	--	--	--	--
JUN 04...	<.01	<.02	<.01	--	<.20	<.020	<2	23.6	E16	<.10	<1	<20.0	140
AUG 10...	<.01	<.02	<.01	--	<.20	<.020	--	--	--	--	--	--	--

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L) AS (PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) AS (MN) (01055)	MERCU-RY TOTAL RECOV-ERABLE (UG/L) AS (HG) (71900)	SELE-NIUM, TOTAL RECOV-ERABLE (UG/L) AS (SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L) AS (AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L) AS (ZN) (01092)	CYANIDE TOTAL (MG/L) AS (CN) (00720)	PHENOLS TOTAL (UG/L) AS (CN) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 10...	<1	24	<.14	<2.6	<.43	<31	<.01	<16	<.02
FEB 28...	--	--	--	--	--	--	--	--	--
JUN 04...	<1	17	<.01	<3.0	<.40	<31	<.01	E4	<.02
AUG 10...	--	--	--	--	--	--	--	--	--

< -- Less than
 E -- Estimated value
 M -- Presence verified, not quantified

50074950 QUEBRADA GUABA NEAR NAGUABO, PR

LOCATION.--Lat 18°17'02", long 65°47'20", Hydrologic Unit 21010005, on right bank, off Highway 191 at El Yunque Caribbean National Forest, 4.8 mi (7.7 km) southeast of Campamento Eliza Colberg, 1.3 mi (2.1 km) southeast of Mt. Britton, 2.0 mi (3.2 km) northwest of Pico del Este and 7.3 mi (11.7 km) southeast of Río Grande Plaza.

DRAINAGE AREA.--0.12 mi² (0.31 km²).

PERIOD OF RECORD.--June 1992 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,100 ft (640 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.55	1.0	e.38	.28	e.26	.25	.18	.64	.72	.20	.35	.56
2	1.4	1.7	e.32	.26	.18	.22	.17	.34	.27	.33	e2.2	.41
3	e.65	e.41	e.31	.30	.19	.22	.15	.25	.23	.21	e.37	.32
4	e.45	e.28	e.29	.26	.16	.22	.26	.22	.22	.24	e1.4	.30
5	e.41	e.25	e.28	.25	.16	.22	.34	.20	.29	.29	e.33	.30
6	e.40	e.25	e.26	.24	.47	.21	.31	.21	.28	.19	e.35	.30
7	e.39	e.28	e.24	.23	.24	e.21	.18	2.3	.25	.17	e.27	.28
8	e.85	e.22	e.24	.22	.24	e.20	.17	e.39	.24	.16	e.25	.27
9	e.51	e.21	e.23	.21	.23	e.18	.18	e.30	.22	.15	e.75	.28
10	e.45	.19	e.24	.19	.27	e.17	.16	e.27	.21	.17	e.59	.28
11	e.38	.18	e.22	.18	.72	e.17	.41	e.27	.21	.17	e.47	.25
12	e.37	.18	e.70	.17	.29	e.17	.25	e.31	.20	1.2	e.48	.26
13	.40	.19	e1.2	.17	.22	e.35	.23	e.31	.20	.69	e.33	.29
14	.39	.42	e.91	.17	.19	e.39	.19	e.26	.19	.20	e.40	.26
15	.34	.54	e1.9	.16	.25	e.15	.17	.27	.18	.18	e.33	.39
16	.33	.30	e.53	.21	.35	.14	.17	.26	.23	.17	e.35	.28
17	.32	.26	e1.5	.28	.25	.14	.16	.25	.21	.18	.59	.30
18	.30	.23	e.83	.21	.20	.13	.16	.23	.19	.18	.39	.28
19	.29	.20	e.77	.20	.18	.13	.16	.22	.19	.16	.37	.25
20	.28	.26	e.57	.20	.20	.22	.17	.21	.20	.15	.34	.22
21	1.1	.29	e.50	.19	.18	.50	.49	.21	.19	.14	.34	.31
22	2.0	.31	e.83	.19	.72	e3.6	.22	.23	.18	.14	7.6	e2.0
23	e.34	.53	e.57	.17	.48	e.33	.19	.21	.17	.14	e.90	e.46
24	e.29	.26	e.36	.17	.52	e.24	.28	.23	.17	.18	.42	e.50
25	e.29	.63	e.32	.16	.39	e.21	.19	.23	.18	.32	.36	e.32
26	e.25	.36	e.32	.16	.39	e.18	.26	.23	.17	.18	.33	e.36
27	.25	.30	.33	.34	.34	e.17	.23	.21	.17	.23	.35	e.36
28	.26	.35	.31	.58	.30	.16	.17	.36	.20	.15	.53	e.31
29	.24	.30	.34	2.8	---	.16	.16	.22	.20	.77	.39	e.32
30	.24	e.37	.30	.39	---	.17	1.5	.20	.23	.28	.40	e.26
31	.24	---	.29	e.32	---	.17	---	.21	---	.28	.33	---
TOTAL	14.96	11.25	16.39	9.86	8.57	9.98	7.86	10.25	6.79	8.20	22.86	11.28
MEAN	.48	.38	.53	.32	.31	.32	.26	.33	.23	.26	.74	.38
MAX	2.0	1.7	1.9	2.8	.72	3.6	1.5	2.3	.72	1.2	7.6	2.0
MIN	.24	.18	.22	.16	.16	.13	.15	.20	.17	.14	.25	.22
AC-FT	30	22	33	20	17	20	16	20	13	16	45	22
CFSM	4.02	3.12	4.41	2.65	2.55	2.68	2.18	2.76	1.89	2.20	6.15	3.13
IN.	4.64	3.49	5.08	3.06	2.66	3.09	2.44	3.18	2.10	2.54	7.09	3.50

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2001, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001		
MEAN	.49	.59	.57	.50	.43	.26	.26	.35	.33	.44	.46	.61
MAX	.89	1.19	1.24	.67	.71	.32	.33	.61	.50	1.18	.74	1.42
(WY)	1998	2000	2000	1997	2000	2001	1994	1993	1996	1992	2001	1996
MIN	.25	.32	.22	.28	.30	.16	.20	.13	.18	.22	.19	.34
(WY)	1993	1995	1994	1994	1998	1998	2000	1999	2000	1994	1993	1993

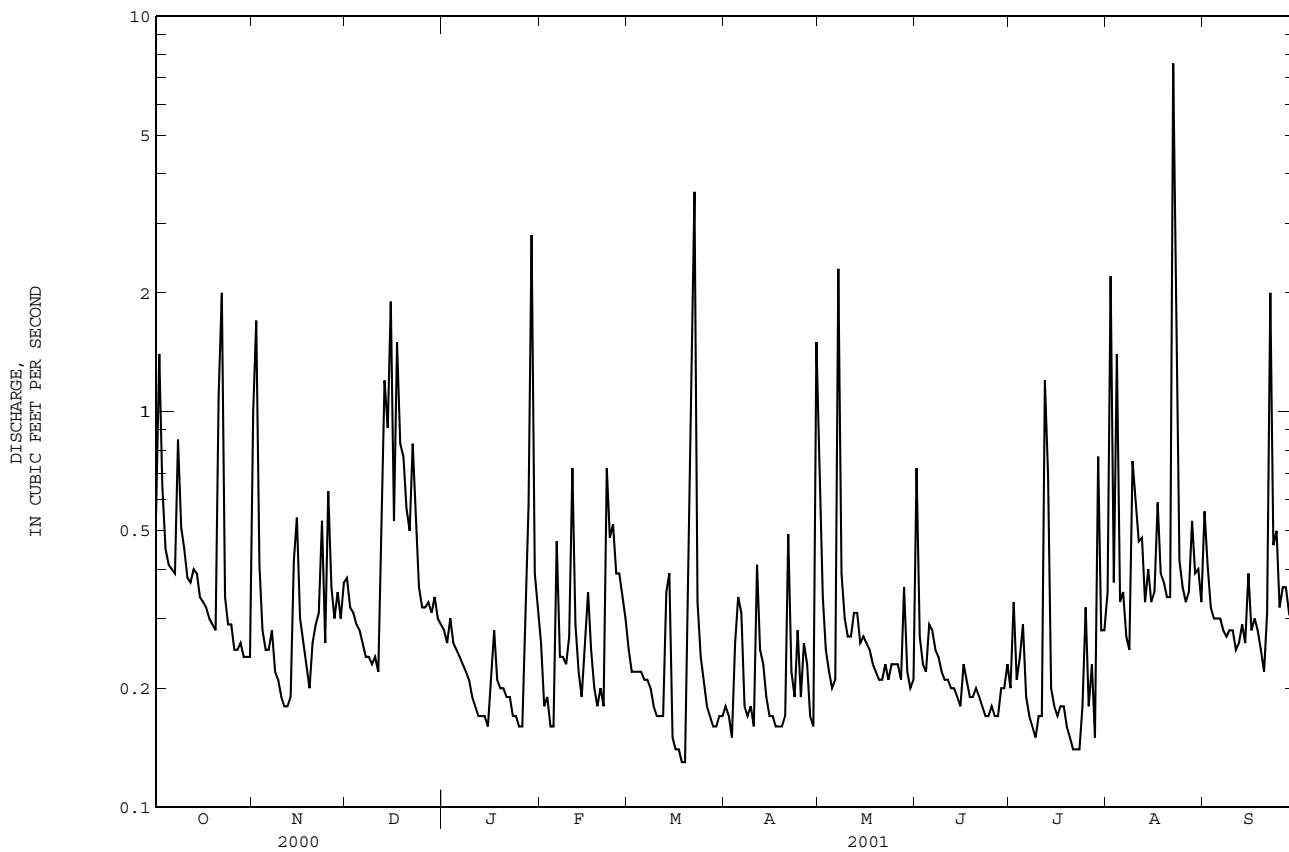
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1992 - 2001

ANNUAL TOTAL	155.75	138.25	
ANNUAL MEAN	.43	.38	.43
HIGHEST ANNUAL MEAN			.57
LOWEST ANNUAL MEAN			.32
HIGHEST DAILY MEAN	4.5	7.6	23
LOWEST DAILY MEAN	.07	.13	.06
ANNUAL SEVEN-DAY MINIMUM	.08	.16	.07
MAXIMUM PEAK FLOW		76	104
MAXIMUM PEAK STAGE		10.32	10.78
INSTANTANEOUS LOW FLOW			.05
ANNUAL RUNOFF (AC-FT)	309	274	315
ANNUAL RUNOFF (CFSM)	3.55	3.16	3.62
ANNUAL RUNOFF (INCHES)	48.28	42.86	49.22
10 PERCENT EXCEEDS	.79	.57	.75
50 PERCENT EXCEEDS	.29	.26	.29
90 PERCENT EXCEEDS	.14	.17	.15

e Estimated

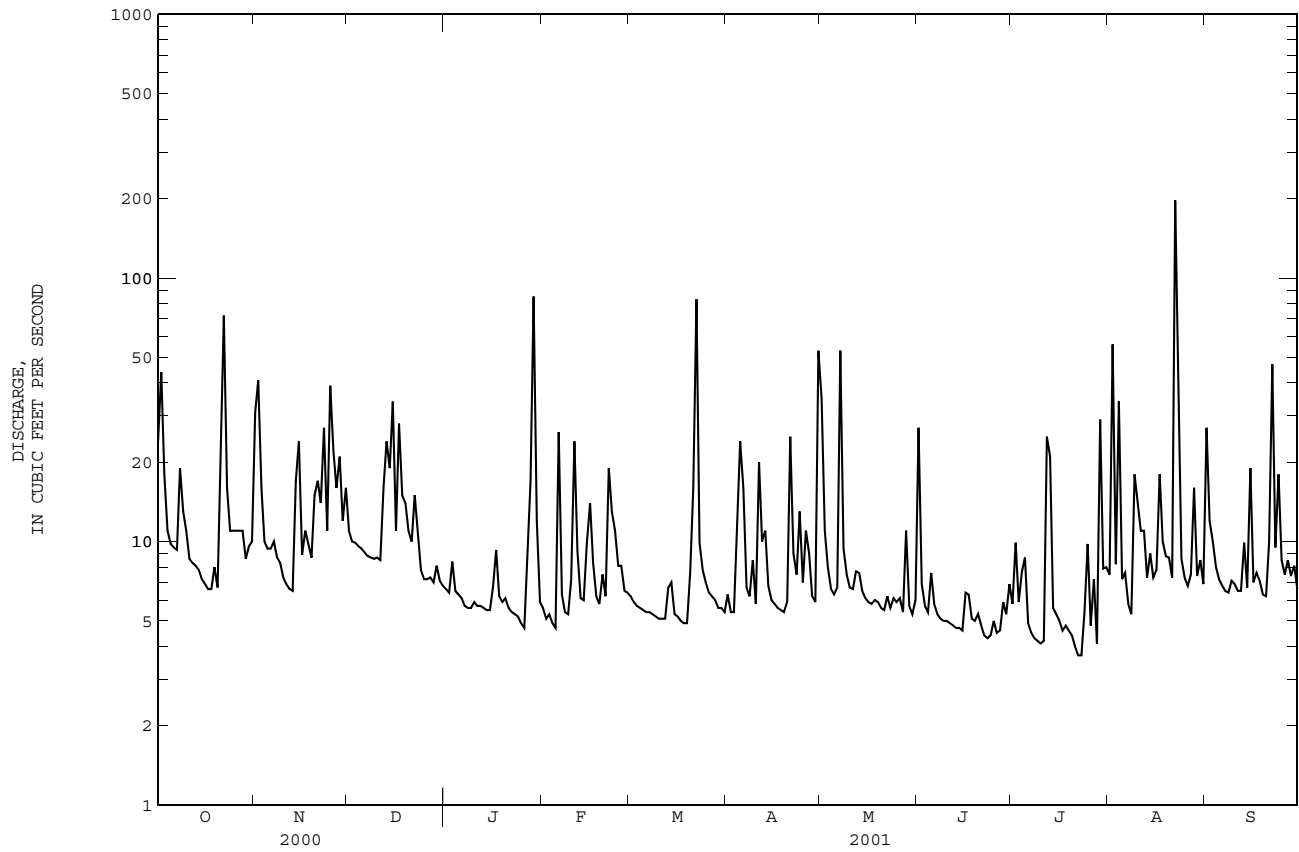
RIO BLANCO BASIN

50074950 QUEBRADA GUABA NEAR NAGUABO, PR--Continued



RIO BLANCO BASIN

50075000 RIO ICACOS NEAR NAGUABO, PR--Continued



RIO BLANCO BASIN
50075000 RIO ICACOS NEAR NAGUABO, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.-- July 1945 to March 1953 (operated by Puerto Rico Water Resources Authority), annual maximum, water years 1953-62, annual low-flow measurements 1962-66, October 1979 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1994 to current year.

INSTRUMENTATION.-- USDH-48 and automatic sediment sampler since 1992.

REMARKS.-- During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 3,860 mg/L August 23, 2000; Minimum daily mean, 2 mg/L several days in 1999 and 2001.

SEDIMENT LOADS: Maximum daily mean, 6,590 tons (5,980 tonnes) August 23, 2000; Minimum daily mean, 0.03 ton (0.03 tonne) April 10, 11, 1996.

EXTREMES FOR WATER YEAR 1995.--

SEDIMENT CONCENTRATION: Maximum daily mean, 420 mg/L October 20, 1994; Minimum daily mean, 3 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 322 tons (290 tonnes) October 20, 1994; Minimum daily mean, 0.04 ton (0.04 tonne) several days.

EXTREMES FOR WATER YEAR 1996.--

SEDIMENT CONCENTRATION: Maximum daily mean, 1,680 mg/L September 10, 1996; Minimum daily mean, 4 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 4,420 tons (4,010 tonnes) September 10, 1996; Minimum daily mean, 0.03 ton (0.03 tonne) April 10, 11, 1996.

EXTREMES FOR WATER YEAR 1997.--

SEDIMENT CONCENTRATION: Maximum daily mean, 1,110 mg/L June 2, 1997; Minimum daily mean, 5 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 2,500 tons (2,270 tonnes) June 2, 1997; Minimum daily mean, 0.04 ton (0.04 tonne) July 11, 1997.

EXTREMES FOR WATER YEAR 1998.--

SEDIMENT CONCENTRATION: Maximum daily mean, 3,820 mg/L February 5, 1998; Minimum daily mean, 3 mg/L July 13, 1998.

SEDIMENT LOADS: Maximum daily mean, 3,820 tons (3,470 tonnes) February 5, 1998; Minimum daily mean, 0.04 ton (0.04 tonne) July 13, 1998.

EXTREMES FOR WATER YEAR 1999.--

SEDIMENT CONCENTRATION: Maximum daily mean, 604 mg /L December 1, 1998; Minimum daily mean, 2 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 335 tons (300 tonnes) June 8, 1999; Minimum daily mean, 0.04 ton (0.04 tonne) several days.

EXTREMES FOR WATER YEAR 2000.--

SEDIMENT CONCENTRATION: Maximum daily mean, 3,860 mg/L August 23, 2000; Minimum daily mean, e 4 mg/L July 26, 2000.

SEDIMENT LOADS: Maximum daily mean, 6,590 tons (5,980 tonnes) August 23, 2000; Minimum daily mean, e 0.06 ton (e 0.05 tonne) July 26, 2000.

EXTREMES FOR WATER YEAR 2001.--

SEDIMENT CONCENTRATION: Maximum daily mean, 626 mg/L August 22, 2001; Minimum daily mean, 2 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 1,140 tons (1,034 tonnes) August 22, 2001; Minimum daily mean, 0.04 ton (0.04 tonne) several days.

RIO BLANCO BASIN
50075000 RIO ICACOS NEAR NAGUABO, PR--Continued

WATER-QUALITY RECORDS--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)		DISCHARGE (CFS)	CONCEN- TRATION (MG/L)		DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	
OCTOBER									
1	4.6	6	.08	4.6	6	.07	42	157	37
2	4.5	6	.07	3.9	5	.05	94	409	139
3	4.5	6	.07	3.5	5	.05	33	91	10
4	4.3	5	.06	4.9	5	.06	41	94	19
5	4.0	5	.05	4.0	4	.05	31	84	7.7
6	3.7	5	.05	29	74	20	22	49	3.1
7	3.5	4	.04	34	126	51	15	29	1.2
8	3.8	4	.04	39	130	25	14	23	1.0
9	7.9	13	.51	42	186	79	19	50	4.6
10	26	58	15	56	229	101	10	18	.49
11	6.4	7	.13	15	34	1.5	10	16	.44
12	5.2	5	.08	8.3	13	.30	8.7	15	.34
13	11	24	2.2	6.7	10	.18	13	21	.81
14	6.3	10	.21	5.9	9	.14	7.9	11	.24
15	4.4	6	.07	5.5	7	.11	6.9	10	.19
16	3.8	5	.05	4.5	6	.08	7.2	9	.18
17	3.7	5	.05	19	59	8.7	8.4	9	.21
18	3.8	4	.05	6.2	9	.16	7.7	9	.19
19	17	76	12	4.7	7	.09	7.0	9	.17
20	88	420	322	4.5	6	.07	7.0	9	.17
21	13	27	2.5	19	46	3.2	7.2	9	.18
22	29	75	8.3	14	27	1.3	10	9	.25
23	40	160	41	5.8	6	.09	12	9	.29
24	34	102	17	3.9	5	.05	11	9	.28
25	9.3	16	.46	11	23	1.3	19	36	2.5
26	5.4	9	.13	12	25	3.3	12	21	.67
27	4.5	8	.10	25	87	19	12	21	.83
28	4.3	8	.09	8.4	6	.14	12	22	.80
29	4.0	7	.08	37	127	30	9.1	16	.40
30	4.1	7	.07	35	102	12	8.1	16	.34
31	3.8	6	.06	---	---	---	8.0	15	.33
TOTAL	367.8	---	422.60	472.3	---	357.99	525.2	---	232.90
NOVEMBER									
DECEMBER									
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY									
1	9.5	14	.37	8.0	14	.30	14	28	1.1
2	13	27	1.3	7.4	13	.27	11	18	.52
3	10	12	.34	8.0	13	.28	8.8	15	.35
4	8.4	11	.26	7.7	12	.26	18	44	3.2
5	8.0	11	.24	7.4	12	.24	11	20	.76
6	7.7	10	.22	8.0	11	.25	6.9	10	.19
7	7.2	10	.19	9.6	11	.29	19	49	4.8
8	6.9	9	.18	9.0	11	.27	11	19	.61
9	10	9	.26	9.0	12	.28	27	72	9.5
10	8.4	10	.23	8.2	12	.26	10	20	.58
11	8.9	11	.25	15	33	1.9	9.5	19	.49
12	21	51	4.9	10	17	.47	23	57	5.3
13	14	19	.70	9.2	17	.42	37	135	25
14	11	16	.50	10	17	.46	30	88	11
15	15	15	.59	18	36	2.5	12	22	.74
16	10	13	.36	17	42	2.7	10	19	.54
17	8.2	12	.26	13	22	.81	9.8	16	.44
18	8.0	12	.25	12	17	.56	9.0	14	.34
19	7.2	12	.23	14	27	1.2	8.2	12	.27
20	7.2	12	.22	9.8	16	.46	8.0	10	.23
21	7.2	12	.22	14	9	.34	7.7	9	.19
22	6.4	11	.20	6.3	9	.15	7.2	8	.15
23	6.7	11	.20	5.1	8	.11	7.2	7	.13
24	6.0	11	.18	4.7	7	.09	6.9	6	.11
25	5.8	11	.17	94	264	270	6.4	5	.08
26	48	146	28	29	87	13	6.4	4	.07
27	65	247	75	107	328	210	7.6	4	.07
28	48	148	30	75	177	66	6.4	3	.05
29	11	16	.48	---	---	---	6.4	3	.05
30	8.8	15	.35	---	---	---	6.2	3	.05
31	8.5	14	.33	---	---	---	5.7	3	.05
TOTAL	421.0	---	146.98	545.4	---	573.87	367.3	---	66.96
FEBRUARY									
MARCH									

RIO BLANCO BASIN
50075000 RIO ICACOS NEAR NAGUABO, PR--Continued

WATER-QUALITY RECORDS--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	APRIL			MAY			JUNE		
1	5.7	3	.05	5.1	6	.08	10	17	.49
2	5.7	3	.05	5.1	5	.07	23	49	3.6
3	5.7	3	.05	4.5	5	.06	37	114	18
4	5.7	3	.05	8.7	15	.68	10	18	.51
5	5.7	3	.05	8.4	9	.21	6.9	10	.19
6	5.4	3	.04	7.3	9	.17	17	28	1.9
7	5.1	3	.04	5.9	9	.14	15	36	2.3
8	5.1	3	.04	6.3	8	.14	6.9	13	.25
9	5.1	3	.04	5.3	8	.12	5.7	10	.15
10	5.1	3	.04	4.8	8	.10	7.7	14	.49
11	5.1	3	.04	5.2	8	.11	37	107	28
12	12	23	1.5	5.4	7	.11	23	61	7.7
13	5.3	7	.10	5.1	7	.10	14	29	1.2
14	5.1	6	.09	5.1	7	.09	12	16	.51
15	6.0	11	.52	36	162	51	22	59	6.7
16	19	53	4.2	18	42	3.6	12	15	.50
17	7.8	12	.25	6.9	10	.19	9.2	13	.31
18	7.1	11	.20	6.1	9	.15	6.8	10	.19
19	6.4	10	.17	8.6	9	.21	6.2	9	.14
20	6.4	10	.17	11	9	.26	8.6	8	.18
21	6.3	9	.15	8.8	9	.21	8.1	8	.16
22	5.7	9	.13	6.1	9	.14	7.4	7	.15
23	6.1	8	.14	5.7	9	.13	6.4	7	.12
24	6.4	8	.14	5.3	8	.12	6.3	7	.12
25	6.4	7	.13	6.8	8	.15	5.7	7	.10
26	6.4	7	.12	7.1	8	.15	5.8	7	.10
27	6.2	7	.11	23	65	10	5.8	7	.10
28	5.7	6	.10	17	35	2.2	5.5	6	.09
29	5.4	6	.09	52	122	31	5.1	6	.09
30	5.1	6	.08	28	76	9.5	5.1	6	.08
31	---	---	---	17	38	2.7	---	---	---
TOTAL	194.2	---	8.88	345.6	---	113.89	351.2	---	74.42
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	5.1	6	.08	25	71	10	6.9	11	.21
2	4.9	6	.08	16	29	1.4	6.2	10	.17
3	12	17	1.3	31	96	19	5.8	9	.15
4	15	35	2.3	10	19	.51	5.0	9	.12
5	28	77	13	8.8	15	.37	31	83	22
6	19	56	7.2	12	14	.47	87	276	193
7	7.2	11	.21	15	34	2.0	12	31	1.0
8	6.0	9	.15	32	98	17	32	90	20
9	5.6	8	.12	13	24	.88	12	24	.76
10	5.1	7	.09	11	17	.50	10	21	.60
11	7.8	12	.50	9.5	16	.40	19	45	3.8
12	6.7	12	.24	8.4	14	.32	10	19	.53
13	17	37	4.3	8.0	13	.28	8.6	16	.37
14	7.1	11	.23	7.2	12	.23	7.4	13	.26
15	16	34	2.6	7.2	11	.20	18	21	3.0
16	20	54	5.2	7.6	10	.20	139	244	174
17	8.0	15	.33	16	26	1.5	39	114	14
18	21	50	3.4	32	113	27	18	44	2.1
19	13	23	.87	18	18	.84	14	33	1.2
20	13	14	.49	9.9	14	.38	16	25	1.1
21	20	51	9.1	13	12	.41	16	23	1.0
22	23	53	5.2	9.4	12	.30	12	21	.69
23	8.1	9	.21	13	30	2.1	11	20	.57
24	7.6	4	.08	13	27	1.1	10	19	.51
25	6.6	4	.07	9.9	14	.37	9.6	17	.45
26	14	26	2.1	8.2	12	.27	9.3	16	.41
27	62	197	81	7.4	11	.22	9.1	15	.38
28	29	83	9.6	7.9	10	.22	11	15	.49
29	14	22	.88	17	63	12	20	46	3.7
30	13	24	1.1	19	44	4.3	9.6	14	.36
31	9.0	16	.39	9.7	16	.44	---	---	---
TOTAL	443.8	---	152.42	425.1	---	105.21	614.5	---	446.93
YEAR	5073.4		2703.05						

RIO BLANCO BASIN
50075000 RIO ICACOS NEAR NAGUABO, PR--Continued

WATER-QUALITY RECORDS--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	11	17	.49	7.3	11	.22	13	27	.98
2	11	16	.45	20	34	2.8	13	26	.93
3	10	15	.40	40	122	16	13	25	.89
4	17	45	3.4	18	39	2.0	12	24	.80
5	26	66	5.6	25	60	5.0	12	23	.76
6	18	26	1.3	48	161	43	14	22	.80
7	16	35	1.8	14	29	1.1	12	21	.66
8	21	47	3.0	18	20	.96	10	20	.56
9	21	51	4.0	13	18	.65	12	25	.97
10	19	41	2.5	13	16	.59	17	38	2.2
11	14	30	1.1	13	15	.50	12	16	.49
12	14	24	.91	13	14	.48	11	20	1.1
13	26	67	6.5	12	12	.41	28	84	12
14	13	25	.90	12	11	.37	30	76	8.6
15	11	18	.51	21	44	4.6	9.3	14	.36
16	14	34	2.4	24	68	6.2	11	12	.36
17	14	30	1.5	19	34	1.8	55	116	43
18	10	20	.56	16	30	1.3	69	230	49
19	20	49	6.8	14	28	1.1	24	66	5.3
20	9.0	16	.39	14	27	.97	14	28	1.0
21	7.7	13	.27	13	25	.89	11	22	.69
22	6.5	10	.18	13	24	.82	11	18	.50
23	26	39	4.8	12	22	.74	10	16	.43
24	24	56	4.8	16	21	.90	9.2	15	.38
25	12	20	.67	15	21	.84	9.8	15	.40
26	10	16	.44	15	21	.85	9.3	15	.37
27	8.0	14	.30	13	21	.71	9.0	15	.35
28	7.3	13	.26	14	21	.80	12	14	.45
29	8.1	13	.28	18	22	1.1	8.8	14	.33
30	7.4	12	.25	15	28	1.1	8.0	14	.30
31	7.5	12	.24	---	---	---	8.1	13	.29
TOTAL	439.5	---	57.00	518.3	---	98.80	497.5	---	135.25
DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	9.0	13	.32	15	25	1.0	9.6	18	.46
2	8.0	13	.28	13	25	.89	8.9	18	.42
3	8.0	13	.27	18	35	2.3	8.8	17	.41
4	8.0	12	.27	17	34	1.8	10	19	.56
5	8.0	12	.26	18	21	1.0	28	71	6.0
6	24	59	4.8	30	81	14	13	23	.89
7	17	77	17	22	34	2.1	14	26	1.2
8	33	107	18	15	32	1.3	12	14	.46
9	13	26	.88	15	31	1.3	16	27	1.4
10	11	21	.60	16	30	1.3	11	13	.41
11	15	39	2.3	15	29	1.2	12	12	.36
12	29	71	7.6	13	28	1.0	8.6	11	.25
13	15	28	1.1	15	27	1.1	7.1	10	.20
14	253	1160	2260	13	26	.94	6.7	10	.18
15	47	102	17	13	26	.87	8.8	9	.22
16	17	36	1.7	13	25	.89	9.0	9	.22
17	15	31	1.2	13	24	.83	7.4	9	.17
18	20	28	1.5	12	23	.78	8.3	8	.19
19	33	83	11	15	22	.88	5.8	8	.12
20	56	202	47	13	22	.74	5.7	8	.12
21	23	53	3.9	12	21	.67	5.5	7	.11
22	16	27	1.1	11	20	.62	5.4	7	.10
23	14	25	.93	11	20	.59	5.3	7	.10
24	16	22	1.0	61	251	118	5.1	7	.09
25	22	49	3.8	15	31	1.3	4.8	6	.08
26	20	37	2.7	12	19	.60	4.8	6	.08
27	33	92	9.0	11	19	.55	6.7	6	.11
28	47	160	30	11	18	.52	11	18	.90
29	18	39	2.0	10	18	.49	7.1	11	.26
30	15	33	1.3	---	---	---	5.7	5	.08
31	17	27	1.3	---	---	---	4.4	5	.06
TOTAL	880.0	---	2450.11	468	---	159.56	276.5	---	16.21

RIO BLANCO BASIN
50075000 RIO ICACOS NEAR NAGUABO, PR--Continued

WATER-QUALITY RECORDS--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	APRIL			MAY			JUNE		
1	4.4	5	.06	6.3	11	.19	7.0	9	.18
2	4.2	5	.06	6.0	11	.18	17	47	7.7
3	3.9	6	.06	6.5	11	.19	8.4	15	.37
4	18	43	6.5	6.4	11	.19	35	125	31
5	7.4	12	.30	7.5	11	.22	28	83	13
6	4.5	5	.07	9.4	11	.28	33	108	26
7	4.2	5	.06	20	50	5.0	19	48	3.5
8	4.3	5	.05	32	107	23	12	17	.55
9	3.6	4	.04	28	72	7.3	10	17	.48
10	3.2	4	.03	26	68	6.5	11	17	.50
11	3.3	4	.03	13	26	.91	31	105	19
12	31	95	18	14	23	.87	64	206	54
13	13	27	2.0	95	456	344	26	79	7.1
14	8.9	5	.12	17	37	2.0	29	94	20
15	23	76	17	9.7	16	.43	97	455	260
16	12	24	1.0	8.2	12	.27	78	236	84
17	6.2	9	.15	7.6	12	.24	26	63	4.6
18	11	20	1.3	7.2	12	.22	21	47	2.9
19	9.1	20	.67	6.4	11	.20	15	31	1.2
20	6.2	13	.21	6.4	11	.19	12	27	.87
21	8.0	13	.29	8.5	11	.25	13	24	.83
22	15	35	2.9	8.5	11	.25	21	48	4.0
23	44	176	48	7.5	11	.22	12	22	.72
24	17	33	1.8	6.6	11	.19	10	17	.48
25	6.9	9	.18	5.9	10	.17	9.3	16	.40
26	8.9	6	.14	5.7	10	.16	9.2	15	.37
27	6.5	6	.10	5.1	10	.14	15	25	1.2
28	12	25	1.6	5.1	10	.14	25	72	12
29	12	12	.41	4.9	10	.13	9.8	18	.47
30	15	23	1.1	5.7	10	.15	8.7	16	.37
31	---	---	---	6.2	10	.16	---	---	---
TOTAL	326.7	---	104.23	402.3	---	394.34	712.4	---	557.79
DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	8.0	14	.31	16	38	2.5	15	27	1.1
2	7.4	13	.26	11	21	.62	13	27	.96
3	8.9	12	.29	18	38	2.6	14	26	1.0
4	7.2	12	.23	23	57	5.4	29	111	20
5	6.3	12	.20	12	16	.54	29	78	9.1
6	6.5	11	.20	11	14	.44	21	51	2.9
7	7.4	11	.22	9.8	13	.34	20	42	2.3
8	213	1000	2080	8.9	11	.28	29	80	7.6
9	30	67	5.9	11	10	.29	108	390	459
10	15	36	1.5	11	9	.27	737	1680	4420
11	11	27	.80	8.5	11	.33	52	149	23
12	28	83	14	11	19	.75	28	68	5.1
13	19	54	3.8	27	101	25	24	52	3.3
14	86	329	155	71	296	101	32	86	9.6
15	30	73	9.0	48	172	27	62	224	53
16	13	29	1.0	44	139	21	43	129	21
17	12	26	.85	33	88	8.2	23	50	3.2
18	11	23	.71	27	62	4.5	28	72	7.4
19	11	20	.59	26	59	4.2	25	46	3.1
20	23	54	4.3	24	56	3.7	23	55	3.7
21	10	22	.60	23	54	3.3	24	53	4.0
22	9.8	19	.50	21	51	2.9	18	26	1.3
23	9.3	16	.41	47	155	39	18	18	.84
24	11	14	.41	32	83	7.7	16	14	.58
25	18	43	5.3	20	39	2.1	15	11	.44
26	15	30	1.5	17	32	1.5	17	10	.46
27	8.8	14	.34	17	30	1.4	17	10	.47
28	9.1	15	.36	21	29	1.6	31	80	7.4
29	8.3	15	.34	17	28	1.3	18	25	1.3
30	9.0	16	.38	16	28	1.2	23	52	4.2
31	8.9	16	.39	15	28	1.1	---	---	---
TOTAL	670.9	---	2289.69	697.2	---	272.06	1552	---	5077.35
YEAR	7441.3		11612.39						

RIO BLANCO BASIN
50075000 RIO ICACOS NEAR NAGUABO, PR--Continued

WATER-QUALITY RECORDS--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)		DISCHARGE (CFS)	CONCEN- TRATION (MG/L)		DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	
OCTOBER									
1	15	10	.39	23	63	6.2	49	190	48
2	16	10	.42	25	62	6.3	26	55	4.3
3	23	56	8.9	19	35	3.1	17	33	1.5
4	16	24	1.0	14	28	1.1	17	28	1.3
5	13	21	.75	16	33	2.3	15	24	1.0
6	12	18	.58	18	19	.92	14	21	.80
7	15	15	.61	97	597	426	14	18	.65
8	11	13	.39	20	40	2.3	13	15	.53
9	15	11	.45	16	21	.92	12	13	.43
10	30	81	8.4	16	15	.75	13	11	.37
11	13	22	.81	43	113	14	56	206	48
12	11	18	.53	124	484	341	21	52	3.6
13	12	16	.51	56	180	53	13	24	.87
14	11	15	.43	41	77	13	13	17	.59
15	14	25	1.1	31	62	5.2	14	13	.47
16	10	14	.38	30	26	2.2	21	39	2.9
17	10	13	.36	38	73	13	12	23	.77
18	10	13	.35	32	43	3.9	11	20	.62
19	10	12	.35	36	99	11	10	18	.51
20	10	12	.32	32	76	7.0	10	16	.45
21	10	12	.32	28	28	2.1	10	15	.39
22	8.7	11	.26	33	57	7.9	9.7	13	.34
23	12	11	.36	29	39	3.2	8.0	12	.25
24	9.2	10	.26	113	442	214	12	11	.36
25	27	85	26	36	96	9.4	16	29	1.6
26	44	140	20	29	47	3.7	22	39	3.2
27	15	19	.87	30	19	1.5	29	81	7.8
28	39	123	32	39	69	7.6	40	131	30
29	25	73	12	34	27	2.6	61	181	60
30	11	9	.28	83	284	106	32	78	6.8
31	10	8	.22	---	---	---	31	85	7.8
TOTAL	487.9	---	119.60	1181	---	1271.19	641.7	---	236.20
NOVEMBER									
DECEMBER									
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY									
FEBRUARY									
MARCH									
1	19	43	2.2	55	225	79	13	27	.95
2	25	55	3.9	29	62	4.9	15	33	1.7
3	19	26	1.3	40	135	28	20	45	3.0
4	19	23	1.5	39	122	25	17	39	2.0
5	22	49	3.2	40	112	13	26	71	7.3
6	18	36	1.8	31	71	6.1	12	23	.78
7	16	34	1.5	30	34	2.7	11	22	.65
8	19	32	1.6	25	16	1.1	25	67	6.1
9	17	29	1.3	47	170	30	16	25	1.1
10	15	26	1.1	26	58	4.2	11	23	.67
11	16	23	.98	26	25	1.7	9.6	22	.57
12	15	21	.84	43	95	21	11	21	.62
13	14	19	.72	47	147	24	10	20	.56
14	14	17	.65	26	55	3.9	9.3	19	.48
15	13	16	.55	24	38	2.4	12	18	.58
16	13	14	.50	23	26	1.6	11	18	.53
17	13	13	.45	22	18	1.1	8.8	17	.40
18	13	11	.40	23	13	.79	9.0	16	.39
19	19	18	1.3	32	72	8.0	8.2	15	.34
20	28	77	7.4	33	87	10	8.2	15	.33
21	72	257	55	64	229	56	9.0	14	.34
22	92	348	140	31	75	6.8	8.0	14	.29
23	74	269	61	24	40	2.6	8.1	13	.28
24	74	264	74	24	24	1.6	8.0	12	.27
25	33	93	8.9	25	14	.97	8.8	12	.28
26	36	104	12	30	67	6.2	9.4	11	.29
27	22	21	1.3	21	47	2.7	9.8	11	.29
28	31	58	5.3	17	36	1.6	14	10	.40
29	27	69	5.8	---	---	---	19	36	3.2
30	25	59	4.4	---	---	---	10	20	.56
31	28	82	8.1	---	---	---	9.7	18	.47
TOTAL	861	---	408.99	897	---	346.96	376.9	---	35.72

RIO BLANCO BASIN
50075000 RIO ICACOS NEAR NAGUABO, PR--Continued

WATER-QUALITY RECORDS--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	APRIL			MAY			JUNE		
1	9.0	16	.39	5.5	8	.12	15	36	1.9
2	14	31	2.4	5.1	7	.10	172	1110	2500
3	12	27	1.0	4.8	7	.09	19	48	2.9
4	24	61	6.2	4.7	7	.08	9.6	13	.35
5	25	66	6.7	4.5	6	.08	7.6	11	.23
6	10	18	.51	4.5	6	.07	7.3	11	.22
7	9.0	17	.42	46	324	269	6.4	11	.19
8	9.0	16	.39	37	126	23	7.7	11	.23
9	8.2	15	.33	11	16	.46	6.5	11	.19
10	8.0	14	.31	7.6	10	.22	6.4	11	.19
11	8.2	13	.29	17	41	4.4	6.4	11	.19
12	8.0	12	.27	9.3	16	.43	6.1	11	.18
13	11	12	.37	21	64	8.2	17	38	4.6
14	8.0	12	.26	10	19	.55	9.9	14	.41
15	7.9	12	.25	7.2	11	.22	6.0	9	.15
16	8.0	12	.26	9.3	9	.23	5.7	9	.14
17	8.6	12	.28	20	41	3.2	7.3	9	.18
18	8.4	12	.27	10	20	.56	13	23	1.1
19	11	23	1.1	8.6	16	.37	11	16	.49
20	8.4	15	.34	10	13	.36	20	53	6.0
21	7.9	13	.28	11	12	.34	11	14	.40
22	7.2	12	.24	8.7	12	.28	6.9	11	.21
23	6.7	12	.21	8.0	12	.25	23	60	8.2
24	5.7	11	.17	8.8	11	.27	9.6	12	.34
25	5.7	11	.16	8.0	11	.24	6.8	10	.31
26	5.7	10	.16	15	36	2.9	16	29	2.1
27	7.2	10	.19	19	50	7.9	5.3	7	.10
28	5.9	9	.14	8.2	15	.40	4.2	6	.06
29	5.7	9	.13	22	70	15	3.6	6	.06
30	5.7	8	.13	9.1	16	.46	3.5	6	.05
31	---	---	---	11	9	.27	---	---	---
TOTAL	279.1	---	24.15	381.9	---	340.05	449.8	---	2531.67

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	3.5	6	.05	4.3	6	.07	13	30	3.1
2	3.4	6	.05	4.1	5	.06	9.1	12	.29
3	3.2	6	.05	14	22	1.7	7.7	10	.20
4	3.2	6	.05	20	55	5.6	6.9	9	.16
5	3.6	6	.06	6.0	10	.17	5.3	8	.11
6	3.1	6	.05	4.9	10	.13	5.2	7	.10
7	2.9	6	.05	6.2	9	.15	5.0	6	.09
8	3.9	6	.06	6.0	8	.14	11	25	2.5
9	3.8	6	.06	17	40	4.5	13	30	2.6
10	2.9	6	.05	50	141	25	5.8	9	.14
11	2.7	6	.04	21	30	1.7	5.1	8	.11
12	2.9	6	.05	26	35	3.3	7.5	8	.16
13	6.1	6	.10	26	46	3.8	32	105	41
14	5.3	6	.09	21	10	.57	22	80	14
15	6.2	6	.10	24	10	.66	24	64	6.6
16	7.6	6	.12	46	130	28	8.2	7	.15
17	5.7	6	.09	38	43	4.8	6.4	5	.09
18	3.8	6	.06	44	95	18	9.4	5	.13
19	12	23	1.9	22	17	1.0	5.7	5	.08
20	23	74	17	19	13	.65	6.5	5	.09
21	69	339	244	18	9	.46	18	31	1.9
22	12	30	2.2	114	562	435	21	54	5.7
23	23	60	12	14	29	1.1	18	42	3.4
24	3.7	9	.09	19	43	4.8	8.4	13	.33
25	5.6	8	.12	11	20	.64	29	282	104
26	7.5	8	.16	8.7	10	.23	75	385	321
27	3.3	8	.07	6.9	8	.16	10	16	.46
28	4.7	8	.10	6.0	7	.12	10	12	.33
29	3.2	8	.07	5.7	6	.09	13	10	.35
30	23	88	21	5.4	6	.09	11	10	.30
31	8.6	16	.60	9.2	6	.15	---	---	---
TOTAL	272.4	---	300.49	637.4	---	542.84	422.2	---	509.47
YEAR	6888.3		6667.33						

RIO BLANCO BASIN
50075000 RIO ICACOS NEAR NAGUABO, PR--Continued

WATER-QUALITY RECORDS--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	6.4	10	.17	11	5	.14	11	15	.47
2	81	329	216	6.1	5	.08	9.0	10	.24
3	11	15	.48	6.7	5	.09	8.0	6	.14
4	8.0	9	.20	8.8	5	.12	6.8	6	.11
5	6.6	9	.16	9.9	5	.13	6.4	6	.10
6	5.8	9	.14	12	5	.17	5.7	6	.09
7	6.1	8	.14	5.5	5	.07	5.7	6	.09
8	70	688	838	17	37	3.9	5.1	6	.08
9	21	55	6.0	23	80	6.9	5.1	6	.08
10	10	18	.52	87	359	319	5.1	6	.08
11	41	179	95	7.4	15	.29	4.8	6	.08
12	16	31	1.8	6.0	11	.17	4.5	6	.07
13	132	772	1560	5.8	10	.16	4.7	6	.08
14	152	1940	2820	5.7	10	.15	4.8	6	.08
15	16	33	1.5	7.8	10	.21	4.5	6	.07
16	15	20	.83	23	58	4.7	4.6	6	.08
17	12	14	.47	26	65	8.3	7.7	6	.12
18	18	24	1.7	35	112	29	11	26	2.0
19	12	9	.31	15	27	1.2	4.1	5	.05
20	11	8	.24	10	14	.40	8.4	18	1.4
21	11	7	.22	27	71	8.6	15	32	2.6
22	10	6	.18	11	16	.46	4.9	6	.08
23	8.5	6	.13	7.9	13	.28	9.8	22	1.3
24	7.2	5	.10	16	31	2.0	4.8	8	.10
25	7.2	5	.10	11	22	1.4	4.3	8	.09
26	7.0	5	.09	139	613	884	4.0	8	.08
27	6.4	5	.09	14	26	1.0	4.2	8	.09
28	6.4	5	.09	11	15	.45	4.4	8	.09
29	6.0	5	.08	16	36	2.7	4.5	8	.09
30	6.2	5	.08	18	36	2.0	4.5	8	.09
31	6.0	5	.08	---	---	---	8.5	8	.18
TOTAL	732.8	---	5544.90	599.6	---	1278.07	195.9	---	10.30

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	32	165	66	5.7	5	.08	4.7	8	.10
2	17	39	2.3	5.7	5	.08	4.6	8	.10
3	28	71	11	5.7	5	.08	4.6	8	.10
4	25	64	6.8	20	173	220	4.5	8	.10
5	18	31	1.6	92	3820	3820	4.4	8	.09
6	65	196	89	8.8	12	.30	5.1	8	.11
7	131	495	468	6.6	9	.16	27	454	223
8	23	38	2.5	16	35	4.7	9.0	14	.39
9	26	61	6.4	9.7	19	.59	5.8	9	.15
10	39	110	14	6.2	11	.18	5.7	10	.15
11	15	32	1.3	8.8	10	.25	5.4	10	.15
12	14	21	.80	8.6	10	.23	5.4	10	.15
13	22	49	5.5	6.5	10	.17	5.9	11	.17
14	17	32	1.6	9.6	10	.25	17	38	3.0
15	11	18	.52	7.2	9	.18	10	14	.38
16	9.5	16	.43	6.4	9	.16	6.7	10	.18
17	9.0	15	.36	6.3	9	.15	6.0	9	.14
18	8.5	14	.32	6.0	9	.14	5.9	8	.13
19	8.8	12	.30	5.7	9	.14	5.7	7	.11
20	8.2	11	.25	5.7	9	.14	30	90	13
21	8.0	10	.23	5.7	9	.14	8.2	13	.31
22	8.0	9	.20	5.4	9	.13	8.9	11	.25
23	7.3	9	.17	5.1	9	.12	5.4	10	.15
24	7.2	8	.15	5.1	9	.12	4.5	10	.12
25	7.2	7	.14	4.9	8	.11	7.4	10	.19
26	7.0	7	.12	4.8	8	.11	9.4	22	.91
27	6.6	6	.11	4.5	8	.10	11	23	.99
28	6.4	5	.09	4.6	8	.10	5.9	7	.11
29	6.4	5	.09	---	---	---	4.5	6	.07
30	5.9	5	.08	---	---	---	22	65	11
31	6.0	5	.08	---	---	---	7.8	11	.27
TOTAL	603.0	---	680.44	287.3	---	4048.91	268.4	---	256.07

RIO BLANCO BASIN
50075000 RIO ICACOS NEAR NAGUABO, PR--Continued

WATER-QUALITY RECORDS--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	10	19	.74	5.8	10	.16	12	20	.63
2	21	58	5.2	5.5	9	.13	8.9	17	.42
3	7.6	13	.28	11	26	1.6	7.7	15	.32
4	5.7	7	.12	21	52	6.1	6.9	13	.25
5	5.1	7	.09	7.1	12	.23	6.7	12	.21
6	4.5	7	.08	6.0	9	.14	10	10	.28
7	7.2	14	.57	5.7	8	.13	6.9	10	.19
8	6.8	13	.32	33	114	37	9.8	10	.27
9	4.5	7	.08	11	18	.56	32	110	27
10	4.2	6	.07	8.7	12	.28	10	19	.59
11	4.1	5	.06	7.5	12	.24	6.7	10	.19
12	21	48	5.7	8.2	12	.26	85	392	238
13	10	21	1.0	29	75	27	22	59	4.7
14	4.6	6	.07	31	121	36	10	12	.34
15	5.1	9	.18	23	66	6.1	7.3	6	.11
16	92	318	203	12	28	.88	12	26	1.2
17	11	21	6.68	9.4	20	.51	7.9	6	.14
18	18	53	7.5	6.9	14	.27	14	28	1.9
19	32	88	29	7.4	11	.21	6.9	10	.18
20	15	33	1.9	17	42	4.8	6.0	9	.15
21	7.2	12	.22	9.4	14	.39	12	9	.28
22	6.1	11	.18	6.5	10	.17	8.6	8	.20
23	7.2	10	.19	7.1	10	.19	6.0	8	.15
24	5.8	9	.14	7.5	10	.20	5.8	8	.13
25	5.9	9	.14	9.4	10	.27	6.0	8	.13
26	5.8	8	.13	42	150	27	6.4	8	.14
27	14	32	1.7	19	61	10	7.4	8	.16
28	10	15	.41	6.6	5	.09	7.8	8	.16
29	6.5	13	.23	36	97	14	5.1	8	.11
30	6.1	12	.19	40	128	18	4.7	8	.10
31	---	---	---	25	61	5.2	---	---	---
TOTAL	364.0	---	260.17	474.7	---	198.11	358.5	---	278.63

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	4.5	8	.09	6.0	6	.10	14	30	2.5
2	4.3	7	.09	5.6	6	.09	54	262	60
3	6.0	7	.12	5.2	6	.08	15	36	1.7
4	21	57	9.0	5.0	6	.08	11	19	.56
5	9.0	16	.40	5.0	6	.08	14	16	.59
6	15	31	3.6	19	39	3.0	e26	e70	e7.0
7	22	55	5.1	36	95	13	e103	e481	e261
8	17	50	5.0	25	63	5.8	e32	e97	e12
9	19	33	2.4	34	99	12	e44	e127	e17
10	11	10	.29	13	23	.87	e22	e41	e2.6
11	6.6	8	.15	8.7	15	.35	e12	e11	e.37
12	5.0	5	.07	11	22	.85	13	25	2.2
13	4.7	3	.04	9.3	14	.36	52	185	51
14	14	28	2.9	7.1	11	.22	32	86	9.1
15	28	80	11	6.6	9	.16	70	231	90
16	21	50	4.0	20	65	9.2	e17	e54	e2.6
17	16	32	1.5	18	54	4.1	11	32	.93
18	14	29	1.3	9.6	20	.94	17	39	3.4
19	24	59	4.5	31	121	39	e15	e29	e1.4
20	21	40	2.8	15	40	2.0	18	41	3.2
21	13	32	1.2	39	120	20	254	763	1590
22	11	27	.78	17	15	.71	158	450	408
23	14	60	6.0	6.5	8	.14	24	56	3.7
24	72	229	75	117	398	279	16	31	1.4
25	12	32	1.9	e72	e199	e80	15	22	.93
26	8.3	18	.95	e25	e61	e4.9	14	16	.61
27	7.7	10	.53	23	61	5.6	12	12	.39
28	7.8	6	.26	14	21	.78	11	8	.26
29	6.4	6	.10	14	16	.63	10	6	.17
30	6.3	6	.10	12	14	.48	10	5	.12
31	10	6	.16	10	13	.36	---	---	---
TOTAL	451.6	---	141.33	639.6	---	484.88	1116	---	2534.73
YEAR	6091.4		15716.54						

e Estimated

RIO BLANCO BASIN
50075000 RIO ICACOS NEAR NAGUABO, PR--Continued

WATER-QUALITY RECORDS--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	e9.9	e4	e.11	11	17	.54	127	604	228
2	10	4	.11	e35	e119	e37	101	486	160
3	11	4	.10	e12	e24	e.83	115	500	199
4	9.6	3	.09	10	16	.45	59	120	25
5	9.6	3	.08	9.3	14	.35	86	325	84
6	9.2	3	.07	8.6	12	.29	42	98	11
7	11	3	.08	9.1	11	.27	26	49	3.5
8	10	2	.07	12	20	.77	22	28	1.6
9	8.8	2	.05	e22	e54	e4.8	22	16	.92
10	8.0	2	.05	22	43	4.0	21	41	2.7
11	8.3	4	.19	59	276	73	e37	e114	e16
12	30	101	26	58	216	79	36	124	27
13	9.9	13	.51	47	134	20	31	84	9.5
14	51	267	155	19	32	1.6	23	41	2.8
15	9.0	13	.33	e14	e19	e.72	15	19	.78
16	30	94	18	12	13	.43	20	45	3.2
17	11	17	.50	11	9	.27	14	25	.94
18	10	13	.37	10	9	.24	12	17	.57
19	8.2	13	.28	11	9	.25	11	12	.37
20	25	59	7.4	14	9	.34	28	66	8.7
21	55	220	81	22	27	1.8	17	21	.98
22	144	371	325	15	16	.70	14	15	.56
23	32	87	9.6	22	51	4.6	20	11	.59
24	14	28	1.0	25	61	5.3	13	10	.34
25	e23	e57	e7.4	16	33	1.8	24	37	3.3
26	27	97	24	12	16	.51	34	86	12
27	e49	e286	e150	13	14	.66	36	113	15
28	17	40	2.1	78	299	208	86	392	232
29	13	21	.71	31	55	4.9	47	137	47
30	13	14	.49	63	197	42	14	24	.94
31	21	52	6.9	---	---	---	16	13	.58
TOTAL	697.5	---	817.59	703.0	---	495.42	1169	---	1098.87

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	18	29	1.5	41	124	28	5.6	3	.05
2	16	18	.99	20	44	3.0	5.2	3	.04
3	15	30	1.4	15	17	.68	e5.1	e3	e.04
4	12	20	.66	19	34	2.1	5.1	3	.04
5	12	18	.56	14	25	.98	e5.6	e3	e.05
6	13	16	.54	e12	e19	e.62	5.6	3	.05
7	8.7	14	.33	e11	e17	e.53	5.4	3	.04
8	9.3	13	.32	e11	e16	e.45	5.1	3	.04
9	16	11	.47	10	14	.39	5.1	3	.04
10	32	82	18	11	13	.36	6.3	3	.05
11	16	32	1.6	e11	e11	e.33	5.0	3	.04
12	9.8	7	.18	e22	e34	e2.8	e5.4	e3	e.04
13	16	28	2.1	18	39	2.6	e5.2	e3	e.04
14	47	163	150	12	19	.63	e5.1	e3	e.04
15	54	134	83	e10	e15	e.42	5.1	3	.04
16	18	34	2.2	9.8	13	.36	5.0	3	.04
17	15	23	1.7	9.0	12	.29	e4.8	e3	e.04
18	15	32	1.8	9.1	11	.26	4.6	3	.04
19	9.2	10	.25	9.0	9	.23	e5.0	e3	e.04
20	7.7	12	.24	8.8	8	.20	5.1	3	.04
21	9.7	8	.21	e7.5	e7	e.15	5.0	3	.04
22	11	6	.18	e6.9	e6	e.12	5.1	3	.04
23	22	31	2.2	6.4	6	.10	6.0	3	.05
24	14	15	.58	6.3	5	.09	64	210	88
25	15	19	.97	6.3	4	.08	22	55	5.1
26	e11	e23	e.93	6.6	3	.06	15	32	1.9
27	7.7	11	.22	5.7	3	.05	7.7	12	.25
28	e44	e187	e86	5.7	3	.05	e14	e8	e.29
29	14	21	.82	---	---	---	8.3	5	.12
30	13	22	.75	---	---	---	e6.3	e3	e.06
31	12	22	.73	---	---	---	5.7	3	.05
TOTAL	533.1	---	361.43	334.1	---	45.93	263.5	---	96.74

RIO BLANCO BASIN
50075000 RIO ICACOS NEAR NAGUABO, PR--Continued

WATER-QUALITY RECORDS--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	APRIL			MAY			JUNE		
1	6.5	3	.06	e5.0	e7	e.09	3.5	4	.04
2	15	24	1.8	4.9	6	.08	3.5	4	.04
3	7.4	11	.22	5.1	6	.08	13	39	3.1
4	e6.0	e9	e.15	8.1	6	.12	7.4	9	.20
5	e5.9	e9	e.14	e5.3	e5	e.08	e4.9	e5	e.06
6	5.2	8	.12	4.6	5	.06	e4.1	e4	e.05
7	5.8	8	.12	4.5	5	.06	e3.5	e4	e.04
8	16	54	6.5	e41	e207	e83	53	336	335
9	18	42	2.8	9.1	18	.57	5.3	7	.12
10	7.5	11	.23	5.3	7	.09	e9.0	e23	e1.3
11	6.2	9	.14	4.9	6	.08	4.7	6	.08
12	5.7	9	.13	4.8	6	.08	17	59	9.9
13	5.4	9	.13	4.6	6	.07	11	27	1.6
14	e5.2	e9	e.12	e4.5	e6	e.07	4.8	6	.08
15	e5.3	e9	e.12	e4.3	e6	e.07	6.3	5	.09
16	e5.2	e9	e.12	e4.2	e6	e.06	11	7	.39
17	5.0	9	.12	e4.1	e5	e.06	53	254	70
18	5.0	9	.12	4.0	5	.06	11	17	.59
19	5.1	9	.12	e6.1	e5	e.09	6.6	8	.14
20	e5.3	e9	e.12	5.7	5	.08	41	123	44
21	e5.1	e9	e.12	e4.2	e5	e.06	9.6	15	.41
22	5.3	9	.12	4.0	5	.05	e7.6	e5	e.09
23	9.9	9	.23	e4.3	e5	e.06	e9.2	e4	e.11
24	e14	e31	e1.8	7.1	5	.09	e5.5	e5	e.07
25	6.8	10	.18	5.3	5	.06	e4.7	e5	e.06
26	5.7	9	.14	e4.2	e4	e.05	4.5	5	.06
27	e5.7	e9	e.13	3.9	4	.05	4.6	5	.06
28	5.8	8	.13	e3.9	e4	e.04	4.7	5	.06
29	5.4	8	.11	3.7	4	.04	6.4	5	.09
30	5.1	7	.10	3.6	4	.04	4.7	5	.06
31	---	---	---	e3.5	e4	e.04	---	---	---
TOTAL	215.5	---	16.44	187.8	---	85.53	335.1	---	467.89

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	11	28	1.7	7.6	13	.27	9.7	16	.58
2	28	80	10	19	58	12	16	44	3.7
3	6.5	8	.15	23	47	3.9	7.1	12	.23
4	e5.5	e6	e.10	14	24	.98	5.9	9	.15
5	7.3	7	.13	34	97	15	5.3	7	.10
6	5.4	7	.10	19	11	.56	5.7	6	.09
7	5.4	7	.10	14	8	.32	6.3	6	.10
8	8.8	7	.17	13	7	.25	7.3	6	.13
9	16	28	1.6	9.4	6	.16	6.6	6	.11
10	6.4	8	.14	8.6	5	.13	6.5	6	.11
11	6.6	6	.11	10	5	.13	7.6	6	.13
12	e9.5	e6	e.16	8.3	3	.07	5.8	6	.10
13	16	21	1.1	9.6	2	.06	39	128	21
14	34	104	16	7.5	2	.05	15	33	1.6
15	e30	e114	e14	12	19	1.7	8.8	13	.32
16	e11	e16	e.47	14	31	1.5	7.4	12	.24
17	16	31	2.4	18	47	4.3	9.6	14	.58
18	e8.9	e18	e.44	37	177	72	16	25	1.4
19	5.5	13	.19	28	74	6.6	16	43	3.9
20	5.8	9	.14	16	17	.69	20	67	11
21	6.4	6	.11	17	4	.18	8.9	15	.37
22	5.4	5	.07	83	323	272	6.6	10	.18
23	14	24	1.2	56	167	47	5.9	9	.14
24	18	41	4.1	e22	e39	e2.4	6.7	8	.14
25	e13	e20	e.77	e16	e20	e.89	14	29	2.5
26	e14	e40	e3.0	e27	e95	e22	25	104	19
27	e9.1	e12	e.29	e21	e65	e8.3	23	46	3.7
28	e11	e22	e.87	16	37	2.6	72	319	191
29	e7.0	11	.22	24	73	12	14	29	1.1
30	26	180	72	11	24	.77	12	18	.62
31	10	19	.55	7.3	12	.24	---	---	---
TOTAL	377.5	---	132.38	622.3	---	489.05	409.7	---	264.32
YEAR	5848.1		4371.59						

e Estimated

RIO BLANCO BASIN
50075000 RIO ICACOS NEAR NAGUABO, PR--Continued

WATER-QUALITY RECORDS--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	13	16	.56	27	87	18	16	12	.51
2	18	43	3.4	45	133	25	73	302	178
3	9.6	16	.46	25	39	2.7	50	162	57
4	18	42	4.5	17	25	1.1	16	26	1.1
5	16	31	3.3	29	63	6.6	201	691	432
6	24	64	7.6	e25	e27	e1.8	58	146	32
7	24	58	9.4	e17	e24	e1.1	87	352	115
8	21	44	3.0	32	116	35	32	52	5.7
9	14	22	.88	e20	e39	e2.4	24	21	1.4
10	10	14	.40	60	186	49	22	19	1.2
11	12	9	.29	27	81	15	20	18	.98
12	17	24	1.9	96	401	264	18	17	.82
13	12	16	.51	53	195	48	17	15	.72
14	10	11	.31	21	53	4.7	17	14	.63
15	9.1	9	.21	30	62	6.5	16	13	.55
16	9.0	7	.16	29	76	9.8	15	12	.48
17	21	53	6.9	127	528	272	15	11	.44
18	10	15	.43	100	474	175	26	45	6.0
19	18	28	3.4	66	240	50	34	81	13
20	44	135	25	29	76	6.1	34	90	12
21	101	387	137	26	56	5.3	23	26	1.6
22	16	37	1.8	17	11	.53	34	88	9.3
23	14	28	1.5	30	72	13	29	74	6.8
24	65	341	266	17	29	1.4	20	28	1.5
25	68	312	184	18	28	1.8	20	16	.85
26	e23	e55	e3.5	14	25	1.0	18	13	.86
27	e19	e45	e2.3	14	21	.77	14	7	.28
28	e17	e39	e1.8	13	18	.64	17	21	1.2
29	e17	e33	e1.5	13	16	.54	27	78	12
30	e15	e28	e1.2	13	14	.47	14	22	.84
31	e16	e24	e1.0	---	---	---	16	18	.74
TOTAL	700.7	---	674.21	1050	---	1019.25	1023	---	895.50

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	20	14	.77	11	15	.46	11	28	.80
2	18	35	4.3	8.4	15	.34	9.4	26	.67
3	52	184	59	8.8	15	.35	8.9	25	.60
4	38	107	18	9.1	15	.36	e7.6	e24	e.49
5	26	32	2.4	8.4	14	.33	e7.5	e23	e.46
6	33	65	9.0	7.8	14	.30	e7.6	e22	e.44
7	28	67	5.8	9.3	14	.35	e7.3	e21	e.40
8	20	35	1.9	8.1	14	.30	e6.8	e20	e.36
9	16	32	1.4	7.5	14	.28	e6.4	e19	e.32
10	14	25	.91	7.2	13	.26	e6.6	e18	e.31
11	13	24	.84	6.9	13	.25	e6.7	e17	e.30
12	12	24	.78	6.8	13	.24	e6.7	e16	e.29
13	16	36	1.9	7.3	13	.25	e7.3	e15	e.30
14	14	23	.83	7.2	13	.25	e7.0	e14	e.27
15	32	138	56	6.8	12	.23	e7.3	e14	e.27
16	e23	e55	e5.1	6.5	12	.22	e6.2	e13	e.22
17	e16	e25	e1.1	7.3	12	.24	e6.4	e12	e.22
18	12	18	.61	21	48	3.6	e7.0	e12	e.22
19	11	17	.50	26	69	7.2	e6.4	e11	e.19
20	10	17	.45	8.9	15	.37	e5.9	e11	e.17
21	9.8	16	.42	49	164	70	e6.1	e10	e.17
22	9.4	15	.39	41	157	27	e6.3	e10	e.16
23	9.2	15	.37	15	36	1.4	e5.7	e9	e.14
24	9.1	14	.35	14	32	1.2	e5.6	e9	e.13
25	9.1	14	.34	61	244	101	e5.4	e8	e.12
26	8.9	13	.32	18	38	2.1	e5.8	e8	e.12
27	9.4	13	.33	16	34	1.4	e5.4	e7	e.11
28	8.5	12	.28	13	31	1.1	6.2	7	.12
29	19	48	5.9	13	29	1.0	13	33	1.8
30	9.3	16	.40	---	---	---	5.6	9	.13
31	7.9	16	.33	---	---	---	5.1	7	.09
TOTAL	533.6	---	181.02	430.3	---	222.38	216.2	---	10.39

RIO BLANCO BASIN
50075000 RIO ICACOS NEAR NAGUABO, PR--Continued

WATER-QUALITY RECORDS--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	5.0	6	.09	6.1	9	.14	8.0	15	.32
2	4.9	6	.09	5.0	8	.11	9.1	14	.35
3	5.1	6	.09	6.4	8	.14	9.1	14	.33
4	4.8	6	.08	6.3	7	.13	e11	e13	e.39
5	4.8	6	.08	7.3	7	.14	7.3	12	.24
6	4.7	6	.08	5.7	7	.10	6.9	12	.22
7	4.9	7	.09	19	54	8.2	6.7	11	.20
8	4.9	7	.09	7.2	10	.21	6.7	11	.19
9	4.7	7	.08	5.3	7	.10	6.3	10	.17
10	4.6	7	.08	5.0	7	.09	6.1	10	.16
11	4.6	7	.08	79	360	273	7.3	9	.18
12	6.0	7	.11	12	22	.75	47	176	57
13	38	130	23	8.0	10	.22	9.6	23	.69
14	8.1	16	.45	6.4	9	.16	8.3	11	.25
15	5.6	9	.14	5.5	9	.13	15	46	3.6
16	9.2	17	.66	5.1	8	.11	30	88	9.6
17	10	9	.24	9.9	19	.92	13	23	.76
18	6.0	8	.14	6.2	10	.17	9.7	22	.57
19	6.0	8	.13	5.3	9	.13	8.0	21	.46
20	6.2	8	.13	4.8	8	.11	8.4	20	.47
21	5.3	8	.11	4.7	8	.09	7.2	20	.38
22	5.1	7	.10	4.5	7	.08	7.0	19	.36
23	5.2	7	.10	4.5	6	.08	6.5	18	.32
24	5.8	7	.11	4.3	6	.07	6.5	18	.31
25	5.3	7	.10	10	16	.97	6.6	17	.31
26	4.9	7	.09	5.2	7	.10	7.1	17	.32
27	4.8	6	.08	4.7	6	.07	6.1	16	.26
28	4.7	6	.08	29	85	17	5.4	16	.23
29	5.4	6	.09	38	134	26	5.0	15	.20
30	8.8	16	.94	33	122	41	4.9	15	.20
31	---	---	---	e9.0	e16	e.38	---	---	---
TOTAL	203.4	---	27.73	362.4	---	370.90	295.8	---	79.04
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	18	47	6.7	13	26	1.1	7.8	12	.26
2	28	94	21	9.3	19	.66	7.9	12	.25
3	e12	e25	e.81	19	65	11	8.9	15	.45
4	e9.5	e14	e.38	40	205	152	8.0	10	.23
5	e8.1	e9	e.20	16	40	2.3	9.4	19	1.2
6	e6.5	e8	e.14	6.9	15	.28	13	28	2.1
7	e6.2	e8	e.13	7.7	16	.33	e7.1	e11	e.21
8	e6.0	e8	e.12	6.9	17	.32	6.4	10	.18
9	e5.3	e8	e.11	5.6	17	.26	e6.3	e10	e.14
10	e5.2	e7	e.10	19	47	5.5	12	24	1.2
11	e4.9	e7	e.10	7.2	12	.22	12	20	.81
12	e5.6	e7	e.11	6.1	11	.18	6.5	9	.15
13	e6.1	e7	e.12	5.8	10	.16	e6.3	e9	e.13
14	e9.8	e7	e.18	7.0	9	.18	5.7	9	.14
15	e5.7	e7	e.10	e8.2	e9	e.20	6.2	10	.16
16	e5.4	e6	e.10	e30	e89	e12	18	43	4.8
17	e6.7	e6	e.12	e20	e29	e1.6	62	242	82
18	e5.8	e6	e.10	e13	e19	e.67	22	53	6.6
19	e5.6	e6	e.09	e7.3	e12	e.25	32	99	13
20	e5.8	e6	e.09	e5.7	e8	e.13	15	31	1.5
21	e5.6	e6	e.09	e4.6	e5	e.07	28	100	26
22	e5.0	e6	e.08	49	192	105	11	19	.59
23	e5.1	e6	e.08	149	3860	6590	24	62	8.7
24	e5.5	e5	e.08	13	17	.57	11	18	.57
25	e6.1	e5	e.09	14	25	2.4	9.3	16	.39
26	e4.6	e4	e.06	18	39	2.6	11	22	.78
27	6.4	11	.50	11	15	.46	12	15	.47
28	4.5	6	.07	10	17	.54	17	33	2.3
29	22	52	4.5	15	36	3.1	9.9	15	.40
30	7.3	11	.22	7.7	12	.26	8.9	13	.31
31	5.3	6	.09	9.8	19	.60	---	---	---
TOTAL	243.6	---	36.66	554.8	---	6894.94	414.6	---	156.02
YEAR	6028.4	---	10568.04						

e Estimated

RIO BLANCO BASIN
50075000 RIO ICACOS NEAR NAGUABO, PR--Continued

WATER-QUALITY RECORDS--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	24	75	14	31	90	27	e11	e21	e.61
2	44	149	59	41	143	66	e10	e20	e.55
3	18	42	2.1	16	33	1.5	e9.9	e19	e.51
4	11	17	.53	e10	e11	e.31	e9.6	e18	e.47
5	9.8	15	.40	e9.4	e10	e.25	e9.4	e17	e.44
6	9.5	14	.37	e9.4	e9	e.21	e9.1	e16	e.40
7	9.3	14	.34	10	7	.19	e8.8	e16	e.37
8	19	45	6.4	e8.7	e6	e.14	e8.7	e15	e.35
9	13	25	1.1	8.3	5	.11	e8.6	e14	e.32
10	11	17	.51	7.3	5	.09	e8.7	e13	e.31
11	e8.6	e15	e.35	6.9	5	.09	e8.5	e12	e.29
12	8.3	14	.32	6.6	5	.08	16	31	1.7
13	8.1	13	.29	6.5	5	.08	24	66	8.6
14	7.8	12	.26	17	35	2.8	19	40	2.7
15	e7.2	e11	e.22	24	53	4.0	34	95	19
16	e6.9	e10	e.19	e8.9	14	.35	11	19	.56
17	e6.6	e10	e.17	e11	e16	e.68	28	58	5.1
18	e6.6	e9	e.15	9.8	13	.36	15	28	1.2
19	8.0	13	.34	8.7	11	.26	14	25	1.1
20	6.7	12	.21	15	27	1.3	11	18	.60
21	24	67	12	17	31	1.6	10	17	.55
22	72	303	191	14	27	1.5	15	29	1.6
23	e16	e34	e1.7	27	69	13	11	17	.55
24	e11	e20	e.60	11	20	.64	7.8	12	.24
25	e11	e15	e.43	39	106	17	7.2	9	.18
26	e11	e17	e.83	22	46	3.5	7.2	8	.15
27	11	16	.69	16	40	1.7	7.3	8	.16
28	11	16	.56	21	50	5.6	7.0	8	.16
29	e8.6	e14	e.32	12	21	.69	8.1	11	.25
30	9.6	12	.31	e16	e26	e1.3	7.1	9	.18
31	10	17	.59	---	---	---	6.8	9	.17
TOTAL	438.6	---	296.28	460.5	---	152.33	368.8	---	49.37

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	6.6	9	.16	5.6	11	.17	6.2	24	.39
2	6.4	9	.16	5.1	10	.14	5.9	23	.37
3	8.4	12	.31	5.3	10	.14	5.7	23	.36
4	6.5	9	.16	4.9	10	.13	5.6	23	.35
5	6.3	9	.15	4.7	10	.13	5.5	23	.34
6	6.1	9	.15	26	80	18	5.4	23	.34
7	5.7	9	.13	6.3	14	.24	5.4	23	.33
8	5.6	9	.13	5.4	12	.17	5.3	23	.32
9	5.6	9	.13	5.3	9	.13	5.2	23	.32
10	5.9	9	.14	7.2	12	.43	5.1	23	.31
11	5.7	9	.13	24	66	9.2	5.1	22	.31
12	5.7	9	.13	9.2	15	.36	5.1	22	.31
13	5.6	8	.13	6.1	12	.20	6.7	22	.40
14	5.5	8	.13	6.0	9	.14	7.0	22	.42
15	5.5	8	.12	9.9	16	.51	5.3	22	.31
16	6.7	8	.15	14	28	1.8	5.2	22	.30
17	9.3	8	.21	8.3	32	.72	5.0	21	.29
18	6.2	8	.14	6.2	28	.48	4.9	21	.28
19	5.9	8	.13	5.8	25	.39	4.9	20	.27
20	6.1	8	.13	7.5	21	.44	7.7	22	.61
21	5.6	8	.12	6.2	18	.30	16	34	2.5
22	5.4	8	.12	19	41	3.3	83	320	149
23	5.3	8	.11	13	24	.82	9.9	21	.61
24	5.2	8	.11	11	28	.91	7.8	12	.25
25	4.9	8	.10	8.1	24	.53	7.0	9	.17
26	4.7	8	.10	8.1	24	.52	6.4	6	.11
27	8.0	16	.85	6.5	24	.42	6.2	4	.07
28	17	36	2.3	6.4	24	.41	6.0	4	.06
29	85	329	97	---	---	---	5.6	4	.06
30	12	41	1.8	---	---	---	5.6	4	.06
31	5.9	13	.20	---	---	---	5.4	4	.05
TOTAL	284.3	---	105.83	251.1	---	41.13	271.1	---	159.87

RIO BLANCO BASIN
50075000 RIO ICACOS NEAR NAGUABO, PR--Continued

WATER-QUALITY RECORDS--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	6.3	7	.16	35	89	12	27	71	14
2	5.4	4	.06	e11	e22	e.68	6.9	12	.22
3	5.4	4	.05	e8.0	e6	e.13	5.7	10	.15
4	11	19	.79	6.6	4	.07	5.4	8	.11
5	24	61	10	6.3	4	.07	7.6	11	.26
6	16	35	2.6	6.7	5	.09	5.8	11	.17
7	6.7	16	.29	53	219	128	5.3	10	.14
8	6.2	14	.23	9.4	12	.32	5.1	10	.13
9	8.5	14	.34	7.5	3	.07	5.0	9	.12
10	5.8	9	.14	6.7	3	.06	5.0	9	.12
11	20	54	6.6	6.6	3	.06	4.9	8	.11
12	10	15	.47	7.7	3	.07	4.8	8	.10
13	11	18	.65	7.6	3	.07	4.7	7	.09
14	6.8	13	.25	6.5	3	.06	4.7	7	.09
15	6.0	13	.20	6.1	3	.05	4.6	6	.08
16	5.8	12	.18	5.9	3	.05	6.4	9	.36
17	5.6	11	.17	5.8	3	.05	6.3	10	.21
18	5.5	10	.15	6.0	3	.05	5.1	8	.11
19	5.4	9	.13	5.9	3	.05	5.0	8	.11
20	5.9	8	.13	5.6	3	.05	5.3	8	.11
21	25	60	6.1	5.5	3	.05	4.8	8	.10
22	9.0	11	.27	6.2	3	.06	4.4	8	.09
23	7.5	11	.23	e5.6	e3	e.05	4.3	7	.08
24	13	23	1.1	e6.1	e3	e.05	4.4	7	.09
25	7.0	11	.20	e5.9	e3	e.05	5.0	7	.10
26	11	20	1.0	6.1	3	.05	4.5	7	.08
27	e9.0	e22	e1.2	5.4	3	.05	4.6	7	.09
28	6.2	9	.16	11	19	.83	5.9	8	.14
29	5.9	7	.11	5.7	8	.12	5.3	8	.12
30	53	283	187	5.3	6	.09	6.9	9	.18
31	---	---	---	6.0	5	.08	---	---	---
TOTAL	323.9	---	220.96	282.7	---	143.53	180.7	---	17.86

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	5.8	8	.13	7.5	12	.31	27	117	32
2	9.9	15	.49	56	208	141	e12	e43	e4.8
3	5.9	8	.13	8.2	22	.48	e10	e37	e1.3
4	7.7	12	.39	34	138	70	e8.0	e20	e.51
5	8.7	15	.47	7.2	12	.23	e7.2	e4	e.10
6	4.9	13	.17	7.6	7	.15	6.8	2	.04
7	4.5	12	.15	5.8	3	.05	6.5	2	.04
8	4.3	12	.14	5.3	3	.04	6.4	2	.04
9	4.2	12	.13	18	41	5.1	7.1	2	.04
10	4.1	12	.13	e14	e25	e1.1	6.9	2	.04
11	4.2	11	.13	e11	e16	e.52	6.5	2	.04
12	25	62	12	e11	e18	e.65	6.5	2	.04
13	21	53	6.9	e7.3	e10	e.19	9.9	18	.78
14	5.6	16	.24	e9.0	e14	e.45	6.7	6	.10
15	5.3	16	.23	e7.3	e10	e.19	19	90	23
16	5.0	16	.21	7.8	6	.12	7.0	9	.18
17	4.6	16	.20	18	42	4.8	7.6	7	.15
18	4.8	16	.20	e10	e19	e.53	7.1	6	.12
19	4.6	15	.19	e8.8	e16	e.38	6.3	5	.09
20	4.4	14	.17	e8.7	e13	e.30	6.2	4	.07
21	4.0	14	.15	e7.3	e9	e.18	10	18	2.2
22	3.7	13	.13	197	626	1140	47	164	72
23	3.7	12	.12	29	109	16	9.5	38	.98
24	5.4	11	.16	8.6	20	.48	18	70	11
25	9.8	19	.66	7.3	17	.33	e8.5	e8	e.20
26	4.8	9	.12	6.8	13	.24	7.5	3	.06
27	7.2	10	.25	7.5	11	.24	8.5	3	.07
28	4.1	6	.06	16	36	2.4	7.4	3	.06
29	29	81	20	7.4	21	.43	8.1	3	.06
30	7.9	12	.30	8.5	15	.36	6.6	3	.05
31	8.0	13	.38	6.9	9	.17	---	---	---
TOTAL	232.1	---	45.13	564.8	---	1387.42	311.8	---	150.16
YEAR	3970.4		2769.87						

e Estimated

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RIO HUMACAO BASIN

50081000 RIO HUMACAO AT LAS PIEDRAS, PR

LOCATION.--Lat 18°10'27", long 65°52'11", Hydrologic unit 21010005, on left bank at downstream side of bridge on Highway 921, 0.6 mi (1.0 km) southeast of junction with Highway 30, 0.8 mi (1.3 km) downstream from Quebrada Blanca and 0.8 mi (1.3 km) south of Las Piedras.

DRAINAGE AREA.--6.65 mi² (17.22 km²).

PERIOD OF RECORD.--September 1958 to December 1967 (monthly discharge measurements), July 1974 to September 1977, October 1987 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 260 ft (79 m), from topographic map. Prior to July 1974, crest-stage gage at different datum. July 1974 to September 1977 at site 90 ft (27 m) upstream at present datum.

REMARKS.--Records fair except those for estimated daily discharges and those for above 1,000 ft³/s (28.3 m³/s), which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	26	21	10	20	8.0	7.7	79	8.0	7.6	5.5	148
2	64	108	18	9.5	15	7.6	7.2	18	7.8	8.9	5.6	35
3	44	35	18	9.5	16	7.3	6.9	9.1	7.1	7.7	5.5	23
4	25	20	17	9.3	10	7.3	6.9	8.0	6.9	7.3	6.4	62
5	22	17	16	9.2	10	7.5	6.6	7.3	8.6	14	5.6	22
6	20	16	16	9.0	9.9	7.1	6.6	8.0	7.0	6.4	10	18
7	20	16	16	8.8	9.1	6.6	6.9	134	6.8	5.4	8.4	16
8	23	15	16	8.9	8.9	6.5	7.1	37	6.5	5.0	5.6	15
9	22	15	15	9.2	9.5	6.4	6.7	21	6.3	4.5	7.3	14
10	22	14	16	8.8	9.1	6.3	6.3	29	6.2	4.7	6.6	17
11	19	14	15	8.6	12	6.2	14	15	6.1	6.9	8.8	20
12	18	13	15	8.5	18	6.1	7.3	12	5.8	12	6.7	15
13	17	13	18	8.6	9.2	6.0	7.2	11	6.7	8.5	7.3	15
14	17	13	e17	8.5	8.7	6.7	6.8	10	5.8	5.3	5.7	14
15	16	13	18	8.5	9.5	6.4	6.3	9.3	5.5	5.0	5.7	15
16	16	13	17	11	10	7.0	6.1	8.8	5.4	4.9	11	13
17	16	12	17	17	9.7	6.5	6.0	8.5	6.7	4.1	5.8	14
18	15	13	21	11	8.5	6.0	5.8	9.6	5.9	4.1	6.5	13
19	15	13	e28	11	8.1	5.9	5.7	10	5.7	4.8	19	11
20	15	12	e33	9.9	7.8	6.9	5.9	8.5	5.5	4.0	9.3	11
21	14	13	14	9.9	8.0	12	8.2	8.3	5.2	3.7	6.1	12
22	24	18	22	10	8.0	122	14	8.6	4.9	3.6	401	15
23	36	17	12	10	8.4	33	9.2	8.8	e4.9	4.9	145	19
24	18	19	11	9.6	9.9	16	11	8.9	e5.0	7.3	25	13
25	18	26	11	9.3	10	11	7.7	10	5.3	11	20	12
26	16	18	10	9.0	8.1	9.5	6.8	8.7	5.1	11	25	12
27	17	17	10	8.8	7.6	8.9	e8.5	8.0	4.5	5.4	18	12
28	31	17	9.8	9.1	7.8	8.1	e6.7	15	6.2	4.6	38	11
29	18	15	16	14	---	7.9	7.0	8.5	5.8	12	42	13
30	18	26	11	12	---	7.7	8.8	9.4	13	16	19	14
31	17	---	9.6	9.5	---	7.6	---	8.2	---	6.9	15	---
TOTAL	685	597	504.4	306.0	286.8	378.0	227.9	555.5	190.2	217.5	906.4	644
MEAN	22.1	19.9	16.3	9.87	10.2	12.2	7.60	17.9	6.34	7.02	29.2	21.5
MAX	64	108	33	17	20	122	14	134	13	16	401	148
MIN	14	12	9.6	8.5	7.6	5.9	5.7	7.3	4.5	3.6	5.5	11
AC-FT	1360	1180	1000	607	569	750	452	1100	377	431	1800	1280
CFSM	3.32	2.99	2.45	1.48	1.54	1.83	1.14	2.69	.95	1.06	4.40	3.23
IN.	3.83	3.34	2.82	1.71	1.60	2.11	1.27	3.11	1.06	1.22	5.07	3.60

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2001, BY WATER YEAR (WY)

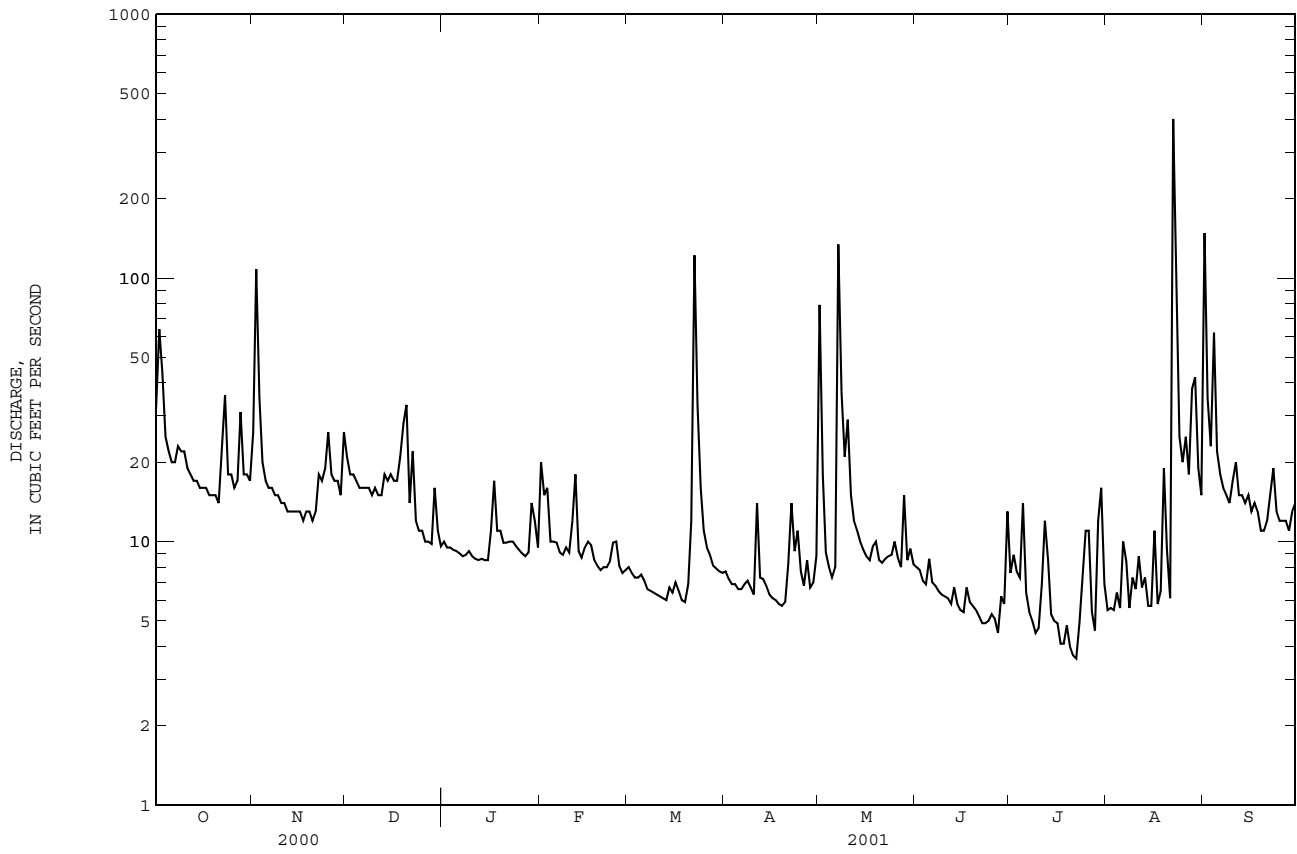
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	
MEAN	32.5	39.0	30.4	20.7	16.1	11.8	9.57	14.3	16.4	18.8	21.0	36.4																	
MAX	77.5	126	112	37.5	22.2	16.4	15.1	42.2	41.1	38.1	34.7	121																	
(WY)	1999	1988	1988	1999	1997	1989	1997	1992	1996	1993	1996	1996																	
MIN	12.8	13.4	11.5	9.87	10.2	8.87	5.88	7.26	5.91	7.02	9.45	10.0																	
(WY)	1995	1996	1992	2001	2001	1996	1977	1990	1977	2001	1974	1990																	

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1974 - 2001	
ANNUAL TOTAL	6058.6		5498.7			
ANNUAL MEAN	16.6		15.1		22.4	
HIGHEST ANNUAL MEAN					37.6	
LOWEST ANNUAL MEAN					12.1	
HIGHEST DAILY MEAN	277	Aug 23	401	Aug 22	2010	Sep 10 1996
LOWEST DAILY MEAN	4.5	Aug 21	3.6	Jul 22	2.2	Jul 15 1974
ANNUAL SEVEN-DAY MINIMUM	6.0	Aug 15	4.2	Jul 16	2.8	Jul 19 1974
MAXIMUM PEAK FLOW			4420		20800	
MAXIMUM PEAK STAGE			9.48		34.40	
ANNUAL RUNOFF (AC-FT)	12020		10910		16190	
ANNUAL RUNOFF (CFSM)	2.49		2.27		3.36	
ANNUAL RUNOFF (INCHES)	33.89		30.76		45.67	
10 PERCENT EXCEEDS	26		21		34	
50 PERCENT EXCEEDS	13		9.9		13	
90 PERCENT EXCEEDS	7.0		5.8		7.1	

e Estimated

RIO HUMACAO BASIN

50081000 RIO HUMACAO AT LAS PIEDRAS, PR--Continued



WATER-QUALITY RECORDS

LOCATION.--Lat 18°08'49", long 65°49'37", at bridge on Highway 3, 300 ft (91 m) downstream from Quebrada Mariana, and 0.4 mi (0.6 km) south of Humacao plaza.

DRAINAGE AREA.--17.3 mi² (44.8 km²).

PERIOD OF RECORD.--Water years 1958-66, 1969 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL AS (MG/L) (00900)	CALCIUM DIS-SOLVED AS (MG/L) (00915)
OCT 06...	1215	44	278	7.7	29.0	16	7.3	94	10	29000	300	85	22.8
FEB 08...	1050	8.1	356	7.7	25.4	6.5	8.0	97	<10	4700	470	--	--
MAY 23...	1045	11	358	7.5	27.6	--	6.7	84	<10	<17000	<2000	110	28.5
AUG 31...	1445	18	367	7.3	31.0	--	6.2	83	<10	E1400	530	96	25.9

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L) AS (MG) (00925)	SODIUM, DIS-SOLVED (MG/L) AS (NA) (00930)	SODIUM, AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L) AS (K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L) AS (CACO3) (00410)	SULFIDE TOTAL (MG/L) AS (S) (00745)	SULFATE DIS-SOLVED (MG/L) AS (SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L) AS (CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L) AS (F) (00950)	SILICA, DIS-SOLVED (MG/L) AS (SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT 06...	6.90	22.7	1	2.03	93	<1.0	8.0	27.3	E.1	37.8	184	22.0	13
FEB 08...	--	--	--	--	113	--	--	--	--	--	--	--	13
MAY 23...	8.56	26.9	1	1.79	115	<1.0	7.8	34.4	.2	36.1	213	6.61	20
AUG 31...	7.61	22.8	1	3.64	100	--	9.4	30.8	E.1	33.1	193	9.13	12

DATE	NITRO-GEN, NITRATE (MG/L) AS (N) (00620)	NITRO-GEN, NITRITE (MG/L) AS (N) (00615)	NITRO-GEN, NO2+NO3 (MG/L) AS (N) (00630)	NITRO-GEN, AMMONIA (MG/L) AS (N) (00610)	NITRO-GEN, ORGANIC (MG/L) AS (N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L) AS (N) (00625)	NITRO-GEN, TOTAL (MG/L) AS (N) (00600)	NITRO-GEN, TOTAL (MG/L) AS (NO3) (71887)	PHOS-PHORUS, TOTAL (MG/L) AS (P) (00665)	ARSENIC, TOTAL (MG/L) AS (AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L) AS (BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L) AS (B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L) AS (CD) (01027)
OCT 06...	.49	.01	.5	.06	.36	.42	.92	4.1	.040	<2	72.6	21	<.11
FEB 08...	--	<.01	.5	.08	.20	.28	.77	3.4	.020	--	--	--	--
MAY 23...	--	<.01	.3	.14	.21	.35	.65	2.9	.070	<2	68.3	26	<.10
AUG 31...	--	<.01	.3	.07	.28	.35	.69	3.1	.030	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L) AS (CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L) AS (CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L) AS (FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L) AS (PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) AS (MN) (01055)	MERCURY, TOTAL RECOV-ERABLE (UG/L) AS (HG) (71900)	SELE-NIUM, TOTAL (UG/L) AS (SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L) AS (AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L) AS (ZN) (01092)	CYANIDE, TOTAL (MG/L) AS (CN) (00720)	PHENOLS, TOTAL (UG/L) AS (L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) AS (L) (38260)
OCT 06...	M	<20.0	550	<1	140	<.14	<2.6	<.43	<31	<.01	<16	<.02
FEB 08...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 23...	<1	<20.0	150	<1	64	<.01	<3.0	<.40	<31	<.01	<16	.03
AUG 31...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
 E -- Estimated value
 M -- Presence verified, not quantified

RIO GUAYANES BASIN

50083500 RIO GUAYANES AT YABUCOA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°03'33", long 65°54'03", at bridge on Highway 182, 1.4 mi (2.2 km) west-northwest of Yabucoa plaza.

DRAINAGE AREA.--17.2 mi² (44.6 km²).

PERIOD OF RECORD.--Water years 1958-62, 1968-70, 1980 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (MG/L) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT 04...	1145	68	160	7.4	26.1	21	6.9	85	<10	530	510	47	12.1
FEB 07...	1345	25	189	7.4	25.4	50	7.3	88	<10	630	570	--	--
MAY 22...	1215	33	197	7.3	26.3	6.2	7.0	85	<10	<1800	<1700	55	14.0
AUG 27...	1100	40	192	7.0	26.5	--	6.6	82	<10	230	460	53	13.5

DATE	TIME	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDE (MG/L) (00530)
OCT 04...	4.07	13.1	.8	1.85	41	<1.0	4.5	12.4	<.1	34.6	107	19.8	23	
FEB 07...	--	--	--	--	66	--	--	--	--	--	--	--	74	
MAY 22...	4.89	16.3	1.0	1.70	67	<1.0	3.5	13.3	E.1	35.5	130	11.5	10	
AUG 27...	4.63	14.1	.8	1.77	54	--	5.0	14.6	E.1	33.4	120	12.8	19	

DATE	TIME	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, ORGANIC (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)
OCT 04...	<.01	.4	.02	.21	.23	.61	2.7	.060	<2	55.5	E17	<.11	<1	
FEB 07...	<.01	.3	.02	.54	.56	.91	4.0	.070	--	--	--	--	--	
MAY 22...	<.01	.2	<.01	--	.27	.51	2.3	.040	<2	50.7	E17	<.10	<1	
AUG 27...	<.01	.4	.02	--	<.20	--	--	.030	--	--	--	--	--	

DATE	TIME	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 04...	<20.0	1960	<1	91	<.14	<2.6	<.43	<31	<.01	<16	.02	
FEB 07...	--	--	--	--	--	--	--	--	--	--	--	
MAY 22...	<20.0	820	<1	92	<.01	<3.0	<.40	<31	<.01	E5	<.02	
AUG 27...	--	--	--	--	--	--	--	--	--	--	--	

< -- Less than
E -- Estimated value

RIO GUAYANES BASIN

50083500 RIO GUAYANES AT YABUCOA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR- DANE, TECH- NICAL TOTAL (UG/L) (39350)	P,P'- DDD UNFILT RECOVER (UG/L) (39360)	P,P'- DDE, TOTAL (UG/L) (39365)	P,P'- DDT UNFILT RECOVER (UG/L) (39370)	DI- AZINON, TOTAL (UG/L) (39570)	DI- ELDRIN TOTAL (UG/L) (39380)	ENDO- SULFAN I TOTAL (UG/L) (39388)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)
MAY 22...	1215	<.1	<.013	<.1	<.007	<.006	<.009	<.02	<.006	<.015	<.014	<.01	<.014
	DATE		HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALA- THION, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METHYL PARA- THION, TOTAL (UG/L) (39600)	MIREX, TOTAL (UG/L) (39755)	PARA- THION, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	CARBO- PHENO- THION WATER UNFLTRD (UG/L) (39786)		
	MAY 22...		<.009	<.006	<.03	<.01	<.01	<.01	<.01	<.1	<.02		

50086500 RIO GUAYANES ABOVE MOUTH AT PLAYA DE GUAYANES, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°03'45", long 65°49'42", at old railroad crossing, 0.2 mi (0.3 km) from mouth, 0.4 mi (0.6 km) west of Playa de Guayanés, and 3.5 mi (5.6 km) northeast of Yabucoa plaza.

DRAINAGE AREA.--34.0 mi² (88.1 km²).

PERIOD OF RECORD.--Water years 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	SPE-CIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD WATER) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00301)	OXYGEN, DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORMS, UM-MF (COLS./100 ML) (31625)	FECAL STREPTOCOCCI, KF STRPMF, WATER (COL/100 ML) (31673)	HARDNESS, TOTAL AS CaCO3 (MG/L) (00900)	CALCIUM, DIS-SOLVED AS Ca (MG/L) (00915)	MAGNESIUM, DIS-SOLVED AS Mg (MG/L) (00925)
OCT 04...	1320	196	7.0	27.8	17	1.7	21	31	360	420	56	14.7	4.75
FEB 07...	1130	223	7.2	24.6	42	7.3	86	<10	380	500	--	--	--
MAY 22...	1350	297	7.5	27.8	18	3.9	49	16	280	520	76	19.6	6.64
AUG 27...	1230	273	7.2	28.0	--	.3	4	53	21000	4900	64	16.1	5.84

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM, ADSORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE, DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF DIS-SOLVED TUENTS, AS (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITROGEN, TOTAL AS NITRATE (MG/L AS N) (00620)	NITROGEN, TOTAL AS NITRITE (MG/L AS N) (00615)
OCT 04...	16.8	1.0	5.03	46	<1.0	8.6	20.2	.1	26.1	124	12	.07	.01
FEB 07...	--	--	--	71	--	--	--	--	--	--	24	--	<.01
MAY 22...	26.1	1	2.37	97	<1.0	4.1	25.9	E.1	35.5	178	11	--	<.01
AUG 27...	19.2	1	6.57	75	--	6.0	23.9	E.1	24.6	147	52	--	.01

DATE	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	ARSENIC, TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	CADMIUM, WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)
OCT 04...	.1	.06	.83	.89	.97	4.3	.370	<2	85.1	23	<.11	<1	<20.0
FEB 07...	.3	.02	.28	.30	.58	2.6	.060	--	--	--	--	--	--
MAY 22...	.1	.03	.47	.50	.60	2.7	.160	<2	73.7	34	<.10	<1	<20.0
AUG 27...	<.02	.06	2.0	2.1	--	--	1.30	--	--	--	--	--	--

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MERCURY, TOTAL RECOVERABLE (UG/L AS HG) (71900)	SELENIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	CYANIDE, TOTAL (MG/L AS CN) (00720)	PHENOLS, TOTAL (UG/L) (32730)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L) (38260)
OCT 04...	2770	<1	499	<.14	<2.6	<.43	<31	<.01	<16	.05
FEB 07...	--	--	--	--	--	--	--	--	--	--
MAY 22...	1600	<1	593	<.01	<3.0	<.40	<31	<.01	E6	.03
AUG 27...	--	--	--	--	--	--	--	--	--	--

< -- Less than
E -- Estimated value

RIO MAUNABO BASIN

50090500 RIO MAUNABO AT LIZAS, PR

LOCATION.--Lat 18°01'38", long 65°56'24", Hydrologic Unit 21010005, on right bank, off Highway 759 at Lizas, about 1.0 mi (1.6 km) downstream from Quebrada Coroco, and about 3.0 mi (4.8 km) northwest of Maunabo.

DRAINAGE AREA.--5.38 mi² (13.93 km²).

PERIOD OF RECORD.--February 1971 to January 1985, February 1991 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 230 ft (70 m), from topographic map.

REMARKS.--Records poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	9.3	21	11	9.2	5.0	7.0	e7.5	e5.7	e6.6	e19	139
2	36	177	13	11	8.8	5.0	6.2	16	e6.5	e7.0	e15	33
3	29	e25	12	11	11	4.9	6.1	7.9	e5.5	e5.4	e13	23
4	21	e15	11	11	8.2	4.8	6.5	5.8	e5.3	e7.0	e13	23
5	18	e14	10	10	8.8	5.0	5.8	4.8	e11	e7.4	e16	17
6	16	e13	9.7	9.7	9.3	4.8	6.0	5.2	e5.8	e6.0	e15	15
7	15	e12	9.3	9.5	8.5	4.6	6.6	159	e5.3	e5.2	e13	14
8	16	e12	9.5	9.5	8.2	4.5	6.8	36	e5.3	e5.2	e12	13
9	21	e11	12	9.5	8.7	4.4	9.2	17	e5.0	e5.2	e15	12
10	17	e12	10	8.9	9.8	e4.4	6.1	9.3	e5.0	e5.7	e16	12
11	e15	e11	9.5	8.6	15	4.2	e8.7	6.9	e4.8	e5.6	e18	12
12	e14	11	10	8.4	21	4.3	e6.8	5.7	e4.6	e6.4	e32	11
13	e14	e11	11	8.2	10	4.4	e6.8	5.0	e4.8	e11	e18	10
14	e14	e11	13	8.1	8.2	5.1	e5.7	5.4	e4.2	e6.3	e15	13
15	e13	e11	12	7.9	10	4.4	e5.6	19	e4.1	e5.9	e14	11
16	e12	e10	12	8.1	10	4.3	e5.7	e6.1	e4.2	e5.6	e21	9.1
17	e12	e10	21	8.7	9.0	4.4	e6.0	e5.7	e4.0	e5.4	e40	9.3
18	e11	e11	48	8.6	7.3	4.3	e5.5	e6.7	e4.0	e5.7	e29	9.2
19	e11	e10	e24	8.8	6.7	4.2	e5.6	e6.8	e4.3	e5.9	e66	8.6
20	e11	e10	e23	8.3	6.3	6.2	e5.5	e5.4	e5.4	e5.4	e21	8.1
21	11	e10	76	8.2	6.1	13	e16	e5.6	e4.9	e9.7	e15	7.9
22	10	e11	31	9.2	6.0	115	e8.6	e6.7	e4.7	e18	372	8.6
23	e9.1	e14	31	8.6	6.1	17	e7.9	e6.3	e4.6	e21	154	8.2
24	e9.2	e17	20	7.7	6.3	12	30	e9.3	e5.2	e29	38	7.8
25	e11	e25	18	7.4	6.0	10	16	e6.5	e5.6	e49	27	8.0
26	e10	e14	15	7.2	5.6	8.5	14	e6.5	e5.0	e85	21	9.5
27	e9.1	e17	14	7.2	5.3	8.0	7.7	e5.8	e5.2	e19	19	9.0
28	e19	e14	13	7.6	5.2	6.8	6.1	e10	e6.0	e13	42	7.2
29	e9.9	e18	17	13	---	6.5	5.3	e6.3	e4.9	e25	24	8.3
30	e9.2	e31	13	11	---	6.7	4.9	e5.7	e8.6	e33	21	7.2
31	e9.0	---	12	7.7	---	7.3	---	e6.3	---	e18	16	---
TOTAL	450.5	577.3	561.0	279.6	240.6	304.0	244.7	416.2	159.5	443.6	1170	484.0
MEAN	14.5	19.2	18.1	9.02	8.59	9.81	8.16	13.4	5.32	14.3	37.7	16.1
MAX	36	177	76	13	21	115	30	159	11	85	372	139
MIN	9.0	9.3	9.3	7.2	5.2	4.2	4.9	4.8	4.0	5.2	12	7.2
AC-FT	894	1150	1110	555	477	603	485	826	316	880	2320	960
CFSM	2.70	3.58	3.36	1.68	1.60	1.82	1.52	2.50	.99	2.66	7.02	3.00
IN.	3.11	3.99	3.88	1.93	1.66	2.10	1.69	2.88	1.10	3.07	8.09	3.35

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2001, BY WATER YEAR (WY)

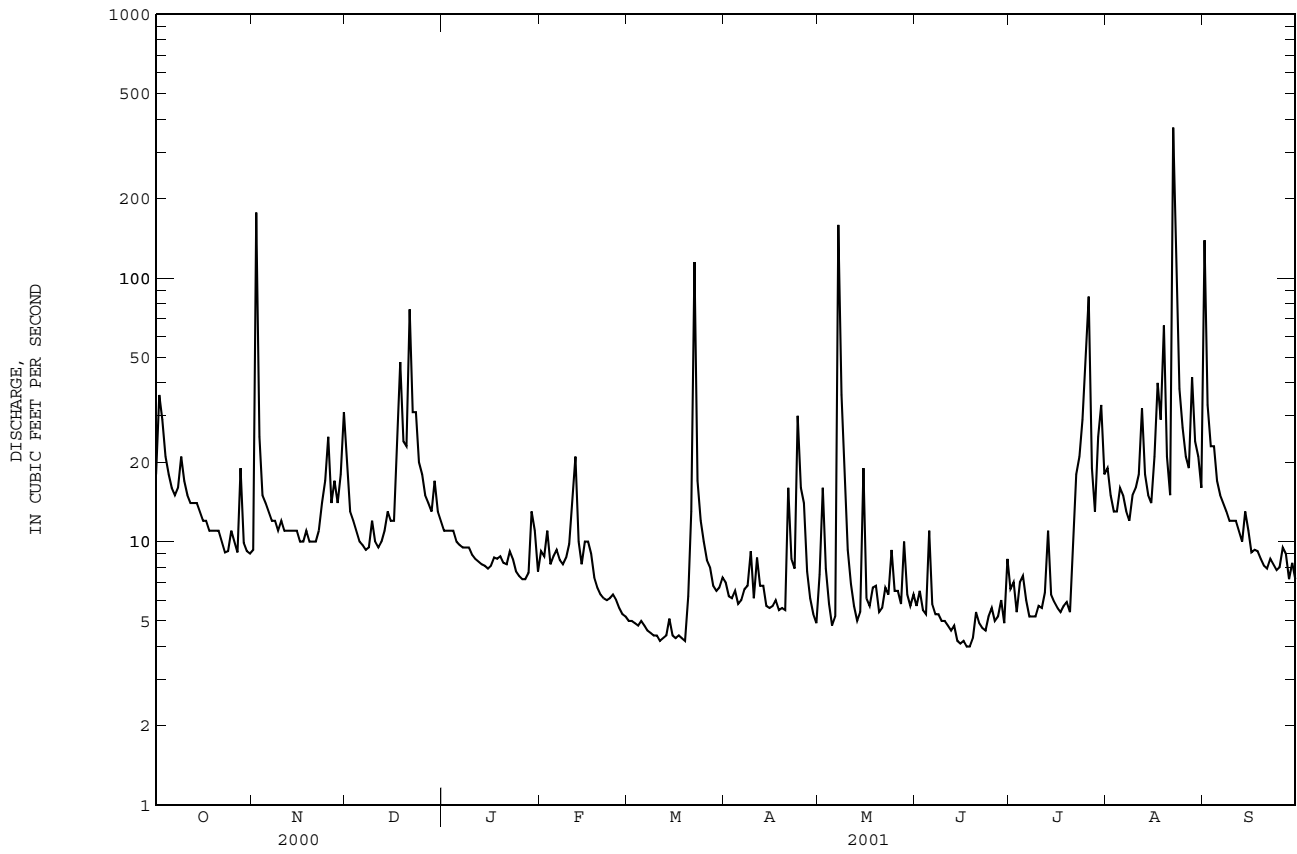
	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)
1971	27.9	52.6	10.4	1979	19.3	48.1	8.74	1999	15.0	40.2	7.79	1981
1972	32.7	88.9	7.46	1978	18.1	48.1	8.74	1999	12.4	24.5	6.10	1979
1973	19.3	48.1	8.74	1999	15.0	40.2	7.79	1981	9.80	18.9	4.32	1976
1974	15.0	40.2	7.79	1981	12.4	24.5	6.10	1979	7.46	13.4	3.92	1998
1975	12.4	24.5	6.10	1979	9.80	18.9	4.32	1976	12.9	25.1	4.46	1979
1976	9.80	18.9	4.32	1976	7.46	13.4	3.92	1998	16.5	47.1	4.40	1979
1977	7.46	13.4	3.92	1998	16.5	47.1	4.40	1979	16.6	40.2	3.70	1993
1978	16.5	47.1	4.40	1979	16.6	40.2	3.70	1993	23.3	131	6.18	1979
1979	16.6	40.2	3.70	1993	23.3	131	6.18	1979	28.9	94.6	7.99	1996
1980	23.3	94.6	7.99	1996	28.9	94.6	7.99	1996				

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1971 - 2001

ANNUAL TOTAL	5016.5	5331.0	
ANNUAL MEAN	13.7	14.6	18.6
HIGHEST ANNUAL MEAN			36.7
LOWEST ANNUAL MEAN			10.8
HIGHEST DAILY MEAN	253	372	2480
LOWEST DAILY MEAN	3.3	4.0	2.2
ANNUAL SEVEN-DAY MINIMUM	3.7	4.2	2.8
MAXIMUM PEAK FLOW		2680	9950
MAXIMUM PEAK STAGE		10.65	17.46
ANNUAL RUNOFF (AC-FT)	9950	10570	13510
ANNUAL RUNOFF (CFSM)	2.55	2.71	3.47
ANNUAL RUNOFF (INCHES)	34.69	36.86	47.08
10 PERCENT EXCEEDS	22	21	33
50 PERCENT EXCEEDS	9.1	9.3	11
90 PERCENT EXCEEDS	4.3	5.0	5.2

e Estimated

RIO MAUNABO BASIN
50090500 RIO MAUNABO AT LIZAS, PR--Continued



RIO MAUNABO BASIN

50091000 RIO MAUNABO AT MAUNABO, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°00'24", long 65°54'19", at bridge on Highway 3, 0.4 mi (0.6 km) southwest of Maunabo plaza, and 1.3 mi (2.1 km) upstream from mouth.

DRAINAGE AREA.--12.4 mi² (32.1 km²).

PERIOD OF RECORD.--Water years 1958-66, 1975 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, (PER-CENT (HIGH LEVEL) (MG/L) (00301)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT 03...	1420	47	195	7.7	31.2	14	6.8	91	12	2200	640	55	13.7
FEB 09...	1510	19	251	7.5	28.9	2.4	7.4	95	<10	2000	2500	--	--
MAY 23...	1350	11	266	7.3	29.8	2.6	6.6	87	<10	580	340	79	19.3
AUG 30...	1650	21	276	6.9	31.3	--	6.3	85	<10	510	350	69	16.9

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDEED (MG/L) (00530)
OCT 03...	5.15	16.5	1.0	1.06	59	<1.0	7.7	16.7	<.1	34.1	130	16.7	<10
FEB 09...	--	--	--	--	80	--	--	--	--	--	--	--	28
MAY 23...	7.57	19.6	1.0	1.24	85	<1.0	8.6	21.3	.2	34.1	163	4.99	<10
AUG 30...	6.52	17.8	.9	1.38	67	--	8.3	19.8	E.1	33.4	144	8.09	<10

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)
OCT 03...	<.01	.4	.01	.25	.26	.70	3.1	.070	<2	32.7	22	<.11	<1
FEB 09...	<.01	.2	.03	.24	.27	.45	2.0	.040	--	--	--	--	--
MAY 23...	<.01	.1	<.01	--	.20	.35	1.5	.030	<2	36.6	23	<.10	<1
AUG 30...	<.01	.5	.03	.32	.35	.81	3.6	<.020	--	--	--	--	--

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL RECOV-ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 03...	<20.0	830	<1	31	<.14	<2.6	<.43	<31	<.01	<16	.02
FEB 09...	--	--	--	--	--	--	--	--	--	--	--
MAY 23...	<20.0	370	<1	35	<.01	<3.0	<.40	<31	<.01	<16	<.02
AUG 30...	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
E -- Estimated value

50091800 RIO CHICO AT PROVIDENCIA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 17°59'16", long 66°00'18", at flat low bridge 200 ft (61 m) south of Highway 3, 0.5 mi (0.8 km) above mouth, and 1.5 mi (2.4 km) southeast of Patillas plaza.

DRAINAGE AREA.--4.9 mi² (12.8 km²).

PERIOD OF RECORD.--Water years 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL AS (MG/L) (00900)	CALCIUM DIS-SOLVED AS (MG/L) (00915)	
OCT 03...	1150	26	266	7.8	27.1	27	7.0	87	12	E1500	570	71	17.0
FEB 09...	1300	1.3	538	7.4	26.8	6.2	2.8	34	53	E1100	680	--	--
MAY 18...	1445	1.2	627	7.4	29.6	14	1.4	18	56	<60000	23000	76	18.4
AUG 30...	1530	3.7	399	7.4	30.5	--	5.5	73	14	E1700	420	100	24.2

DATE	MAGNE-SIUM, DIS-SOLVED AS (MG) (00925)	SODIUM, DIS-SOLVED AS (NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED AS (K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL AS (S) (00745)	SULFATE DIS-SOLVED AS (SO4) (00945)	CHLO-RIDE, DIS-SOLVED AS (CL) (00940)	FLUO-RIDE, DIS-SOLVED AS (F) (00950)	SILICA, DIS-SOLVED AS (MG/L) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT 03...	7.03	22.6	1	1.20	87	<1.0	10.0	18.9	.1	29.9	159	11.2	14
FEB 09...	--	--	--	--	171	--	--	--	--	--	--	--	<10
MAY 18...	7.28	48.8	2	7.37	174	<1.0	18.2	53.3	E.1	25.4	283	.90	<10
AUG 30...	9.53	37.0	2	3.32	118	--	20.4	36.9	E.1	28.3	230	2.31	34

DATE	NITRO-GEN, NITRATE TOTAL AS (N) (00620)	NITRO-GEN, NITRITE TOTAL AS (N) (00615)	NITRO-GEN, NO2+NO3 TOTAL AS (N) (00630)	NITRO-GEN, AMMONIA TOTAL AS (N) (00610)	NITRO-GEN, ORGANIC TOTAL AS (N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL AS (N) (00625)	NITRO-GEN, TOTAL AS (N) (00600)	NITRO-GEN, TOTAL AS (NO3) (71887)	PHOS-PHORUS TOTAL AS (P) (00665)	ARSENIC TOTAL AS (AS) (01002)	BARIUM, TOTAL RECOV-ERABLE AS (BA) (01007)	BORON, TOTAL RECOV-ERABLE AS (B) (01022)	CADMIUM WATER UNFLTRD TOTAL AS (CD) (01027)
OCT 03...	.49	.03	.5	1.20	.10	1.3	1.8	8.1	.210	<2	18.6	35	<.11
FEB 09...	.09	.01	.1	--	--	17	17	75.7	2.00	--	--	--	--
MAY 18...	.02	.06	.1	24.0	2.0	26	26	115	2.20	<2	13.6	148	<.10
AUG 30...	.27	.06	.3	2.30	.80	3.1	3.4	15.2	.500	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE AS (CR) (01034)	COPPER, TOTAL RECOV-ERABLE AS (CU) (01042)	IRON, TOTAL RECOV-ERABLE AS (FE) (01045)	LEAD, TOTAL RECOV-ERABLE AS (PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE AS (MN) (01055)	MERCURY TOTAL RECOV-ERABLE AS (HG) (71900)	SELE-NIUM, TOTAL AS (SE) (01147)	SILVER, TOTAL RECOV-ERABLE AS (AG) (01077)	ZINC, TOTAL RECOV-ERABLE AS (ZN) (01092)	CYANIDE TOTAL AS (CN) (00720)	PHENOLS TOTAL AS (L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 03...	<1	<20.0	850	<1	35	<.14	<2.6	<.43	<31	<.01	<16	.12
FEB 09...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 18...	<1	<20.0	140	M	56	<.01	<3.0	E.32	<31	<.01	E14	.04
AUG 30...	--	--	--	--	--	--	--	--	--	--	--	--

E -- Estimated value
 < -- Less than
 M -- Presence verified, not quantified

RIO GRANDE DE PATILLAS BASIN

50092000 RIO GRANDE DE PATILLAS NEAR PATILLAS, PR

LOCATION.--Lat 18°02'04", long 66°01'58", Hydrologic Unit 21010004, on left bank, at foot bridge, off Highway 184, 1.2 mi (1.9 km) upstream from Lago Patillas Dam and 2.2 mi (3.5 km) northwest of Patillas.

DRAINAGE AREA.--18.3 mi² (47.4 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1959 to October 1965 (annual low-flow and occasional measurements only), January 1966 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 235 ft (72 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	24	75	25	20	14	15	15	17	26	29	501
2	302	54	34	24	23	14	14	18	25	27	26	277
3	232	36	27	23	31	14	14	14	17	27	23	138
4	97	27	24	23	20	14	13	13	16	28	21	124
5	66	24	23	22	20	13	13	13	18	41	23	71
6	54	23	22	22	25	13	13	14	16	21	22	54
7	48	29	21	21	21	13	13	448	15	16	25	45
8	164	30	21	21	18	13	12	183	15	15	23	e64
9	104	22	23	21	18	13	13	88	15	15	27	e46
10	68	21	22	20	17	12	12	45	15	17	26	e45
11	50	20	21	20	24	12	20	34	15	17	26	e51
12	44	20	21	19	31	12	14	28	14	16	31	41
13	40	19	24	19	23	12	14	24	15	36	24	41
14	38	19	23	19	20	13	13	22	15	18	21	41
15	35	19	24	18	20	13	12	20	14	15	19	44
16	36	19	22	20	19	14	12	19	14	15	24	44
17	33	19	28	21	24	13	12	19	17	16	72	42
18	30	19	73	20	17	12	12	19	17	16	44	43
19	29	18	53	20	16	12	12	21	15	18	46	41
20	28	18	74	20	15	14	13	17	15	16	28	41
21	26	20	100	19	15	38	26	17	14	14	35	40
22	27	33	186	19	15	95	24	19	14	15	392	38
23	27	29	133	20	15	169	16	17	14	24	653	35
24	26	30	60	18	16	53	27	20	16	33	82	33
25	30	57	53	17	17	26	20	17	20	92	50	35
26	29	32	41	17	15	21	17	17	19	52	49	38
27	25	33	34	16	14	20	14	16	16	37	50	38
28	41	29	31	16	14	17	13	30	16	28	443	33
29	30	33	30	29	---	16	14	20	16	60	134	32
30	26	133	29	28	---	16	13	16	22	59	92	31
31	24	---	27	18	---	16	---	17	---	36	63	---
TOTAL	1878	909	1379	635	543	747	450	1280	487	866	2623	2147
MEAN	60.6	30.3	44.5	20.5	19.4	24.1	15.0	41.3	16.2	27.9	84.6	71.6
MAX	302	133	186	29	31	169	27	448	25	92	653	501
MIN	24	18	21	16	14	12	12	13	14	14	19	31
AC-FT	3730	1800	2740	1260	1080	1480	893	2540	966	1720	5200	4260
CFSM	3.31	1.66	2.43	1.12	1.06	1.32	.82	2.26	.89	1.53	4.62	3.91
IN.	3.82	1.85	2.80	1.29	1.10	1.52	.91	2.60	.99	1.76	5.33	4.36

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2001, BY WATER YEAR (WY)

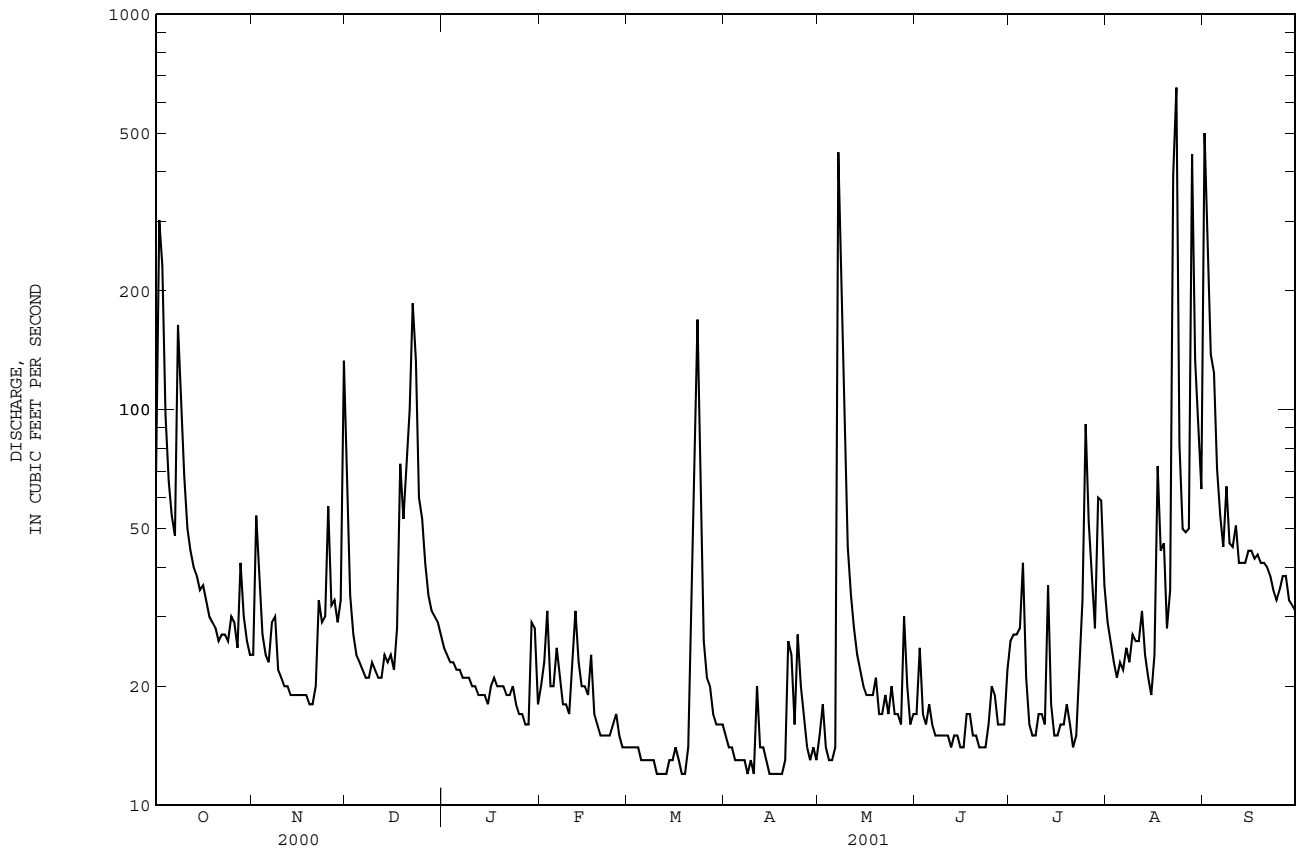
	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
MEAN	98.1	92.1	53.8	36.4	28.8	24.9	21.9	48.6	60.1	61.1	68.9	98.0			
MAX	593	393	195	125	94.6	51.2	44.4	172	200	164	231	432			
(WY)	1971	1978	1999	1992	1982	1998	1998	1969	1979	1979	1979	1998			
MIN	14.4	16.1	8.63	14.0	7.09	6.74	9.98	10.3	13.1	14.1	17.2	12.1			
(WY)	1968	1968	1968	1973	1973	1968	1968	1974	1974	1974	1994	1967			

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1966 - 2001

ANNUAL TOTAL	14398	13944	
ANNUAL MEAN	39.3	38.2	57.3
HIGHEST ANNUAL MEAN			117
LOWEST ANNUAL MEAN			19.8
HIGHEST DAILY MEAN	759	Aug 23	4780
LOWEST DAILY MEAN	12	Apr 9	4.8
ANNUAL SEVEN-DAY MINIMUM	12	Apr 7	5.0
MAXIMUM PEAK FLOW			3320
MAXIMUM PEAK STAGE			9.84
INSTANTANEOUS LOW FLOW			4.6
ANNUAL RUNOFF (AC-FT)	28560	27660	41500
ANNUAL RUNOFF (CFSM)	2.15	2.09	3.13
ANNUAL RUNOFF (INCHES)	29.27	28.35	42.53
10 PERCENT EXCEEDS	71		60
50 PERCENT EXCEEDS	23		22
90 PERCENT EXCEEDS	15		14

e Estimated

RIO GRANDE DE PATILLAS BASIN
50092000 RIO GRANDE DE PATILLAS NEAR PATILLAS, PR--Continued



RIO GRANDE DE PATILLAS BASIN

50092000 RIO GRANDE DE PATILLAS NEAR PATILLAS, PR

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CaCO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)
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OCT	02...	1145	79	147	7.5	26.6	3.7	7.5	93	<10	560	320	43	9.99
FEB	09...	1110	18	175	8.1	24.6	7.8	8.5	102	<10	E90	E20	--	--
MAY	18...	1240	19	185	8.1	27.6	1.0	7.8	98	<10	<72	240	54	12.4
AUG	30...	1340	69	155	7.4	28.7	--	7.5	97	<10	E150	E80	42	9.86

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDEED (MG/L) (00530)
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OCT	02...	4.37	11.6	.8	.49	44	<1.0	8.5	10	<.1	24.3	96	20.5	<10
FEB	09...	--	--	--	--	56	--	--	--	--	--	--	--	<10
MAY	18...	5.49	14.4	.9	.41	56	<1.0	11.6	11.2	<.2	22.8	112	5.66	<10
AUG	30...	4.27	12.6	.8	.58	43	--	9.4	11.8	<.2	23.2	97	18.0	<10

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)
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OCT	02...	<.01	.1	.02	<.20	<.020	<2	10.7	21	<.11	<1	<20.0	140	<1
FEB	09...	<.01	.1	<.01	<.20	<.020	--	--	--	--	--	--	--	--
MAY	18...	<.01	<.02	<.01	<.20	<.020	<2	12.1	28	<.10	<1	<20.0	20	<1
AUG	30...	<.01	.3	.01	<.20	<.020	--	--	--	--	--	--	--	--

DATE	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL RECOV-ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
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OCT	02...	9	<.14	<2.6	<.43	<31	<.01	<16	<.02
FEB	09...	--	--	--	--	--	--	--	--
MAY	18...	5	<.01	<3.0	<.40	<31	<.01	E11	<.02
AUG	30...	--	--	--	--	--	--	--	--

< -- Less than
E -- Estimated value

RIO GRANDE DE PATILLAS BASIN

50093000 RIO MARIN NEAR PATILLAS, PR

LOCATION.--Lat 18°02'16", long 66°00'31", Hydrologic Unit 21010004, on left bank, 3.52 mi (5.66 km) southeast from Escuela Francisco Zenón Gedy, 1.45 mi (2.33 km) northeast from Lago Patillas Dam and 2.10 mi (3.38 km) north from Patillas town.

DRAINAGE AREA.--4.45 mi² (11.52 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 2000 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 295.3 ft (90 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	10	17	7.2	6.8	5.4	6.0	e7.6	5.2	5.4	6.4	213
2	56	74	11	6.9	6.2	e5.4	5.7	6.3	5.8	5.8	5.0	40
3	34	22	9.7	7.0	8.2	e5.2	5.6	5.6	5.1	4.5	4.6	23
4	24	13	9.1	6.7	5.9	5.2	5.9	5.5	4.9	5.7	4.6	22
5	20	11	8.7	6.6	6.7	5.2	5.5	5.4	8.7	6.1	5.3	16
6	18	10	8.5	6.5	6.8	5.1	5.5	7.0	5.3	4.9	5.2	14
7	16	9.9	8.2	6.4	6.1	5.1	5.7	117	4.9	4.3	4.5	12
8	42	9.5	8.3	6.4	5.6	5.0	5.7	22	4.9	4.4	4.1	11
9	23	9.0	10	6.3	6.0	4.9	6.5	13	4.7	4.3	5.3	10
10	18	8.9	9.2	6.1	6.1	4.9	e5.2	9.1	4.7	4.8	5.4	10
11	16	8.6	8.3	6.0	9.5	4.9	e8.0	7.8	4.6	4.6	6.0	9.6
12	15	8.5	8.5	5.9	15	4.8	e5.9	7.0	4.4	5.3	12	8.9
13	15	8.3	9.6	5.8	8.1	4.8	e6.0	6.5	4.6	8.4	6.2	8.6
14	15	8.3	10	5.8	7.3	5.0	5.4	6.2	4.2	4.8	4.8	9.0
15	14	8.5	9.3	5.7	9.0	4.8	5.2	5.9	4.1	4.5	4.6	8.6
16	13	7.9	9.6	5.8	8.6	4.7	5.1	5.8	4.2	4.3	7.0	7.7
17	13	7.6	17	6.3	7.7	4.8	5.0	5.6	4.2	4.2	20	7.8
18	12	7.7	35	6.0	6.9	4.7	4.9	6.2	4.2	4.4	11	8.5
19	12	7.5	21	6.3	6.6	4.6	4.9	6.1	4.4	4.5	35	7.3
20	12	7.8	20	6.0	6.5	e6.1	5.0	5.4	4.4	4.2	12	6.9
21	12	7.5	68	5.9	6.4	e14	17	5.3	4.0	4.1	11	6.7
22	12	8.6	23	6.5	6.3	e23	8.3	6.2	4.0	4.5	269	7.9
23	11	11	25	6.1	6.7	e11	6.9	5.9	4.0	6.0	123	6.8
24	11	15	13	5.6	6.4	8.5	21	7.7	4.4	9.2	26	6.4
25	13	23	11	5.4	e6.4	e6.7	12	5.8	4.7	24	17	6.3
26	12	11	9.5	5.3	e5.9	6.4	10	5.8	e4.3	51	12	7.6
27	11	14	8.6	5.3	e5.7	6.3	6.7	5.3	e4.3	6.6	11	7.2
28	23	11	7.9	5.5	e5.5	6.0	6.0	8.5	5.0	4.6	97	6.0
29	12	15	8.8	8.4	---	6.0	5.7	5.6	4.1	9.0	20	6.2
30	11	29	7.8	6.8	---	6.1	e5.6	5.2	6.9	13	23	5.8
31	11	---	7.4	5.5	---	6.2	---	5.6	---	6.3	13	---
TOTAL	545	403.1	438.0	192.0	198.9	200.8	211.9	327.9	143.2	237.7	791.0	520.8
MEAN	17.6	13.4	14.1	6.19	7.10	6.48	7.06	10.6	4.77	7.67	25.5	17.4
MAX	56	74	68	8.4	15	23	21	117	8.7	51	269	213
MIN	11	7.5	7.4	5.3	5.5	4.6	4.9	5.2	4.0	4.1	4.1	5.8
AC-FT	1080	800	869	381	395	398	420	650	284	471	1570	1030

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2001, BY WATER YEAR (WY)

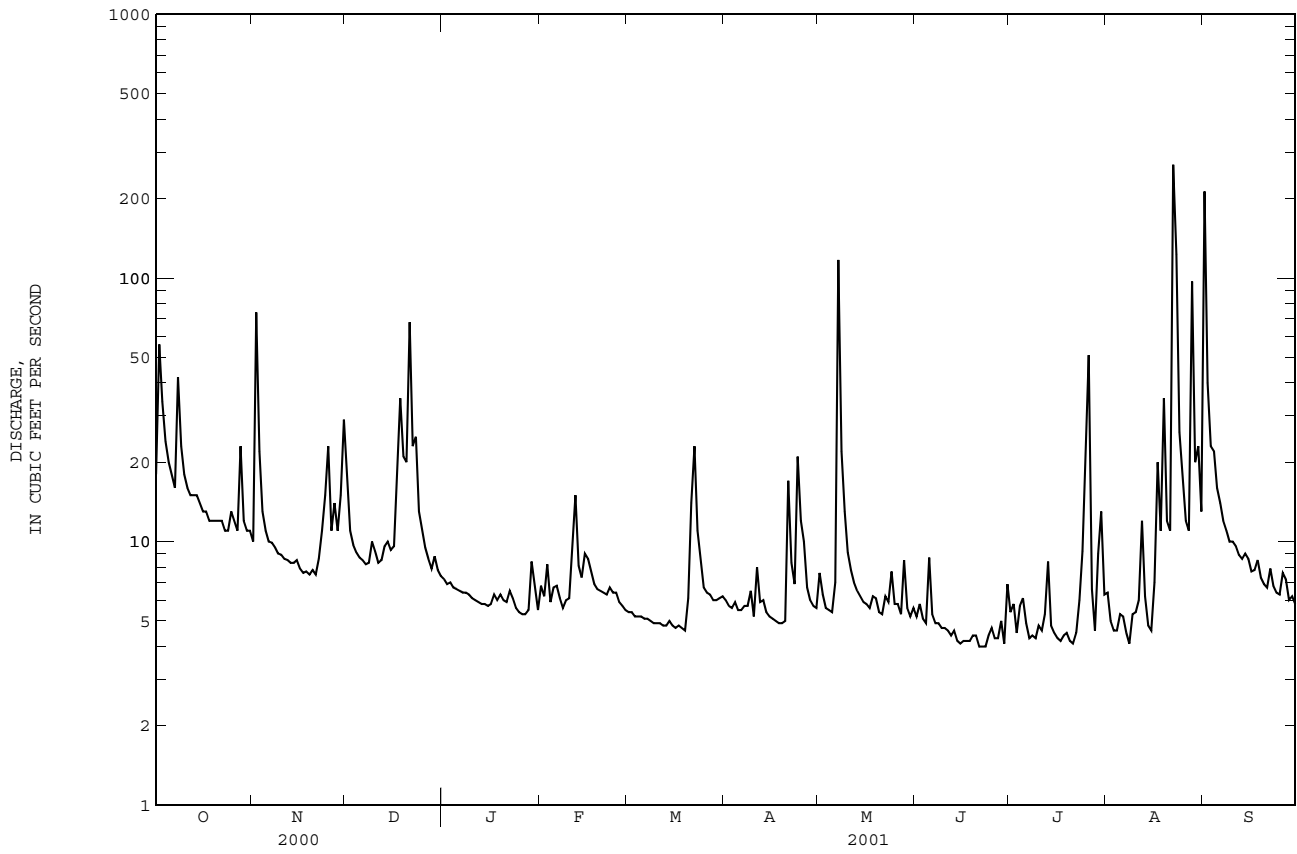
	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001
MEAN	17.6	13.4	14.1	6.19	7.10	5.64	6.47	13.6	6.94	7.41	20.4	22.4
MAX	17.6	13.4	14.1	6.19	7.10	6.48	7.06	16.6	9.11	7.67	25.5	27.4
(WY)	2001	2001	2001	2001	2001	2001	2001	2000	2000	2001	2001	2000
MIN	17.6	13.4	14.1	6.19	7.10	4.80	5.87	10.6	4.77	7.16	15.3	17.4
(WY)	2001	2001	2001	2001	2001	2000	2000	2001	2001	2000	2000	2001

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 2000 - 2001

ANNUAL TOTAL						4210.3						
ANNUAL MEAN						11.5				11.5		
HIGHEST ANNUAL MEAN										11.5		2001
LOWEST ANNUAL MEAN										11.5		2001
HIGHEST DAILY MEAN				192	Aug 23		269	Aug 22		269	Aug 22	2001
LOWEST DAILY MEAN				4.1	Apr 1		4.0	Jun 21		4.0	Jun 21	2001
ANNUAL SEVEN-DAY MINIMUM				4.2	Apr 6		4.2	Jun 17		4.2	Jun 17	2001
MAXIMUM PEAK FLOW							4970	Sep 1		4970	Sep 1	2001
MAXIMUM PEAK STAGE							13.28	Sep 1		13.28	Sep 1	2001
INSTANTANEOUS LOW FLOW							3.7	Jun 22		3.7	Jun 22	2001
ANNUAL RUNOFF (AC-FT)						8350				8360		
10 PERCENT EXCEEDS				22			18			20		
50 PERCENT EXCEEDS				8.2			6.7			6.7		
90 PERCENT EXCEEDS				4.6			4.6			4.6		

e Estimated

RIO GRANDE DE PATILLAS BASIN
50093000 RIO MARIN NEAR PATILLAS, PR--Continued



50093045 LAGO PATILLAS AT DAMSITE NEAR PATILLAS, PR

LOCATION.--Lat 18°01'15", long 66°01'19", Hydrologic Unit 21010004, on right bank, in a concrete tower at Damsite, 1.05 mi (1.69 km) northeast from Patillas plaza, 0.45 mi (0.72 km) northeast from Escuela Segunda Unidad de Real and 2.30 mi (3.70 km) from Escuela Segunda Unidad de Jesús María Rodríguez.

DRAINAGE AREA.--25.6 mi² (66.3 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--March 1995 to current year.

GAGE.--Water stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Patillas was completed in 1914. The dam is a semihydraulic earthfill structure about 147 ft (45 m) height, a top width of 15 ft (4.6 m), maximum pool elevation of 230 ft (70.1 m), a base width of 625 ft (190 m), a crest length of 1,067 ft (325 m) and has maximum pool storage of 17,073 ac-ft (21.05 hm³). The Patillas Dam is owned by the Puerto Rico Electric Power Authority (P.R.E.P.A) and its primary purpose is for irrigation of lands served by the Patillas irrigation canal. Gage-height and precipitation satellite telemetry at station. New capacity table based on U.S. Geological Survey Water-Resources Investigations Report 99-4030, April, 1997.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 225.92 ft (68.86 m) Sept. 10, 1996; minimum elevation, 211.19 ft (64.37 m), May 29, 1995, July 19, 1997.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 222.63 ft (67.86 m), Aug. 22; minimum elevation, 216.48 ft (65.98 m), July 24.

Capacity Table

(based on data from U.S. Geological Survey Water-Resources Investigations Report 99-4030, Puerto Rico-1997)

Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
147	0	192	4,281
163	819	209	7,629
179	2,294	222	11,220

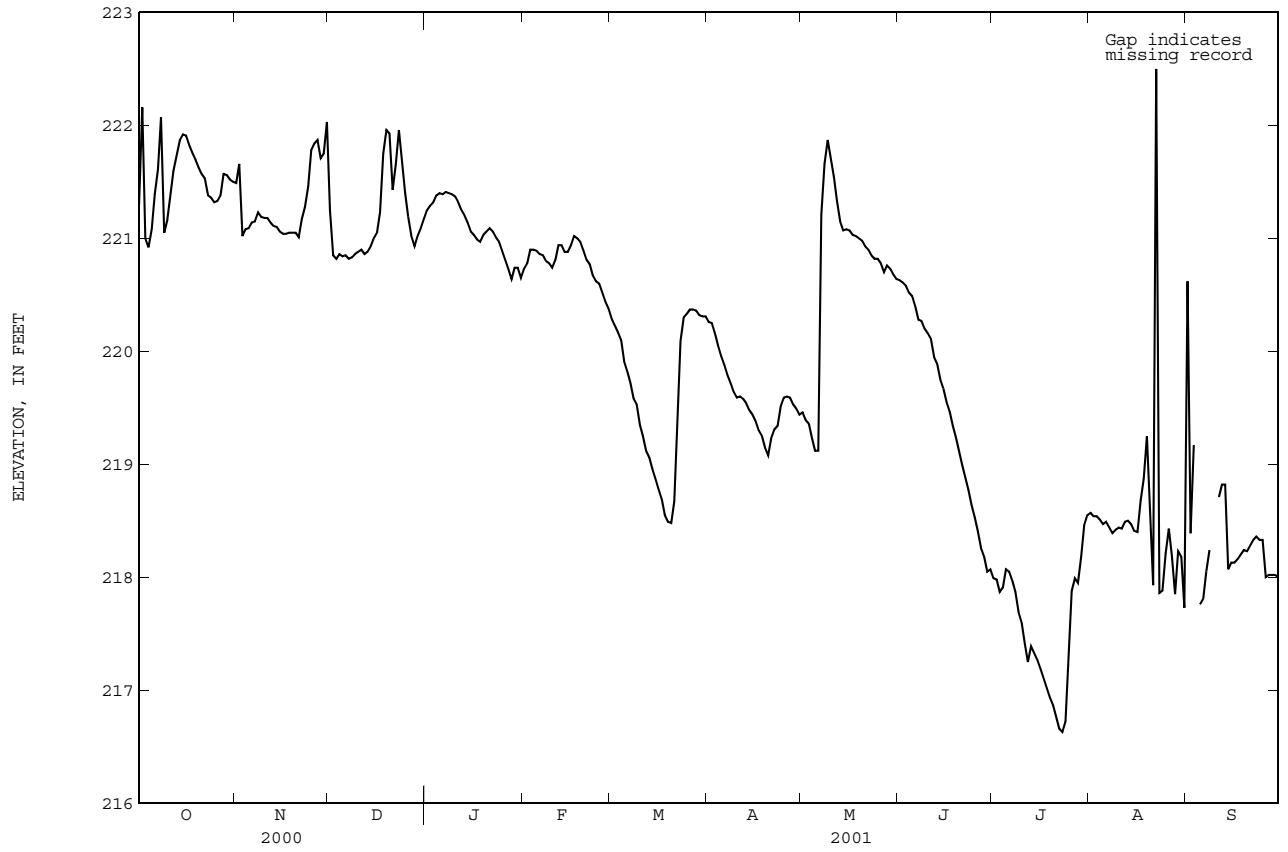
ELEVATION (FEET NGVD), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	221.30	221.49	221.25	221.25	220.73	220.29	220.26	219.46	220.63	217.99	218.57	220.62
2	222.16	221.66	220.85	221.29	220.78	220.23	220.25	219.39	220.61	217.98	218.54	218.39
3	221.00	221.02	220.82	221.32	220.90	220.17	220.16	219.36	220.58	217.87	218.54	219.17
4	220.92	221.08	220.86	221.38	220.90	220.10	220.05	219.23	220.52	217.91	218.51	A
5	221.08	221.09	220.84	221.40	220.89	219.91	219.96	219.12	220.49	218.07	218.47	217.76
6	221.39	221.14	220.85	221.39	220.86	219.82	219.88	219.12	220.40	218.05	218.49	217.81
7	221.61	221.15	220.82	221.41	220.85	219.72	219.79	221.21	220.28	217.97	218.44	218.05
8	222.07	221.23	220.83	221.40	220.80	219.58	219.72	221.66	220.27	217.87	218.39	218.24
9	221.05	221.19	220.86	221.39	220.78	219.53	219.64	221.87	220.20	217.69	218.42	A
10	221.16	221.18	220.88	221.37	220.74	219.35	219.59	221.71	220.16	217.60	218.44	A
11	221.40	221.18	220.90	221.32	220.81	219.25	219.60	221.54	220.11	217.41	218.43	218.71
12	221.60	221.14	220.86	221.25	220.94	219.12	219.58	221.33	219.95	217.25	218.49	218.82
13	221.74	221.11	220.88	221.20	220.94	219.06	219.54	221.15	219.89	217.39	218.50	218.82
14	221.87	221.10	220.93	221.14	220.88	218.96	219.48	221.07	219.75	217.33	218.47	218.07
15	221.92	221.06	221.00	221.06	220.88	218.87	219.44	221.08	219.67	217.27	218.41	218.13
16	221.91	221.04	221.05	221.03	220.94	218.78	219.38	221.07	219.55	217.19	218.40	218.13
17	221.83	221.04	221.23	220.99	221.02	218.69	219.30	221.03	219.47	217.11	218.68	218.16
18	221.76	221.05	221.75	220.97	221.00	218.55	219.25	221.02	219.34	217.02	218.87	218.20
19	221.70	221.05	221.96	221.03	220.97	218.49	219.15	221.00	219.24	216.94	219.25	218.24
20	221.63	221.05	221.93	221.06	220.89	218.48	219.08	220.98	219.12	216.87	218.62	218.23
21	221.57	221.01	221.43	221.09	220.81	218.67	219.23	220.93	218.99	216.77	217.93	218.28
22	221.53	221.17	221.65	221.06	220.77	219.28	219.31	220.90	218.88	216.66	222.50	218.33
23	221.38	221.28	221.96	221.01	220.67	220.09	219.34	220.85	218.77	216.63	217.86	218.36
24	221.36	221.46	221.67	220.97	220.62	220.30	219.51	220.82	218.64	216.72	217.88	218.33
25	221.32	221.78	221.40	220.89	220.60	220.33	219.59	220.82	218.53	217.24	218.21	218.33
26	221.33	221.84	221.19	220.81	220.52	220.37	219.60	220.78	218.41	217.88	218.43	218.00
27	221.38	221.87	221.02	220.73	220.44	220.37	219.59	220.70	218.26	217.99	218.19	218.02
28	221.57	221.71	220.93	220.64	220.38	220.36	219.53	220.76	218.18	217.95	217.85	218.02
29	221.56	221.75	221.02	220.74	--	220.32	219.49	220.73	218.05	218.18	218.23	218.02
30	221.52	222.03	221.09	220.74	--	220.31	219.44	220.68	218.07	218.46	218.18	218.00
31	221.50	--	221.17	220.65	--	220.31	--	220.64	--	218.55	217.73	--
MAX	222.16	222.03	221.96	221.41	221.02	220.37	220.26	221.87	220.63	218.55	222.50	--
MIN	220.92	221.01	220.82	220.64	220.38	218.48	219.08	219.12	218.05	216.63	217.73	--

A No gage-height record

RIO PATILLAS BASIN

50093045 LAGO PATILLAS AT DAMSITE NEAR PATILLAS, PR--Continued



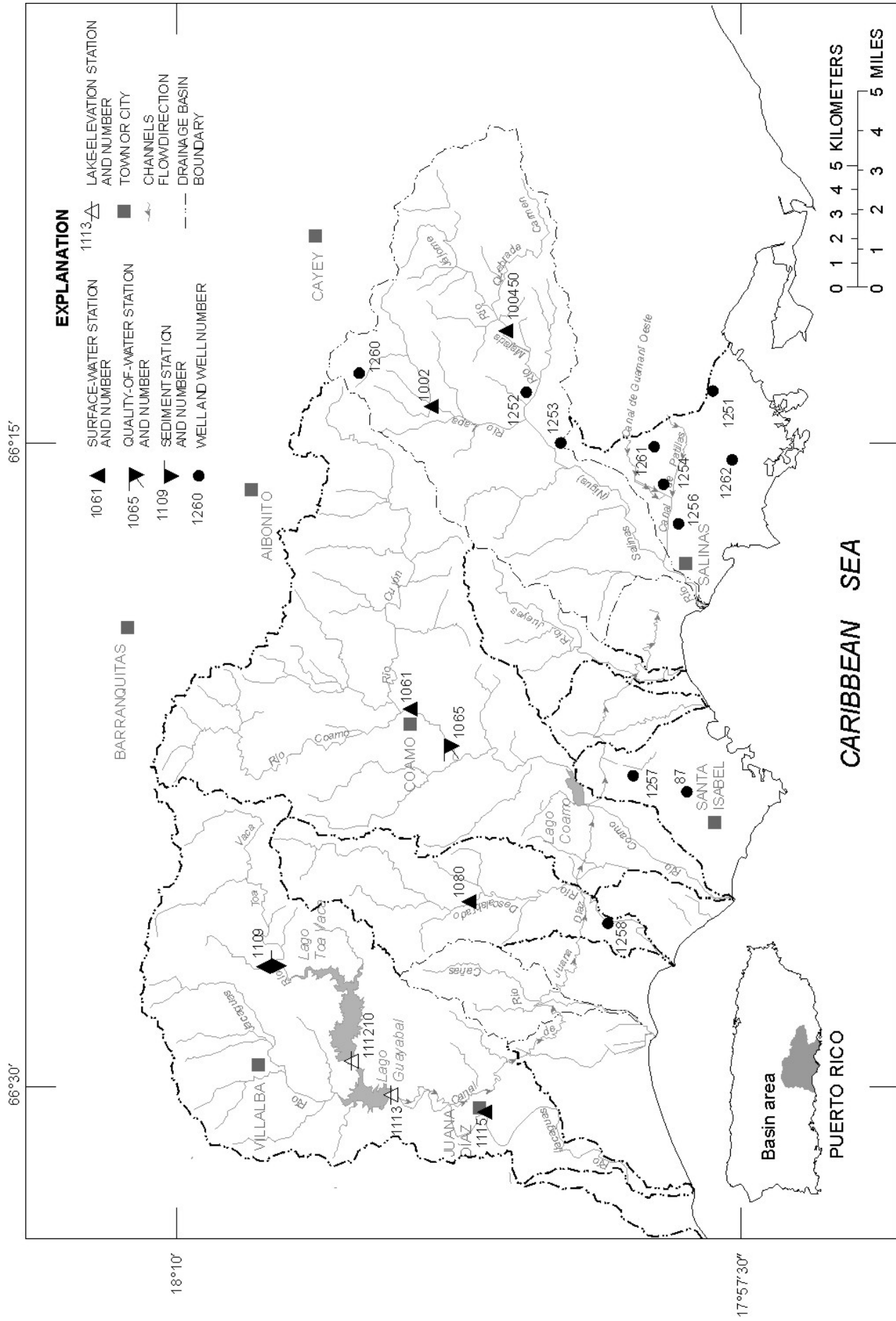


Figure 21. South coast river basins -- Río Salinas to Río Jacaguas basins.

RIO SALINAS BASIN

50100200 RIO LAPA NEAR RABO DEL BUEY, PR

LOCATION.--Lat 18°03'36", long 66°14'28", Hydrologic Unit 21010004, on left bank, at bridge on Highway 1, Km 9.7, 1.5 mi (2.4 km) north of Rabo del Buey, and 4.4 mi (7.1 km) northeast of Salinas plaza.

DRAINAGE AREA.--9.92 mi² (25.69 km²).

PERIOD OF RECORD.--1953-63 (annual low-flow measurements only), September 1988 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 394 ft (120 m), from topographic map.

REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	89	28	6.6	e1.9	1.4	.68	.84	.68	.94	.28	.36	1.4
2	61	19	4.0	e2.0	1.7	.71	.82	.69	.77	.31	.28	1.2
3	41	9.7	3.5	1.8	1.6	.90	.82	.63	.69	.21	.24	1.2
4	24	7.7	3.3	1.5	1.3	1.1	.81	.57	.66	.18	.21	1.0
5	18	6.8	3.1	1.4	1.2	1.0	7.7	.54	.59	.20	.18	.91
6	14	6.1	2.9	1.4	1.2	1.1	5.0	4.2	.51	.20	.24	.86
7	13	5.7	2.9	1.3	1.1	1.0	1.6	60	.48	.16	.22	2.0
8	15	5.3	2.9	1.3	1.0	.94	1.1	34	.48	.12	.20	.97
9	11	5.1	3.0	1.3	1.0	.86	1.0	13	.50	.11	.19	.84
10	9.8	5.0	2.8	1.2	.96	.78	.92	5.9	.53	.11	.18	.78
11	9.3	4.8	2.6	1.2	1.0	.75	.96	3.6	.58	.10	.17	.92
12	8.7	4.9	2.5	1.2	1.1	.71	.87	2.6	.67	.10	.16	.83
13	8.5	4.9	2.5	1.2	1.0	.67	.84	2.2	.82	.10	.14	.78
14	7.8	4.6	2.4	1.2	1.0	.64	.83	1.9	.89	.09	.14	.83
15	7.6	4.4	2.5	1.3	.96	.63	.80	1.8	.96	.09	.14	.76
16	24	4.3	2.4	1.3	.88	.62	.76	1.7	1.0	.08	.14	.74
17	20	4.1	2.4	1.3	.86	.62	.71	1.5	1.1	.08	.15	.70
18	11	4.0	2.6	1.3	.78	.61	.68	1.7	1.1	.09	.40	.69
19	37	3.9	2.6	1.3	.74	.58	.66	1.7	.99	.09	.62	.68
20	20	3.8	2.7	1.3	.70	.65	.66	1.5	.95	.08	.42	.68
21	11	3.9	2.6	1.3	.65	1.1	.75	1.3	.87	.08	.35	12
22	10	4.0	2.4	1.3	.67	5.7	.94	1.3	.83	.09	123	1.2
23	11	3.9	e2.4	1.5	.68	2.5	.85	1.2	.75	.09	85	.94
24	9.6	3.8	e2.5	1.5	.76	1.5	.81	1.2	.64	.10	4.5	.88
25	8.8	3.7	e2.6	1.4	.77	1.1	.74	1.1	.58	.11	2.1	.82
26	9.2	3.5	e2.5	1.5	.69	1.2	.70	1.0	.47	.14	1.5	.79
27	8.4	3.4	e2.2	1.5	.69	1.0	e.63	.96	.34	.16	1.2	.77
28	8.1	3.3	e2.2	1.4	.63	.98	.57	.96	.27	.15	10	.76
29	7.2	3.2	e2.1	1.9	---	.95	.53	.90	.22	.37	3.1	2.9
30	11	7.1	e2.0	2.1	---	.92	.50	.86	.32	.50	1.9	1.0
31	7.2	---	e1.9	1.4	---	.86	---	.84	---	.50	1.4	---
TOTAL	551.2	181.9	85.6	44.5	27.02	33.36	35.40	152.03	20.50	5.07	238.83	40.83
MEAN	17.8	6.06	2.76	1.44	.97	1.08	1.18	4.90	.68	.16	7.70	1.36
MAX	89	28	6.6	2.1	1.7	5.7	7.7	60	1.1	.50	123	12
MIN	7.2	3.2	1.9	1.2	.63	.58	.50	.54	.22	.08	.14	.68
AC-FT	1090	361	170	88	54	66	70	302	41	10	474	81
CFSM	1.79	.61	.28	.14	.10	.11	.12	.49	.07	.02	.78	.14
IN.	2.07	.68	.32	.17	.10	.13	.13	.57	.08	.02	.90	.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2001, BY WATER YEAR (WY)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	17.2	9.81	3.82	7.56	3.42	1.26	1.44	4.51	2.04	1.56	4.78	18.9		
MAX	76.1	36.4	14.4	68.8	12.4	2.59	4.18	36.6	10.4	7.80	17.9	81.2		
(WY)	1991	2000	1999	1992	1991	1999	1998	1992	1993	1993	2000	1996		
MIN	1.46	1.07	.75	.47	.49	.44	.28	.086	.036	.009	.001	.052		
(WY)	1992	1994	1995	1994	1990	1990	1990	1994	1994	1994	1994	1997		

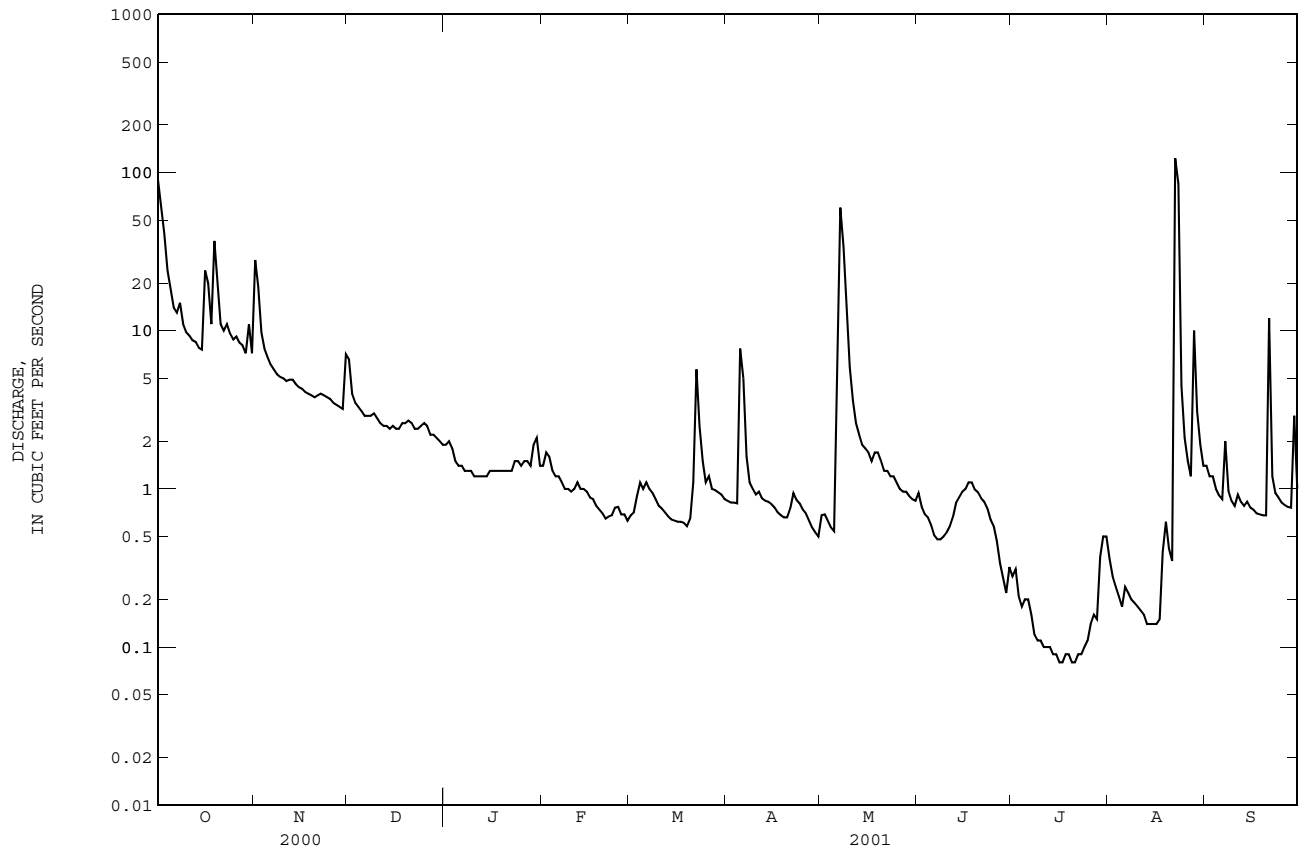
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1988 - 2001

ANNUAL TOTAL	2646.18	1416.24		
ANNUAL MEAN	7.23	3.88	6.37	
HIGHEST ANNUAL MEAN			14.1	1998
LOWEST ANNUAL MEAN			.57	1994
HIGHEST DAILY MEAN	422	Aug 23	123	Aug 22
LOWEST DAILY MEAN	.56	Jul 25	.08	Jul 16
ANNUAL SEVEN-DAY MINIMUM	.63	Jul 22	.08	Jul 15
MAXIMUM PEAK FLOW			1510	Aug 22
MAXIMUM PEAK STAGE			9.90	Aug 22
ANNUAL RUNOFF (AC-FT)	5250		2810	4610
ANNUAL RUNOFF (CFSM)	.73		.39	.64
ANNUAL RUNOFF (INCHES)	9.92		5.31	8.72
10 PERCENT EXCEEDS	11		8.2	9.3
50 PERCENT EXCEEDS	3.1		1.0	1.3
90 PERCENT EXCEEDS	1.3		.21	.17

e Estimated

RIO SALINAS BASIN

50100200 RIO LAPA NEAR RABO DEL BUEY, PR--Continued



LOCATION.--Lat 18°02'40", long 66°12'27", Hydrologic Unit 21010004, on right bank, upstream side of bridge on Hwy 712, about 0.3 mi (0.5 km) southwest of La Plena.

DRAINAGE AREA.--16.7 mi² (43.3 km²).

PERIOD OF RECORD.--January 1973 to April 1979 (monthly measurements only), September 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 410 ft (125 m), from topographic map.

REMARKS.-Records poor. Some regulation at low-flow upstream from station by local residents for agricultural purposes.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e33	e9.1	e20	e3.3	e2.9	e.98	e1.5	e1.8	e2.3	e1.6	e.79	e8.1
2	e80	e9.4	e7.7	e3.3	e3.4	e1.1	e1.3	e2.1	e2.6	e.90	e.64	e9.9
3	e81	e8.5	e6.5	e3.5	e4.2	e1.1	e1.3	e1.9	e1.3	e.64	e.45	e7.5
4	e36	e5.9	e5.9	e3.3	e3.5	e1.1	e1.1	e1.7	e1.3	e.64	e.42	e3.5
5	e22	e6.1	e5.2	e3.1	e3.0	e1.1	e3.0	e1.7	e1.3	e1.4	e.79	e2.6
6	e17	e5.8	e5.1	e3.0	e3.2	e1.0	e1.0	e4.8	e1.2	e.97	e.49	e2.6
7	e18	e14	e5.0	e3.2	e2.9	e1.0	e1.3	e85	e1.4	e.67	e.62	e1.9
8	e28	e9.5	e5.1	e3.1	e2.5	e1.2	e1.2	e20	e.96	e.51	e.57	e1.7
9	e16	e6.2	e5.7	e2.9	e2.3	e.90	e2.1	e13	e.81	e.62	e.53	e1.6
10	e12	e6.0	e5.7	e2.8	e2.2	e.70	e1.7	e7.4	e.81	e.66	e.39	e1.6
11	e11	e6.3	e5.8	e2.8	e2.8	e.76	e1.2	e4.6	e.85	e.70	e.29	e1.9
12	e10	e7.3	e5.5	e3.0	e3.4	e.95	e1.3	e3.3	e.99	e.63	e.30	e1.6
13	e9.8	e6.4	e5.0	e3.2	e2.9	e.77	e1.1	e2.8	e.91	e1.0	e.39	e1.3
14	e8.8	e7.1	e9.0	e3.9	e2.6	e1.1	e1.1	e2.4	e.87	e.95	e.28	e1.5
15	e7.8	e6.9	e8.3	e4.1	e2.1	e1.1	e1.2	e2.3	e.81	e.95	e.26	e2.2
16	e13	e6.8	e13	e3.6	e1.9	e.83	e1.3	e2.2	e.73	e.88	e.29	e1.8
17	e11	e6.7	e12	e3.6	e2.0	e.90	e1.1	e2.1	e1.2	e.90	e.42	e1.7
18	e8.5	e6.7	e7.9	e3.9	e1.6	e.66	e1.2	e2.2	e.98	e.48	e2.0	e1.1
19	e30	e6.6	e5.7	e3.1	e1.6	e.64	e1.1	e2.7	e.72	e.56	e1.4	e1.1
20	e16	e6.2	e4.4	e3.2	e1.4	e.68	e1.3	e2.0	e.82	e.97	e.99	e2.1
21	e9.0	e6.0	e4.3	e3.0	e1.2	e1.6	e1.6	e2.0	e.83	e1.1	e1.8	e2.4
22	e8.3	e6.5	e4.1	e3.0	e1.2	e18	e3.3	e1.9	e.78	e.79	e68	e2.5
23	e17	e6.0	e3.9	e3.4	e1.2	e6.6	e3.0	e1.9	e.81	e.64	e97	e2.4
24	e9.2	e5.6	e3.7	e3.3	e1.4	e1.9	e2.2	e2.5	e.74	e.74	e13	e2.2
25	e6.8	e6.6	e3.6	e3.0	e1.4	e1.4	e2.3	e2.4	e1.1	e1.5	e8.2	e2.5
26	e7.7	e5.7	e3.6	e3.1	e1.5	e1.4	e1.7	e2.1	e.84	e1.6	e5.0	e1.9
27	e6.3	e5.3	e3.6	e3.1	e1.1	e1.7	e1.8	e1.7	e.90	e1.8	e4.0	e2.0
28	e6.3	e4.9	e3.5	e3.6	e1.2	e1.4	e1.6	e1.8	e.99	e1.2	e44	e3.2
29	e6.3	e4.9	e3.4	e4.4	---	e1.2	e1.4	e1.7	e.80	e1.1	e13	e4.4
30	e5.5	e21	e3.4	e4.1	---	e1.9	e1.8	e1.5	e1.0	e6.4	e4.3	e3.9
31	e5.3	---	e3.3	e2.9	---	e1.6	---	e2.1	---	e2.3	e3.2	---
TOTAL	556.6	220.0	188.9	102.8	62.6	57.27	48.1	187.6	31.65	35.80	273.81	84.7
MEAN	18.0	7.33	6.09	3.32	2.24	1.85	1.60	6.05	1.05	1.15	8.83	2.82
MAX	81	21	20	4.4	4.2	18	3.3	85	2.6	6.4	97	9.9
MIN	5.3	4.9	3.3	2.8	1.1	.64	1.0	1.5	.72	.48	.26	1.1
AC-FT	1100	436	375	204	124	114	95	372	63	71	543	168
CFSM	1.08	.44	.36	.20	.13	.11	.10	.36	.06	.07	.53	.17
IN.	1.24	.49	.42	.23	.14	.13	.11	.42	.07	.08	.61	.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2001, BY WATER YEAR (WY)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	16.8	16.2	6.52	9.31	3.81	2.36	2.17	4.96	3.06	2.91	4.94	24.5																	
MAX	76.4	82.8	21.4	68.8	12.1	4.42	6.19	25.5	12.1	12.9	23.4	109																	
(WY)	1991	2000	1999	1992	1991	1999	1998	1992	1992	1993	1998	1996																	
MIN	1.43	1.53	.62	.37	.63	.59	.30	.21	.042	.012	.010	.008																	
(WY)	1992	1994	1995	1995	1990	1990	1995	1994	1994	1997	1994	1997																	

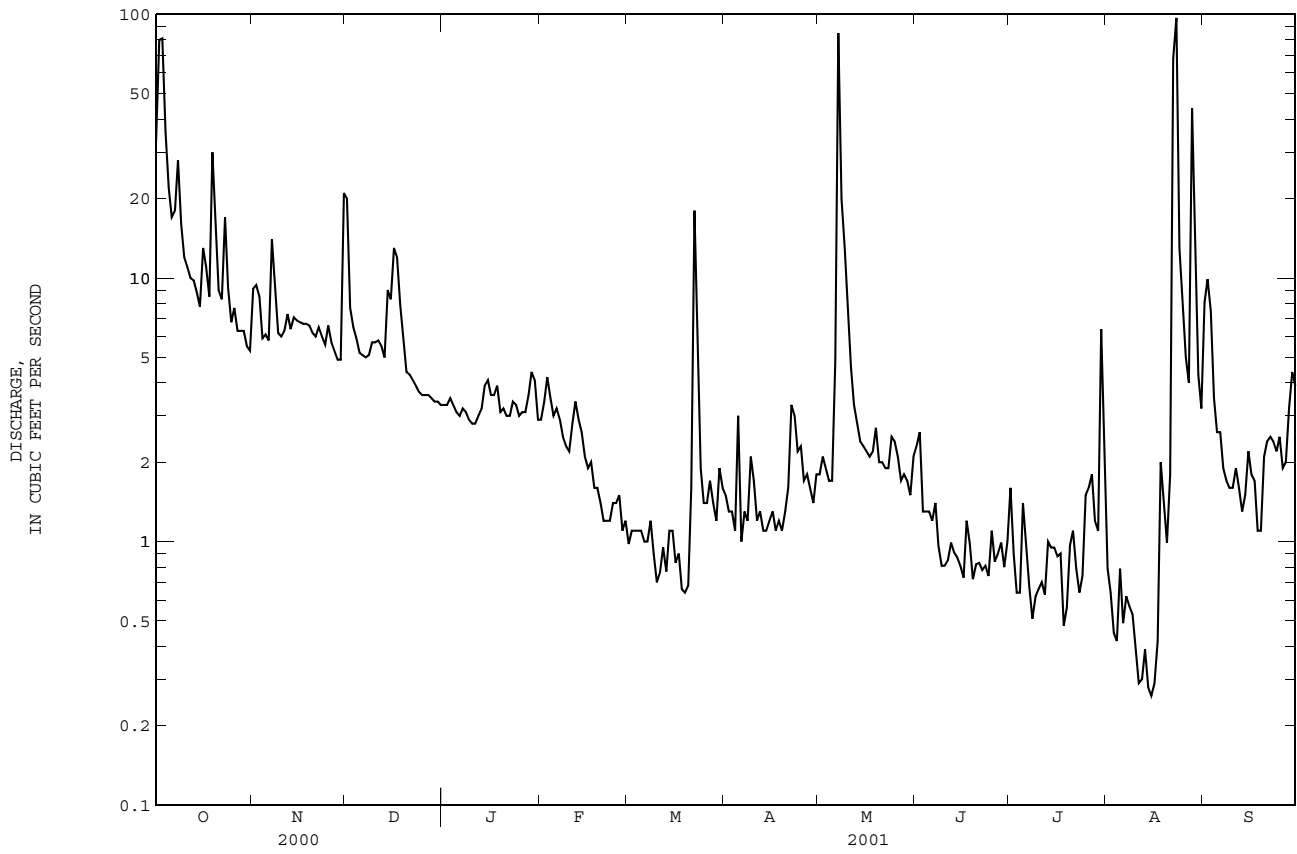
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1973 - 2001

ANNUAL TOTAL	3279.06	1849.83		
ANNUAL MEAN	8.96	5.07		8.13
HIGHEST ANNUAL MEAN				18.7
LOWEST ANNUAL MEAN				.81
HIGHEST DAILY MEAN	238	Aug 23	97	Aug 23
LOWEST DAILY MEAN	.71	Aug 21	.26	Aug 15
ANNUAL SEVEN-DAY MINIMUM	.92	Aug 15	.31	Aug 10
MAXIMUM PEAK FLOW			955	Aug 22
MAXIMUM PEAK STAGE			7.25	Aug 22
ANNUAL RUNOFF (AC-FT)	6500		3670	
ANNUAL RUNOFF (CFSM)	.54		.30	
ANNUAL RUNOFF (INCHES)	7.30		4.12	
10 PERCENT EXCEEDS	14		9.1	
50 PERCENT EXCEEDS	4.5		2.2	
90 PERCENT EXCEEDS	1.7		.78	

e Estimated

RIO SALINAS BASIN

50100450 RIO MAJADA AT LA PLENA, PR--Continued



RIO COAMO BASIN

50106100 RIO COAMO AT HWY 14 AT COAMO, PR

LOCATION.--Lat 18°05'00", long 66°21'16", Hydrologic Unit 21010004, on Highway 14 bridge, 0.8 mi (1.3 km) northeast from parque Atlético, 1.2 mi (1.9 km) southeast from (W.C.P.R.) Antena de Radio.

DRAINAGE AREA.--43.5 mi² (112.7 km²).

PERIOD OF RECORD.--January 1987 to current year. Prior to September 2000, published as Río Coamo at Coamo, PR.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 335 ft (110 m), from topographic map.

REMARKS.--Records poor. Low-flow is affected by domestic discharges about 200 ft (65.6 m), upstream from gaging station. Gage-height and precipitation satellite telemetry at station. The gage-height recovered for the instantaneous peak stage produced by Hurricane Georges was affected by backwater caused by the Hwy. 14 old bridge which is about 100 ft. (30.40 m) downstream from gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	e100	e26	15	8.1	6.1	e3.2	4.5	5.9	8.0	e5.4	8.0
2	48	e140	e20	14	8.6	6.2	e3.3	4.4	6.5	7.4	e5.0	43
3	44	e90	e20	13	7.8	6.0	4.6	4.2	5.8	6.9	e8.0	25
4	37	e70	e19	13	7.4	5.4	6.2	4.1	5.4	6.9	e6.0	11
5	34	e54	e18	13	7.5	5.3	72	3.8	6.4	8.0	e5.0	8.7
6	31	e48	e18	13	7.4	5.4	45	18	5.5	6.7	e4.5	8.6
7	31	e46	17	13	7.5	5.2	13	150	5.1	6.6	e4.0	66
8	24	e44	17	12	7.0	5.0	10	24	4.9	6.5	e4.0	29
9	22	e42	16	11	6.8	4.7	9.4	24	4.6	5.4	e3.5	8.5
10	20	e42	17	12	6.9	4.6	8.6	e82	4.4	5.5	e4.0	6.4
11	20	e40	17	12	7.1	4.3	8.2	e55	5.2	5.7	e4.5	5.8
12	30	e50	16	12	7.5	4.6	7.9	e27	4.4	7.3	e3.5	5.4
13	30	e42	15	12	7.2	4.4	8.0	e19	4.7	7.7	e3.0	5.0
14	24	e41	16	11	6.8	4.6	7.8	e14	4.7	5.8	e2.9	6.5
15	34	e40	19	11	7.2	4.5	7.1	e12	5.2	5.8	2.8	7.9
16	57	e38	18	11	7.4	4.2	6.7	e11	7.2	6.4	2.8	8.5
17	38	e38	16	9.8	8.0	4.0	6.3	e11	20	6.4	2.9	6.1
18	29	e37	16	9.3	7.8	4.0	6.0	e12	16	5.2	5.1	6.1
19	29	e36	16	9.6	7.6	4.2	5.7	e13	7.7	5.4	4.8	6.1
20	51	e36	17	9.4	6.9	4.9	5.2	e9.3	6.9	5.7	7.0	91
21	50	e37	17	9.0	6.5	5.6	5.3	e8.4	6.8	5.7	5.2	39
22	90	e35	17	8.4	6.8	11	7.4	e7.9	9.2	6.0	113	53
23	123	e30	17	9.4	6.9	9.6	6.7	e7.3	8.4	5.5	222	39
24	77	e31	17	9.1	8.3	13	5.9	e7.6	8.0	5.7	15	20
25	59	e28	18	8.5	8.1	9.4	5.4	e7.3	12	e5.0	6.8	13
26	54	e27	18	8.3	6.9	6.0	4.8	e6.8	11	e8.0	5.0	11
27	49	e26	18	8.2	5.8	e4.8	5.0	e6.9	11	e7.0	4.3	16
28	52	e25	18	8.2	5.7	e4.0	4.7	e6.5	14	e5.0	12	9.7
29	45	e23	17	8.5	---	e3.8	4.8	e6.1	22	e7.0	8.4	9.0
30	65	e27	16	11	---	e3.5	4.3	e5.7	12	e8.5	5.6	8.7
31	82	---	16	8.4	---	e3.2	---	5.7	---	e6.5	5.1	---
TOTAL	1448	1363	543	333.1	203.5	171.5	298.5	578.5	250.9	199.2	491.1	581.0
MEAN	46.7	45.4	17.5	10.7	7.27	5.53	9.95	18.7	8.36	6.43	15.8	19.4
MAX	123	140	26	15	8.6	13	72	150	22	8.5	222	91
MIN	20	23	15	8.2	5.7	3.2	3.2	3.8	4.4	5.0	2.8	5.0
AC-FT	2870	2700	1080	661	404	340	592	1150	498	395	974	1150
CFSM	1.07	1.04	.40	.25	.17	.13	.23	.43	.19	.15	.36	.45
IN.	1.24	1.17	.46	.28	.17	.15	.26	.49	.21	.17	.42	.50

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2001, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	57.2	38.6	21.5	18.1	10.9	6.94	11.3	19.0	15.1	6.96	11.2	50.0			
MAX	274	142	83.8	79.0	25.5	16.1	27.6	69.6	76.1	15.5	29.7	291			
(WY)	1991	2000	1988	1992	1998	2000	1987	1992	1987	1988	1998	1998			
MIN	10.3	4.91	3.72	2.71	3.17	3.09	2.49	1.66	1.99	.78	1.28	1.61			
(WY)	1989	1995	1989	1995	1989	1987	1995	1989	1989	1989	1994	1994			

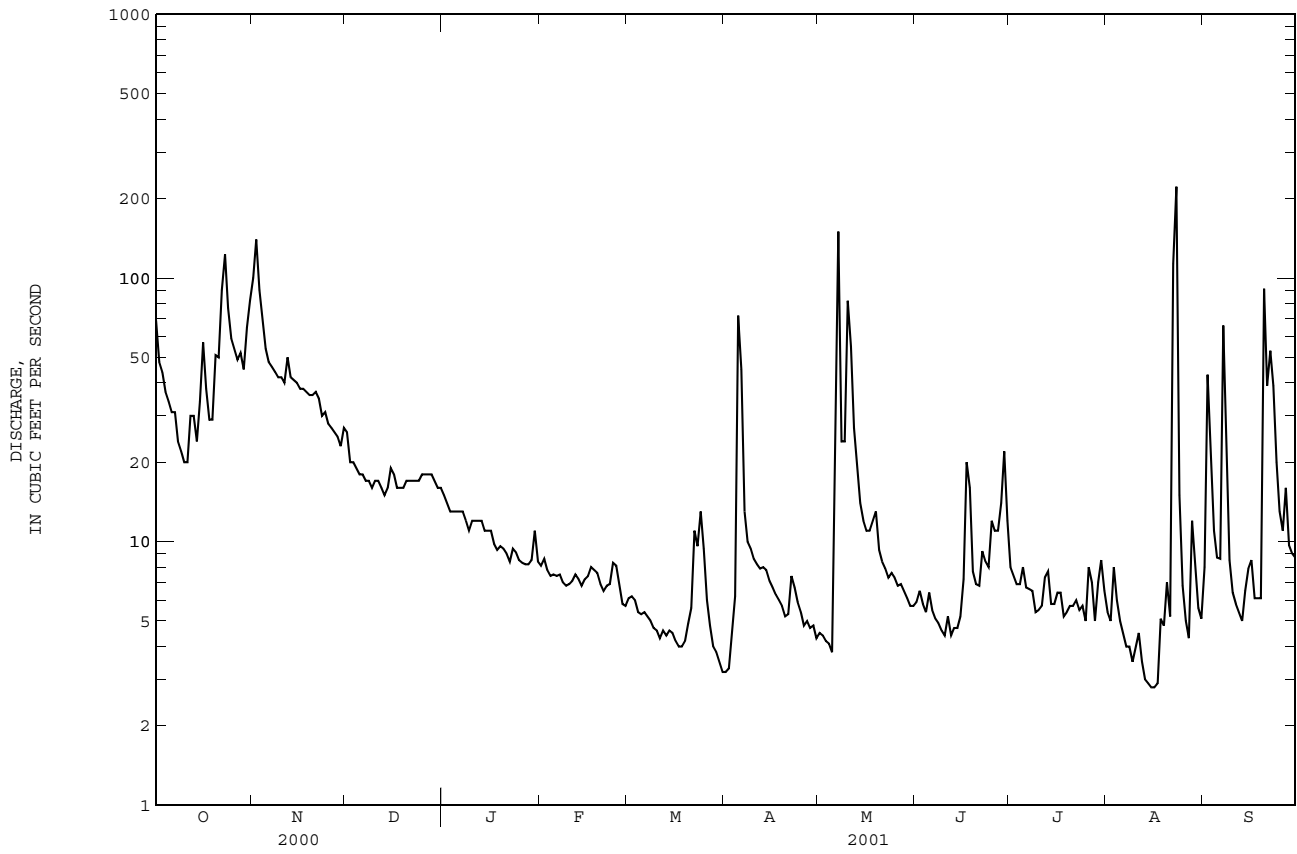
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1987 - 2001

ANNUAL TOTAL	8897.8	6461.3	
ANNUAL MEAN	24.3	17.7	22.0
HIGHEST ANNUAL MEAN			40.9
LOWEST ANNUAL MEAN			4.52
HIGHEST DAILY MEAN	352	May 18	222
LOWEST DAILY MEAN	3.3	Aug 19	2.8
ANNUAL SEVEN-DAY MINIMUM	3.6	Aug 1	3.2
MAXIMUM PEAK FLOW			2980
MAXIMUM PEAK STAGE			9.73
ANNUAL RUNOFF (AC-FT)	17650	12820	15960
ANNUAL RUNOFF (CFSM)	.56	.41	.51
ANNUAL RUNOFF (INCHES)	7.61	5.53	6.88
10 PERCENT EXCEEDS	46	42	45
50 PERCENT EXCEEDS	14	8.4	7.6
90 PERCENT EXCEEDS	4.6	4.6	2.5

e Estimated

RIO COAMO BASIN

50106100 RIO COAMO AT HWY 14 AT COAMO, PR--Continued



RIO COAMO BASIN

50106500 RIO COAMO NEAR COAMO, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°03'52", long 66°22'10", Hydrologic Unit 21010004, on Highway 153 bridge, 0.4 mi (0.6 km) above Río de la Mina, and 1.8 mi (2.9 km) south of Coamo plaza.

DRAINAGE AREA.--46.0 mi² (119.1 km²).

PERIOD OF RECORD.--Water years 1978 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00301)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL AS (MG/L) (00900)	CALCIUM DIS-SOLVED AS (MG/L) (00915)
OCT 23...	1000	55	515	7.7	26.5	5.0	7.2	91	<10	6000	2100	200	53.4
FEB 01...	1045	14	641	8.5	25.6	.5	11.0	134	<10	E10	E120	--	--
MAY 16...	1215	13	600	8.1	31.1	.8	8.1	109	<10	<1200	270	230	60.4
SEP 05...	1230	13	328	8.1	32.0	--	8.6	118	<10	310	<110	200	52.9

DATE	MAGNE-SIUM, DIS-SOLVED AS (MG) (00925)	SODIUM, DIS-SOLVED AS (NA) (00930)	SODIUM, AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED AS (K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED AS (SO4) (00945)	CHLO-RIDE, DIS-SOLVED AS (CL) (00940)	FLUO-RIDE, DIS-SOLVED AS (F) (00950)	SILICA, DIS-SOLVED AS (MG/L) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT 23...	16.5	26.7	.8	2.79	195	<1.0	24.8	28.3	.2	29.0	299	44.6	13
FEB 01...	--	--	--	--	236	--	--	--	--	--	--	--	<10
MAY 16...	18.7	30.9	.9	2.06	205	<1.0	29.4	34.2	.2	32.0	331	11.3	<10
SEP 05...	17.5	30.0	.9	2.34	121	--	28.9	34.5	.2	30.8	270	9.41	<10

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
OCT 23...	2.69	.01	2.7	.02	.46	.48	3.2	14.1	.230	<2	29.4	54	<.11
FEB 01...	2.89	.01	2.9	.02	--	<.20	--	--	.120	--	--	--	--
MAY 16...	--	<.01	1.1	.03	.32	.35	1.5	6.4	.140	<2	27.9	70	<.10
SEP 05...	--	<.01	1.9	.02	--	<.20	--	--	.120	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 23...	<1	<20.0	480	<1	22	<.14	<2.6	<.43	<31	<.01	<16	<.02
FEB 01...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 16...	<1	<20.0	40	<1	9	<.01	<3.0	<.40	<31	<.01	<16	.03
SEP 05...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
E -- Estimated value

50108000 RIO DESCALABRADO NEAR LOS LLANOS, PR

LOCATION.--Lat 18°03'08", long 66°25'34", Hydrologic Unit 21010004, at bridge on Highway 14, 1.5 mi (2.4 km) west of Los Llanos, and 5.3 mi (8.5 km) east of Juana Díaz.

DRAINAGE AREA.--12.9 mi² (33.4 km²).

PERIOD OF RECORD.--1959-65 (annual low-flow measurements only), 1965 (annual maximum discharge), January 1966 to June 1969, July to December 1969 (maximum discharge only), February 1984 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 220 ft (67 m), from topographic map.

REMARKS.--Records poor. Some regulation at low flow by local resident upstream from station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	16	6.3	2.8	1.8	.92	e.75	e.88	e.72	e2.6	e.85	e6.0
2	29	25	5.1	2.8	1.6	.88	e.70	e.92	e.75	e2.1	e.80	e5.4
3	22	17	4.9	2.7	1.6	.86	e.68	e.85	e.80	e1.8	e1.8	e5.0
4	20	e14	4.7	2.7	1.4	.86	.92	e.82	e.80	e1.5	e1.2	e3.5
5	19	e13	4.5	2.8	1.5	.86	1.4	e.80	e1.0	e1.3	e1.0	e3.0
6	18	e12	4.4	2.7	1.4	.86	5.0	e6.0	e.90	e1.2	e.90	e2.7
7	e40	e12	4.3	2.6	1.4	.85	1.4	e20	e.80	e1.1	e.80	e5.0
8	e30	e11	4.2	2.5	1.3	.74	1.1	e2.0	.75	e1.0	e.80	e9.0
9	e25	e11	4.2	2.5	1.3	.73	e1.0	e1.4	.69	e.90	e.70	e6.0
10	e22	e10	4.1	2.5	1.2	.71	e.94	e10	.68	e.85	e.80	e5.0
11	e38	e10	3.8	2.6	1.3	.71	e.86	e6.0	.67	e.80	e1.0	e4.8
12	e26	e13	3.8	2.6	1.2	.76	e.80	e2.0	.68	e5.0	e.80	e3.5
13	e22	e11	3.8	2.5	1.2	.78	e.90	e1.5	.69	e2.3	e.66	e2.7
14	e20	e10	3.8	2.4	1.2	.80	e.90	e1.2	.68	e1.6	e.61	e2.3
15	e33	e9.6	3.8	2.4	1.2	.80	e.84	e1.1	1.6	e1.3	e.62	e13
16	e25	e9.8	3.8	2.5	1.3	.78	e.78	e1.0	.75	e1.2	e.64	e6.0
17	e32	e9.4	4.1	2.4	1.3	.78	e.72	e1.0	.83	e1.1	e.75	e5.5
18	e27	8.8	3.8	2.4	1.1	.78	e.70	e1.1	4.0	e1.0	e.95	e4.0
19	e23	8.6	3.9	2.3	1.1	.77	e.68	e1.4	1.2	e.95	e1.3	e3.0
20	e55	8.2	4.1	2.3	1.1	.94	e.65	e1.1	.86	e.90	e.85	e7.0
21	e35	8.7	3.9	2.1	1.1	.98	e.80	e1.0	.84	e.85	e.70	e5.2
22	e27	8.2	3.9	2.1	1.1	1.5	e1.3	e.90	2.3	e.90	e3.0	e5.0
23	e38	7.8	3.7	2.4	1.4	1.1	e1.0	e.85	1.4	e1.2	e10	e7.0
24	e27	7.6	3.4	2.1	1.4	.83	e.90	e.80	.96	e1.2	e4.0	e6.0
25	e21	7.0	3.4	2.0	1.3	.81	e.75	e.80	.93	e.90	e2.5	e5.0
26	e17	6.6	3.3	2.0	1.1	.86	e1.1	e.75	.91	e1.0	e4.0	e4.0
27	16	6.2	3.4	1.9	.89	.87	e1.7	e.70	.81	e.80	e2.7	e3.8
28	20	5.9	3.3	1.8	.91	1.2	e1.1	e.80	e1.4	e.70	e2.3	e3.2
29	15	5.4	3.3	1.9	---	1.2	e.95	e.72	e5.0	e.90	e2.1	e2.8
30	15	6.4	3.2	1.8	---	.85	e.80	e.70	e3.4	e1.6	e1.8	e2.8
31	14	---	3.0	1.6	---	e.80	---	e.68	---	e1.0	e1.6	---
TOTAL	795	309.2	123.2	72.7	35.70	27.17	32.12	69.77	37.80	41.55	52.53	147.2
MEAN	25.6	10.3	3.97	2.35	1.27	.88	1.07	2.25	1.26	1.34	1.69	4.91
MAX	55	25	6.3	2.8	1.8	1.5	5.0	20	5.0	10	10	13
MIN	14	5.4	3.0	1.6	.89	.71	.65	.68	.67	.70	.61	2.3
AC-FT	1580	613	244	144	71	54	64	138	75	82	104	292
CFSM	1.99	.80	.31	.18	.10	.07	.08	.17	.10	.10	.13	.38
IN.	2.29	.89	.36	.21	.10	.08	.09	.20	.11	.12	.15	.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2001, BY WATER YEAR (WY)

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001			
MEAN	27.4	15.9	5.72	4.73	3.52	1.92	4.81	13.4	4.52	2.40	4.00	35.6																											
MAX	117	41.0	24.5	36.4	23.9	8.93	20.5	62.2	25.2	10.5	13.1	395																											
(WY)	1986	1985	1988	1992	1995	1996	1999	1985	1987	1991	1996	1996																											
MIN	2.02	1.04	.19	.057	.020	.012	.000	.032	.000	.000	.19	.063																											
(WY)	1968	1995	1968	1968	1968	1968	1968	1968	1967	1967	1990	1967																											

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

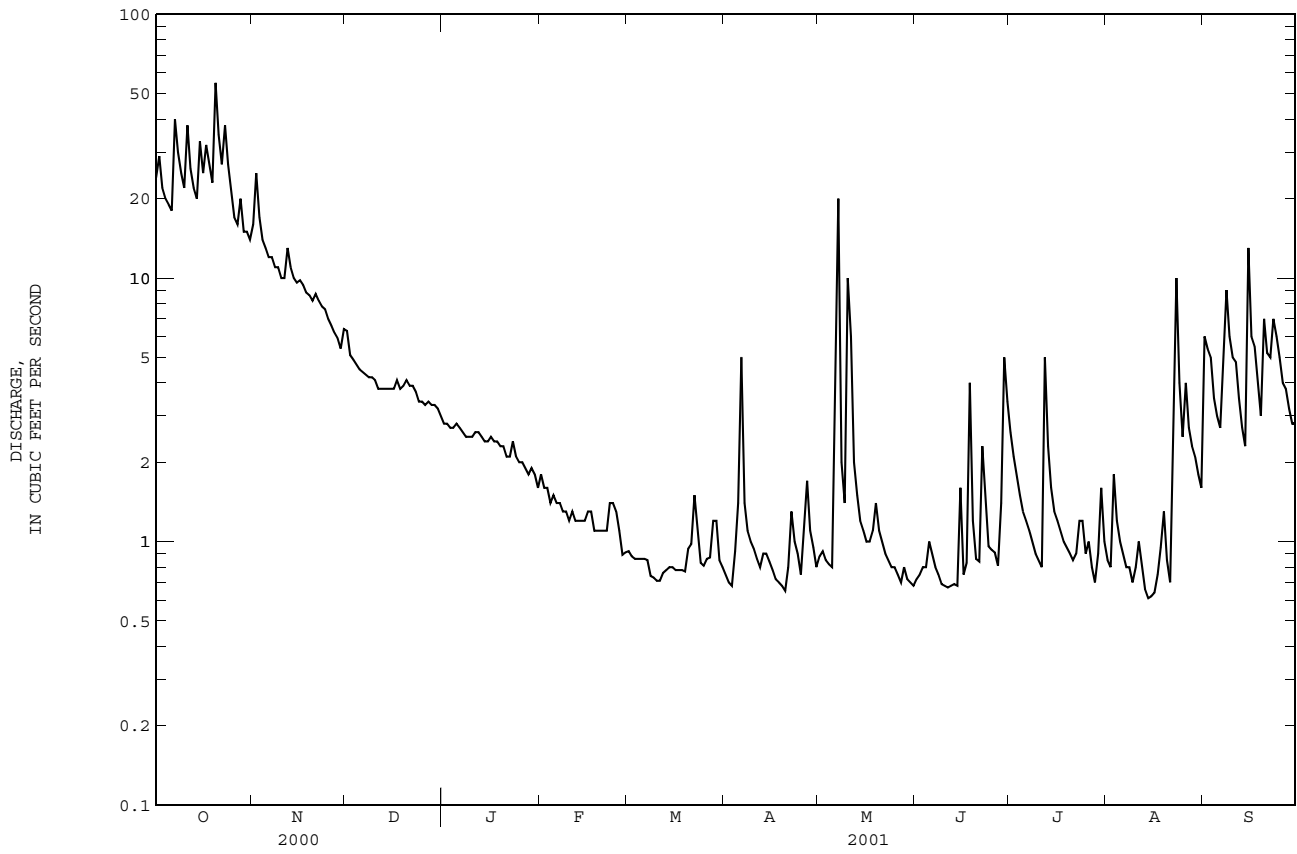
FOR 2001 WATER YEAR

WATER YEARS 1966 - 2001

ANNUAL TOTAL	3446.72	1743.94		
ANNUAL MEAN	9.42	4.78		
HIGHEST ANNUAL MEAN				10.8
LOWEST ANNUAL MEAN				41.7
HIGHEST DAILY MEAN	425	Sep 18	55	1.69
LOWEST DAILY MEAN	.44	Aug 14	.61	1994
ANNUAL SEVEN-DAY MINIMUM	.44	Aug 12	.69	1996
MAXIMUM PEAK FLOW				30000
MAXIMUM PEAK STAGE				24.37
INSTANTANEOUS LOW FLOW				.00
ANNUAL RUNOFF (AC-FT)	6840	3460	7820	
ANNUAL RUNOFF (CFSM)	.73	.37	.84	
ANNUAL RUNOFF (INCHES)	9.94	5.03	11.37	
10 PERCENT EXCEEDS	21	13	16	
50 PERCENT EXCEEDS	2.9	1.6	1.6	
90 PERCENT EXCEEDS	.72	.77	.08	

e Estimated

RIO DESCALABRADO BASIN
50108000 RIO DESCALABRADO NEAR LOS LLANOS, PR--Continued



50110900 RIO TOA VACA ABOVE LAGO TOA VACA, PR

LOCATION.--Lat 18°07'37", long 66°27'24", Hydrologic Unit 21010004, on right bank, off a dirt road about 0.3 mi (0.5 km) from road 553, 2.4 mi (3.9 km) southeast from Villalba plaza, and 0.2 mi (0.3 km) downstream from confluence with Quebrada Limón.

DRAINAGE AREA.--14.2 mi² (36.77 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1989 to current year.

GAGE.--Water stage recorder. Elevation of gage is 525 ft (160 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	40	11	5.5	3.6	2.8	2.1	2.4	2.9	9.4	2.1	28
2	28	69	10	5.4	3.6	2.8	2.0	2.5	2.9	7.4	2.0	24
3	51	49	9.9	5.3	3.4	2.7	2.0	2.2	3.1	6.1	6.1	23
4	51	31	9.5	5.2	3.2	2.6	4.2	2.1	3.1	4.9	2.9	14
5	35	24	9.4	5.4	3.2	2.5	6.1	2.1	3.7	4.5	2.3	9.5
6	30	21	9.2	5.4	3.2	2.6	9.6	43	3.2	3.7	2.3	8.8
7	33	19	9.0	5.5	3.2	2.6	4.4	91	2.6	3.0	2.2	27
8	42	18	8.8	5.4	3.1	2.5	3.1	9.9	2.5	2.6	2.0	70
9	37	17	8.8	5.0	3.0	2.3	2.8	8.0	2.5	2.1	1.7	24
10	32	16	8.6	4.9	3.1	2.2	2.4	61	2.5	1.8	1.9	14
11	62	16	8.5	4.8	3.0	2.2	2.4	36	2.6	1.5	2.2	14
12	52	22	8.1	4.9	2.9	2.2	2.2	14	2.8	33	1.8	9.7
13	38	16	7.7	4.9	2.9	2.2	2.4	9.0	2.9	11	1.6	8.3
14	32	14	7.6	4.9	2.9	2.2	2.4	7.2	3.0	5.0	1.4	8.1
15	49	13	8.0	4.7	3.0	2.2	2.2	6.2	3.6	3.5	1.5	124
16	44	13	7.6	4.7	3.0	2.2	2.1	5.6	3.9	2.9	1.6	41
17	49	12	7.5	4.6	3.0	2.2	2.0	5.3	8.5	2.6	2.3	36
18	41	12	7.3	4.3	2.8	2.2	1.9	5.5	7.1	2.3	3.2	24
19	32	11	e7.2	4.1	2.7	2.2	1.9	6.4	3.5	2.2	4.9	16
20	97	11	e7.1	4.1	2.7	2.4	1.8	4.6	2.5	2.1	3.9	60
21	50	11	7.0	4.0	2.7	2.6	2.7	4.0	2.2	2.0	2.4	36
22	42	11	6.8	3.9	2.8	3.8	3.0	3.7	10	2.1	9.3	34
23	62	14	6.8	4.0	3.2	5.2	2.9	3.5	14	2.9	84	59
24	41	12	6.7	4.2	3.5	4.9	2.4	3.5	e8.1	2.9	19	37
25	33	11	6.8	4.0	3.3	5.9	2.4	3.3	7.9	2.0	11	23
26	24	10	8.7	3.9	3.0	3.4	6.6	3.2	6.7	2.4	20	17
27	21	10	6.9	3.9	2.8	6.9	8.4	3.0	5.0	1.9	8.1	17
28	18	10	6.2	3.7	2.7	3.2	3.2	3.2	6.0	1.5	7.6	13
29	16	10	5.9	3.9	---	2.7	2.5	2.9	30	2.2	6.9	11
30	15	11	e5.9	5.1	---	2.3	2.2	2.8	16	5.2	5.1	11
31	42	---	5.8	3.6	---	2.2	---	2.8	---	2.7	4.3	---
TOTAL	1224	554	244.3	143.2	85.5	90.9	96.3	359.9	175.3	139.4	227.6	841.4
MEAN	39.5	18.5	7.88	4.62	3.05	2.93	3.21	11.6	5.84	4.50	7.34	28.0
MAX	97	69	11	5.5	3.6	6.9	9.6	91	30	33	84	124
MIN	15	10	5.8	3.6	2.7	2.2	1.8	2.1	2.2	1.5	1.4	8.1
AC-FT	2430	1100	485	284	170	180	191	714	348	276	451	1670
CFSM	2.78	1.30	.55	.33	.22	.21	.23	.82	.41	.32	.52	1.98
IN.	3.21	1.45	.64	.38	.22	.24	.25	.94	.46	.37	.60	2.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2001, BY WATER YEAR (WY)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	41.5	21.2	8.12	8.64	5.40	3.79	8.91	20.4	11.9	6.21	9.47	42.6	
MAX	109	55.7	16.5	43.1	12.6	7.87	26.3	76.1	35.4	14.4	36.4	152	
(WY)	1991	2000	2000	1992	1996	1999	1993	1995	1992	1992	1998	1998	
MIN	4.61	2.19	1.42	1.79	2.38	1.67	1.46	1.42	1.23	.71	2.74	3.21	
(WY)	1992	1992	1992	1995	1990	1990	1990	1997	1990	1990	1990	1994	

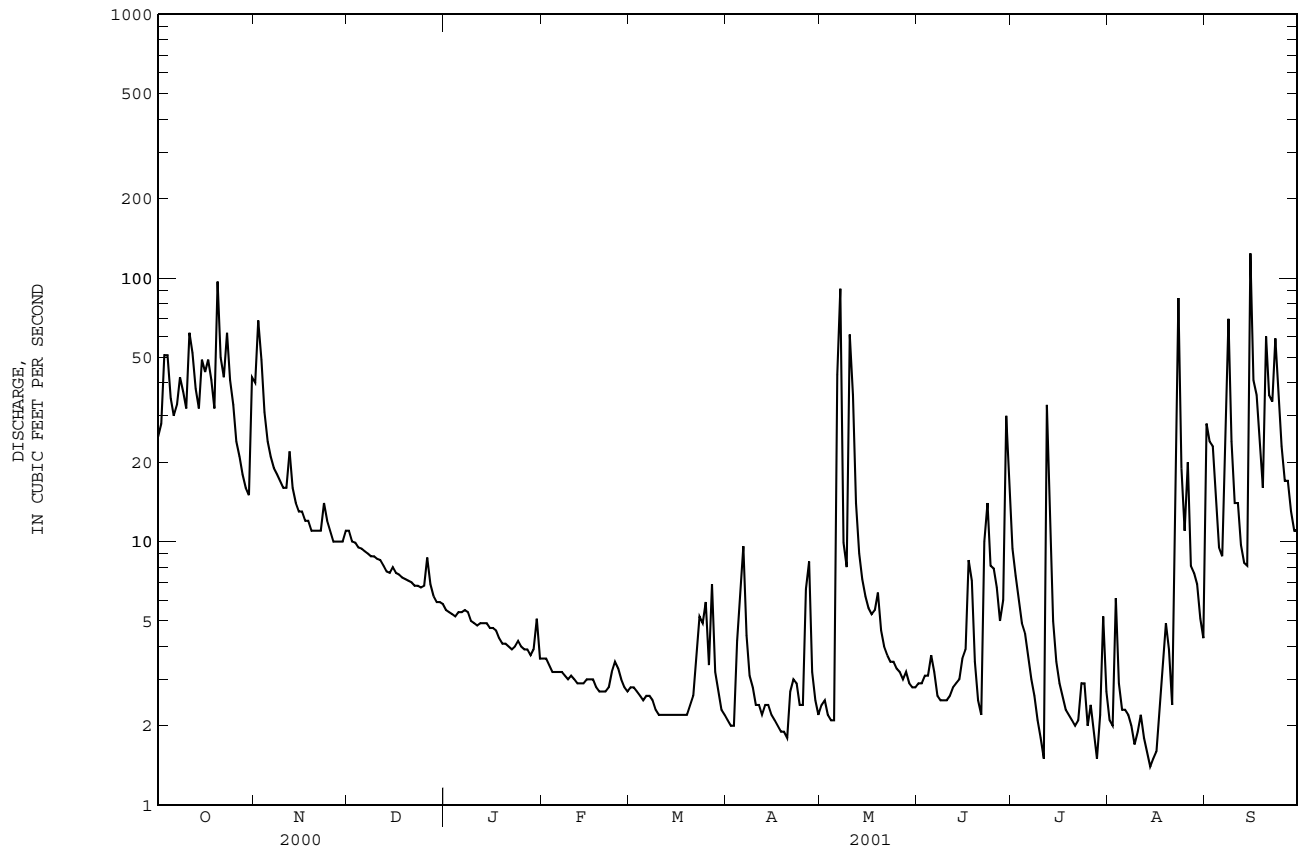
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1989 - 2001

ANNUAL TOTAL	4493.9	4181.8											
ANNUAL MEAN	12.3	11.5								15.9			
HIGHEST ANNUAL MEAN										29.3			1998
LOWEST ANNUAL MEAN										4.02			1994
HIGHEST DAILY MEAN	281	Sep 18					124	Sep 15		2050		Sep 10	1996
LOWEST DAILY MEAN	2.2	Jul 19					1.4	Aug 14		.45		Aug 7	1990
ANNUAL SEVEN-DAY MINIMUM	2.4	Jul 22					1.7	Aug 10		.61		Jul 9	1990
MAXIMUM PEAK FLOW										3000		Sep 21	1998
MAXIMUM PEAK STAGE										20.60		Sep 21	1998
INSTANTANEOUS LOW FLOW										.42		Jul 14	1997
ANNUAL RUNOFF (AC-FT)	8910						8290			11490			
ANNUAL RUNOFF (CFSM)	.86						.81			1.12			
ANNUAL RUNOFF (INCHES)	11.77						10.96			15.17			
10 PERCENT EXCEEDS	31						33			34			
50 PERCENT EXCEEDS	6.6						4.9			4.9			
90 PERCENT EXCEEDS	3.2						2.2			1.5			

e Estimated

RIO JACAGUAS BASIN

50110900 RIO TOA VACA ABOVE LAGO TOA VACA, PR--Continued



50110900 RIO TOA VACA ABOVE LAGO TOA VACA, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.-- Water years 1988 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: April 1988 to current year.

INSTRUMENTATION.-- USDH-48 and automatic sediment samplers since 1988.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 11,800 mg/L September 22, 1998; Minimum daily mean, 1 mg/L several days during several years.

SEDIMENT LOADS: Maximum daily mean, e93,300 tons (e84,600 tonnes) September 12, 1998; Minimum daily mean, <0.01 ton (<0.01 tonne) several years.

EXTREMES FOR CURRENT YEAR 2001.--

SEDIMENT CONCENTRATION: Maximum daily mean, 916 mg/L September 15, 2001; Minimum daily mean, 1 mg/L several days.

SEDIMENT LOADS: Maximum daily mean, 1,220 tons (1,108 tonnes) September 15, 2001; Minimum daily mean, 0.01 ton (0.01 tonne) several days.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	25	116	8.9	40	171	24	11	5	.14
2	28	118	9.0	69	368	111	10	4	.12
3	51	219	48	49	153	23	9.9	5	.13
4	51	256	36	31	39	3.3	9.5	5	.14
5	35	134	13	24	29	1.9	9.4	8	.20
6	30	91	8.1	21	20	1.1	9.2	37	.91
7	33	111	21	19	13	.68	9.0	69	1.7
8	42	151	25	18	20	.94	8.8	67	1.6
9	37	117	12	17	27	1.2	8.8	57	1.3
10	32	118	10	16	28	1.2	8.6	47	1.1
11	62	358	156	16	28	1.2	8.5	37	.85
12	52	141	23	22	82	10	8.1	29	.63
13	38	9	.93	16	70	3.1	7.7	36	.73
14	32	4	.32	14	64	2.4	7.6	46	.96
15	49	197	64	13	72	2.6	8.0	57	1.2
16	44	81	10	13	84	2.9	7.6	57	1.2
17	49	132	30	12	95	3.1	7.5	53	1.1
18	41	102	12	12	94	3.0	7.3	49	.96
19	32	29	2.5	11	90	2.7	e7.2	e45	e.87
20	97	661	666	11	86	2.5	e7.1	e41	e.78
21	50	226	34	11	82	2.5	7.0	37	.69
22	42	191	34	11	81	2.4	6.8	32	.59
23	62	332	118	14	86	3.5	6.8	26	.48
24	41	96	12	12	32	1.1	6.7	20	.37
25	33	86	11	11	15	.43	6.8	14	.26
26	24	87	5.7	10	15	.41	8.7	23	.81
27	21	59	3.9	10	15	.41	6.9	13	.25
28	18	69	3.4	10	13	.36	6.2	28	.47
29	16	44	1.8	10	10	.28	5.9	44	.71
30	15	25	1.1	11	7	.21	e5.9	e42	e.68
31	42	208	41	---	---	---	5.8	34	.54
TOTAL	1224	---	1421.65	554	---	213.42	244.3	---	22.47

RIO JACAGUAS BASIN

50110900 RIO TOA VACA ABOVE LAGO TOA VACA, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	5.5	26	.39	3.6	2	.02	2.8	11	.08
2	5.4	18	.27	3.6	4	.04	2.8	14	.10
3	5.3	12	.17	3.4	6	.05	2.7	15	.11
4	5.2	6	.09	3.2	8	.07	2.6	17	.12
5	5.4	4	.06	3.2	10	.08	2.5	19	.13
6	5.4	4	.05	3.2	11	.10	2.6	21	.14
7	5.5	3	.04	3.2	9	.08	2.6	22	.15
8	5.4	2	.03	3.1	6	.05	2.5	14	.09
9	5.0	1	.01	3.0	8	.07	2.3	4	.02
10	4.9	1	.01	3.1	11	.09	2.2	2	.01
11	4.8	1	.01	3.0	10	.08	2.2	3	.02
12	4.9	1	.01	2.9	8	.07	2.2	4	.02
13	4.9	1	.01	2.9	6	.05	2.2	5	.03
14	4.9	1	.01	2.9	8	.06	2.2	3	.02
15	4.7	1	.01	3.0	10	.08	2.2	2	.01
16	4.7	1	.01	3.0	11	.09	2.2	4	.03
17	4.6	1	.01	3.0	13	.11	2.2	8	.05
18	4.3	1	.01	2.8	15	.12	2.2	12	.07
19	4.1	2	.02	2.7	17	.13	2.2	15	.09
20	4.1	8	.08	2.7	19	.14	2.4	13	.09
21	4.0	14	.15	2.7	14	.11	2.6	11	.08
22	3.9	20	.21	2.8	5	.04	3.8	8	.08
23	4.0	17	.18	3.2	3	.03	5.2	6	.08
24	4.2	12	.13	3.5	8	.08	4.9	8	.26
25	4.0	7	.07	3.3	8	.07	5.9	18	.38
26	3.9	2	.02	3.0	5	.04	3.4	4	.09
27	3.9	1	.01	2.8	2	.01	6.9	28	.62
28	3.7	2	.02	2.7	6	.04	3.2	22	.19
29	3.9	2	.03	---	---	---	2.7	21	.15
30	5.1	3	.04	---	---	---	2.3	20	.13
31	3.6	3	.03	---	---	---	2.2	16	.10
TOTAL	143.2	---	2.19	85.5	---	2.00	90.9	---	3.54

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	APRIL			MAY			JUNE		
1	2.1	12	.07	2.4	23	.15	2.9	11	.09
2	2.0	8	.04	2.5	20	.14	2.9	13	.10
3	2.0	4	.02	2.2	17	.10	3.1	11	.09
4	4.2	18	.41	2.1	15	.08	3.1	8	.07
5	6.1	20	.38	2.1	14	.08	3.7	6	.05
6	9.6	35	1.0	43	179	379	3.2	3	.02
7	4.4	26	.31	91	650	692	2.6	3	.02
8	3.1	26	.22	9.9	44	1.2	2.5	4	.03
9	2.8	27	.20	8.0	40	.86	2.5	5	.04
10	2.4	27	.17	61	598	221	2.5	6	.04
11	2.4	27	.18	36	195	23	2.6	8	.05
12	2.2	26	.16	14	34	1.4	2.8	9	.07
13	2.4	25	.16	9.0	9	.22	2.9	9	.07
14	2.4	21	.13	7.2	7	.13	3.0	6	.05
15	2.2	15	.09	6.2	5	.08	3.6	2	.02
16	2.1	10	.06	5.6	3	.04	3.9	2	.02
17	2.0	5	.03	5.3	3	.05	8.5	29	1.4
18	1.9	5	.02	5.5	5	.07	7.1	24	.51
19	1.9	6	.03	6.4	7	.11	3.5	12	.12
20	1.8	6	.03	4.6	12	.15	2.5	10	.07
21	2.7	6	.04	4.0	18	.20	2.2	7	.04
22	3.0	6	.05	3.7	23	.23	10	53	5.4
23	2.9	6	.05	3.5	20	.19	14	68	7.6
24	2.4	6	.04	3.5	15	.14	e8.1	e30	e.69
25	2.4	6	.04	3.3	13	.12	7.9	26	.61
26	6.6	35	2.8	3.2	12	.10	6.7	14	.28
27	8.4	52	1.4	3.0	10	.08	5.0	7	.09
28	3.2	30	.27	3.2	9	.08	6.0	7	.11
29	2.5	27	.18	2.9	8	.06	30	191	55
30	2.2	26	.16	2.8	6	.05	16	68	3.3
31	---	---	---	2.8	7	.05	---	---	---
TOTAL	96.3	---	8.74	359.9	---	1321.16	175.3	---	76.05

RIO JACAGUAS BASIN

50110900 RIO TOA VACA ABOVE LAGO TOA VACA, PR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	DISCHARGE (TONS/DAY)
	JULY			AUGUST			SEPTEMBER		
1	9.4	37	1.0	2.1	3	.04	28	212	43
2	7.4	20	.49	2.0	3	.03	24	139	18
3	6.1	5	.11	6.1	35	2.1	23	109	8.0
4	4.9	2	.05	2.9	31	.45	14	29	1.3
5	4.5	3	.06	2.3	8	.09	9.5	15	.44
6	3.7	4	.06	2.3	3	.04	8.8	17	.45
7	3.0	4	.07	2.2	3	.03	27	141	25
8	2.6	5	.08	2.0	2	.02	70	579	261
9	2.1	5	.09	1.7	3	.02	24	121	8.9
10	1.8	6	.09	1.9	4	.03	14	73	3.1
11	1.5	6	.09	2.2	4	.03	14	51	2.2
12	33	525	193	1.8	3	.02	9.7	44	1.4
13	11	74	5.2	1.6	3	.02	8.3	43	1.1
14	5.0	13	.39	1.4	2	.01	8.1	42	1.1
15	3.5	13	.33	1.5	3	.02	124	916	1220
16	2.9	14	.31	1.6	4	.02	41	188	23
17	2.6	14	.29	2.3	4	.03	36	227	35
18	2.3	15	.28	3.2	3	.03	24	258	17
19	2.2	13	.23	4.9	3	.04	16	241	11
20	2.1	10	.17	3.9	2	.03	60	542	201
21	2.0	8	.12	2.4	2	.01	36	102	12
22	2.1	6	.10	9.3	112	15	34	109	18
23	2.9	5	.09	84	750	301	59	403	125
24	2.9	4	.07	19	85	5.1	37	172	18
25	2.0	2	.04	11	17	.64	23	100	6.2
26	2.4	2	.04	20	92	12	17	57	2.6
27	1.9	3	.04	8.1	34	.90	17	55	3.1
28	1.5	3	.03	7.6	20	.47	13	44	1.6
29	2.2	2	.03	6.9	6	.14	11	32	.97
30	5.2	2	.06	5.1	4	.07	11	20	.57
31	2.7	2	.04	4.3	5	.08	---	---	---
TOTAL	139.4	---	203.05	227.6	---	338.51	841.4	---	2070.03
YEAR	4181.8		5682.81						

e Estimated

RIO TOA VACA BASIN

50111210 LAGO TOA VACA AT DAMSITE NEAR VILLALBA, PR

LOCATION.--Lat 18°06'07", long 66°29'23", Hydrologic Unit 21010004, in a concrete gate tower at Damsite on Río Toa Vaca, 0.45 mi (0.7 km) northwest from Escuela Higüero, 2.0 mi (3.2 km) south from Villalba Plaza.

DRAINAGE AREA.--22.0 mi² (57.9 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--August 1997 to current year.

GAGE.--Water stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Toa Vaca was completed in 1972. The dam is located in the Toa Vaca river just upstream from Guayabal reservoir. The Toa Vaca dam is a zoned earth and rockfill embankment structure. At crest elevation 555.00 ft (169.2 m) (Top of Dam), the dam is approximately 1,740 ft (530.3 m) long about 215 ft (65.53 m) height, and has a maximum storage capacity of about 67,759 ac-ft (83.55 hm³) at top of dam elevation. The Toa Vaca Dam is owned by the Puerto Rico Aqueduct and Sewer Authority and its primary purpose is to provide water for municipal and industrial use, and for irrigation of some of the lands served by the South Coast irrigation district thru the Juana Díaz canal. Gage-height and precipitation satellite telemetry at station.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 535.24 ft (163.14 m) Nov. 13, 1998; minimum elevation, 463.63 ft (141.31 m), Aug. 19, 2001.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 505.16 ft (153.97 m), Nov. 5; minimum elevation, 463.63 ft (141.31 m), Aug. 19.

Capacity Table
(based on data from Puerto Rico Electric Power Authority)

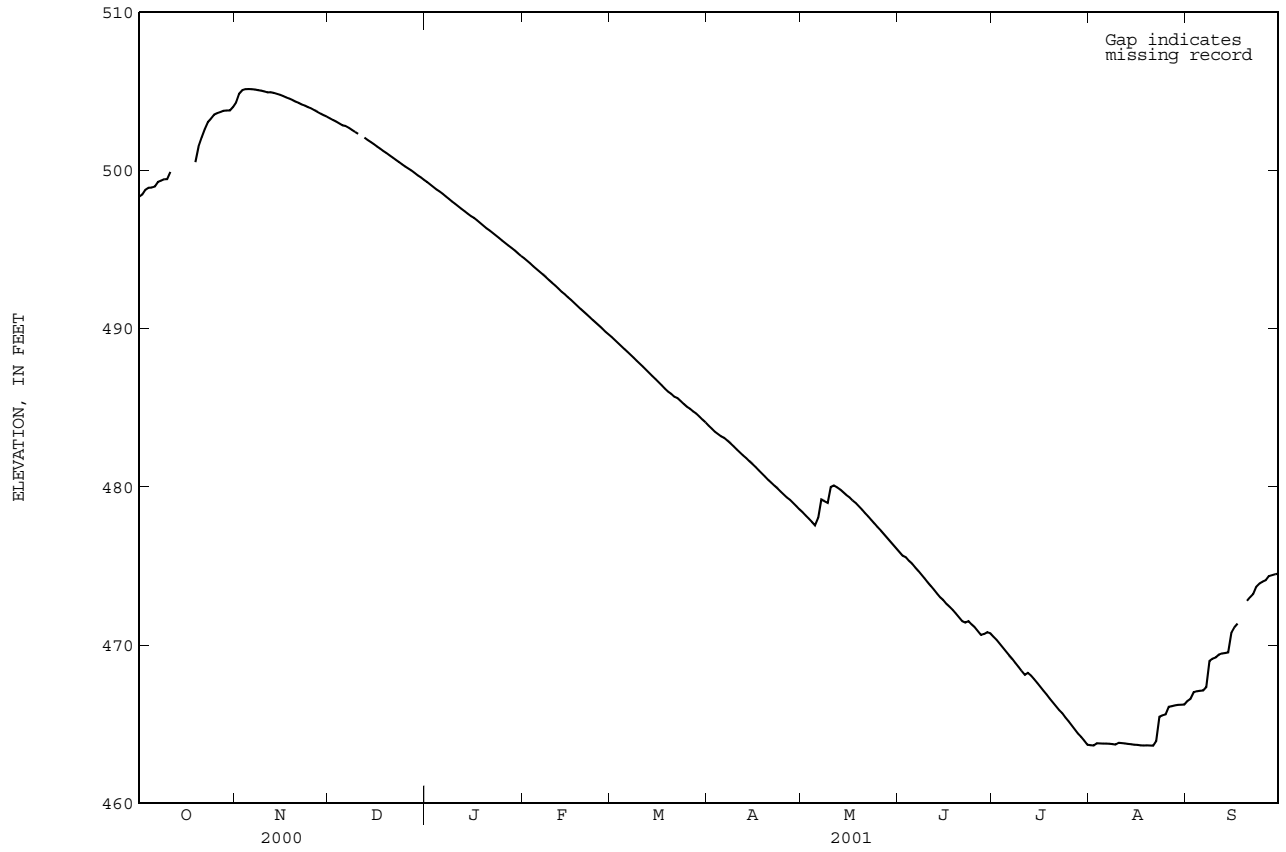
Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
345.00	0	489.80	23,756
488.70	23,259	531.20	48,362
		570.00	81,991

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	498.35	504.32	503.31	499.28	494.46	489.48	483.87	478.40	475.88	470.53	463.67	466.47
2	498.49	504.87	503.20	499.13	494.29	489.29	483.68	478.19	475.65	470.32	463.65	466.60
3	498.78	505.09	503.09	498.97	494.13	489.10	483.49	477.99	475.54	470.08	463.79	467.02
4	498.92	505.15	502.98	498.82	493.94	488.91	483.34	477.78	475.32	469.83	463.78	467.08
5	498.93	505.16	502.86	498.68	493.78	488.73	483.19	477.57	475.14	469.60	463.77	467.11
6	498.99	505.15	502.82	498.53	493.60	488.55	483.09	478.05	474.91	469.35	463.77	467.13
7	499.28	505.13	502.71	498.37	493.43	488.36	482.92	479.20	474.68	469.12	463.76	467.34
8	499.36	505.09	502.58	498.21	493.26	488.17	482.75	479.10	474.45	468.87	463.74	468.99
9	499.45	505.06	502.45	498.05	493.07	487.98	482.56	478.98	474.21	468.61	463.71	469.13
10	499.46	505.01	502.33	497.89	492.90	487.79	482.36	479.99	473.97	468.36	463.82	469.21
11	499.92	504.95	A	497.74	492.72	487.60	482.17	480.09	473.73	468.12	463.80	469.39
12	A	504.96	502.08	497.58	492.54	487.40	481.99	479.98	473.49	468.24	463.78	469.46
13	A	504.92	501.94	497.43	492.34	487.20	481.82	479.83	473.25	468.07	463.75	469.49
14	A	504.86	501.81	497.28	492.19	487.01	481.63	479.66	473.00	467.84	463.73	469.53
15	A	504.79	501.68	497.13	492.00	486.82	481.44	479.48	472.83	467.60	463.70	470.78
16	A	504.71	501.53	497.01	491.82	486.62	481.25	479.34	472.59	467.35	463.69	471.12
17	A	504.62	501.40	496.85	491.64	486.42	481.05	479.14	472.42	467.11	463.66	471.36
18	A	504.55	501.24	496.69	491.45	486.22	480.85	478.97	472.22	466.86	463.65	A
19	500.54	504.46	501.11	496.52	491.27	486.03	480.65	478.77	471.99	466.61	463.66	A
20	501.53	504.36	500.97	496.36	491.09	485.88	480.44	478.56	471.75	466.36	463.65	472.79
21	502.08	504.28	500.83	496.21	490.91	485.70	480.27	478.34	471.51	466.12	463.64	473.03
22	502.62	504.18	500.69	496.05	490.73	485.61	480.08	478.12	471.42	465.88	463.93	473.24
23	503.07	504.11	500.55	495.90	490.55	485.44	479.89	477.90	471.51	465.68	465.46	473.69
24	503.29	504.01	500.40	495.74	490.37	485.25	479.70	477.68	471.30	465.42	465.55	473.90
25	503.54	503.93	500.26	495.58	490.18	485.08	479.51	477.46	471.12	465.17	465.61	474.01
26	503.63	503.82	500.14	495.42	490.01	484.94	479.33	477.24	470.89	464.92	466.09	474.10
27	503.70	503.71	500.01	495.26	489.81	484.78	479.18	477.01	470.64	464.66	466.13	474.35
28	503.78	503.60	499.86	495.11	489.65	484.64	478.98	476.79	470.70	464.40	466.19	474.41
29	503.80	503.50	499.71	494.96	---	484.45	478.78	476.56	470.81	464.19	466.22	474.47
30	503.80	503.41	499.57	494.78	---	484.26	478.58	476.33	470.74	463.96	466.23	474.52
31	504.02	---	499.42	494.61	---	484.07	---	476.10	---	463.70	466.24	---
TOTAL	---	15135.76	---	15406.14	13778.13	15087.78	14438.84	14828.60	14187.66	14482.93	14395.82	---
MAX	---	505.16	---	499.28	494.46	489.48	483.87	480.09	475.88	470.53	466.24	---
MIN	---	503.41	---	494.61	489.65	484.07	478.58	476.10	470.64	463.70	463.64	---

A No gage-height record

RIO TOA VACA BASIN
50111210 LAGO TOA VACA AT DAMSITE NEAR VILLALBA, PR--Continued



RIO JACAGUAS BASIN

50111300 LAGO GUAYABAL AT DAMSITE NEAR JUANA DIAZ, PR

LOCATION.--Lat 18°05'17", long 66°30'09", Hydrologic Unit 21010004, at Damsite, 2.30 mi (3.70 km) northeast from Juana Díaz plaza, 0.70 mi (1.13 km) northeast from Escuela Salvador Bousquets and 2.45 mi (3.94 km) southeast from Escuela Zoilo Gracia.

DRAINAGE AREA.--43.3 mi² (42.1 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--April 1995 to current year.

GAGE.--Water stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Guayabal was completed in 1913. The dam is a reinforced concrete, flatslab and buttress-type structure about 130 ft (40 m) height, a net crest length at the right side of the dam of 693 ft (211 m) and a crest elevation of 331 ft (101 m). It has a maximum storage capacity of 7,600 acre-feet (9.37 hm³). The Guayabal Dam is owned by the Puerto Rico Electric Power Authority (P.R.E.P.A) and its primary purpose is for irrigation of lands served by the Juana Díaz Canal. Gage-height and precipitation satellite telemetry at station.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 342.24 ft (104.31 m), Sept. 01, 2000; minimum elevation, 325.99 ft (99.36 m), Sept. 29, 1997.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 341.95 ft (104.22 m), Sept. 20; minimum elevation, 336.59 ft (102.59 m), Aug. 19.

Capacity Table
(based on data from Puerto Rico Electric Power Authority)

Elevation, in feet		Contents, in acre-feet		Elevation, in feet		Contents, in acre-feet	
305		366		330		3,885	
321		2,010		341		7,360	

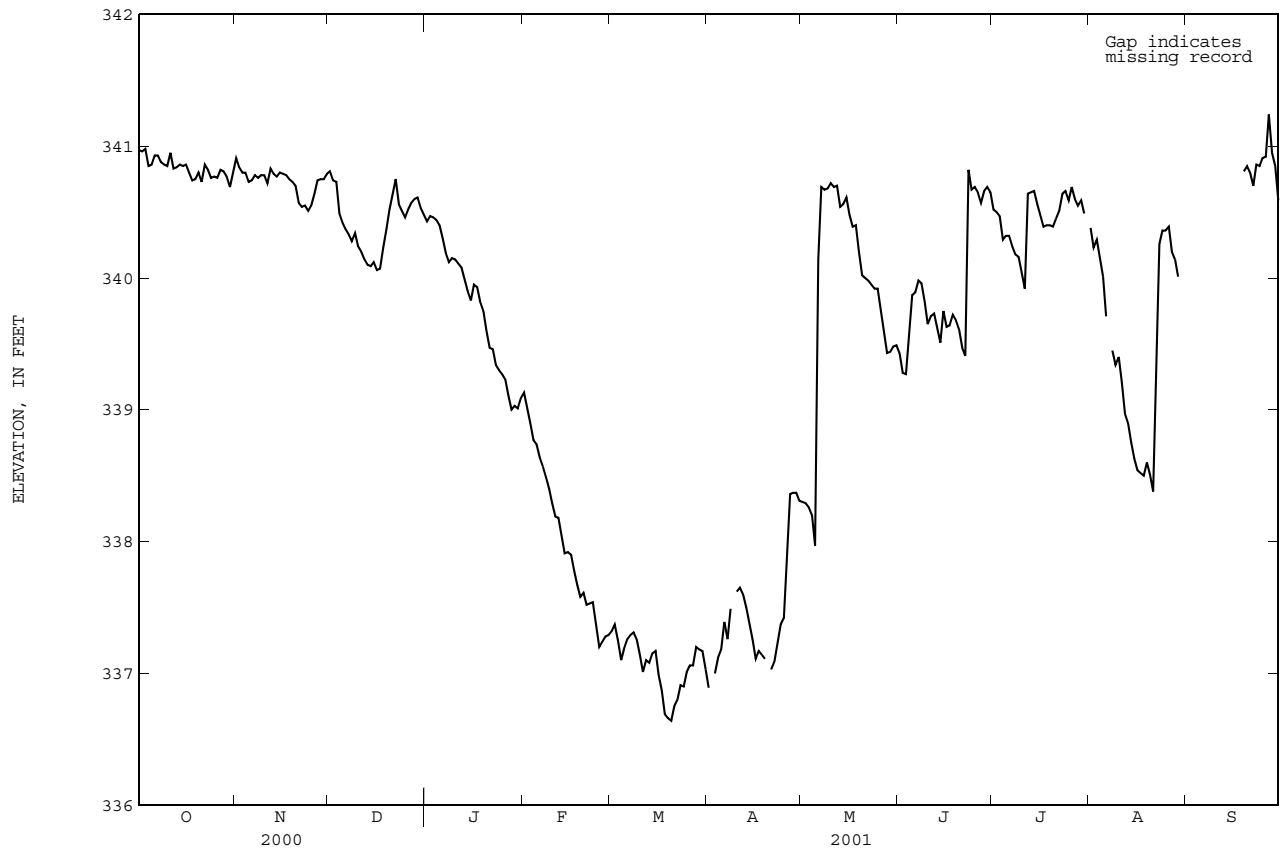
ELEVATION (FEET NGVD), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	340.97	340.91	340.81	340.43	339.13	337.32	336.89	338.30	339.43	340.52	340.38	A
2	340.96	340.84	340.74	340.47	339.01	337.37	A	338.29	339.28	340.50	340.23	A
3	340.98	340.80	340.73	340.46	338.90	337.25	337.00	338.26	339.27	340.47	340.29	A
4	340.85	340.80	340.49	340.44	338.77	337.10	337.12	338.20	339.53	340.29	340.15	A
5	340.86	340.73	340.42	340.40	338.74	337.19	337.18	337.97	339.87	340.32	340.01	A
6	340.93	340.74	340.37	340.30	338.64	337.26	337.39	340.14	339.89	340.32	339.71	A
7	340.93	340.78	340.33	340.19	338.57	337.29	337.26	340.69	339.98	340.24	A	A
8	340.88	340.76	340.28	340.12	338.49	337.31	337.49	340.67	339.96	340.18	339.45	A
9	340.86	340.78	340.34	340.15	338.40	337.26	A	340.68	339.82	340.16	339.34	A
10	340.85	340.78	340.24	340.14	338.29	337.14	337.62	340.72	339.65	340.04	339.40	A
11	340.95	340.72	340.20	340.11	338.19	337.01	337.65	340.69	339.71	339.92	339.21	A
12	340.83	340.83	340.14	340.08	338.18	337.10	337.60	340.70	339.73	340.64	338.97	A
13	340.84	340.79	340.10	339.99	338.04	337.08	337.50	340.54	339.62	340.65	338.90	A
14	340.86	340.77	340.09	339.90	337.91	337.15	337.38	340.56	339.51	340.66	338.75	A
15	340.85	340.80	340.12	339.83	337.92	337.17	337.26	340.61	339.75	340.56	338.63	A
16	340.86	340.79	340.06	339.95	337.90	336.99	337.11	340.48	339.63	340.47	338.54	A
17	340.80	340.78	340.07	339.93	337.78	336.87	337.17	340.39	339.64	340.39	338.52	A
18	340.74	340.75	340.23	339.82	337.67	336.69	337.14	340.40	339.72	340.40	338.50	A
19	340.75	340.73	340.37	339.75	337.58	336.66	337.11	340.20	339.68	340.40	338.60	340.81
20	340.80	340.70	340.52	339.60	337.61	336.64	A	340.02	339.61	340.39	338.51	340.85
21	340.73	340.57	340.64	339.47	337.52	336.75	337.03	340.00	339.47	340.45	338.38	340.80
22	340.86	340.54	340.75	339.46	337.53	336.80	337.09	339.98	339.41	340.51	339.39	340.70
23	340.82	340.55	340.56	339.34	337.54	336.91	337.24	339.95	340.82	340.64	340.26	340.86
24	340.76	340.51	340.51	339.30	337.37	336.90	337.37	339.92	340.67	340.66	340.36	340.85
25	340.77	340.55	340.46	339.27	337.20	337.01	337.42	339.92	340.69	340.59	340.36	340.91
26	340.76	340.64	340.52	339.23	337.24	337.06	337.94	339.74	340.65	340.69	340.39	340.92
27	340.82	340.74	340.57	339.11	337.28	337.06	338.36	339.58	340.57	340.60	340.20	341.24
28	340.81	340.75	340.60	339.00	337.29	337.20	338.37	339.43	340.66	340.55	340.14	340.95
29	340.77	340.75	340.61	339.03	---	337.18	338.37	339.44	340.69	340.59	340.01	340.85
30	340.69	340.79	340.53	339.01	---	337.17	338.31	339.48	340.65	340.49	A	340.59
31	340.80	---	340.48	339.09	---	337.03	---	339.49	---	A	A	---
MAX	340.98	340.91	340.81	340.47	339.13	337.37	---	340.72	340.82	---	---	---
MIN	340.69	340.51	340.06	339.00	337.20	336.64	---	337.97	339.27	---	---	---

A No gage-height record

RIO JACAGUAS BASIN

50111300 LAGO GUAYABAL AT DAMSITE NEAR JUANA DIAZ, PR--Continued



RIO JACAGUAS BASIN

50111500 RIO JACAGUAS AT JUANA DIAZ, PR

LOCATION.--Lat 18°03'16", long 66°30'40", Hydrologic Unit 21010004, on Highway 14 bridge, 0.4 mi (0.6 km) west of Juana Díaz plaza, and 4.0 mi (6.4 km) downstream from Lago Guayabal.

DRAINAGE AREA.--49.8 mi² (129.0 km²).

PERIOD OF RECORD.--March 1984 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 131 ft (40 m), from topographic map.

REMARKS.--Records poor. Flow regulation from Lago Guayabal. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	198	e187	e42	e16	e9.3	e6.3	e3.0	e5.5	20	26	22	38
2	138	e183	e37	e15	e9.6	e6.6	e3.1	e5.5	19	23	21	36
3	447	e319	e35	e15	e8.4	e6.4	e3.0	e5.5	19	22	21	64
4	233	e225	e33	e15	e7.5	e6.3	e3.5	e4.8	19	22	20	61
5	134	e141	e31	e15	e7.5	e5.7	e16	e4.0	21	21	20	40
6	139	e108	e30	e16	e7.5	e6.0	e28	e201	21	21	19	35
7	407	e94	e29	e16	e7.6	e4.8	e43	e406	21	21	19	43
8	153	e84	e28	e15	e7.1	e4.8	e19	e50	21	20	19	596
9	e181	e80	e27	e15	e6.6	e4.3	e10	42	21	20	18	144
10	e155	e75	e26	e15	e6.7	e3.8	e6.1	397	20	19	27	70
11	e137	e71	e25	e14	e6.3	e4.0	e4.3	143	20	19	19	59
12	e294	e71	e23	e14	e6.1	e3.5	e4.0	83	19	19	18	58
13	e227	e99	e20	e14	e5.8	e3.4	e4.0	57	19	32	17	50
14	e156	e72	e21	e14	e5.8	e3.4	e4.0	40	19	30	17	40
15	e132	e60	e23	e14	e6.0	e3.3	e3.9	38	20	30	17	36
16	e223	e56	e19	e13	e6.1	e4.8	e3.4	36	19	24	16	32
17	e186	e55	e17	e13	e6.1	e5.3	e3.0	33	19	23	16	30
18	e204	e51	e16	e11	e5.7	e4.8	e3.0	33	21	23	17	41
19	e136	e52	e16	e11	e5.3	e4.0	e2.8	30	19	22	17	35
20	163	e45	e15	e11	e5.4	e5.5	e2.9	27	18	22	16	184
21	291	e46	e14	e10	e5.7	e5.3	e5.7	25	18	22	17	58
22	204	e46	e13	e9.6	e6.2	e12	e7.1	24	18	22	27	41
23	170	e45	e13	e10	e7.7	e19	e7.1	23	29	23	520	37
24	110	e60	e13	e11	e10	e17	e4.4	23	48	30	97	42
25	209	e50	e19	e10	e8.9	e23	e4.5	22	29	33	88	38
26	108	e46	e30	e9.7	e7.2	e10	e25	21	28	29	105	39
27	89	e42	e23	e9.2	e6.5	e28	e36	21	26	35	71	70
28	91	e42	e20	e8.8	e6.3	e7.9	e8.7	21	55	26	46	60
29	80	e39	e18	e9.7	---	e5.1	e6.3	20	30	25	43	39
30	e70	e42	e17	e16	---	e3.9	e4.8	19	33	25	41	33
31	e66	---	e17	e9.8	---	e3.5	---	20	---	22	39	---
TOTAL	5531	2586	710	395.8	194.9	231.7	279.6	1880.3	709	751	1470	2149
MEAN	178	86.2	22.9	12.8	6.96	7.47	9.32	60.7	23.6	24.2	47.4	71.6
MAX	447	319	42	16	10	28	43	406	55	35	520	596
MIN	66	39	13	8.8	5.3	3.3	2.8	4.0	18	19	16	30
AC-FT	10970	5130	1410	785	387	460	555	3730	1410	1490	2920	4260
CFSM	3.58	1.73	.46	.26	.14	.15	.19	1.22	.47	.49	.95	1.44
IN.	4.13	1.93	.53	.30	.15	.17	.21	1.40	.53	.56	1.10	1.61

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2001, BY WATER YEAR (WY)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	129	97.6	35.3	23.0	9.42	5.71	13.6	64.6	38.0	21.4	28.7	88.8						
MAX	445	287	151	144	21.2	12.0	46.7	215	198	82.4	136	667						
(WY)	1986	1988	1988	1992	2000	2000	1998	1985	1987	1987	1998	1998						
MIN	4.31	7.57	6.20	1.71	1.98	1.95	1.84	1.46	.93	1.04	1.59	.76						
(WY)	1995	1995	1998	1998	1994	1994	1994	1994	1994	1994	1994	1997						

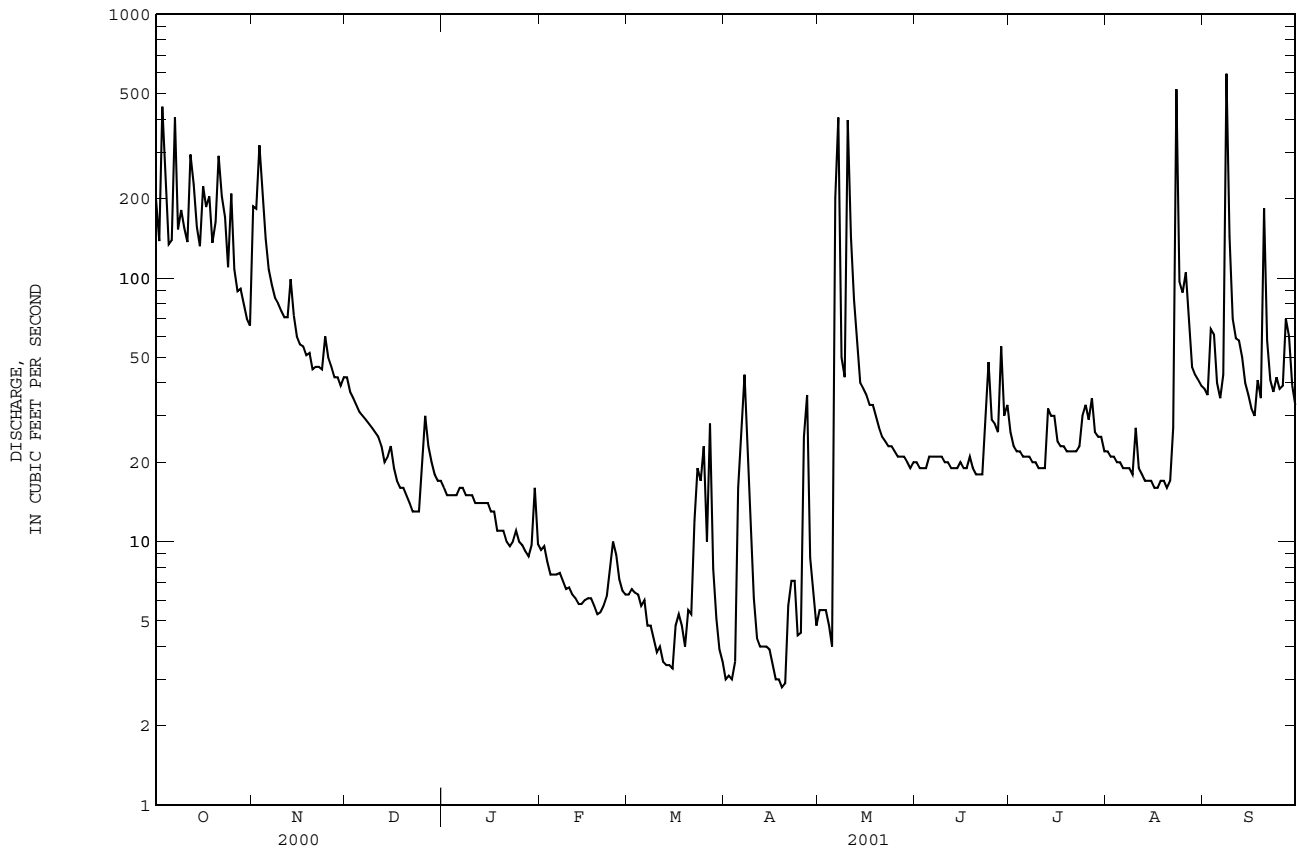
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1984 - 2001

ANNUAL TOTAL	17827.2	16888.3		
ANNUAL MEAN	48.7	46.3		47.3
HIGHEST ANNUAL MEAN				93.1
LOWEST ANNUAL MEAN				6.23
HIGHEST DAILY MEAN	1200	Sep 18	596	Sep 8
LOWEST DAILY MEAN	5.8	Aug 12	2.8	Apr 19
ANNUAL SEVEN-DAY MINIMUM	6.1	Aug 8	3.3	Apr 14
MAXIMUM PEAK FLOW			8080	Sep 8
MAXIMUM PEAK STAGE			15.87	Sep 8
ANNUAL RUNOFF (AC-FT)	35360	33500		34270
ANNUAL RUNOFF (CFSM)	.98	.93		.95
ANNUAL RUNOFF (INCHES)	13.32	12.62		12.90
10 PERCENT EXCEEDS	118	133		104
50 PERCENT EXCEEDS	20	21		10
90 PERCENT EXCEEDS	9.1	5.3		2.6

e Estimated

RIO JACAGUAS BASIN

50111500 RIO JACAGUAS AT JUANA DIAZ, PR--Continued



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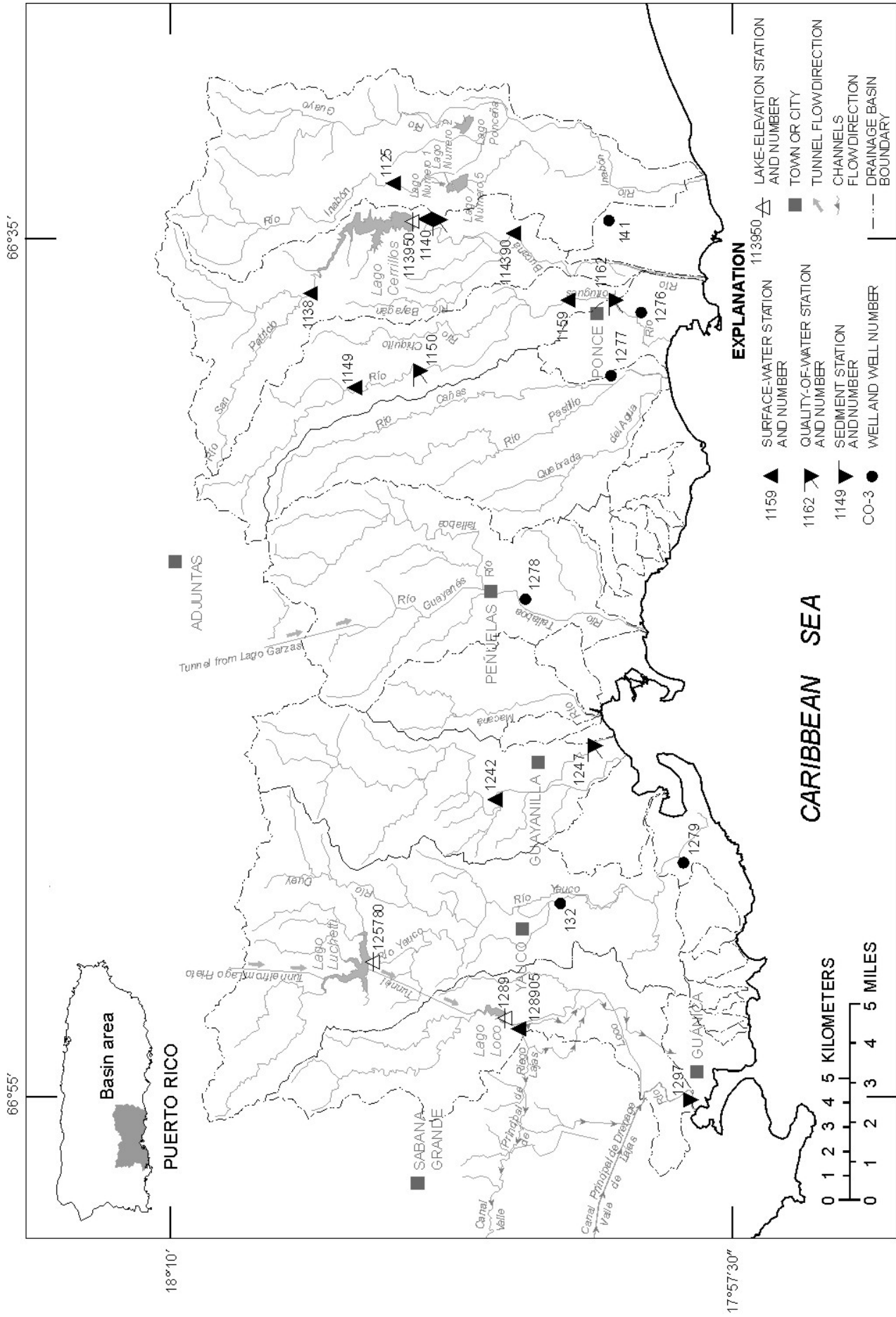


Figure 22. South coast river basins -- Río Inabón to Río Loco basins.

RIO INABON BASIN

50112500 RIO INABON AT REAL ABAJO, PR

LOCATION.--Lat 18°05'10", long 66°33'46", Hydrologic Unit 21010004, at bridge on private road, off Highway 511 at Hacienda La Concordia, 0.4 mi (0.6 km) upstream from diversion canal, 0.5 mi (0.8 km) north of Real Abajo, and 6.1 mi (9.8 km) northeast of Plaza Degetau in Ponce.

DRAINAGE AREA.--9.70 mi² (25.12 km²).

PERIOD OF RECORD.--1962-63 (annual low-flow measurements only), February to June 1964 (monthly measurements only), July 1964 to July 1970, April 1971 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 410 ft (125 m), from topographic map. Prior to April 1971 non-recording gage and crest-stage gage at different datum.

REMARKS.--Records fair, except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	44	e11	8.7	8.2	4.0	10	4.3	6.3	11	18	65
2	64	48	e11	8.4	8.1	4.1	11	4.5	5.7	10	18	40
3	108	31	e11	8.2	6.9	3.6	13	3.8	14	8.8	18	42
4	63	24	e11	8.2	6.3	3.7	15	3.3	57	8.0	19	41
5	61	21	e10	8.5	6.1	4.3	18	3.3	28	10	17	35
6	70	18	e10	8.6	6.7	4.3	23	75	17	9.7	17	33
7	85	18	10	8.3	6.9	4.9	15	35	12	9.1	17	38
8	60	16	10	8.1	6.3	4.9	12	11	8.6	9.7	16	86
9	41	15	10	8.5	6.2	4.2	12	8.9	8.7	11	16	72
10	36	14	11	8.2	6.0	3.7	11	89	11	11	19	55
11	32	13	12	8.0	6.3	3.4	10	42	11	e14	18	47
12	28	18	13	8.3	7.0	4.5	9.2	18	10	e37	17	91
13	24	16	11	8.5	6.7	4.2	9.7	12	10	e24	18	71
14	21	12	10	8.3	5.9	3.9	10	9.8	10	e96	40	53
15	21	e24	9.9	8.3	5.7	3.6	8.1	8.5	12	e63	28	65
16	31	e14	9.3	13	5.2	3.7	9.8	6.9	11	e22	20	60
17	24	11	10	14	4.8	3.2	8.5	6.1	11	e16	18	51
18	20	10	9.9	9.6	5.2	2.9	6.1	6.8	12	e23	18	47
19	17	10	9.8	8.8	5.4	2.9	4.2	9.2	12	e15	22	43
20	24	10	10	8.4	4.8	2.8	6.3	6.1	11	e13	20	65
21	51	9.8	10	8.0	4.5	2.7	4.1	5.6	10	e11	20	82
22	46	10	10	7.5	4.2	9.1	5.0	5.2	9.6	e64	128	66
23	38	e11	10	6.2	4.4	29	5.4	5.5	43	e71	234	71
24	30	e9.7	10	6.6	5.2	59	4.5	6.0	19	e45	75	58
25	39	e9.4	9.6	7.3	4.9	27	3.9	5.9	18	e23	74	49
26	32	e9.7	10	6.7	3.7	17	8.3	6.1	16	e20	67	47
27	28	e9.8	10	6.3	3.2	17	18	6.1	11	22	46	51
28	25	e9.6	9.4	6.0	3.2	17	5.4	8.3	12	19	40	47
29	37	e9.7	8.9	5.9	---	15	4.2	8.8	12	20	37	41
30	32	e16	8.8	12	---	13	4.9	7.3	13	21	38	39
31	26	---	8.9	7.1	---	12	---	6.9	---	19	35	---
TOTAL	1280	491.7	315.5	258.5	158.0	294.6	285.6	435.2	441.9	756.3	1188	1651
MEAN	41.3	16.4	10.2	8.34	5.64	9.50	9.52	14.0	14.7	24.4	38.3	55.0
MAX	108	48	13	14	8.2	59	23	89	57	96	234	91
MIN	17	9.4	8.8	5.9	3.2	2.7	3.9	3.3	5.7	8.0	16	33
AC-FT	2540	975	626	513	313	584	566	863	877	1500	2360	3270
CFSM	4.26	1.69	1.05	.86	.58	.98	.98	1.45	1.52	2.52	3.95	5.67
IN.	4.91	1.89	1.21	.99	.61	1.13	1.10	1.67	1.69	2.90	4.56	6.33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2001, BY WATER YEAR (WY)

MEAN	45.5	32.8	12.3	8.48	5.86	6.00	9.16	19.2	16.1	12.0	18.1	36.3
MAX	148	77.9	26.5	45.5	13.1	16.4	35.9	76.7	49.8	32.7	46.1	119
(WY)	1986	1978	1966	1992	1996	1972	1998	1969	1969	1979	1979	1975
MIN	14.5	8.32	4.43	4.11	3.05	1.85	2.76	1.94	2.75	1.77	4.47	6.16
(WY)	1994	1977	1977	1989	1977	1977	1975	1967	1967	1990	1974	1997

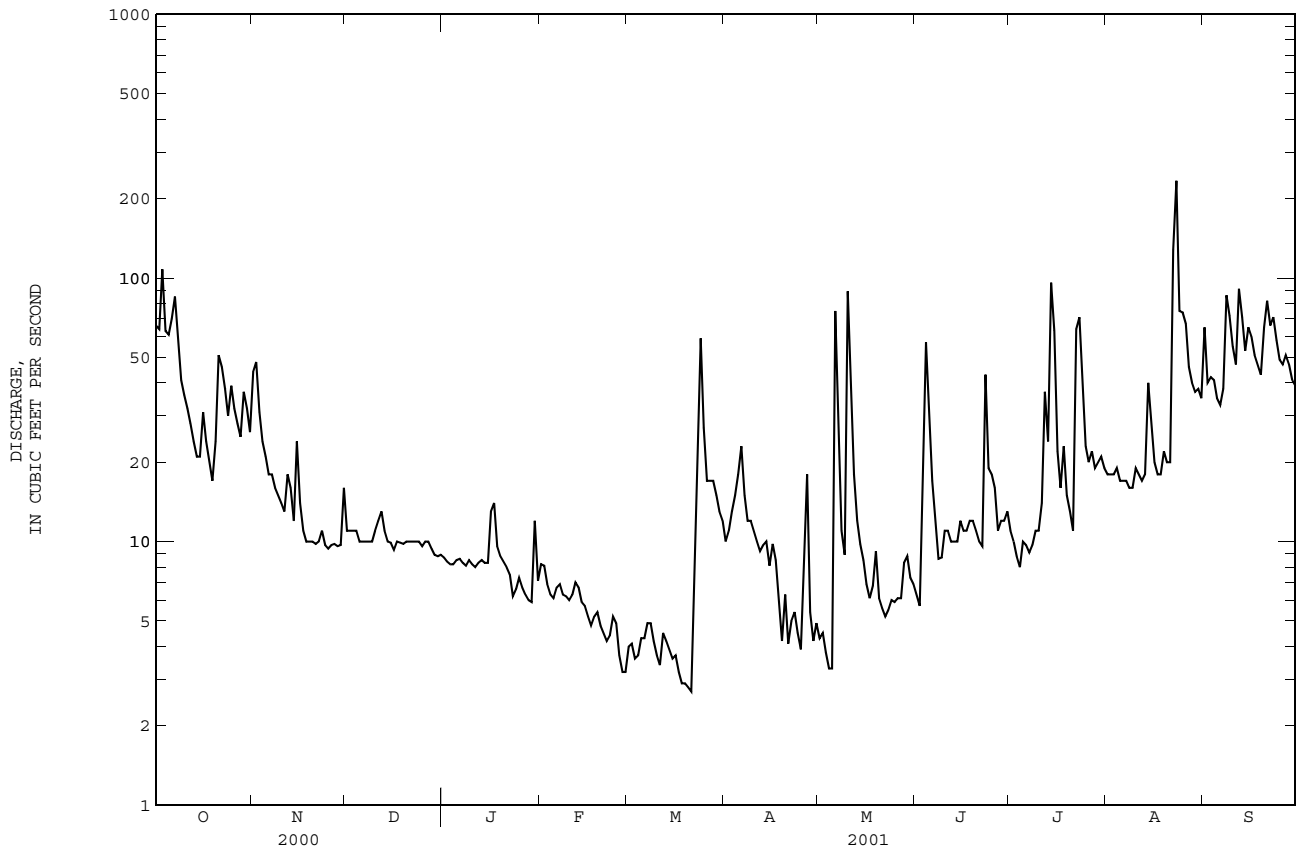
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1964 - 2001

ANNUAL TOTAL	6567.6	7556.3	
ANNUAL MEAN	17.9	20.7	18.4
HIGHEST ANNUAL MEAN			30.9
LOWEST ANNUAL MEAN			7.44
HIGHEST DAILY MEAN	352	Sep 18	2500
LOWEST DAILY MEAN	3.1	Aug 14	.80
ANNUAL SEVEN-DAY MINIMUM	3.6	Aug 9	3.1
MAXIMUM PEAK FLOW			979
MAXIMUM PEAK STAGE			10.63
ANNUAL RUNOFF (AC-FT)	13030	14990	13340
ANNUAL RUNOFF (CFSM)	1.85	2.13	1.90
ANNUAL RUNOFF (INCHES)	25.19	28.98	25.79
10 PERCENT EXCEEDS	40	51	41
50 PERCENT EXCEEDS	10	11	9.3
90 PERCENT EXCEEDS	4.6	4.8	3.3

e Estimated

RIO INABON BASIN

50112500 RIO INABON AT REAL ABAJO, PR--Continued



RIO BUCANA BASIN

50113800 RIO CERRILLOS ABOVE LAGO CERRILLOS NEAR PONCE, PR

LOCATION.--Lat 18°07'01", long 66°36'17", Hydrologic Unit 21010004, on right bank, 0.3 mi (0.5 km) downstream from confluence with Río San Patricio, 0.1 mi (0.2 km) southwest of Hwy 139 and 2.4 mi (3.7 km) northwest of Maragüez.

DRAINAGE AREA.-- 11.9 mi² (30.8 km²).

PERIOD OF RECORD.--December 1988 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 720 ft (210 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	e86	24	12	e9.0	e6.0	e6.9	11	e14	e14	e17	e190
2	82	91	22	11	e9.1	e6.6	e7.2	e11	e13	e13	e16	e122
3	102	79	22	12	e8.7	e6.0	e9.1	e10	e17	e12	e20	e144
4	88	66	21	11	e8.3	e5.6	e8.9	10	e44	e12	e20	e114
5	94	59	20	11	e8.1	e5.5	e9.3	e11	e27	e10	e16	e81
6	125	55	20	e11	e8.1	e5.4	e24	191	e19	e11	e16	e85
7	186	56	19	e11	e8.2	e5.5	e13	84	e16	e11	e14	e116
8	127	50	18	e11	e8.4	e5.4	e12	32	e15	e10	e15	e208
9	e99	47	18	e11	e8.4	e5.2	e11	27	e15	e9.9	15	e163
10	89	45	18	e11	e7.8	e5.0	e9.1	e144	e14	e25	15	e118
11	84	42	18	e10	e8.2	e5.0	e9.2	71	e15	e16	15	e108
12	71	69	18	e9.8	e8.2	e5.2	9.4	e36	e12	e33	14	e207
13	63	49	16	e9.8	e8.2	e5.1	9.1	e26	10	e27	13	e151
14	59	41	e15	e9.6	e7.5	e5.1	9.0	e19	9.8	e84	38	e82
15	58	65	15	e9.8	e6.8	e4.9	8.0	e17	16	e51	22	e79
16	75	44	14	e10	e6.9	e4.6	7.8	e17	12	e25	16	e62
17	71	37	e14	e10	e8.1	e4.6	7.6	e16	10	e20	15	e64
18	58	34	14	e9.6	e8.2	e4.6	7.3	e16	11	e24	15	e59
19	52	32	14	e9.2	e8.1	e4.6	7.2	e18	9.7	e18	27	e53
20	67	31	13	e9.0	e8.0	e5.0	8.8	e15	9.0	e17	18	e75
21	129	30	13	e8.8	e7.3	e5.3	8.7	e14	8.9	e16	e17	e141
22	e152	29	e12	e8.5	e6.7	e7.8	e9.1	e14	11	e44	125	e87
23	e174	29	13	e9.4	e7.6	e7.4	11	e14	56	e54	e261	e150
24	127	28	12	e8.6	e7.6	e19	11	e14	e31	e42	e150	e94
25	113	26	12	e8.4	e6.9	e10	10	e13	30	e26	e130	e67
26	95	26	13	e9.1	e6.4	e7.6	18	e14	e23	e34	e116	e78
27	82	25	13	e9.0	e5.8	e7.7	20	e14	e16	e27	e82	e81
28	76	24	12	e8.9	e5.8	e7.0	12	e15	e15	e23	e72	e71
29	97	24	11	e9.2	---	e7.4	9.1	e16	e16	e21	e61	e59
30	88	29	11	e11	---	e7.1	10	e14	e16	e19	e61	e53
31	73	---	11	e8.8	---	e7.1	---	e14	---	e17	e58	---
TOTAL	2948	1348	486	308.5	216.4	198.3	312.8	938	531.4	765.9	1490	3162
MEAN	95.1	44.9	15.7	9.95	7.73	6.40	10.4	30.3	17.7	24.7	48.1	105
MAX	186	91	24	12	9.1	19	24	191	56	84	261	208
MIN	52	24	11	8.4	5.8	4.6	6.9	10	8.9	9.9	13	53
AC-FT	5850	2670	964	612	429	393	620	1860	1050	1520	2960	6270
CFSM	7.99	3.78	1.32	.84	.65	.54	.88	2.54	1.49	2.08	4.04	8.86
IN.	9.22	4.21	1.52	.96	.68	.62	.98	2.93	1.66	2.39	4.66	9.88

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2001, BY WATER YEAR (WY)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	69.3	37.8	16.8	15.1	11.7	10.6	15.7	25.4	23.6	16.8	36.2	75.7	
MAX	154	75.0	27.5	59.0	26.1	27.5	40.7	68.2	46.4	26.7	83.3	196	
(WY)	1991	2000	2000	1992	1996	1989	1998	1993	1996	1991	1998	1998	
MIN	24.6	9.77	8.10	6.59	6.34	4.77	5.01	4.58	4.14	3.37	11.3	13.1	
(WY)	1992	1994	1995	1995	1990	1990	1997	1990	1997	1994	1994	1997	

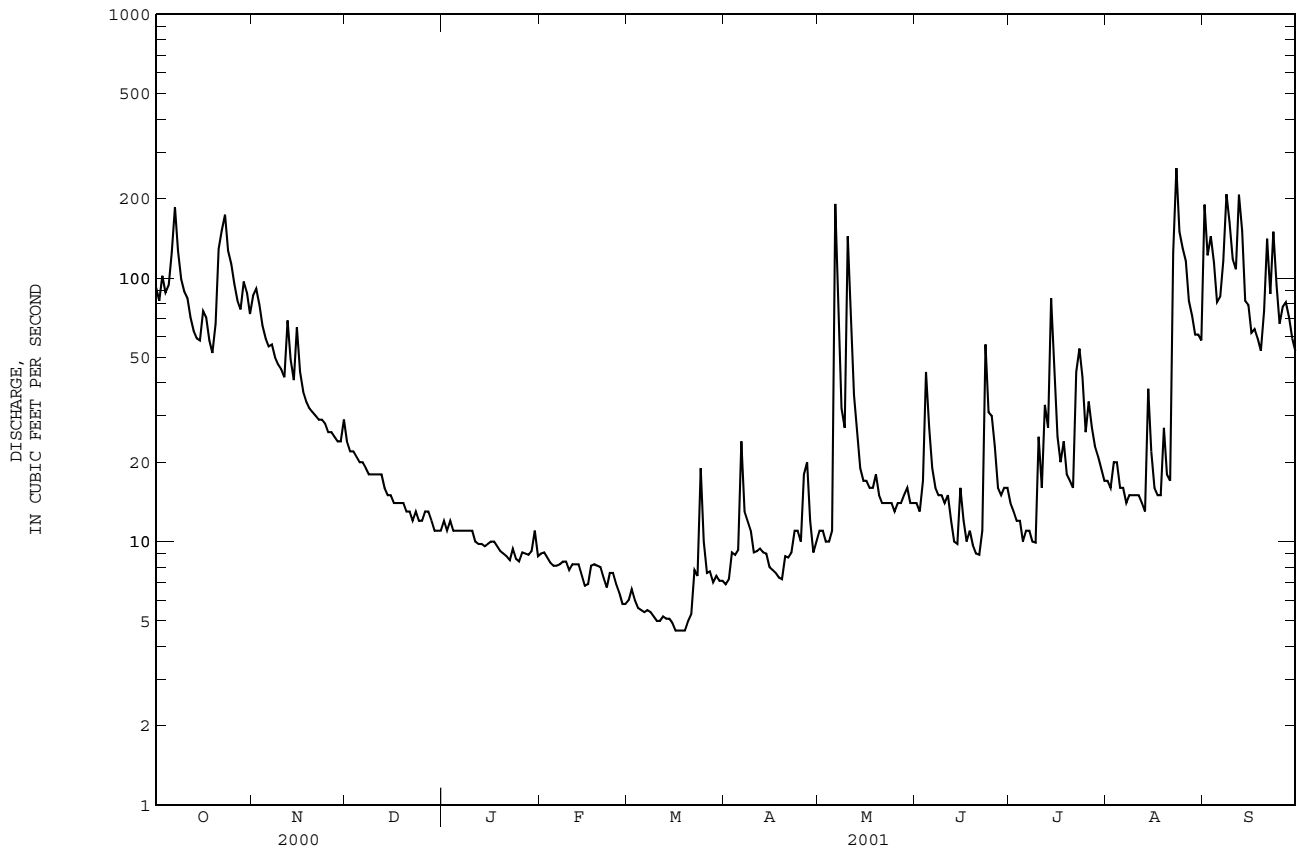
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1989 - 2001

ANNUAL TOTAL	10936.0	12705.3		
ANNUAL MEAN	29.9	34.8	29.5	
HIGHEST ANNUAL MEAN			43.9	1998
LOWEST ANNUAL MEAN			9.94	1994
HIGHEST DAILY MEAN	473	Sep 18	2510	Sep 22 1998
LOWEST DAILY MEAN	6.8	Apr 15	3.0	Jul 6 1994
ANNUAL SEVEN-DAY MINIMUM	7.6	Mar 21	4.8	Mar 14 1994
MAXIMUM PEAK FLOW			2830	May 6 1998
MAXIMUM PEAK STAGE			7.72	May 6 1998
INSTANTANEOUS LOW FLOW			12.42	Sep 21 1998
ANNUAL RUNOFF (AC-FT)	21690	25200	21380	3.0 Jul 6 1997
ANNUAL RUNOFF (CFSM)	2.51	2.93	2.48	
ANNUAL RUNOFF (INCHES)	34.19	39.72	33.69	
10 PERCENT EXCEEDS	76	90	69	
50 PERCENT EXCEEDS	14	15	14	
90 PERCENT EXCEEDS	8.3	7.4	5.4	

e Estimated

RIO BUCANA BASIN

50113800 RIO CERRILLOS ABOVE LAGO CERRILLOS NEAR PONCE, PR--Continued



RIO BUCANA BASIN

50113950 LAGO CERRILLOS AT DAMSITE NEAR PONCE, PR

LOCATION.--Lat 18°04'41", long 66°34'38", Hydrologic Unit 21010004, on left bank west from intake house of dam, 0.7 mi (1.1 km) southwest from Iglesia San Mateo at Real Abajo, 3.2 mi (5.1 km) northeast from Hospital de Distrito de Ponce, and 2.2 mi (3.5 km) northwest from Escuela Yuca.

DRAINAGE AREA.--17.4 mi² (45.1 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--October 1992 to current year.

REVISED RECORDS.--WDR PR-94-1: 1993,1994.

GAGE.--Water-stage recorder. Datum of gage is mean sea level.

REMARKS.--Lake is formed by Cerrillos Dam, a rockfilled ungated structure completed in 1992. Elevation of crest is 611 ft (186m) above mean sea level, with a structural height of 323 ft (98 m) and a length of 1,555 ft (474 m). The dam has a capacity of approximately 47,900 ac-ft (59.1 hm³). The dam is operated by U.S. Army Corps of Engineers and its purpose is for flood control, water supply, power generation, and recreation. Gage-height and precipitation satellite telemetry at station.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 602.84 ft (183.74 m), Sept. 22, 1998; minimum elevation, 416.63 ft (126.99 m), Oct. 1, 1992, (Revised).

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation,575.35 ft (175.36 m), May 8; minimum elevation, 543.25 ft(165.58 m),Sept. 30.

Capacity Table

(based on data from U.S. Army Corps of Engineers)

Elevation , in feet	Contents in acre-feet	Elevation, in feet	Contents in acre-feet
328	0	525	16,990
426	3,206	558	25,786
492	10,621	590	37,509

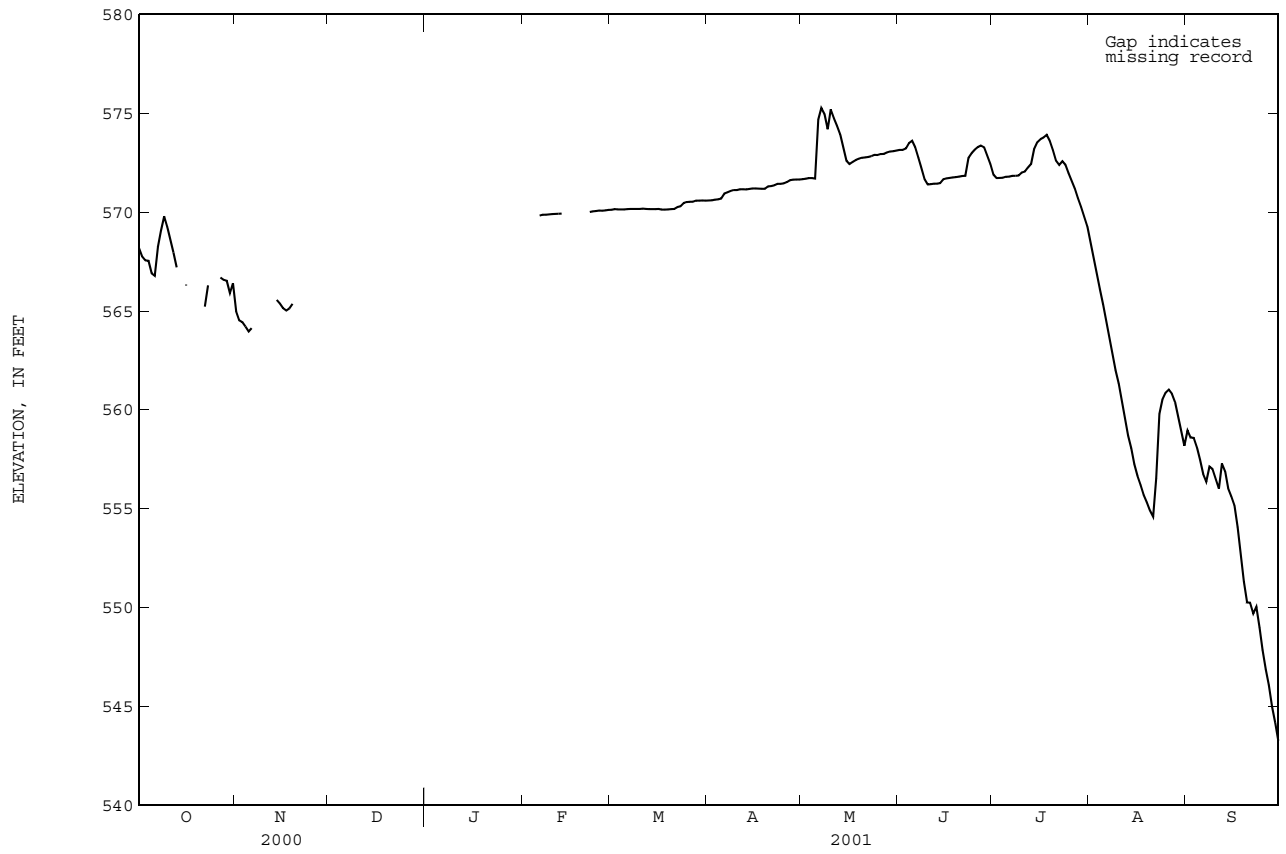
ELEVATION (FEET NGVD), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	568.19	564.97	A	A	A	570.12	570.59	571.67	573.15	571.90	568.51	558.96
2	567.75	564.53	A	A	A	570.15	570.60	571.69	573.15	571.72	567.73	558.60
3	567.56	564.43	A	A	A	570.14	570.63	571.72	573.22	571.73	566.93	558.58
4	567.54	564.21	A	A	A	570.14	570.65	571.72	573.49	571.74	566.11	558.09
5	566.90	563.96	A	A	A	570.14	570.69	571.70	573.61	571.79	565.34	557.48
6	566.78	564.13	A	A	569.82	570.15	570.94	574.69	573.29	571.80	564.50	556.75
7	568.25	A	A	A	569.87	570.16	571.00	575.27	572.75	571.84	563.67	556.37
8	569.07	A	A	A	569.87	570.16	571.07	574.96	572.21	571.84	562.84	557.13
9	569.79	A	A	A	569.89	570.16	571.12	574.19	571.66	571.85	562.00	557.01
10	569.26	A	A	A	569.90	570.16	571.12	575.20	571.40	572.00	561.32	556.52
11	568.60	A	A	A	569.91	570.18	571.16	574.75	571.42	572.05	560.45	556.01
12	567.95	A	A	A	569.92	570.16	571.16	574.38	571.44	572.25	559.56	557.28
13	567.21	A	A	A	569.93	570.15	571.15	573.94	571.44	572.44	558.71	556.89
14	A	565.56	A	A	A	570.15	571.17	573.28	571.47	573.19	558.06	556.03
15	A	565.38	A	A	A	570.15	571.20	572.61	571.66	573.54	557.26	555.62
16	566.31	565.14	A	A	A	570.16	571.20	572.44	571.71	573.69	556.66	555.17
17	A	565.02	A	A	A	570.13	571.19	572.54	571.73	573.77	556.19	554.06
18	A	565.13	A	A	A	570.13	571.18	572.64	571.76	573.91	555.70	552.77
19	A	565.36	A	A	A	570.14	571.18	572.70	571.77	573.61	555.32	551.31
20	A	A	A	A	A	570.15	571.30	572.75	571.80	573.13	554.91	550.26
21	A	A	A	A	A	570.16	571.32	572.77	571.83	572.61	554.60	550.24
22	565.22	A	A	A	570.01	570.26	571.36	572.79	571.84	572.39	556.53	549.69
23	566.29	A	A	A	570.04	570.30	571.43	572.83	572.75	572.57	559.79	550.03
24	A	A	A	A	570.06	570.46	571.43	572.90	572.98	572.40	560.52	548.98
25	A	A	A	A	570.08	570.51	571.46	572.89	573.16	571.97	560.87	547.84
26	A	A	A	A	570.07	570.53	571.52	572.94	573.29	571.59	561.02	546.86
27	566.69	A	A	A	570.09	570.53	571.62	572.95	573.37	571.19	560.82	546.07
28	566.58	A	A	A	570.11	570.58	571.64	573.02	573.28	570.71	560.39	544.99
29	566.53	A	A	A	--	570.58	571.65	573.07	572.86	570.26	559.68	544.16
30	565.90	A	A	A	--	570.59	571.65	573.08	572.44	569.77	558.90	543.26
31	566.40	--	A	A	--	570.58	--	573.12	--	569.27	558.18	--
MAX	--	--	--	--	--	570.59	571.65	575.27	573.61	573.91	568.51	558.96
MIN	--	--	--	--	--	570.12	570.59	571.67	571.40	569.27	554.60	543.26

A No gage-height record

RIO BUCANA BASIN

50113950 LAGO CERRILLOS AT DAMSITE NEAR PONCE, PR--Continued



LOCATION.--Lat 18°04'24", long 66°34'53", Hydrologic Unit 21010004, on right bank off Highway 139, 0.8 mi (1.3 km) below Lago Cerrillos Dam, 2.3 mi (3.7 km) upstream from Quebrada Ausubo and 4.6 mi (7.4 km) northeast of Plaza Degetau in Ponce.

DRAINAGE AREA.--17.8 mi² (46.1 km²), excludes 17.4 mi² (45.1 km²) upstream from Lago Cerrillos Dam.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February to April 1964 (monthly measurements only), May 1964 to June 1985, July 1985 to April 1991 (semi-monthly measurements only), May 1991 to current year.

GAGE.--Water-stage recorder. Datum of gage is 253.10 ft (77.145 m), above mean sea level. Prior to March 22, 1977 at site 0.15 mi (0.24 km) upstream and datum 9.90 ft (3.018 m) higher.

REMARKS.--Records poor. Flow regulated by Lago Cerrillos Dam since May 1991. Gage-height and precipitation satellite telemetry at station. Prior to June 1985 some low-flow regulation by construction upstream. Maximum discharge prior to regulation, 22,400 ft³/s (634 m³/s), Sept. 16, 1975, gage-height, 11.2 ft (3.41 m), site and datum then in use from floodmarks, from rating curve extended above 150 ft³/s (4.25 m³/s), on basis of slope-area measurements of peak flow; minimum discharge prior to regulation, 2.2 ft³/s (0.062 m³/s), May 28, 1967.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e163	e342	e5.0	e4.5	e5.8	e4.4	e4.0	e4.4	e2.6	e221	296	250
2	e309	e354	e4.9	e4.4	e5.5	e4.5	e4.0	e4.6	e2.7	e169	294	246
3	e301	e336	e4.5	e4.6	e5.5	e4.4	e4.7	e4.3	e2.9	e13	257	252
4	e302	e238	e4.5	e5.5	e5.3	e4.5	e5.0	e4.2	e4.3	e4.2	256	253
5	e309	e229	e4.2	e4.3	e5.3	e4.4	e5.4	e4.3	e3.9	e3.1	247	251
6	e297	e87	e4.2	e4.1	e5.4	e4.3	e6.8	29	e36	e3.1	249	244
7	e185	e10	e4.2	e4.2	e4.8	e4.2	e5.4	152	e187	e3.2	247	241
8	e191	e8.9	e4.0	e4.1	e5.2	e4.2	e5.1	364	e195	e2.8	249	244
9	e175	e9.8	e4.3	e4.0	e5.3	e4.2	e5.0	600	e200	e2.4	246	251
10	e306	e8.7	e4.0	e4.0	e5.1	e3.9	e4.7	594	e165	e2.7	250	260
11	e301	e7.6	e3.9	e3.9	e5.7	e3.7	e5.5	550	e19	e2.5	249	257
12	e207	e7.8	e3.9	e3.9	e5.8	e3.7	e4.9	473	e5.1	e2.4	248	348
13	e299	e55	e3.6	e3.9	e5.7	e3.6	e5.2	401	e4.7	e2.5	244	368
14	e158	e153	e3.5	e3.9	e5.8	e3.5	e5.8	352	e4.4	e3.1	239	356
15	e158	e152	e3.7	e3.9	e6.0	e3.3	e5.6	277	e4.6	e2.7	242	230
16	e235	e149	e3.8	e8.3	e6.2	e3.3	e5.5	e78	e3.9	e2.4	157	235
17	e217	e104	e3.5	e4.7	e6.6	e3.3	e5.3	e14	e3.2	e2.6	100	379
18	e256	e20	e3.2	e4.2	e6.5	e3.5	e4.5	e4.9	e18	e2.2	100	414
19	e253	e6.7	e3.2	e4.1	e5.6	e3.4	e4.5	e3.9	e5.0	117	96	438
20	e182	e7.0	e4.3	e4.1	e5.0	e3.6	e5.1	e3.6	e4.9	195	97	e448
21	e160	e122	e3.5	e4.1	e5.7	e3.7	e6.8	e3.3	e4.6	200	99	e450
22	e151	e129	e3.3	e4.2	e5.3	e5.6	e6.2	e3.0	e4.6	208	114	e344
23	e131	e18	e3.0	e7.0	e5.4	e4.3	e5.5	e2.9	e8.5	74	128	e348
24	e119	e5.9	e3.2	e6.2	e5.9	e4.2	e5.3	e2.7	e5.8	146	109	e459
25	e224	e5.1	e3.0	e5.6	e5.4	e4.1	e5.4	e2.4	e5.0	217	112	e342
26	e230	e4.4	e7.2	e5.6	e5.0	e3.9	e5.8	e2.4	e4.2	212	91	e369
27	e228	e3.9	e5.4	e5.5	e5.0	e3.9	e5.4	e2.4	e4.3	210	91	e348
28	e139	e13	e4.6	e5.7	e5.1	e3.9	e5.1	e3.7	e29	211	181	e332
29	e130	e7.1	e4.5	e5.9	---	e4.1	e4.8	e3.0	e131	214	251	e266
30	e238	e5.3	e4.5	e5.9	---	e3.9	e4.6	e2.6	e248	232	250	e265
31	e302	---	e4.4	e5.2	---	e4.2	---	e2.5	---	241	251	---
TOTAL	6856	2599.2	127.0	149.5	154.9	123.7	156.9	3949.1	1317.2	2921.9	6040	9488
MEAN	221	86.6	4.10	4.82	5.53	3.99	5.23	127	43.9	94.3	195	316
MAX	309	354	7.2	8.3	6.6	5.6	6.8	600	248	241	296	459
MIN	119	3.9	3.0	3.9	4.8	3.3	4.0	2.4	2.6	2.2	91	230
AC-FT	13600	5160	252	297	307	245	311	7830	2610	5800	11980	18820
CFSM	12.4	4.87	.23	.27	.31	.22	.29	7.16	2.47	5.30	10.9	17.8
IN.	14.33	5.43	.27	.31	.32	.26	.33	8.25	2.75	6.11	12.62	19.83

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2001, BY WATER YEAR (WY)

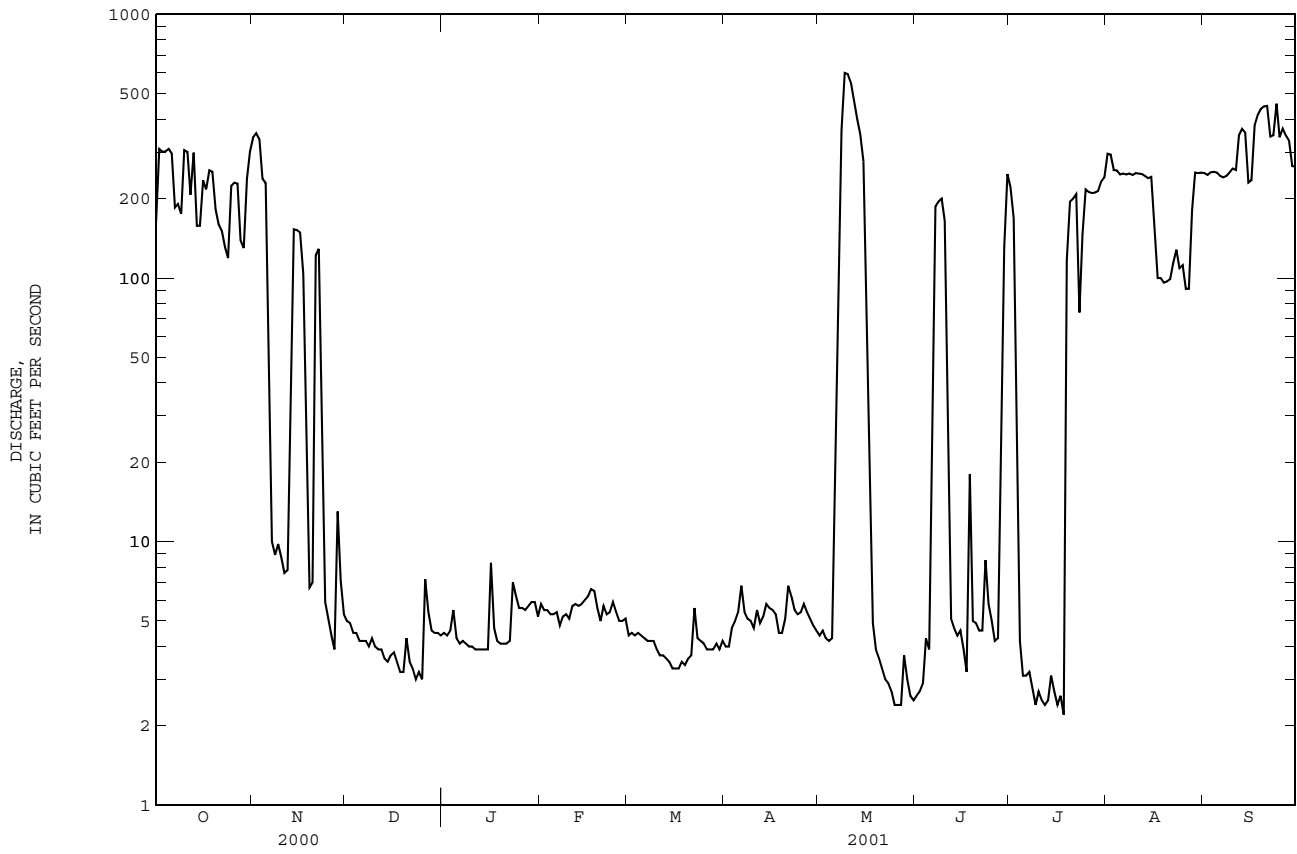
MEAN	62.3	42.3	10.0	14.4	7.08	8.29	10.6	39.3	27.2	21.5	47.5	95.3
MAX	221	137	20.5	74.2	14.7	17.9	31.0	127	107	94.3	195	316
(WY)	2001	2000	1999	1992	1992	1997	1999	2001	1999	2001	2001	2001
MIN	4.93	5.21	4.10	4.42	4.37	3.99	5.23	4.18	3.69	4.75	5.26	4.52
(WY)	1996	1996	2001	1998	1993	2001	2001	1998	1995	1995	1995	1997

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1991 - 2001	
ANNUAL TOTAL	22037.2		33883.4			
ANNUAL MEAN	60.2		92.8		33.4	
HIGHEST ANNUAL MEAN					92.8	
LOWEST ANNUAL MEAN					5.35	
HIGHEST DAILY MEAN	354	Nov 2	600	May 9	900	Jan 6 1992
LOWEST DAILY MEAN	2.9	Mar 14	2.2	Jul 18	.64	Aug 19 1992
ANNUAL SEVEN-DAY MINIMUM	3.4	Mar 13	2.6	Jul 12	1.7	Aug 24 1992
MAXIMUM PEAK FLOW			1220		1320	
MAXIMUM PEAK STAGE			5.66		7.74	
ANNUAL RUNOFF (AC-FT)	43710		67210		24180	
ANNUAL RUNOFF (CFSM)	3.38		5.22		1.87	
ANNUAL RUNOFF (INCHES)	46.06		70.81		25.47	
10 PERCENT EXCEEDS	213		284		102	
50 PERCENT EXCEEDS	5.4		5.6		5.9	
90 PERCENT EXCEEDS	4.0		3.3		4.1	

e Estimated

RIO BUCANA BASIN

50114000 RIO CERRILLOS NEAR PONCE, PR--Continued



RIO BUCANA BASIN

50114000 RIO CERRILLOS NEAR PONCE, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°04'15", long 66°34'51", Hydrologic unit 21010004, on right bank off Highway 139, 2.3 mi (3.7 km) upstream from Quebrada Ausubo and 4.6 mi (7.4 km) northeast of Plaza Degetau in Ponce.

DRAINAGE AREA.--17.8 mi² (46.1 km²)

PERIOD OF RECORD.--Water years 1964 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, CHEM-ICAL (PER-CENT (HIGH LEVEL) (MG/L) (00301)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL AS (MG/L) (00900)	CALCIUM DIS-SOLVED AS (MG/L) (00915)	
OCT	17...	1245	296	241	8.0	25.5	4.0	8.0	98	<10	E20	E45	99	30.9
FEB	02...	1155	5.5	321	8.1	26.3	.8	8.3	103	<10	<10	E120	--	--
MAY	14...	1145	--	246	7.6	24.4	26	7.4	89	<10	<40	230	96	29.8
SEP	11...	1250	--	259	7.6	24.8	--	739	8970	<10	<60	<140	110	35.4

DATE	MAGNE-SIUM, DIS-SOLVED AS (MG) (00925)	SODIUM, DIS-SOLVED AS (NA) (00930)	SODIUM, AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED AS (K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED AS (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	
OCT	17...	5.32	7.9	.3	1.19	102	<1.0	12.1	7.0	<.2	20.1	146	116	<10
FEB	02...	--	--	--	--	125	--	--	--	--	--	--	--	<10
MAY	14...	5.19	8.0	.4	1.20	95	<1.0	12.1	6.9	<.2	16.1	136	--	35
SEP	11...	5.98	8.9	.4	1.09	110	--	11.2	7.2	<.2	17.6	153	--	<10

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	
OCT	17...	--	<.01	.2	.01	.37	.38	.59	2.6	<.020	<2	21.1	E15	<.11
FEB	02...	--	<.01	.1	.02	.18	.20	.33	1.5	<.020	--	--	--	--
MAY	14...	--	<.01	.3	.04	.30	.34	.66	2.9	.030	M	25.5	E17	E.08
SEP	11...	.09	.02	.1	.11	--	<.20	--	--	<.020	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)	
OCT	17...	M	<20.0	170	<1	180	<.14	<2.6	<.43	<31	<.01	<16	<.02
FEB	02...	--	--	--	--	--	--	--	--	--	--	--	--
MAY	14...	<1	<20.0	470	<1	66	<.01	<2.6	<.43	<31	<.01	<16	<.02
SEP	11...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
 E -- Estimated value
 M -- Presence verified, not quantified

RIO BUCANA BASIN

50114390 RIO BUCANA AT HWY 14 BRIDGE NEAR PONCE, PR

LOCATION.--Lat 18°02'29", long 66°34'58", Hydrologic Unit 21010004, on left bank, 200 ft (61 m) upstream from bridge on Highway 14 and 4.0 mi (6.4 km) downstream from Lago Cerrillos Dam, 2.8 mi (4.5 km) northeast of Degetau Plaza in Ponce.

DRAINAGE AREA.--24.9 mi² (64.5 km²).

PERIOD OF RECORD.--October 1985 to September 1986 (maximum only), published as "Río Bucaná Floodway Channel at Highway 14 bridge", October 1986 to July 1987 (maximum only), August 1987 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 116.40 ft (35.500 m) above mean sea level. Prior to Oct.1, 1986, crest-stage gage located at Highway 14 bridge, at elevation of mean sea level.

REMARKS.--Records poor. Flow regulated by Lago Cerrillos Dam 4.0 mi upstream. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	181	e335	5.8	4.6	5.5	4.1	3.7	e4.4	e4.0	195	225	e205
2	305	e348	5.6	4.5	5.3	4.2	3.7	e4.6	e4.1	145	225	e198
3	297	e330	5.3	4.7	5.3	4.1	4.4	e4.3	e4.3	13	222	e207
4	297	e234	5.3	5.6	5.1	4.2	4.8	e4.2	e5.7	5.6	223	e209
5	304	e225	5.1	4.4	5.1	4.1	5.0	e4.3	e5.3	4.4	223	e205
6	293	e89	5.1	4.3	5.1	4.0	6.4	e81	e36	4.4	222	204
7	182	e12	5.0	4.3	4.9	3.9	5.1	e150	162	4.6	227	205
8	189	e11	4.9	4.2	4.9	3.9	4.8	e133	168	4.2	228	208
9	174	12	5.1	4.1	5.0	3.9	4.8	e316	171	3.8	225	211
10	302	11	4.9	4.1	4.8	3.7	4.4	e316	e139	4.0	222	209
11	296	9.9	4.8	4.0	5.3	3.5	5.2	e321	e18	3.9	215	273
12	204	10	4.7	4.0	5.4	3.4	4.6	e166	e6.4	3.8	216	375
13	293	57	4.5	4.0	5.3	3.4	4.8	e164	e5.9	3.8	220	423
14	158	155	e4.4	4.0	5.4	3.3	5.4	e230	e5.7	4.5	210	412
15	157	154	4.6	4.0	5.6	3.0	5.3	e217	e6.0	4.1	217	205
16	232	152	4.4	8.4	5.8	3.2	5.1	e113	e5.2	3.8	157	215
17	e215	106	4.2	4.8	6.2	3.2	4.9	e14	e4.6	4.0	105	417
18	e253	22	3.9	4.4	6.0	3.3	4.2	e6.3	e18	3.6	95	464
19	e249	9.3	e3.9	4.3	5.2	3.2	4.2	e5.4	e6.4	49	96	493
20	e180	8.8	e4.9	4.3	4.6	3.4	4.8	e4.9	e6.3	194	94	492
21	e159	124	4.2	4.3	5.3	3.5	6.4	e4.7	e5.9	194	102	496
22	e150	130	4.0	4.4	4.9	5.2	5.9	e4.4	e5.7	193	192	326
23	e131	20	3.6	6.8	5.0	4.0	5.1	e4.3	e9.9	135	577	333
24	e118	8.0	3.9	6.0	5.5	3.9	4.9	e4.2	e7.3	65	99	547
25	e220	7.3	3.7	5.4	5.0	3.8	5.0	e3.9	e6.4	199	96	437
26	e227	6.6	7.6	5.4	4.7	3.7	5.4	e3.7	e5.6	207	93	483
27	e225	6.1	6.0	5.3	4.7	3.7	5.0	e3.8	e5.7	208	91	479
28	e138	14	4.7	5.4	4.8	3.7	4.5	e5.0	29	200	123	461
29	e130	7.9	4.6	5.6	---	3.8	4.5	e4.3	131	199	205	263
30	e235	6.1	4.6	5.6	---	3.6	4.4	e4.0	223	196	e204	262
31	e297	---	4.5	5.0	---	3.9	---	e3.9	---	202	e205	---
TOTAL	6791	2621.0	147.8	150.2	145.7	115.8	146.7	2305.6	1211.4	2656.5	5854	9917
MEAN	219	87.4	4.77	4.85	5.20	3.74	4.89	74.4	40.4	85.7	189	331
MAX	305	348	7.6	8.4	6.2	5.2	6.4	321	223	208	577	547
MIN	118	6.1	3.6	4.0	4.6	3.0	3.7	3.7	4.0	3.6	91	198
AC-FT	13470	5200	293	298	289	230	291	4570	2400	5270	11610	19670
CFSM	8.80	3.51	.19	.19	.21	.15	.20	2.99	1.62	3.44	7.58	13.3
IN.	10.15	3.92	.22	.22	.22	.17	.22	3.44	1.81	3.97	8.75	14.82

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2001, BY WATER YEAR (WY)

MEAN	124	68.4	15.1	33.8	9.81	12.8	13.8	33.4	37.5	25.8	83.5	172
MAX	527	222	49.1	337	19.3	48.0	42.5	132	194	85.7	417	756
(WY)	1991	1988	1988	1992	1995	1989	1992	2000	1999	2001	1998	1998
MIN	6.34	5.09	4.77	4.51	4.10	3.74	4.74	4.29	4.90	3.96	4.06	5.66
(WY)	1996	1994	2001	1994	1994	2001	1994	1994	1994	2000	1994	1997

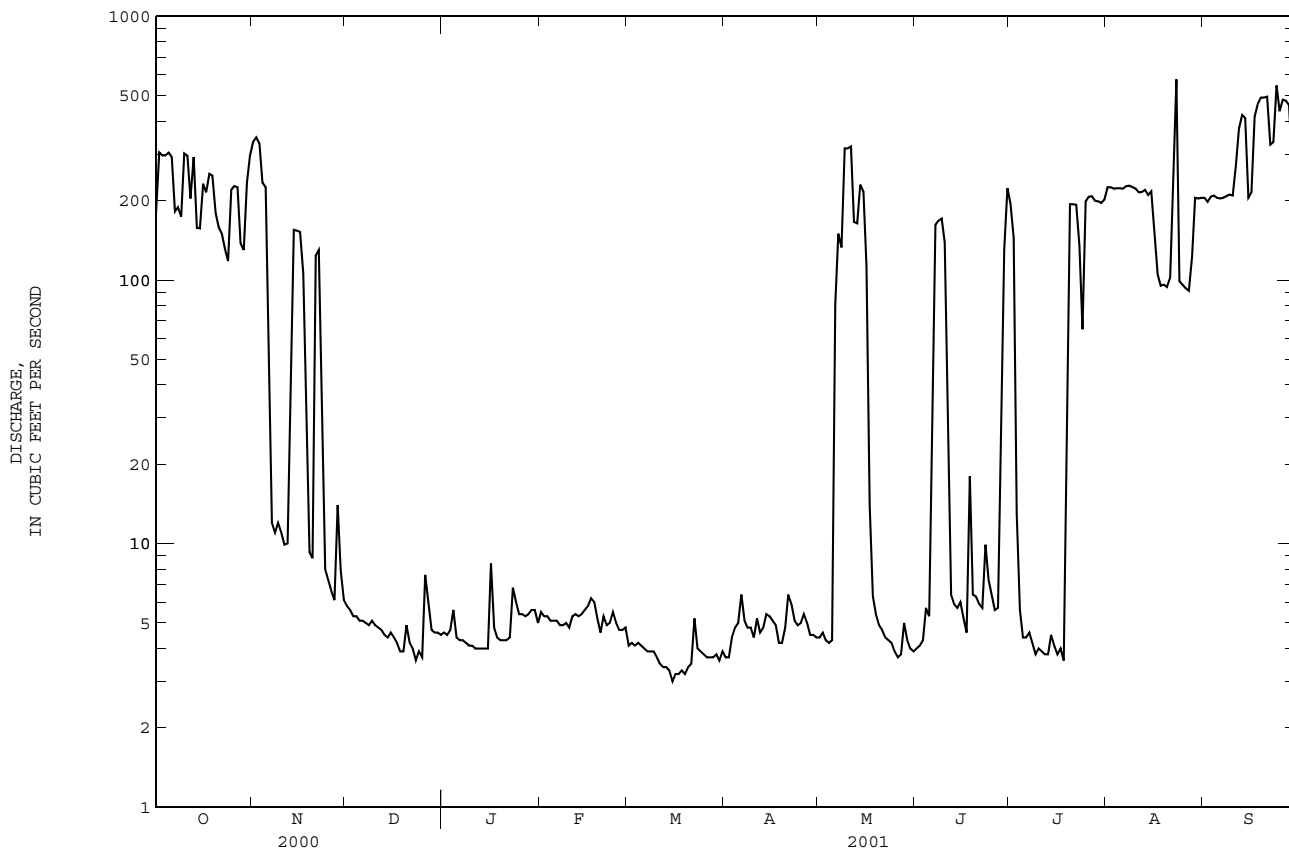
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1987 - 2001

ANNUAL TOTAL	25180.6		32062.7		53.8	
ANNUAL MEAN	68.8		87.8		113	
HIGHEST ANNUAL MEAN					1998	
LOWEST ANNUAL MEAN					7.43	
HIGHEST DAILY MEAN	1240		577		4340	
LOWEST DAILY MEAN	3.5		3.0		2.3	
ANNUAL SEVEN-DAY MINIMUM	3.6		3.2		2.8	
MAXIMUM PEAK FLOW			3680		17400	
MAXIMUM PEAK STAGE			13.17		13.48	
ANNUAL RUNOFF (AC-FT)	49950		63600		38960	
ANNUAL RUNOFF (CFSM)	2.76		3.53		2.16	
ANNUAL RUNOFF (INCHES)	37.62		47.90		29.34	
10 PERCENT EXCEEDS	226		241		128	
50 PERCENT EXCEEDS	6.0		5.7		8.6	
90 PERCENT EXCEEDS	3.9		3.9		4.5	

e Estimated

RIO BUCANA BASIN

50114390 RIO BUCANA AT HWY 14 BRIDGE NEAR PONCE, PR--Continued



50114900 RIO PORTUGUES NEAR TIBES, PR

LOCATION.--Lat 18°06'00", long 66°38'34", Hydrologic Unit 21010004, 1.6 mi (2.6 km), north from Escuela Segunda unidad of Corral Viejo, 0.3 mi (0.50 km) south from Hacienda Burenes and 6.0 mi (9.6 km) north east from Peñuelas Plaza Church.

DRAINAGE AREA.--7.27 mi² (18.83 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1997 to current year

GAGE.--Water-stage recorder. Elevation of gage is 918 ft (280 m), from topographic map.

REMARKS.--Records poor. Some low-flow regulation due to PRASA intakes (2) 0.85 mi (1.36 km) upstream from station. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	28	e14	e7.4	e4.9	4.5	3.2	4.4	6.9	9.1	6.3	61
2	46	28	e13	e6.3	e5.0	5.3	3.4	4.2	6.6	8.8	6.3	33
3	50	23	e13	e7.4	e4.6	4.3	6.9	4.0	6.8	8.3	6.1	28
4	50	19	e12	e6.3	e4.1	4.2	5.1	4.0	9.8	7.9	6.0	25
5	50	17	e12	e6.2	e3.9	4.2	5.2	3.9	8.0	7.4	5.8	19
6	59	16	e12	e6.3	e3.9	4.1	25	135	7.4	7.4	6.0	20
7	85	16	e11	e6.3	e4.1	3.9	7.4	64	6.9	7.3	5.8	22
8	70	14	e11	e6.3	e4.2	3.7	8.9	12	6.5	7.1	6.0	40
9	62	13	e10	e6.3	e4.4	3.7	6.4	7.3	6.3	7.5	5.6	29
10	52	13	e10	e6.3	4.2	3.7	4.9	35	6.2	8.0	5.8	27
11	51	12	e10	e5.4	4.2	3.7	4.8	21	6.4	6.4	5.1	30
12	39	19	e10	e5.3	4.2	3.6	4.3	13	6.1	6.8	4.7	54
13	33	15	e9.5	e5.3	4.2	3.7	5.3	10	6.0	6.7	4.5	34
14	30	14	e9.4	e5.1	4.2	3.7	4.7	9.2	5.9	12	5.4	39
15	29	71	e9.6	e5.3	4.2	3.6	4.2	8.6	8.5	11	5.5	27
16	48	34	e8.7	e5.5	4.2	3.5	4.0	8.3	7.6	8.1	5.2	31
17	36	22	e8.4	e5.5	4.2	3.3	3.8	8.4	6.3	7.4	5.1	26
18	29	19	e8.3	e5.1	4.2	3.3	3.8	9.4	5.9	13	5.1	24
19	24	18	e8.5	e4.6	4.1	3.3	3.7	9.3	6.2	8.7	10	24
20	37	18	e7.4	e4.4	4.1	3.6	4.5	8.1	6.8	7.3	8.2	26
21	55	e18	e7.4	e4.2	4.2	3.7	4.7	7.7	6.7	7.0	8.7	83
22	65	e17	e7.0	e4.1	4.4	7.0	4.9	7.5	6.7	14	24	29
23	83	e17	e7.5	e5.1	5.1	5.6	6.8	7.4	15	16	94	31
24	59	e16	e7.0	e4.2	5.3	5.3	6.0	7.4	12	18	39	20
25	45	e14	e6.9	e4.0	5.0	4.8	4.8	7.2	11	15	27	16
26	39	e14	e7.7	e4.8	4.4	4.0	5.2	7.0	9.2	40	26	25
27	32	e14	e7.7	e4.7	4.3	4.0	e7.7	6.8	9.1	15	19	41
28	29	e14	e7.0	e4.5	4.3	3.8	4.9	8.5	9.1	8.8	16	e29
29	39	e14	e6.3	e5.0	---	3.8	4.4	7.4	9.2	8.7	14	19
30	31	e19	e6.3	e7.1	---	3.6	4.5	7.0	9.0	7.5	19	17
31	23	---	e6.3	e4.7	---	3.3	---	7.1	---	6.5	14	---
TOTAL	1439	586	284.9	169.0	122.1	125.8	173.4	460.1	234.1	322.7	419.2	929
MEAN	46.4	19.5	9.19	5.45	4.36	4.06	5.78	14.8	7.80	10.4	13.5	31.0
MAX	85	71	14	7.4	5.3	7.0	25	135	15	40	94	83
MIN	23	12	6.3	4.0	3.9	3.3	3.2	3.9	5.9	6.4	4.5	16
AC-FT	2850	1160	565	335	242	250	344	913	464	640	831	1840
CFSM	6.39	2.69	1.26	.75	.60	.56	.80	2.04	1.07	1.43	1.86	4.26
IN.	7.36	3.00	1.46	.86	.62	.64	.89	2.35	1.20	1.65	2.15	4.75

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2001, BY WATER YEAR (WY)

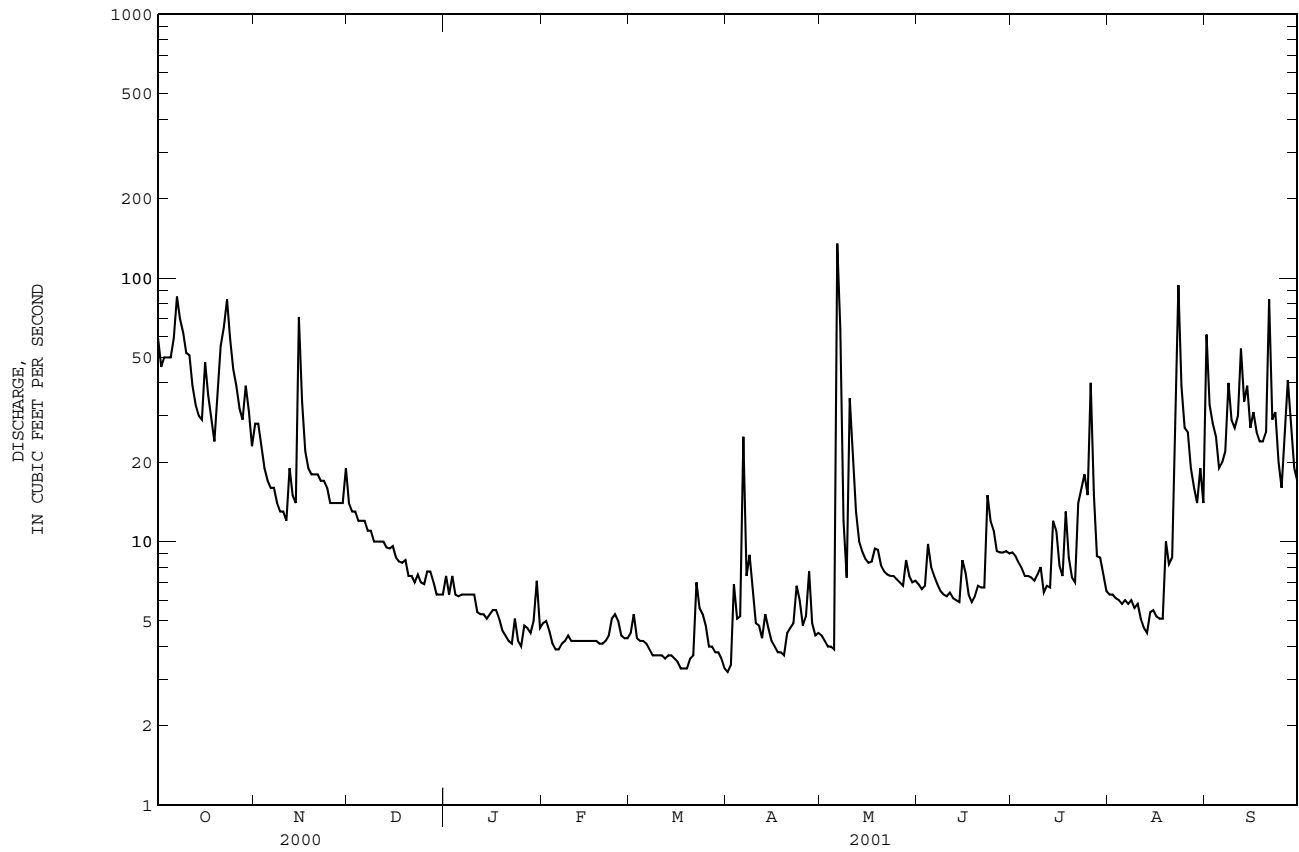
	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998
MEAN	35.3	26.1	9.84	6.18	5.42	4.48	10.2	12.9	11.3	11.3	24.2	71.6
MAX	46.4	45.0	14.8	9.51	6.33	5.64	17.5	17.6	17.6	16.1	34.5	147
(WY)	2001	2000	2000	1999	2000	1999	1998	2000	1999	1998	1999	1998
MIN	13.3	6.91	3.98	3.07	4.36	3.52	5.78	5.96	7.80	4.55	13.5	31.0
(WY)	1998	1998	1998	1998	2001	1998	2001	1999	2001	2000	2001	2001

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1998 - 2001

ANNUAL TOTAL	6071.9	5265.3	
ANNUAL MEAN	16.6	14.4	19.0
HIGHEST ANNUAL MEAN			22.2
LOWEST ANNUAL MEAN			14.4
HIGHEST DAILY MEAN	279	Sep 18	3000
LOWEST DAILY MEAN	3.0	Aug 9	1.1
ANNUAL SEVEN-DAY MINIMUM	3.3	Aug 6	1.7
MAXIMUM PEAK FLOW			1070
MAXIMUM PEAK STAGE			10.97
ANNUAL RUNOFF (AC-FT)	12040	10440	13800
ANNUAL RUNOFF (CFSM)	2.28	1.98	2.62
ANNUAL RUNOFF (INCHES)	31.07	26.94	35.60
10 PERCENT EXCEEDS	41	34	40
50 PERCENT EXCEEDS	7.6	7.4	8.4
90 PERCENT EXCEEDS	4.0	4.1	3.9

e Estimated

RIO PORTUGUES BASIN
50114900 RIO PORTUGUES NEAR TIBES, PR--Continued



50115000 RIO PORTUGUES NEAR PONCE, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°04'45", long 66°38'01", Hydrologic Unit 21010004, on right bank 30 ft (9 m) upstream from bridge on Highway 504, 0.2 mi (0.3 km) upstream from small unnamed tributary, 4.4 mi (7.1 km) upstream from Río Chiquito, and 4.7 mi (7.6 km) north of Plaza Degetau in Ponce.

DRAINAGE AREA.--8.82 mi² (22.84 km²).

PERIOD OF RECORD.--Water year 1964 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, (PER-CENT SATUR-LEVEL) (MG/L) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CaCO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)
OCT 17...	1500	40	348	8.5	26.4	5.0	7.2	90	<10	450	490	160	23.4
FEB 02...	1415	5.4	340	8.4	24.4	.8	9.2	111	<10	E10	E40	--	--
MAY 14...	1430	11	367	8.0	27.1	24	7.8	99	<10	170	220	160	49.0
SEP 05...	1445	22	347	<7.9	28.1	--	7.4	96	<10	250	290	150	45.7

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FIELD (MG/L AS CaCO3) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT 17...	25.2	12.5	.4	2.01	149	<1.0	14.3	13.9	<.2	29.6	210	22.8	18
FEB 02...	--	--	--	--	153	--	--	--	--	--	--	--	<10
MAY 14...	9.07	10.6	.4	1.35	157	<1.0	18.0	7.9	E.1	18.9	209	6.37	11
SEP 05...	8.23	10.2	.4	1.39	149	--	13.4	7.7	E.1	19.3	195	11.5	28

DATE	NITRO-GEN, NITRATE (MG/L AS N) (00620)	NITRO-GEN, NITRITE (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, ORGANIC (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (MG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (MG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (MG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
OCT 17...	--	<.01	2.1	<.01	--	<.20	--	--	.040	<2	61.6	31	<.11
FEB 02...	.20	.03	.2	.24	.51	.75	.98	4.3	.090	--	--	--	--
MAY 14...	--	<.01	1.5	.01	.24	.25	1.8	7.7	.050	<2	48.4	E14	<.11
SEP 05...	--	<.01	1.3	<.01	--	<.20	--	--	.040	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL RECOV-ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 17...	10	<20.0	1730	M	105	<.14	<2.6	<.43	<31	<.01	<16	<.02
FEB 02...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 14...	<1	<20.0	930	<1	30	<.01	<2.6	<.43	<31	<.01	<16	<.02
SEP 05...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
M -- Presence verified, not quantified
E -- Estimated value

50115900 RIO PORTUGUES AT HIGHWAY 14 AT PONCE, PR

LOCATION.--Lat 18°01'09", long 66°36'26", Hydrologic Unit 21010004, on right bank upstream from bridge on Highway 14, 1.70 mi (2.74 km) downstream from Río Chiquito, and 0.6 mi (0.96 km) northeast of Plaza Degetau in Ponce.

DRAINAGE AREA.--18.6 mi² (48.17 km²).

PERIOD OF RECORD.--Occasional measurements 1963, annual maximum discharge and peaks above base at different datum, from 1965 to 1972. June 1997 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 67.2 ft (20.48 m), from topographic map. Prior to June 18, 1997 non-recording gage crested-stage gage at same site and different datum.

REMARKS.--Records poor. Some low-flow regulation due to Río Portugués dam construction activity upstream. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e934	e129	e51	e20	e14	e12	e4.8	e11	e28	e45	e92	e445
2	e136	e128	e44	e12	e15	e17	e5.2	e9.5	e27	e42	e90	e247
3	e74	e95	e44	e20	e12	e11	e29	e8.1	e27	e39	e78	e206
4	e83	e67	e38	e12	e8.9	e11	e16	e8.1	e49	e36	e76	e170
5	e57	e53	e35	e11	e7.4	e11	e17	e7.7	e37	e33	e75	e128
6	e71	e44	e33	e12	e7.4	e9.7	e149	e931	e32	e33	e75	e135
7	e289	e43	e31	e12	e8.8	e8.6	e32	e431	e28	e32	e73	e148
8	e172	e42	e29	e12	e9.5	e7.5	e43	e118	e26	e29	e66	e275
9	e90	e36	e28	e12	e11	e7.5	e25	e93	e24	e33	e65	e185
10	e79	e34	e27	e12	e9.5	e7.1	e15	e225	e24	e37	e61	e171
11	e61	e34	e26	e11	e9.5	e7.1	e15	e129	e25	e24	e59	e192
12	e42	e61	e25	e11	e9.5	e6.7	e10	e72	e22	e28	e48	e361
13	e35	e37	e24	e11	e9.3	e7.1	e17	e51	e22	e28	e45	e221
14	e31	e32	e22	e11	e9.5	e7.1	e14	e46	e21	e64	e43	e255
15	e32	e152	e21	e17	e9.5	e6.4	e9.5	e41	e40	e56	e41	e169
16	e34	e119	e20	e19	e9.5	e6.0	e7.7	e39	e33	e37	e40	e198
17	e82	e86	e19	e19	e9.5	e5.8	e6.3	e40	e25	e32	e40	e163
18	e74	e67	e19	e16	e9.5	e5.5	e6.3	e46	e21	e74	e40	e148
19	e58	e58	e19	e12	e8.8	e5.3	e6.3	e45	e23	e41	e65	e149
20	e32	e46	e19	e11	e8.8	e6.0	e11	e37	e28	e31	e48	e262
21	e45	e32	e18	e9.5	e9.6	e7.5	e13	e33	e27	e28	e58	e571
22	e206	e52	e16	e8.9	e11	e30	e14	e33	e27	e79	e169	e370
23	e251	e51	e19	e16	e16	e21	e29	e31	e85	e92	e704	e594
24	e202	e43	e15	e9.5	e17	e18	e23	e31	e64	e107	e297	e420
25	e125	e31	e15	e8.1	e15	e15	e14	e30	e57	e85	e213	e304
26	e105	e30	e20	e14	e11	e8.7	e17	e29	e45	e261	e198	e321
27	e61	e30	e21	e13	e10	e7.7	e35	e27	e45	e235	e149	e358
28	e48	e30	e15	e12	e10	e7.7	e15	e41	e45	e145	e121	e331
29	e201	e31	e11	e15	---	e7.7	e11	e32	e45	e186	e108	e269
30	e148	e88	e11	e30	---	e6.3	e12	e30	e43	e156	e137	e240
31	e96	---	e12	e13	---	e5.5	---	e31	---	e133	e100	---
TOTAL	3954	1781	747	422.0	296.5	300.5	622.1	2736.4	1045	2281	3474	8006
MEAN	128	59.4	24.1	13.6	10.6	9.69	20.7	88.3	34.8	73.6	112	267
MAX	934	152	51	30	17	30	149	931	85	261	704	594
MIN	31	30	11	8.1	7.4	5.3	4.8	7.7	21	24	40	128
AC-FT	7840	3530	1480	837	588	596	1230	5430	2070	4520	6890	15880
CFSM	6.86	3.19	1.30	.73	.57	.52	1.11	4.75	1.87	3.96	6.02	14.3
IN.	7.91	3.56	1.49	.84	.59	.60	1.24	5.47	2.09	4.56	6.95	16.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2001, BY WATER YEAR (WY)

	1997	1998	1999	2000	2001
MEAN	97.3	64.7	20.3	14.3	12.8
MAX	128	129	31.1	21.7	20.6
(WY)	2001	2000	2000	1999	1998
MIN	68.0	15.1	6.00	6.09	9.14
(WY)	1999	1998	1998	1998	1999

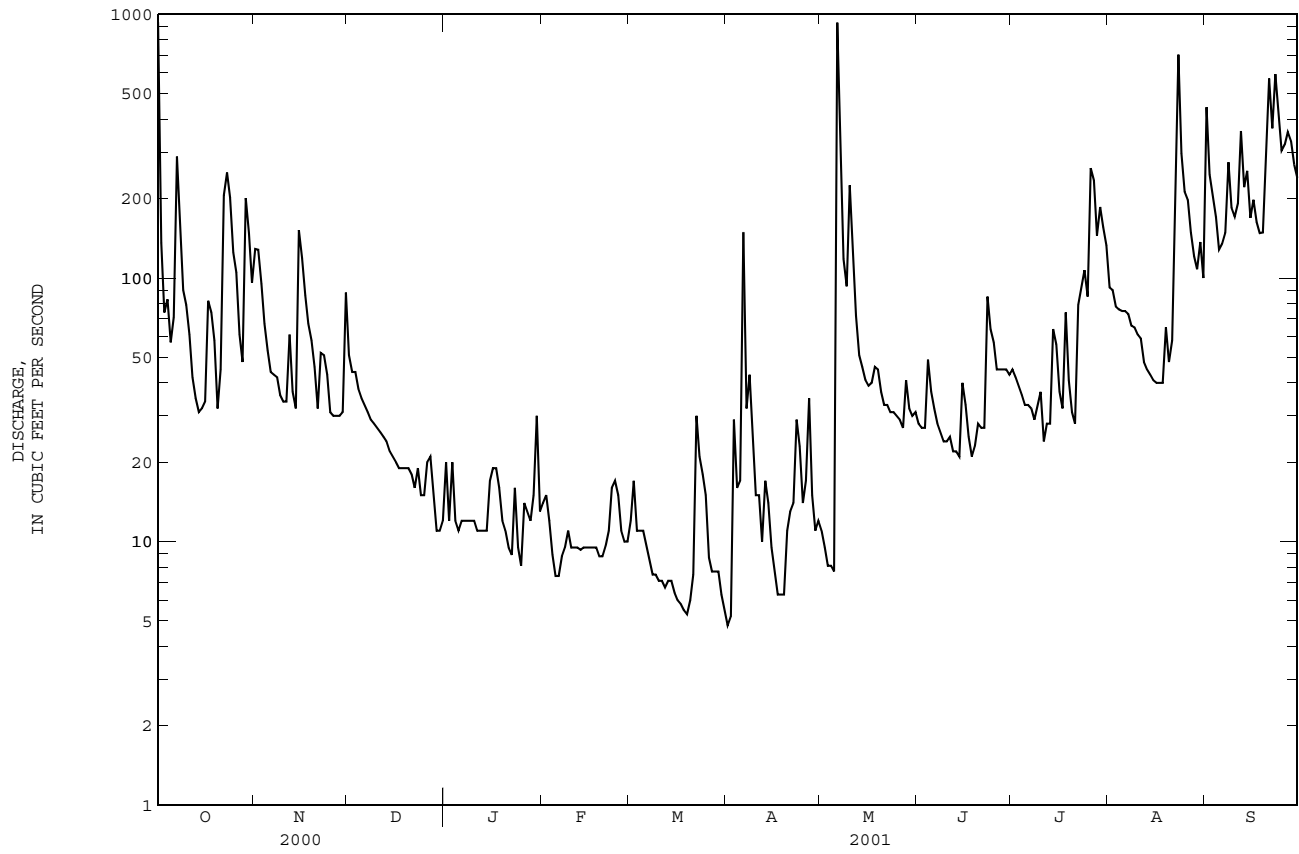
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1997 - 2001

ANNUAL TOTAL	14324.1	25665.5	
ANNUAL MEAN	39.1	70.3	54.5
HIGHEST ANNUAL MEAN			70.3
LOWEST ANNUAL MEAN			42.4
HIGHEST DAILY MEAN	1110	Sep 18	5580
LOWEST DAILY MEAN	2.9	Jul 28	.97
ANNUAL SEVEN-DAY MINIMUM	3.1	Jul 25	6.0
MAXIMUM PEAK FLOW			16300
MAXIMUM PEAK STAGE			19.73
ANNUAL RUNOFF (AC-FT)	28410	50910	39500
ANNUAL RUNOFF (CFSM)	2.10	3.78	2.93
ANNUAL RUNOFF (INCHES)	28.65	51.33	39.83
10 PERCENT EXCEEDS	84	185	118
50 PERCENT EXCEEDS	16	32	18
90 PERCENT EXCEEDS	4.8	8.9	5.0

e Estimated

RIO PORTUGUES BASIN

50115900 RIO PORTUGUES AT HIGHWAY 14 AT PONCE, PR--Continued



RIO PORTUGUES BASIN

50116200 RIO PORTUGUES AT PONCE, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°00'20", long 66°36'28", 1,300 ft (400 m) south of Las Americas Avenue Bridge, 0.8 mi (1.3 km) west of Highways 1 and 2 junction, and 0.7 mi (1.1 km) southeast of Ponce.

DRAINAGE AREA.--18.9 mi² (49.0 km²).

PERIOD OF RECORD.--Water years 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL AS (MG/L) (00900)	CALCIUM DIS-SOLVED AS (MG/L) (00915)	
OCT 23...	1220	87	287	7.9	26.1	86	10	124	<10	8800	4900	120	35.6	
FEB 01...	1330	9.6	432	8.2	27.4	21	12.8	161	14	2900	710	--	--	
MAY 15...	1230	16	345	8.8	32.8	8.8	15.2	211	13	340	<54	110	27.7	
SEP 06...	1450	23	440	8.5	34.0	--	12.9	182	<10	4500	430	130	38.1	
DATE		MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT 23...	6.80	11.5	.5	1.22	115	<1.0	14.6	9.9	E.1	19.7	168	39.6	86	
FEB 01...	--	--	--	--	114	--	--	--	--	--	--	--	61	
MAY 15...	10.9	27.0	1	1.72	93	<1.0	43.1	23.3	E.1	17.3	207	8.91	13	
SEP 06...	9.48	23.7	.9	1.47	125	--	41.5	20.1	E.1	18.3	227	14.3	46	
DATE		NITRO-GEN, NITRATE (MG/L AS N) (00620)	NITRO-GEN, NITRITE (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, ORGANIC (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (MG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
OCT 23...	1.29	.01	1.3	.03	.50	.53	1.8	8.1	.140	<2	53.7	24	<.11	
FEB 01...	--	<.01	1.0	<.01	--	.29	1.3	5.6	.020	--	--	--	--	
MAY 15...	--	<.01	.1	.05	.42	.47	.59	2.6	.050	<2	31.2	72	<.10	
SEP 06...	.68	.01	.7	.08	.22	.30	.99	4.4	.040	--	--	--	--	
DATE		CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L AS CN) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)	
OCT 23...	2	<20.0	3740	M	127	<.14	<2.6	<.43	E16	<.01	<16	<.04		
FEB 01...	--	--	--	--	--	--	--	--	--	--	--	--		
MAY 15...	<1	<20.0	650	<1	37	<.01	<3.0	<.40	<31	<.01	<16	81.6		
SEP 06...	--	--	--	--	--	--	--	--	--	--	--	--		

< -- Less than
 E -- Estimated value
 M -- Presence verified, not quantified

RIO PORTUGUES BASIN

50116200 RIO PORTUGUES AT PONCE, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR- DANE, TECH- NICAL TOTAL (UG/L) (39350)	P,P'- DDD UNFILT RECOVER (UG/L) (39360)	P,P'- DDE, TOTAL (UG/L) (39365)	P,P'- DDT UNFILT RECOVER (UG/L) (39370)	DI- AZINON, TOTAL (UG/L) (39570)	DI- ELDRIN TOTAL (UG/L) (39380)	ENDO- SULFAN I TOTAL (UG/L) (39388)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)	
MAY 15...	1230	<.1	<.013	<.1	<.007	<.006	<.009	<.02	<.006	<.015	<.014	<.01	<.014	
DATE		HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALA- THON, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METHYL PARA- THON, TOTAL (UG/L) (39600)	MIREX, TOTAL (UG/L) (39755)	PARA- THON, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	CARBO- PHENO- THON WATER UNFLTRD TOTAL (UG/L) (39786)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	2,4-DP TOTAL (UG/L) (82183)	SILVEX, TOTAL (UG/L) (39760)
MAY 15...		<.009	<.006	<.03	<.01	<.01	<.01	<.01	<1	<.02	<.01	<.01	<.04	<.01

RIO GUAYANILLA BASIN

50124200 RIO GUAYANILLA NEAR GUAYANILLA, PR

LOCATION.--Lat 18°02'40", long 66°47'53", Hydrologic Unit 21010004, on left bank, 0.7 mi (1.1 km) north of junction of Highways 2 and 132, 0.6 mi (1.0 km) downstream from Quebrada Consejo, 1.8 mi (2.9 km) north-northwest from Plaza de Guayanilla.

DRAINAGE AREA.--18.9 mi² (49.0 km²).

PERIOD OF RECORD.--March 1981 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 80 ft (24 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e48	64	25	e9.9	7.0	5.1	e2.9	e4.7	9.6	e6.6	5.7	9.4
2	65	56	22	e9.6	7.3	5.2	e2.8	e4.9	9.4	e5.5	7.3	9.5
3	74	38	21	e9.1	6.8	4.9	e3.0	e4.5	9.2	e5.6	5.8	8.8
4	e76	30	e20	e8.9	6.7	4.7	e3.3	e4.8	9.4	e5.1	5.4	9.2
5	76	28	e19	e8.7	6.6	4.7	e3.6	e4.8	9.1	e5.2	5.6	8.6
6	e113	25	19	e8.9	6.6	4.7	e25	e1470	8.3	e4.8	5.5	8.0
7	168	24	17	e8.4	6.7	4.8	e7.0	e123	7.7	e4.6	5.4	23
8	e99	23	17	e8.0	6.7	4.5	e47	e50	7.3	e4.4	5.0	17
9	62	22	16	e7.9	6.7	4.1	e9.3	35	6.8	e4.1	9.6	11
10	47	20	16	7.8	6.3	4.0	e5.7	45	6.5	e4.1	10	9.0
11	e38	20	15	7.7	6.2	3.8	e5.1	40	6.3	e4.1	7.1	9.2
12	e34	109	15	7.9	6.2	3.7	e4.8	23	6.1	e4.1	13	23
13	e32	120	15	8.1	6.1	e3.8	e8.6	19	6.0	e5.0	8.9	e18
14	29	78	e14	8.1	6.2	e3.9	e8.9	18	5.7	e4.1	7.0	e23
15	45	182	14	7.9	6.5	e3.8	e5.5	17	6.2	e4.3	7.4	e11
16	124	175	14	8.9	6.4	e3.6	e5.1	16	7.0	e4.2	7.9	e15
17	93	76	14	9.7	6.5	e3.5	e4.9	14	5.9	e4.3	7.5	e9.8
18	70	54	13	7.7	6.2	e3.3	e4.9	15	e7.1	e15	7.8	8.8
19	61	43	e13	7.2	6.1	e3.5	e4.9	16	e6.1	e9.5	14	8.8
20	151	38	e14	7.0	5.4	e3.6	e5.0	13	e5.4	e6.2	16	33
21	123	42	e13	6.9	5.5	e3.4	e7.5	12	e5.3	e7.3	11	41
22	100	42	e12	6.7	5.5	e4.9	e8.6	12	e6.0	e46	31	34
23	79	34	e12	8.7	5.4	e5.1	e29	12	e13	19	127	27
24	51	31	e11	8.9	6.7	e5.7	e30	11	e10	8.7	31	17
25	53	e29	e11	7.6	5.9	e3.4	e8.6	11	e9.5	6.8	17	13
26	36	27	e17	7.4	4.9	e3.1	e5.8	10	e7.4	6.7	13	44
27	42	26	e14	7.8	4.7	e3.0	e5.8	10	e6.6	7.6	11	37
28	46	25	e12	8.2	4.9	e3.0	e4.7	11	e6.1	5.9	10	21
29	45	23	e11	7.6	---	e3.0	e4.7	10	e6.7	6.3	9.2	16
30	80	27	e12	8.8	---	e3.1	e4.7	9.3	e6.5	7.7	9.3	14
31	75	---	e11	7.2	---	e2.9	---	9.5	---	6.2	9.1	---
TOTAL	2235	1531	469	253.2	172.7	123.8	276.7	2055.5	222.2	239.0	440.5	537.1
MEAN	72.1	51.0	15.1	8.17	6.17	3.99	9.22	66.3	7.41	7.71	14.2	17.9
MAX	168	182	25	9.9	7.3	5.7	47	1470	13	46	127	44
MIN	29	20	11	6.7	4.7	2.9	2.8	4.5	5.3	4.1	5.0	8.0
AC-FT	4430	3040	930	502	343	246	549	4080	441	474	874	1070
CFSM	3.81	2.70	.80	.43	.33	.21	.49	3.51	.39	.41	.75	.95
IN.	4.40	3.01	.92	.50	.34	.24	.54	4.05	.44	.47	.87	1.06

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 2001, BY WATER YEAR (WY)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	
MEAN	61.7	47.6	18.2	10.6	7.62	6.28	10.8	27.0	14.2	11.8	20.8	46.9										
MAX	167	110	41.9	27.5	11.6	13.2	31.2	80.4	41.0	25.9	50.5	124										
(WY)	1986	1988	1988	1992	1996	1989	1999	1985	1987	1986	2000	1998										
MIN	16.0	15.2	4.78	4.06	3.10	2.85	2.76	2.33	2.35	2.45	5.14	3.62										
(WY)	1983	1998	1998	1998	1990	1981	1995	1994	1997	1994	1997	1997										

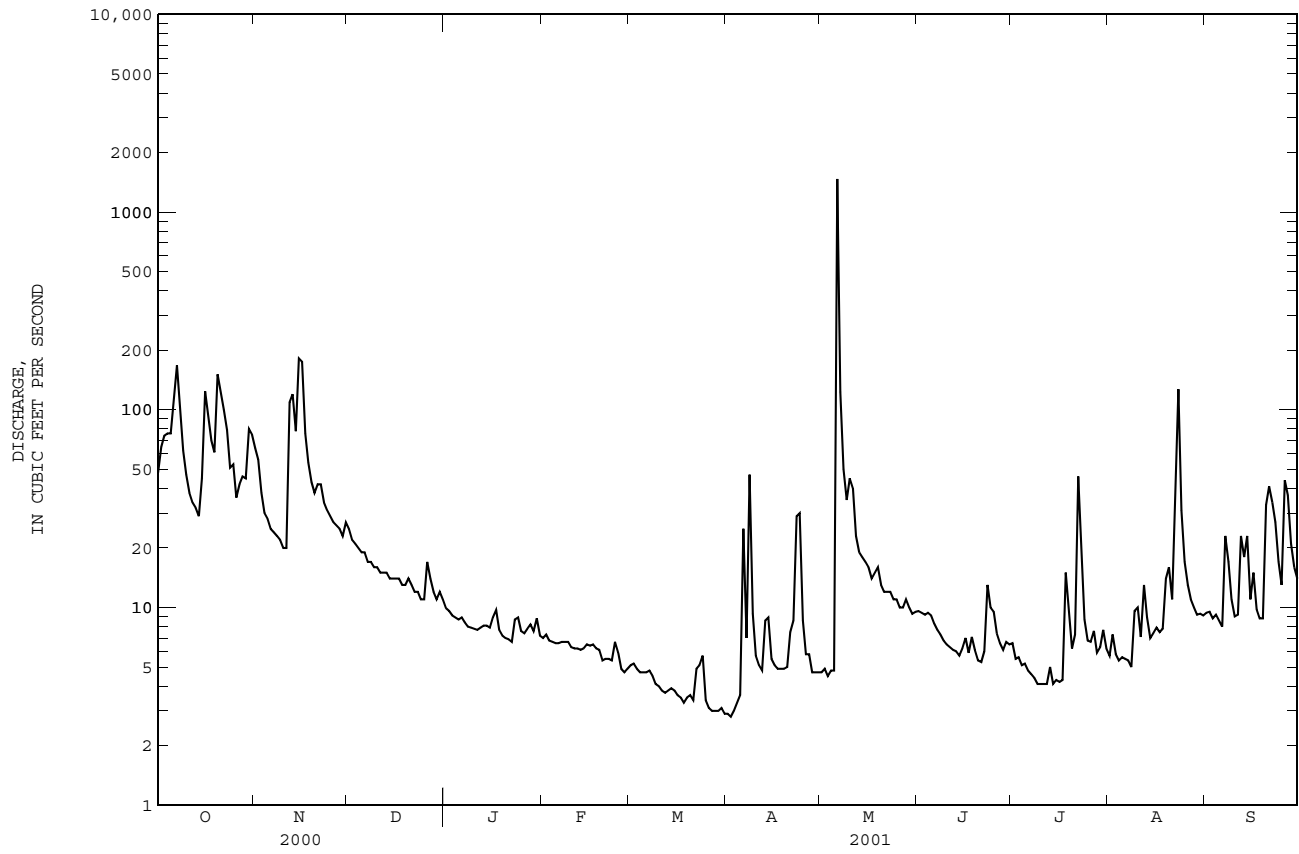
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1981 - 2001

ANNUAL TOTAL	10456.9	8555.7	
ANNUAL MEAN	28.6	23.4	23.4
HIGHEST ANNUAL MEAN			34.7
LOWEST ANNUAL MEAN			8.94
HIGHEST DAILY MEAN	837	Aug 23	1500
LOWEST DAILY MEAN	4.4	Apr 14	.77
ANNUAL SEVEN-DAY MINIMUM	4.6	Apr 24	3.0
MAXIMUM PEAK FLOW			18700
MAXIMUM PEAK STAGE			21.89
INSTANTANEOUS LOW FLOW			.70
ANNUAL RUNOFF (AC-FT)	20740	16970	16970
ANNUAL RUNOFF (CFSM)	1.51	1.24	1.24
ANNUAL RUNOFF (INCHES)	20.58	16.84	16.84
10 PERCENT EXCEEDS	60	46	52
50 PERCENT EXCEEDS	13	8.9	10
90 PERCENT EXCEEDS	5.3	4.6	3.4

e Estimated

RIO GUAYANILLA BASIN

50124200 RIO GUAYANILLA NEAR GUAYANILLA, PR--Continued



RIO GUAYANILLA BASIN

50124700 RIO GUAYANILLA AT CENTRAL RUFINA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°00'40", long 66°46'49", at dirt road bridge, 0.7 mi (1.1 km) from mouth, 0.9 mi (1.4 km) east of Central Rufina and 0.9 mi (1.4 km) southeast of Guayanilla.

DRAINAGE AREA.--22.8 mi² (59.1 km²).

PERIOD OF RECORD.--Water years 1960-65, 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, (PER-CENT (HIGH LEVEL) (MG/L) (00301)	OXYGEN, DEMAND, (PER-CENT (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL AS (MG/L) (00900)	CALCIUM DIS-SOLVED AS (MG/L) (00915)
OCT 20...	1220	34	434	8.3	29.3	3.8	7.6	98	<10	33000	E73	180	48.4
FEB 06...	1240	2.1	650	7.9	28.3	1.5	8.3	105	<10	E40	E30	--	--
MAY 01...	1200	1.9	775	7.7	29.7	2.2	6.5	85	10	910	930	260	70.7
SEP 21...	1225	34	352	7.9	29.6	--	8.6	112	<10	E1200	450	150	40.3

DATE	MAGNE-SIUM, DIS-SOLVED AS (MG) (00925)	SODIUM, DIS-SOLVED AS (MG/L) (00930)	SODIUM, AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED AS (MG/L) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL AS (MG/L) (00745)	SULFATE DIS-SOLVED AS (MG/L) (00945)	CHLO-RIDE, DIS-SOLVED AS (MG/L) (00940)	FLUO-RIDE, DIS-SOLVED AS (MG/L) (00950)	SILICA, DIS-SOLVED AS (MG/L) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT 20...	13.8	12.8	.4	1.91	157	<1.0	36.0	15.6	E.1	20.4	243	22.3	<10
FEB 06...	--	--	--	--	182	--	--	--	--	--	--	--	<10
MAY 01...	19.9	47.0	1	4.55	200	<1.0	75.5	53.5	.2	24.3	416	2.13	76
SEP 21...	12.0	13.1	.5	1.72	126	--	31.4	13.6	E.2	17.1	205	19.0	40

DATE	NITRO-GEN, NITRATE (MG/L) AS (N) (00620)	NITRO-GEN, NITRITE (MG/L) AS (N) (00615)	NITRO-GEN, NO2+NO3 (MG/L) AS (N) (00630)	NITRO-GEN, AMMONIA (MG/L) AS (N) (00610)	NITRO-GEN, ORGANIC (MG/L) AS (N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L) AS (N) (00625)	NITRO-GEN, TOTAL (MG/L) AS (N) (00600)	NITRO-GEN, TOTAL (MG/L) AS (NO3) (71887)	NITRO-GEN, TOTAL (MG/L) AS (P) (00665)	PHOS-PHORUS TOTAL (MG/L) AS (AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L) AS (BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L) AS (B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L) AS (CD) (01027)
OCT 20...	1.18	.02	1.2	.08	.26	.34	1.5	6.8	.100	<2	47.5	26	<.11
FEB 06...	2.53	.37	2.9	.82	.38	1.2	4.1	18.1	.620	--	--	--	--
MAY 01...	--	<.01	.2	.03	.43	.46	.67	3.0	.040	E1	60.9	155	<.11
SEP 21...	1.08	.02	1.1	.42	.38	.80	1.9	8.4	.160	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L) AS (CU) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L) AS (CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L) AS (FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L) AS (PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) AS (MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L) AS (HG) (71900)	SELE-NIUM, TOTAL (UG/L) AS (SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L) AS (AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L) AS (ZN) (01092)	CYANIDE TOTAL (MG/L) AS (CN) (00720)	PHENOLS TOTAL (UG/L) AS (L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) AS (L) (38260)
OCT 20...	M	<20.0	480	<1	22	<.14	<2.6	<.43	<31	<.01	<16	<.02
FEB 06...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 01...	<1	<20.0	80	<1	38	<.01	<2.6	<.43	<31	<.01	<16	.08
SEP 21...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
 E -- Estimated value
 M -- Presence verified, not quantified

RIO GUAYANILLA BASIN

50124700 RIO GUAYANILLA AT CENTRAL RUFINA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR- DANE, TECH- NICAL TOTAL (UG/L) (39350)	P,P'- DDD UNFILT RECOVER (UG/L) (39360)	P,P'- DDE, TOTAL (UG/L) (39365)	P,P'- DDT UNFILT RECOVER (UG/L) (39370)	DI- AZINON, TOTAL (UG/L) (39570)	DI- ELDRIN TOTAL (UG/L) (39380)	ENDO- SULFAN I TOTAL (UG/L) (39388)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)
MAY 01...	1200	<.1	<.013	<.1	<.007	<.006	<.009	.02	<.006	<.015	<.014	<.01	<.014
DATE	HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALA- THON, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METHYL PARA- THON, TOTAL (UG/L) (39600)	MIREX, TOTAL (UG/L) (39755)	PARA- THON, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	CARBO- PHENO- THON WATER UNFLTRD TOTAL (UG/L) (39786)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	2,4-DP TOTAL (UG/L) (82183)	SILVEX, TOTAL (UG/L) (39760)
MAY 01...	<.009	<.006	<.03	<.01	<.01	<.01	<.01	<1	<.02	<.01	<.01	<.04	<.01

50125780 LAGO LUCCHETTI AT DAMSITE NEAR YAUCO, PR

LOCATION.--Lat 18°05'37", long 66°51'54, Hydrologic Unit 21010004, at Antonio Lucchetti Dam on Río Yauco, 3.9 mi (6.3 km) north of Yauco.

DRAINAGE AREA.--17.4 mi² (45.1 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--December 1989 to current year. Prior to October 1994, published as Lago Lucchetti at Damsite.

GAGE.--Water-stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Lucchetti was completed in 1952. The dam is on Río Yauco and is a unit of the Southwestern Puerto Rico Project. It provides 16,500 acre-feet (20.3 hm³) of usable storage for power generation and irrigation. The dam is a concrete gravity structure with a total length of 591 ft (180 m), a maximum height of 178 ft (54 m), and a maximum width at the base of 150 ft (46 m). An ungated, overflow tupe spillway with a clear length of 171 ft (52 m), and a maximum capacity of 62,800 ft³/s (1,778 m³/s) at a design head of 20 ft (6 m). The dam is owned by Puerto Rico Electric Power Authority. Gage-height and precipitation satellite telemetry at station.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 577.56 ft (176.04 m), Sep. 22,1998; minimum elevation, 512.09 ft (156.08 m), Sept. 9, 1994.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 573.14 ft (174.69 m), May 6, minimum elevation, 539.89 ft (164.56 m), Aug. 22.

Capacity Table
(based on data from Puerto Rico Water Resources Authority)

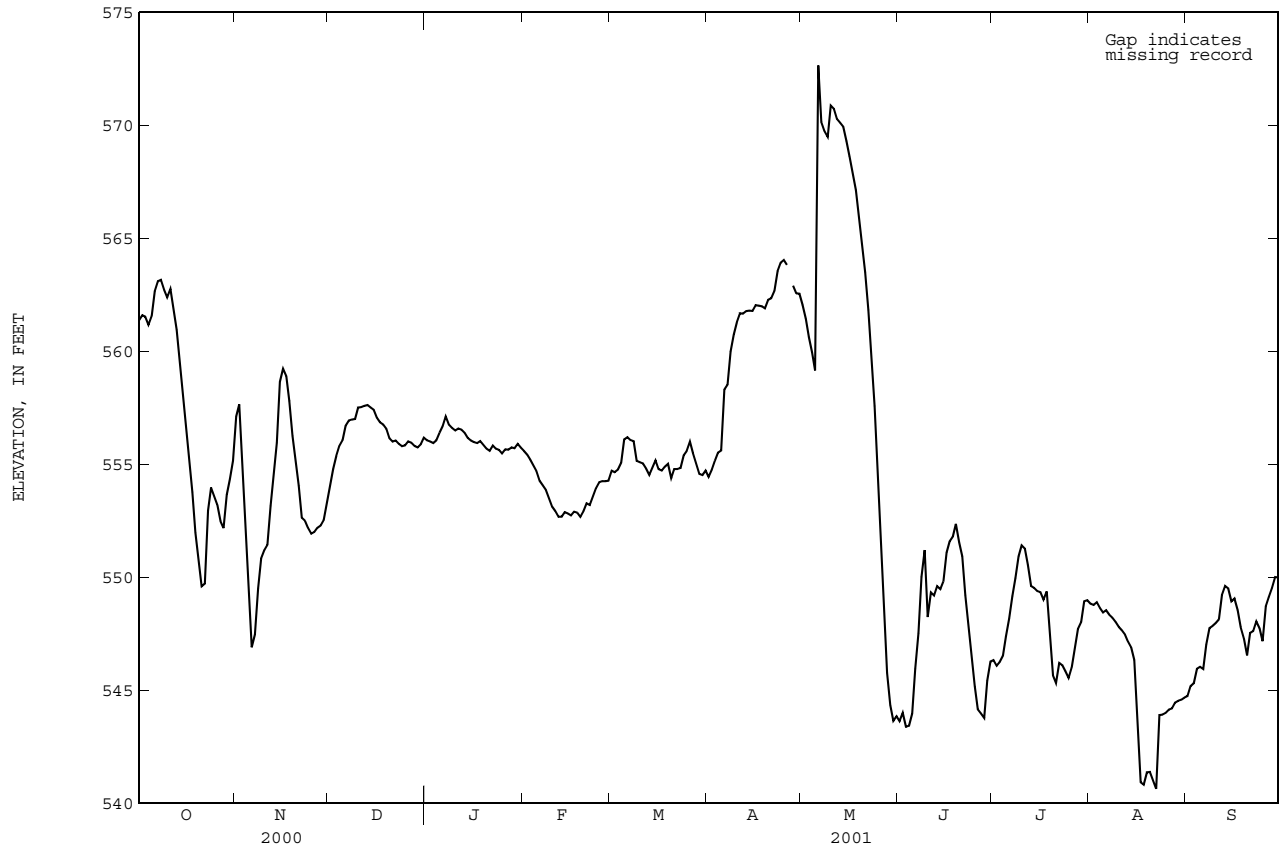
Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
512	1,505	540	5,165
520	2,385	550	7,020
525	2,965	561	9,600
527	3,255	563	10,125
530	3,695	571	12,125
532	3,975	573	12,645
		578	14,061

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	561.38	557.12	554.08	556.06	555.59	554.71	554.44	562.05	543.63	546.33	548.83	544.74
2	561.60	557.65	554.79	556.01	555.43	554.65	554.76	561.45	544.00	546.08	548.77	545.18
3	561.53	555.06	555.38	555.94	555.21	554.76	555.15	560.64	543.38	546.24	548.89	545.31
4	561.17	552.29	555.82	556.06	554.94	555.06	555.52	559.96	543.42	546.52	548.64	545.95
5	561.56	549.55	556.07	556.39	554.69	556.10	555.61	559.15	543.97	547.38	548.44	546.04
6	562.65	546.90	556.71	556.69	554.26	556.20	558.31	572.65	545.95	548.17	548.54	545.94
7	563.10	547.47	556.94	557.12	554.06	556.07	558.53	570.15	547.52	549.16	548.34	547.02
8	563.16	549.51	556.98	556.75	553.86	556.02	559.99	569.74	550.01	549.95	548.21	547.75
9	562.72	550.83	557.01	556.61	553.49	555.15	560.75	569.49	551.20	550.93	548.03	547.84
10	562.39	551.20	557.51	556.50	553.12	555.09	561.28	570.88	548.24	551.41	547.81	547.97
11	562.76	551.43	557.53	556.58	552.92	555.04	561.68	570.73	549.33	551.27	547.66	548.13
12	561.92	553.16	557.59	556.53	552.68	554.81	561.67	570.29	549.19	550.55	547.47	549.21
13	560.95	554.48	557.62	556.39	552.68	554.53	561.78	570.12	549.60	549.61	547.15	549.61
14	559.28	555.95	557.51	556.17	552.88	554.85	561.80	569.95	549.47	549.53	546.89	549.51
15	557.88	558.65	557.41	556.05	552.82	555.17	561.79	569.31	549.81	549.39	546.34	548.93
16	556.61	559.24	557.06	555.98	552.74	554.78	562.04	568.64	551.09	549.34	543.64	549.06
17	555.20	558.91	556.86	555.94	552.90	554.72	562.02	567.86	551.59	549.01	540.92	548.55
18	553.77	557.79	556.76	556.03	552.86	554.89	561.99	567.14	551.80	549.37	540.82	547.79
19	551.97	556.25	556.57	555.86	552.67	555.02	561.90	566.05	552.36	547.62	541.36	547.30
20	550.77	555.12	556.15	555.70	552.93	554.38	562.28	564.73	551.56	545.66	541.38	546.54
21	549.59	554.05	556.00	555.60	553.27	554.79	562.35	563.50	550.92	545.32	541.01	547.54
22	549.71	552.64	556.05	555.83	553.20	554.79	562.67	561.83	549.20	546.21	540.63	547.62
23	552.95	552.50	555.90	555.69	553.55	554.83	563.55	559.58	547.97	546.10	543.90	548.04
24	553.97	552.17	555.80	555.63	553.94	555.40	563.92	557.58	546.59	545.84	543.92	547.74
25	553.57	551.93	555.84	555.48	554.20	555.59	564.04	555.03	545.18	545.54	544.00	547.17
26	553.21	552.01	556.01	555.66	554.25	556.00	563.83	551.69	544.15	546.00	544.14	548.71
27	552.48	552.19	555.95	555.65	554.25	555.49	A	548.47	543.97	546.83	544.19	549.12
28	552.18	552.29	555.81	555.75	554.27	555.03	562.91	545.77	543.77	547.71	544.45	549.52
29	553.65	552.53	555.75	555.71	---	554.57	562.57	544.34	545.42	548.01	544.53	550.01
30	554.36	553.36	555.89	555.90	---	554.52	562.55	543.64	546.26	548.93	544.58	549.99
31	555.15	---	556.18	555.73	---	554.72	---	543.85	---	548.98	544.67	---
MAX	563.16	559.24	557.62	557.12	555.59	556.20	---	572.65	552.36	551.41	548.89	550.01
MIN	549.59	546.90	554.08	555.48	552.67	554.38	---	543.64	543.38	545.32	540.63	544.74

A No gage-height record

RIO YAUCO BASIN
50125780 LAGO LUCCHETTI AT DAMSITE NEAR YAUCO, PR--Continued



RIO LOCO BASIN

50128900 LAGO LOCO AT DAMSITE NEAR YAUCO, PR

LOCATION.--Lat 18°02'41", long 66°53'16", Hydrologic Unit 21010004, at Damsite, 2.60 mi (4.18 km) northwest from Yauco plaza, 0.45 mi (0.72 km) northeast from Escuela Río Cañas and 0.95 mi (1.53 km) northwest from Escuela Susúa Alta.

DRAINAGE AREA.--8.35 mi² (21.63 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--May 1995 to current year.

GAGE.--Water stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Loco was completed in 1951. The dam is a concrete gravity structure with a total length of 600 ft (183 m), maximum structural height of 72 ft (21.9 m), the ungated overflow spillway is 150 ft (47.7 m) long with crest at elevation of 230 ft (70.1 m). It has a normal storage capacity of 1,950 acre-feet (2.40 hm³) as for May 4, 1979. The Loco Dam is owned by the Puerto Rico Electric Power Authority (P.R.E.P.A) and its part of the Southwestern Puerto Rico Project which was developed for electric power generation and irrigation of the lands in the Lajas Valley, some of the Project waters are used for water supply in the Lajas area. The maximum drawdown of the Dam is from 230 ft (70.1 m) to 220 ft (67.1 m) and the Capacity Table provided by P.R.E.P.A includes only that portion of the storage for the dam. Gage-height and precipitation satellite telemetry at station.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 235.71 ft (71.84 m), May 6,2001; minimum elevation, 217.77 ft (66.4m), June 10, 1997.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 235.71 ft (71.84 m), May 6; minimum elevation,221.83 ft (67.61 m),Feb. 28.

Capacity Table

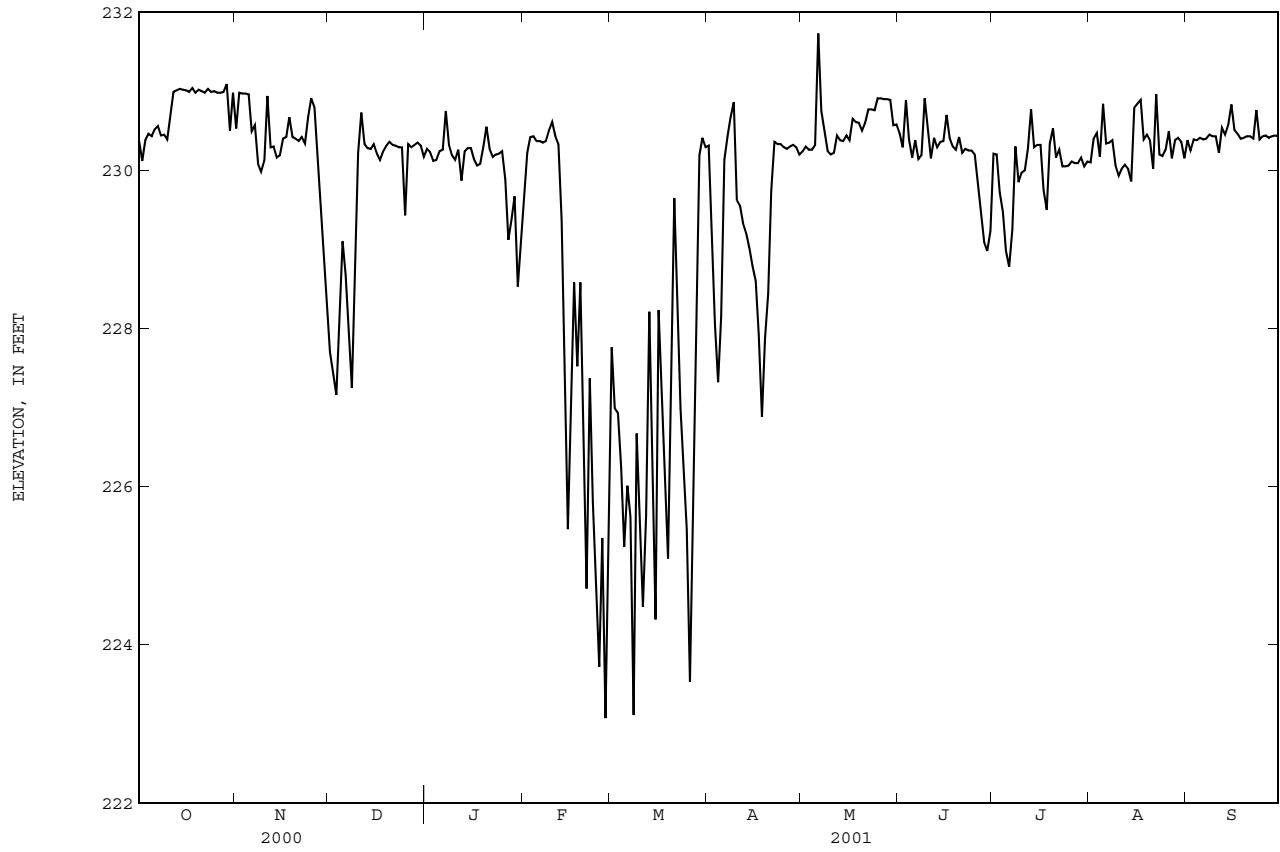
(based on data from Puerto Rico Electric Power Authority)

Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
220	0	230	639
225	299	232	787

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	230.37	230.53	227.70	230.27	229.61	227.76	230.31	230.24	230.47	230.21	230.10	230.38
2	230.12	230.98	227.43	230.23	230.22	226.99	229.36	230.30	230.29	230.20	230.40	230.25
3	230.38	230.97	227.16	230.12	230.42	226.93	228.06	230.26	230.89	229.72	230.47	230.39
4	230.46	230.97	227.92	230.13	230.43	226.24	227.32	230.26	230.39	229.47	230.17	230.38
5	230.43	230.96	229.10	230.24	230.37	225.24	228.15	230.32	230.16	228.98	230.84	230.41
6	230.52	230.49	228.68	230.26	230.37	226.01	230.13	231.73	230.38	228.78	230.34	230.39
7	230.56	230.57	228.03	230.75	230.35	225.62	230.43	230.75	230.14	229.25	230.35	230.40
8	230.44	230.08	227.25	230.32	230.37	223.11	230.67	230.48	230.19	230.30	230.38	230.45
9	230.45	229.98	228.80	230.19	230.51	226.67	230.86	230.24	230.91	229.85	230.06	230.43
10	230.39	230.12	230.22	230.13	230.61	225.62	229.62	230.20	230.57	229.97	229.93	230.43
11	230.68	230.94	230.73	230.26	230.43	224.48	229.55	230.22	230.15	230.00	230.02	230.22
12	230.99	230.29	230.33	229.87	230.33	225.64	229.33	230.44	230.41	230.27	230.07	230.54
13	231.01	230.30	230.28	230.24	229.37	228.21	229.20	230.38	230.29	230.77	230.02	230.45
14	231.03	230.16	230.27	230.28	227.56	226.59	229.02	230.37	230.36	230.29	229.86	230.57
15	231.02	230.19	230.33	230.28	225.46	224.32	228.79	230.44	230.37	230.32	230.79	230.83
16	231.01	230.40	230.21	230.14	227.47	228.23	228.60	230.38	230.70	230.32	230.84	230.51
17	230.99	230.42	230.13	230.06	228.58	227.40	227.92	230.65	230.41	229.75	230.89	230.46
18	231.04	230.67	230.24	230.08	227.52	226.49	226.88	230.61	230.30	229.50	230.39	230.40
19	230.98	230.42	230.31	230.30	228.58	225.09	227.87	230.60	230.26	230.34	230.45	230.41
20	231.02	230.40	230.36	230.55	227.02	227.08	228.44	230.50	230.42	230.53	230.38	230.43
21	231.00	230.37	230.32	230.27	224.71	229.65	229.74	230.60	230.22	230.16	230.02	230.43
22	230.98	230.42	230.31	230.17	227.37	228.04	230.36	230.77	230.27	230.26	230.96	230.40
23	231.03	230.34	230.29	230.20	225.81	226.99	230.33	230.77	230.25	230.05	230.20	230.76
24	230.99	230.68	230.29	230.21	224.86	226.26	230.33	230.76	230.25	230.05	230.18	230.39
25	231.00	230.91	229.43	230.24	223.72	225.46	230.29	230.91	230.20	230.06	230.26	230.43
26	230.98	230.80	230.33	229.88	225.35	223.53	230.27	230.91	229.88	230.11	230.49	230.44
27	230.98	230.12	230.29	229.12	223.07	226.10	230.30	230.90	229.50	230.09	230.15	230.41
28	230.99	229.43	230.32	229.38	224.85	227.44	230.32	230.90	229.09	230.09	230.38	230.43
29	231.09	228.72	230.35	229.67	--	230.19	230.29	230.89	228.98	230.16	230.41	230.44
30	230.50	228.15	230.31	228.53	--	230.41	230.20	230.57	229.23	230.05	230.36	230.43
31	230.98	--	230.17	229.07	--	230.29	--	230.58	--	230.11	230.15	--
MAX	231.09	230.98	230.73	230.75	230.61	230.41	230.86	231.73	230.91	230.77	230.96	230.83
MIN	230.12	228.15	227.16	228.53	223.07	223.11	226.88	230.20	228.98	228.78	229.86	230.22

RIO LOCO BASIN
50128900 LAGO LOCO AT DAMSITE NEAR YAUCO, PR--Continued



CANAL PRINCIPAL DE RIEGO VALLE DE LAJAS BASIN

50128905 CANAL DE RIEGO DE LAJAS BELOW LAGO LOCO DAM, YAUCO, PR

LOCATION.--Lat 18°02'35", long 66°53'18", Hydrologic Unit 21010004, downstream side of Loco Dam 0.05 mi (0.08 km), 5.4 mi (8.7 km) south east from Sabana Grande plaza, and 0.4 mi (0.6 km) north east from Escuela Río Cañas.

DRAINAGE AREA.--Indeterminate.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--March 2000 to current year.

GAGE.--Water-stage recorder. Altitude of gage is about 197 ft (60 m), from topographic map.

REMARKS.--Records fair. Regulation at all stages by Puerto Rico Aqueduct and Sewer Authority reservoir upstream from gage.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum discharge, 105 ft³/s (2.974 m³/s) Mar. 27, 2000, gage height, 2.15 ft (0.655 m) from rating curve extended above 70 ft³/s (1.98 m³/s) on basis of step-backwater analysis; no flow on September 13, 14, 22, and 28, 2000.

EXTREMES OBSERVED FOR WATER YEARS 2000-01.--Water Year 2000: Maximum discharge, 105 ft³/s (2.974 m³/s) Mar. 27, gage-height, 2.15 ft (0.655 m); no flow many days.

Water Year 2001: Maximum discharge, 85 ft³/s (2.407 m³/s) Feb. 23, gage-height, 1.71 ft (0.521 m); minimum daily discharge, 14 ft³/s (0.396 m³/s), May 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	5.7	40	30	32	66	24
2	---	---	---	---	---	---	4.9	46	27	32	56	26
3	---	---	---	---	---	---	41	51	23	41	56	25
4	---	---	---	---	---	---	58	56	23	48	47	25
5	---	---	---	---	---	---	55	40	32	45	42	31
6	---	---	---	---	---	---	53	26	44	44	42	33
7	---	---	---	---	---	---	39	26	49	38	49	30
8	---	---	---	---	---	47	28	34	49	34	57	23
9	---	---	---	---	---	48	27	44	42	34	60	20
10	---	---	---	---	---	33	48	40	30	48	60	20
11	---	---	---	---	---	16	56	32	29	59	49	22
12	---	---	---	---	---	16	53	28	A	54	44	20
13	---	---	---	---	---	56	54	21	A	51	44	5.3
14	---	---	---	---	---	63	36	21	53	43	59	19
15	---	---	---	---	---	57	25	32	55	39	66	25
16	---	---	---	---	---	52	25	34	43	39	66	23
17	---	---	---	---	---	33	25	31	31	40	62	23
18	---	---	---	---	---	9.6	44	32	31	50	36	21
19	---	---	---	---	---	9.0	35	26	36	54	20	20
20	---	---	---	---	---	57	24	19	39	53	20	27
21	---	---	---	---	---	91	24	19	41	47	44	31
22	---	---	---	---	---	94	24	21	41	38	31	24
23	---	---	---	---	---	93	24	22	36	37	13	20
24	---	---	---	---	---	39	34	23	30	59	12	20
25	---	---	---	---	---	9.0	40	24	29	70	25	23
26	---	---	---	---	---	8.4	39	26	39	70	22	21
27	---	---	---	---	---	68	37	29	49	71	22	5.6
28	---	---	---	---	---	98	33	30	58	59	22	22
29	---	---	---	---	---	70	29	30	61	44	22	30
30	---	---	---	---	---	54	30	30	43	45	22	21
31	---	---	---	---	---	26	---	30	---	60	22	---
TOTAL	---	---	---	---	---	---	1050.6	963	---	1478	1258	679.9
MEAN	---	---	---	---	---	---	35.0	31.1	---	47.7	40.6	22.7
MAX	---	---	---	---	---	---	58	56	---	71	66	33
MIN	---	---	---	---	---	---	4.9	19	---	32	12	5.3
AC-FT	---	---	---	---	---	---	2080	1910	---	2930	2500	1350

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2000, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	---	35.0	31.1	---	47.7	40.6	22.7
MAX	---	---	---	---	---	---	35.0	31.1	---	47.7	40.6	22.7
(WY)	---	---	---	---	---	---	2000	2000	---	2000	2000	2000
MIN	---	---	---	---	---	---	35.0	31.1	---	47.7	40.6	22.7
(WY)	---	---	---	---	---	---	2000	2000	---	2000	2000	2000

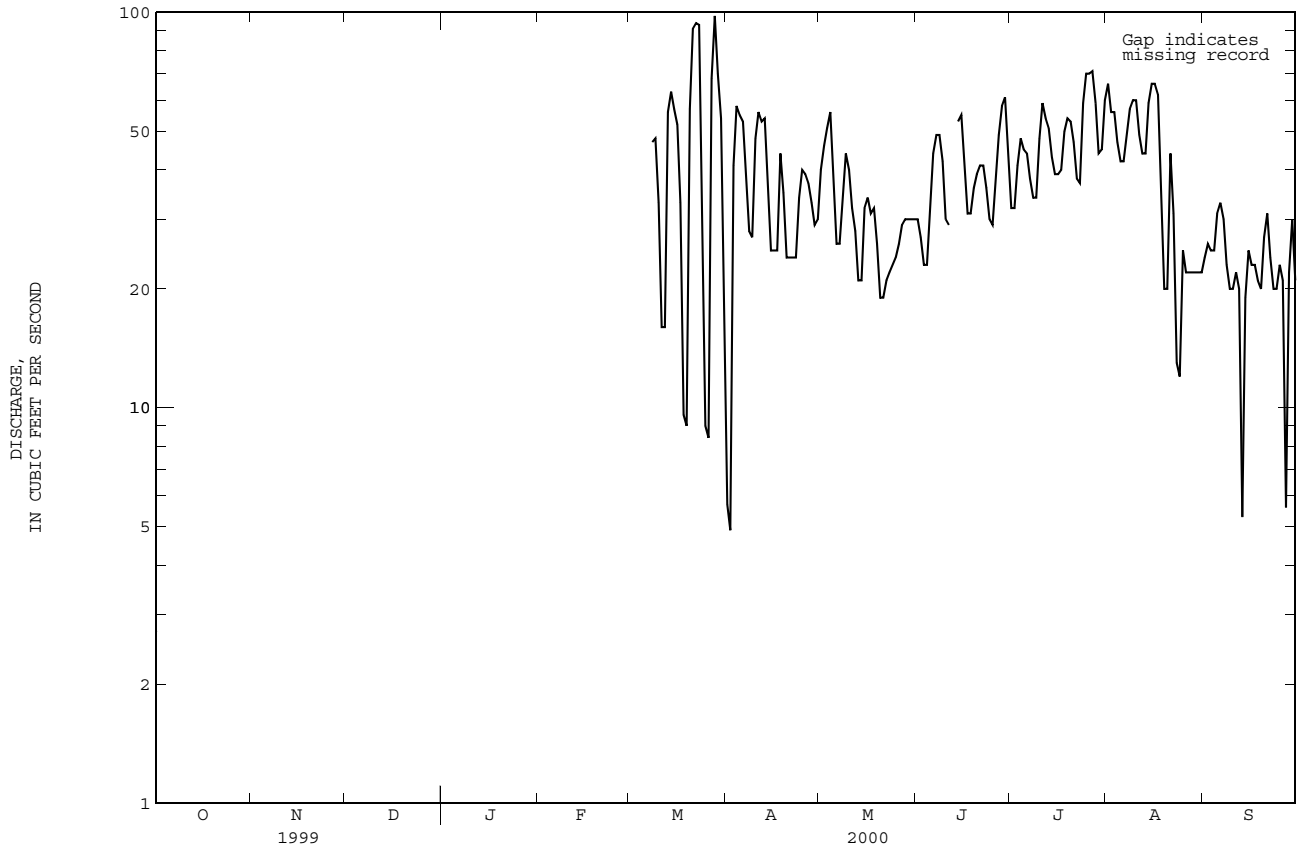
SUMMARY STATISTICS

FOR 2000 WATER YEAR

HIGHEST DAILY MEAN	98	Mar 28
LOWEST DAILY MEAN	4.9	Apr 2
ANNUAL SEVEN-DAY MINIMUM	18	Sep 8
MAXIMUM PEAK FLOW	105	Mar 27
MAXIMUM PEAK STAGE	2.15	Mar 27
10 PERCENT EXCEEDS	59	
50 PERCENT EXCEEDS	34	
90 PERCENT EXCEEDS	20	

A - No gage-height record.

CANAL PRINCIPAL DE RIEGO VALLE DE LAJAS BASIN
50128905 CANAL DE RIEGO DE LAJAS BELOW LAGO LOCO DAM, YAUCO, PR--Continued



CANAL PRINCIPAL DE RIEGO VALLE DE LAJAS BASIN

50128905 CANAL DE RIEGO DE LAJAS BELOW LAGO LOCO DAM, YAUCO, PR--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	23	30	32	46	52	29	29	22	27	44	37
2	21	23	24	40	43	45	A	31	20	39	40	36
3	21	23	24	51	36	38	A	31	21	45	36	36
4	18	23	24	54	36	38	A	27	28	45	35	45
5	26	23	26	45	47	44	A	22	34	51	36	50
6	21	23	27	43	56	51	A	22	33	42	44	50
7	21	23	32	43	58	60	A	18	32	29	50	45
8	21	22	34	43	56	64	A	16	29	29	54	37
9	21	23	30	52	48	A	A	17	25	37	59	36
10	19	22	30	60	42	39	A	17	25	43	51	44
11	23	20	33	57	43	39	A	17	31	61	40	47
12	20	20	36	47	60	54	A	15	35	58	41	42
13	20	25	41	38	69	A	A	14	36	41	53	35
14	20	30	43	38	68	54	A	16	37	33	66	33
15	20	31	39	38	68	63	A	17	32	33	69	31
16	21	32	36	41	58	52	A	15	22	33	64	30
17	27	30	36	48	48	35	A	15	22	42	43	31
18	21	26	37	51	47	35	A	15	28	48	24	34
19	30	26	40	44	46	44	A	14	33	49	24	37
20	29	26	40	36	62	55	A	15	37	40	44	38
21	24	31	39	37	75	59	A	15	38	31	56	33
22	24	31	35	43	77	59	A	17	32	31	52	28
23	25	29	33	48	57	45	A	18	28	37	46	28
24	25	29	33	44	42	32	A	20	28	37	38	28
25	24	29	33	44	42	32	A	18	40	33	35	28
26	24	29	33	42	65	50	A	15	50	31	35	32
27	24	34	36	37	66	A	A	15	47	29	36	38
28	23	37	35	37	49	A	A	15	43	30	38	34
29	23	37	31	45	---	A	15	17	36	31	37	29
30	23	36	31	46	---	A	22	21	27	39	43	30
31	23	---	32	44	---	29	---	24	---	45	42	---
TOTAL	703	816	1033	1368	1510	---	---	578	951	1199	1375	1082
MEAN	22.7	27.2	33.3	44.1	53.9	---	---	18.6	31.7	38.7	44.4	36.1
MAX	30	37	43	60	77	---	---	31	50	61	69	50
MIN	18	20	24	32	36	---	---	14	20	27	24	28
AC-FT	1390	1620	2050	2710	3000	---	---	1150	1890	2380	2730	2150

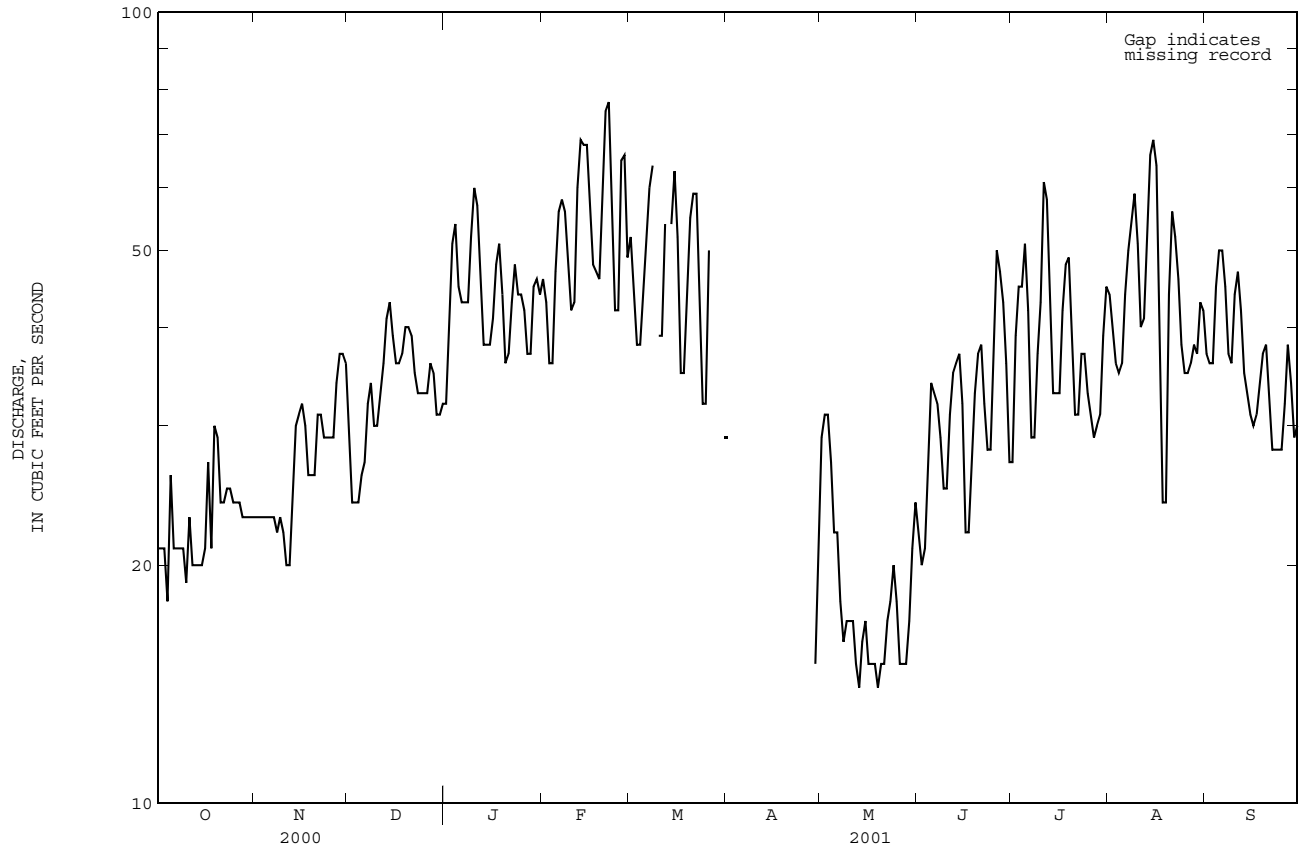
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2001, BY WATER YEAR (WY)

	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001
MEAN	22.7	27.2	33.3	44.1	53.9	---	---	24.9	31.7	43.2	42.5	29.4
MAX	22.7	27.2	33.3	44.1	53.9	---	---	31.1	31.7	47.7	44.4	36.1
(WY)	2001	2001	2001	2001	2001	---	---	2000	2001	2000	2001	2001
MIN	22.7	27.2	33.3	44.1	53.9	---	---	18.6	31.7	38.7	40.6	22.7
(WY)	2001	2001	2001	2001	2001	---	---	2001	2001	2001	2000	2000

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 2000 - 2001	
HIGHEST DAILY MEAN	98	Mar 28	77	Feb 22	98	Mar 28 2000
LOWEST DAILY MEAN	4.9	Apr 2	14	May 13	4.9	Apr 2 2000
ANNUAL SEVEN-DAY MINIMUM	18	Sep 8	15	May 13	15	May 13 2001
MAXIMUM PEAK FLOW			85	Feb 23	105	Mar 27 2000
MAXIMUM PEAK STAGE			1.71	Feb 23	2.15	Mar 27 2000
10 PERCENT EXCEEDS	56		54		56	
50 PERCENT EXCEEDS	31		35		35	
90 PERCENT EXCEEDS	20		20		20	

A - No gage-height record.

CANAL PRINCIPAL DE RIEGO VALLE DE LAJAS BASIN
50128905 CANAL DE RIEGO DE LAJAS BELOW LAGO LOCO DAM, YAUCO, PR--Continued



CANAL PRINCIPAL DE RIEGO VALLE DE LAJAS BASIN

50128920 CANAL DE RIEGO DE LAJAS ABOVE MAJINAS FILTRATION PLANT, PR

LOCATION.--Lat 18°02'41", long 66°56'59", Hydrologic Unit 21010003, 0.1 mi (0.2 km) south of intersection of Highways 2 and 117, 2.1 mi, (3.4 km) northeast of Escuela Thomas A. Edison, 0.5 mi (0.8 km) southeast of Escuela Dr. Santiago Veve, and 2.6 mi (4.2 km) southeast of Plaza de Sabana Grande.

DRAINAGE AREA.--Indeterminate.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--February 2000 to current year.

GAGE.--Water stage recorder. Altitude of gage is about 164 ft (50 m), from topographic map.

REMARKS.--Records poor.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum discharge, 199 ft³/s (5.64 m³/s) May 6, 2001, gage height, 5.43 ft (1.66 m) from rating curve extended above 60 ft³/s (1.699 m³/s) on basis of step-backwater analysis.

EXTREMES OBSERVED FOR WATER YEARS 2000-01.--WATER YEAR 2000: Maximum discharge, 158 ft³/s (4.47 m³/s) Aug. 23, gage height 4.81 ft (1.47 m); minimum daily discharge, 7.8 ft³/s (0.22 m³/s), Sept. 13, 2000.

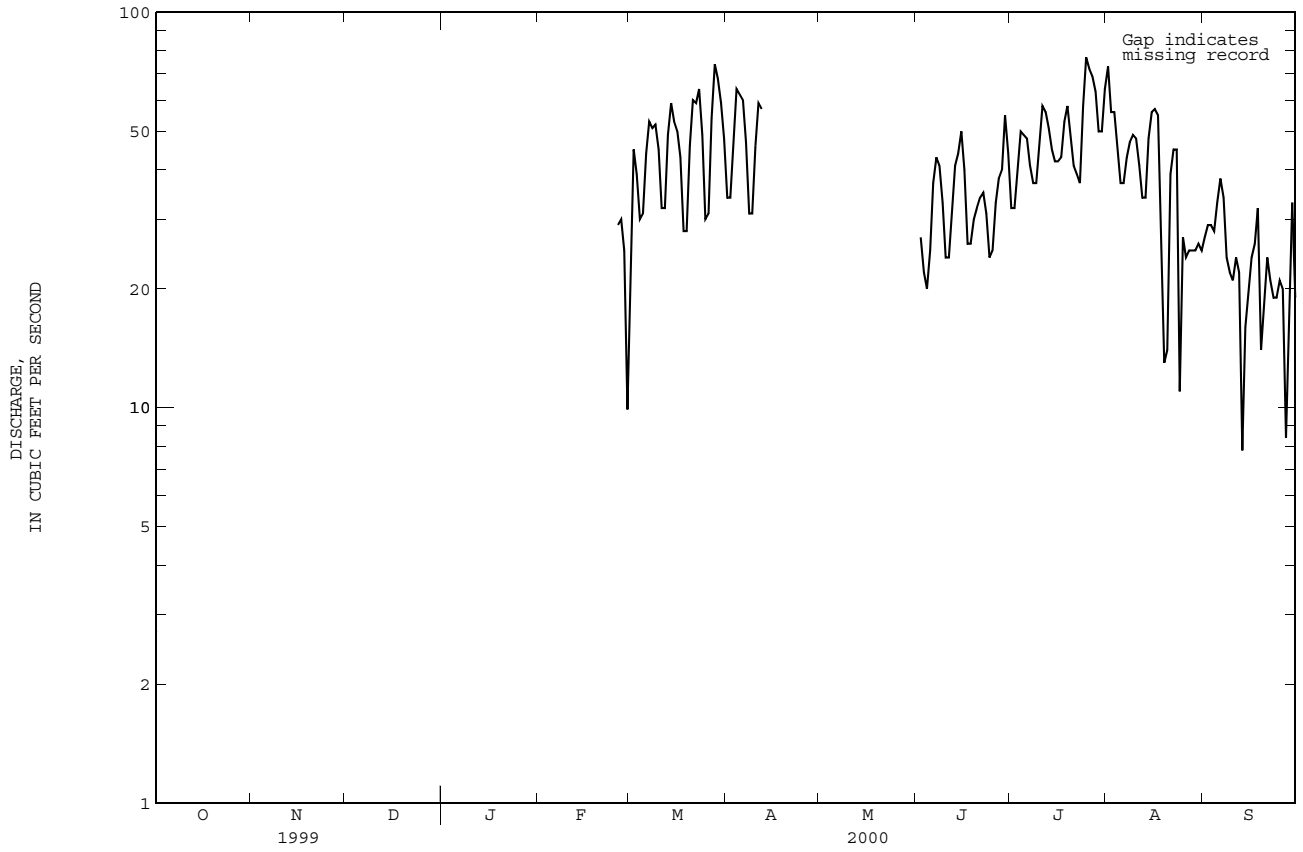
WATER YEAR 2001: Maximum discharge, 199 ft³/s (5.64 m³/s) May 6, gage height 5.43 ft (1.66 m); minimum daily discharge, 8.9 ft³/s (0.25 m³/s), Aug. 18, 2001.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						17	34	A	A	32	73	27
2						45	34	A	27	32	56	29
3						39	49	A	22	40	56	29
4						30	64	A	20	50	46	28
5						31	62	A	25	49	37	33
6						44	60	A	37	48	37	38
7						53	47	A	43	41	43	34
8						51	31	A	41	37	47	24
9						52	31	A	33	37	49	22
10						45	46	A	24	46	48	21
11						32	59	A	24	58	41	24
12						32	57	A	32	56	34	22
13						49	A	A	41	51	34	7.8
14						59	A	A	44	45	48	16
15						53	A	A	50	42	56	20
16						50	A	A	40	42	57	24
17						43	A	A	26	43	55	26
18						28	A	A	26	53	31	32
19						28	A	A	30	58	13	14
20						46	A	A	32	48	14	18
21						60	A	A	34	41	39	24
22						59	A	A	35	39	45	21
23						64	A	A	31	37	45	19
24						49	A	A	24	58	11	19
25						30	A	A	25	77	27	21
26					29	31	A	A	33	72	24	20
27					30	54	A	A	38	69	25	8.4
28					25	74	A	A	40	63	25	17
29					9.9	68	A	A	55	50	25	33
30					---	59	A	A	44	50	26	19
31					---	48	---	A	---	64	25	---
TOTAL					---	1423	---	---	---	1528	1192	690.2
MEAN					---	45.9	---	---	---	49.3	38.5	23.0
MAX					---	74	---	---	---	77	73	38
MIN					---	17	---	---	---	32	11	7.8
AC-FT					---	2820	---	---	---	3030	2360	1370

A No gage-height record

CANAL PRINCIPAL DE RIEGO VALLE DE LAJAS BASIN
 50128920 CANAL DE RIEGO DE LAJAS ABOVE MAJINAS FILTRATION PLANT, PR--Continued



CANAL PRINCIPAL DE RIEGO VALLE DE LAJAS BASIN

50128920 CANAL DE RIEGO DE LAJAS ABOVE MAJINAS FILTRATION PLANT, PR--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	24	34	35	42	44	30	26	23	35	A	27
2	21	24	24	37	42	40	44	32	24	43	A	26
3	21	24	24	44	35	33	60	35	25	50	A	27
4	9.1	24	25	52	35	34	63	32	30	54	A	30
5	17	24	26	51	40	35	62	26	37	56	A	32
6	20	24	28	48	47	40	46	58	35	51	A	31
7	20	25	32	48	49	48	28	21	34	41	A	32
8	20	20	37	48	44	53	28	21	33	42	A	28
9	20	19	32	54	39	47	39	20	29	44	A	28
10	9.8	19	31	60	37	36	45	20	29	46	A	34
11	20	19	34	56	36	36	36	20	35	59	A	39
12	17	23	38	49	45	45	24	18	39	62	A	37
13	18	24	42	43	54	46	23	18	39	44	A	29
14	19	30	44	43	52	44	22	18	40	38	A	25
15	20	30	40	44	52	50	22	19	33	38	A	26
16	19	32	38	44	47	47	22	17	24	39	39	26
17	25	32	37	47	39	35	29	17	24	46	27	25
18	14	26	37	50	38	35	37	18	30	54	8.9	25
19	19	26	36	47	37	40	39	19	37	A	9.4	28
20	30	26	37	42	45	51	33	19	40	A	24	32
21	26	31	41	42	55	55	21	19	41	A	38	31
22	27	33	36	47	57	55	22	22	35	A	38	26
23	25	30	34	52	44	47	32	22	34	A	34	25
24	26	31	34	48	35	33	37	23	34	A	28	26
25	24	30	35	45	35	33	33	21	40	A	24	26
26	24	30	35	45	46	45	30	18	47	A	24	28
27	23	31	35	41	50	56	26	18	46	A	25	34
28	24	31	36	41	38	55	17	19	44	A	28	33
29	24	30	33	47	---	53	17	19	41	A	27	30
30	24	34	33	48	---	42	19	22	35	A	29	31
31	24	---	34	44	---	30	---	23	---	A	31	---
TOTAL	648.9	806	1062	1442	1215	1343	986	700	1037	---	---	877
MEAN	20.9	26.9	34.3	46.5	43.4	43.3	32.9	22.6	34.6	---	---	29.2
MAX	30	34	44	60	57	56	63	58	47	---	---	39
MIN	9.1	19	24	35	35	30	17	17	23	---	---	25
AC-FT	1290	1600	2110	2860	2410	2660	1960	1390	2060	---	---	1740

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2001, BY WATER YEAR (WY)

	2000	2001	2001	2001	2001	2001	2001	2001	2001	2001	2000	2001
MEAN	20.9	26.9	34.3	46.5	43.4	44.6	32.9	22.6	34.6	49.3	38.5	26.1
MAX	20.9	26.9	34.3	46.5	43.4	45.9	32.9	22.6	34.6	49.3	38.5	29.2
(WY)	2001	2001	2001	2001	2001	2000	2001	2001	2001	2000	2000	2001
MIN	20.9	26.9	34.3	46.5	43.4	43.3	32.9	22.6	34.6	49.3	38.5	23.0
(WY)	2001	2001	2001	2001	2001	2001	2001	2001	2001	2000	2000	2000

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

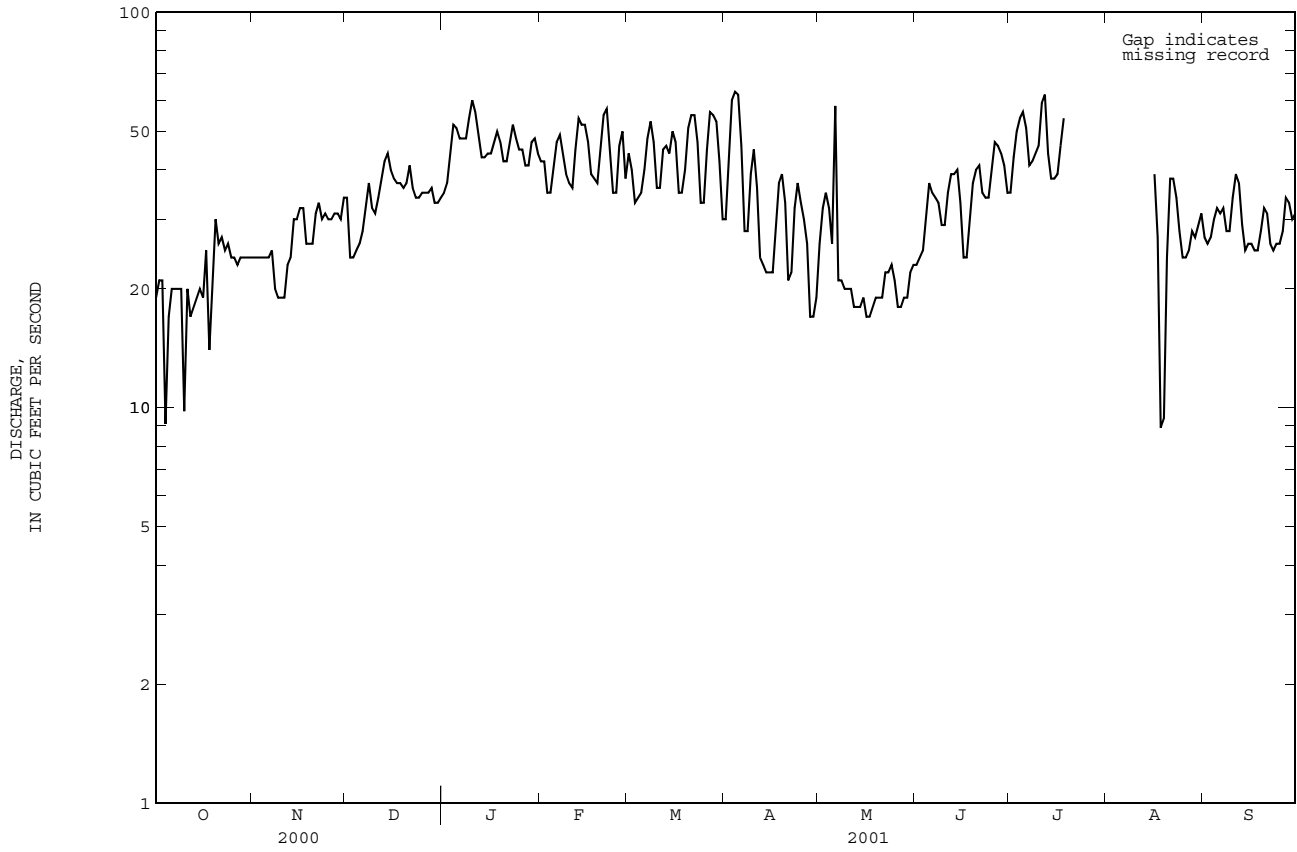
WATER YEARS 2000 - 2001

HIGHEST DAILY MEAN	77	Jul 25	63	Apr 4	77	Jul 25	2000
LOWEST DAILY MEAN	7.8	Sep 13	8.9	Aug 18	7.8	Sep 13	2000
ANNUAL SEVEN-DAY MINIMUM	17	Oct 4	17	Oct 4	17	Oct 4	2000
MAXIMUM PEAK FLOW			199	May 6	199	May 6	2001
MAXIMUM PEAK STAGE			5.43	May 6	5.43	May 6	2001
10 PERCENT EXCEEDS	56		49		53		
50 PERCENT EXCEEDS	32		33		34		
90 PERCENT EXCEEDS	19		20		20		

A No gage-height record

CANAL PRINCIPAL DE RIEGO VALLE DE LAJAS BASIN

50128920 CANAL DE RIEGO DE LAJAS ABOVE MAJINAS FILTRATION PLANT, PR--Continued



CANAL PRINCIPAL DE RIEGO VALLE DE LAJAS BASIN

50128925 CANAL DE RIEGO DE LAJAS BELOW MAJINAS FILTRATION PLANT, PR

LOCATION.--Lat 18°02'41", long 66°57'01", Hydrologic Unit 21010004, on upstream side from iron platform used as cross way and reference point, downstream of Manjinas Filtration plant intake, 0.08 mi (0.12 km) east of new Highway 2, 0.10 mi (0.16 km) south of Highway 121 and 2.6 mi (4.2 km) southeast of Plaza de Sabana Grande.

DRAINAGE AREA.--Indeterminate.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--February 2000 to current year.

GAGE.--Water stage recorder. Altitude of gage is about 164 ft (50 m), from topographic map.

REMARKS.--Records fair, except those above 50 ft³/s (1.46 m³/s), which are poor.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum discharge, 197 ft³/s (5.58 m³/s) May 6, 2001, gage height, 5.39 ft (1.64 m) from rating curve extended above 50 ft³/s (1.416 m³/s) on basis of logarithmic extension using gage-height and flow comparison with upostream station 50128920 Canal de riego de Lajas above Majinas Filtration Plant, Sabana Grande, PR.

EXTREMES OBSERVED FOR WATER YEARS 2000-01.--WATER YEAR 2000: Maximum discharge, 164 ft³/s (4.62 m³/s) Aug.23, gage height 4.88 ft (1.49 m); no flow September 14.

WATER YEAR 2001: Maximum discharge, 197 ft³/s (5.58 m³/s) May 6, gage height 5.39 ft (1.64 m); minimum daily discharge, 8.0 ft³/s (0.226 m³/s), October 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						15	31	33	24	17	74	23
2						41	30	40	21	17	49	24
3						36	42	42	17	25	49	23
4						29	53	49	16	35	40	23
5						29	52	40	20	33	33	26
6						39	50	25	30	31	33	30
7						47	39	25	34	25	39	28
8						45	27	27	32	20	43	20
9						46	27	32	26	20	45	18
10						39	39	34	20	29	44	18
11						28	49	32	19	42	38	20
12						29	47	26	26	39	32	18
13						43	48	20	33	34	33	6.1
14						49	36	18	36	29	47	12
15						46	25	26	41	27	56	17
16						44	25	30	31	27	57	20
17						38	25	29	15	28	56	21
18						25	31	27	15	39	34	27
19						26	28	21	19	43	16	12
20						40	23	15	20	34	15	16
21						51	23	15	22	28	34	20
22						50	23	16	23	27	38	18
23						54	23	18	19	26	39	17
24						40	30	18	12	46	9.7	16
25					33	27	36	19	12	69	22	18
26					28	27	35	20	20	68	20	17
27					29	45	33	24	24	67	20	6.8
28					24	61	29	24	27	61	20	14
29					8.7	56	26	24	42	49	20	27
30					---	50	26	23	31	49	21	17
31					---	40	---	25	---	65	21	---
TOTAL	---	---	---	---	122.7	1235	1011	817	727	1149	1097.7	572.9
MEAN	---	---	---	---	24.5	39.8	33.7	26.4	24.2	37.1	35.4	19.1
MAX	---	---	---	---	33	61	53	49	42	69	74	30
MIN	---	---	---	---	8.7	15	23	15	12	17	9.7	6.1
AC-FT	---	---	---	---	243	2450	2010	1620	1440	2280	2180	1140

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2000, BY WATER YEAR (WY)

	---	---	---	---	---	39.8	33.7	26.4	24.2	37.1	35.4	19.1
MEAN	---	---	---	---	---	39.8	33.7	26.4	24.2	37.1	35.4	19.1
MAX	---	---	---	---	---	39.8	33.7	26.4	24.2	37.1	35.4	19.1
(WY)	---	---	---	---	---	2000	2000	2000	2000	2000	2000	2000
MIN	---	---	---	---	---	39.8	33.7	26.4	24.2	37.1	35.4	19.1
(WY)	---	---	---	---	---	2000	2000	2000	2000	2000	2000	2000

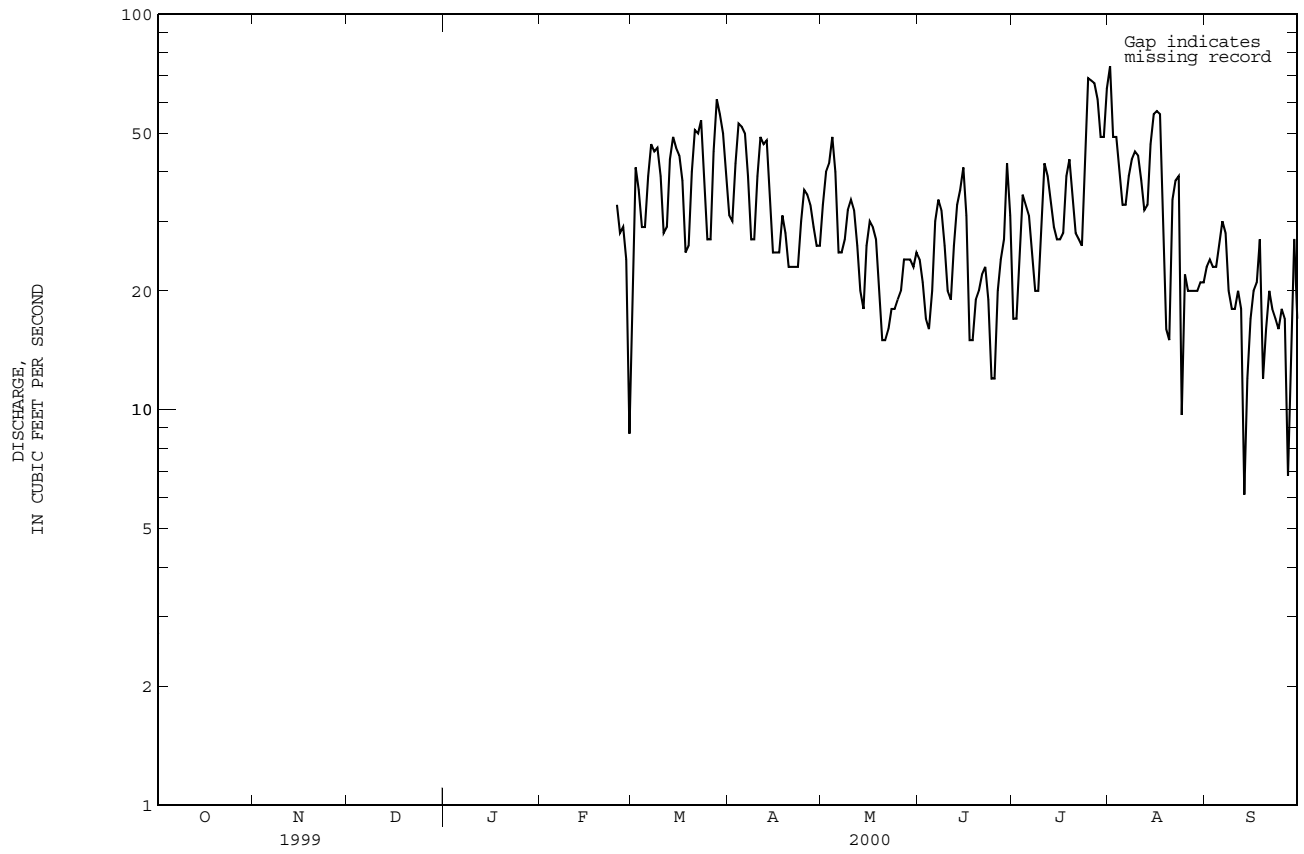
SUMMARY STATISTICS

FOR 2000 WATER YEAR

HIGHEST DAILY MEAN	74	Aug 1
LOWEST DAILY MEAN	6.1	Sep 13
ANNUAL SEVEN-DAY MINIMUM	15	Sep 22
MAXIMUM PEAK FLOW	163	Aug 23
MAXIMUM PEAK STAGE	4.88	Aug 23
10 PERCENT EXCEEDS	49	
50 PERCENT EXCEEDS	28	
90 PERCENT EXCEEDS	17	

CANAL PRINCIPAL DE RIEGO VALLE DE LAJAS BASIN

50128925 CANAL DE RIEGO DE LAJAS BELOW MAJINAS FILTRATION PLANT, PR--Continued



CANAL PRINCIPAL DE RIEGO VALLE DE LAJAS BASIN

50128925 CANAL DE RIEGO DE LAJAS BELOW MAJINAS FILTRATION PLANT, PR--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

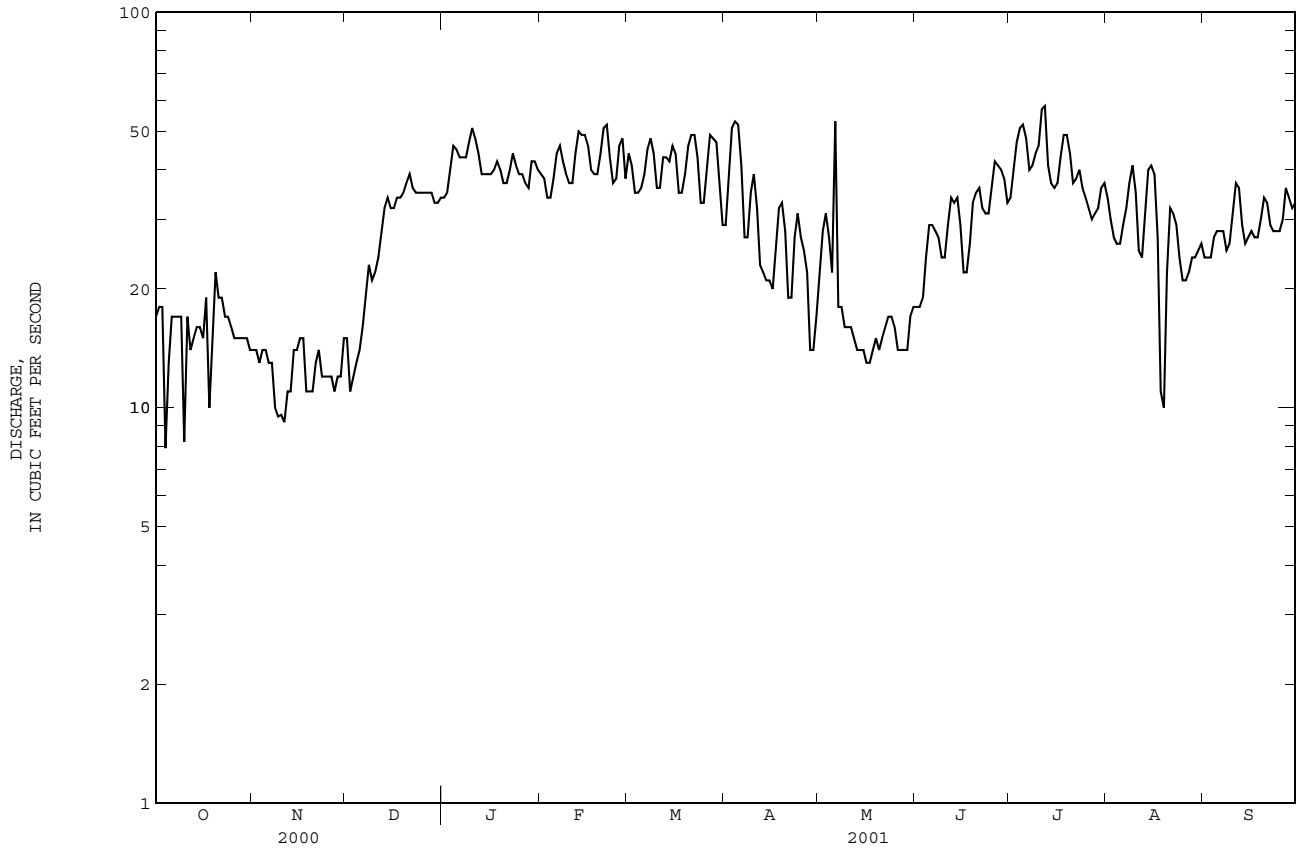
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	14	15	34	39	44	29	22	18	34	34	24
2	18	14	11	35	38	41	39	28	18	40	30	24
3	18	13	12	40	34	35	51	31	19	47	27	24
4	7.9	14	13	46	34	35	53	27	24	51	26	27
5	13	14	14	45	38	36	52	22	29	52	26	28
6	17	13	16	43	44	39	41	53	29	48	29	28
7	17	13	19	43	46	45	27	18	28	40	32	28
8	17	10	23	43	42	48	27	18	27	41	37	25
9	17	9.5	21	47	39	44	35	16	24	44	41	26
10	8.2	9.6	22	51	37	36	39	16	24	46	35	31
11	17	9.2	24	48	37	36	32	16	29	57	25	37
12	14	11	28	44	44	43	23	15	34	58	24	36
13	15	11	32	39	50	43	22	14	33	41	31	29
14	16	14	34	39	49	42	21	14	34	37	40	26
15	16	14	32	39	49	46	21	14	29	36	41	27
16	15	15	32	39	46	44	20	13	22	37	39	28
17	19	15	34	40	40	35	25	13	22	43	27	27
18	10	11	34	42	39	35	32	14	26	49	11	27
19	14	11	35	40	39	39	33	15	33	49	10	30
20	22	11	37	37	44	46	28	14	35	44	22	34
21	19	13	39	37	51	49	19	15	36	37	32	33
22	19	14	36	40	52	49	19	16	32	38	31	29
23	17	12	35	44	43	43	27	17	31	40	29	28
24	17	12	35	41	37	33	31	17	31	36	24	28
25	16	12	35	39	38	33	27	16	36	34	21	28
26	15	12	35	39	46	41	25	14	42	32	21	30
27	15	11	35	37	48	49	22	14	41	30	22	36
28	15	12	35	36	38	48	14	14	40	31	24	34
29	15	12	33	42	---	47	14	14	38	32	24	32
30	15	15	33	42	---	38	17	17	33	36	25	33
31	14	---	34	40	---	29	---	18	---	37	26	---
TOTAL	485.1	371.3	873	1271	1181	1271	865	565	897	1277	866	877
MEAN	15.6	12.4	28.2	41.0	42.2	41.0	28.8	18.2	29.9	41.2	27.9	29.2
MAX	22	15	39	51	52	49	53	53	42	58	41	37
MIN	7.9	9.2	11	34	34	29	14	13	18	30	10	24
AC-FT	962	736	1730	2520	2340	2520	1720	1120	1780	2530	1720	1740

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2001, BY WATER YEAR (WY)

	2000	2001	2001	2001	2000	2000	2001	2000	2001	2001	2000	2000
MEAN	15.6	12.4	28.2	41.0	42.2	40.4	31.3	22.3	27.1	39.1	31.7	24.2
MAX	15.6	12.4	28.2	41.0	42.2	41.0	33.7	26.4	29.9	41.2	35.4	29.2
(WY)	2001	2001	2001	2001	2001	2001	2000	2000	2001	2001	2000	2001
MIN	15.6	12.4	28.2	41.0	42.2	39.8	28.8	18.2	24.2	37.1	27.9	19.1
(WY)	2001	2001	2001	2001	2001	2000	2001	2001	2000	2000	2001	2000

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 2000 - 2001
ANNUAL TOTAL		10799.4	
ANNUAL MEAN		29.6	
HIGHEST ANNUAL MEAN		29.6	2001
LOWEST ANNUAL MEAN		29.6	2001
HIGHEST DAILY MEAN	74	Aug 1	74 Aug 1 2000
LOWEST DAILY MEAN	6.1	Sep 13	6.1 Sep 13 2000
ANNUAL SEVEN-DAY MINIMUM	10	Nov 7	10 Nov 7 2000
MAXIMUM PEAK FLOW		197	197 May 6 2001
MAXIMUM PEAK STAGE		5.39	5.39 May 6 2001
ANNUAL RUNOFF (AC-FT)		21420	21430
10 PERCENT EXCEEDS	46	44	46
50 PERCENT EXCEEDS	25	31	29
90 PERCENT EXCEEDS	13	14	14

CANAL PRINCIPAL DE RIEGO VALLE DE LAJAS BASIN
50128925 CANAL DE RIEGO DE LAJAS BELOW MAJINAS FILTRATION PLANT, PR--Continued



CANAL PRINCIPAL DE RIEGO VALLE DE LAJAS BASIN

50128940 CANAL DE RIEGO DE LAJAS ABOVE LAJAS FILTRATION PLANT AT LAJAS, PR

LOCATION.--Lat 18°02'44", long 66°03'17", Hydrologic Unit 21010003, on downstream side of Lajas Filtration Plant intake 2.8 mi (4.4 km) south of San Germán town plaza, 2.6 mi (4.2 km) east of Cerro Quemado and 1.5 mi (2.4 km) northeast of Universidad de Puerto Rico, Estación Experimental Agrícola and 0.6 mi (0.96 km) southeast from Lajas Plaza.

DRAINAGE AREA.--Indeterminate.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--January to September 2001.

GAGE.--Water stage recorder. Altitude of gage is 131.2 ft (40 m), from topographic map.

REMARKS.--Records fair.

EXTREMES OBSERVED FOR CURRENT PERIOD.--Maximum discharge, 190 ft³/s (5.4 m³/s) May 6, 2001, gage height, 3.64 ft (1.1m) from rating curve extended above 23 ft³/s (0.60 m³/s) on basis of step-backwater analysis; no flow many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					12	13	14	7.0	5.6	10	17	13
2					14	15	12	9.5	5.9	7.9	14	13
3					15	13	22	12	6.2	8.8	13	14
4					15	15	24	13	6.1	12	12	14
5					12	11	26	12	10	13	12	16
6					16	10	22	45	9.6	13	11	15
7					19	14	9.7	21	6.7	8.7	13	13
8					18	19	11	10	8.9	9.3	17	15
9					13	19	11	9.9	7.6	7.7	20	15
10					14	13	17	9.6	8.5	7.2	24	14
11					15	16	15	9.4	8.8	11	17	18
12					16	17	10	7.6	13	33	17	20
13					23	18	7.5	7.5	8.6	14	15	16
14					19	12	8.3	5.2	9.1	13	19	11
15					18	15	7.9	4.5	8.0	13	21	13
16					18	21	8.8	3.8	4.9	13	19	13
17					15	16	7.2	6.0	4.6	13	18	12
18					15	16	15	6.5	4.4	17	9.2	10
19					16	14	15	7.6	7.3	16	9.0	12
20					13	16	15	6.9	8.5	16	8.5	15
21					18	20	7.6	7.0	8.8	12	14	17
22					21	19	7.4	7.7	7.9	13	17	13
23					15	19	7.4	8.9	9.6	14	18	13
24					12	12	13	8.8	9.8	14	13	12
25					12	12	12	9.4	8.3	12	11	11
26					11	12	11	8.1	12	13	11	12
27					18	20	12	7.3	11	12	11	16
28					9.2	21	6.7	6.6	8.9	12	12	16
29					---	22	6.9	5.2	10	14	12	13
30				A	---	18	5.8	5.9	9.8	14	12	14
31				15	---	14	---	5.6	---	18	15	---
TOTAL	---	---	---	---	432.2	492	368.2	294.5	248.4	404.6	451.7	419
MEAN	---	---	---	---	15.4	15.9	12.3	9.50	8.28	13.1	14.6	14.0
MAX	---	---	---	---	23	22	26	45	13	33	24	20
MIN	---	---	---	---	9.2	10	5.8	3.8	4.4	7.2	8.5	10
AC-FT	---	---	---	---	857	976	730	584	493	803	896	831

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2001, BY WATER YEAR (WY)

	WY	MEAN	MAX	MIN
MEAN	---	15.4	15.9	12.3
MAX	---	15.4	15.9	12.3
(WY)	---	2001	2001	2001
MIN	---	15.4	15.9	12.3
(WY)	---	2001	2001	2001

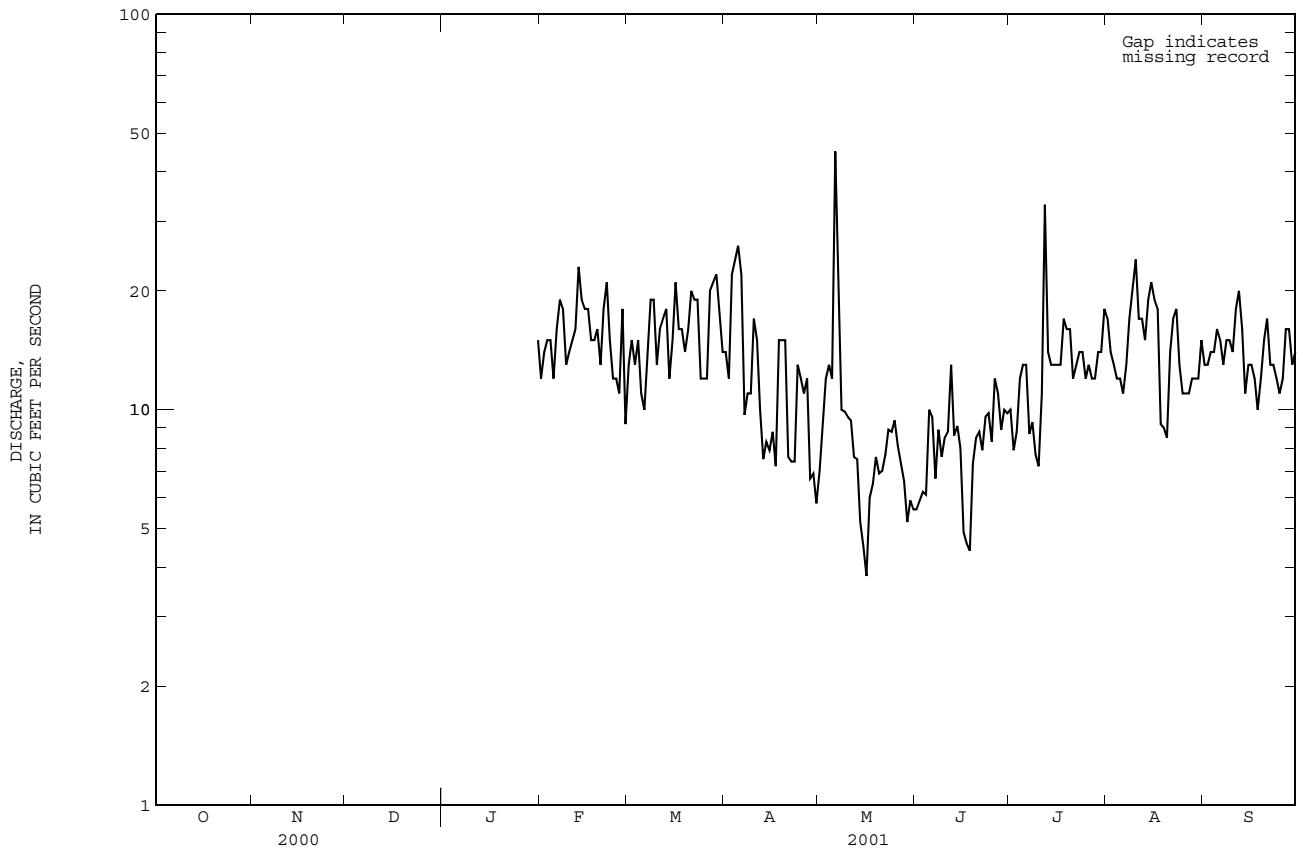
SUMMARY STATISTICS FOR 2001 WATER YEAR

HIGHEST DAILY MEAN	45	May 6
LOWEST DAILY MEAN	3.8	May 16
ANNUAL SEVEN-DAY MINIMUM	5.8	May 14
10 PERCENT EXCEEDS	19	
50 PERCENT EXCEEDS	13	
90 PERCENT EXCEEDS	7.2	

A No gage-height record

CANAL PRINCIPAL DE RIEGO VALLE DE LAJAS BASIN

50128940 CANAL DE RIGO DE LAJAS ABOVE LAJAS FILTRATION PLANT, LAJAS, PR--Continued



CANAL PRINCIPAL DE RIEGO VALLE DE LAJAS BASIN

50128945 CANAL DE RIEGO DE LAJAS AT BO. PALMAREJO NR LAJAS, PR

LOCATION.--Lat 18°02'14", long 67°04'44", Hydrologic Unit 21010004, 0.2 mi (0.32 km) south from Palmarejo school, 1.6 mi (2.57 km) south west from Lajas Plaza Church and 0.5 mi (.80 km) northwest from Universidad de Puerto Rico Estación Agrícola.

DRAINAGE AREA.--Indeterminate.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--January to September 2001.

GAGE.--Water stage recorder. Altitude of gage is about 98 ft (30 m) from topographic map.

REMARKS.--Records fair. Controlled by Lago Loco dam.

EXTREMES OBSERVED FOR CURRENT PERIOD.--Maximum discharge, 97 ft³/s (2.75 m³/s) May 6, 2001, gage height, 3.32 ft (1.01 m); no flow many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	7.9	8.1	7.4	3.2	4.0	15	18	11
2	---	---	---	---	9.9	12	5.0	4.4	4.8	9.5	17	11
3	---	---	---	---	11	9.3	15	6.8	4.0	7.9	14	12
4	---	---	---	---	12	11	17	7.8	1.3	13	12	11
5	---	---	---	---	7.9	7.2	18	6.8	8.0	13	12	12
6	---	---	---	---	12	4.7	14	36	6.7	11	11	11
7	---	---	---	---	16	8.6	4.9	9.3	3.8	9.4	14	10
8	---	---	---	---	16	15	7.1	5.5	7.2	10	17	14
9	---	---	---	---	9.3	17	7.7	7.3	5.4	6.9	18	12
10	---	---	---	---	10	9.8	14	7.2	6.5	3.8	24	11
11	---	---	---	---	12	12	13	7.2	5.6	11	20	17
12	---	---	---	---	12	13	3.3	4.8	11	28	19	15
13	---	---	---	---	18	16	.00	5.0	7.2	17	15	11
14	---	---	---	---	12	7.7	2.4	2.9	8.7	22	19	8.1
15	---	---	---	---	9.8	8.5	4.6	1.4	8.2	23	21	8.8
16	---	---	---	---	12	16	4.9	.89	3.7	22	18	8.6
17	---	---	---	---	8.7	12	3.9	2.8	4.1	19	19	8.6
18	---	---	---	---	9.4	12	13	3.7	4.1	26	8.0	8.2
19	---	---	---	---	10	8.2	A	4.2	6.7	19	7.5	9.9
20	---	---	---	---	8.6	11	A	3.8	7.6	21	6.1	12
21	---	---	---	---	13	17	A	4.3	8.4	14	11	16
22	---	---	---	---	15	17	A	6.0	7.9	15	13	11
23	---	---	---	---	13	17	A	6.2	9.3	13	15	11
24	---	---	---	---	7.1	7.4	A	5.5	10	17	11	10
25	---	---	---	---	7.9	8.1	6.5	5.7	9.5	15	9.2	8.9
26	---	---	---	---	7.3	8.3	7.3	4.0	12	17	9.7	8.6
27	---	---	---	---	14	15	A	4.0	5.9	15	8.4	14
28	---	---	---	---	5.2	18	A	4.1	10	15	7.7	14
29	---	---	---	---	---	17	3.5	2.1	13	16	7.7	12
30	---	---	---	---	---	12	2.5	2.7	16	16	8.2	12
31	---	---	---	13	---	7.5	---	3.6	---	22	10	---
TOTAL	---	---	---	---	307.0	363.4	---	179.19	220.6	482.5	420.5	339.7
MEAN	---	---	---	---	11.0	11.7	---	5.78	7.35	15.6	13.6	11.3
MAX	---	---	---	---	18	18	---	36	16	28	24	17
MIN	---	---	---	---	5.2	4.7	---	.89	1.3	3.8	6.1	8.1
AC-FT	---	---	---	---	609	721	---	355	438	957	834	674

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2001, BY WATER YEAR (WY)

MEAN	---	---	---	---	11.0	11.7	---	5.78	7.35	15.6	13.6	11.3
MAX	---	---	---	---	11.0	11.7	---	5.78	7.35	15.6	13.6	11.3
(WY)	---	---	---	---	2001	2001	---	2001	2001	2001	2001	2001
MIN	---	---	---	---	11.0	11.7	---	5.78	7.35	15.6	13.6	11.3
(WY)	---	---	---	---	2001	2001	---	2001	2001	2001	2001	2001

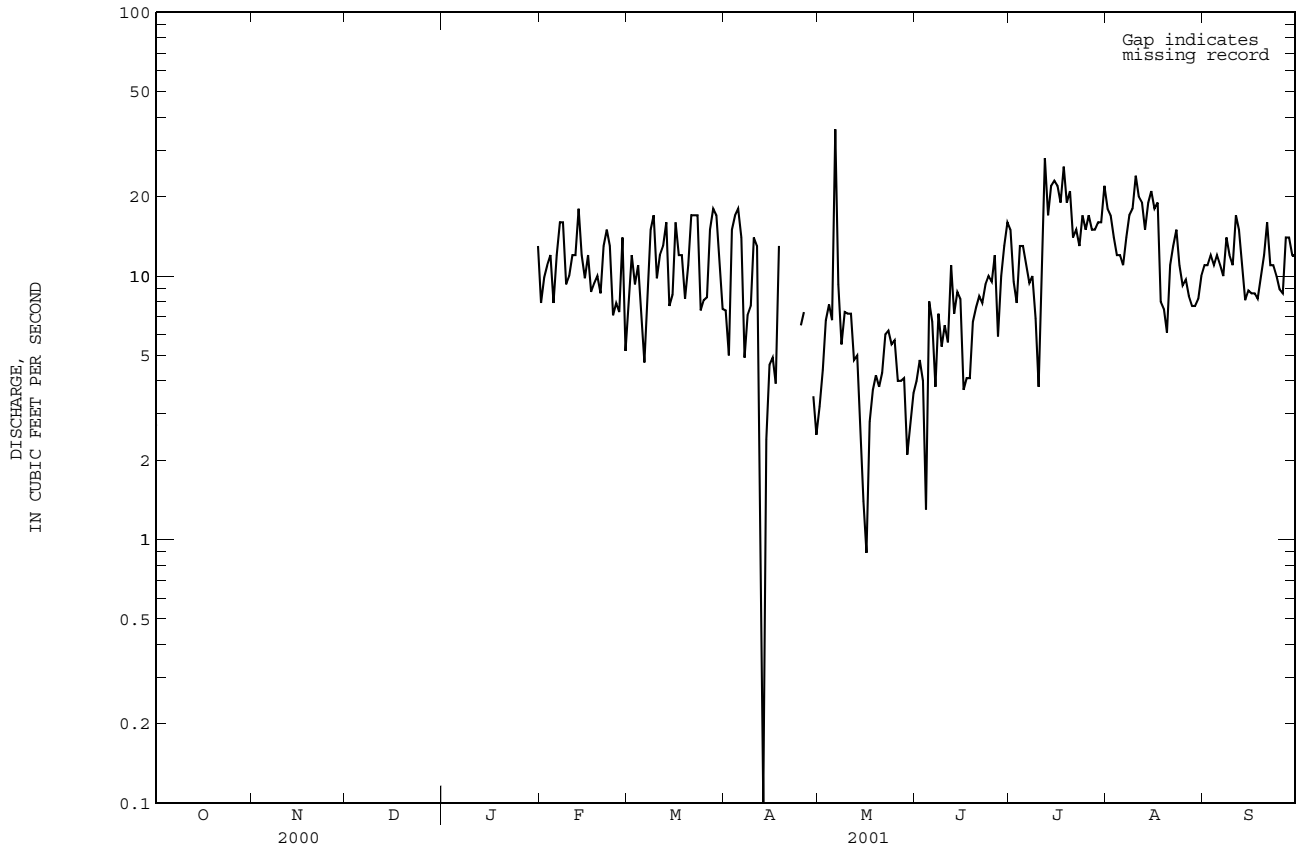
SUMMARY STATISTICS

FOR 2001 WATER YEAR

HIGHEST DAILY MEAN	36	May 6
LOWEST DAILY MEAN	.00	Apr 13
ANNUAL SEVEN-DAY MINIMUM	2.8	May 14
MAXIMUM PEAK FLOW	97	May 6
MAXIMUM PEAK STAGE	3.32	May 6
10 PERCENT EXCEEDS	17	
50 PERCENT EXCEEDS	10	
90 PERCENT EXCEEDS	4.0	

A - No gage-height record.

CANAL PRINCIPAL DE RIEGO VALLE DE LAJAS BASIN
50128945 CANAL DE RIEGO DE LAJAS AT BO. PALMAREJO NR LAJAS, PR--Continued



RIO LOCO BASIN

50129700 RIO LOCO AT GUANICA, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 17°58'33", long 66°54'52", 0.6 mi (1.0 km) northwest of Guanica plaza and 1.2 mi (1.9 km) northeast of Ensenada.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--Water years 1975 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	SPE-CIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD WATER UNITS) (00400)	TEMPERATURE (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00301)	COLIFORM, FECALE, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STREP, WATER (COL/100 ML) (31673)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	
OCT 20...	1400	285	8.1	26.7	22	7.3	91	<10	29000	240	110	28.3	10.1
FEB 06...	1050	308	7.8	24.0	5.1	5.6	65	<10	410	470	--	--	--
MAY 01...	1345	414	7.3	27.0	2.6	2.7	34	15	230	290	150	33.9	15.9
SEP 06...	1630	--	--	--	--	--	--	<10	--	--	150	34.9	15.6

DATE	TIME	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS DIS-SOLVED (70301)	RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 20...	10	.4	2.06	118	<1.0	12.7	11.0	<.2	22.8	168	21	<.01	.8	
FEB 06...	--	--	--	133	--	--	--	--	--	--	12	<.01	.6	
MAY 01...	22.0	.8	1.75	153	<1.0	17.1	22.2	E.1	22.5	227	<10	<.01	.2	
SEP 06...	22.9	.8	1.68	--	--	16.4	22.9	E.1	21.8	231	14	<.01	.4	

DATE	TIME	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	ARSENIC, TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	CADMIUM, WATER UNFLTRD (UG/L AS CD) (01027)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)
OCT 20...	<.01	--	.40	1.2	5.4	.040	<2	42.8	18	<.11	5	<20.0	870	
FEB 06...	.05	.16	.21	.82	3.6	<.020	--	--	--	--	--	--	--	
MAY 01...	.02	.20	.22	.41	1.8	.060	<2	56.5	42	<.11	2	<20.0	200	
SEP 06...	.03	.17	.20	.62	2.7	<.020	--	--	--	--	--	--	--	

DATE	TIME	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MERCURY, TOTAL RECOVERABLE (UG/L AS HG) (71900)	SELENIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	CYANIDE, TOTAL (MG/L AS CN) (00720)	PHENOLS, TOTAL (UG/L) (32730)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L) (38260)
OCT 20...	<1	86	<.14	<2.6	<.43	<31	<.01	<16	<.03	
FEB 06...	--	--	--	--	--	--	--	--	--	
MAY 01...	<1	52	<.01	<2.6	<.43	<31	<.01	<16	<.04	
SEP 06...	--	--	--	--	--	--	--	--	--	

< -- Less than
E -- Estimated value

RIO LOCO BASIN

50129700 RIO LOCO AT GUANICA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR- DANE, TECH- NICAL TOTAL (UG/L) (39350)	P,P'- DDD UNFILT RECOVER (UG/L) (39360)	P,P'- DDE, TOTAL (UG/L) (39365)	P,P'- DDT UNFILT RECOVER (UG/L) (39370)	DI- AZINON, TOTAL (UG/L) (39570)	DI- ELDRIN TOTAL (UG/L) (39380)	ENDO- SULFAN I TOTAL (UG/L) (39388)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)	
DATE		HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALA- THON, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METHYL PARA- THON, TOTAL (UG/L) (39600)	MIREX, TOTAL (UG/L) (39755)	PARA- THON, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	CARBO- PHENO- THON WATER UNFLTRD TOTAL (UG/L) (39786)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	2,4-DP TOTAL (UG/L) (82183)	SILVEX, TOTAL (UG/L) (39760)
MAY 01...	1345	<.1	<.013	<.1	<.007	<.006	<.009	<.02	<.006	<.015	<.014	<.01	<.014	
MAY 01...		<.009	<.006	<.03	<.01	<.01	<.01	<1	<.02	.02	<.01	<.04	<.01	

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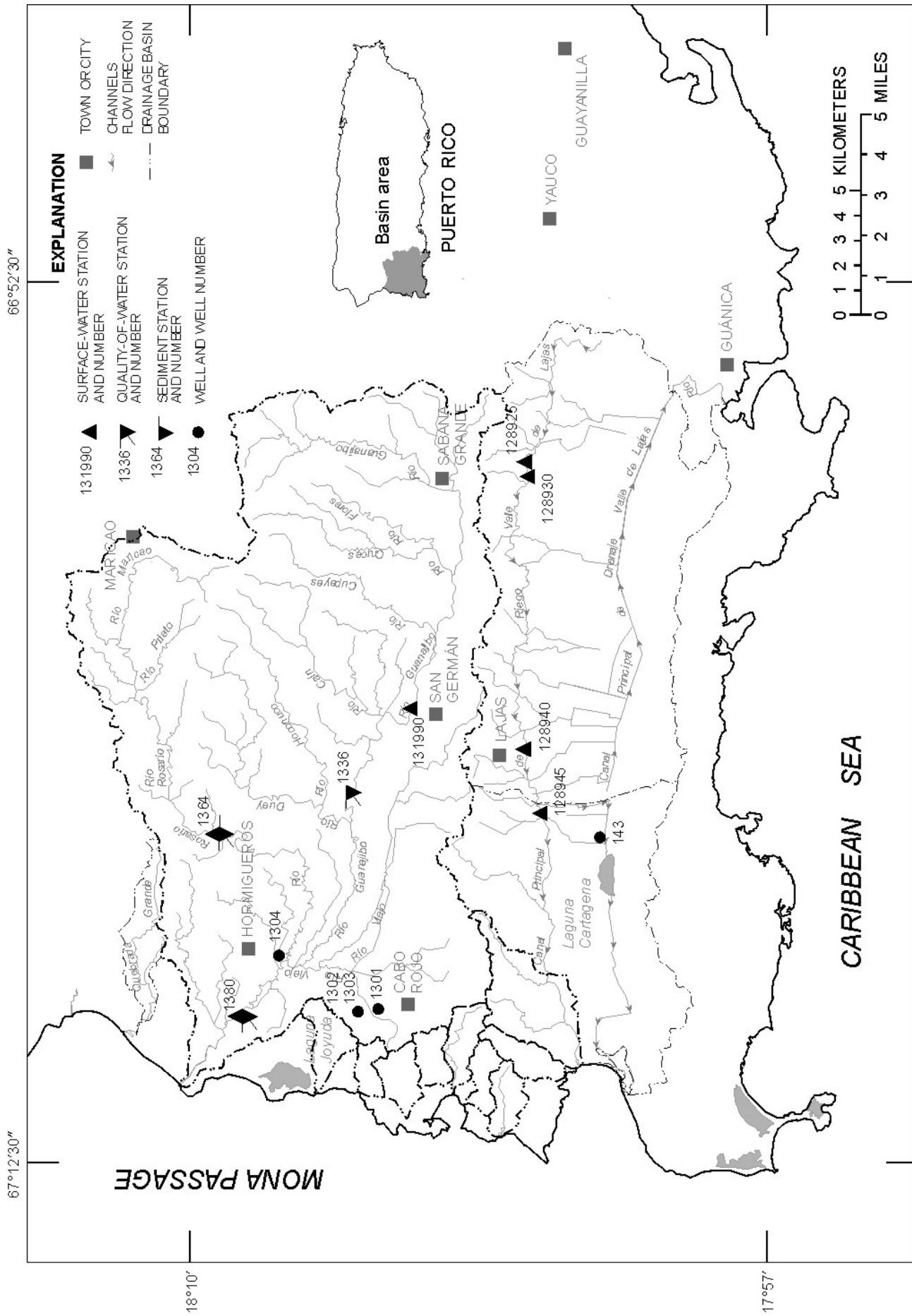


Figure 23. Río Guanajibo basin.

RIO GUANAJIBO BASIN

50131990 RIO GUANAJIBO AT HWY 119 AT SAN GERMAN, PR

LOCATION.--Lat 18°05'06",long 67°02'02", Hydrologic Unit 21010003, on left bank, at bridge on Hwy 119, 0.6 mi (1.0 km) southwest of junction of Highways 119 and 2, 0.2 mi (0.3 km) northeast of junction of Highways 119 and 102, 0.7 mi (1.1 km) east from public Plaza of San Germán.

DRAINAGE AREA.--34.6 mi² (89.6 km²).

PERIOD OF RECORD.--April 1991 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 148 ft (45 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

REVISIONS.--The maximum discharges for some water years have been revised as shown in the following tables. They supersede figures published in the reports for 1996-2000.

Water Year	Date	Discharge (ft ³ /s)	Gage-height (ft)	Water Year	Date	Discharge (ft ³ /s)	Gage-height (ft)
1996	Sep. 10	2,240	10.09	1999	Oct. 7	5,130	12.41
1997	Jan. 2	2,540	9.99	2000	Aug.23	6,910	13.44
1998	Sep 22	23,100	19.53				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	164	29	15	12	7.8	8.1	29	24	23	15	13
2	51	130	22	14	14	8.5	8.6	18	23	19	15	13
3	57	87	20	e14	10	7.6	12	14	23	16	13	11
4	46	70	19	e14	9.3	7.0	88	12	27	15	13	11
5	49	60	18	15	8.0	e6.5	198	11	e20	15	12	9.4
6	273	52	17	14	8.4	6.3	330	4480	e19	14	12	8.9
7	460	89	17	13	8.8	6.5	197	571	e18	13	11	29
8	177	51	17	12	e9.6	e6.7	411	156	e17	13	11	63
9	95	40	16	12	e15	e7.3	423	107	e17	13	10	39
10	71	37	15	11	e11	e7.2	123	89	e16	14	11	22
11	59	34	14	12	e9.1	e7.2	54	84	e16	20	11	23
12	e54	31	14	12	e8.7	6.9	35	62	e15	15	12	44
13	47	63	14	11	e8.7	7.5	47	52	e14	17	11	123
14	41	308	14	18	e8.2	11	45	46	e26	14	10	33
15	37	81	14	15	e7.8	8.2	30	45	34	39	9.9	23
16	88	52	15	15	8.2	e7.5	23	43	38	19	9.3	20
17	50	e49	16	19	8.3	7.2	19	41	18	15	9.9	17
18	36	e42	17	17	7.8	7.1	17	41	16	36	9.4	16
19	41	e36	15	15	e7.9	e7.2	15	42	15	32	14	15
20	184	e33	15	13	6.1	e8.0	48	36	14	19	15	27
21	401	e33	e16	12	e6.6	e8.3	70	33	14	19	10	172
22	245	e41	14	12	10	e5.8	41	32	23	66	10	62
23	460	e32	13	16	29	e19	295	31	19	57	67	79
24	311	e31	14	12	19	e64	186	31	16	28	21	76
25	171	e41	13	10	13	e52	55	30	15	22	15	33
26	104	e25	68	10	8.7	e18	26	29	17	20	23	43
27	73	e21	59	16	e8.0	e12	18	27	19	19	15	45
28	187	e20	20	17	8.1	e13	18	28	30	21	14	29
29	527	20	17	13	---	e36	44	27	21	73	12	23
30	398	41	17	15	---	e11	74	26	18	27	17	20
31	169	---	16	11	---	8.4	---	25	---	19	16	---
TOTAL	5008	1814	605	425	289.3	396.7	2958.7	6298	602	752	454.5	1142.3
MEAN	162	60.5	19.5	13.7	10.3	12.8	98.6	203	20.1	24.3	14.7	38.1
MAX	527	308	68	19	29	64	423	4480	38	73	67	172
MIN	36	20	13	10	6.1	5.8	8.1	11	14	13	9.3	8.9
MED	88	41	16	14	8.7	7.6	46	33	18	19	12	25
AC-FT	9930	3600	1200	843	574	787	5870	12490	1190	1490	902	2270
CFSM	4.67	1.75	.56	.40	.30	.37	2.85	5.87	.58	.70	.42	1.10
IN.	5.38	1.95	.65	.46	.31	.43	3.18	6.77	.65	.81	.49	1.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2001, BY WATER YEAR (WY)

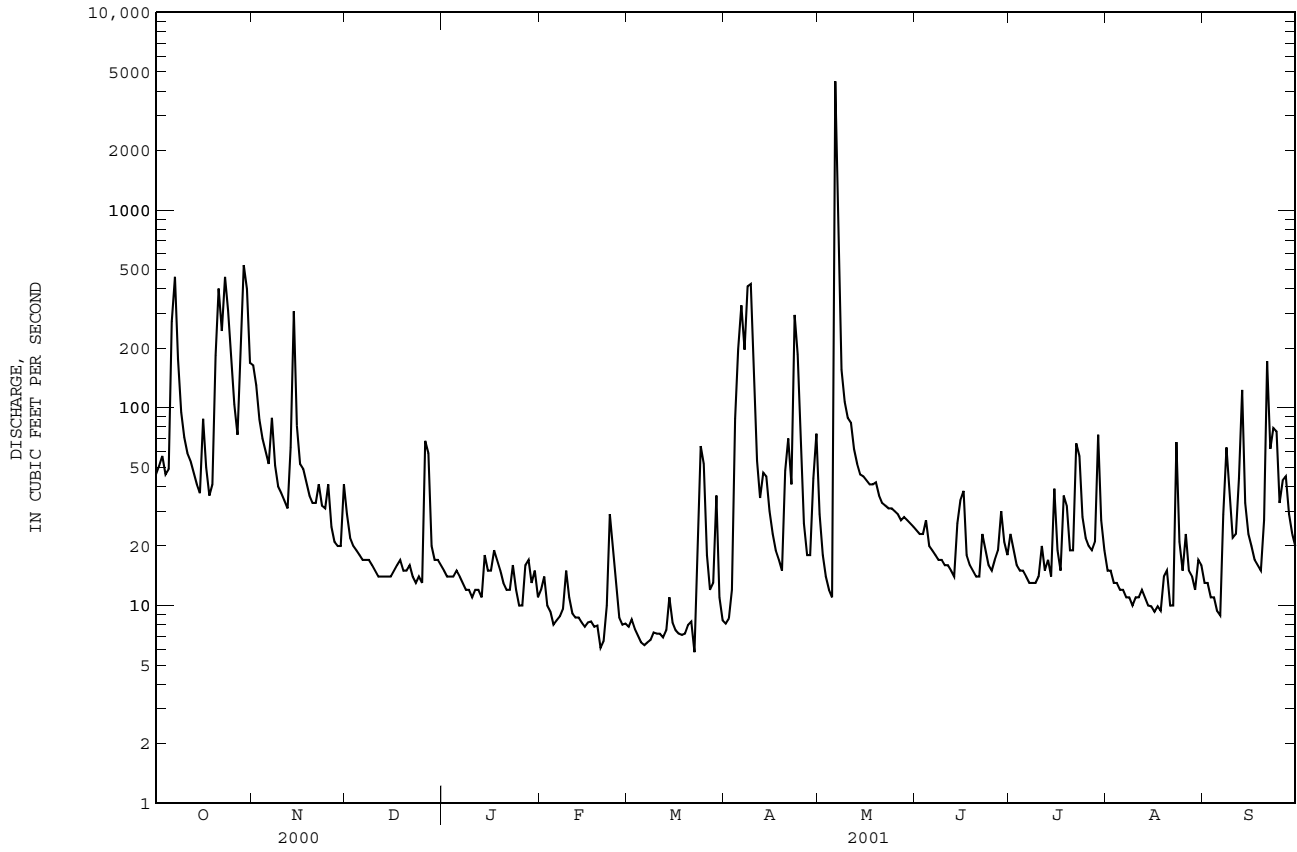
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	
MEAN	180	77.6	30.3	21.8	21.2	12.5	29.9	63.9	25.8	19.9	51.1	217
MAX	632	127	76.5	47.5	45.3	25.8	98.6	203	61.3	37.6	111	1585
(WY)	1999	1997	1999	1997	1998	1995	2001	2001	1999	1995	2000	1998
MIN	20.4	15.8	8.21	6.10	4.32	3.52	7.79	5.11	3.91	6.68	14.7	11.2
(WY)	1992	1992	1992	1998	1992	1992	1997	1994	1994	1994	2001	1997

	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1991 - 2001
ANNUAL TOTAL	24498.9	20745.5	
ANNUAL MEAN	66.9	56.8	65.0
HIGHEST ANNUAL MEAN			179
LOWEST ANNUAL MEAN			16.6
HIGHEST DAILY MEAN	1940	4480	17300
LOWEST DAILY MEAN	3.6	5.8	1.5
ANNUAL SEVEN-DAY MINIMUM	5.8	6.8	1.8
MAXIMUM PEAK FLOW		29900	29900
MAXIMUM PEAK STAGE		21.26	21.26
ANNUAL RUNOFF (AC-FT)	48590	41150	47060
ANNUAL RUNOFF (CFSM)	1.93	1.64	1.88
ANNUAL RUNOFF (INCHES)	26.34	22.30	25.51
10 PERCENT EXCEEDS	131	87	109
50 PERCENT EXCEEDS	22	18	18
90 PERCENT EXCEEDS	8.2	8.7	5.5

e Estimated

RIO GUANAJIBO BASIN

50131990 RIO GUANAJIBO AT HWY 119 AT SAN GERMAN, PR--Continued



RIO GUANAJIBO BASIN

50133600 RIO GUANAJIBO NEAR SAN GERMAN, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°07'18", long 67°03'56", at bridge on Highway 347, 2.2 mi (3.5 km) northwest of San German.

DRAINAGE AREA.--45.5 mi² (117.8 km²).

PERIOD OF RECORD.--Water years 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, MF, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT 26...	1400	99	442	8.1	28.4	7.0	7.0	90	<10	3500	520	200	23.9
FEB 05...	1040	11	680	7.9	24.0	4.0	6.2	73	<10	E1500	E160	--	--
MAY 17...	1515	53	615	8.0	29.5	2.1	9.0	117	<10	100	100	260	29.5
SEP 20...	1330	200	255	7.5	25.5	--	8.1	99	84	>60000	82000	110	15.8

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS S04) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDEED (MG/L) (00530)
OCT 26...	34.0	13.2	.4	1.72	187	<1.0	17.8	15.3	E.1	31.4	249	66.4	15
FEB 05...	--	--	--	--	256	--	--	--	--	--	--	--	<10
MAY 17...	45.8	15.1	.4	2.10	231	<1.0	21.3	20.7	E.1	32.4	306	43.6	<10
SEP 20...	18.1	8.9	.4	3.18	108	--	10.1	11.1	E.1	18.1	150	81.2	510

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, ORGANIC (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
OCT 26...	.94	.06	1.0	.20	.35	.55	1.6	6.9	.150	<2	50.9	41	<.11
FEB 05...	2.83	.17	3.0	.40	.54	.94	3.9	17.4	.840	--	--	--	--
MAY 17...	.83	.02	.8	.01	.51	.52	1.4	6.1	.130	<2	60.2	57	<.10
SEP 20...	.96	.04	1.0	.18	--	E3.8	--	--	1.10	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 26...	11	<20.0	600	M	41	<.14	<2.6	<.43	<31	<.01	<16	<.02
FEB 05...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 17...	3	<20.0	50	<1	24	<.01	<3.0	<.40	<31	<.01	E5	.03
SEP 20...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
 E -- Estimated value
 M -- Presence verified, not quantified
 > -- Greater than

RIO GUANAJIBO BASIN

50136400 RIO ROSARIO NEAR HORMIGUEROS, PR

LOCATION.--Lat 18°09'36", long 67°05'08", Hydrologic Unit 21010003, at bridge on Highway 348, 0.5 mi (0.8 km) southwest of Rosario plaza.

DRAINAGE AREA.--18.3 mi² (47.4 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 50.0 ft (15.2 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e55	119	36	23	18	e14	12	29	20	108	68	100
2	e58	119	34	23	18	e14	13	22	19	57	67	78
3	e50	98	33	23	17	e14	17	19	23	35	50	81
4	46	87	32	22	17	e14	27	17	20	47	44	86
5	54	e82	31	22	17	e14	40	16	24	39	40	70
6	66	e77	e31	22	16	e13	73	388	17	27	39	61
7	100	e74	e31	22	16	e13	71	172	15	24	36	126
8	89	e70	e30	22	16	e13	55	51	14	23	35	109
9	65	e67	e30	21	29	e13	52	33	15	26	63	88
10	57	e65	e28	22	e16	e13	28	244	18	45	48	81
11	65	e62	e30	22	e15	e13	20	157	16	56	48	90
12	67	e60	29	22	e14	e13	16	113	16	37	50	123
13	53	e88	30	22	e14	e13	16	72	18	49	36	110
14	49	84	29	22	e13	e14	20	57	15	158	54	81
15	49	94	29	22	e14	e13	14	50	16	119	50	70
16	65	77	28	24	e15	e13	13	39	20	53	41	64
17	90	63	28	26	e16	e13	12	35	84	38	37	61
18	108	e56	28	23	e15	e13	12	33	46	48	32	57
19	101	e52	28	23	e15	e12	12	35	34	39	92	53
20	139	e50	28	21	e14	e13	17	26	21	29	90	60
21	136	e47	27	21	e15	e13	34	23	18	27	50	115
22	139	e45	27	21	e15	e13	49	21	18	58	145	124
23	148	e44	27	20	e22	e15	92	19	21	46	104	114
24	121	e60	27	19	e21	23	63	18	18	135	63	74
25	98	50	27	18	e21	29	31	16	23	135	65	77
26	85	42	26	18	e17	14	41	15	26	140	94	149
27	76	40	26	19	e15	13	56	16	74	93	144	212
28	90	38	26	19	e15	14	28	22	70	126	108	124
29	113	35	25	19	---	24	28	19	66	106	154	86
30	142	36	24	32	---	15	54	18	238	70	261	71
31	115	---	23	19	---	12	---	18	---	55	143	---
TOTAL	2689	1981	888	674	466	450	1016	1813	1043	2048	2351	2795
MEAN	86.7	66.0	28.6	21.7	16.6	14.5	33.9	58.5	34.8	66.1	75.8	93.2
MAX	148	119	36	32	29	29	92	388	238	158	261	212
MIN	46	35	23	18	13	12	12	15	14	23	32	53
AC-FT	5330	3930	1760	1340	924	893	2020	3600	2070	4060	4660	5540
CFSM	4.74	3.61	1.57	1.19	.91	.79	1.85	3.20	1.90	3.61	4.14	5.09
IN.	5.47	4.03	1.81	1.37	.95	.91	2.07	3.69	2.12	4.16	4.78	5.68

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2001, BY WATER YEAR (WY)

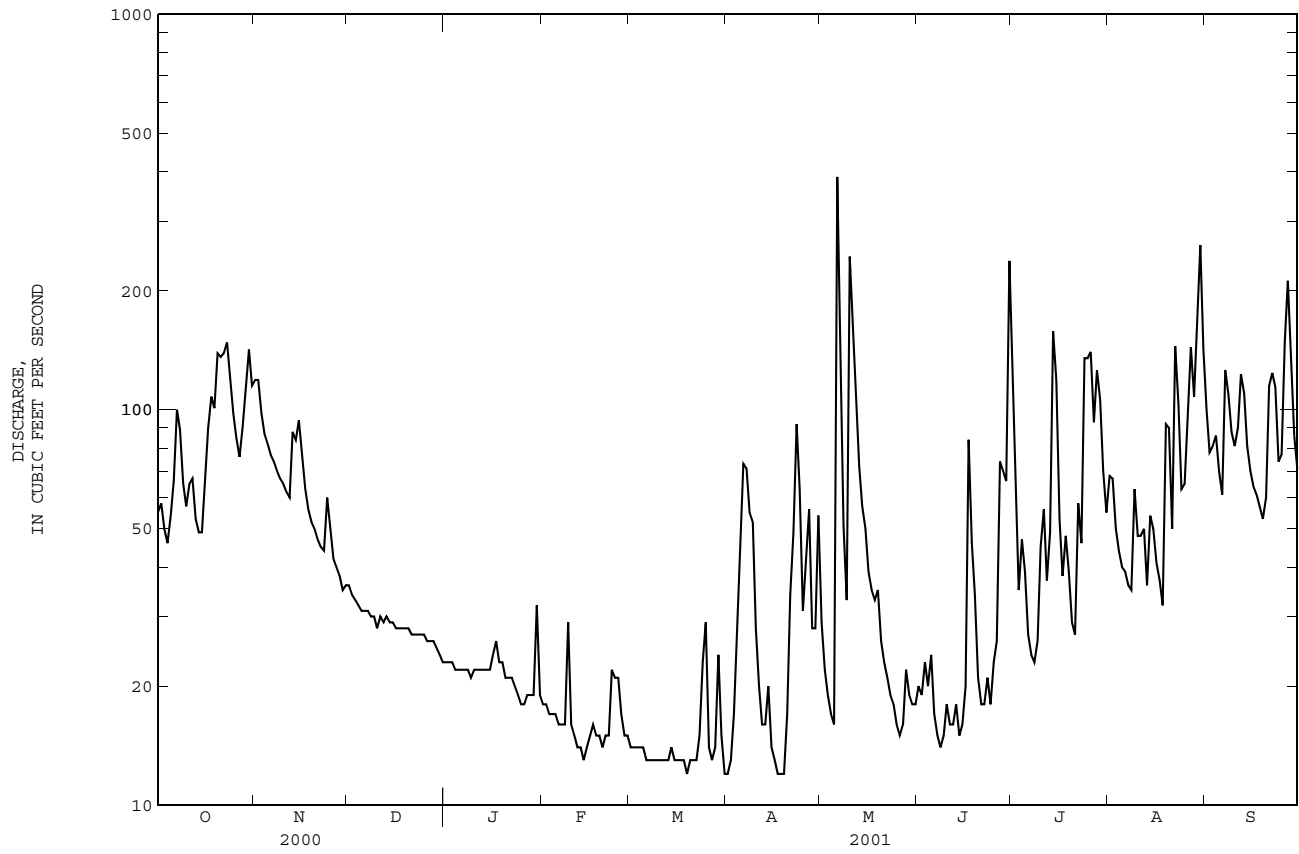
	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	111	75.6	34.0	24.0	19.7	20.8	24.2	44.0	45.9	44.1	64.4	105				
MAX	206	150	61.5	39.7	37.8	77.0	57.7	122	127	75.2	102	308				
(WY)	1986	2000	2000	1997	1995	1989	1989	1993	1999	1989	1989	1998				
MIN	33.2	16.1	9.92	15.1	8.55	10.1	11.0	14.8	12.0	23.2	25.1	32.7				
(WY)	1992	1992	1992	1994	1992	1992	1998	1997	1992	1990	1991	1986				

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1986 - 2001

ANNUAL TOTAL	15518	18214														
ANNUAL MEAN	42.4	49.9								51.2						
HIGHEST ANNUAL MEAN										75.9						1999
LOWEST ANNUAL MEAN										30.8						1992
HIGHEST DAILY MEAN	300	Aug 23					388	May 6		4420				Sep 22		1998
LOWEST DAILY MEAN	12	Apr 6					12	Mar 19		3.9				May 9		1992
ANNUAL SEVEN-DAY MINIMUM	13	Apr 14					13	Mar 15		4.2				May 6		1992
MAXIMUM PEAK FLOW							2820	Aug 30		13700				Sep 22		1998
MAXIMUM PEAK STAGE							9.49	Aug 30		18.66				Sep 22		1998
INSTANTANEOUS LOW FLOW							11	Apr 18		3.7				May 9		1992
ANNUAL RUNOFF (AC-FT)	30780						36130			37060						
ANNUAL RUNOFF (CFSM)	2.32						2.73			2.80						
ANNUAL RUNOFF (INCHES)	31.54						37.03			37.98						
10 PERCENT EXCEEDS	88						109			118						
50 PERCENT EXCEEDS	29						32			29						
90 PERCENT EXCEEDS	17						14			12						

e Estimated

RIO GUANAJIBO BASIN
50136400 RIO ROSARIO NEAR HORMIGUEROS, PR--Continued



50136400 RIO ROSARIO NEAR HORMIGUEROS, PR

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: October 1985 to current year.

INSTRUMENTATION.--USDH-48 sediment sampler since October 1985. Automatic sediment sampler since 1986.

REMARKS.-- Sediment samples were collected by a local observer on a weekly basis. During high flow events sediment samples were collected with automatic sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 15,900 mg/L September 22, 1998; Minimum daily mean, 1 mg/L several days during several years.

SEDIMENT LOADS: Maximum daily mean, 356,000 tons (323,000 tonnes) September 22, 1998; Minimum daily mean, 0.05 ton (0.04 tonne) several days during several years.

EXTREMES FOR CURRENT YEAR 2001.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,070 mg/L August 30, 2001; Minimum daily mean, 2.0 mg/L January 5 and February 18, 19, 2001.

SEDIMENT LOADS: Maximum daily mean, 2,740 tons (2,486 tonnes) August 30, 2001; Minimum daily mean, e0.08 ton (e0.07 tonne) February 18, 2001.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	
OCT 26...	1215	84	250	8.3	25.5	2.9	7.6	92	<10	35000	E54	110	19.8
FEB 05...	1310	17	289	8.4	25.3	1.0	8.6	105	<10	E10	E20	--	--
MAY 17...	1245	33	292	8.1	27.0	2.7	8.4	--	<10	<27	<180	120	23.5
SEP 14...	1355	77	258	7.9	27.2	--	8.1	102	<10	210	410	120	23.4

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDEED (MG/L) (00530)
OCT 26...	14.5	6.0	.3	1.12	108	<1.0	5.6	6.1	<.2	28.1	146	33.3	<10
FEB 05...	--	--	--	--	134	--	--	--	--	--	--	--	12
MAY 17...	15.8	6.6	.3	1.25	123	<1.0	6.9	7.9	<.2	29.9	166	14.8	<10
SEP 14...	15.2	6.9	.3	1.22	67	--	6.5	7.0	<.2	28.9	129	26.8	<10

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM, TOTAL UNFLTRD RECOV-ERABLE (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
OCT 26...	<.01	1.0	<.01	<.20	--	--	.030	<2	35.5	E11	<.11	9	<20.0
FEB 05...	<.01	.6	<.01	.26	.86	3.8	<.020	--	--	--	--	--	--
MAY 17...	<.01	.8	<.01	<.20	--	--	.030	<2	35.7	18	<.10	4	<20.0
SEP 14...	<.01	.9	.03	<.20	--	--	<.020	--	--	--	--	--	--

< -- Less than
E -- Estimated value

RIO GUANAJIBO BASIN

50136400 RIO ROSARIO NEAR HORMIGUEROS, PR.

WATER-QUALITY RECORDS

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)		DISCHARGE (CFS)	CONCEN- TRATION (MG/L)		DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	
	OCTOBER			NOVEMBER			DECEMBER		
1	e55	e15	e2.8	119	38	14	36	7	.63
2	e58	e14	e2.8	119	36	12	34	6	.53
3	e50	e10	e1.7	98	17	4.5	33	5	.46
4	46	7	.86	87	18	4.1	32	6	.49
5	54	21	4.8	e82	e20	e4.8	31	6	.54
6	66	38	8.4	e77	e21	e5.5	e31	e7	e.53
7	100	59	19	e74	e16	e4.1	e31	e6	e.40
8	89	47	12	e70	e11	e2.7	e30	e4	e.31
9	65	24	4.3	e67	e6	e1.6	e30	e3	e.24
10	57	11	1.7	e65	e6	e1.5	e28	e4	e.30
11	65	22	4.9	e62	e7	e1.5	e30	e5	e.38
12	67	28	5.2	e60	e7	e1.5	29	6	.46
13	53	9	1.3	e88	e24	e7.4	30	7	.54
14	49	5	.67	84	25	5.8	29	7	.58
15	49	5	.67	94	35	11	29	8	.61
16	65	22	6.2	77	32	6.8	28	7	.54
17	90	48	17	63	13	2.2	28	6	.46
18	108	65	20	e56	e9	e1.5	28	5	.40
19	101	54	17	e52	e8	e1.3	28	6	.43
20	139	86	33	e50	e8	e1.2	28	6	.48
21	136	81	31	e47	e7	e1.1	27	7	.51
22	139	76	29	e45	e7	e1.0	27	7	.49
23	148	69	28	e44	e7	e.97	27	6	.46
24	121	70	23	e60	e33	e7.5	27	6	.44
25	98	23	6.2	50	14	1.9	27	6	.47
26	85	15	3.3	42	10	1.1	26	7	.47
27	76	11	2.3	40	7	.77	26	7	.49
28	90	29	10	38	8	.81	26	7	.52
29	113	52	17	35	8	.77	25	8	.51
30	142	63	25	36	7	.72	24	8	.51
31	115	25	8.2	---	---	---	23	8	.50
TOTAL	2689	---	347.30	1981	---	111.64	888	---	14.68

DAY	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)	MEAN	MEAN	SEDIMENT DISCHARGE (TONS/DAY)
	DISCHARGE (CFS)	CONCEN- TRATION (MG/L)		DISCHARGE (CFS)	CONCEN- TRATION (MG/L)		DISCHARGE (CFS)	CONCEN- TRATION (MG/L)	
	JANUARY			FEBRUARY			MARCH		
1	23	8	.50	18	3	.16	e14	e4	e.15
2	23	8	.49	18	4	.18	e14	e4	e.15
3	23	6	.38	17	4	.19	e14	e5	e.17
4	22	4	.25	17	5	.23	e14	e5	e.19
5	22	2	.14	17	6	.27	e14	e6	e.20
6	22	3	.15	16	7	.30	e13	e4	e.13
7	22	3	.20	16	7	.28	e13	e3	e.11
8	22	4	.23	16	7	.31	e13	e3	e.11
9	21	4	.21	29	15	1.4	e13	e3	e.11
10	22	3	.20	e16	e4	e.17	e13	e3	e.11
11	22	3	.18	e15	e3	e.12	e13	e3	e.12
12	22	3	.20	e14	e3	e.12	e13	e4	e.13
13	22	4	.21	e14	e3	e.13	e13	e4	e.15
14	22	4	.23	e13	e4	e.13	e14	e4	e.15
15	22	4	.22	e14	e4	e.15	e13	e4	e.15
16	24	3	.21	e15	e3	e.13	e13	e4	e.14
17	26	3	.22	e16	e3	e.10	e13	e4	e.14
18	23	4	.22	e15	e2	e.08	e13	e4	e.14
19	23	4	.25	e15	e2	e.09	e12	e4	e.14
20	21	4	.26	e14	e3	e.10	e13	e4	e.14
21	21	5	.28	e15	e3	e.11	e13	e4	e.14
22	21	6	.30	e15	e3	e.12	e13	e4	e.14
23	20	6	.32	e22	e3	e.11	e15	e7	e.54
24	19	5	.27	e21	e3	e.13	23	9	1.5
25	18	4	.21	e21	e3	e.13	29	13	1.4
26	18	4	.17	e17	e3	e.11	14	7	.28
27	19	3	.14	e15	e3	e.11	13	6	.21
28	19	2	.11	e15	e3	e.11	14	5	.17
29	19	3	.17	---	---	---	24	10	.66
30	32	11	1.0	---	---	---	15	7	.27
31	19	4	.20	---	---	---	12	6	.21
TOTAL	674	---	8.12	466	---	5.57	450	---	8.35

RIO GUANAJIBO BASIN

50136400 RIO ROSARIO NEAR HORMIGUEROS, PR.--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	12	7	.21	29	9	.72	20	5	.26
2	13	7	.24	22	6	.39	19	5	.24
3	17	7	.32	19	8	.41	23	4	.27
4	27	9	.82	17	10	.45	20	6	.45
5	40	35	4.3	16	10	.41	24	27	1.8
6	73	51	26	388	770	2620	17	21	.97
7	71	43	10	172	178	148	15	15	.61
8	55	75	11	51	15	2.2	14	9	.33
9	52	26	4.0	33	10	.90	15	4	.16
10	28	11	.85	244	709	2020	18	5	.24
11	20	10	.51	157	132	62	16	6	.28
12	16	11	.47	113	43	14	16	5	.19
13	16	12	.54	72	11	2.2	18	4	.17
14	20	14	.72	57	8	1.3	15	3	.12
15	14	12	.46	50	7	1.0	16	3	.13
16	13	10	.36	39	7	.72	20	3	.16
17	12	8	.27	35	6	.58	84	89	56
18	12	7	.22	33	6	.50	46	26	3.5
19	12	6	.19	35	5	.47	34	20	1.9
20	17	7	.52	26	4	.31	21	16	.94
21	34	11	1.0	23	4	.26	18	13	.63
22	49	24	3.9	21	5	.27	18	9	.45
23	92	83	37	19	5	.28	21	8	.47
24	63	25	5.3	18	6	.28	18	9	.44
25	31	11	.92	16	6	.24	23	10	.70
26	41	30	7.4	15	5	.21	26	11	.81
27	56	29	5.4	16	5	.21	74	76	39
28	28	18	1.3	22	4	.26	70	37	8.1
29	28	17	1.4	19	4	.21	66	52	12
30	54	26	4.4	18	4	.21	238	1020	1370
31	---	---	---	18	5	.23	---	---	---
TOTAL	1016	---	130.02	1813	---	4879.22	1043	---	1501.32

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	108	75	24	68	38	8.7	100	31	8.5
2	57	44	6.9	67	22	4.5	78	13	2.7
3	35	30	2.8	50	13	1.7	81	25	6.4
4	47	26	3.9	44	9	1.1	86	43	11
5	39	13	1.4	40	6	.67	70	22	4.2
6	27	6	.48	39	6	.59	61	12	1.9
7	24	4	.23	36	5	.52	126	106	86
8	23	3	.19	35	5	.46	109	59	19
9	26	3	.21	63	24	6.8	88	28	6.6
10	45	16	3.2	48	15	2.0	81	25	5.4
11	56	27	4.3	48	13	2.5	90	46	14
12	37	12	1.2	50	17	2.6	123	95	66
13	49	18	2.9	36	6	.62	110	57	18
14	158	201	298	54	19	4.5	81	15	3.4
15	119	216	80	50	19	2.8	70	9	1.7
16	53	22	3.3	41	10	1.0	64	7	1.2
17	38	10	1.0	37	6	.63	61	6	.99
18	48	25	4.5	32	4	.36	57	6	.92
19	39	16	1.8	92	73	32	53	12	1.7
20	29	9	.69	90	52	15	60	19	3.2
21	27	4	.31	50	19	2.5	115	93	52
22	58	43	13	145	589	774	124	92	35
23	46	16	2.1	104	65	19	114	51	17
24	135	394	487	63	33	5.7	74	24	4.8
25	135	141	97	65	26	7.2	77	24	5.0
26	140	172	90	94	69	25	149	125	96
27	93	55	15	144	105	66	212	217	210
28	126	149	112	108	125	38	124	65	23
29	106	76	23	154	190	162	86	13	3.1
30	70	33	6.4	261	1070	2740	71	12	2.3
31	55	25	3.7	143	65	27	---	---	---
TOTAL	2048	---	1290.51	2351	---	3955.45	2795	---	711.01
YEAR	18214		12963.19						

e Estimated

50138000 RIO GUANAJIBO NEAR HORMIGUEROS, PR

LOCATION.--Lat 18°08'36", long 67°08'57", Hydrologic Unit 21010003, at bridge on Highway 100, 1.4 mi (2.3 km) west of Hormigueros, and 2.0 mi (3.2 km) downstream from Río Rosario.

DRAINAGE AREA.--120 mi² (311 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Annual low-flow measurements 1959, monthly measurements April 1959 to November 1967, January 1973 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Previous to Nov. 7, 1980, at site 0.3 mi (0.5 km) upstream at datum 7.36 ft (2.243 m) higher.

REMARKS.--Records fair. Gage-height and precipitation satellite telemetry at station. Daily discharges affected by sewage treatment plant about 2.1 mi (3.4 km) upstream from gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	153	496	115	60	39	27	22	119	65	609	119	225
2	145	442	93	58	40	25	21	91	61	220	142	179
3	152	278	86	57	37	26	25	75	61	161	109	336
4	142	239	83	56	35	25	53	65	68	144	99	367
5	136	216	80	54	33	23	136	59	70	140	91	215
6	190	198	77	54	31	22	199	833	61	115	86	164
7	555	187	75	51	31	22	271	12000	56	104	83	232
8	338	188	73	48	31	22	180	2300	53	92	79	375
9	205	164	72	47	44	20	429	707	51	85	121	360
10	178	154	68	47	34	19	178	986	48	96	113	222
11	216	146	68	45	31	19	99	1270	46	116	90	328
12	193	139	66	46	30	19	72	473	46	125	111	357
13	158	137	65	46	30	20	69	328	48	112	85	474
14	142	265	e65	46	29	23	102	263	48	105	82	279
15	133	254	64	56	28	22	66	227	94	159	99	228
16	145	202	66	51	e30	20	54	191	138	108	80	200
17	196	148	79	58	33	20	45	169	260	88	77	183
18	220	133	96	53	30	19	39	158	248	e82	73	166
19	508	124	72	49	30	18	35	165	201	e106	167	154
20	1130	118	65	42	27	19	99	137	121	e80	155	341
21	909	118	64	39	28	21	171	125	98	e71	90	764
22	688	135	63	37	31	19	137	116	103	e547	166	858
23	725	117	60	44	60	30	228	109	131	e462	216	486
24	541	115	59	44	58	71	355	102	148	e250	129	374
25	339	133	59	36	57	60	160	96	122	e194	106	294
26	284	104	75	34	37	30	164	91	121	e180	172	416
27	245	95	209	40	30	24	182	86	302	167	218	558
28	319	93	98	54	28	25	106	83	283	159	228	440
29	573	92	76	41	---	46	126	71	214	230	497	308
30	814	115	66	60	---	32	176	66	668	179	486	262
31	391	---	63	46	---	24	---	65	---	131	411	---
TOTAL	11063	5345	2420	1499	982	812	3999	21626	4034	5417	4780	10145
MEAN	357	178	78.1	48.4	35.1	26.2	133	698	134	175	154	338
MAX	1130	496	209	60	60	71	429	12000	668	609	497	858
MIN	133	92	59	34	27	18	21	59	46	71	73	154
AC-FT	21940	10600	4800	2970	1950	1610	7930	42900	8000	10740	9480	20120
CFSM	2.97	1.48	.65	.40	.29	.22	1.11	5.81	1.12	1.46	1.28	2.82
IN.	3.43	1.66	.75	.46	.30	.25	1.24	6.70	1.25	1.68	1.48	3.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2001, BY WATER YEAR (WY)

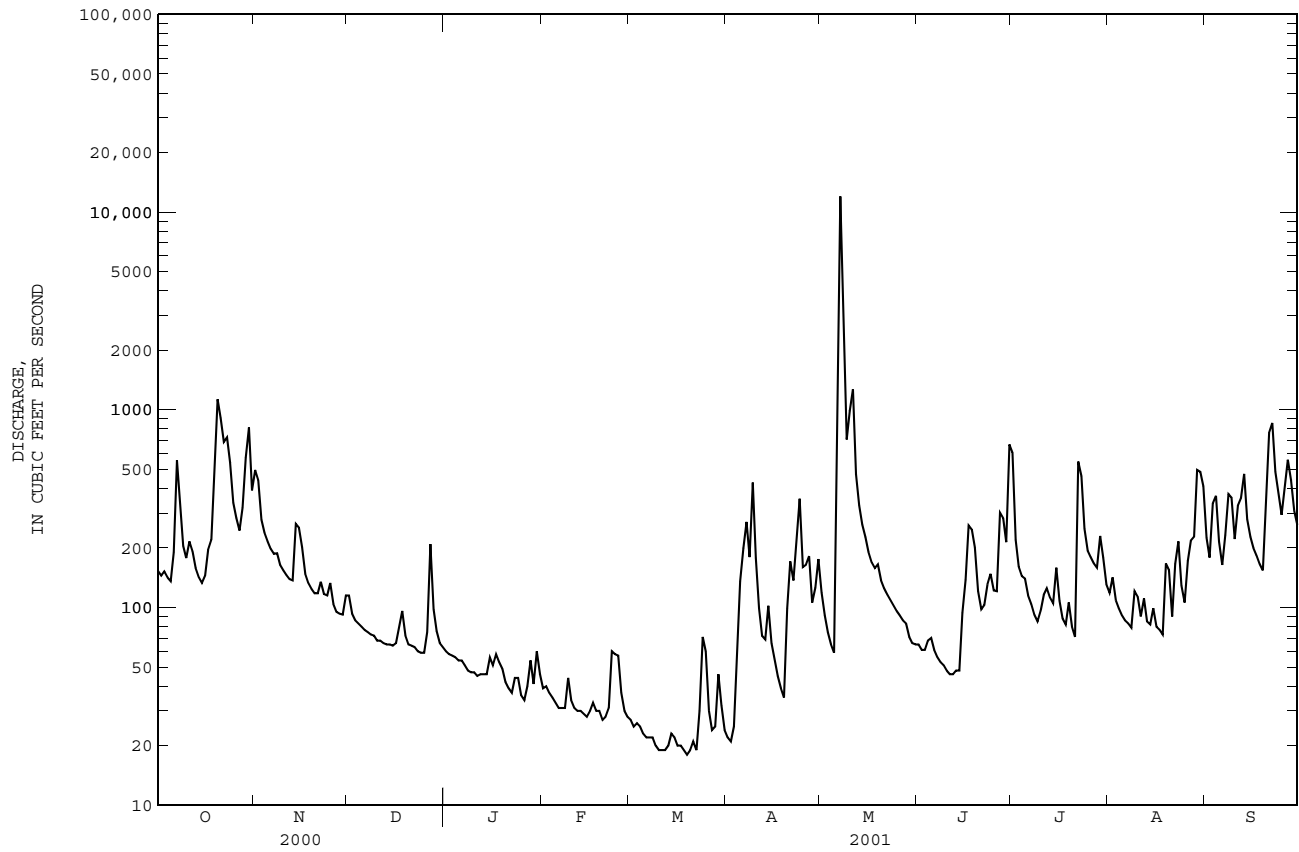
	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	462	389	125	60.9	51.0	45.7	70.5	180	111	102	220	479																	
MAX	1254	1518	422	112	119	244	316	698	504	240	757	2075																	
(WY)	1986	1978	1976	1997	1996	1989	1989	2001	1979	1984	1988	1975																	
MIN	97.5	42.7	15.4	13.8	13.9	10.6	16.1	12.7	9.23	26.4	42.3	78.5																	
(WY)	1992	1992	1992	1973	1977	1977	1977	1977	1977	1976	1976	1997																	

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1973 - 2001

ANNUAL TOTAL	46948	72122	
ANNUAL MEAN	128	198	193
HIGHEST ANNUAL MEAN			402
LOWEST ANNUAL MEAN			69.6
HIGHEST DAILY MEAN	1470	Aug 23	12000
LOWEST DAILY MEAN	20	Apr 30	18
ANNUAL SEVEN-DAY MINIMUM	22	Apr 27	19
MAXIMUM PEAK FLOW			23600
MAXIMUM PEAK STAGE			26.33
INSTANTANEOUS LOW FLOW			28.50
ANNUAL RUNOFF (AC-FT)	93120	143100	139900
ANNUAL RUNOFF (CFSM)	1.07	1.65	1.61
ANNUAL RUNOFF (INCHES)	14.55	22.36	21.87
10 PERCENT EXCEEDS	267	370	420
50 PERCENT EXCEEDS	73	102	78
90 PERCENT EXCEEDS	32	30	22

e Estimated

RIO GUANAJIBO BASIN
50138000 RIO GUANAJIBO NEAR HORMIGUEROS, PR--Continued



50138000 RIO GUANAJIBO NEAR HORMIGUEROS, PR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00301)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CaCO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)
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OCT	19...	153	381	7.9	26.8	54	7.0	87	<10	5900	850	150	45.8
FEB	06...	24	474	7.6	22.3	3.5	5.3	60	<10	220	E180	--	--
APR	30...	--	396	7.8	25.0	73	6.9	83	12	2000	2800	160	24.0
SEP	10...	--	353	7.5	26.9	--	6.0	76	<10	<1700	870	170	28.7

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SI02) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDEED (MG/L) (00530)
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OCT	19...	7.76	9.6	.3	1.22	156	<1.0	15.0	8.1	<.2	23.4	204	84.4	54
FEB	06...	--	--	--	--	213	--	--	--	--	--	--	--	<10
APR	30...	24.1	9.7	.3	1.64	149	<1.0	14.4	12.5	<.2	27.5	203	--	39
SEP	10...	24.4	10.2	.3	2.05	154	--	12.9	11.4	<.2	28.0	210	--	84

DATE	NITRO-GEN, NITRATE (MG/L AS N) (00620)	NITRO-GEN, NITRITE (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, ORGANIC (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS (MG/L AS P) (00665)	ARSENIC (MG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (MG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (MG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (MG/L AS CD) (01027)
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OCT	19...	.96	.04	1.0	.11	.51	.62	1.6	7.2	.200	<2	38.1	E13	<.11
FEB	06...	1.57	.03	1.6	.27	.67	.94	2.5	11.2	.330	--	--	--	--
APR	30...	.67	.01	.7	.03	.40	.43	1.1	4.9	.220	<2	50.3	31	<.11
SEP	10...	--	<.01	.7	.06	.34	.40	1.1	4.8	.210	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL RECOV-ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
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OCT	19...	<1	<20.0	500	8	20	<.14	<2.6	<.43	<31	<.01	<16	.09
FEB	06...	--	--	--	--	--	--	--	--	--	--	--	--
APR	30...	10	<20.0	1400	M	89	<.01	<2.6	<.43	<31	<.01	<16	.06
SEP	10...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
 E -- Estimated value
 M -- Presence verified, not quantified

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RIO YAGÜEZ BASIN

50138800 RIO YAGÜEZ NEAR MAYAGÜEZ, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°12'31", long 67°07'07", at steel-truss bridge on unnumbered paved road about 800 ft (244 m) south of Highway 106, 1.8 mi (2.9 km) west of Highways 106 and 352 junction, and 1.4 mi (2.3 km) east-northeast from Mayagüez plaza.

DRAINAGE AREA.--6.7 mi² (17.3 km²).

PERIOD OF RECORD.--Water years 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, (PER-CENT (HIGH LEVEL) (MG/L) (00301)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CaCO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)
OCT 19...	1245	8.2	308	8.2	25.7	5.0	8.4	103	<10	690	320	120	33.0
FEB 05...	1530	1.5	320	8.1	24.5	2.1	8.4	101	<10	330	250	--	--
APR 30...	1415	6.8	312	7.8	27.4	80	7.8	99	<10	1000	2600	110	28.8
SEP 10...	1330	36	261	7.7	25.7	--	8.1	99	<10	1700	630	110	29.1

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDEDED (MG/L) (00530)
OCT 19...	9.00	10	.4	2.05	133	<1.0	6.6	10	<.2	31.2	181	3.99	<10
FEB 05...	--	--	--	--	143	--	--	--	--	--	--	--	<10
APR 30...	8.56	9.3	.4	1.99	139	<1.0	7.7	9.2	E.1	26.3	175	3.20	25
SEP 10...	8.68	9.2	.4	1.85	113	--	6.1	8.5	<.2	25.9	157	15.4	<10

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)
OCT 19...	<.01	.8	<.01	--	.37	1.1	5.0	.040	<2	73.3	E18	<.11	<1
FEB 05...	<.01	.6	.03	--	<.20	--	--	.020	--	--	--	--	--
APR 30...	<.01	.6	.02	.30	.32	.88	3.9	.060	<2	68.9	25	<.11	M
SEP 10...	<.01	1.0	.02	--	<.20	--	--	<.020	--	--	--	--	--

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 19...	<20.0	230	<1	16	<.14	<2.6	<.43	<31	<.01	<16	.04
FEB 05...	--	--	--	--	--	--	--	--	--	--	--
APR 30...	<20.0	700	<1	37	<.01	<2.6	<.43	<31	<.01	<16	.19
SEP 10...	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
 E -- Estimated value
 M -- Presence verified, not quantified

50141500 LAGO GUAYO AT DAMSITE NEAR CASTAÑER, PR

LOCATION.--Lat 18°12'46", long 66°50'06", Hydrologic Unit 21010003, at Guayo Dam on Río Guayo, 1.1 mi (1.8 km) southwest of Lago Yahuecas, 2.6 mi (4.2 km) southwest of Lago Prieto, 2.1 mi (3.4 km) north of Castañer, and 6.0 mi (9.6 km) west of Adjuntas.

DRAINAGE AREA.--9.60 mi² (24.86 km²).

ELEVATION RECORDS

PERIOD OF RECORD.--April 1980 to January 1985, June 1989 to current year. Prior to October 1994, published as Lago Guayo near Castañer.

GAGE.--Water-stage recorder. Datum of gage is mean sea level.

REMARKS.--Lago Guayo was completed in 1956. The dam is on Río Guayo and is the largest in the Southwestern Puerto Rico Project. The maximum storage is 17,400 ac-ft (21.5 hm³) for power and irrigation. The dam is a concrete gravity structure with a total length of 555 ft (169 m), a maximum structural height of 190 ft (58 m), and a maximum width at the base of 145 ft (44 m). The ungated overflow spillway with a crest elevation of 60 ft (18.29 m) and a crest length of 220 ft (67 m) was designed to pass a maximum flood of 30,200 ft³/s (855 m³/s), at a reservoir elevation of 70 ft (21.34 m). Timber flashboards that were added to increase storage capacity were subsequently removed and their use discontinued. Gage-height and precipitation satellite telemetry at station. New capacity table based U.S. Geological Survey Water-Resources Investigations Report 99-4053, October, 1997.

EXTREMES OBSERVED FOR PERIOD OF RECORD.--Maximum elevation, 1,465.35 ft (446.64 m), Sept. 22, 1998; minimum elevation recorded, 1,415.43 ft (431.42 m), June 2, 1990, but may have been less during period of no gage-height record June 2-5, 1990.

EXTREMES OBSERVED FOR CURRENT YEAR.--Maximum elevation, 1,461.58 ft (450.16 m), May 10; minimum elevation 1,436.11 ft (437.73 m), July 17.

Capacity Table

(based on data from U.S. Geological Survey Water-Resources Investigations Report 99-4053, Puerto Rico-1997)

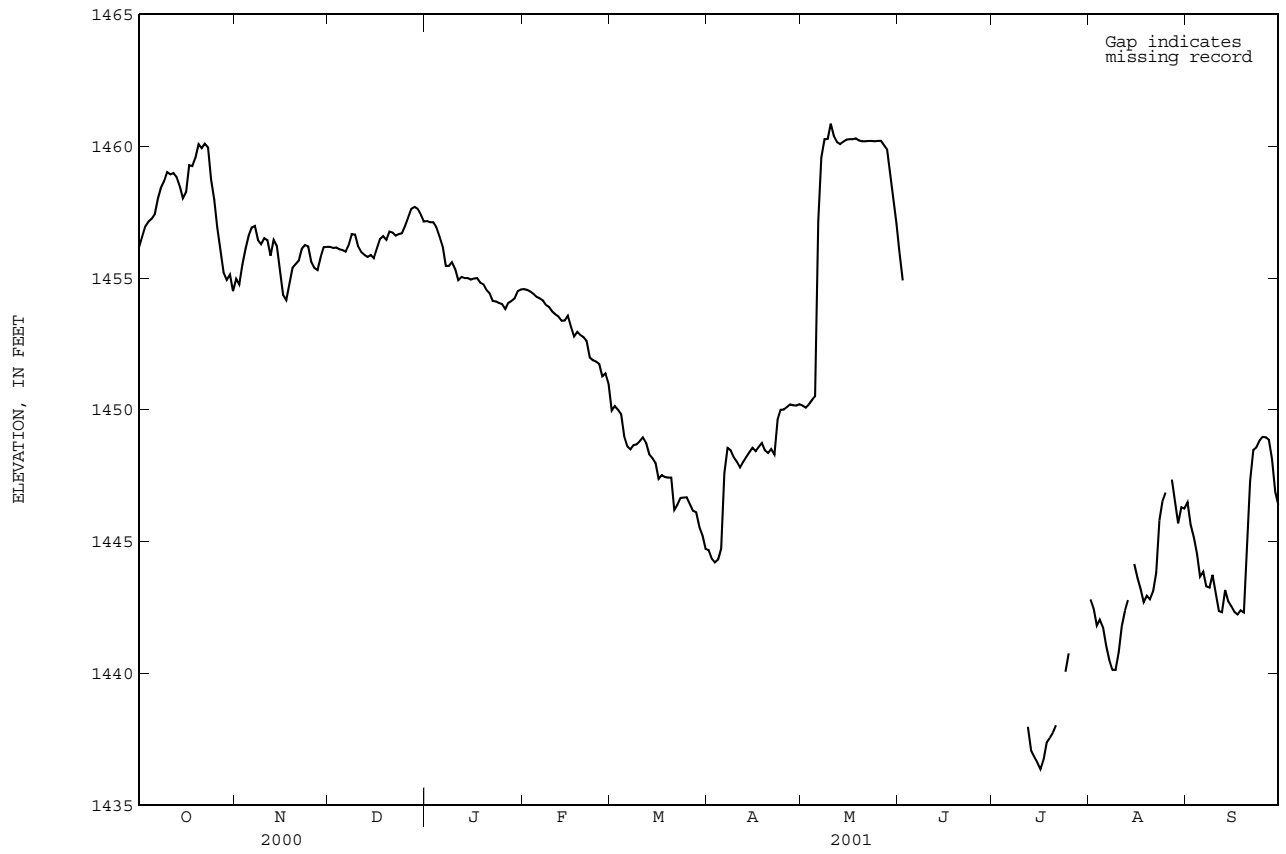
Elevation, in feet	Contents, in acre-feet	Elevation, in feet	Contents, in acre-feet
1,333	0	1,400	2,745
1,353	241	1,440	8,622
1,373	820	1,460	13,436

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1456.16	1454.97	1456.18	1457.16	1454.58	1449.97	1444.68	1450.16	1455.94	A	1442.80	1446.48
2	1456.57	1454.75	1456.14	1457.12	1454.55	1450.14	1444.35	1450.08	1454.91	A	1442.46	1445.65
3	1456.96	1455.52	1456.16	1457.12	1454.49	1450.01	1444.21	1450.20	A	A	1441.81	1445.17
4	1457.14	1456.10	1456.09	1456.93	1454.40	1449.83	1444.32	1450.37	A	A	1442.04	1444.54
5	1457.25	1456.61	1456.06	1456.58	1454.29	1449.00	1444.73	1450.51	A	A	1441.74	1443.67
6	1457.42	1456.91	1456.00	1456.19	1454.23	1448.61	1447.59	1457.18	A	A	1441.06	1443.86
7	1458.02	1456.97	1456.26	1455.46	1454.15	1448.50	1448.55	1459.57	A	A	1440.51	1443.30
8	1458.43	1456.43	1456.66	1455.46	1453.98	1448.66	1448.47	1460.26	A	A	1440.14	1443.25
9	1458.68	1456.28	1456.65	1455.60	1453.90	1448.69	1448.20	1460.28	A	A	1440.13	1443.74
10	1459.02	1456.51	1456.20	1455.34	1453.73	1448.81	1448.03	1460.86	A	A	1440.81	1443.03
11	1458.93	1456.44	1455.98	1454.92	1453.62	1448.95	1447.81	1460.38	A	A	1441.79	1442.36
12	1458.98	1455.85	1455.88	1455.04	1453.54	1448.74	1448.02	1460.16	A	1437.97	1442.38	1442.32
13	1458.83	1456.45	1455.80	1455.00	1453.38	1448.31	1448.21	1460.08	A	1437.08	1442.78	1443.16
14	1458.47	1456.22	1455.87	1455.00	1453.39	1448.17	1448.39	1460.17	A	1436.84	A	1442.74
15	1458.02	1455.35	1455.75	1454.94	1453.57	1447.98	1448.56	1460.25	A	1436.62	1444.15	1442.54
16	1458.26	1454.36	1456.12	1454.98	1453.15	1447.38	1448.43	1460.27	A	1436.36	1443.63	1442.33
17	1459.28	1454.16	1456.48	1455.00	1452.78	1447.52	1448.59	1460.27	A	1436.72	1443.19	1442.23
18	1459.25	1454.77	1456.59	1454.83	1452.96	1447.45	1448.74	1460.30	A	1437.38	1442.70	1442.39
19	1459.56	1455.39	1456.45	1454.76	1452.84	1447.43	1448.46	1460.22	A	1437.55	1442.94	1442.31
20	1460.08	1455.52	1456.76	1454.55	1452.76	1447.43	1448.36	1460.19	A	1437.76	1442.81	1445.02
21	1459.93	1455.66	1456.72	1454.42	1452.61	1446.20	1448.51	1460.19	A	1438.03	1443.12	1447.30
22	1460.10	1456.11	1456.61	1454.13	1451.98	1446.40	1448.30	1460.20	A	A	1443.81	1448.47
23	1459.96	1456.25	1456.67	1454.11	1451.88	1446.66	1449.63	1460.20	A	A	1445.80	1448.57
24	1458.74	1456.20	1456.70	1454.05	1451.83	1446.67	1450.00	1460.19	A	1440.06	1446.52	1448.83
25	1457.96	1455.62	1456.98	1454.01	1451.74	1446.68	1450.01	1460.20	A	1440.76	1446.86	1448.97
26	1456.90	1455.38	1457.29	1453.82	1451.27	1446.42	1450.10	1460.21	A	A	A	1448.96
27	1455.99	1455.30	1457.63	1454.06	1451.38	1446.17	1450.20	1460.04	A	A	1447.35	1448.87
28	1455.22	1455.79	1457.70	1454.13	1451.00	1446.11	1450.17	1459.88	A	A	1446.46	1448.12
29	1454.93	1456.17	1457.63	1454.22	---	1445.56	1450.16	1458.98	A	A	1445.69	1446.89
30	1455.13	1456.18	1457.41	1454.50	---	1445.25	1450.21	1458.03	A	A	1446.30	1446.40
31	1454.50	---	1457.15	1454.57	---	1444.72	---	1457.05	---	A	1446.25	---
MAX	1460.10	1456.97	1457.70	1457.16	1454.58	1450.14	1450.21	1460.86	---	---	---	1448.97
MIN	1454.50	1454.16	1455.75	1453.82	1451.00	1444.72	1444.21	1450.08	---	---	---	1442.23

A No gage-height record

RIO GRANDE DE AÑASCO BASIN
50141500 LAGO GUAYO AT DAMSITE NEAR CASTAÑER, PR--Continued



50143000 RIO GRANDE DE AÑASCO NEAR LARES, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°15'26", long 66°55'00", at bridge on Highway 124, 0.7 mi (1.1 km) downstream from confluence of Río Blanco and Río Prieto, and 3.7 mi (6.0 km) southwest of Lares plaza.

DRAINAGE AREA.--26.3 mi² (68.1 km²) this does not include 36.2 mi² (93.8 km²) which contributes only during high floods, and 3.5 mi² (9.1 km²) which contributes only part of its storm runoff.

PERIOD OF RECORD.--Water years 1959-68, 1970 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (MG/L) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP WATER (COL/100 ML) (31673)	HARD-NESS TOTAL AS CACO3 (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT 16...	1150	75	260	8.0	26.8	7.5	8.3	106	<10	3000	690	110	29.3
FEB 14...	0850	14	323	7.7	21.4	1.5	8.2	94	<10	E50	200	--	--
MAY 14...	1335	105	254	7.4	28.0	3.9	7.3	95	<10	E10	E100	100	28.5
SEP 05...	1130	85	234	7.5	26.6	--	8.2	104	<10	E6600	2500	95	25.5

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS K) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS S04) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDEd (MG/L) (00530)
OCT 16...	8.26	10.1	.4	1.96	99	<1.0	15.7	9.1	E.1	32.3	166	33.5	12
FEB 14...	--	--	--	--	121	--	--	--	--	--	--	--	<10
MAY 14...	7.75	8.9	.4	2.37	93	<1.0	13.2	9.3	<.2	22.8	148	42.2	16
SEP 05...	7.58	9.5	.4	1.80	87	--	15.0	7.7	<.2	27.2	146	33.4	56

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, ORGANIC (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N03) (00600)	NITRO-GEN, TOTAL (MG/L AS N03) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)
OCT 16...	<.01	1.2	<.01	--	.34	1.5	6.8	.050	<2	22.8	<18	<.11	M
FEB 14...	<.01	1.0	.02	.23	.25	1.2	5.4	<.020	--	--	--	--	--
MAY 14...	<.01	1.2	.01	.23	.24	1.4	6.4	.030	<2	23.2	E14	<.11	<1
SEP 05...	<.01	1.1	.03	.34	.37	1.5	6.5	.080	--	--	--	--	--

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 16...	<20.0	330	<1	25	<.14	<2.6	<.43	<31	<.01	<16	<.02
FEB 14...	--	--	--	--	--	--	--	--	--	--	--
MAY 14...	<20.0	130	<1	18	<.01	<2.6	<.43	<31	<.01	<16	<.02
SEP 05...	--	--	--	--	--	--	--	--	--	--	--

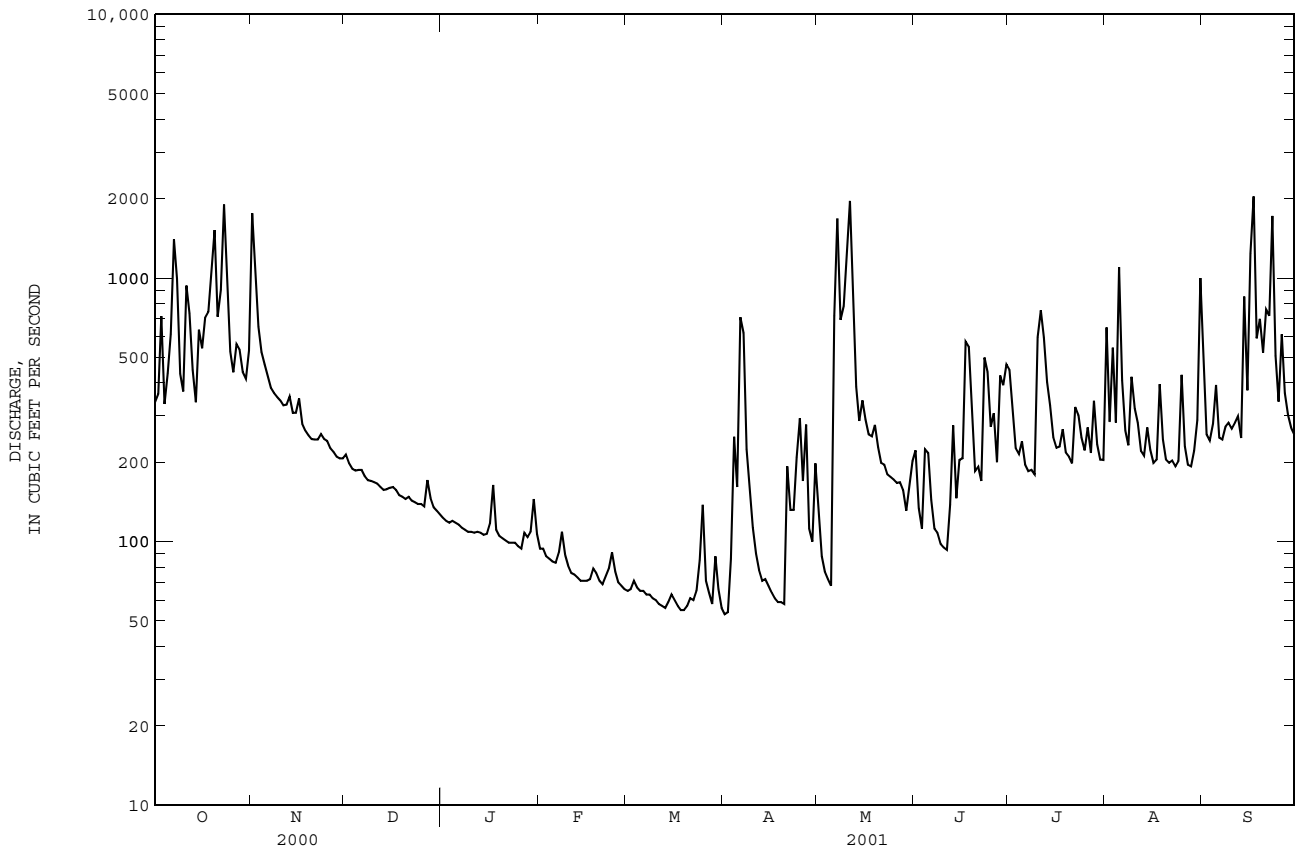
< -- Less than
 E -- Estimated value
 M -- Presence verified, not quantified

RIO GRANDE DE AÑASCO BASIN

50144000 RIO GRANDE DE AÑASCO NEAR SAN SEBASTIAN, PR--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1963 - 2001	
ANNUAL TOTAL	139561		106127			
ANNUAL MEAN	381		291		327	
HIGHEST ANNUAL MEAN					556 1999	
LOWEST ANNUAL MEAN					189 1967	
HIGHEST DAILY MEAN	4890	May 9	2040	Sep 17	69900	Sep 22 1998
LOWEST DAILY MEAN	66	Mar 28	53	Apr 1	32	Apr 18 1965
ANNUAL SEVEN-DAY MINIMUM	72	Mar 23	58	Mar 13	35	Apr 14 1965
MAXIMUM PEAK FLOW			9130	Oct 23	163000	Sep 22 1998
MAXIMUM PEAK STAGE			8.90	Oct 23	34.50	Sep 22 1998
INSTANTANEOUS LOW FLOW			51	Apr 1	31	Apr 19 1965
ANNUAL RUNOFF (AC-FT)	276800		210500		236600	
ANNUAL RUNOFF (CFSM)	4.04		3.08		3.46	
ANNUAL RUNOFF (INCHES)	55.05		41.87		47.06	
10 PERCENT EXCEEDS	856		626		685	
50 PERCENT EXCEEDS	206		202		188	
90 PERCENT EXCEEDS	93		68		74	

e Estimated



RIO GRANDE DE AÑASCO BASIN

50144000 RIO GRANDE DE AÑASCO NEAR SAN SEBASTIAN, PR

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00301)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FEICAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CaCO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)
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OCT	17...	0745	E560	208	7.3	22.6	180	8.0	93	<10	20000	39000	84	21.8
FEB	16...	1400	71	248	8.1	26.1	.7	9.6	119	<10	E30	E90	--	--
MAY	15...	1215	312	230	7.6	27.3	20	7.9	100	<10	E690	200	99	25.8
SEP	18...	1440	656	204	7.4	26.3	--	7.0	86	<10	E8000	3100	86	22.0

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDEED (MG/L) (00530)
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OCT	17...	7.19	7.5	.4	1.93	82	E1.0	7.9	6.9	<.2	25.9	128	--	86
FEB	16...	--	--	--	--	105	--	--	--	--	--	--	--	<10
MAY	15...	8.46	8.1	.4	1.78	97	<1.0	9.5	7.1	E.1	23.8	142	120	11
SEP	18...	7.42	7.6	.4	1.75	80	--	8.2	6.1	<.2	26.9	128	227	62

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (MG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)
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OCT	17...	1.19	.01	1.2	.03	1.1	1.1	2.3	10.2	.280	<2	92.8	E12	<.11
FEB	16...	--	<.01	.2	.03	--	<.20	--	--	<.020	--	--	--	--
MAY	15...	--	<.01	1.1	.01	.28	.29	1.4	6.2	.030	<2	35.0	E13	<.11
SEP	18...	--	<.01	1.0	.05	.25	.30	1.3	5.8	.080	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL RECOV-ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
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OCT	17...	7	E15.2	7100	2	413	<.14	<2.6	<.43	E26	<.01	<16	<.04
FEB	16...	--	--	--	--	--	--	--	--	--	--	--	--
MAY	15...	M	<20.0	390	M	28	<.01	<2.6	<.43	<31	<.01	<16	.11
SEP	18...	--	--	--	--	--	--	--	--	--	--	--	--

E -- Estimated value
 < -- Less than
 M -- Presence verified, not quantified

50146000 RIO GRANDE DE AÑASCO NEAR ANASCO, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°16'00", long 67°08'05", at bridge on Highway 430, 0.2 mi (0.3 km) south of Highway 109 at El Espino and 1.4 mi (2.3 km) east-southeast from Añasco plaza.

DRAINAGE AREA.--139 mi² (360 km²) this does not include 39.7 mi² (102.8 km²), flow is diverted to south coast.

PERIOD OF RECORD.--Water years 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD WATER UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CaCO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)		
OCT 18...	0700	E600	175	7.3	23.2	580	7.3	86	44	58000	49000	73	18.6	
FEB 16...	1700	103	255	7.8	27.6	2.3	8.9	113	<10	E45	E60	--	--	
MAY 08...	0800	E600	186	6.9	24.3	87	5.7	68	<10	2000	4300	74	18.9	
SEP 14...	0930	E800	203	7.2	24.8	--	7.4	90	<10	E2000	830	86	21.8	
DATE		MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET SULFIDE FIELD (MG/L AS CAC03) (00410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00745)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDEED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	
OCT 18...	6.39	6.2	.3	1.77	72	E1.0	6.1	35.9	<.2	22.7	141	1160	1.07	
FEB 16...	--	--	--	--	108	--	--	--	--	--	--	<10	--	
MAY 08...	6.60	6.1	.3	2.14	67	<1.0	9.7	5.9	E.1	20.8	110	73	--	
SEP 14...	7.56	7.0	.3	1.70	82	--	7.1	6.0	<.2	28.0	128	48	--	
DATE		NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)
OCT 18...	.03	1.1	.06	3.0	3.1	4.2	18.6	.630	3	271	19	E.08	33	
FEB 16...	<.01	.2	.03	.27	.30	.46	2.0	<.020	--	--	--	--	--	
MAY 08...	<.01	1.3	.03	.33	.36	1.7	7.3	.110	<2	67.1	E13	<.11	4	
SEP 14...	<.01	1.0	.04	--	<.20	--	--	.040	--	--	--	--	--	
DATE		COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)		
OCT 18...	56.3	24700	6	1460	E.12	<2.6	<.43	68	<.01	19	<.10			
FEB 16...	--	--	--	--	--	--	--	--	--	--	--			
MAY 08...	<20.0	3500	1	248	.02	<2.6	<.43	E16	<.01	<16	<.05			
SEP 14...	--	--	--	--	--	--	--	--	--	--	--			

E -- Estimated value
< -- Less than

RIO GRANDE DE AÑASCO BASIN

50146000 RIO GRANDE DE AÑASCO NEAR ANASCO, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR- DANE, TECH- NICAL TOTAL (UG/L) (39350)	P,P'- DDD UNFILT RECOVER (UG/L) (39360)	P,P'- DDE, TOTAL (UG/L) (39365)	P,P'- DDT UNFILT RECOVER (UG/L) (39370)	DI- AZINON, TOTAL (UG/L) (39570)	DI- ELDRIN TOTAL (UG/L) (39380)	ENDO- SULFAN I TOTAL (UG/L) (39388)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)	
MAY 08...	0800	<.1	<.013	<.1	<.007	<.006	<.009	<.02	<.006	<.015	<.014	<.01	<.014	
DATE		HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALA- THON, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METHYL PARA- THON, TOTAL (UG/L) (39600)	MIREX, TOTAL (UG/L) (39755)	PARA- THON, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	CARBO- PHENO- THON WATER UNFLTRD TOTAL (UG/L) (39786)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	2,4-DP TOTAL (UG/L) (82183)	SILVEX, TOTAL (UG/L) (39760)
MAY 08...		<.009	<.006	<.03	<.01	<.01	<.01	<.01	<1	<.02	.01	<.01	<.04	<.01

RIO CULEBRINAS BASIN

50147600 RIO CULEBRINAS NEAR SAN SEBASTIAN, PR

WATER-QUALITY RECORDS

LOCATION.--Lat 18°20'51", long 67°02'40", at bridge on Highway 423, 1.3 mi (2.1 km) south of Quebrada El Salto Bridge on Highway 111, and 2.1 mi (3.4 km) west of Central La Plata.

DRAINAGE AREA.--58.2 mi² (150.7 km²).

PERIOD OF RECORD.--Water years 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL AS (MG/L) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)		
OCT	17...	1100	189	289	7.7	24.1	77	7.9	95	<10	28000	E11000	130	43.7
FEB	15...	0845	23	302	7.7	22.6	3.6	7.2	84	<10	270	410	--	--
MAY	08...	1410	160	400	7.6	25.8	20	7.4	92	<10	5000	750	180	64.3
SEP	14...	1240	223	252	7.5	25.6	--	7.6	94	13	E11000	7400	110	37.0

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CAC03) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	
OCT	17...	4.64	8.3	.3	2.29	124	<1.0	11.3	8.4	E.1	21.1	174	88.6	120
FEB	15...	--	--	--	--	110	--	--	--	--	--	--	--	<10
MAY	08...	5.57	10.0	.3	2.70	164	<1.0	25.2	11.8	E.1	15.4	233	101	<10
SEP	14...	4.48	7.7	.3	2.48	105	--	8.4	8.6	<.2	21.3	153	92.0	42

DATE	NITRO-GEN, NITRATE (MG/L AS N) (00620)	NITRO-GEN, NITRITE (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, ORGANIC (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	
OCT	17...	.89	.01	.9	.02	.63	.65	1.6	6.9	.110	<2	51.2	21	<.11
FEB	15...	2.89	.01	2.9	.02	--	<.20	--	--	<.020	--	--	--	--
MAY	08...	--	<.01	1.0	.02	.24	.26	1.3	5.6	.040	E1	50.2	29	<.11
SEP	14...	.96	.01	1.0	.05	.35	.40	1.4	6.1	.060	--	--	--	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)	
OCT	17...	1	<20.0	2140	M	103	<.14	<2.6	<.43	<31	<.01	<16	<.04
FEB	15...	--	--	--	--	--	--	--	--	--	--	--	--
MAY	08...	<1	<20.0	350	M	41	<.01	<2.6	<.43	<31	<.01	<16	.02
SEP	14...	--	--	--	--	--	--	--	--	--	--	--	--

< -- Less than
 E -- Estimated value
 M -- Presence verified, not quantified

RIO CULEBRINAS BASIN

50147800 RIO CULEBRINAS AT HIGHWAY 404 NEAR MOCA, PR

LOCATION.--Lat 18°21'42", long 67°05'33", Hydrologic Unit 21010003, on right bank, at bridge on Highway 404, 0.3 mi (0.5 km) downstream from Quebrada Yagruma, and 2.8 mi (4.5 km) southeast of Moca.

DRAINAGE AREA.--71.2 mi² (184.4 km²).

PERIOD OF RECORD.--July 1967 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 45 ft (14 m), from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

REVISION.--The historical maximum discharge for the period of record have been revised to 41,200 ft³/s, Sept. 16, 1975, gage-height, 36.60 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	376	1780	95	62	62	38	39	e79	720	216	166	1940
2	406	686	92	61	57	39	38	e60	855	e152	1160	794
3	779	446	89	61	52	42	40	e47	296	e121	339	289
4	358	300	86	62	50	39	e36	41	213	e113	928	251
5	276	258	86	60	48	38	e34	39	246	e162	338	324
6	243	228	123	59	e45	37	e35	3340	163	e250	2170	588
7	247	208	86	59	e58	36	e39	2380	118	198	623	257
8	378	192	83	58	e67	36	e35	584	102	126	305	253
9	288	181	82	58	e49	36	e35	1440	93	e150	225	328
10	676	172	79	58	e45	34	e33	1450	e85	e111	657	336
11	374	161	e78	58	e43	34	e32	565	78	e924	431	292
12	1210	179	e77	58	e42	33	e30	338	72	2180	350	339
13	485	167	77	58	e42	32	e29	278	154	476	199	372
14	296	144	76	58	e41	32	e29	185	161	783	178	230
15	994	139	80	57	e41	42	e29	182	78	442	316	1610
16	406	138	79	57	e43	33	e29	216	90	e269	208	411
17	424	127	79	57	42	30	e28	140	394	e218	154	2480
18	329	122	74	56	42	29	e26	134	e443	225	161	4260
19	3380	120	e73	55	53	28	e48	156	195	307	594	1030
20	1570	116	e73	54	45	29	60	111	121	196	247	1220
21	486	113	74	54	42	38	35	99	106	181	165	835
22	385	110	71	54	43	30	e37	242	98	153	153	1410
23	1080	124	69	55	44	95	e69	273	133	435	164	1320
24	591	133	69	54	43	85	e355	181	e261	426	147	3570
25	350	107	69	53	44	58	e1260	144	621	266	159	832
26	291	102	68	53	42	38	e766	124	167	205	763	469
27	445	100	85	72	40	38	e157	649	124	317	226	1100
28	345	99	68	66	39	69	e99	305	117	185	150	533
29	273	99	65	65	---	154	e104	147	447	475	139	383
30	1770	95	64	405	---	67	e152	414	230	232	200	302
31	522	---	63	76	---	44	---	347	---	169	347	---
TOTAL	20033	6946	2432	2173	1304	1413	3738	14690	6981	10663	12362	28358
MEAN	646	232	78.5	70.1	46.6	45.6	125	474	233	344	399	945
MAX	3380	1780	123	405	67	154	1260	3340	855	2180	2170	4260
MIN	243	95	63	53	39	28	26	39	72	111	139	230
AC-FT	39740	13780	4820	4310	2590	2800	7410	29140	13850	21150	24520	56250
CFSM	9.08	3.25	1.10	.98	.65	.64	1.75	6.66	3.27	4.83	5.60	13.3
IN.	10.47	3.63	1.27	1.14	.68	.74	1.95	7.68	3.65	5.57	6.46	14.82

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2001, BY WATER YEAR (WY)

	622	335	142	93.9	77.5	75.4	131	455	394	298	341	566
MEAN	622	335	142	93.9	77.5	75.4	131	455	394	298	341	566
MAX	1086	799	424	530	371	319	621	2054	773	847	831	1651
(WY)	1973	1982	1982	1997	1996	1981	1986	1998	1998	1979	1979	1998
MIN	231	108	72.1	51.2	37.0	30.4	26.4	96.7	73.1	66.7	119	145
(WY)	1968	1979	1992	1979	1992	1979	1970	1973	1997	1994	1970	1986

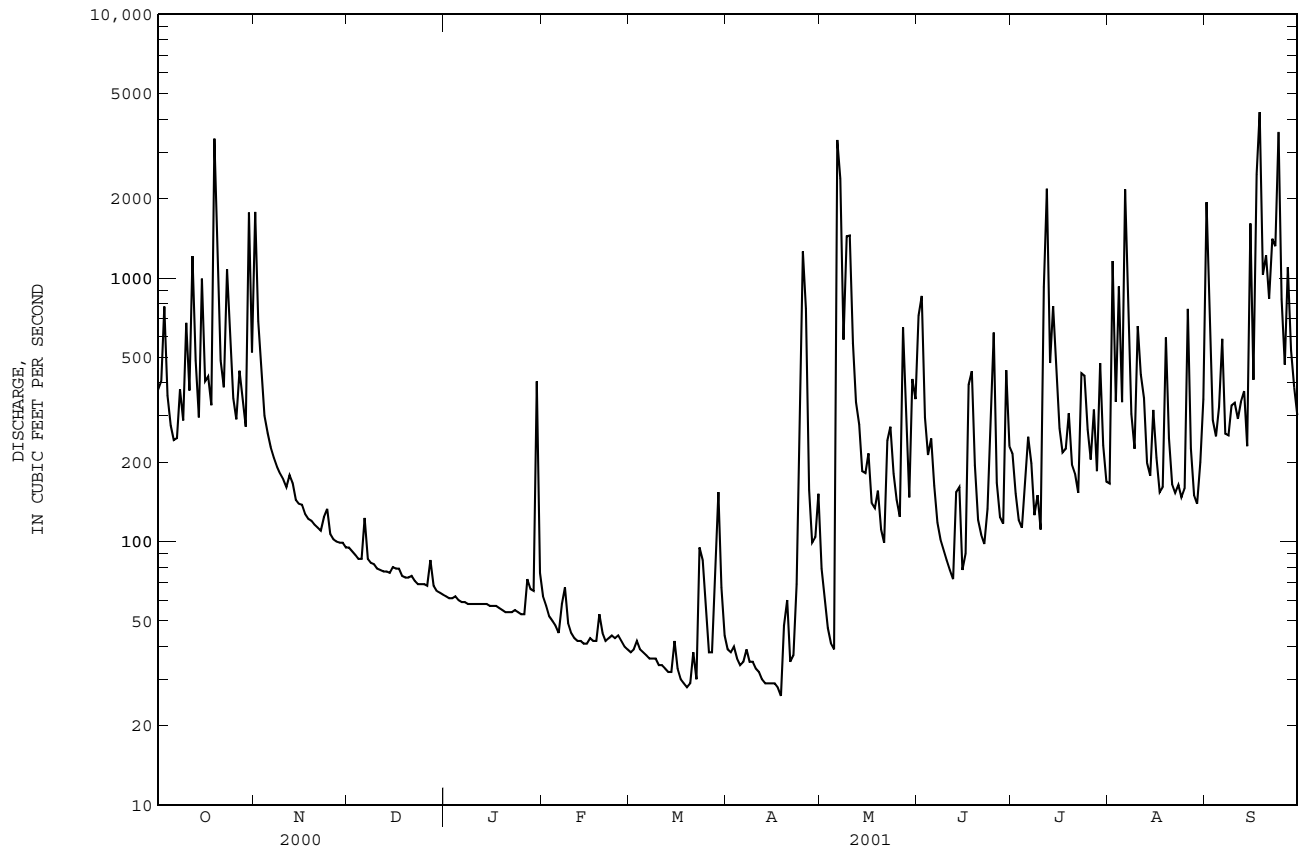
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1967 - 2001

ANNUAL TOTAL	101873	111093	
ANNUAL MEAN	278	304	296
HIGHEST ANNUAL MEAN			457
LOWEST ANNUAL MEAN			179
HIGHEST DAILY MEAN	4850	Sep 26	17000
LOWEST DAILY MEAN	33	Apr 18	19
ANNUAL SEVEN-DAY MINIMUM	34	Mar 17	20
MAXIMUM PEAK FLOW			23300
MAXIMUM PEAK STAGE			27.03
INSTANTANEOUS LOW FLOW			16
ANNUAL RUNOFF (AC-FT)	202100	220400	214500
ANNUAL RUNOFF (CFSM)	3.91	4.27	4.16
ANNUAL RUNOFF (INCHES)	53.23	58.04	56.51
10 PERCENT EXCEEDS	540	700	600
50 PERCENT EXCEEDS	115	133	135
90 PERCENT EXCEEDS	39	38	42

e Estimated

RIO CULEBRINAS BASIN

50147800 RIO CULEBRINAS AT HIGHWAY 404 NEAR MOCA, PR--Continued



50148890 RIO CULEBRINAS AT MARGARITA DAM NEAR AGUADA, PR

LOCATION.--Lat 18°23'40", long 67°09'04", Hydrologic Unit 21010003, on right bank 40 ft. upstream of Margarita Dam spillway 0.2 mi (0.32 km) upstream of Highway 2 at Aguadilla Filtration Plant water intake at Río Culebrinas, 1.05 mi (1.69 km) northeast of Central Coloso and 2.55 mi (4.10 km) southeast from Aguadilla Plaza.

DRAINAGE AREA.--94.6 mi² (245 km²).

PERIOD OF RECORD.--July 1998 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 48.6 ft. (14.8 m), from topographic map. For mean sea level elevations add 3.0 ft. to gage-height readings.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	446	1070	126	54	70	34	42	108	396	477	214	1190
2	584	1150	116	56	60	38	39	71	1170	290	882	1220
3	763	542	111	53	55	41	46	58	509	188	576	527
4	515	350	107	55	57	33	49	53	246	159	1060	269
5	308	293	104	54	53	29	37	48	484	206	683	437
6	282	261	153	54	51	30	39	627	293	303	981	459
7	256	233	106	52	87	32	48	1910	261	293	1290	523
8	610	219	98	50	111	33	42	346	194	164	536	284
9	331	204	94	50	61	33	44	927	153	182	312	370
10	577	187	92	50	50	29	34	2140	134	134	881	412
11	589	179	95	50	45	29	35	1240	126	741	636	471
12	552	176	88	53	42	30	33	429	111	1260	685	273
13	958	209	89	51	42	28	29	358	133	916	294	541
14	322	166	87	53	40	30	30	221	304	570	242	380
15	653	167	98	54	41	52	26	199	119	711	361	605
16	622	167	98	50	44	48	22	235	116	381	345	851
17	443	161	99	53	42	33	27	153	461	268	221	1070
18	419	154	85	50	41	28	20	166	625	278	228	1850
19	852	148	81	47	58	28	33	186	381	322	674	1490
20	1780	143	82	51	50	29	89	129	183	323	657	981
21	779	139	90	52	39	54	40	113	155	216	303	1080
22	404	137	87	53	42	51	40	160	145	183	283	1380
23	669	146	81	61	49	60	42	361	206	536	229	1220
24	879	187	79	53	46	170	57	222	560	694	210	1250
25	444	137	82	51	52	82	244	148	1210	576	217	1570
26	304	134	77	48	50	49	816	177	395	277	564	574
27	359	127	108	82	40	40	e505	416	206	525	467	1280
28	472	122	79	91	42	66	e113	608	198	312	191	709
29	309	131	65	70	---	198	79	190	784	576	169	557
30	848	121	58	511	---	98	81	411	614	361	235	367
31	892	---	59	107	---	59	---	639	---	232	349	---
TOTAL	18221	7560	2874	2219	1460	1594	2781	13049	10872	12654	14975	24190
MEAN	588	252	92.7	71.6	52.1	51.4	92.7	421	362	408	483	806
MAX	1780	1150	153	511	111	198	816	2140	1210	1260	1290	1850
MIN	256	121	58	47	39	28	20	48	111	134	169	269
AC-FT	36140	15000	5700	4400	2900	3160	5520	25880	21560	25100	29700	47980
CFSM	6.21	2.66	.98	.76	.55	.54	.98	4.45	3.83	4.31	5.11	8.52
IN.	7.17	2.97	1.13	.87	.57	.63	1.09	5.13	4.28	4.98	5.89	9.51

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2001, BY WATER YEAR (WY)

	1998	1999	2000	2001	1998	1999	2000	2001
MEAN	663	527	173	128	70.5	135	144	341
MAX	778	792	220	207	95.3	318	250	421
(WY)	2000	2000	2000	1999	1999	1999	1999	2001
MIN	588	252	92.7	71.6	52.1	35.5	89.8	257
(WY)	2001	2001	2001	2001	2001	2000	2000	2000

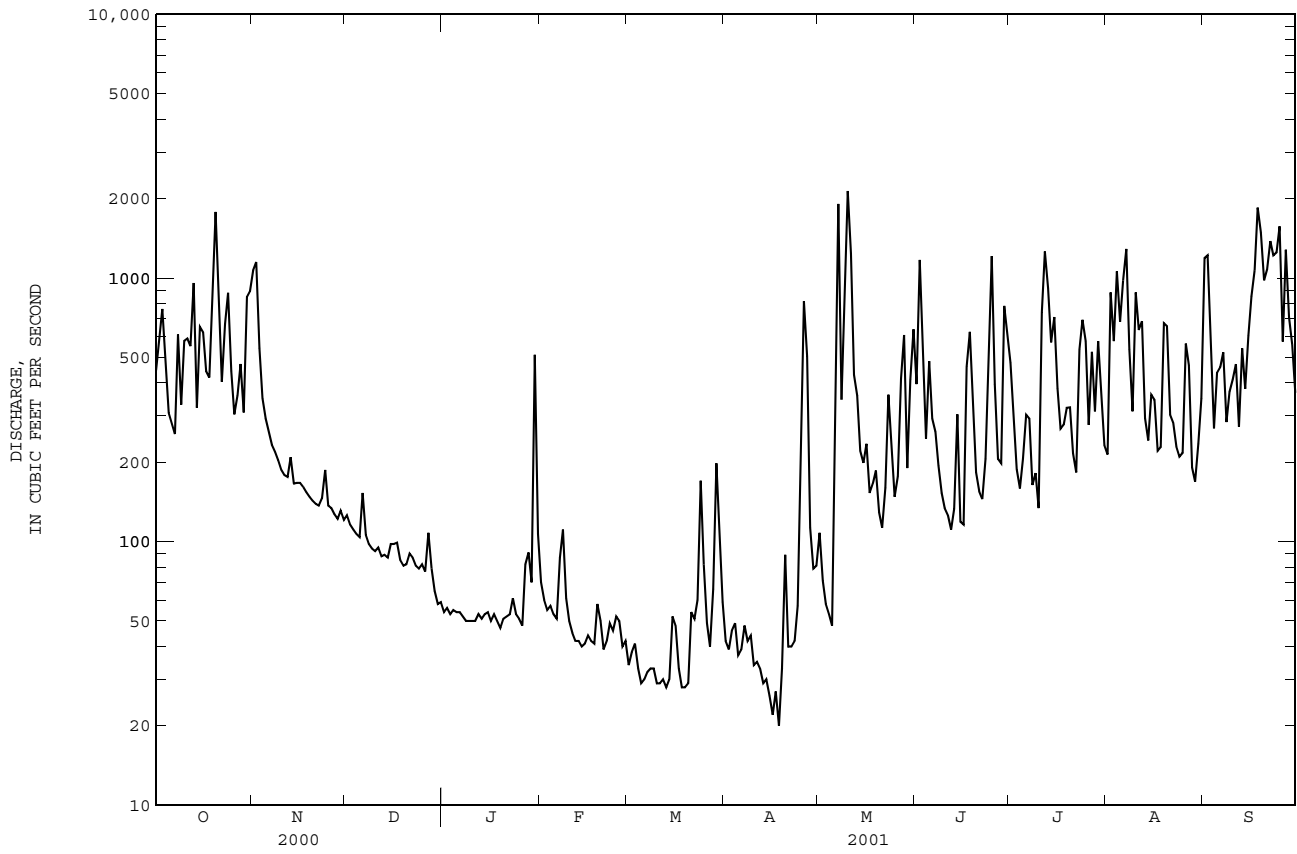
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1998 - 2001

ANNUAL TOTAL	90124	112449	
ANNUAL MEAN	246	308	329
HIGHEST ANNUAL MEAN			362
LOWEST ANNUAL MEAN			308
HIGHEST DAILY MEAN	2150	Sep 27	3860
LOWEST DAILY MEAN	17	Apr 18	17
ANNUAL SEVEN-DAY MINIMUM	26	Apr 13	26
MAXIMUM PEAK FLOW			3300
MAXIMUM PEAK STAGE			14.19
ANNUAL RUNOFF (AC-FT)	178800	223000	238500
ANNUAL RUNOFF (CFSM)	2.60	3.26	3.48
ANNUAL RUNOFF (INCHES)	35.44	44.22	47.29
10 PERCENT EXCEEDS	610	781	895
50 PERCENT EXCEEDS	126	167	214
90 PERCENT EXCEEDS	39	41	50

e Estimated

RIO CULEBRINAS BASIN

50148890 RIO CULEBRINAS AT MARGARITA DAM NEAR AGUADA, PR--Continued



RIO CULEBRINAS BASIN
 50149100 RIO CULEBRINAS NEAR AGUADA, PR
 WATER-QUALITY RECORDS

LOCATION.--Lat 18°24'03", long 67°09'40", at bridge on Highway 2, 2.3 mi (3.7 km) northeast of Aguada plaza.

DRAINAGE AREA.--97.0 mi² (251.1 km²).

PERIOD OF RECORD.--Water years 1958, 1970 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) UNITS (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (MG/L) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT 17...	1330	--	304	7.5	25.7	83	7.0	86	<10	E7000	4100	130	44.6
FEB 15...	1030	E50	324	7.8	23.8	4.0	6.9	82	<10	250	310	--	--
MAY 08...	1030	E350	327	7.1	25.3	83	4.4	53	21	E14000	5000	140	48.6
SEP 13...	1500	E500	229	7.1	27.2	--	6.7	85	18	27000	E12000	96	32.1

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)
OCT 17...	4.85	9.3	.4	2.38	130	<1.0	9.5	9.4	E.1	26.9	185	156	--
FEB 15...	--	--	--	--	134	--	--	--	--	--	--	<10	.37
MAY 08...	4.90	8.4	.3	4.44	126	<1.0	18.3	12.3	E.1	14.9	188	130	.64
SEP 13...	3.90	7.9	.3	2.87	93	--	7.1	8.2	<.2	18.1	136	216	.63

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, ORGANIC (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)
OCT 17...	<.01	.9	.01	.82	.83	1.7	7.6	.110	E1	65.3	18	<.11	2
FEB 15...	.01	.4	.07	.28	.35	.73	3.2	.070	--	--	--	--	--
MAY 08...	.02	.7	.06	.49	.55	1.2	5.4	.200	E1	69.0	E17	<.11	1
SEP 13...	.02	.7	.07	.73	.80	1.5	6.4	.140	--	--	--	--	--

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)
OCT 17...	<20.0	3140	1	188	<.14	<2.6	<.43	<31	<.01	E11	<.03
FEB 15...	--	--	--	--	--	--	--	--	--	--	--
MAY 08...	<20.0	2830	M	209	.02	<2.6	<.43	<31	<.01	<16	.06
SEP 13...	--	--	--	--	--	--	--	--	--	--	--

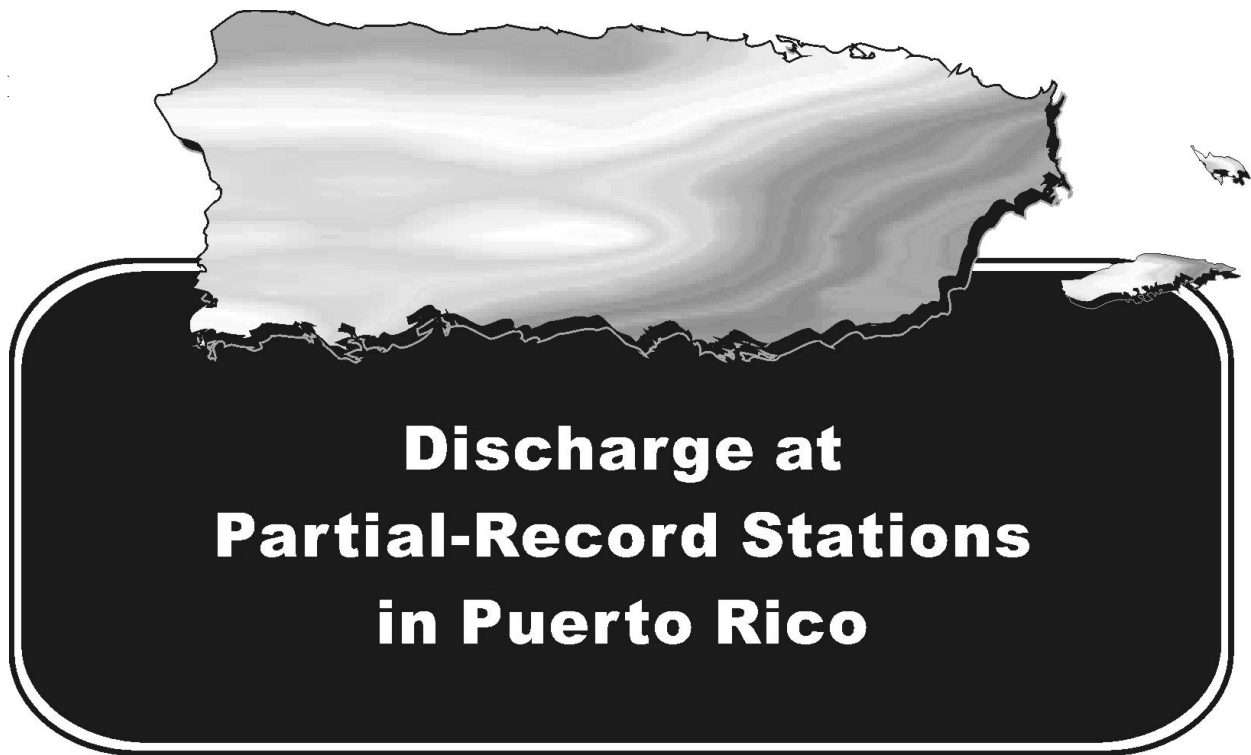
< -- Less than
 E -- Estimated value
 M -- Presence verified, not quantified

RIO CULEBRINAS BASIN

50149100 RIO CULEBRINAS NEAR AGUADA, PR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR- DANE, TECH- NICAL TOTAL (UG/L) (39350)	P,P'- DDD UNFILT RECOVER (UG/L) (39360)	P,P'- DDE, TOTAL (UG/L) (39365)	P,P'- DDT UNFILT RECOVER (UG/L) (39370)	DI- AZINON, TOTAL (UG/L) (39570)	DI- ELDRIN TOTAL (UG/L) (39380)	ENDO- SULFAN I TOTAL (UG/L) (39388)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)	
MAY 08...	1030	<.1	<.013	<.1	<.007	<.006	<.009	<.02	<.006	<.015	<.014	<.01	<.014	
DATE		HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALA- THON, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METHYL PARA- THON, TOTAL (UG/L) (39600)	MIREX, TOTAL (UG/L) (39755)	PARA- THON, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	CARBO- PHENO- THON WATER UNFLTRD TOTAL (UG/L) (39786)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	2,4-DP TOTAL (UG/L) (82183)	SILVEX, TOTAL (UG/L) (39760)
MAY 08...		<.009	<.006	<.03	<.01	<.01	<.01	<.01	<1	<.02	.12	<.01	<.04	<.01



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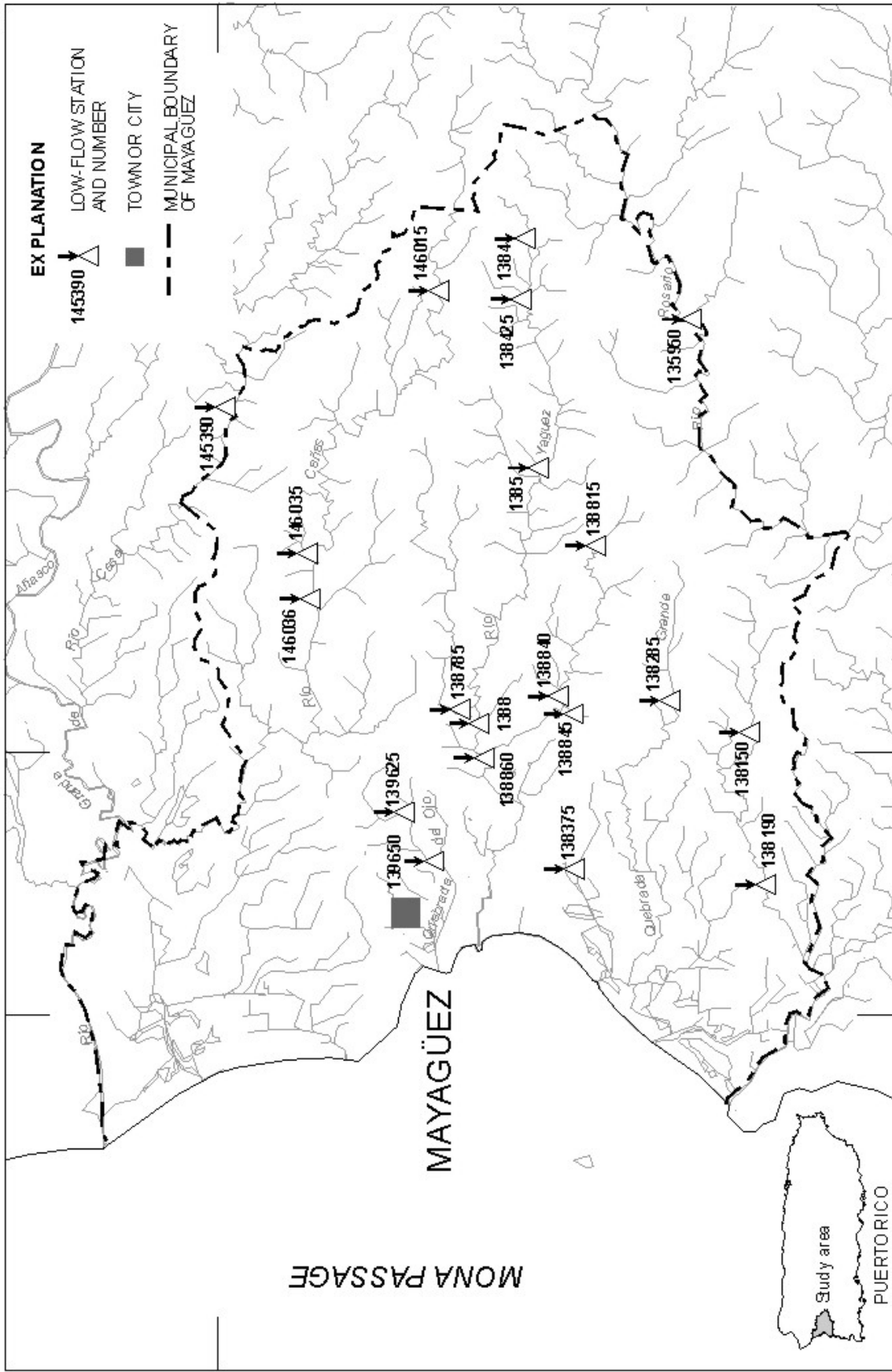


Figure 26. Location of low-flow partial-record stations in Mayagüez, Puerto Rico.

DISCHARGE AT PARTIAL-RECORD STATIONS

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the U.S. Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are useable in low-flow or flood-flow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Low-flow partial-record stations

Measurements of streamflow in the areas covered by this report made at low-flow partial-record stations are given in the following table. These measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of nearby stream when continuous records are available, will give a picture of the low-flow potentiality of stream.

Discharge measurements made at low-flow partial-records stations during water year 2001

PUBLICATION RECORD						
STATION NUMBER	STATION NAME	LOCATION AND BASIN	DRAINAGE AREA mi ² (km ²)	DATE	TIME	STREAM-FLOW ft ³ /s (m ³ /s)
Río Guanajibo basin						
50135950	Río Rosario at Limón, PR	Lat 18°10'33", long 67°03'07", Hydrologic Unit 21010003, at barrio Limón, 3.4 mi (5.5 km), southwest of Pico San Bernardo, 1.8 mi (2.9 km) northwest of El Cerro Avispa, and 2.4 mi (3.9 km) southeast of Represa de Mayagüez.	14.6 (37.8)	3/28/00	1315	11.4 (0.323)
				4/19/00	0900	11.6 (0.328)
				7/10/00	1320	20.8 (0.589)
				11/20/00	1040	39.4 (1.116)
				12/12/00	0900	23.2 (0.657)
				2/14/01	0910	11.9 (0.337)
				3/01/01	0910	10.2 (0.289)
				3/14/01	0820	9.41 (0.266)
				4/03/01	0915	11.9 (0.337)
				6/01/01	0815	17.2 (0.487)
50138150	Río Hondo at Río Hondo, PR	Lat 18°09'59", long 67°07'17", Hydrologic Unit 21010003, at barrio Río Hondo, 3.6 mi (5.8 km) northwest of Los Peñones, 3.7 mi (6.0 km) southwest of Represa de Mayagüez, and 2.6 mi (4.2 km) northwest of Rosario plaza.	1.61 (4.17)	3/27/00	1000	0.33 (0.009)
				4/17/00	0910	0.29 (0.008)
				7/07/00	0750	0.41 (0.012)
				11/16/00	0725	1.08 (0.031)
				12/11/00	1405	0.41 (0.012)
				2/12/01	1150	0.27 (0.008)
				2/27/01	1020	0.24 (0.007)
				3/12/01	1000	0.22 (0.006)
				4/05/01	0810	0.36 (0.010)
				5/29/01	1050	0.37 (0.010)
7/18/01	0925	0.77 (0.022)				
50138190	Río Hondo near Mayagüez, PR	Lat 18°09'53", Long 67°08'32", Hydrologic Unit 21010003, at barrio Guanajibo, 2.0 mi (3.2 km) northwest of Hormigueros plaza, 1.8 mi (2.9 km) east of Cerro Cornelia, and 2.9 mi (4.7 km) south of Mayagüez plaza.	2.93 (7.59)	12/04/00	1030	0.96 (0.027)
				12/13/00	0905	0.85 (0.024)
				2/12/01	1330	0.43 (0.012)
				2/27/01	1215	0.25 (0.007)
				3/12/01	1215	0.23 (0.006)
5/29/01	1205	1.21 (0.034)				

DISCHARGE AT PARTIAL-RECORD STATIONS
Low-flow partial-record stations--Continued

STATION NUMBER	STATION NAME	LOCATION AND BASIN	DRAINAGE AREA mi ² (km ²)	DATE	TIME	STREAM-FLOW ft ³ /s (m ³ /s)
Quebrada Sábalo basin						
50138285	Quebrada Grande at Quebrada Grande, PR	Lat 18°10'44", long 67°06'56", Hydrologic Unit 21010003, at barrio Quebrada Grande, 2.9 mi (4.7 km) southwest of Represa de Mayagüez, 3.6 mi (5.8 km) northwest of Los Peñones, and 2.6 mi (4.2 km) northwest of Rosario plaza.	0.72 (1.86)	3/27/00	1035	0.28 (0.008)
				4/17/00	0940	0.23 (0.006)
				7/07/00	0915	0.48 (0.014)
				11/16/00	0830	0.80 (0.023)
				12/11/00	1440	0.58 (0.016)
				2/12/01	1110	0.36 (0.010)
				2/27/01	0950	0.24 (0.007)
				3/12/01	0935	0.20 (0.006)
				5/29/01	1130	0.92 (0.026)
				50138375	Caño Majagual at Highway 348, PR	Lat 18°11'32", long 67°08'15", Hydrologic Unit 21010003, at barrio Quebrada Grande, 3.3 mi (5.3 km) northeast of Cerro Cornelia, 3.5 mi (5.6 km) northwest of Hormigueros plaza, and 0.8 mi (1.3 km), southeast of Mayagüez plaza.
12/13/00	0755	0.13 (0.004)				
2/12/01	1220	0.16 (0.004)				
2/27/01	1100	0.11 (0.003)				
3/12/01	1025	0.07 (0.002)				
5/29/01	1220	0.29 (0.008)				
7/18/01	0915	0.29 (0.008)				
Río Yagüez basin						
50138400	Río Yagüez at Montoso, PR	Lat 18°12'06", long 67°02'30", Hydrologic Unit 21010003, at barrio Montoso, 1.6 mi (2.6 km) south of Pico San Bernardo, 3.0 (4.8 km) northwest of El Cerro Avispa, and 2.4 mi (3.9 km) northeast of Represa de Mayagüez.	0.63 (1.63)	3/29/00	1045	0.69 (0.020)
				4/18/00	1350	0.62 (0.018)
				7/11/00	0910	1.03 (0.029)
				11/14/00	1255	2.59 (0.073)
				12/12/00	1025	1.43 (0.040)
				2/14/01	1035	0.73 (0.021)
				3/01/01	1025	0.63 (0.018)
				3/14/01	0950	0.53 (0.015)
				4/03/01	1125	0.54 (0.015)
				5/30/01	0805	0.78 (0.022)
50138425	Río Yagüez at Naranjales, PR	Lat 18°12'08", long 66°03'00", Hydrologic Unit 21010003, at barrio Naranjales, 3.2 mi (5.1 km) northwest of El Cerro Avispa, 1.6 mi (2.6 km) southwest of Pico San Bernardo, and 1.9 mi (3.0 km) northeast of Represa de Mayagüez.	1.32 (3.42)	3/29/00	1205	1.41 (0.040)
				4/18/00	1215	1.34 (0.038)
				7/11/00	1040	1.89 (0.054)
				11/15/00	0825	4.68 (0.132)
				12/12/00	1200	2.92 (0.083)
				2/14/01	1230	1.62 (0.046)
				3/01/01	1200	1.50 (0.042)
				3/14/01	1135	1.22 (0.034)
4/03/01	1300	1.19 (0.034)				
5/30/01	0945	1.79 (0.051)				

DISCHARGE AT PARTIAL-RECORD STATIONS
Low-flow partial-record stations--Continued

STATION NUMBER	STATION NAME	LOCATION AND BASIN	DRAINAGE AREA mi ² (km ²)	DATE	TIME	STREAM-FLOW ft ³ /s (m ³ /s)
Río Yagüez basin						
50138500	Río Yagüez at Presada de Mayagüez, PR	Lat 18°12'02", long 67°04'42", Hydrologic Unit 21010003, at barrio Bateyes, 2.9 mi (4.7 km) southwest of Pico San Bernardo, 4.2 mi (6.8 km) northwest of El Cerro Avispa, and 2.5 mi (4.0 km) north of Rosario plaza.	4.38 (11.3)	4/18/00	1025	3.41 (0.096)
				7/11/00	1210	5.02 (0.142)
				2/15/01	1045	3.56 (0.101)
				3/01/01	1315	2.97 (0.084)
				3/14/01	1300	2.90 (0.082)
				4/03/01	1455	2.79 (0.079)
				5/30/01	1315	3.97 (0.112)
50138785	Quebrada Gandel at Mayagüez Arriba, PR	Lat 18°12'42", long 67°06'57", Hydrologic Unit 21010003, at Mayagüez Arriba, 4.0 mi (6.4 km) northwest of Rosario plaza, 2.6 mi (4.2 km) southwest of Cerro Leclerc, and 2.6 mi (4.2 km) northwest of Represa de Mayagüez.	1.83 (4.74)	3/28/00	1045	0.88 (0.025)
				4/17/00	1350	1.03 (0.029)
				7/14/00	0825	1.43 (0.040)
				11/21/00	1345	2.38 (0.067)
				12/11/00	1220	1.84 (0.052)
				2/13/01	1055	0.80 (0.023)
				2/28/01	1245	0.69 (0.020)
3/13/01	1210	0.63 (0.018)				
5/31/01	1200	1.43 (0.040)				
50138800	Río Yagüez near Mayagüez, PR	Lat 18°12'32", long 67°07'05", Hydrologic Unit 21010003, at steel-truss bridge about 800 ft (244 m) south of Highway 106, 1.8 mi (2.9 km) west of Highways 106 and 352 junction, and 1.4 mi (2.2 km) east north-east from Mayagüez plaza.	8.53 (22.1)	3/28/00	1000	2.85 (0.081)
				4/17/00	1315	2.55 (0.072)
				7/11/00	1345	4.64 (0.131)
				11/15/00	1215	12.6 (0.357)
				12/11/00	1305	7.34 (0.208)
				2/13/01	1125	3.41 (0.096)
				2/28/01	1140	2.79 (0.079)
3/13/01	1030	3.00 (0.085)				
4/05/01	0915	3.27 (0.093)				
5/31/01	1030	4.42 (0.125)				
50138815	Quebrada Caricosa near Represa de Mayagüez, PR	Lat 18°11'27", long 67°05'18", Hydrologic Unit 21010003, at barrio Juan Alonso, 0.9 mi (1.4 km) southwest of Represa de Mayagüez, 2.9 mi (4.7 km) northwest of Los Peñones, and 1.9 mi (3.0 km) northwest of Rosario plaza.	0.57 (1.48)	3/27/00	1135	0.14 (0.004)
				4/18/00	0730	0.08 (0.002)
				7/18/00	1015	0.09 (0.002)
				11/21/00	0910	0.22 (0.006)
				12/11/00	0945	0.17 (0.005)
				2/13/01	0820	0.10 (0.003)
				2/28/01	0910	0.11 (0.003)
3/13/01	0755	0.14 (0.004)				
5/31/01	0755	0.19 (0.005)				

DISCHARGE AT PARTIAL-RECORD STATIONS

Low-flow partial-record stations--Continued

STATION NUMBER	STATION NAME	LOCATION AND BASIN	DRAINAGE AREA mi ² (km ²)	DATE	TIME	STREAM FLOWS ft ³ /s (m ³ /s)
Río Yagüez basin						
50138840	Quebrada Caricosa near Mayagüez, PR	Lat 18°11'50", long 67°06'45", Hydrologic Unit 21010003, at barrio Juan Alonso, 2.3 mi (3.7 km) southwest of Represa de Mayagüez, 2.9 mi (4.7 km) southwest of Cerro Leclerc, and 3.1 mi (5.0 km) northwest of Rosario plaza.	2.40 (6.22)	3/27/00	1300	0.98 (0.028)
				4/17/00	1440	1.00 (0.028)
				7/18/00	1050	1.06 (0.03)
				11/21/00	1000	1.87 (0.053)
				12/11/00	0945	2.10 (0.059)
				2/13/01	0900	1.54 (0.044)
				2/28/01	0950	0.85 (0.024)
				3/13/01	0845	1.37 (0.039)
				5/31/01	0835	1.85 (0.052)
				50138845	Tributario de Quebrada Caricosa at Highway 105, PR	Lat 18°11'48", long 67°06'56", Hydrologic Unit 21010003, at Mayagüez Arriba, 2.5 mi (4.0 km) southwest of Represa de Mayagüez, 3.1 mi (5.0 km) southwest of Cerro Leclerc, and 3.2 mi (5.1 km) northwest of Rosario plaza.
12/13/00	1105	0.12 (0.003)				
2/13/01	0940	0.05 (0.001)				
2/28/01	1030	0.03 (0.001)				
3/13/01	0920	0.02 (0.001)				
5/31/01	0920	0.16 (0.004)				
50138860	Quebrada Caricosa at mouth, PR	Lat 18°12'31", long 67°07'27", Hydrologic Unit 21010003, at Mayagüez Arriba, 3.1 mi (5.0 km) northwest of Represa de Mayagüez, 3.2 mi (5.1 km) southwest of Cerro Leclerc, and 4.2 mi (6.8 km) northwest of Rosario plaza.	2.92 (7.56)	3/27/00	1355	1.32 (0.037)
				4/17/00	1215	1.38 (0.039)
				7/18/00	1230	1.32 (0.037)
				11/21/00	1135	2.54 (0.072)
				12/11/00	1335	2.51 (0.071)
				2/13/01	1010	1.66 (0.047)
				2/28/01	1100	0.98 (0.028)
				3/13/01	0945	1.71 (0.048)
				5/31/01	0950	2.27 (0.064)
				50139625	Quebrada del Oro at Miradero, PR	Lat 18°13'15", long 67°08'00", Hydrologic Unit 21010003, at barrio Miradero, 2.0 mi (3.2 km) southeast of Peña Cortada, 4.9 mi (7.9 km) northeast of Cerro Cornelia, and 2.3 mi (3.7 km) northeast of Mayagüez plaza.
4/17/00	1140	0.37 (0.010)				
7/12/00	1030	0.55 (0.016)				
11/27/00	1110	0.74 (0.021)				
12/13/00	1025	0.59 (0.017)				
2/13/01	1300	0.30 (0.008)				
2/28/01	1325	0.27 (0.008)				
3/13/01	1250	0.31 (0.009)				
5/31/01	1255	0.50 (0.014)				

DISCHARGE AT PARTIAL-RECORD STATIONS
Low-flow partial-record stations--Continued

STATION NUMBER	STATION NAME	LOCATION AND BASIN	DRAINAGE AREA mi ² (km ²)	DATE	TIME	STREAM FLOWS ft ³ /s (m ³ /s)
Quebrada del Oro basin						
50139650	Quebrada del Oro at Highway 2, PR	Lat 18°12'50", long 67°08'48", Hydrologic Unit 21010003, at Highway 2, 0.8 mi (1.3 km) upstream from mouth, 4.0 mi (6.4 km) northeast of Cerro Cornelia, and 0.9 mi (1.4 km) northwest of Mayagüez plaza.	1.49 (3.86)	3/29/00	0820	1.29 (0.036)
				4/17/00	1100	0.96 (0.027)
				7/12/00	0930	1.30 (0.037)
				11/27/00	0930	1.91 (0.054)
				12/13/00	0945	1.32 (0.037)
				2/12/01	1355	0.89 (0.025)
				2/28/01	1400	0.84 (0.024)
				3/13/01	1335	0.79 (0.022)
				5/31/01	1345	1.10 (0.031)
Río Grande de Añasco basin						
50145390	Río Casey at Río Cañas Arriba, PR	Lat 18°14'58", long 67°04'00", Hydrologic Unit 21010003, at barrio Río Cañas Arriba, 2.3 mi (3.7 km) northwest of Pico San Bernardo, 1.9 mi (3.0 km) northeast of Cerro Leclerc, and 3.4 mi (5.5 km) northeast of Represa de Mayagüez.	7.03 (18.2)	3/29/00	1340	7.90 (0.224)
				4/19/00	1115	6.34 (0.180)
				7/13/00	1315	15.2 (0.430)
				11/17/00	1055	25.7 (0.728)
				12/13/00	1115	14.7 (0.416)
				2/13/01	1455	6.75 (0.191)
				2/27/01	1340	6.91 (0.196)
				3/12/01	1325	5.99 (0.170)
				5/29/01	1420	8.15 (0.231)
50146015	Río Cañas at Camino Charluisant, PR	Lat 18°12'57", long 67°02'48", Hydrologic Unit 21010003, at barrio Cañas Arriba, 0.6 mi (1.0 km) southwest of Pico San Bernardo, 2.2 mi (3.5 km) southeast of Cerro Leclerc, and 2.3 mi (3.7 km) northeast of Represa de Mayagüez.	1.76 (4.56)	3/28/00	1440	1.11 (0.031)
				4/18/00	1305	1.20 (0.034)
				7/06/00	1410	4.11 (0.116)
				11/14/00	1150	6.12 (0.173)
				12/12/00	1110	3.27 (0.093)
				2/14/01	1115	1.34 (0.038)
				3/01/01	1110	1.07 (0.030)
				3/14/01	1040	1.23 (0.035)
5/30/01	0900	2.45 (0.069)				
50146035	Río Cañas at Highway 352, PR	Lat 18°14'10", long 67°05'28", Hydrologic Unit 21010003, at barrio Río Cañas Arriba, 3.3 mi (5.3 km) northwest of Pico San Bernardo, 1.2 mi (1.9 km) northwest of Cerro Leclerc, and 2.6 mi (4.2 km) northwest of Represa de Mayagüez.	5.83 (15.1)	3/28/00	0855	5.07 (0.144)
				4/18/00	0815	5.31 (0.150)
				7/06/00	1255	9.28 (0.263)
				11/14/00	1020	17.1 (0.484)
				12/12/00	1500	10.4 (0.294)
				2/14/01	1335	5.32 (0.151)
				3/02/01	0805	4.65 (0.132)
				3/15/01	0830	4.38 (0.124)
4/04/01	1025	4.32 (0.122)				
5/30/01	1210	8.07 (0.228)				

DISCHARGE AT PARTIAL-RECORD STATIONS

Low-flow partial-record stations--Continued

STATION NUMBER	STATION NAME	LOCATION AND BASIN	DRAINAGE AREA mi ² (km ²)	DATE	TIME	STREAM FLOWS ft ³ /s (m ³ /s)
		Río Grande de Añasco basin				
50146036	Río Cañas upstream of Quebrada Cojolla, PR	Lat 18°14'08", long 67°06'01", Hydrologic Unit 21010003, at barrio Río Cañas Abajo, 4.3 mi (6.9 km) northwest of Pico San Bernardo, 2.0 mi (3.2 km) northwest of Cerro Leclerc, and 3.1 mi (5.0 km) northwest of Represa de Mayagüez.	6.18 (16.0)	3/28/00	0800	5.27 (0.149)
				4/18/00	0905	5.79 (0.164)
				7/06/00	1100	9.44 (0.267)
				11/14/00	0830	17.4 (0.493)
				12/12/00	1410	9.70 (0.275)
				2/15/01	0915	4.60 (0.130)
				3/02/01	0855	4.42 (0.125)
				3/15/01	0925	4.21 (0.119)
				4/04/01	0915	4.64 (0.131)
				5/30/01	1105	8.08 (0.229)

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**Water-Quality at
Partial Record Stations
in Puerto Rico and
U.S. Virgin Island**

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION

Water-quality partial-record stations are particular sites where chemical-quality, biological and or sediment data are collected systemically over a period of years for use in hydrological analyses. The data are collected usually less than quarterly.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	TEMPER- ATURE WATER (DEG C) (00010)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TRANS- PAR- ENCY (SECCHI DISK) (IN) (00077)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300) (00301)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	ANC WATER UNFLTRD FIELD MG/L AS CACO3 (00410)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, TOTAL (MG/L AS N) (00620)	
50010720 LAGO GUAJATACA NO. 3 NR MOUTH NR QUEBRADILLAS, PR (LAT 18 22 05N LONG 066 54 36W)													
DEC 2000													
13...	1220	1.00	26.2	306	7.2	60.0	7.3	93	E1	E15	134	<10	--
13...	1225	19.0	26.0	307	7.3	--	6.4	--	--	--	134	--	--
MAR 2001													
27...	1115	1.00	27.9	289	8.2	48.0	7.7	98	E2	E1	128	<10	--
27...	1120	9.80	26.3	294	7.8	--	5.9	--	--	--	128	--	--
JUL													
27...	1145	1.00	29.7	244	7.7	--	8.8	119	E4	E13	108	<10	--
27...	1150	16.4	29.1	248	8.0	--	6.5	--	--	--	112	--	--
50025110 LAGO DOS BOCAS NO. 3 AT WEST BRANCH NR UTUADO, PR (LAT 18 19 15N LONG 066 40 11W)													
DEC 2000													
01...	1115	1.00	26.8	217	8.1	54.0	8.9	114	E5	<1	77	<10	.39
01...	1130	10.0	25.9	229	7.9	--	6.5	--	--	--	77	--	--
MAR 2001													
16...	1025	1.00	26.6	254	6.3	24.0	7.2	92	26	43	89	<10	.33
16...	1030	6.60	26.0	231	6.5	--	--	--	--	--	94	--	--
JUL													
12...	1230	1.00	29.8	237	8.5	18.0	8.6	115	>240	E480	84	17	--
12...	1240	6.56	28.6	235	8.3	--	8.0	--	--	--	82	--	--
50039900 LAGO CARITE NO. 3 AT RIO DE LA PLATA NR CAYEY, PR (LAT 18 05 04N LONG 066 06 03W)													
NOV 2000													
30...	1100	1.00	24.7	102	7.3	66.0	6.3	82	E3	E1	33	<10	--
30...	1115	8.00	24.2	106	6.9	--	5.7	--	--	--	31	--	--
MAR 2001													
15...	0930	1.00	24.3	107	5.8	66.0	7.2	92	E3	32	33	<10	--
15...	0940	19.7	23.2	103	6.3	--	--	--	--	--	33	--	--
JUL													
13...	1050	1.00	27.4	96	7.3	48.0	7.9	107	E2	E13	28	--	--
13...	1055	13.1	26.6	97	7.2	--	5.1	--	E2	E13	28	--	--
50044400 LAGO LA PLATA NO. 5 NR MOUTH NR NARANJITO, PR (LAT 18 19 33N LONG 066 12 28W)													
NOV 2000													
29...	1240	1.00	28.4	400	8.3	27.6	10	130	E3	E10	153	<10	.76
29...	1245	34.0	24.9	400	7.2	--	.6	--	--	--	136	--	--
MAR 2001													
12...	1140	1.00	27.6	375	8.7	36.0	--	--	E3	E2	134	<10	--
12...	1145	19.7	25.4	384	7.9	--	--	--	--	--	135	--	--
JUL													
11...	1155	1.00	30.2	371	9.0	30.0	13.4	183	E30	E2	131	13	--
11...	1200	13.1	29.2	391	7.7	--	.9	--	--	--	136	--	--
50057500 LAGO LOIZA NO. 4 NR MOUTH NR CAGUAS, PR (LAT 18 16 51N LONG 066 00 35W)													
DEC 2000													
06...	1010	1.00	26.9	311	7.3	23.0	4.6	58	230	50	92	15	1.03
06...	1015	--	26.4	310	7.4	--	3.8	--	--	--	92	--	--
MAR 2001													
28...	1205	1.00	28.0	307	6.5	24.0	6.0	77	190	92	79	<10	1.24
28...	1210	19.7	25.0	218	6.8	--	2.3	--	--	--	59	--	--
JUL													
19...	1245	1.00	30.3	378	7.1	--	6.2	83	E790	490	105	11	1.43
19...	1250	13.1	28.9	367	7.1	--	4.0	--	--	--	107	--	--

< -- Less than
E -- Estimated value
> -- Greater than
M -- Presence verified, not quantified

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION

Water-quality partial-record stations are particular sites where chemical-quality, biological and or sediment data are collected systemically over a period of years for use in hydrological analyses. The data are collected usually less than quarterly.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	SAMPLING DEPTH (FEET) (00003)	TEMPERATURE (DEG C) (00010)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION) (00300) (00301)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	FECAL STREP, KF STRP, MF, WATER (COL/100 ML) (31673)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	
50010790 LAGO GUAJATACA NO. 1 NR DAMSITE NR QUEBRADILLAS PR (LAT 18 23 56N LONG 066 55 23W)													
DEC 2000													
13...	1325	1.00	26.7	305	7.7	108	6.2	79	<1	<1	130	48.0	3.50
13...	1350	65.0	24.8	311	6.9	--	.00	--	--	--	140	52.9	2.97
MAR 2001													
27...	1155	1.00	27.4	284	8.3	--	5.5	70	<1	20	130	47.3	3.73
27...	1205	68.9	24.8	316	6.7	--	1.3	--	--	--	150	54.4	3.74
JUL													
27...	1240	1.00	30.5	246	8.5	--	9.0	123	E1	E9	120	41.7	3.52
27...	1300	82.0	24.7	312	6.9	--	.2	--	--	--	150	55.6	3.18
50020050 LAGO GARZAS NO. 1 NR DAMSITE NR ADJUNTAS, PR (LAT 18 08 21N LONG 066 44 35W)													
DEC 2000													
07...	1020	--	21.7	144	7.5	57.0	5.1	70	E6	E2	54	14.9	3.96
07...	1025	--	21.7	150	7.1	--	--	--	--	--	54	15.0	3.94
MAR 2001													
21...	1135	1.00	22.8	164	8.2	30.0	5.9	75	E2	E16	66	18.3	4.93
21...	1150	82.0	20.6	170	6.9	--	1.2	--	--	--	64	17.8	4.78
JUL													
26...	1155	1.00	26.4	181	8.3	--	7.5	--	23	E10	68	18.7	5.21
26...	1205	62.3	20.8	164	6.7	--	.2	--	--	--	55	15.1	4.13
50027090 LAGO DOS BOCAS NO. 1 NR DAMSITE NR UTUADO, PR (LAT 18 20 09N LONG 066 40 04W)													
DEC 2000													
01...	1215	1.00	27.3	210	7.8	66.0	9.0	115	E3	<1	68	17.9	5.70
01...	1245	65.0	25.1	246	7.0	--	.3	--	--	--	68	17.9	5.70
MAR 2001													
16...	1100	1.00	26.8	242	7.4	66.0	7.9	101	E1	E1	88	23.7	6.97
16...	1115	62.3	24.6	229	6.9	--	--	--	--	--	85	23.1	6.66
JUL													
12...	1315	1.00	29.6	231	8.4	--	8.2	109	E13	E4	90	24.6	6.94
12...	1400	62.3	26.7	216	7.2	--	.2	--	--	--	82	21.9	6.52
50039950 LAGO CARITE NO. 1 NR DAMSITE NR CAYEY, PR (LAT 18 04 39N LONG 066 06 19W)													
NOV 2000													
30...	1145	1.00	24.5	102	7.1	72.0	6.2	80	E7	<1	28	5.40	3.59
30...	1205	62.0	22.3	192	6.4	--	.1	--	--	--	39	8.33	4.41
MAR 2001													
15...	1130	1.00	24.5	107	6.7	60.0	7.6	98	E1	210	30	5.38	4.07
15...	1140	59.1	22.5	113	6.3	--	--	--	--	--	31	5.80	3.91
JUL													
13...	1120	1.00	27.5	97	8.1	48.0	8.6	116	E3	E4	32	5.65	4.43
13...	1140	52.5	22.6	144	6.9	--	.2	--	--	--	36	6.92	4.47
50044950 LAGO LA PLATA NO. 3 NR DAMSITE NR NARANJITO, PR (LAT 18 20 18N LONG 066 14 01W)													
NOV 2000													
29...	1050	1.00	27.7	253	8.5	60.0	8.2	106	E6	30	89	21.1	8.76
29...	1130	79.0	23.8	220	6.9	--	.2	--	--	--	59	14.1	5.74
MAR 2001													
12...	1040	1.00	27.5	363	8.0	102	11.0	139	E3	E1	110	25.2	10.4
12...	1050	79.0	24.1	352	6.7	--	--	--	--	--	100	24.8	9.80
JUL													
11...	1055	1.00	30.5	328	8.4	66.0	7.5	103	E4	E13	130	27.2	14.0
11...	1120	62.3	24.5	333	6.8	--	.2	--	--	--	120	28.9	11.9

E -- Estimated value
 < -- Less than
 M -- Presence verified, not quantified
 > -- Greater than

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD MG/L AS CACO3 (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDEED (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
50010790 LAGO GUAJATACA NO. 1 NR DAMSITE NR QUEBRADILLAS PR (LAT 18 23 56N LONG 066 55 23W)													
DEC 2000													
13...	6.0	.2	1.95	133	9.0	6.9	E.1	4.4	159	<10	--	<.01	M
13...	4.8	.2	1.75	144	7.4	5.3	E.1	6.1	167	--	--	--	--
MAR 2001													
27...	5.9	.2	1.81	126	9.4	8.6	E.1	4.1	157	<10	--	<.01	<.02
27...	5.9	.2	1.88	148	8.2	7.9	E.1	6.4	177	--	--	--	--
JUL													
27...	5.8	.2	2.00	112	9.0	8.0	E.1	5.1	142	--	--	<.01	<.02
27...	4.9	.2	1.81	148	8.0	6.7	E.1	6.2	175	--	--	--	--
50020050 LAGO GARZAS NO. 1 NR DAMSITE NR ADJUNTAS, PR (LAT 18 08 21N LONG 066 44 35W)													
DEC 2000													
07...	5.5	.3	1.28	59	2.5	5.5	<.2	19.5	88	<10	.07	.01	.1
07...	5.4	.3	1.44	64	2.2	5.1	<.2	18.6	90	--	--	--	--
MAR 2001													
21...	6.2	.3	1.16	72	2.5	6.2	E.1	18.0	101	<10	--	<.01	<.02
21...	5.7	.3	1.23	74	2.3	6.1	<.2	20.2	103	--	--	--	--
JUL													
26...	6.8	.4	1.14	67	3.7	6.1	<.2	18.1	100	<10	--	<.01	M
26...	5.5	.3	1.47	64	.9	5.3	<.2	16.3	87	--	--	--	--
50027090 LAGO DOS BOCAS NO. 1 NR DAMSITE NR UTUADO, PR (LAT 18 20 09N LONG 066 40 04W)													
DEC 2000													
01...	9.3	.5	1.45	71	13.2	9.1	E.1	23.1	123	<10	.32	.02	.3
01...	9.3	.5	1.45	89	13.2	9.1	E.1	23.1	133	<10	--	--	--
MAR 2001													
16...	11.8	.5	1.75	84	18.0	11.7	E.1	19.9	144	<10	.23	.01	.2
16...	11.0	.5	1.71	84	15.9	10.8	E.1	21.7	141	--	--	--	--
JUL													
12...	11.2	.5	1.97	82	15.7	10.2	E.1	22.2	142	<10	--	<.01	.1
12...	10.4	.5	1.85	81	11.4	9.8	E.1	21.1	132	--	--	--	--
50039950 LAGO CARITE NO. 1 NR DAMSITE NR CAYEY, PR (LAT 18 04 39N LONG 066 06 19W)													
NOV 2000													
30...	8.2	.7	.71	30	2.8	8.4	<.2	18.2	66	<10	--	<.01	<.02
30...	8.5	.6	.82	63	.1	8.6	<.2	18.7	87	--	--	--	--
MAR 2001													
15...	8.3	.7	.83	33	2.8	9.0	<.2	18.1	68	<10	--	<.01	.1
15...	7.8	.6	.78	39	2.4	8.8	<.2	18.5	72	--	--	--	--
JUL													
13...	9.5	.7	.83	28	2.9	10.0	<.2	18.6	69	12	--	<.01	<.02
13...	8.7	.6	.86	52	.3	9.4	<.2	19.6	82	--	--	--	--
50044950 LAGO LA PLATA NO. 3 NR DAMSITE NR NARANJITO, PR (LAT 18 20 18N LONG 066 14 01W)													
NOV 2000													
29...	13.6	.6	2.96	93	11.2	15.6	E.1	18.3	148	<10	--	.01	<.02
29...	7.3	.4	2.84	66	6.3	8.1	E.1	14.9	99	--	--	--	--
MAR 2001													
12...	16.2	.7	5.04	126	12.0	22.8	.2	19.7	187	<10	--	<.01	<.02
12...	13.5	.6	2.96	120	5.1	15.6	.2	18.7	162	--	--	--	--
JUL													
11...	20.9	.8	2.90	121	12.1	25.7	E.1	20.6	196	<10	--	<.01	<.02
11...	16.7	.7	3.08	131	3.9	18.8	E.1	21.1	183	--	--	--	--

MISCELLANEOUS STATION ANALYSES

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATION

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WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR-DANE, TECH-NICAL TOTAL (UG/L) (39350)	P,P'-DDD UNFILT RECOVER (UG/L) (39360)	P,P'-DDE, UNFILT RECOVER (UG/L) (39365)	P,P'-DDT UNFILT RECOVER (UG/L) (39370)	DI-AZINON, TOTAL (UG/L) (39570)	DI-ELDRIN, TOTAL (UG/L) (39380)	ENDO-SULFAN I TOTAL (UG/L) (39388)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTA-CHLOR, TOTAL (UG/L) (39410)	
50010790 LAGO GUAJATACA NO. 1 NR DAMSITE NR QUEBRADILLAS PR (LAT 18 23 56N LONG 066 55 23W)														
JUL 2001	27...	1240	<.1	<.010	<.1	<.007	<.006	<.009	<.02	<.006	<.020	<.010	<.01	<.010
50020050 LAGO GARZAS NO. 1 NR DAMSITE NR ADJUNTAS, PR (LAT 18 08 21N LONG 066 44 35W)														
JUL 2001	26...	1155	<.1	<.010	<.1	<.007	<.006	<.009	<.02	<.006	<.020	<.010	<.01	<.010
50027090 LAGO DOS BOCAS NO. 1 NR DAMSITE NR UTUADO, PR (LAT 18 20 09N LONG 066 40 04W)														
JUL 2001	12...	1315	<.1	<.010	<.1	<.007	<.006	<.009	<.02	<.006	<.020	<.010	<.01	<.010
50039950 LAGO CARITE NO. 1 NR DAMSITE NR CAYEY, PR (LAT 18 04 39N LONG 066 06 19W)														
JUL 2001	13...	1120	<.1	<.010	<.1	<.007	<.006	<.009	<.02	<.006	<.020	<.010	<.01	<.010
50044950 LAGO LA PLATA NO. 3 NR DAMSITE NR NARANJITO, PR (LAT 18 20 18N LONG 066 14 01W)														
JUL 2001	11...	1055	<.1	<.010	<.1	<.007	<.006	<.009	<.02	<.006	<.020	<.010	<.01	<.010
50058800 LAGO LOIZA NO. 7 NR DAMSITE NR TRUJILLO ALTO, PR (LAT 18 19 29N LONG 066 00 47W)														
JUL 2001	19...	1345	<.1	<.010	<.1	<.007	<.006	<.009	E.01	<.006	<.020	<.010	<.01	<.010
DATE	TIME	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALA-THION, TOTAL (UG/L) (39530)	METH-OXY-CHLOR, TOTAL (UG/L) (39480)	METHYL PARA-THION, TOTAL (UG/L) (39600)	MIREX, TOTAL (UG/L) (39755)	PARA-THION, TOTAL (UG/L) (39540)	TOX-APHENE, TOTAL (UG/L) (39400)	CARBO-PHENO-THION WATER UNFLTRD (UG/L) (39786)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	2,4-DP TOTAL (UG/L) (82183)	SILVEX, TOTAL (UG/L) (39760)
50010790 LAGO GUAJATACA NO. 1 NR DAMSITE NR QUEBRADILLAS PR (LAT 18 23 56N LONG 066 55 23W)														
JUL 2001	27...	<.009	<.006	<.03	<.02	<.01	<.01	<.01	<1	<.02	.06	<.01	<.04	<.01
50020050 LAGO GARZAS NO. 1 NR DAMSITE NR ADJUNTAS, PR (LAT 18 08 21N LONG 066 44 35W)														
JUL 2001	26...	<.009	<.006	<.03	<.02	<.01	<.01	<.01	<1	<.02	.03	<.01	<.04	<.01
50027090 LAGO DOS BOCAS NO. 1 NR DAMSITE NR UTUADO, PR (LAT 18 20 09N LONG 066 40 04W)														
JUL 2001	12...	<.009	<.006	<.03	<.02	<.01	<.01	<.01	<1	<.02	.06	<.01	<.04	<.01
50039950 LAGO CARITE NO. 1 NR DAMSITE NR CAYEY, PR (LAT 18 04 39N LONG 066 06 19W)														
JUL 2001	13...	<.009	<.006	<.03	<.02	<.01	<.01	<.01	<1	<.02	<.01	<.01	<.04	<.01
50044950 LAGO LA PLATA NO. 3 NR DAMSITE NR NARANJITO, PR (LAT 18 20 18N LONG 066 14 01W)														
JUL 2001	11...	<.009	<.006	<.03	<.02	<.01	<.01	<.01	<1	<.02	.02	<.01	<.04	<.01
50058800 LAGO LOIZA NO. 7 NR DAMSITE NR TRUJILLO ALTO, PR (LAT 18 19 29N LONG 066 00 47W)														
JUL 2001	19...	<.009	<.006	<.03	<.02	<.01	<.01	<.01	<1	<.02	.12	<.01	<.04	<.01

< -- Less than
E -- Estimated value

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**Ground-Water Records
for Puerto Rico**

GROUND-WATER LEVELS
RIO GUAJATACA BASIN

182925067031100. Local number, 1001.

LOCATION.--Lat 18°29'25", long 67°03'11", Hydrologic Unit 21010002, 0.15 mi northwest of Hwy 472, 1.90 mi northwest of the intersection of Hwy 112 with Hwy 2, and 1.32 mi east of Hwy 466. Owner: Otilio Milán, Name: Otilio.

AQUIFER.--Aymamón Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 20 in (0.51 m), cased 0-10 ft (0-3.05 m), open hole 10-347 ft (3.05-105.8 m). Depth 347 ft (105.8 m).

INSTRUMENTATION.--Pressure transducer with integrated electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 295 ft (89.9 m), above mean sea level, from topographic map. Measuring point: Hole on plexiglass plate on top of PVC pipe, 3.37 ft (0.94 m), above land-surface datum. Prior to, hole on shelter floor on top of the 4 in (0.10 m) casing 3.08 ft (0.94 m), above land-surface datum.

REMARKS.--Recording observation well. Electronic Data Logger (EDL), installed on May 16, 1997, removed on June 16, 1998. Formerly published as local number OT-1. Electronic Data Logger (EDL), re-installed on Mar. 24, 2000.

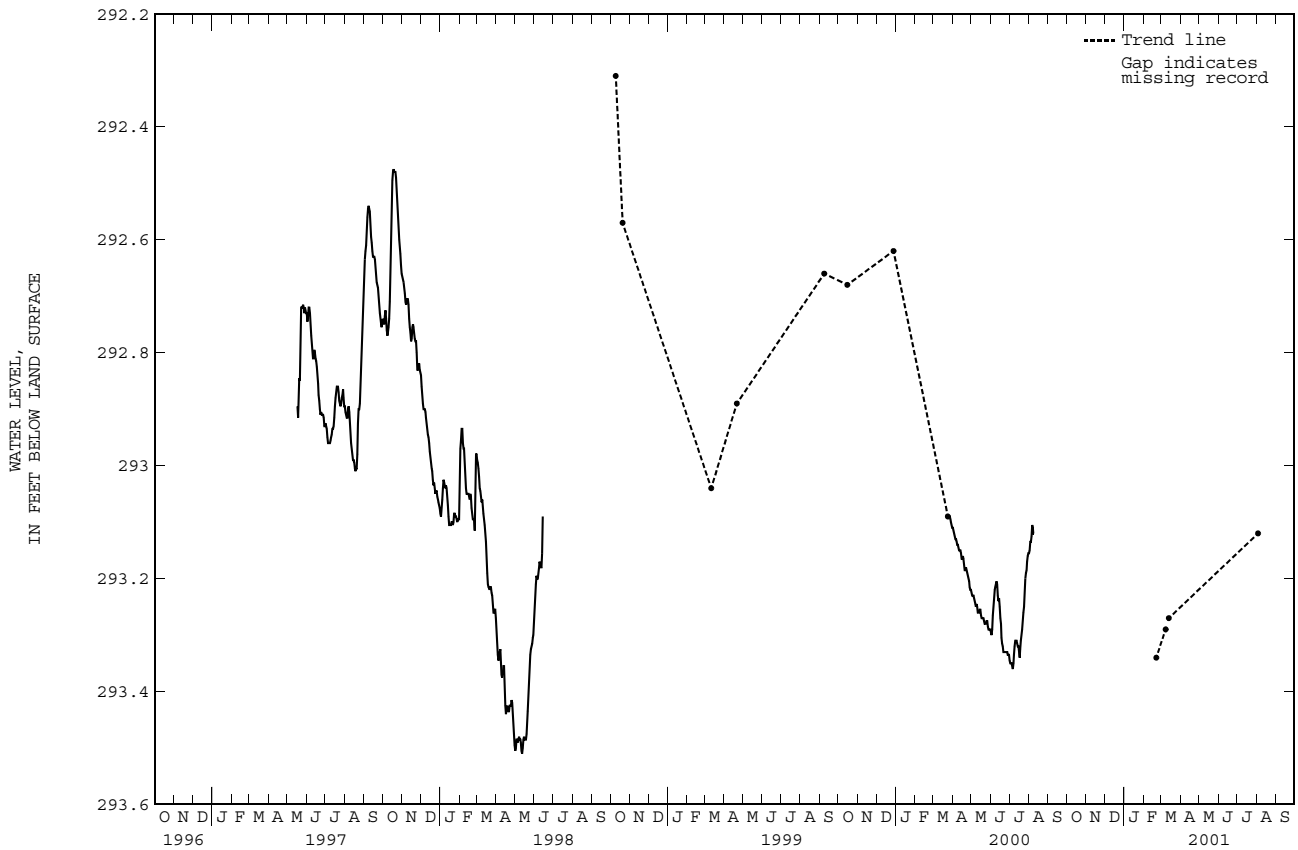
PERIOD OF RECORD.--May 16, 1997 to May 8, 2001, discontinued. From October 9, 1998 to December 28, 1999 and from August 10 2000 to May 8, 2001, tapedown measurements only.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 292.3 ft (89.1 m), below land-surface datum, Oct. 9, 1998; lowest water level recorded, 293.5 ft (89.5 m), below land-surface datum, May 12, 1998.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB 21	293.30	MAR 08	293.28	MAR 13	293.27	MAR 13	293.26	AUG 03	293.12	AUG 03	293.12
21	293.34	08	293.29								

WATER YEAR 2001 HIGHEST 293.12 AUG. 3, 2001 LOWEST 293.34 FEB. 21, 2001



GROUND-WATER LEVELS

RIO GUAJATACA BASIN--Continued

182422067015100. Local number, 165.

LOCATION.--Lat 18°24'22", Long 67°01'51", Hydrologic Unit 21010003, 5.60 mi northeast of Moca plaza, 4.70 mi southeast of Aguadilla US Naval Reservation radio antenna, and 1.63 mi northwest of La Virgen del Rosario Church. Owner: PR Aqueduct and Sewer Authority, Name: Saltos 1 Well.

AQUIFER.--Cibao Formation. Aguada Limestone.

WELL CHARACTERISTICS.--Drilled production water-table well, diameter 16 in (0.40 m), cased 16 in (0.40 m) 0-40.0 ft (0-12.2 m), cased 12 in (0.30 m) 40-200 ft (12.2-61.0 m). Depth 200 ft (61.0 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 689 ft (210 m), above mean sea level. Measuring point: Hole on pump base, 0.50 ft (0.15 m), above land-surface datum. Prior to October 6, 1988, hole on top of pipe on top of pump base, 0.80 ft (0.24 m), above land-surface datum. Prior to November 1985, hole on top of pump base, 1.00 ft (0.30 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 18, 1998. Formerly published as 182421067015000. Well is affected by nearby pumping.

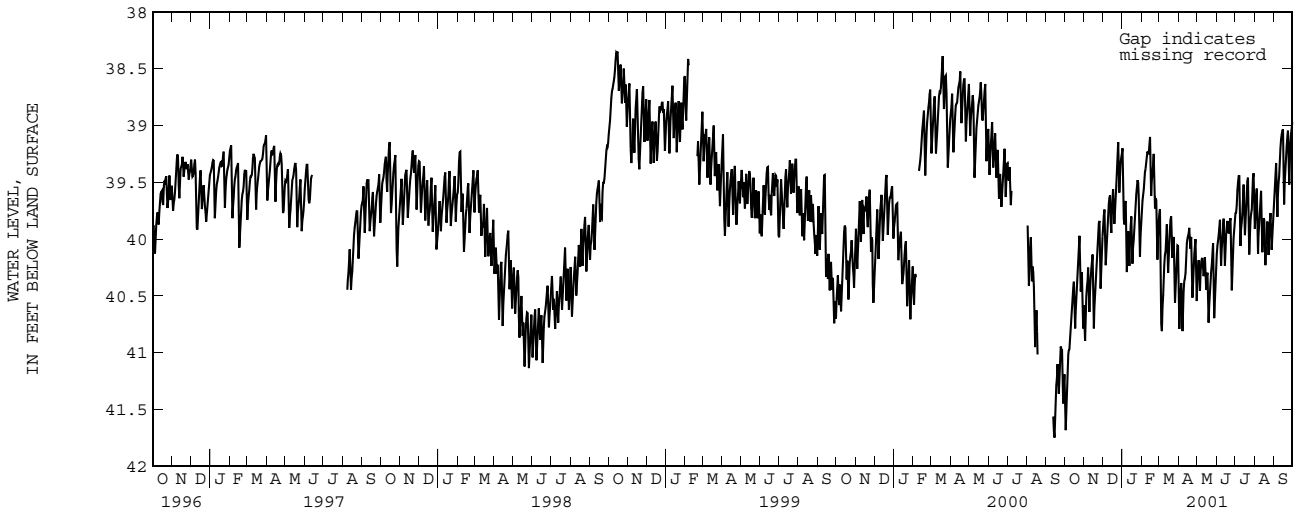
PERIOD OF RECORD.--January 1982 to March 1985, November 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 38.24 ft (11.6 m), below land-surface datum, Oct. 16, 1998; lowest water level measured, 70.6 ft (21.5 m), below land-surface datum, June 18, 1982.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41.15	40.49	39.94	39.23	39.80	39.80	40.12	40.40	40.18	39.79	39.99	39.66
2	41.80	41.00	39.83	39.17	39.69	39.76	40.89	40.28	40.09	39.75	39.83	39.53
3	41.56	40.79	39.76	39.66	39.63	39.71	40.69	40.24	40.03	39.78	39.71	39.45
4	41.40	40.56	39.72	39.98	39.59	40.52	40.51	40.13	40.00	39.62	39.56	39.37
5	41.22	40.43	40.34	39.76	39.53	40.97	40.41	40.56	39.93	39.52	39.55	39.29
6	41.08	40.40	40.12	39.61	39.44	40.65	40.36	40.35	39.87	39.48	40.24	39.90
7	40.95	40.32	40.00	39.72	39.39	40.55	40.92	40.23	39.79	39.41	40.02	39.71
8	41.01	40.18	39.93	40.42	39.37	40.44	40.70	40.17	40.33	39.48	39.91	39.53
9	40.93	40.76	39.80	40.16	39.29	40.31	40.51	40.19	40.14	40.17	39.78	39.49
10	40.85	40.52	39.74	40.01	39.26	40.14	40.39	40.14	40.04	39.95	39.71	39.40
11	40.77	40.39	39.65	39.85	39.20	40.14	40.35	40.34	39.97	39.87	39.61	39.25
12	40.66	40.29	39.62	40.38	39.29	40.08	40.34	40.31	39.85	39.84	39.54	39.15
13	40.56	40.23	39.61	40.09	39.20	39.92	40.25	40.23	39.79	39.71	40.26	39.09
14	40.46	40.17	40.09	39.93	39.14	39.82	40.07	40.09	40.34	39.55	39.97	39.07
15	40.40	40.10	39.80	39.84	39.06	40.36	40.01	40.55	40.13	39.49	39.84	39.02
16	40.35	40.89	39.68	39.76	39.70	40.23	39.98	40.34	39.99	40.04	39.79	39.05
17	40.87	40.68	39.60	40.32	39.54	40.09	39.96	40.32	39.90	39.89	39.87	39.82
18	40.70	40.54	39.52	40.11	39.43	39.94	39.93	40.27	39.86	39.77	40.36	39.57
19	40.59	40.43	39.94	40.03	39.39	39.84	39.87	40.84	39.82	39.66	40.10	39.42
20	40.48	40.31	39.79	39.98	39.31	39.82	40.14	40.63	39.93	39.55	40.01	39.36
21	40.36	40.20	39.66	39.84	39.19	39.78	40.03	40.53	39.97	39.44	39.91	39.23
22	40.25	40.09	39.57	39.74	39.78	40.26	39.93	40.44	39.88	39.48	39.78	39.14
23	40.12	39.99	39.49	39.63	39.68	40.07	40.61	40.31	39.81	40.24	40.26	39.07
24	40.01	39.90	39.31	39.58	39.61	40.00	40.42	40.26	39.82	40.03	40.02	39.02
25	39.93	39.82	39.21	39.51	39.70	39.96	40.31	40.19	40.52	39.87	39.87	39.62
26	40.51	39.86	39.08	39.45	40.31	40.66	40.17	40.08	40.38	39.79	39.81	39.42
27	40.41	40.54	39.67	39.56	40.05	40.46	40.08	39.99	40.21	39.76	39.73	39.20
28	40.31	40.33	39.51	39.67	39.89	40.29	40.03	40.80	40.06	39.72	40.21	39.10
29	40.27	40.20	39.36	40.27	---	40.22	39.97	40.59	39.93	39.51	39.98	39.05
30	40.90	40.01	39.30	40.04	---	40.11	40.69	40.44	39.88	39.43	39.84	39.01
31	40.67	---	39.27	39.88	---	40.00	---	40.30	---	39.41	39.74	---
MEAN	40.69	40.35	39.67	39.84	39.52	40.16	40.29	40.34	40.01	39.71	39.90	39.33

WTR YR 2001 MEAN 39.99 HIGHEST 38.93 SEPT. 30, 2001 LOWEST 41.85 OCT. 2, 2000



GROUND-WATER LEVELS

RIO GUAJATACA BASIN--Continued

182647066552400. Local number, 202.

LOCATION.--Lat 18°26'47", long 66°55'24", Hydrologic Unit 21010002, 2.22 mi southeast of Quebradillas plaza, 1.29 mi north of Escuela José de Diego, and 1.99 mi northwest of El Calvario Church. Owner: PR Aqueduct and Sewer Authority, Name: Carmelo Barreto García Well.

AQUIFER.--Aguada Limestone.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 20 in (0.51 m), cased 20 in (0.51 m) 0-296 ft (0-90.2 m), diameter 13 in (0.33 m), cased 13 in (0.33 m) 0-550 ft (0-168 m), perforated 270-529 ft (82.3-161 m). Depth 550 ft (168 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 475 ft (145 m), above mean sea level, from topographic map. Measuring point:

Hole on steel plate, 1.11 ft (0.34 m), above land-surface datum. Prior to February 18, 1998, hole on side of casing, 1.50 ft (0.46 m), above land-surface datum. Prior July 25, 1986, top of shelter floor, 3.30 ft (1.00 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 18, 1998.

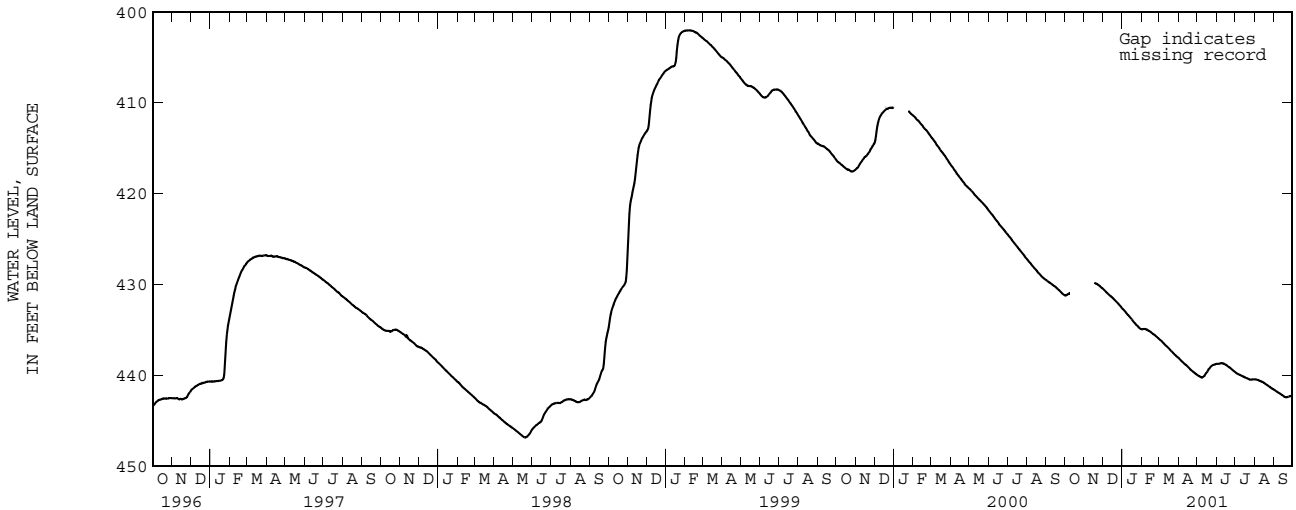
PERIOD OF RECORD.--November 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 401.9 ft (122 m), below land-surface datum, Feb. 6, 1999; lowest water level recorded, 453.9 ft (138 m), below land-surface datum, May 14, 15, 16, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	431.19	---	430.45	432.60	434.90	435.95	438.02	439.91	438.72	439.61	440.41	441.54
2	431.21	---	430.51	432.69	434.90	436.03	438.10	439.97	438.71	439.68	440.41	441.59
3	431.19	---	430.58	432.75	434.90	436.10	438.17	440.02	438.71	439.74	440.42	441.64
4	431.15	---	430.66	432.81	434.88	436.15	438.24	440.07	438.71	439.77	440.44	441.70
5	431.10	---	430.72	432.89	434.87	436.19	438.33	440.06	438.70	439.82	440.46	441.74
6	431.06	---	430.78	432.98	434.87	436.27	438.42	440.15	438.68	439.84	440.47	441.79
7	431.01	---	430.86	433.07	434.88	436.38	438.48	440.18	438.65	439.88	440.50	441.82
8	430.97	---	430.93	433.15	434.91	436.41	438.52	440.21	438.64	439.91	440.54	441.86
9	430.96	---	430.97	433.23	434.93	436.49	438.58	440.23	438.64	439.93	440.56	441.91
10	430.96	---	431.05	433.32	434.96	436.54	438.65	440.20	438.64	439.97	440.58	441.94
11	---	---	431.12	433.38	435.01	436.66	438.72	440.15	438.66	440.01	440.62	442.00
12	---	---	431.18	433.45	435.07	436.72	438.78	440.08	438.66	440.05	440.65	442.04
13	---	---	431.25	433.54	435.08	436.76	438.83	439.99	438.70	440.07	440.67	442.09
14	---	---	431.30	433.62	435.13	436.82	438.87	439.87	438.74	440.11	440.71	442.14
15	---	---	431.35	433.70	435.17	436.90	438.95	439.76	438.77	440.13	440.76	442.17
16	---	---	431.41	433.79	435.24	436.97	439.03	439.67	438.81	440.18	440.81	442.24
17	---	429.80	431.47	433.88	435.28	437.04	439.09	439.61	438.85	440.22	440.83	442.28
18	---	429.82	431.54	433.95	435.34	437.11	439.15	439.51	438.91	440.24	440.90	442.32
19	---	429.85	431.60	434.05	435.40	437.18	439.21	439.36	438.95	440.26	440.94	442.36
20	---	429.88	431.69	434.15	435.45	437.26	439.30	439.28	439.01	440.30	440.98	442.38
21	---	429.90	431.76	434.21	435.49	437.34	439.37	439.20	439.07	440.32	441.05	442.38
22	---	429.96	431.83	434.28	435.53	437.38	439.44	439.12	439.11	440.36	441.07	442.38
23	---	430.00	431.91	434.39	435.60	437.45	439.49	439.03	439.15	440.39	441.12	442.36
24	---	430.04	431.97	434.46	435.68	437.54	439.54	438.96	439.21	440.43	441.17	442.33
25	---	430.10	432.03	434.50	435.72	437.61	439.61	438.91	439.28	440.45	441.23	442.30
26	---	430.16	432.12	434.57	435.77	437.69	439.67	438.85	439.35	440.44	441.28	442.29
27	---	430.20	432.21	434.66	435.84	437.75	439.70	438.83	439.40	440.45	441.32	442.25
28	---	430.27	432.26	434.73	435.89	437.80	439.76	438.82	439.45	440.45	441.40	442.24
29	---	430.35	432.34	434.79	---	437.89	439.82	438.80	439.50	440.41	441.41	442.26
30	---	430.37	432.42	434.86	---	437.93	439.87	438.77	439.55	440.41	441.46	442.28
31	---	---	432.52	434.88	---	438.01	---	438.74	---	440.41	441.50	---
MEAN	431.08	430.05	431.44	433.78	435.24	436.98	438.99	439.56	438.93	440.14	440.86	442.09

WTR YR 2001 MEAN 437.27 HIGHEST 429.75 NOV. 17, 2000 LOWEST 442.43 SEPT. 20, 2001



GROUND-WATER LEVELS

RIO CAMUY BASIN

182723066511200. Local number, 1026.

LOCATION.--Lat 18°27'23", Long 66°51'12", Hydrologic Unit 21010002, 1.60 mi south of the intersection of Hwy 119 with Hwy 2, 1.35 mi east of Hwy 119 of, and 0.01 mi east of Hwy 486. Owner: PR Aqueduct and Sewer Authority, Name: Zanja 4 Well.

AQUIFER.--Aguada Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 12 in (0.30 m). Depth 585 ft (178 m).

INSTRUMENTATION.--Pressure transducer with integrated electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 360 ft (110 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of the 4 in (0.10 m) casing, 3.00 ft (0.91 m), above land-surface datum.

REMARKS.--Recording observation well. Electronic Data Logger (EDL), installed on February 25, 1997. Formerly published as local number Z-4. Record is poor when the water level of the pressure transducer, which is set at 339 ft (103 m), below land-surface datum.

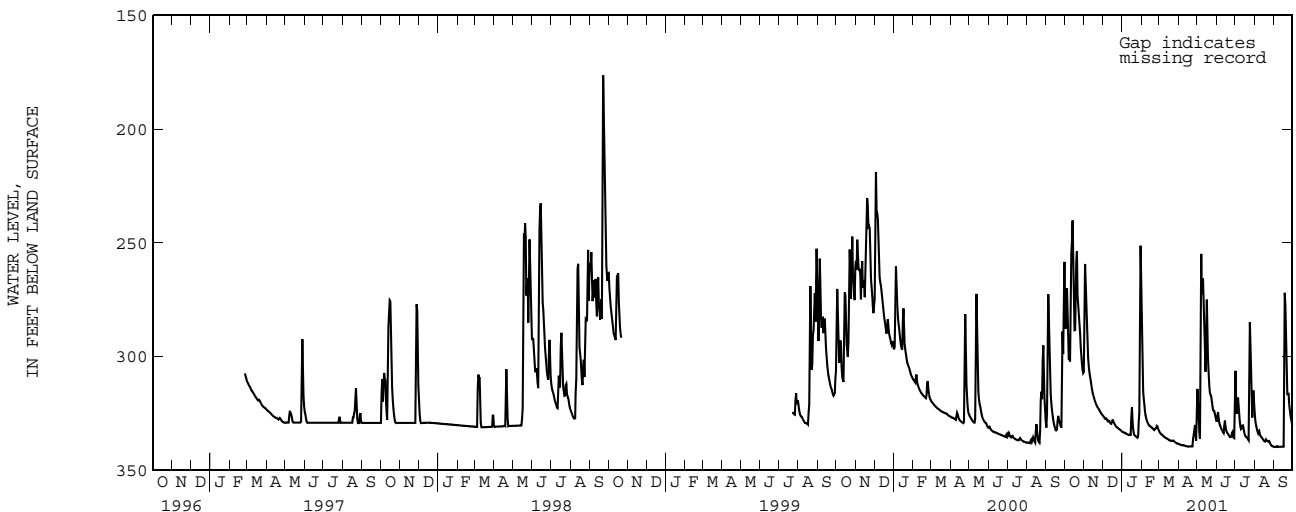
PERIOD OF RECORD.--February 25, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 161.8 ft (49.3 m), below land-surface datum, Sept. 22, 1998; lowest water level recorded, 339.75 ft (103.6 m), below land-surface datum, Sept. 5, 2001.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	275.44	305.77	325.97	333.09	293.32	332.71	338.37	309.69	328.07	297.89	323.68	339.69
2	292.24	254.42	326.19	333.23	303.75	333.21	338.53	318.91	329.28	314.76	327.63	339.72
3	283.44	264.17	326.72	333.40	313.14	333.76	338.69	325.63	323.04	322.30	329.96	339.73
4	259.51	278.80	327.17	333.43	317.44	334.10	338.76	330.75	325.83	328.10	330.85	339.74
5	280.47	287.56	327.58	333.54	320.15	334.27	338.79	335.07	328.44	316.73	332.39	339.75
6	291.78	294.26	327.30	333.66	322.82	334.37	339.02	337.13	329.99	319.46	333.25	339.16
7	299.39	298.42	327.32	333.88	325.15	334.70	339.11	235.65	330.59	323.52	334.08	339.74
8	302.43	302.56	328.01	334.09	326.59	335.06	339.08	274.13	331.05	327.43	331.55	339.73
9	299.01	305.82	328.43	334.20	327.66	335.29	339.02	271.40	331.89	330.14	333.67	339.71
10	305.37	307.90	328.76	334.35	328.49	335.42	338.96	263.24	332.49	331.66	334.58	339.70
11	238.85	309.71	327.68	334.47	329.19	335.72	339.17	268.15	332.95	332.34	335.05	339.69
12	270.48	311.25	328.85	334.58	329.81	335.89	339.41	285.37	333.41	331.05	335.40	339.68
13	227.92	313.46	329.34	334.30	330.37	336.06	339.47	296.98	333.83	329.77	335.86	339.67
14	252.44	315.18	329.59	334.39	330.56	336.13	339.41	302.48	332.93	330.86	336.26	339.65
15	274.09	316.54	329.63	334.41	330.63	336.26	339.56	310.87	329.46	332.81	336.66	339.66
16	284.72	317.55	328.23	319.24	331.08	336.56	339.59	264.61	332.27	333.97	337.12	339.65
17	292.21	318.17	327.83	325.23	331.09	336.75	339.58	285.35	332.87	334.81	337.39	339.63
18	284.47	319.20	328.35	330.11	331.23	336.81	339.58	297.24	333.44	335.36	337.43	274.40
19	277.87	319.98	329.16	333.07	331.73	336.87	339.57	304.54	333.78	335.39	336.46	269.59
20	238.97	320.75	329.88	334.23	332.06	337.12	339.56	310.48	334.24	335.74	336.41	285.84
21	268.56	321.47	330.22	334.68	332.27	337.23	339.56	314.42	334.81	336.15	337.64	300.84
22	277.55	322.03	330.75	334.94	332.45	337.12	339.55	317.43	335.24	336.64	336.84	313.69
23	277.35	322.53	331.02	335.19	331.29	336.93	339.56	316.09	335.55	337.06	337.92	319.39
24	286.17	322.89	331.28	335.46	332.16	337.00	339.57	318.60	335.44	272.43	337.14	313.41
25	286.04	323.41	331.44	335.67	330.88	337.29	332.95	320.76	335.17	297.37	337.44	319.34
26	293.76	323.95	331.66	335.76	330.22	337.52	335.99	322.71	332.63	311.96	338.29	323.16
27	298.34	324.38	331.90	333.90	331.13	337.78	328.72	324.26	334.07	320.04	338.79	324.55
28	300.97	324.81	332.12	324.36	332.10	337.94	331.55	323.61	335.45	325.23	339.11	326.55
29	304.57	325.26	332.26	325.31	---	338.13	336.22	324.37	335.92	328.41	339.37	327.98
30	306.91	325.61	332.48	231.48	---	338.33	337.98	325.92	335.81	310.88	339.50	329.39
31	307.78	---	332.85	271.07	---	338.30	---	327.10	---	318.89	339.66	---
MEAN	281.91	309.93	329.35	327.38	326.38	336.15	338.16	305.26	332.13	323.84	335.40	326.75

WTR YR 2001 MEAN 322.65 HIGHEST 211.13 OCT. 12, 13, 2000 LOWEST 339.75 SEPT. 5, 2001



GROUND-WATER LEVELS
 RIO CAMUY BASIN--Continued

182431066463400. Local number, 1027.

LOCATION.--Lat 18°24'31", long 66°46'34", Hydrologic Unit 21010005, 0.02 mi west of the intersection of Hwy 129 with Hwy 130, 1.68 mi southeast of the intersection of Hwy 130 with Hwy 490, and 3.00 mi east of Río Camuy. Owner: PR Aqueduct and Sewer Authority, Name: Campo Alegre 4 Well.

AQUIFER.--Aguada Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 16 in (0.41 m). Depth 220 ft (67.1 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 606.8 ft (185 m), above mean sea level. Measuring point: Shelter floor on top of the 4 in (0.10 m) casing, 3.25 ft (0.99 m), above land-surface datum.

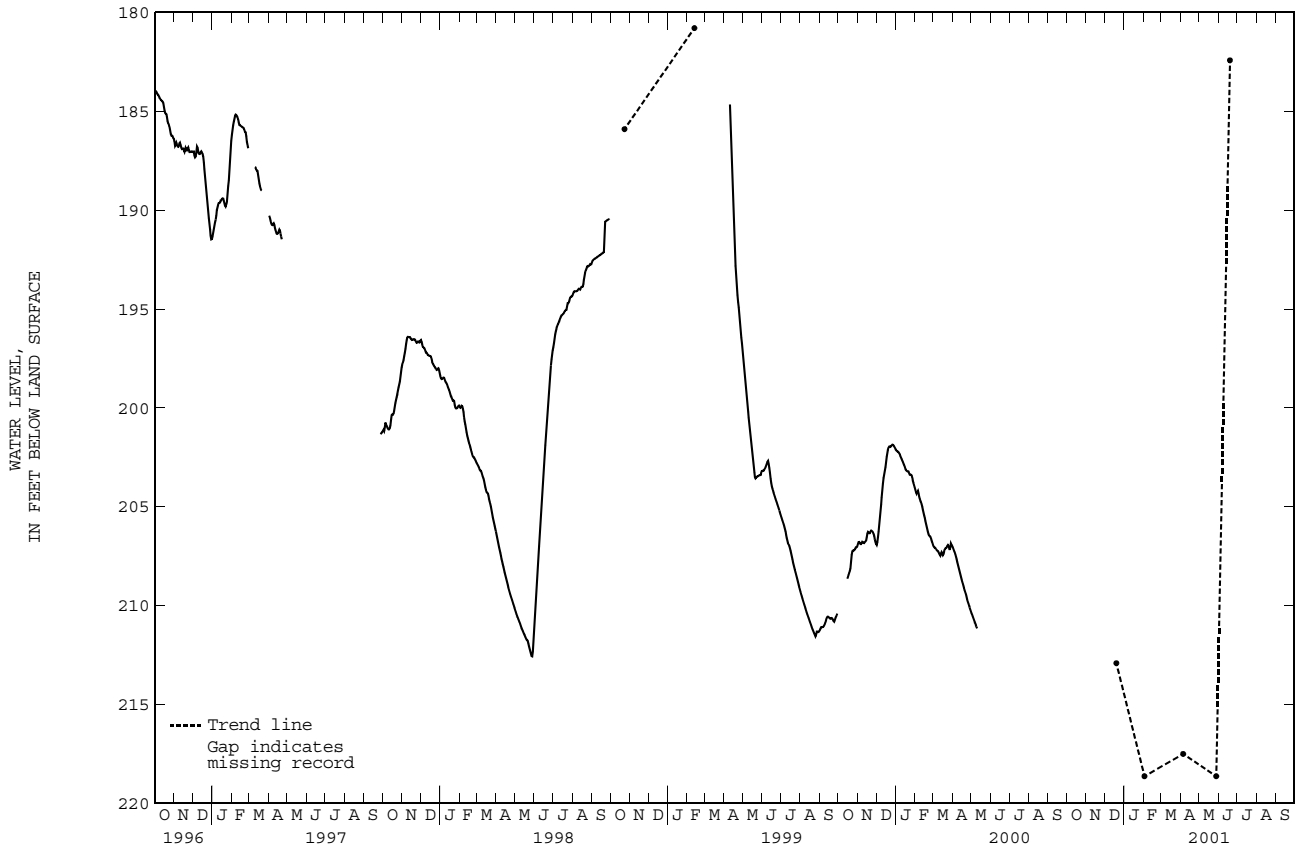
REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on Sept. 27, 1996, replaced by an Electronic Data Logger (EDL), installed on Jan. 14, 1997. Formerly published as local number CA-4.

PERIOD OF RECORD.--September 27, 1996 to May 11, 2000. From December 19, 2000 to June 19, 2001, tape down measurements only, discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 182.4 ft (55.6 m), below land-surface datum, June 19, 2001; lowest water level recorded, 218.6 ft (66.6 m), below land-surface datum, Feb. 2, 2001.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 19	213.07	DEC 19	212.92	FEB 02	218.64	APR 05	217.51	MAY 28	218.64	JUN 19	182.42
WATER YEAR 2001		HIGHEST 182.42		JUNE 19, 2001		LOWEST 218.64		FEB. 2, 2001			



GROUND-WATER LEVELS
RIO GRANDE DE ARECIBO BASIN

182756066454700. Local number, 1051

LOCATION.--Lat 18°27'56", long 66°45'47", Hydrologic Unit 21010002, 0.04 mi north of Hwy 653, 1.86 mi west of Hwy 129, and 1.55 mi west of the University of Puerto Rico, Arecibo Campus. Owner: Vaqueria Barreto, Name: Barreto 1 Well.

AQUIFER.--Aymamón Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m). Depth 300 ft (91.4 m).

INSTRUMENTATION.--Pressure transducer with integrated electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 164 ft (50.0 m), above mean sea level, from topographic map. Measuring point: Top of white PVC cap 3.37 ft (1.03 m), above land-surface datum.

REMARKS.--Recording observation well. Electronic Data Logger (EDL), installed on October 24, 1997. Well is affected by marine tides. Formerly published as local number BARR-1.

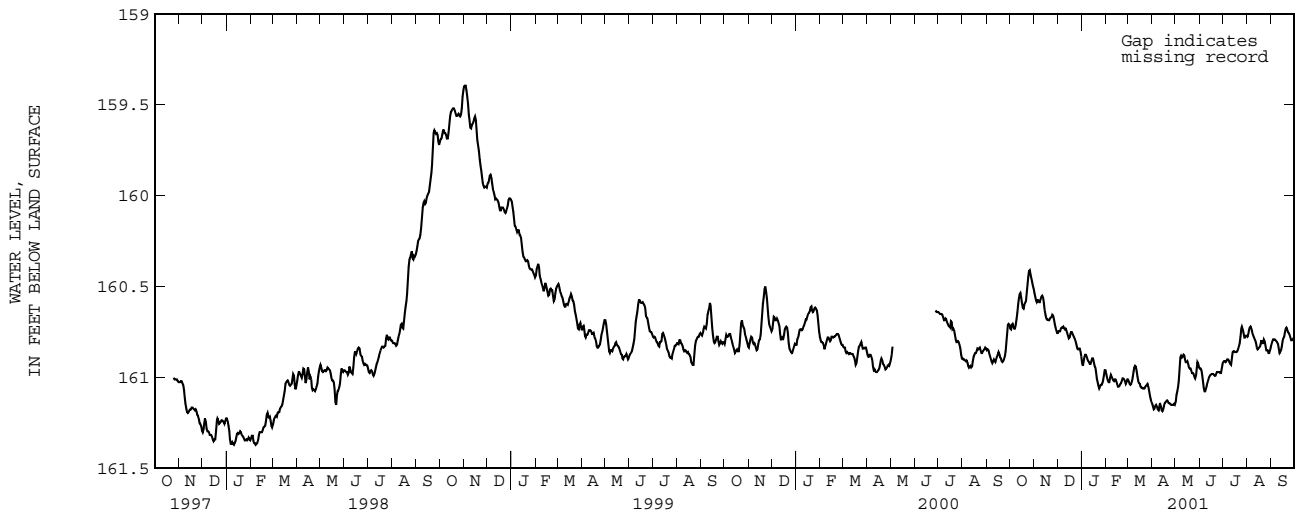
PERIOD OF RECORD.--October 24, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 159.4 ft (48.6 m), below land-surface datum, Nov. 1, 2, 3, 1998; lowest water level recorded, 161.4 ft (49.2 m), below land-surface datum, Jan. 6, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	160.71	160.52	160.76	160.90	160.97	161.01	161.14	161.16	160.95	160.92	160.77	160.82
2	160.75	160.55	160.75	160.94	160.99	161.01	161.15	161.11	160.95	160.91	160.78	160.81
3	160.72	160.56	160.74	160.93	161.01	161.03	161.17	161.08	160.95	160.91	160.75	160.79
4	160.70	160.59	160.75	160.90	161.02	161.04	161.18	161.07	160.97	160.91	160.73	160.79
5	160.71	160.58	160.74	160.88	161.03	161.04	161.16	161.03	161.01	160.92	160.72	160.79
6	160.73	160.57	160.72	160.87	161.02	161.03	161.15	161.01	161.04	160.90	160.72	160.79
7	160.73	160.58	160.73	160.88	160.98	161.01	161.15	160.91	161.07	160.90	160.74	160.80
8	160.73	160.59	160.72	160.89	160.99	160.98	161.17	160.87	161.08	160.90	160.76	160.80
9	160.69	160.58	160.72	160.91	161.00	160.95	161.18	160.89	161.07	160.91	160.77	160.81
10	160.67	160.56	160.74	160.91	161.01	160.94	161.18	160.89	161.05	160.92	160.78	160.82
11	160.62	160.55	160.73	160.92	161.02	160.93	161.14	160.88	161.03	160.93	160.79	160.86
12	160.58	160.55	160.73	160.93	161.02	160.95	161.14	160.87	161.02	160.93	160.80	160.87
13	160.55	160.57	160.75	160.92	161.00	160.98	161.17	160.89	161.00	160.86	160.82	160.85
14	160.53	160.61	160.76	160.90	161.02	161.01	161.19	160.91	160.99	160.86	160.85	160.85
15	160.54	160.65	160.78	160.89	161.02	161.03	161.18	160.92	160.99	160.85	160.84	160.81
16	160.58	160.66	160.79	160.90	161.05	161.03	161.17	160.91	160.98	160.86	160.84	160.79
17	160.60	160.68	160.77	160.93	161.05	161.04	161.14	160.91	160.98	160.86	160.83	160.78
18	160.63	160.68	160.75	160.94	161.05	161.06	161.14	160.94	160.98	160.86	160.83	160.77
19	160.61	160.68	160.75	160.95	161.04	161.05	161.13	160.95	160.98	160.86	160.80	160.73
20	160.59	160.69	160.75	160.99	161.03	161.06	161.13	160.95	160.99	160.85	160.79	160.73
21	160.59	160.68	160.77	161.02	161.03	161.06	161.12	160.95	160.99	160.84	160.83	160.72
22	160.57	160.67	160.77	161.03	161.01	161.06	161.14	160.97	160.99	160.82	160.79	160.75
23	160.52	160.67	160.79	161.06	161.00	161.06	161.14	160.98	160.97	160.80	160.79	160.75
24	160.47	160.66	160.79	161.06	161.01	161.04	161.14	160.97	160.97	160.75	160.81	160.76
25	160.43	160.65	160.82	161.04	161.01	161.05	161.15	160.99	160.97	160.71	160.84	160.77
26	160.40	160.67	160.83	161.04	161.03	161.03	161.15	161.00	160.97	160.73	160.86	160.79
27	160.42	160.69	160.85	161.04	161.04	161.04	161.15	161.01	160.97	160.74	160.84	160.80
28	160.45	160.72	160.84	161.02	161.01	161.06	161.15	160.97	160.98	160.77	160.86	160.79
29	160.46	160.73	160.84	161.01	---	161.09	161.15	160.92	160.97	160.79	160.87	160.79
30	160.49	160.75	160.84	160.97	---	161.11	161.14	160.91	160.93	160.77	160.86	160.78
31	160.50	---	160.87	160.95	---	161.13	---	160.94	---	160.77	160.84	---
MEAN	160.59	160.63	160.77	160.95	161.02	161.03	161.15	160.96	160.99	160.85	160.80	160.79

WTR YR 2001 MEAN 160.88 HIGHEST 160.40 OCT. 26, 2000 LOWEST 161.24 APR. 14, 2001



GROUND-WATER LEVELS

RIO GRANDE DE ARECIBO BASIN--Continued

182737066370900. Local number, 204.

LOCATION.--Lat 18°27'37", long 66°37'09", Hydrologic Unit 21010002, 5.26 mi west of Barceloneta plaza, 1.58 mi north of Hwy 2 km 63.7, and 3.67 mi southwest of Escuela Agustín Balseiro. Owner: Q. Development Inc., Name: Gilberto Rivera Well.

AQUIFER.--Aymamón Limestone.

WELL CHARACTERISTICS.--Abandoned unused water-table well, diameter 6 in (0.15 m), cased 6 in (0.15 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is 48.0 ft (14.63 m), above mean sea level. Measuring point: Air hole on pump base, 0.50 ft (0.15 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on November 7, 1997. Well is affected by marine tides.

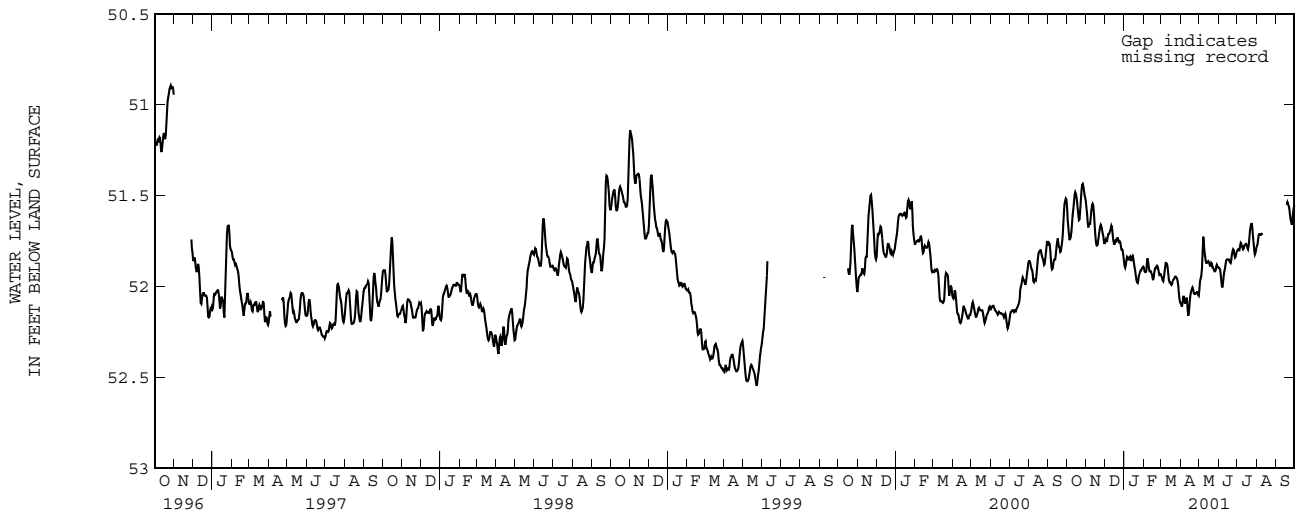
PERIOD OF RECORD.--October 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 50.0 ft (15.2 m), below land-surface datum, May 14, 1986; lowest water level recorded, 53.1 ft (16.2 m), below land-surface datum, Jan. 29, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51.53	51.55	51.76	51.87	51.88	51.94	52.09	52.05	51.89	51.81	51.78	---
2	51.60	51.58	51.74	51.90	51.91	51.94	52.09	51.98	51.90	51.79	51.78	---
3	51.67	51.62	51.74	51.89	51.92	51.96	52.11	51.96	51.90	51.80	51.76	---
4	51.68	51.68	51.76	51.87	51.92	51.97	52.11	51.95	51.91	51.80	51.72	---
5	51.75	51.67	51.74	51.84	51.92	51.97	52.07	51.93	51.95	51.80	51.71	---
6	51.74	51.64	51.71	51.83	51.90	51.93	52.04	51.87	51.99	51.76	51.71	---
7	51.73	51.67	51.71	51.85	51.84	51.91	52.07	51.74	52.01	51.76	51.71	---
8	51.72	51.64	51.71	51.85	51.85	51.88	52.09	51.71	51.99	51.77	51.72	---
9	51.68	51.60	51.70	51.85	51.88	51.86	52.09	51.78	51.96	51.78	51.71	---
10	51.62	51.56	51.69	51.83	51.91	51.88	52.09	51.82	51.92	51.79	51.71	---
11	51.59	51.55	51.67	51.84	51.92	51.87	52.04	51.84	51.91	51.80	51.72	---
12	51.56	51.54	51.66	51.87	51.91	51.91	52.09	51.87	51.89	51.78	---	---
13	51.51	51.57	51.69	51.84	51.92	51.84	52.15	51.87	51.86	51.77	---	---
14	51.48	51.63	51.74	51.83	51.93	51.98	52.17	51.87	51.85	51.77	---	---
15	51.48	51.69	51.75	51.83	51.94	51.97	52.12	51.86	51.85	51.76	---	---
16	51.50	51.73	51.78	51.86	51.97	51.98	52.08	51.86	51.85	51.77	---	---
17	51.52	51.77	51.75	51.88	51.96	51.99	52.04	51.87	51.85	51.78	---	---
18	51.56	51.77	51.75	51.90	51.93	51.99	52.03	51.88	51.85	51.80	---	51.57
19	51.58	51.78	51.74	51.92	51.90	51.98	52.02	51.89	51.86	51.79	---	51.53
20	51.62	51.76	51.76	51.95	51.90	51.97	52.01	51.88	51.87	51.76	---	51.54
21	51.65	51.73	51.72	51.97	51.90	51.96	52.00	51.86	51.87	51.71	---	51.55
22	51.61	51.70	51.74	51.98	51.88	51.96	52.03	51.89	51.84	51.68	---	51.56
23	51.55	51.68	51.76	51.98	51.89	51.95	52.04	51.90	51.81	51.66	---	51.58
24	51.50	51.66	51.75	51.95	51.89	51.94	52.04	51.89	51.80	51.65	---	51.63
25	51.45	51.66	51.75	51.93	51.92	51.95	52.04	51.92	51.79	51.66	---	51.63
26	51.43	51.68	51.76	51.93	51.93	51.95	52.03	51.91	51.81	51.72	---	51.66
27	51.44	51.70	51.79	51.91	51.94	51.96	52.04	51.92	51.84	51.75	---	51.66
28	51.46	51.71	51.80	51.91	51.92	51.98	52.02	51.90	51.84	51.79	---	51.62
29	51.48	51.73	51.79	51.91	---	52.01	52.04	51.88	51.83	51.82	---	51.58
30	51.51	51.77	51.81	51.89	---	52.05	52.05	51.88	51.81	51.83	---	51.56
31	51.51	---	51.84	51.90	---	52.08	---	51.90	---	51.80	---	---
MEAN	51.57	51.67	51.74	51.89	51.91	51.96	52.06	51.88	51.88	51.76	51.73	51.59

WTR YR 2001 MEAN 51.82 HIGHEST 51.42 OCT. 26, 2000 LOWEST 52.23 APR. 13, 2001



GROUND-WATER LEVELS

RIO GRANDE DE ARECIBO BASIN--Continued

182626066345100. Local number, 1053.

LOCATION.--Lat 18°26'26", long 66°34'51", Hydrologic Unit 21010002, 1.45 mi south of Hwy 682, 1.15 mi northwest of the intersection of Hwy 140 with Hwy 2 (Cruce Dávila), 0.48 mi north of Hwy 2, and approximately 100 feet south of Hwy 22.

Owner: PR Aqueduct and Sewer Authority, Name: Tiburones Well.

AQUIFER.--Aymamón Limestone.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 12 in (0.30 m). Depth 320 ft (97.5 m).

INSTRUMENTATION.--Pressure transducer with integrated electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 295 ft (89.9 m), above mean sea level, from topographic map. Measuring point:

Hole on floor of instrument shelter, 3.15 ft (0.96 m), above land-surface datum. Prior to October 27, 1997, top of 4 in (0.10 m) PVC cap, above shelter floor, 3.40 ft (1.04 m), above land-surface datum.

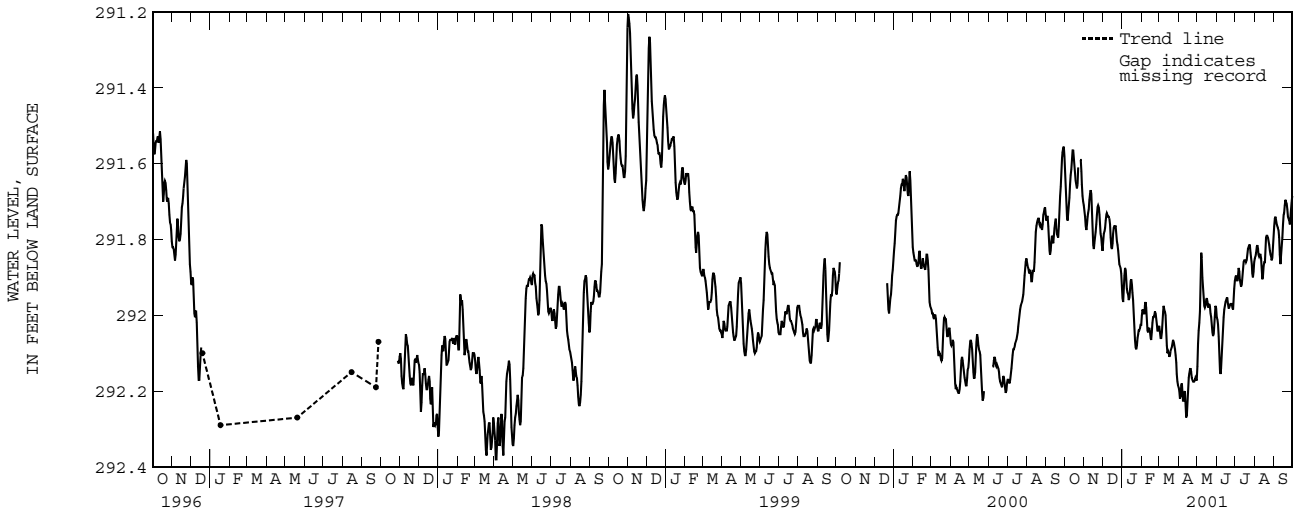
REMARKS.--Recording observation well. Electronic Data Logger (EDL), re-installed on October 27, 1997. Well is affected by marine tides. Formerly published as local number TI-1.

PERIOD OF RECORD.--May 14, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 290.88 ft (88.7 m), below land-surface datum, Sept. 13, 14, 1996; lowest water level measured, 292.34 ft (89.1 m), below land-surface datum, Apr. 13, 14, 2001.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	291.60	291.72	291.83	291.94	292.02	292.03	292.19	292.17	292.00	291.91	291.85	291.78
2	291.65	291.73	291.79	291.97	291.98	292.03	292.19	292.10	292.01	291.89	291.85	291.75
3	291.70	291.75	291.78	291.96	291.99	292.06	292.21	292.05	292.01	291.90	291.84	291.74
4	291.72	291.78	291.78	291.91	291.99	292.06	292.23	292.03	292.04	291.91	291.83	291.74
5	291.76	291.77	291.76	291.88	292.00	292.06	292.20	292.01	292.07	291.91	291.81	291.76
6	291.74	291.75	291.74	291.87	291.99	292.03	292.17	291.97	292.13	291.88	291.82	291.76
7	291.72	291.73	291.73	291.89	291.96	292.00	292.19	291.85	292.16	291.87	291.83	291.77
8	291.71	291.73	291.73	291.92	291.97	291.98	292.22	291.82	292.15	291.90	291.85	291.77
9	291.67	291.71	291.74	291.94	291.99	291.97	292.23	291.88	292.13	291.91	291.84	291.78
10	291.64	291.68	291.74	291.94	292.03	292.00	292.22	291.92	292.08	291.92	291.84	291.81
11	291.62	291.68	291.74	291.95	292.05	291.98	292.19	291.94	292.06	291.93	291.84	291.87
12	291.61	291.66	291.75	291.97	292.04	292.02	292.21	291.97	292.02	291.91	291.86	291.86
13	291.57	291.70	291.77	291.94	292.03	292.06	292.26	291.98	291.99	291.89	291.90	291.83
14	291.56	291.76	291.82	291.92	292.04	292.10	292.28	291.98	291.98	291.87	291.91	291.81
15	291.57	291.80	291.82	291.90	292.05	292.10	292.25	291.97	291.97	291.85	291.88	291.78
16	291.60	291.83	291.83	291.91	292.07	292.09	292.22	291.95	291.96	291.86	291.86	291.74
17	291.62	291.82	291.79	291.93	292.06	292.11	292.17	291.96	291.96	291.85	291.86	291.73
18	291.64	291.80	291.78	291.95	292.03	292.11	292.16	291.97	291.95	291.86	291.86	291.73
19	291.65	291.79	291.76	291.97	292.01	292.10	292.15	291.98	291.96	291.86	291.80	291.69
20	291.66	291.77	291.77	292.01	292.00	292.09	292.14	291.98	291.98	291.85	291.79	291.70
21	291.67	291.75	291.76	292.05	292.01	292.09	292.14	291.96	291.98	291.83	291.79	291.70
22	291.64	291.72	291.77	292.08	291.99	292.08	292.16	291.99	291.98	291.82	291.79	291.71
23	291.58	291.71	291.80	292.09	291.99	292.07	292.17	292.00	291.97	291.82	291.80	291.73
24	---	291.71	291.81	292.09	292.00	292.06	292.17	292.01	291.97	291.81	291.81	291.75
25	291.60	291.72	291.82	292.07	292.02	292.08	292.18	292.04	291.97	291.82	291.82	291.74
26	291.58	291.75	291.84	292.05	292.03	292.08	292.17	292.05	291.97	291.85	291.84	291.76
27	291.60	291.78	291.86	292.05	292.05	292.10	292.18	292.06	291.99	291.85	291.84	291.76
28	291.64	291.79	291.87	292.03	292.03	292.11	292.16	292.04	291.98	291.88	291.85	291.73
29	291.67	291.80	291.87	292.05	---	292.14	292.17	292.01	291.95	291.90	291.86	291.71
30	291.70	291.83	291.88	292.02	---	292.17	292.17	291.99	291.91	291.90	291.84	291.69
31	291.70	---	291.90	292.03	---	292.18	---	291.96	---	291.87	291.81	---
MEAN	291.65	291.75	291.79	291.98	292.01	292.07	292.19	291.99	292.01	291.87	291.84	291.76
WTR YR 2001	MEAN 291.91	HIGHEST 291.54	OCT. 14, 2000	LOWEST 292.33	APR. 13, 14, 2001							



GROUND-WATER LEVELS

RIO GRANDE DE ARECIBO BASIN--Continued

182603066333601. Local number, 1054.

LOCATION.--Lat 18°26'03", long 66°33'36", Hydrologic Unit 21010002, 0.70 south of the intersection of Hwy 140 with Hwy 22, 0.35 mi east of the intersection of Hwy 140 with Hwy 2, and 1.35 mi northeast of the intersection of Hwy 140 with Hwy 666. Owner: PR Aqueduct and Sewer Authority, Name: Florida Afuera 2 Well.

AQUIFER.--Aymamón Limestone.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 16 in (0.41 m), cased 0-270 ft (0-82.3 m), screened 200-270 ft (61.0-82.3 m). Depth 270 ft (82.3 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 213.3 ft (65.0 m), above mean sea level from topographic map. Measuring point: Shelter floor on top of the 4 in (0.10 m) casing, 4.00 ft (1.22 m), above land-surface datum.

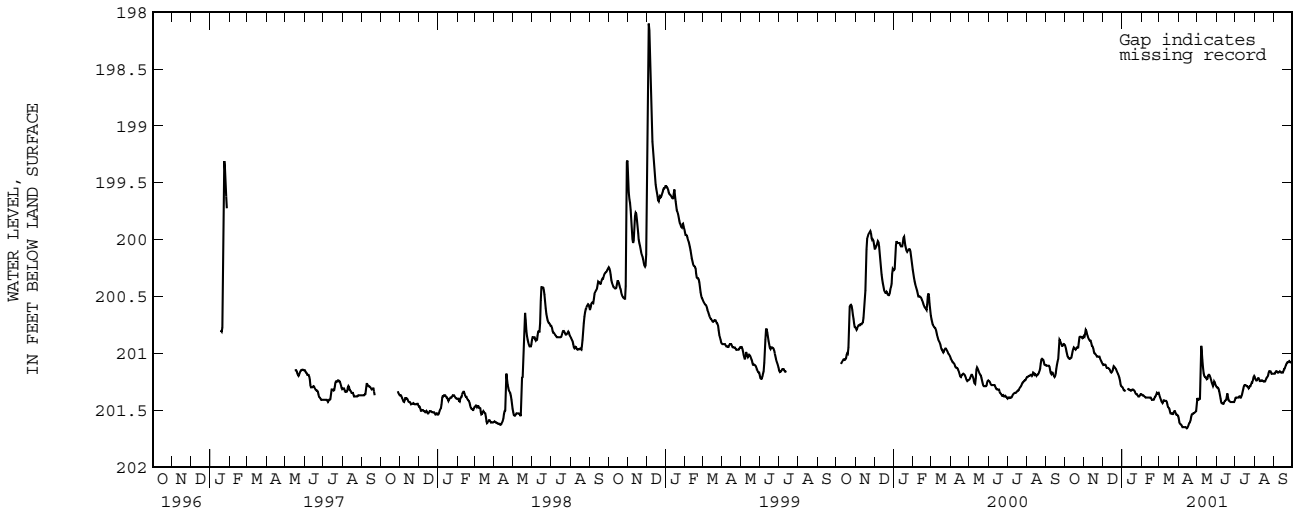
REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on August 23, 1996, replaced by an Electronic Data Logger (EDL), installed on January 17, 1997. Formerly published as local number FA-2.

PERIOD OF RECORD.--August 23, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 198.03 ft (60.36 m), below land-surface datum, Dec. 4, 5, 1998; lowest water level recorded, 201.67 ft (61.5 m), below land-surface datum, Apr. 13, 14, 15, 2001.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	200.93	200.85	201.11	201.30	201.36	201.35	201.55	201.39	201.30	201.40	201.20	201.18
2	200.93	200.86	201.10	201.30	201.37	201.38	201.59	201.40	201.30	201.39	201.22	201.18
3	200.97	200.80	201.10	201.32	201.37	201.39	201.62	201.42	201.31	201.39	201.24	201.18
4	200.99	200.79	201.10	201.33	201.37	201.41	201.62	201.40	201.30	201.39	201.24	201.16
5	201.02	200.82	201.10	201.33	201.38	201.42	201.63	201.40	201.33	201.39	201.24	201.16
6	201.04	200.84	201.11	201.33	201.38	201.44	201.63	201.40	201.35	201.39	201.22	201.16
7	201.04	200.85	201.13	201.32	201.39	201.44	201.65	200.95	201.39	201.39	201.22	201.17
8	201.05	200.87	201.13	---	201.39	201.42	201.65	200.92	201.41	201.37	201.22	201.17
9	201.05	200.88	201.13	201.31	201.39	201.41	201.65	201.03	201.44	201.39	201.24	201.17
10	201.05	200.89	201.13	201.31	201.39	201.42	201.65	201.09	201.44	201.39	201.25	201.16
11	201.04	200.89	201.14	201.32	201.39	201.42	201.65	201.16	201.44	201.39	201.24	201.16
12	201.04	200.89	201.14	201.32	201.39	201.42	201.65	201.19	201.45	201.36	201.24	201.17
13	200.99	200.93	201.16	201.32	201.39	201.42	201.65	201.21	201.44	201.34	201.24	201.17
14	200.98	200.94	201.17	201.33	201.39	201.44	201.66	201.21	201.42	201.31	201.24	201.17
15	200.95	200.94	201.17	201.33	201.39	201.47	201.66	201.21	201.42	201.29	201.25	201.17
16	200.95	200.97	201.16	201.33	201.39	201.48	201.65	201.22	201.41	201.28	201.25	201.17
17	200.96	201.00	201.15	201.32	201.41	201.48	201.64	201.24	201.41	201.28	201.25	201.14
18	200.97	201.00	201.12	201.32	201.41	201.50	201.62	201.21	201.35	201.28	201.25	201.14
19	200.97	201.01	201.11	201.32	201.41	201.53	201.61	201.19	201.36	201.29	201.24	201.13
20	200.95	201.01	201.13	201.33	201.41	201.53	201.61	201.19	201.41	201.29	201.22	201.11
21	200.95	201.03	201.13	201.33	201.41	201.53	201.58	201.19	201.42	201.29	201.21	201.10
22	200.95	201.03	201.14	201.35	201.39	201.53	201.54	201.21	201.42	201.31	201.21	201.08
23	200.95	201.03	201.15	201.36	201.38	201.54	201.54	201.22	201.43	201.31	201.19	201.08
24	200.86	201.03	201.17	201.36	201.38	201.53	201.53	201.25	201.43	201.29	201.16	201.08
25	200.86	201.03	201.18	201.36	201.35	201.51	201.53	201.27	201.43	201.29	201.16	201.07
26	200.85	201.03	201.19	201.38	201.35	201.51	201.53	201.28	201.43	201.29	201.16	201.07
27	200.86	201.06	201.21	201.38	201.36	201.51	201.52	201.30	201.43	201.26	201.16	201.08
28	200.86	201.06	201.22	201.38	201.35	201.54	201.52	201.25	201.43	201.26	201.18	201.08
29	200.86	201.08	201.26	201.38	---	201.54	201.51	201.25	201.43	201.26	201.18	201.08
30	200.88	201.08	201.29	201.36	---	201.54	201.51	201.27	201.43	201.22	201.18	201.08
31	200.85	---	201.29	201.36	---	201.55	---	201.28	---	201.20	201.18	---
MEAN	200.95	200.95	201.16	201.34	201.38	201.47	201.60	201.23	201.40	201.32	201.22	201.13
WTR YR 2001	MEAN 201.26	HIGHEST 200.79	NOV. 3, 4, 2000	LOWEST 201.66	APR. 13, 14, 15, 2001							



GROUND-WATER LEVELS

RIO GRANDE DE ARECIBO BASIN--Continued

182642066394900. Local number, 1055.

LOCATION.--Lat 18°26'42", long 66°39'49", Hydrologic Unit 21010002, 0.27 mi south southeast of Escuela Federico Degetau, 2.20 mi west of intersection of Hwy 2 with Hwy 22, and 2.47 mi east southeast of Central Cambalache. Owner: PR Aqueduct and Sewer Authority, Name: Santana Park Well.

AQUIFER.--Aymamón Limestone.

WELL CHARACTERISTICS.--Active production well.

DATUM.--Elevation of land-surface datum is about 62.0 ft (18.9 m), above mean sea level, from topographic map. Measuring point: Access hole in steel covering well, 0.55 ft (0.17 m), above land-surface datum. Prior Mar. 26, 1999, top of steel casing, 1.70 ft (0.52 m).

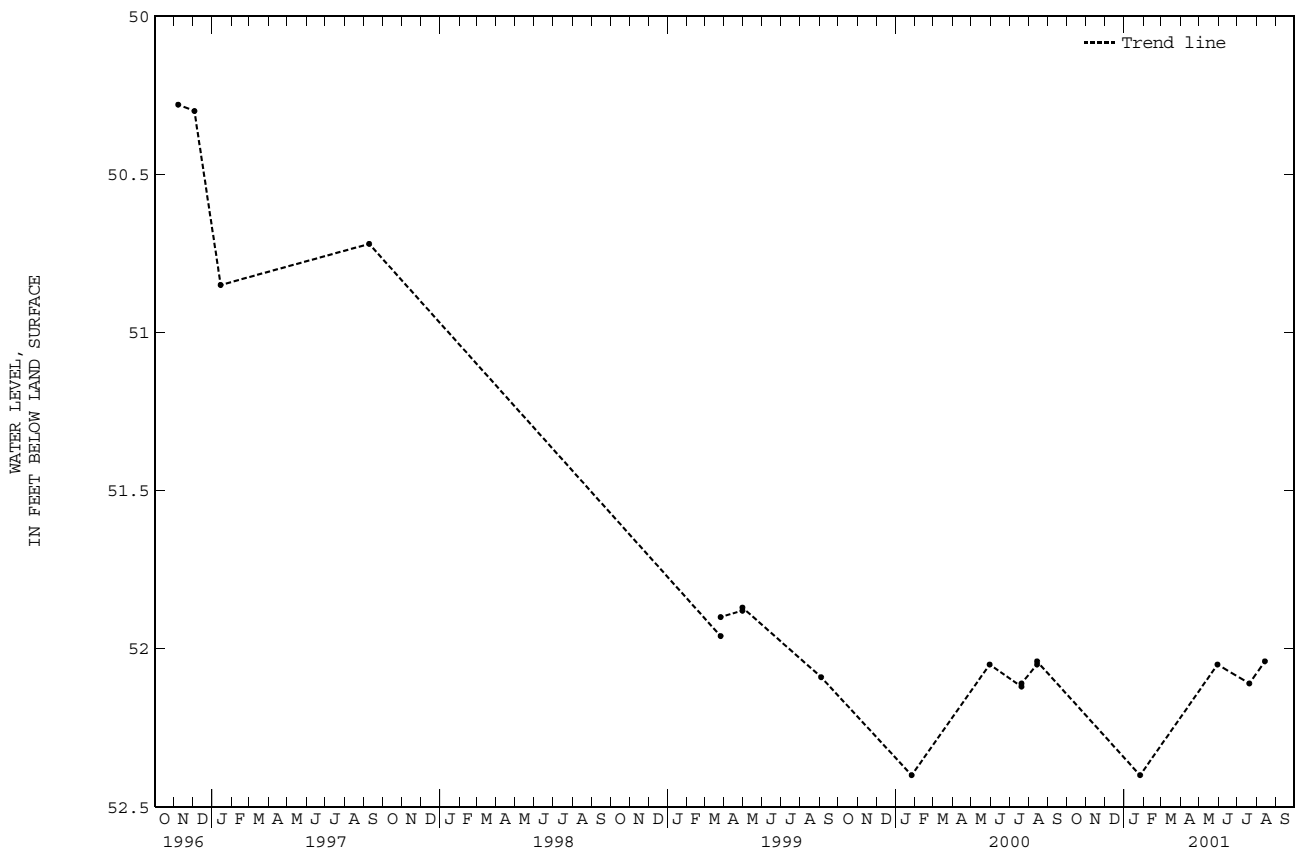
REMARKS.--Observation well.

PERIOD OF RECORD.--September 21, 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 49.71 ft (15.15 m), below land-surface datum, Sept. 19, 1996; lowest water level measured, 52.40 ft (15.97 m), below land-surface datum, Jan. 26, 2000, Jan. 26, 2001.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 26	52.40	MAY 30	52.05	JUL 20	52.11	AUG 14	52.04
WATER YEAR 2001		HIGHEST 52.04 AUG. 14, 2001		LOWEST 52.40 JAN. 26, 2001			



GROUND-WATER LEVELS

RIO GRANDE DE ARECIBO BASIN--Continued

182209066340600. Local number, 1057.

LOCATION.--Lat 18°22'09", Long 66°34'06", Hydrologic Unit 21010002, 0.20 north of the intersection of Hwy 140 with Hwy 642, 1.15 mi south of the intersection of Hwy 140 with Hwy 641, and approximately 100 ft west of Hwy 140. Owner: PR Aqueduct and Sewer Authority, Name: Florida 1 PRASA Well.

AQUIFER.--Cibao Formation.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 12 in (0.30 m), Depth 200 ft (61.0 m).

INSTRUMENTATION.--Pressure transducer with integrated data logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 607 ft (185 m), above mean sea level from topographic map. Measuring point: Hole in concrete base 1.10 ft (0.33 m), above land-surface datum. Prior to September 20, 1996, shelter floor 4.00 ft (1.22 m), above land-surface datum.

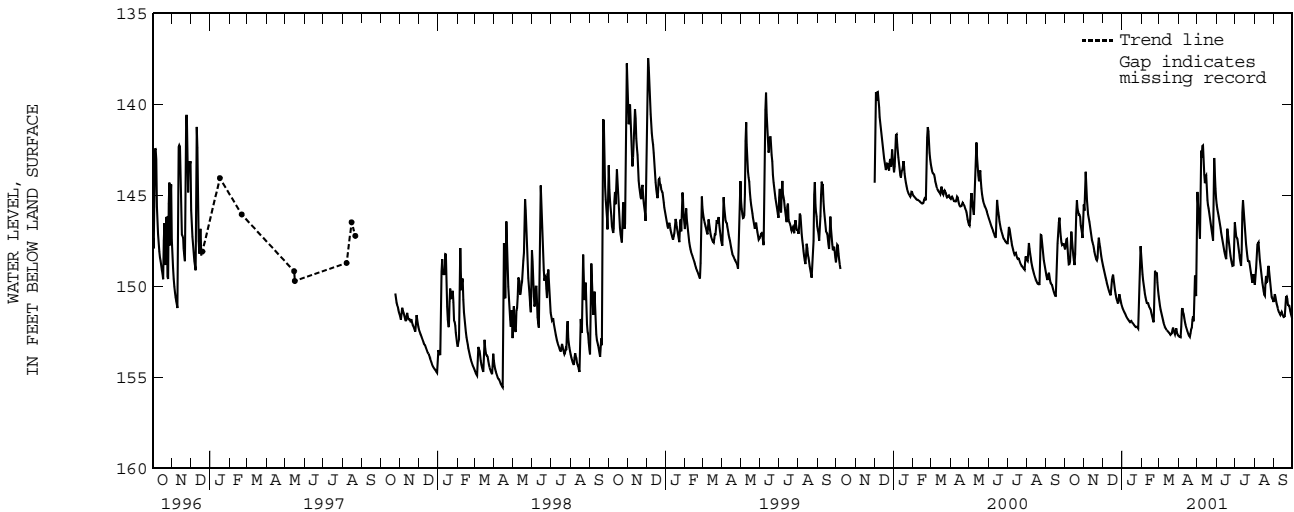
REMARKS.--Recording observation well. Formerly published as local number FL-1.

PERIOD OF RECORD.--August 12, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 137.91 ft (42.0 m), below land-surface datum, Sept. 22, 1998; lowest water level recorded, 157.63 ft (48.0 m), below land-surface datum, Aug. 14, 1996.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	148.01	145.70	148.82	151.13	148.64	150.68	152.72	144.62	145.40	146.63	149.80	150.93
2	147.93	146.00	148.98	151.23	149.14	150.96	152.76	145.01	145.67	147.02	150.04	150.40
3	147.53	143.31	149.14	151.31	149.54	151.19	152.78	145.92	145.87	147.41	148.95	150.47
4	147.31	144.09	149.30	151.39	149.84	151.37	152.79	146.60	146.05	147.24	149.04	150.72
5	147.48	145.01	149.46	151.46	150.10	151.52	152.81	147.12	146.26	147.54	147.50	150.91
6	148.27	145.57	149.61	151.53	150.32	151.68	151.64	147.62	146.49	147.80	147.93	151.05
7	148.68	145.91	149.75	151.61	150.52	151.83	151.01	141.98	146.70	148.09	147.32	151.17
8	148.91	146.21	149.88	151.68	150.70	151.96	151.40	143.11	146.92	148.36	147.85	151.29
9	148.64	146.32	150.01	151.75	150.85	152.07	151.38	142.75	147.14	148.58	148.34	151.40
10	148.63	146.60	150.15	151.80	150.99	152.17	151.64	141.83	147.35	148.78	148.72	151.48
11	146.73	146.87	150.26	151.85	150.85	152.27	151.86	142.67	147.58	148.99	149.05	151.54
12	147.26	147.11	150.37	151.90	151.00	152.34	152.05	143.48	147.78	146.94	149.37	151.61
13	147.70	147.35	150.46	151.95	151.11	152.39	152.19	144.25	147.97	144.94	149.67	151.35
14	148.12	147.57	150.53	152.00	151.20	152.43	152.30	144.41	148.14	145.61	149.92	151.47
15	148.44	147.61	149.57	151.87	151.21	152.47	152.42	143.51	148.30	146.18	150.16	151.58
16	148.71	147.82	149.73	151.95	151.34	152.52	152.53	144.29	148.44	146.65	150.37	151.64
17	148.96	148.00	149.21	151.99	151.49	152.55	152.63	145.04	148.58	147.10	150.56	151.73
18	147.49	148.17	149.51	152.02	151.66	152.59	152.70	145.50	146.68	147.49	150.49	151.60
19	147.00	148.33	149.84	152.07	151.80	152.64	152.76	145.57	146.98	147.85	149.24	151.70
20	144.95	148.46	150.10	152.13	151.93	152.69	152.81	145.86	147.34	148.19	149.62	150.60
21	145.61	148.58	150.34	152.17	152.03	152.56	152.36	146.09	147.67	148.48	149.93	150.59
22	145.90	148.57	150.55	152.22	149.29	152.61	152.37	146.36	147.95	148.73	149.52	150.52
23	145.90	148.30	150.70	152.26	149.01	152.19	152.20	146.62	148.21	148.49	148.68	150.87
24	146.23	147.16	150.81	152.20	149.53	152.36	151.48	146.89	148.45	148.75	149.07	151.17
25	145.89	147.50	150.90	152.25	148.99	152.49	151.82	147.15	148.64	148.98	149.51	150.93
26	146.43	147.81	150.99	152.30	149.57	152.60	152.04	147.37	148.80	149.21	149.88	151.20
27	146.87	147.92	150.35	152.35	150.01	152.69	149.14	147.60	148.95	149.47	150.20	151.29
28	146.85	148.22	150.52	150.92	150.39	152.22	149.69	142.56	148.76	149.70	150.48	151.46
29	147.19	148.46	150.70	150.32	---	152.41	150.30	143.33	148.92	149.90	150.66	151.60
30	147.50	148.64	150.87	147.57	---	152.55	150.78	144.28	146.35	149.16	150.67	151.73
31	145.31	---	151.01	148.01	---	152.66	---	144.96	---	149.51	150.80	---
MEAN	147.30	147.11	150.08	151.52	150.47	152.18	151.91	144.98	147.48	147.99	149.46	151.20
WTR YR 2001	MEAN 149.30	HIGHEST 141.72	MAY 10, 2001	LOWEST 152.84	APR. 20, 21, 2001							



GROUND-WATER LEVELS
 RIO GRANDE DE MANATI BASIN

182544066341500. Local number, 205.

LOCATION.--Lat 18°25'44", long 66°34'15", Hydrologic Unit 21010002, 300 ft (91.4 m) west of Hwy 140, 0.50 mi southwest of Cruce Dávila, and 1.30 mi southwest of intersection of Hwy 140 with Hwy 22. Owner: US Geological Survey, Name: NC-5 Cruce Dávila Well.

AQUIFER.--Montebello/Cibao Limestone.

WELL CHARACTERISTICS.--Deep test well, diameter 2.5 in (0.01 m) 0-1070 ft (0-326.1 m), open screened 1070-2564 ft (326.1-781.5 m). Depth 2564 ft (781.5 m).

DATUM.--Elevation of land-surface datum is about 312 ft (95.1 m), above mean sea level, from topographic map. Measuring point: Top of black PVC pipe, 1.25 ft (0.38 m), above land-surface datum.

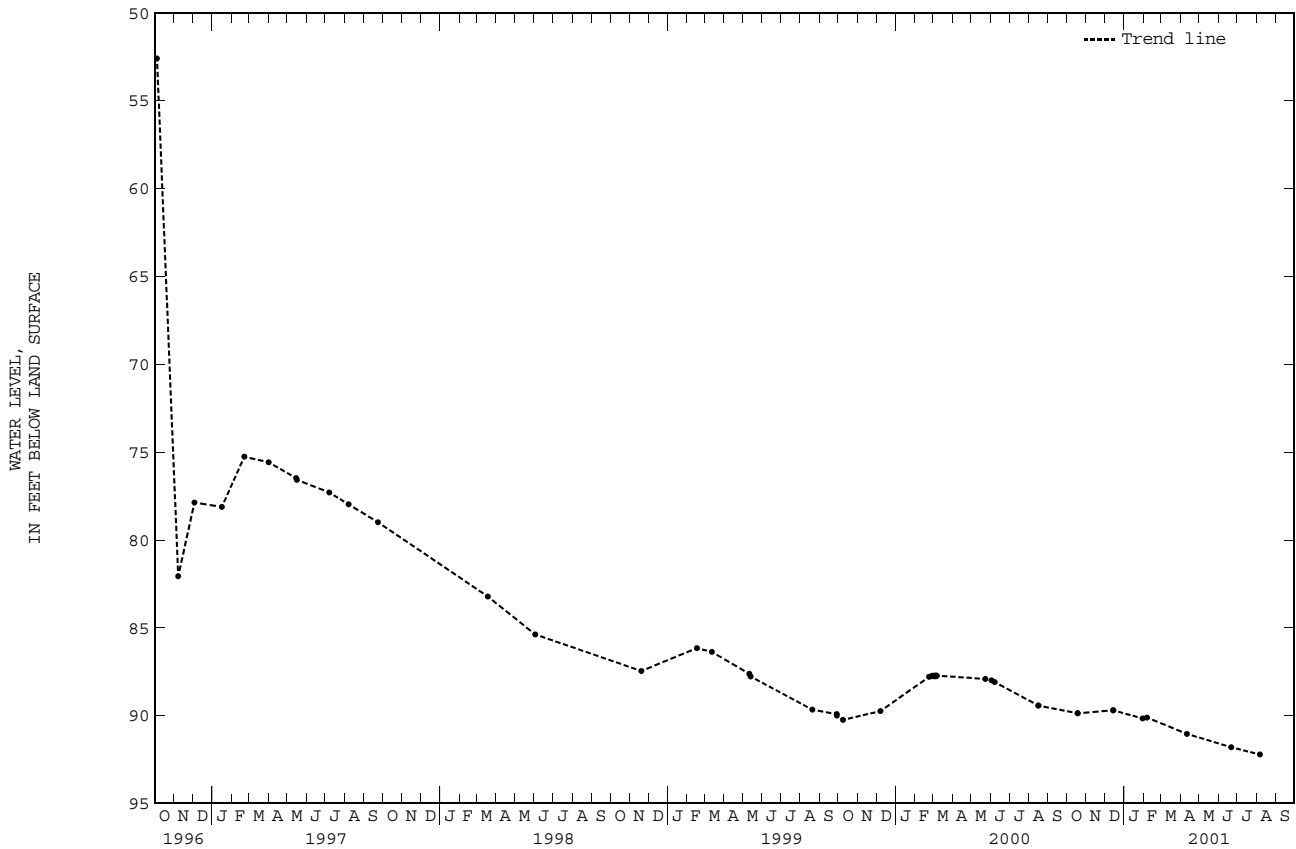
REMARKS.--Observation well. Automated Digital Recorder (ADR), installed on December 10, 1986 and removed on September 30, 1989. PERIOD OF RECORD.--December, 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 9.16 ft (2.79 m), below land-surface datum, Aug. 18, 1987; lowest water level measured, 92.21 ft (28.10 m), below land-surface datum, Aug. 6, 2001.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	89.86	DEC 14	89.69	JAN 30	90.16	APR 11	91.04	JUN 21	91.80	AUG 06	92.21
18	89.87	14	89.70	FEB 06	90.11						

WATER YEAR 2001 HIGHEST 89.69 DEC. 14, 2000 LOWEST 92.21 AUG. 6, 2001



GROUND-WATER LEVELS

RIO GRANDE DE MANATI BASIN--Continued

182757066325600. Local number, 206.

LOCATION.--Lat 18°27'57", long 66°32'56", Hydrologic Unit 21010002, 0.84 mi northwest of Barceloneta plaza, 0.64 mi west of Central Plazuela, and 1.96 mi southeast of Escuela Agustín Balseiro. Owner: PR Department of Agriculture, Name: Plazuela 2 Well.

AQUIFER.--Aymamón Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 16 in (0.41 m), cased 16 in (0.41 m) 0-85.0 ft (0-25.9 m) open hole 85-101 ft (25.9-30.8 m). Depth 101 ft (30.8 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 7.00 ft (2.1 m), above mean sea level, from topographic map. Measuring point:

Hole on side of casing, 1.30 ft (0.40 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on November 7, 1997. Well is affected by marine tides.

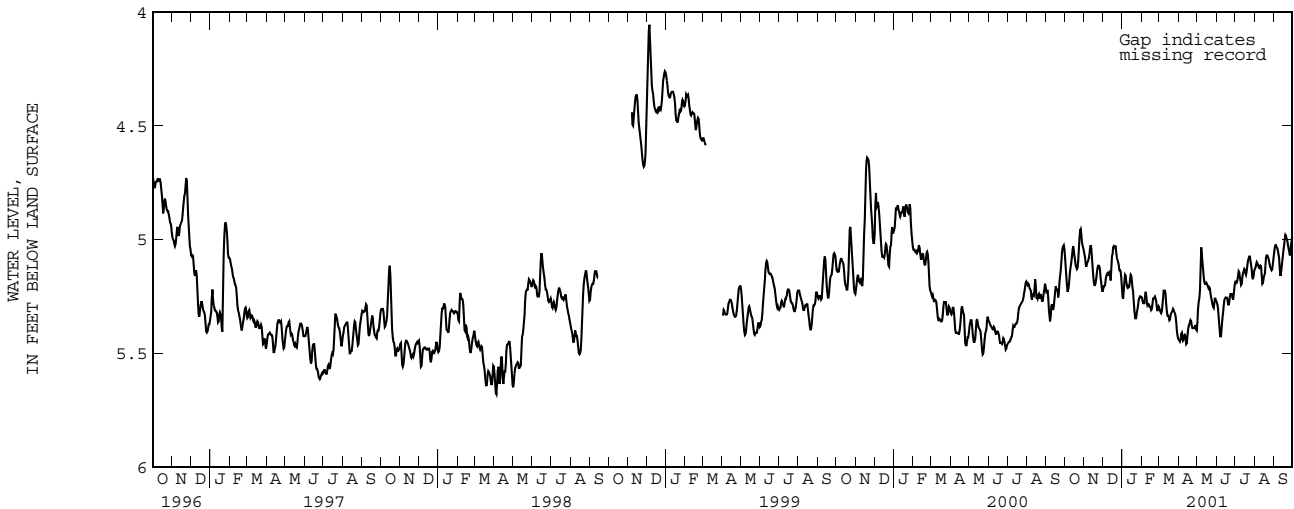
PERIOD OF RECORD.--October 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 3.75 ft (1.14 m), below land-surface datum, Sept. 11, 1988; lowest water level recorded, 6.03 ft (1.84 m), below land-surface datum, Sept. 15, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.06	5.06	5.23	5.23	5.25	5.30	5.44	5.40	5.27	5.19	5.13	5.07
2	5.10	5.07	5.21	5.27	5.26	5.30	5.44	5.33	5.28	5.18	5.13	5.04
3	5.16	5.09	5.20	5.25	5.28	5.32	5.45	5.28	5.29	5.19	5.12	5.03
4	5.18	5.13	5.21	5.20	5.28	5.32	5.45	5.27	5.32	5.19	5.10	5.02
5	5.23	5.11	5.19	5.17	5.28	5.33	5.43	5.25	5.36	5.17	5.10	5.03
6	5.23	5.10	5.16	5.14	5.28	5.30	5.40	5.20	5.40	5.15	5.11	5.04
7	5.21	5.10	5.16	5.18	5.23	5.27	5.42	5.03	5.43	5.13	5.11	5.04
8	5.20	5.09	5.15	5.19	5.23	5.24	5.45	5.04	5.43	5.16	5.13	5.06
9	5.15	5.08	5.15	5.21	5.26	5.21	5.44	5.08	5.41	5.17	5.12	5.07
10	5.13	5.05	5.16	5.21	5.29	5.24	5.44	5.11	5.36	5.19	5.12	5.10
11	5.11	5.03	5.15	5.20	5.29	5.21	5.41	5.14	5.34	5.21	5.11	5.16
12	5.09	5.02	5.14	5.22	5.28	5.27	5.42	5.18	5.31	5.18	5.13	5.16
13	5.06	5.06	5.16	5.19	5.29	5.30	5.45	5.19	5.28	5.15	5.19	5.13
14	5.03	5.10	5.20	5.16	5.30	5.33	5.47	5.20	5.26	5.15	5.20	5.10
15	5.03	5.14	5.06	5.15	5.29	5.34	5.44	5.19	5.26	5.13	5.18	5.08
16	5.07	5.18	5.09	5.17	5.31	5.33	5.41	5.19	5.25	5.13	5.16	5.05
17	5.08	5.20	5.04	5.20	5.31	5.35	5.38	5.20	5.26	5.14	5.16	5.03
18	5.11	5.20	5.03	5.22	5.30	5.36	5.38	5.20	5.25	5.16	5.14	5.02
19	5.12	5.20	5.03	5.24	5.27	5.34	5.37	5.21	5.27	5.15	5.09	4.98
20	5.12	5.18	5.04	5.29	5.25	5.33	5.36	5.22	5.29	5.13	5.07	4.98
21	5.14	5.16	5.02	5.33	5.27	5.32	5.35	5.20	5.29	5.10	5.07	4.99
22	5.11	5.13	5.04	5.35	5.24	5.32	5.37	5.23	5.26	5.09	5.07	5.00
23	5.08	5.12	5.08	5.35	5.26	5.31	5.39	5.25	5.24	5.08	5.08	5.01
24	5.02	5.11	5.08	5.33	5.26	5.30	5.39	5.26	5.24	5.07	5.09	5.04
25	4.97	5.12	5.10	5.31	5.29	5.32	5.39	5.28	5.24	5.08	5.11	5.04
26	4.95	5.12	5.10	5.30	5.31	5.32	5.39	5.29	5.24	5.11	5.12	5.07
27	4.96	5.16	5.13	5.27	5.32	5.33	5.39	5.30	5.27	5.12	5.13	5.07
28	5.00	5.18	5.14	5.26	5.29	5.35	5.37	5.30	5.26	5.15	5.13	5.04
29	5.02	5.20	5.13	5.26	---	5.38	5.39	5.27	5.24	5.18	5.14	5.01
30	5.03	5.23	5.15	5.24	---	5.41	5.40	5.25	5.20	5.17	5.12	5.00
31	5.04	---	5.18	5.26	---	5.43	---	5.27	---	5.15	5.09	---
MEAN	5.09	5.12	5.13	5.24	5.28	5.32	5.41	5.22	5.29	5.15	5.12	5.05

WTR YR 2001 MEAN 5.20 HIGHEST 4.94 SEPT. 22, 2001 LOWEST 5.52 APR. 13, 2001



GROUND-WATER LEVELS

RIO GRANDE DE MANATI BASIN--Continued

182710066303700. Local number, 207.

LOCATION.--Lat 18°27'10", long 66°30'37", Hydrologic Unit 21010002, 1.92 mi east of Barceloneta plaza, 1.35 mi north of Central Monserrate, and 2.68 mi northeast of Escuela José Cordero. Owner: PR Aqueduct and Sewer Authority, Name: Cantito La Luisa Well.

AQUIFER.--Aymamón Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 20 in (0.51 m), cased 20 in (0.51 m) 0-30.0 ft (0-9.14 m) cased 10 in (0.25 m) 0-126 ft (0-38.4 m), perforated 80-126 ft (24.4-38.4 m). Depth 126 ft (38.4 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 59.0 ft (18.0 m), above mean sea level, from topographic map. Measuring point: Top of shelter floor, 2.80 ft (0.85 m), above land-surface datum. Prior to Nov. 20, 1992, hole on side of casing, 2.00 ft (0.61 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on November 5, 1997. From June 21 to August 1, 2001, tapedowns measurements only.

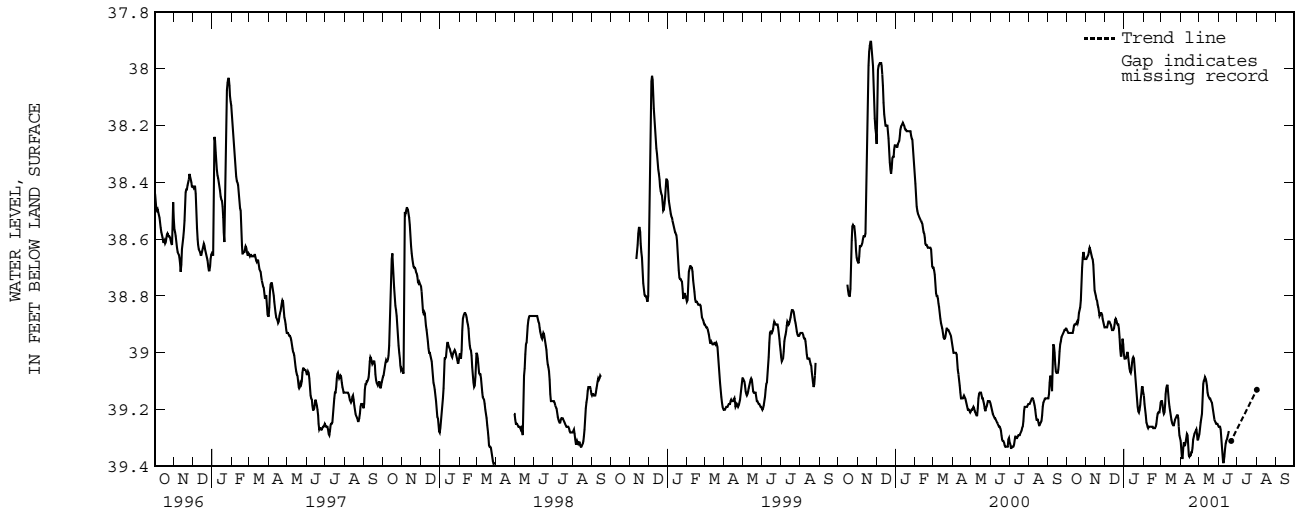
PERIOD OF RECORD.--October 1985 to August 1, 2001, discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 36.4 ft (11.1 m), below land-surface datum, May 15, 1986; lowest water level recorded, 89.8 ft (27.4 m), below land-surface datum, Oct. 5, 1985.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38.92	38.67	38.91	39.02	39.14	39.17	39.30	39.29	39.26	---	---	---
2	38.92	38.67	38.91	39.02	39.16	39.17	39.32	39.28	39.26	---	---	---
3	38.93	38.66	38.91	39.02	39.20	39.17	39.36	39.25	39.26	---	---	---
4	38.93	38.66	38.91	39.02	39.20	39.20	39.38	39.24	39.26	---	---	---
5	38.93	38.65	38.91	39.01	39.24	39.21	39.36	39.22	39.28	---	---	---
6	38.93	38.63	38.89	38.99	39.25	39.22	39.31	39.21	39.31	---	---	---
7	38.93	38.63	38.89	39.01	39.25	39.20	39.32	39.12	39.34	---	---	---
8	38.93	38.64	38.89	39.02	39.27	39.16	39.33	39.10	39.38	---	---	---
9	38.93	38.65	38.89	39.05	39.26	39.13	39.32	39.10	39.39	---	---	---
10	38.93	38.66	38.90	39.06	39.26	39.12	39.31	39.09	39.38	---	---	---
11	38.93	38.67	38.90	39.07	39.26	39.11	39.29	39.08	39.35	---	---	---
12	38.91	38.67	38.92	39.07	39.26	39.12	39.28	39.10	39.33	---	---	---
13	38.90	38.71	38.92	39.05	39.26	39.16	39.30	39.10	39.31	---	---	---
14	38.90	38.77	38.92	39.02	39.26	39.18	39.35	39.13	39.31	---	---	---
15	38.90	38.79	38.92	39.02	39.26	39.20	39.37	39.15	39.30	---	---	---
16	38.90	38.79	38.91	39.01	39.26	39.21	39.36	39.15	39.29	---	---	---
17	38.89	38.81	38.89	39.03	39.27	39.23	39.36	39.16	39.28	---	---	---
18	38.89	38.81	38.88	39.05	39.26	39.24	39.36	39.16	39.27	---	---	---
19	38.90	38.82	38.88	39.09	39.27	39.25	39.34	39.16	---	---	---	---
20	38.87	38.84	38.89	39.12	39.26	39.25	39.36	39.17	---	---	---	---
21	38.85	38.84	38.90	39.15	39.26	39.26	39.31	39.17	---	---	---	---
22	38.85	38.87	38.90	39.18	39.24	39.25	39.30	39.18	---	---	---	---
23	38.83	38.87	38.90	39.20	39.22	39.24	39.29	39.20	---	---	---	---
24	38.80	38.86	38.93	39.21	39.21	39.23	39.28	39.21	---	---	---	---
25	38.72	38.86	38.96	39.21	39.21	39.23	39.28	39.23	---	---	---	---
26	38.68	38.86	39.01	39.19	39.21	39.22	39.27	39.24	---	---	---	---
27	38.65	38.87	39.01	39.18	39.21	39.22	39.27	39.24	---	---	---	---
28	38.64	38.89	39.01	39.15	39.18	39.22	39.30	39.25	---	---	---	---
29	38.67	38.89	38.95	39.14	---	39.24	39.31	39.25	---	---	---	---
30	38.67	38.91	38.95	39.10	---	39.28	39.30	39.25	---	---	---	---
31	38.67	---	38.99	39.14	---	39.30	---	39.25	---	---	---	---
MEAN	38.85	38.76	38.92	39.08	39.24	39.21	39.32	39.18	39.31	---	---	---

WTR YR 2001 MEAN 39.09 HIGHEST 38.63 NOV. 5-8, 2000 LOWEST 39.41 JUNE 8, 9, 2001



GROUND-WATER LEVELS

RIO GRANDE DE MANATI BASIN--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	38.72	DEC 11	38.89	JAN 18	39.05	MAR 15	39.20	MAY 23	39.20	AUG 01	39.13
NOV 17	38.81	11	38.90	FEB 09	39.26	APR 16	39.36	JUN 21	39.31		
WATER YEAR 2001		HIGHEST 38.72		OCT. 25, 2000		LOWEST 39.36		APR. 16, 2001			

GROUND-WATER LEVELS

RIO GRANDE DE MANATI BASIN--Continued

182549066304300. Local number, 166.

LOCATION.--Lat 18°25'49", long 66°30'43", Hydrologic Unit 21010002, 0.95 mi east of the Rio Grande de Manatí Hwy 2 bridge, 0.40 mi southwest of Central Monserrate, 1.07 mi east of the intersection of Hwy 666 with Hwy 2, 1.20 mi west of the intersection of Hwy 685 with Hwy 2, 0.01 mi north of Hwy 2. Owner: PR Aqueduct and Sewer Authority Name: PRASA 166 USGS Observation Manatí Well.

AQUIFER.--Alluvial deposits.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 20 in (0.51 m), cased 0-100 ft (0-39.49 m), diameter 14 in (0.36 m), cased 0-140 ft (0-42.7 m), slotted 80-90 ft (24.7-27.4 m), and 130-140 ft (39.6-42.7 m). Depth 140 ft (42.7 m).

INSTRUMENTATION.--Pressure transducer with integrated data logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 29.50 ft (9.0 m), above mean-sea level, from topographic map. Measuring point: A hole in the side of the 20 in (0.51 m) diameter well casing, 1.65 ft (0.50 m) above land-surface datum. Prior May 31, 1996, top of 14 in (0.36 m) casing, 0.80 ft (0.24 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on May 31, 1996. Formerly published as 182542066305200. From September 9, 1998, monthly measurements only. Electronic Data Logger (EDL), installed on March 29, 1999. Station was flooded by Rio Grande de Manatí on September 1998 and November 2001.

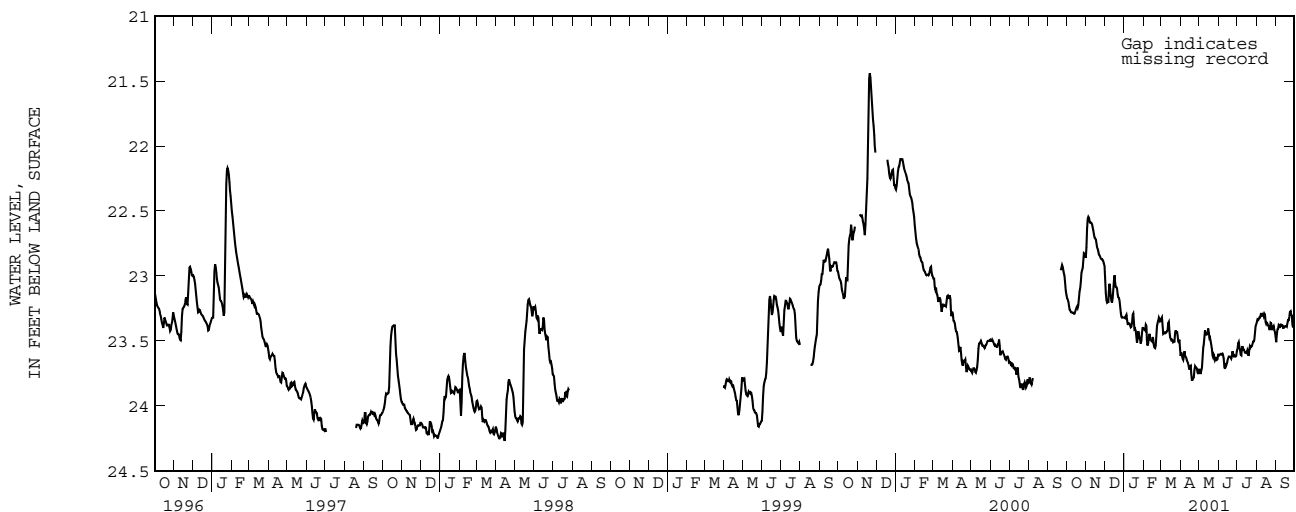
PERIOD OF RECORD.--January 1982 to December 1984, discontinued, May 31, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 21.38 ft (6.52 m), below land-surface datum, Nov. 21, 1999; lowest water level measured, 26.36 ft (8.04 m), below land-surface datum, Feb. 3, 1983.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.17	22.86	22.92	23.32	23.40	23.34	23.64	23.71	23.58	23.55	23.38	23.51
2	23.17	22.70	23.10	23.32	23.42	23.32	23.59	23.72	23.63	23.58	23.33	23.51
3	23.19	22.57	23.16	23.33	23.41	23.32	23.59	23.76	23.59	23.46	23.34	23.39
4	23.20	22.55	23.21	23.29	23.43	23.44	23.63	23.75	23.62	23.56	23.34	23.43
5	23.26	22.54	23.20	23.31	23.32	23.45	23.64	23.70	23.58	23.54	23.33	23.38
6	23.26	22.57	23.20	23.37	23.45	23.43	23.65	23.71	23.62	23.60	23.31	23.37
7	23.27	22.59	23.20	23.37	23.55	23.44	23.57	23.56	23.59	23.61	23.33	23.39
8	23.28	22.59	23.04	23.37	23.52	23.44	23.59	23.54	23.61	23.61	23.28	23.41
9	23.28	22.59	23.08	23.36	23.51	23.43	23.63	23.52	23.61	23.52	23.29	23.36
10	23.28	22.59	23.12	23.37	23.44	23.44	23.61	23.42	23.66	23.56	23.32	23.39
11	23.28	22.61	23.19	23.39	23.45	23.42	23.65	23.42	23.74	23.57	23.29	23.37
12	23.29	22.64	23.19	23.40	23.52	23.42	23.65	23.45	23.69	23.56	23.30	23.39
13	23.29	22.66	23.22	23.38	23.47	23.31	23.67	23.45	23.68	23.59	23.32	23.41
14	23.29	22.70	23.12	23.34	23.53	23.40	23.68	23.45	23.70	23.59	23.26	23.39
15	23.26	22.71	23.09	23.26	23.48	23.46	23.72	23.42	23.65	23.59	23.34	23.39
16	23.26	22.71	22.98	23.32	23.46	23.48	23.72	23.39	23.65	23.59	23.37	23.39
17	23.23	22.73	23.01	23.40	23.51	23.49	23.67	23.48	23.62	23.60	23.37	23.38
18	23.24	22.76	23.08	23.42	23.55	23.50	23.71	23.48	23.62	23.54	23.35	23.39
19	23.25	22.79	23.09	23.39	23.55	23.48	23.79	23.47	23.62	23.62	23.38	23.39
20	23.20	22.79	23.08	23.45	23.56	23.51	23.81	23.53	23.62	23.61	23.38	23.34
21	23.15	22.83	23.11	23.49	23.51	23.51	23.79	23.53	23.63	23.52	23.39	23.34
22	23.09	22.84	23.17	23.54	23.41	23.50	23.79	23.59	23.64	23.56	23.43	23.34
23	23.10	22.84	23.16	23.43	23.36	23.51	23.77	23.63	23.59	23.54	23.39	23.29
24	22.99	22.86	23.18	23.42	23.36	23.37	23.68	23.62	23.57	23.54	23.33	23.26
25	22.96	22.87	23.20	23.48	23.33	23.47	23.71	23.59	23.63	23.54	23.40	23.28
26	22.95	22.87	23.27	23.47	23.31	23.42	23.70	23.65	23.60	23.51	23.42	23.32
27	22.92	22.87	23.30	23.51	23.35	23.43	23.71	23.65	23.62	23.50	23.40	23.29
28	22.82	22.88	23.32	23.53	23.35	23.49	23.72	23.63	23.62	23.51	23.38	23.45
29	22.83	22.89	23.32	23.48	---	23.52	23.76	23.64	23.62	23.48	23.39	23.34
30	22.83	22.92	23.32	23.40	---	23.50	23.75	23.65	23.61	23.41	23.44	23.34
31	22.86	---	23.32	23.40	---	23.48	---	23.63	---	23.37	23.42	---
MEAN	23.14	22.73	23.16	23.40	23.45	23.44	23.69	23.57	23.63	23.55	23.35	23.37

WTR YR 2001 MEAN 23.37 HIGHEST 22.54 NOV. 4, 5, 2000 LOWEST 23.82 APR. 20, 21, 2001



GROUND-WATER LEVELS

RIO GRANDE DE MANATI BASIN--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	63.55	NOV 30	62.81	DEC 11	60.98	FEB 09	65.95	APR 16	71.39	JUN 22	75.81
NOV 17	60.92	DEC 11	60.97	JAN 18	62.64	MAR 15	66.26	MAY 04	74.05		
WATER YEAR 2001		HIGHEST 60.92 NOV. 17, 2000		LOWEST 75.81 JUNE 22, 2001							

GROUND-WATER LEVELS

RIO CIBUCO BASIN

182614066261500. Local number, 1101.

LOCATION.--Lat 18°26'14", long 66°26'15", Hydrologic Unit 21010002, 1.80 mi east of the intersection of Hwy 686 with Hwy 670, 0.30 mi south of Hwy 2, 0.70 mi northeast of Escuela Ramirez de Arellano, and 0.32 mi north of Hwy 670. Owner: US Geological Survey, WRD, Name: Palo Alto 2 Well.

AQUIFER.--Aymamón Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), screened 265-310 ft (80.8-94.5 m). Depth 310 ft (94.5 m). INSTRUMENTATION.--Pressure transducer with integrated electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 245.5 ft (74.8 m), above mean sea level, from topographic survey. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 3.79 ft (1.16 m), above land-surface datum.

REMARKS.--Recording observation well. Electronic Data Logger (EDL), installed on May 28, 1996. Formerly published as local number PA-2.

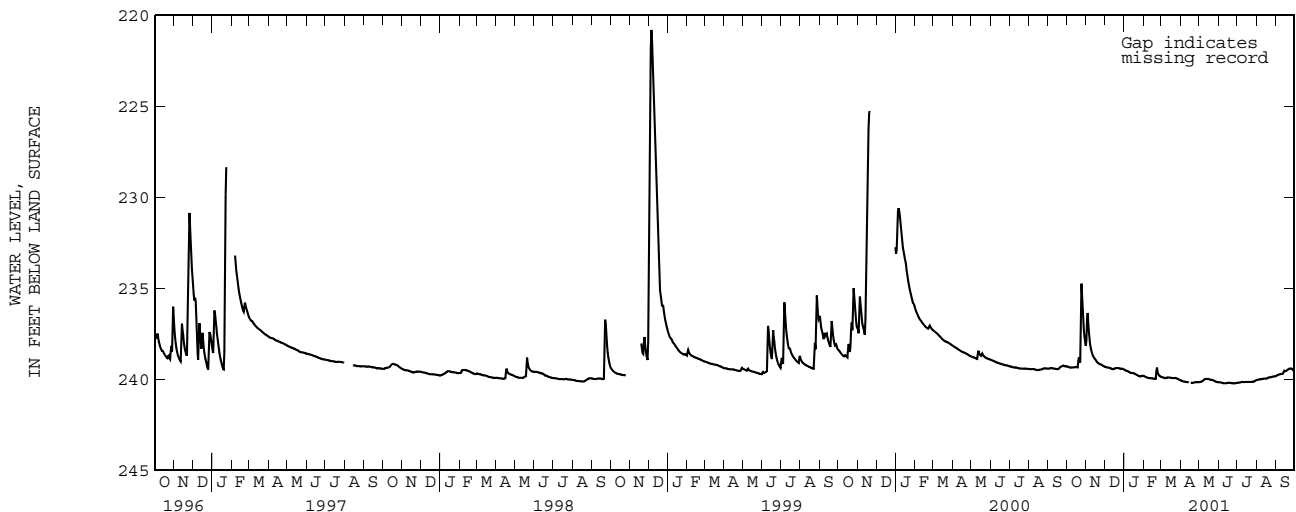
PERIOD OF RECORD.--May 28, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 220.55 ft (67.2 m), below land-surface datum, Dec. 6 1998; lowest water level recorded, 240.24 ft (73.2 m), below land-surface datum, June 11, 2001.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	239.28	238.27	239.31	239.47	239.82	239.86	240.05	240.16	240.17	240.20	240.05	239.83
2	239.30	237.40	239.32	239.49	239.83	239.88	240.07	240.16	240.17	240.19	240.03	239.81
3	239.32	235.97	239.34	239.52	239.85	239.89	240.08	240.14	240.17	240.19	240.03	239.79
4	239.33	236.74	239.35	239.53	239.87	239.90	240.09	240.14	240.17	240.18	240.02	239.77
5	239.34	237.25	239.35	239.54	239.88	239.91	240.11	240.13	240.18	240.18	240.01	239.76
6	239.35	237.66	239.36	239.55	239.90	239.93	240.12	240.12	240.19	240.17	240.01	239.74
7	239.36	237.97	239.36	239.57	239.91	239.94	240.13	240.09	240.20	240.16	240.00	239.73
8	239.37	238.20	239.37	239.58	239.92	239.94	240.13	240.05	240.21	240.16	240.00	239.72
9	239.34	238.37	239.38	239.60	239.93	239.92	240.14	240.03	240.22	240.14	240.00	239.72
10	239.35	238.50	239.39	239.62	239.93	239.92	240.15	240.01	240.22	240.15	240.00	239.70
11	239.35	238.61	239.41	239.65	239.94	239.91	240.15	239.99	240.22	240.15	239.97	239.69
12	239.35	238.70	239.42	239.65	239.95	239.90	240.14	239.98	240.22	240.16	239.97	239.69
13	239.34	238.78	239.44	239.66	239.95	239.90	240.15	239.98	240.22	240.15	239.96	239.69
14	239.33	238.85	239.44	239.65	239.95	239.90	240.16	239.98	240.21	240.15	239.96	239.51
15	239.33	238.88	239.43	239.66	239.95	239.91	240.17	239.98	240.21	240.15	239.96	239.55
16	239.33	238.91	239.43	239.66	239.96	239.91	---	239.99	240.20	240.14	239.97	239.56
17	239.34	238.98	239.42	239.68	239.97	239.92	240.19	240.00	240.19	240.15	239.97	239.55
18	239.34	239.02	239.39	239.69	239.97	239.93	240.19	240.01	240.19	240.15	239.96	239.54
19	239.35	239.06	239.38	239.72	239.98	239.93	240.20	240.02	240.19	240.15	239.95	239.51
20	238.67	239.10	239.38	239.74	239.98	239.94	240.20	240.03	240.19	240.15	239.91	239.48
21	238.94	239.13	239.38	239.75	239.98	239.94	240.20	240.03	240.21	240.15	239.90	239.45
22	239.06	239.15	239.39	239.77	239.18	239.93	240.19	240.04	240.21	240.15	239.89	239.43
23	239.13	239.17	239.40	239.80	239.55	239.92	240.18	240.05	240.22	240.15	239.90	239.41
24	234.28	239.18	239.40	239.82	239.69	239.93	240.17	240.07	240.22	240.14	239.89	239.41
25	235.21	239.20	239.40	239.83	239.74	239.94	240.16	240.09	240.23	240.14	239.88	239.40
26	235.99	239.22	239.42	239.84	239.79	239.96	240.16	240.10	240.22	240.14	239.87	239.41
27	236.62	239.23	239.43	239.85	239.83	239.97	240.16	240.12	240.22	240.13	239.85	239.44
28	237.12	239.25	239.42	239.84	239.85	239.98	240.17	240.13	240.22	240.12	239.85	239.48
29	237.52	239.28	239.42	239.83	---	240.00	240.16	240.15	240.22	240.12	239.85	239.51
30	237.85	239.29	239.43	239.80	---	240.02	240.15	240.15	240.21	240.09	239.85	239.56
31	238.07	---	239.45	239.81	---	240.04	---	240.16	---	240.06	239.84	---
MEAN	238.58	238.58	239.39	239.68	239.86	239.93	240.15	240.07	240.20	240.15	239.95	239.59

WTR YR 2001 MEAN 239.68 HIGHEST 233.54 OCT. 4, 2000 LOWEST 240.24 JUNE 11, 2001



GROUND-WATER LEVELS
RIO CIBUCO BASIN--Continued

182712066251700. Local number, 1102.

LOCATION.--Lat 18°27'12", long 66°25'17", Hydrologic Unit 21010002, 0.60 mi north of the intersection of Hwy 687 with Hwy 2, 0.55 mi southeast of the eastern shoreline of Laguna Tortuguero, 0.32 mi east of Laguna Rica, and 0.12 mi west of Hwy 687.

Owner: US Geological Survey WRD, Name: Piezometer Tortuguero 3.

AQUIFER.--Aymamón Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), screened 68-218 ft (20.7-66.4 m). Depth 218 ft (66.4 m).

INSTRUMENTATION.--Pressure transducer with integrated electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 30.0 ft (9.0 m), above mean sea level, from topographic map. Measuring point:

Shelter floor on top of 4 in (0.10 m) casing, 3.42 ft (1.04 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on June 10, 1999. Formerly published as local number TO-3. Water levels affected by marine tides.

PERIOD OF RECORD.--May 31, 1996 to current year.

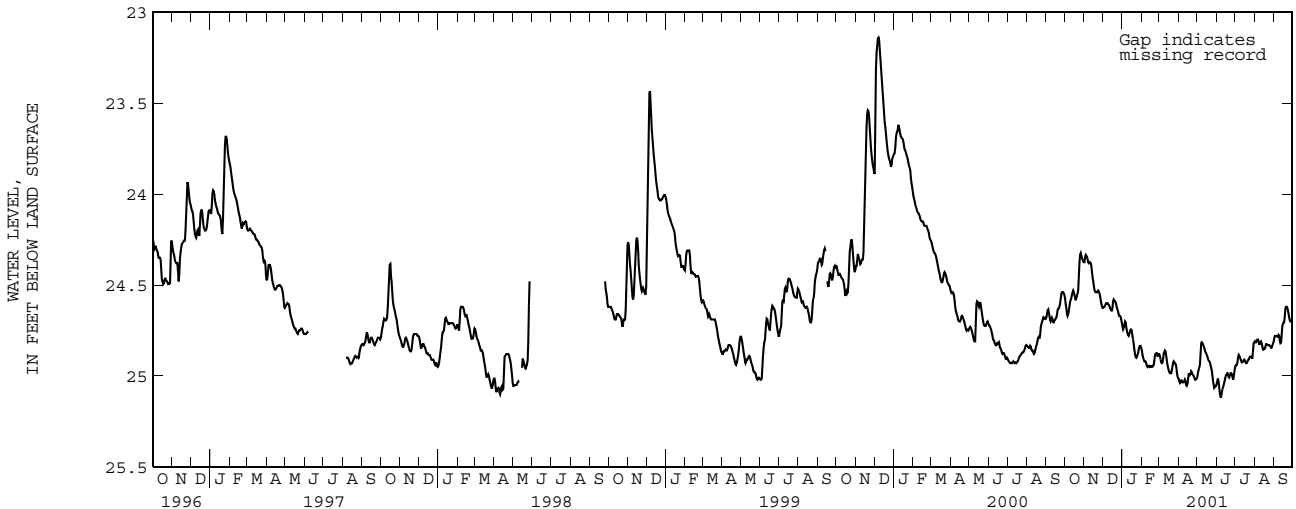
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 23.13 ft (7.05 m), below land-surface datum, Dec. 7, 8, 1999;

lowest water level recorded, 25.26 ft (7.70 m), below land-surface datum, June 21, 22, 23, 1996.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.56	24.38	24.63	24.72	24.85	24.88	25.01	25.02	25.05	24.95	24.81	24.81
2	24.59	24.37	24.62	24.74	24.87	24.88	25.02	24.99	25.04	24.94	24.81	24.78
3	24.62	24.33	24.62	24.75	24.90	24.90	25.04	24.97	25.01	24.94	24.82	24.78
4	24.64	24.34	24.62	24.72	24.90	24.92	25.04	24.96	25.02	24.94	24.81	24.78
5	24.67	24.34	24.61	24.71	24.92	24.93	25.03	24.95	25.05	24.92	24.80	24.78
6	24.67	24.35	24.60	24.69	24.92	24.93	25.02	24.92	25.09	24.88	24.80	24.78
7	24.65	24.37	24.60	24.72	24.92	24.92	25.03	24.83	25.11	24.89	24.80	24.79
8	24.64	24.38	24.60	24.74	24.92	24.89	25.04	24.81	25.12	24.89	24.82	24.78
9	24.60	24.38	24.60	24.76	24.94	24.87	25.03	24.82	25.11	24.90	24.83	24.77
10	24.59	24.37	24.61	24.77	24.95	24.87	25.04	24.82	25.08	24.91	24.82	24.79
11	24.58	24.38	24.61	24.78	24.95	24.85	25.02	24.83	25.07	24.92	24.81	24.82
12	24.56	24.38	24.62	24.78	24.94	24.88	25.02	24.84	25.06	24.93	24.81	24.82
13	24.55	24.41	24.63	24.76	24.95	24.90	25.04	24.85	25.04	24.92	24.83	24.81
14	24.53	24.45	24.64	24.75	24.95	24.93	25.06	24.87	25.03	24.92	24.85	24.73
15	24.53	24.47	24.64	24.74	24.94	24.95	25.05	24.87	25.01	24.91	24.86	24.72
16	24.55	24.49	24.64	24.75	24.95	24.96	25.04	24.88	25.00	24.91	24.85	24.71
17	24.56	24.52	24.60	24.77	24.95	24.98	24.99	24.89	24.99	24.92	24.85	24.70
18	24.58	24.53	24.58	24.79	24.95	24.98	24.99	24.90	24.99	24.93	24.85	24.71
19	24.59	24.54	24.58	24.81	24.95	24.98	24.99	24.91	24.98	24.93	24.83	24.64
20	24.56	24.54	24.59	24.84	24.94	24.99	25.00	24.92	25.00	24.93	24.82	24.62
21	24.56	24.54	24.59	24.87	24.94	24.98	24.98	24.92	25.01	24.92	24.83	24.62
22	24.54	24.54	24.60	24.89	24.89	24.96	24.97	24.93	25.01	24.91	24.83	24.62
23	24.52	24.53	24.62	24.90	24.88	24.94	24.99	24.95	24.99	24.91	24.83	24.63
24	24.40	24.53	24.63	24.90	24.88	24.92	24.99	24.96	24.98	24.90	24.83	24.65
25	24.35	24.54	24.64	24.89	24.87	24.92	25.00	24.98	24.99	24.89	24.83	24.67
26	24.32	24.55	24.66	24.88	24.88	24.93	25.00	25.02	24.99	24.90	24.84	24.69
27	24.33	24.57	24.67	24.87	24.90	24.93	25.02	25.04	25.02	24.89	24.84	24.70
28	24.35	24.59	24.67	24.84	24.88	24.94	25.02	25.06	25.02	24.90	24.85	24.70
29	24.35	24.61	24.67	24.84	---	24.96	25.02	25.07	25.00	24.91	24.84	24.70
30	24.37	24.62	24.68	24.83	---	24.99	25.01	25.05	24.97	24.83	24.83	24.70
31	24.37	---	24.70	24.84	---	25.01	---	25.06	---	24.82	24.82	---
MEAN	24.53	24.46	24.62	24.79	24.92	24.93	25.02	24.93	25.03	24.91	24.83	24.73

WTR YR 2001 MEAN 24.81 HIGHEST 24.31 NOV. 3, 2000 LOWEST 25.15 JUNE 8, 2001



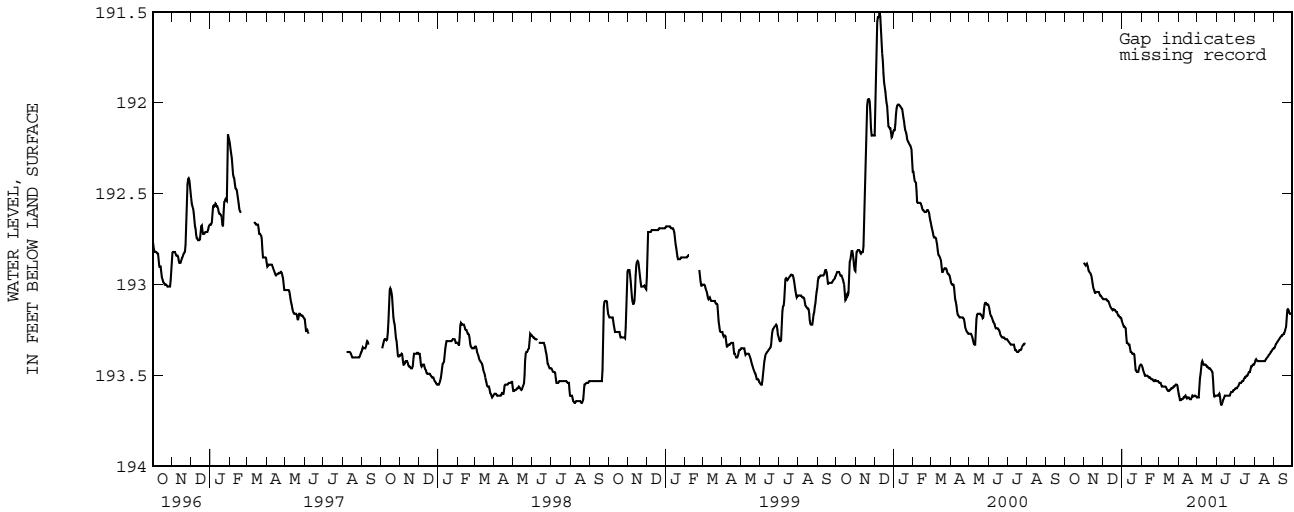
GROUND-WATER LEVELS
RIO CIBUCO BASIN--Continued

182615066235300. Local number, 211.
 LOCATION.--Lat 18°26'07", long 66°23'32", Hydrologic Unit 21010002, 4.46 mi southeast of Manatí plaza, 5.48 mi southwest of Vega Baja plaza, and 1.22 mi east of Hwy 155 km 58.3. Owner: PR Aqueduct and Sewer Authority, Name: Rosario 2 Well.
 AQUIFER.--Aguada Limestone.
 WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 14 in (0.36 m) 0-200 ft (0-61.0 m), diameter 12 in (0.30 m) 200-250 ft (61.0-76.2 m), cased 12 in (0.30 m) 0-250 ft (0-76.2 m), perforated 210-250 ft (64.0-76.2 m), diameter 10 in (0.25 m) 250-270 ft (76.2-82.3 m), open hole; concrete sealed 0-200 ft (0-61.0 m). Depth 270 ft (82.3 m).
 INSTRUMENTATION.--Electronic water level logger--60-minutes interval.
 DATUM.--Elevation of land-surface datum is about 215 ft (65.5 m), above mean sea level, from topographic map. Measuring point: Top of shelter floor, 3.10 ft (0.94 m), above land-surface datum. Prior to April 11, 1994, hole on side of casing, 1.15 ft (0.35 m), above land-surface datum.
 REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on November 5, 1997.
 PERIOD OF RECORD.--October 1985 to current year.
 EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 191.29 ft (58.3 m), below land-surface datum, May 16, 1986; lowest water level recorded, 194.1 ft (59.2 m), below land-surface datum, Mar. 31, Apr. 1 to 7, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	192.88	193.08	193.21	193.44	193.54	193.60	193.62	193.61	193.57	193.44	193.35
2	---	192.89	193.08	193.21	193.45	193.54	193.60	193.62	193.61	193.57	193.42	193.35
3	---	192.89	193.08	193.23	193.46	193.54	193.63	193.62	193.61	193.57	193.41	193.34
4	---	192.90	193.08	193.23	193.48	193.54	193.64	193.62	193.61	193.57	193.41	193.33
5	---	192.88	193.08	193.23	193.48	193.56	193.63	193.52	193.60	193.56	193.42	193.32
6	---	192.89	193.08	193.24	193.50	193.56	193.63	193.51	193.60	193.56	193.42	193.32
7	---	192.90	193.08	193.24	193.50	193.56	193.63	193.47	193.63	193.55	193.42	193.31
8	---	192.92	193.09	193.32	193.50	193.56	193.63	193.44	193.66	193.54	193.42	193.31
9	---	192.93	193.09	193.32	193.50	193.56	193.62	193.42	193.66	193.54	193.42	193.30
10	---	192.93	193.09	193.32	193.50	193.56	193.62	193.42	193.66	193.54	193.42	193.30
11	---	192.94	193.10	193.33	193.50	193.56	193.62	193.44	193.64	193.54	193.42	193.29
12	---	192.94	193.11	193.33	193.51	193.56	193.61	193.44	193.63	193.53	193.42	193.29
13	---	192.96	193.12	193.33	193.51	193.57	193.61	193.44	193.63	193.53	193.42	193.28
14	---	192.98	193.13	193.37	193.51	193.58	193.63	193.44	193.61	193.53	193.42	193.28
15	---	193.01	193.13	193.37	193.51	193.58	193.62	193.44	193.61	193.52	193.42	193.28
16	---	193.02	193.14	193.37	193.52	193.59	193.62	193.45	193.61	193.51	193.42	193.27
17	---	193.03	193.14	193.38	193.52	193.58	193.62	193.45	193.61	193.51	193.42	193.27
18	---	193.04	193.13	193.38	193.52	193.58	193.62	193.45	193.61	193.51	193.42	193.27
19	---	193.05	193.14	193.38	193.52	193.58	193.63	193.46	193.61	193.50	193.41	193.25
20	---	193.04	193.14	193.38	193.53	193.57	193.63	193.46	193.61	193.50	193.41	193.24
21	---	193.04	193.14	193.39	193.53	193.57	193.63	193.46	193.61	193.50	193.40	193.23
22	---	193.04	193.15	193.47	193.53	193.57	193.63	193.46	193.61	193.49	193.40	193.14
23	---	193.04	193.15	193.47	193.52	193.57	193.61	193.47	193.61	193.48	193.39	193.14
24	---	193.04	193.15	193.48	193.53	193.56	193.61	193.47	193.59	193.48	193.39	193.13
25	---	193.04	193.17	193.48	193.53	193.56	193.62	193.48	193.59	193.48	193.38	193.15
26	---	193.06	193.17	193.48	193.53	193.56	193.61	193.48	193.59	193.45	193.38	193.16
27	---	193.06	193.17	193.48	193.53	193.55	193.61	193.57	193.59	193.45	193.37	193.16
28	---	193.06	193.18	193.46	193.53	193.55	193.61	193.61	193.58	193.45	193.37	193.16
29	---	193.07	193.18	193.45	---	193.55	193.61	193.62	193.58	193.44	193.36	193.16
30	---	193.07	193.18	193.44	---	193.55	193.62	193.61	193.58	193.44	193.36	193.16
31	192.88	---	193.19	193.44	---	193.56	---	193.61	---	193.44	193.35	---
MEAN	192.88	192.98	193.13	193.36	193.51	193.56	193.62	193.50	193.61	193.51	193.40	193.25

WTR YR 2001 MEAN 193.40 HIGHEST 192.87 OCT. 30, 31, 2000 LOWEST 193.66 JUNE 7-11, 2001



GROUND-WATER LEVELS
RIO CIBUCO BASIN--Continued

182647066201700. Local number, 70.

LOCATION.--Lat 18°26'47", long 66°20'17", Hydrologic Unit 21010002, 1.52 mi north of Vega Alta plaza, 4.78 mi southwest of Dorado plaza, and 2.01 mi northwest of Escuela Industrial para Mujeres. Owner: PR Aqueduct and Sewer Authority, Name: Sabana Hoyos Well.

AQUIFER.--Limestone of Tertiary Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (0.20 m), cased 0-90.0 ft (0-27.4 m), perforated. Depth 90.0 ft (27.4 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 49.0 ft (14.9 m), above mean sea level, from topographic map. Measuring point:

Top of casing wooden cover, 1.30 ft (0.40 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 17, 1998. Only monthly tapedown measurements published on water year 2000 and 2001.

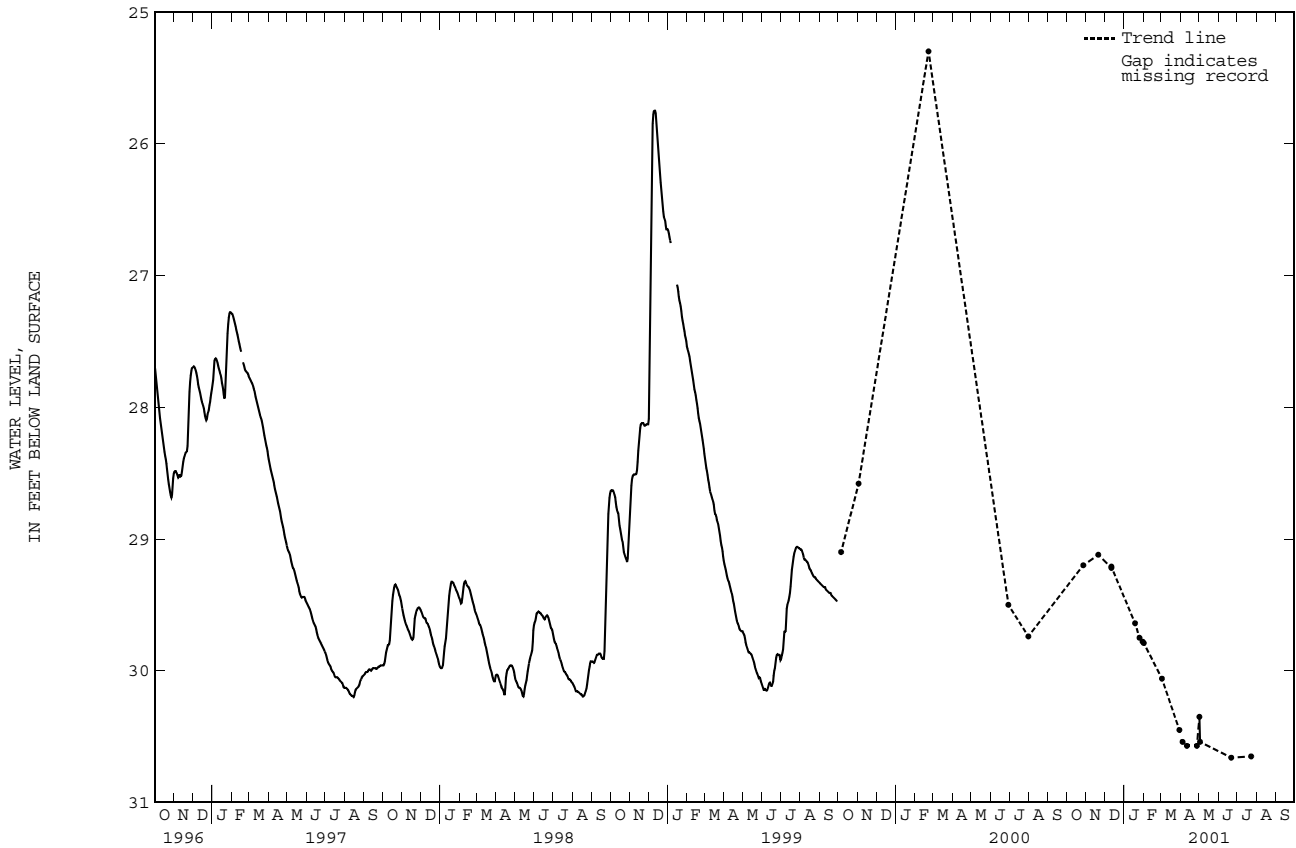
PERIOD OF RECORD.--February 1960 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 21.33 ft (6.50 m), below land-surface datum, Oct. 26, 1976; lowest water level recorded, 31.12 ft (9.48 m), below land-surface datum, May 12, 13, 1995.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	29.20	DEC 11	29.21	JAN 30	29.78	MAR 30	30.45	APR 27	30.57	JUN 21	30.66
NOV 20	29.12	JAN 18	29.64	FEB 01	29.79	APR 04	30.54	MAY 01	30.35	JUL 23	30.65
DEC 11	29.22	25	29.75	MAR 02	30.06	11	30.57	02	30.54		

WATER YEAR 2001 HIGHEST 29.12 NOV. 20, 2000 LOWEST 30.66 JUN. 21, 2001



GROUND-WATER LEVELS
RIO CIBUCO BASIN--Continued

182515066194000. Local number, 212.

LOCATION.--Lat 18°25'15", long 66°19'40", Hydrologic Unit 21010002, 5.15 mi southwest of Dorado plaza, 0.49 mi north of Vega Alta plaza, and 1.04 mi northwest of Escuela Industrial para Mujeres. Owner: US Geological Survey, WRD, Name: Ponderosa 1 Well.

AQUIFER.--Aguada Limestone-Cibao Formation.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m) 0-136 ft (0-41.1 m), perforated 121-131 ft (36.9-39.9 m); bentonite packed 0.5-121 ft (0.15-36.9 m). Depth 136 ft (39.9 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 98.0 ft (29.9 m), above mean sea level, from topographic map. Measuring point: Top of 4 in (0.10 m) casing, 2.55 ft (0.78 m), above land-surface datum. Prior to November 3, 1989, hole on top of shelter floor casing, 3.00 ft (0.91 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 17, 1998. Water levels affected by nearby pumping well.

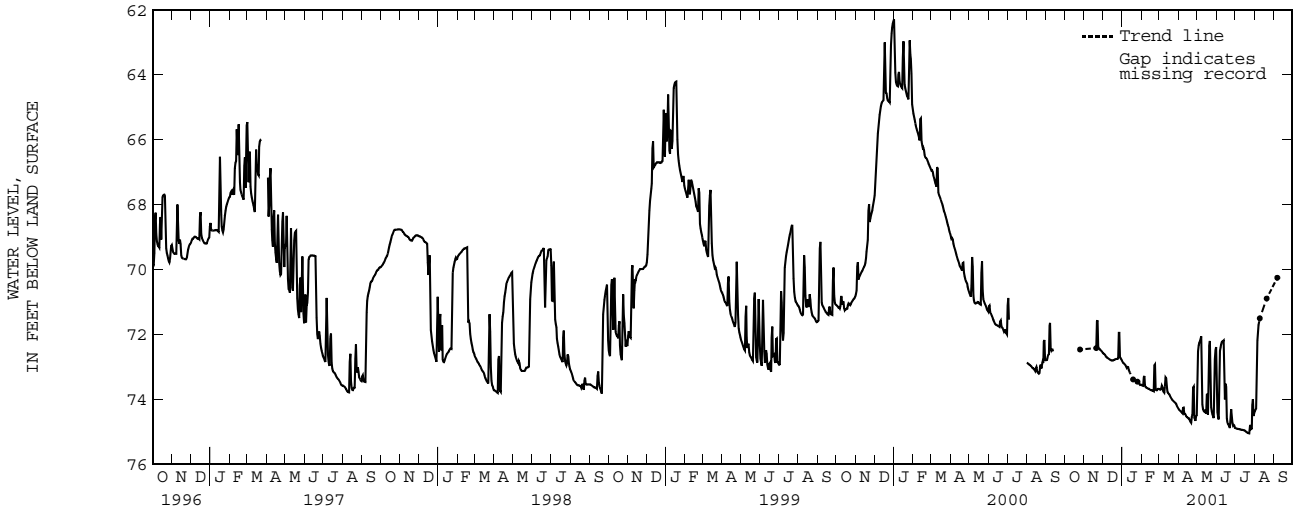
PERIOD OF RECORD.--October 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 62.21 ft (19.0 m), below land-surface datum, Jan. 3, 2000; lowest water level recorded, 75.33 ft (22.9 m), below land-surface datum, Feb. 27, Mar. 4, 5, 6, 1995

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	72.57	72.81	73.55	73.68	74.28	74.63	72.36	74.87	74.37	---
2	---	---	72.58	72.87	73.57	73.69	74.31	72.61	74.30	74.88	74.36	---
3	---	---	72.59	72.87	73.57	73.69	74.33	72.42	74.47	74.89	74.29	---
4	---	---	72.61	72.89	73.58	73.70	74.35	72.26	74.57	74.90	74.28	---
5	---	---	72.64	72.91	73.05	73.61	74.37	72.22	74.65	74.90	72.38	---
6	---	---	72.68	72.94	73.50	73.52	74.38	72.19	72.58	74.90	71.99	---
7	---	---	72.70	72.96	73.60	73.71	74.42	72.08	72.43	74.91	71.79	---
8	---	---	72.71	73.01	73.62	73.75	74.43	72.03	72.37	74.91	71.63	---
9	---	---	72.72	73.04	73.64	73.78	74.09	74.06	72.25	74.91	71.57	---
10	---	---	72.74	72.95	73.64	73.80	74.41	74.25	72.22	74.93	71.43	---
11	---	---	72.75	73.05	73.66	73.37	74.46	74.33	72.20	74.93	---	---
12	---	---	72.77	73.12	73.67	73.26	74.42	74.36	72.19	74.93	---	---
13	---	---	72.78	73.14	73.67	73.43	74.50	74.38	72.17	74.93	---	---
14	---	---	72.79	73.21	73.69	73.74	74.53	74.30	73.66	74.94	---	---
15	---	---	72.80	73.22	73.70	73.80	74.54	74.41	74.33	74.94	---	---
16	---	---	72.80	---	73.72	73.81	74.55	74.45	72.70	74.95	---	---
17	---	---	72.80	---	73.71	73.83	74.59	73.25	74.52	74.96	---	---
18	---	---	72.80	---	73.72	73.86	74.55	74.44	74.64	74.99	---	---
19	---	---	72.78	---	73.72	73.90	74.63	74.51	74.73	74.99	---	---
20	---	72.41	72.77	---	73.74	73.94	74.66	72.45	74.77	75.01	---	---
21	---	72.42	72.77	---	73.75	73.97	74.71	72.26	74.78	75.03	---	---
22	---	70.78	72.75	---	72.14	74.01	74.72	72.13	74.86	75.03	---	---
23	---	72.34	72.75	---	73.69	74.02	74.35	74.17	74.89	75.04	---	---
24	---	72.39	72.75	---	73.70	74.05	74.60	74.31	74.28	75.04	---	---
25	---	72.45	72.75	---	73.72	74.06	72.67	74.42	74.31	74.66	---	---
26	---	72.45	72.69	73.45	73.71	74.09	74.53	74.50	74.68	74.91	---	---
27	---	72.47	71.20	73.47	73.68	74.10	74.58	74.53	74.76	74.91	---	---
28	---	72.49	72.69	73.49	73.66	74.12	74.63	74.61	74.85	74.88	---	---
29	---	72.51	72.69	73.55	---	74.15	74.68	72.96	74.72	73.46	---	---
30	---	72.53	72.75	73.55	---	74.21	74.35	72.56	74.87	74.51	---	---
31	---	---	72.77	73.53	---	74.24	---	72.41	---	74.51	---	---
MEAN	---	72.29	72.68	73.14	73.58	73.84	74.42	73.50	73.84	74.86	72.81	---

WTR YR 2001 MEAN 73.65 HIGHEST 70.68 NOV. 22, 2000 LOWEST 75.04 JULY 22-25, 2001



GROUND-WATER LEVELS

RIO CIBUCO BASIN--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	72.46	DEC 06	72.68	JAN 25	73.45	MAR 15	73.80	MAY 23	74.17	AUG 20	70.89
NOV 20	72.41	JAN 18	73.38	FEB 09	73.64	APR 26	74.53	JUN 22	74.86	SEP 06	70.25
WATER YEAR 2001		HIGHEST 70.25 SEP. 06, 2001		LOWEST 74.86 JUNE 22, 2001							

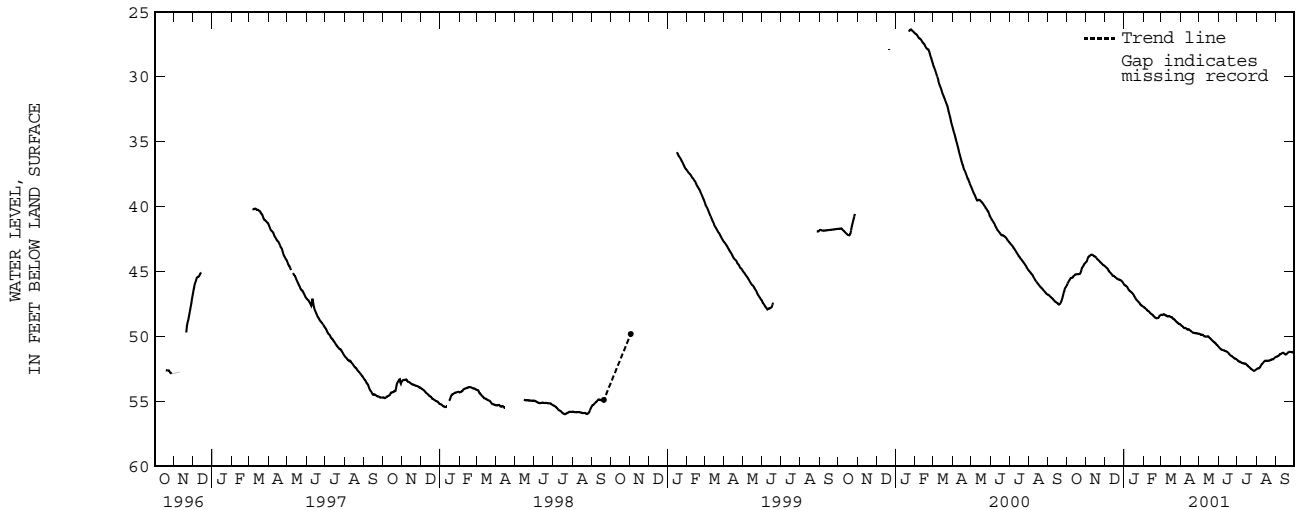
GROUND-WATER LEVELS
RIO CIBUCO BASIN--Continued

182330066185700. Local number, 213.
 LOCATION.--Lat 18°23'30", long 66°18'57", Hydrologic Unit 21010002, 1.82 mi southeast of Vega Alta plaza, 4.23 mi west of Toa Alta plaza, and 1.27 mi northwest off the intersection of Hwy 820 with Hwy 823. Owner: PR Aqueduct and Sewer Authority, Name: Pampano 2 Well.
 AQUIFER.--Río Indio Limestone-Lares Limestone.
 WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 20 in (0.51 m), cased 20 in (0.51 m) 0-130 ft (0-39.6 m), diameter 14 in (0.36 m), cased 12 in (0.30 m) 0-220 ft (0-67.1 m); open hole 220-330 ft (67.6-101 m). Depth 330 ft (101 m).
 INSTRUMENTATION.--Pressure transducer with integrated data logger--60-minutes interval.
 DATUM.--Elevation of land-surface datum is about 394 ft (120 m), above mean sea level, from topographic map. Measuring point: Top of shelter floor, 9.34 ft (2.84 m), above land-surface datum. Prior April 27, 1993, hole on side of casing, 2.95 ft (0.90 m), above land-surface datum.
 REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 17, 1998.
 PERIOD OF RECORD.--October 1985 to current year.
 EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 26.27 ft (8.01 m), below land-surface datum, Jan. 25, 2000; lowest water level recorded, 65.68 ft (20.0 m), below land-surface datum, Aug. 20, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46.10	44.26	44.57	46.01	47.72	48.31	49.05	49.76	50.77	51.77	52.52	51.59
2	45.96	44.22	44.61	46.06	47.74	48.31	49.13	49.79	50.81	51.84	52.49	51.55
3	45.86	44.11	44.67	46.07	47.79	48.34	49.17	49.85	50.87	51.92	52.45	51.54
4	45.76	43.91	44.72	46.07	47.84	48.33	49.19	49.85	50.94	51.91	52.44	51.51
5	45.66	43.82	44.75	46.14	47.88	48.29	49.23	49.83	50.98	51.92	52.45	51.48
6	45.59	43.82	44.84	46.21	47.92	48.26	49.30	49.87	51.01	51.95	52.40	51.46
7	45.53	43.79	44.90	46.29	47.99	48.33	49.34	49.87	51.01	51.99	52.33	51.38
8	45.49	43.73	44.99	46.37	48.03	48.37	49.35	49.90	51.03	52.01	52.26	51.34
9	45.47	43.69	45.03	46.42	48.04	48.39	49.33	49.97	51.04	52.03	52.15	51.35
10	45.48	43.69	45.09	46.50	48.08	48.37	49.35	49.98	51.06	52.04	52.09	51.32
11	45.42	43.70	45.12	46.54	48.14	48.43	49.41	49.99	51.10	52.05	52.04	51.28
12	45.35	43.73	45.19	46.56	48.21	48.47	49.46	50.00	51.10	52.08	52.01	51.24
13	45.30	43.78	45.29	46.59	48.25	48.43	49.46	50.01	51.12	52.08	51.94	51.26
14	45.25	43.82	45.32	46.65	48.29	48.41	49.42	49.97	51.16	52.06	51.87	51.29
15	45.21	43.82	45.31	46.72	48.30	48.43	49.46	49.97	51.18	52.10	51.85	51.33
16	45.20	43.86	45.36	46.79	48.36	48.49	49.50	49.98	51.21	52.17	51.89	51.37
17	45.19	43.91	45.40	46.87	48.41	48.51	49.55	50.07	51.27	52.22	51.85	51.39
18	45.18	43.98	45.45	46.94	48.44	48.50	49.58	50.11	51.32	52.23	51.85	51.37
19	45.20	44.04	45.46	47.03	48.52	48.53	49.60	50.14	51.38	52.29	51.85	51.31
20	45.19	44.08	45.52	47.13	48.56	48.60	49.67	50.18	51.43	52.34	51.86	51.26
21	45.19	44.13	45.56	47.17	48.57	48.66	49.70	50.25	51.48	52.36	51.87	51.21
22	45.19	44.18	45.57	47.23	48.59	48.66	49.71	50.30	51.49	52.43	51.82	51.17
23	45.12	44.22	45.61	47.27	48.58	48.69	49.69	50.33	51.52	52.49	51.85	51.16
24	44.96	44.28	45.61	47.34	48.56	48.77	49.74	50.39	51.57	52.52	51.78	51.18
25	44.74	44.33	45.63	47.39	48.55	48.83	49.75	50.44	51.61	52.54	51.75	51.19
26	44.68	44.37	45.65	47.44	48.47	48.88	49.73	50.45	51.67	52.59	51.75	51.20
27	44.61	44.42	45.68	47.53	48.40	48.92	49.74	50.49	51.67	52.62	51.74	51.18
28	44.54	44.48	45.72	47.60	48.35	48.94	49.76	50.56	51.68	52.66	51.75	51.19
29	44.42	44.52	45.75	47.60	---	49.00	49.78	50.62	51.71	52.63	51.68	51.23
30	44.36	44.51	45.84	47.64	---	49.03	49.79	50.66	51.76	52.59	51.65	51.27
31	44.31	---	45.93	47.67	---	49.03	---	50.70	---	52.56	51.60	---
MEAN	45.21	44.04	45.29	46.83	48.23	48.56	49.50	50.14	51.26	52.23	51.99	51.32

WTR YR 2001 MEAN 48.72 HIGHEST 43.59 NOV. 9, 2000 LOWEST 75.04 JULY 28, 29, 2001



GROUND-WATER LEVELS
 RIO CIBUCO BASIN--Continued

182426066260400. Local number, 1103.

LOCATION.--Lat 18°24'26", long 66°26'04", Hydrologic Unit 21010002, 1.30 mi south of Hwy 670, 1.80 mi south southeast of Escuela C. Ramirez de Arellano, and 2.30 mi south southwest of Morovis exit of the Hwy 22. Owner: US Geological Survey, Name: Perica.

AQUIFER.--Cibao Limestone.

WELL CHARACTERISTICS.--Diameter 4 in (0.10 m), open screened 360-400 ft (110-122 m). Depth 400 ft (122 m).

DATUM.--Elevation of land-surface datum is about 492 ft (150 m), above mean sea level, from topographic map.

REMARKS.--Observation well.

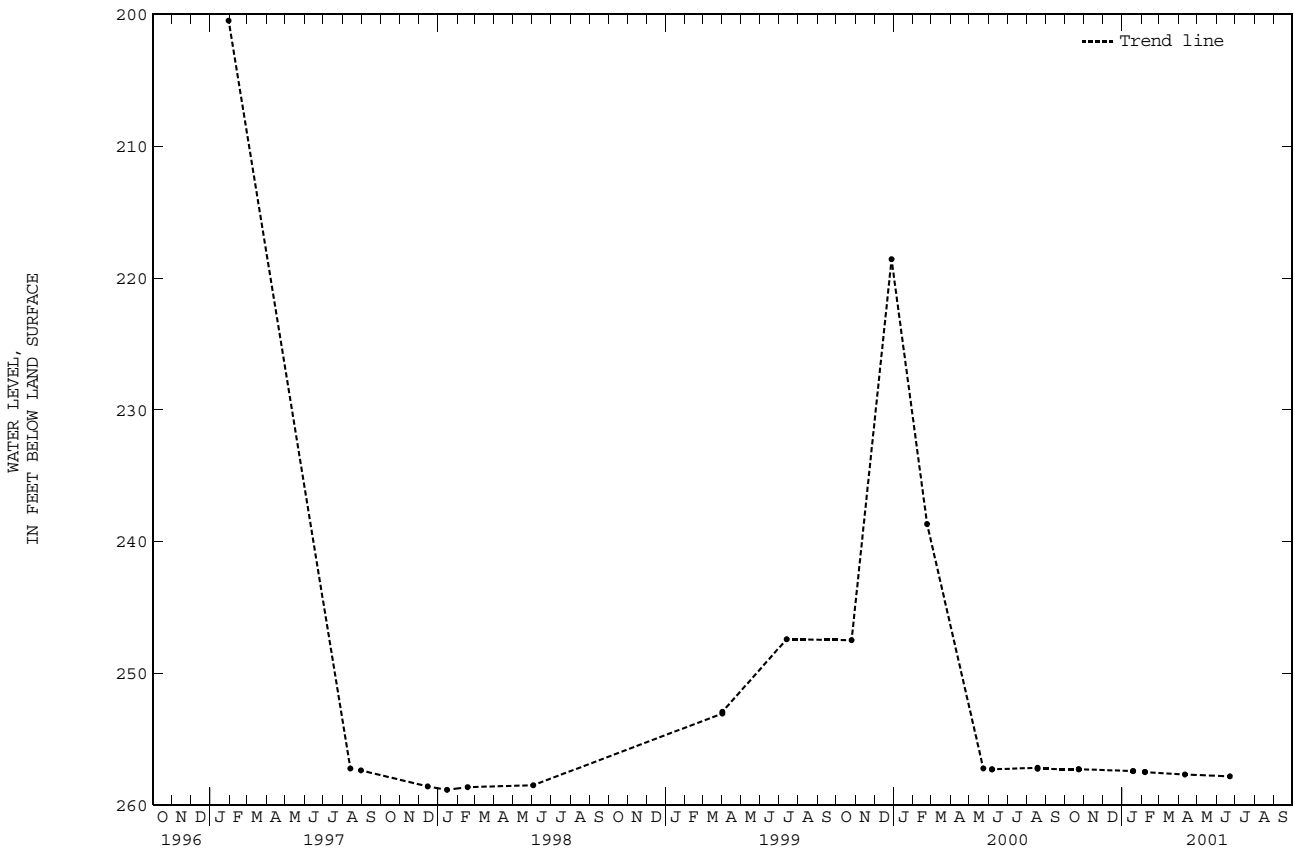
PERIOD OF RECORD.--December 1, 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 200.27 ft (61.04 m), below land-surface datum, Jan. 30, 1997; lowest water level measured, 258.84 ft (78.89 m), below land-surface datum, Jan. 15, 1998.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	257.28	JAN 18	257.41	FEB 06	257.48	FEB 06	257.49	APR 11	257.67	JUN 22	257.81
23	257.27	18	257.42								

WATER YEAR 2001 HIGHEST 257.27 OCT 23, 2000 LOWEST 257.81 JUN 22, 2001



GROUND-WATER LEVELS

RIO DE LA PLATA BASIN--Continued

182548066164401. Local number, 1128.

LOCATION.--Lat 18°25'48", long 66°16'44", Hydrologic Unit 2101005, 1.47 mi north of Hwy 2, 0.60 mi south of Hwy 695, 0.04 mi south of the intersection of Hwy 694 with 659, and 0.02 mi east of Hwy 659. Owner: US Geological Survey WRD, Name: Piezometer Maguayo USGS 2, Dorado.

AQUIFER.--Aguada Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m) 0-110 ft (0-33.5 m), screened 95-105 ft (29.0-32.0 m). Depth 110 ft (33.5 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 39.4 ft (12.0 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 3.80 ft (1.16 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 6, 1997. Formerly published as local number MA-2.

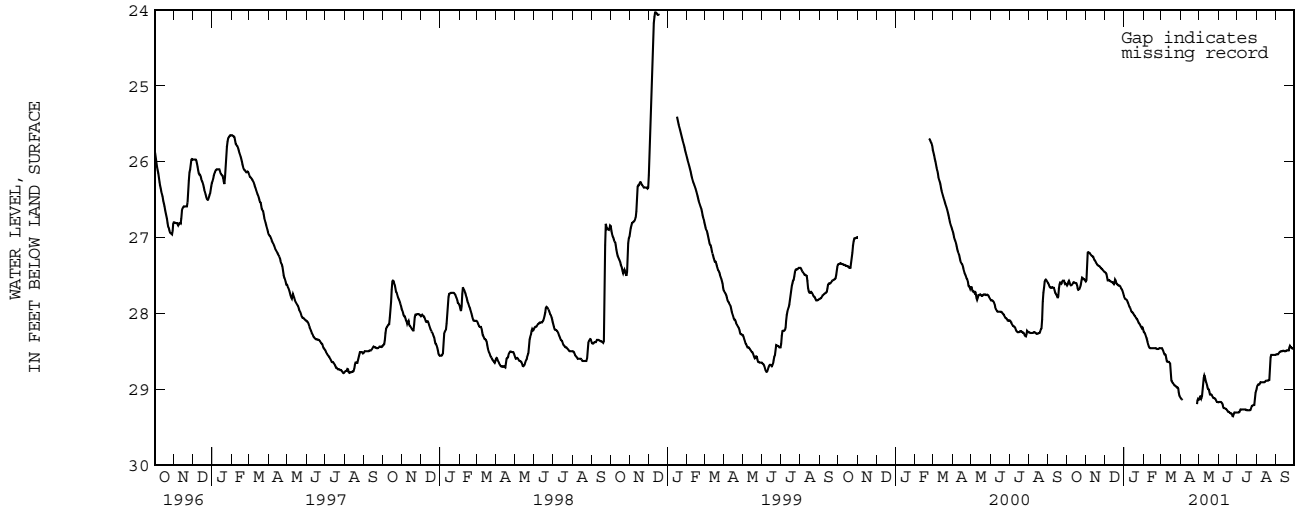
PERIOD OF RECORD.--June 22, 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 24.02 ft (7.32 m), below land-surface datum, Dec. 11, 12, 1998; lowest water level recorded, 29.34 ft (8.95 m), below land-surface datum, June 23, 24, 2001.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.63	27.58	27.46	27.78	28.25	28.46	29.11	29.14	29.18	29.31	29.00	28.55
2	27.64	27.55	27.46	27.81	28.25	28.46	29.13	29.13	29.17	29.31	28.97	28.54
3	27.60	27.21	27.47	27.81	28.26	28.46	29.13	29.07	29.17	29.31	28.94	28.54
4	27.57	27.19	27.49	27.82	28.28	28.49	29.14	29.12	29.17	29.31	28.94	28.54
5	27.57	27.20	27.56	27.82	28.31	28.50	29.15	29.13	29.17	29.30	28.94	28.54
6	27.61	27.20	27.57	27.84	28.33	28.54	---	29.07	29.18	29.27	28.94	28.52
7	27.63	27.21	27.56	27.86	28.36	28.54	---	28.97	29.19	29.27	28.91	28.51
8	27.63	27.22	27.56	27.87	28.40	28.54	---	28.88	29.21	29.27	28.91	28.51
9	27.63	27.23	27.57	27.91	28.42	28.56	---	28.83	29.25	29.27	28.91	28.50
10	27.62	27.24	27.58	27.92	28.45	28.63	---	28.81	29.25	29.27	28.91	28.50
11	27.60	27.25	27.58	27.93	28.46	28.64	---	28.88	29.25	29.27	28.91	28.50
12	27.59	27.25	27.59	27.97	28.46	28.64	---	28.90	29.26	29.27	28.91	28.50
13	27.59	27.26	27.59	27.98	28.46	28.64	---	28.92	29.26	29.27	28.91	28.49
14	27.60	27.30	27.59	27.99	28.46	28.64	---	28.96	29.27	29.27	28.91	28.50
15	27.60	27.30	27.62	27.99	28.46	28.66	---	29.00	29.28	29.27	28.90	28.50
16	27.60	27.32	27.61	28.01	28.46	28.66	---	29.00	29.30	29.28	28.89	28.50
17	27.61	27.33	27.57	28.03	28.46	28.89	---	29.01	29.30	29.28	28.89	28.50
18	27.65	27.35	27.54	28.03	28.46	28.89	---	29.07	29.30	29.28	28.89	28.49
19	27.69	27.36	27.60	28.04	28.46	28.91	---	29.07	29.31	29.28	28.89	28.49
20	27.69	27.37	27.61	28.07	28.46	28.92	---	29.07	29.32	29.28	28.89	28.49
21	27.68	27.37	27.62	28.07	28.46	28.93	---	29.07	29.32	29.28	28.88	28.49
22	27.68	27.38	27.62	28.08	28.47	28.95	---	29.09	29.32	29.28	28.88	28.49
23	27.63	27.38	27.64	28.10	28.47	28.95	---	29.11	29.34	29.27	28.61	28.42
24	27.61	27.40	27.63	28.12	28.47	28.96	---	29.12	29.37	29.23	28.55	28.44
25	27.53	27.41	27.64	28.14	28.47	28.96	---	29.12	29.35	29.22	28.55	28.45
26	27.53	27.41	27.65	28.14	28.46	28.98	---	29.12	29.31	29.22	28.55	28.45
27	27.54	27.42	27.67	28.17	28.46	28.98	29.22	29.13	29.31	29.21	28.55	28.47
28	27.55	27.43	27.68	28.17	28.46	28.98	29.18	29.14	29.31	29.21	28.55	28.46
29	27.55	27.44	27.69	28.20	---	29.01	29.12	29.17	29.31	29.21	28.55	28.46
30	27.56	27.45	27.72	28.20	---	29.08	29.14	29.17	29.31	29.05	28.55	28.47
31	27.58	---	27.75	28.18	---	29.10	---	29.17	---	29.05	28.55	---
MEAN	27.61	27.33	27.60	28.00	28.42	28.76	29.15	29.05	29.27	29.25	28.81	28.49

WTR YR 2001 MEAN 28.44 HIGHEST 27.19 NOV. 3, 4, 5, 2000 LOWEST 29.37 JUNE 23, 24, 2001



GROUND-WATER LEVELS

RIO DE LA PLATA BASIN--Continued

182620066163400. Local number, 1129.

LOCATION.--Lat 18°26'20", Long 66°16'34", Hydrologic Unit 2101005, 1.85 mi south of Dorado plaza, 0.70 mi southwest of Laboratorio Dorado, 0.65 mi northwest of the intersection of Hwy 695 with Hwy 693, and 0.09 mi north of Hwy 695. Owner: US Geological Survey, WRD, Name: Piezometer Higuillar USGS 1, Dorado.

AQUIFER.--Aguada Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m) 0-490 ft (0-149.4 m), screened 470-480 ft (143.3-146.3 m). Depth 490 ft (149.4 m)

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 49.2 ft (15.0 m), above mean sea level, from topographic map. Measuring point:

Shelter floor on top of 4 in (0.10 m) casing, 3.60 ft (1.10 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on May 16, 1996, replaced by an Electronic Data Logger (EDL), installed on February 23, 1998. Well screened below freshwater/saltwater interface at approximately 305 ft (93.0 m), below land-surface datum. Formerly published as local number HG-1.

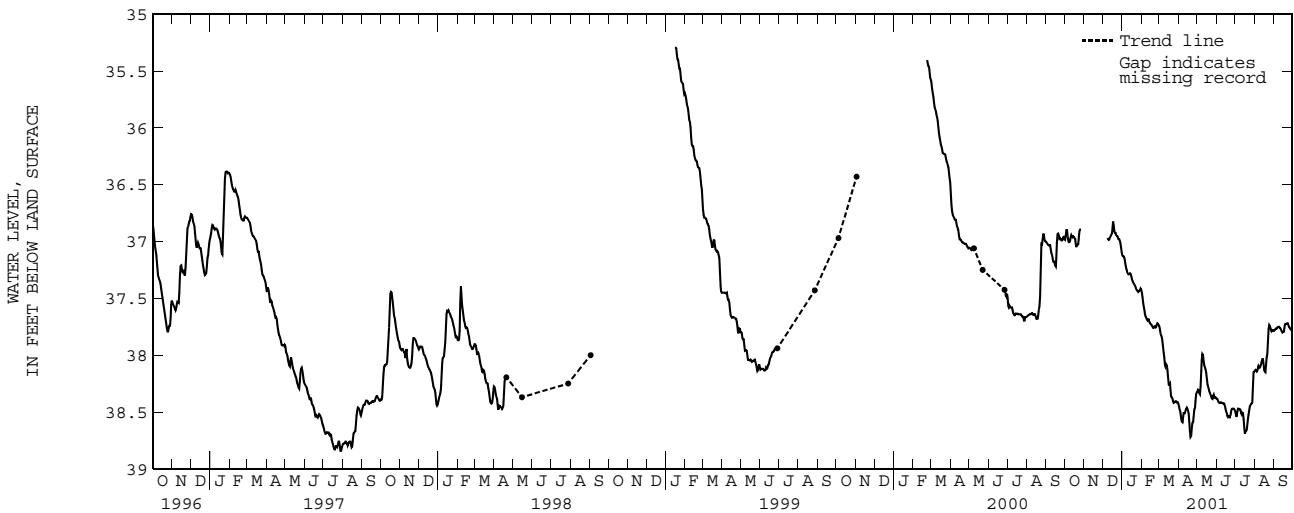
PERIOD OF RECORD.--May 16, 1996 to May 15, 1998. From May 15, 1998 to September 30, 1998, bi-monthly measurements only. January 15, 1999 to June 30, 1999. From June 30, 1999 to August 27, 1999, bi-monthly measurements only. February 23, 2000 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 35.29 ft (10.8 m), below land-surface datum, Jan. 15, 1999; lowest water level recorded, 39.89 ft (12.2 m), below land-surface datum, June 2, 3, 4, 9, 1996.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36.99	---	---	37.12	37.44	37.74	38.42	38.32	38.39	38.49	38.14	37.79
2	36.98	---	---	37.13	37.46	37.75	38.45	38.32	38.38	38.51	38.13	37.78
3	36.93	---	---	37.13	37.52	37.80	38.48	38.29	38.39	38.56	38.13	37.78
4	36.87	---	---	37.13	37.56	37.82	38.49	38.33	38.41	38.51	38.15	37.76
5	36.93	---	---	37.16	37.59	37.83	38.54	38.34	38.42	38.48	38.14	37.77
6	36.98	---	---	37.20	37.62	37.86	38.58	38.35	38.42	38.46	38.13	37.76
7	37.00	---	---	37.23	37.65	37.91	38.59	38.20	38.42	38.48	38.09	37.75
8	37.01	---	36.96	37.24	37.67	37.96	38.59	38.08	38.41	38.47	38.10	37.76
9	37.00	---	36.98	37.27	37.67	37.99	38.52	38.01	38.42	38.48	38.11	37.74
10	36.99	---	36.98	37.28	37.70	38.05	38.50	37.97	38.42	38.48	38.11	37.76
11	36.94	---	36.99	37.29	37.69	38.11	38.52	38.03	38.42	38.53	38.09	37.76
12	36.95	---	36.97	37.29	37.68	38.09	38.50	38.08	38.43	38.51	38.07	37.77
13	36.97	---	36.96	37.28	37.69	38.07	38.48	38.10	38.42	38.50	38.04	37.78
14	36.96	---	36.95	37.28	37.72	38.11	38.46	38.11	38.43	38.52	38.03	37.80
15	36.95	---	36.93	37.29	37.72	38.16	38.46	38.14	38.46	38.61	38.04	37.80
16	36.97	---	36.93	37.32	37.73	38.24	38.48	38.17	38.49	38.67	38.13	37.79
17	36.97	---	36.82	37.34	37.73	38.28	38.50	38.24	38.50	38.71	38.14	37.80
18	36.98	---	36.83	37.35	37.74	38.24	38.54	38.27	38.52	38.64	38.15	37.76
19	37.05	---	36.89	37.36	37.76	38.26	38.62	38.27	38.55	38.69	38.15	37.72
20	37.05	---	36.93	37.38	37.76	38.36	38.71	38.31	38.54	38.63	38.03	37.73
21	37.02	---	36.92	37.38	37.76	38.37	38.73	38.32	38.53	38.59	38.01	37.72
22	37.04	---	36.93	37.39	37.74	38.37	38.69	38.34	38.54	38.53	37.97	37.73
23	37.01	---	36.96	37.41	37.75	38.39	38.59	38.35	38.55	38.51	37.81	37.71
24	36.92	---	36.94	37.43	37.76	38.42	38.60	38.37	38.51	38.46	37.73	37.73
25	36.89	---	36.97	37.43	37.74	38.42	38.58	38.39	38.48	38.44	37.74	37.75
26	36.90	---	36.98	37.44	37.72	38.41	38.48	38.38	38.47	38.44	37.75	37.76
27	36.90	---	36.98	37.45	37.72	38.41	38.47	38.34	38.47	38.42	37.77	37.76
28	---	---	36.98	37.43	37.73	38.40	38.46	38.36	38.47	38.43	37.80	37.78
29	---	---	37.01	37.44	---	38.41	38.35	38.38	38.47	38.40	37.78	37.77
30	---	---	37.04	37.42	---	38.42	38.34	38.37	38.48	38.15	37.78	37.79
31	---	---	37.09	37.41	---	38.41	---	38.37	---	38.15	37.78	---
MEAN	36.97	---	36.95	37.31	37.68	38.16	38.52	38.25	38.46	38.50	38.00	37.76

WTR YR 2001 MEAN 37.90 HIGHEST 36.76 OCT. 25, 2000 LOWEST 38.73 APR. 21, 2001



GROUND-WATER LEVELS

RIO DE LA PLATA BASIN--Continued

182620066163403. Local number, 1130.

LOCATION.--Lat 18°26'20", long 66°16'34", Hydrologic Unit 2101005, 1.85 mi south of Dorado plaza, 0.70 mi southwest of Laboratorio Dorado, 0.65 mi northwest of the intersection of Hwy 695 with Hwy 693, and 0.09 mi north of Hwy 695. Owner: US Geological Survey, WRD, Name: Piezometer Higuillar USGS 4.

AQUIFER.--Aguada Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m) 0-100 ft (0-30.5 m), screened 80-90.0 ft (24.4-27.4 m). Depth 100 ft (30.5 m)

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 49.2 ft (15.0 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 3.60 ft (1.10 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 6, 1997. Formerly published as local number HG-4.

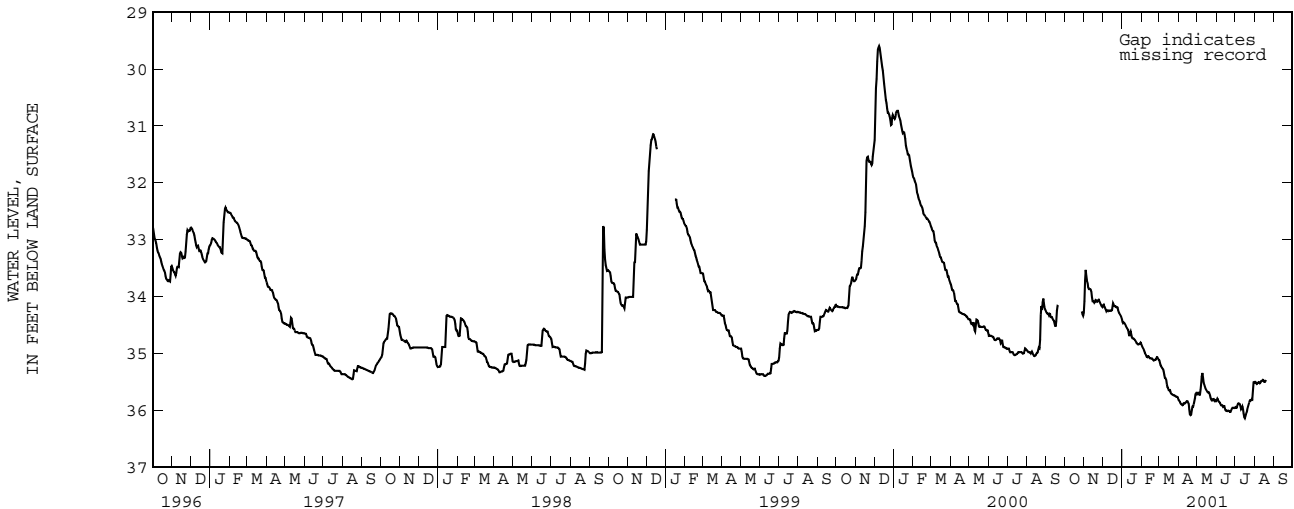
PERIOD OF RECORD.--January 23, 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 29.58 ft (9.02 m), below land-surface datum, Dec. 8, 9, 1999; lowest water level recorded, 36.15 ft (11.02 m), below land-surface datum, May 1, 11, 13, 1995 and July 16, 17, 2001.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	34.23	34.18	34.42	34.86	35.12	35.81	35.73	35.86	35.95	35.51	---
2	---	33.94	34.13	34.48	34.87	35.13	35.84	35.72	35.80	35.95	35.50	---
3	---	33.50	34.16	34.46	34.91	35.21	35.84	35.67	35.80	35.97	35.51	---
4	---	33.57	34.20	34.46	34.92	35.22	35.87	35.72	35.84	35.95	35.55	---
5	---	33.72	34.20	34.48	34.95	35.24	35.90	35.74	35.86	35.90	35.53	---
6	---	33.73	34.26	34.50	34.98	35.27	35.90	35.72	35.86	35.88	35.53	---
7	---	33.80	34.26	34.52	35.01	35.27	35.91	35.56	35.88	35.89	35.51	---
8	---	33.87	34.23	34.54	35.03	35.30	35.92	35.49	35.91	35.89	35.51	---
9	---	33.87	34.27	34.57	35.05	35.33	35.90	35.34	35.92	35.90	35.52	---
10	---	33.86	34.25	34.58	35.08	35.43	35.87	35.36	35.91	35.96	35.54	---
11	---	33.89	34.25	34.60	35.06	35.44	35.89	35.49	35.92	36.01	35.50	---
12	---	33.87	34.25	34.71	35.05	35.44	35.88	35.54	35.96	35.93	35.49	---
13	---	33.95	34.25	34.69	35.07	35.49	35.86	35.56	35.90	35.95	35.49	---
14	---	34.08	34.26	34.61	35.09	35.60	35.86	35.61	35.96	36.02	35.48	---
15	---	34.09	34.25	34.63	35.09	35.60	35.83	35.63	35.99	36.11	35.46	---
16	---	34.08	34.24	34.72	35.09	35.63	35.86	35.66	36.02	36.15	35.50	---
17	---	34.11	34.11	34.73	35.09	35.67	35.87	35.67	36.01	36.15	35.51	---
18	---	34.11	34.13	34.74	35.09	35.64	35.91	35.70	36.01	36.07	35.50	---
19	---	34.08	34.16	34.74	35.11	35.66	36.06	35.68	36.03	36.08	35.49	---
20	---	34.05	34.18	34.75	35.13	35.71	36.09	35.69	36.00	36.01	35.45	---
21	---	34.10	34.17	34.76	35.13	35.71	36.09	35.70	36.02	35.97	---	---
22	---	34.09	34.18	34.78	35.12	35.73	36.07	35.76	36.02	35.93	---	---
23	---	34.09	34.20	34.80	35.11	35.73	35.94	35.80	36.05	35.89	---	---
24	---	34.05	34.18	34.82	35.12	35.74	35.94	35.82	36.02	35.85	---	---
25	---	34.07	34.21	34.83	35.07	35.74	35.94	35.84	36.00	35.82	---	---
26	---	34.10	34.28	34.85	35.07	35.74	35.86	35.82	35.96	35.86	---	---
27	---	34.12	34.28	34.84	35.08	35.76	35.83	35.80	35.96	35.79	---	---
28	34.23	34.15	34.31	34.84	35.11	35.76	35.75	35.81	35.96	35.83	---	---
29	34.30	34.16	34.33	34.84	---	35.77	35.69	35.86	35.96	35.80	---	---
30	34.33	34.20	34.35	34.82	---	35.77	35.72	35.83	35.97	35.51	---	---
31	34.35	---	34.37	34.81	---	35.77	---	35.83	---	35.52	---	---
MEAN	34.30	33.98	34.23	34.67	35.05	35.54	35.89	35.68	35.95	35.92	35.50	---

WTR YR 2001 MEAN 35.22 HIGHEST 33.50 NOV. 3, 2000 LOWEST 36.15 JULY 16, 17, 2001



GROUND-WATER LEVELS

RIO DE LA PLATA BASIN--Continued

182657066162701. Local number, 1132.

LOCATION.--Lat 18°26'57", long 66°16'27", Hydrologic Unit 21010005, 20.0 ft (6.10 m) north of San Antonio 1. Owner: US Geological Survey, WRD, Name: Piezometer San Antonio USGS 3.

AQUIFER.--Aguada Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m), 0-80.0 ft (0-24.4 m), screened 65-75.0 ft (19.8-22.9 m). Depth 80.0 ft (24.4 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 19.6 ft (6.00 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m), casing, 3.32 ft (1.01 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 6, 1997. Formerly published as local number SA-3.

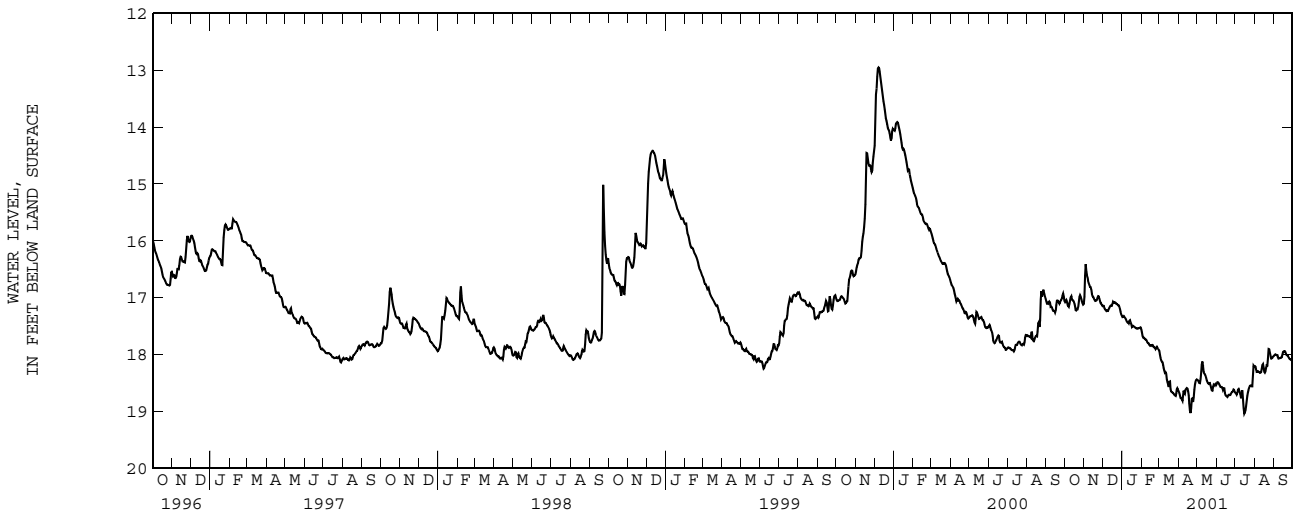
PERIOD OF RECORD.--October 19, 1994 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 12.93 ft (3.94 m), below land-surface datum, Dec. 8, 1999; lowest water level recorded, 19.05 ft (5.80 m), below land-surface datum, Apr. 21, 2001.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.09	17.09	17.15	17.33	17.57	17.92	18.63	18.45	18.55	18.68	18.20	18.03
2	17.07	16.88	17.13	17.35	17.64	17.95	18.66	18.45	18.49	18.67	18.21	18.01
3	17.05	16.34	17.16	17.32	17.70	18.06	18.69	18.46	18.49	18.70	18.22	18.00
4	17.03	16.48	17.20	17.33	17.70	18.07	18.75	18.49	18.49	18.71	18.31	18.00
5	17.11	16.59	17.21	17.35	17.70	18.13	18.78	18.51	18.52	18.64	18.30	18.01
6	17.14	16.62	17.23	17.36	17.73	18.12	18.76	18.50	18.53	18.59	18.30	18.01
7	17.16	16.67	17.24	17.38	17.73	18.15	18.81	18.36	18.57	18.62	18.29	18.01
8	17.16	16.74	17.21	17.40	17.74	18.22	18.81	18.25	18.57	18.65	18.31	18.08
9	17.06	16.75	17.26	17.44	17.74	18.25	18.67	18.11	18.57	18.68	18.31	18.06
10	17.05	16.80	17.21	17.43	17.78	18.31	18.60	18.14	18.57	18.73	18.33	18.07
11	16.94	16.82	17.19	17.44	17.80	18.33	18.74	18.26	18.60	18.81	18.31	18.06
12	17.01	16.81	17.17	17.46	17.80	18.29	18.64	18.34	18.65	18.52	18.31	18.06
13	17.05	16.90	17.14	17.35	17.81	18.38	18.60	18.33	18.54	18.74	18.20	18.06
14	17.04	16.97	17.14	17.44	17.85	18.49	18.61	18.36	18.65	18.85	18.17	18.04
15	17.06	16.98	17.13	17.42	17.84	18.48	18.57	18.38	18.70	19.04	18.17	17.97
16	17.08	16.99	17.15	17.51	17.83	18.57	18.63	18.44	18.73	19.04	18.29	17.95
17	17.13	17.03	17.06	17.52	17.84	18.57	18.66	18.47	18.73	18.99	18.32	17.94
18	17.19	17.04	17.08	17.49	17.85	18.39	18.78	18.49	18.74	18.96	18.32	17.94
19	17.25	17.07	17.09	17.50	17.82	18.56	18.94	18.51	18.75	18.87	18.29	17.94
20	17.20	17.03	17.09	17.51	17.86	18.65	19.02	18.52	18.71	18.77	18.19	17.97
21	17.20	17.07	17.08	17.52	17.88	18.65	19.04	18.49	18.71	18.69	18.19	18.00
22	17.21	17.01	17.10	17.53	17.86	18.67	18.86	18.51	18.71	18.64	18.20	18.02
23	17.13	16.99	17.12	17.53	17.90	18.67	18.70	18.57	18.72	18.60	17.94	18.00
24	17.03	16.96	17.10	17.55	17.91	18.68	18.85	18.60	18.70	18.57	17.87	18.04
25	16.94	17.00	17.14	17.54	17.86	18.71	18.82	18.66	18.67	18.54	17.95	18.06
26	16.97	17.04	17.13	17.54	17.87	18.70	18.69	18.61	18.66	18.55	17.99	18.08
27	16.99	17.09	17.14	17.54	17.89	18.74	18.55	18.53	18.65	18.55	18.05	18.08
28	17.05	17.10	17.17	17.53	17.91	18.72	18.50	18.54	18.63	18.57	18.09	18.09
29	17.08	17.11	17.22	17.54	---	18.65	18.47	18.55	18.60	18.55	18.05	18.10
30	17.11	17.15	17.28	17.52	---	18.58	18.43	18.50	18.65	18.17	18.06	18.11
31	17.13	---	17.30	17.53	---	18.61	---	18.53	---	18.22	18.03	---
MEAN	17.09	16.90	17.16	17.46	17.80	18.43	18.71	18.45	18.63	18.67	18.19	18.03

WTR YR 2001 MEAN 17.96 HIGHEST 16.33 NOV. 3, 2000 LOWEST 19.05 APR. 21, 2001



GROUND-WATER LEVELS
RIO DE LA PLATA BASIN

182530066135400. Local number, 216.

LOCATION.--Lat 18°25'30", long 66°13'54", Hydrologic Unit 21010005, 2.61 mi northeast of Toa Alta plaza, 2.73 mi southwest of Sabana Seca US Naval Radio Station, and 1.76 mi southeast of Hwy 2 km 17.7. Owner: PR Aqueduct and Sewer Authority, Name: Campanilla Navy Well.

AQUIFER.--Aguada Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 16 in (0.41 m) 0-106 ft (0-32.3 m), cased 16 in (0.41 m) 0-20 ft (0-6.10 m), cased 12 in (0.30 m) 0-106 ft (0-32.3 m), perforated 20-106 ft (6.10-32.3 m), diameter 10 in (10.25 m) 106-140 ft (32.3-42.7 m), cased 10 in (0.25 m) 106-140 ft (32.3-42.7 m), perforated 106-140 ft (32.3-42.7 m). Depth 140 ft (42.7 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 13.0 ft (3.96 m), above mean sea level, from topographic map. Measuring point:, 3.27 ft (0.99 m), above land-surface datum. Prior to August 6, 2001, hole on side of casing, 1.80 ft (0.55 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on November 6, 1998. Water levels affected by nearby pumping well. From October 2000 to August 6, 2001, tapedowns measurements only.

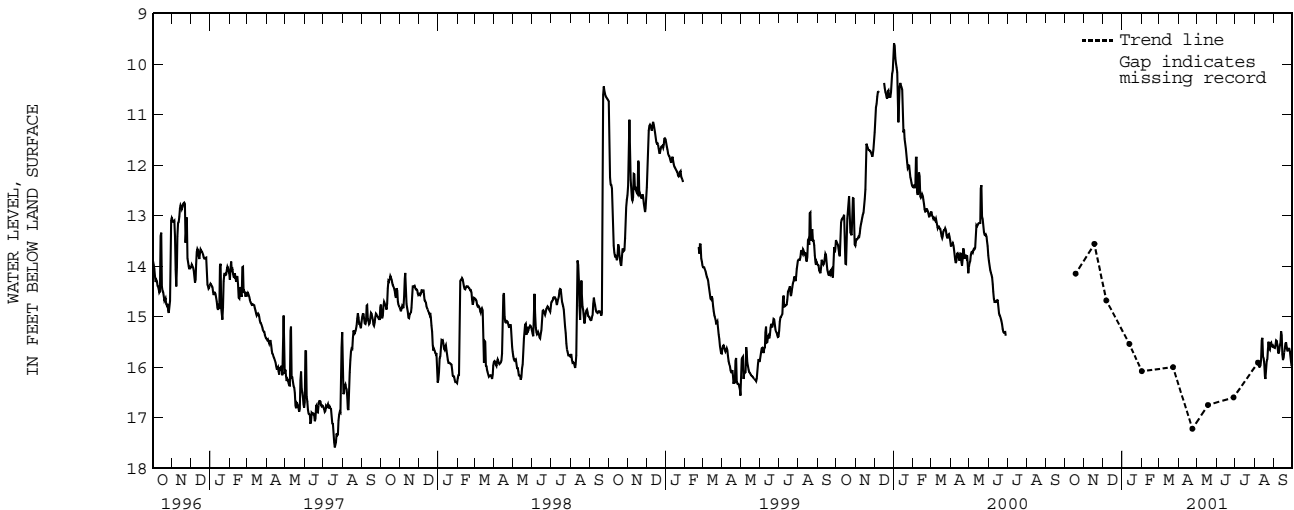
PERIOD OF RECORD.--October 1985 to June 29, 2000. Shelter found destroyed on June 29, 2000, replaced on August 6, 2001 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 9.38 ft (2.86 m), below land-surface datum, June 23, 1987; lowest water level recorded, 18.40 ft (5.61 m), below land-surface datum, Sept. 24, 1994.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	15.63
2	---	---	---	---	---	---	---	---	---	---	---	15.60
3	---	---	---	---	---	---	---	---	---	---	---	15.64
4	---	---	---	---	---	---	---	---	---	---	---	15.50
5	---	---	---	---	---	---	---	---	---	---	---	15.44
6	---	---	---	---	---	---	---	---	---	---	---	15.53
7	---	---	---	---	---	---	---	---	---	---	15.91	15.59
8	---	---	---	---	---	---	---	---	---	---	16.00	15.73
9	---	---	---	---	---	---	---	---	---	---	15.98	15.73
10	---	---	---	---	---	---	---	---	---	---	16.01	15.63
11	---	---	---	---	---	---	---	---	---	---	15.93	15.53
12	---	---	---	---	---	---	---	---	---	---	15.79	15.52
13	---	---	---	---	---	---	---	---	---	---	15.16	15.06
14	---	---	---	---	---	---	---	---	---	---	15.68	15.67
15	---	---	---	---	---	---	---	---	---	---	15.89	15.83
16	---	---	---	---	---	---	---	---	---	---	15.75	15.89
17	---	---	---	---	---	---	---	---	---	---	16.12	15.75
18	---	---	---	---	---	---	---	---	---	---	16.25	15.68
19	---	---	---	---	---	---	---	---	---	---	16.22	15.61
20	---	---	---	---	---	---	---	---	---	---	15.92	15.47
21	---	---	---	---	---	---	---	---	---	---	15.86	15.55
22	---	---	---	---	---	---	---	---	---	---	15.84	15.65
23	---	---	---	---	---	---	---	---	---	---	15.44	15.69
24	---	---	---	---	---	---	---	---	---	---	15.55	15.65
25	---	---	---	---	---	---	---	---	---	---	15.72	15.62
26	---	---	---	---	---	---	---	---	---	---	15.59	15.65
27	---	---	---	---	---	---	---	---	---	---	15.48	15.72
28	---	---	---	---	---	---	---	---	---	---	15.56	15.81
29	---	---	---	---	---	---	---	---	---	---	15.60	15.97
30	---	---	---	---	---	---	---	---	---	---	15.58	15.99
31	---	---	---	---	---	---	---	---	---	---	15.56	---
MEAN	---	---	---	---	---	---	---	---	---	---	15.78	15.64

WTR YR 2001 MEAN 15.70 HIGHEST 14.31 SEPT. 13, 2001 LOWEST 16.26 AUG. 18, 2001



GROUND-WATER LEVELS

RIO DE LA PLATA BASIN

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	14.15	DEC 06	14.68	FEB 01	16.08	APR 23	17.22	JUN 28	16.60	AUG 06	15.91
NOV 17	13.56	JAN 12	15.54	MAR 23	16.00	MAY 18	16.75				
WATER YEAR 2001		HIGHEST 13.56 NOV. 17, 2000		LOWEST 17.22 APR. 23, 2001							

GROUND-WATER LEVELS

RIO DE LA PLATA BASIN--Continued

182655066142400. Local number, 217.

LOCATION.--Lat 18°26'55", long 66°14'24", Hydrologic Unit 21010005, 4.00 mi northeast of Toa Alta plaza, 3.40 mi northwest of Hwy 2 km 17.7, and 3.49 mi northwest of Sabana Seca US Naval Radio Station. Owner: US Geological Survey, WRD, Name: Piezometer Monserrate 2, Toa Baja.

AQUIFER.-Alluvial Deposits.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m) 0-80.0 ft (0-24.4 m), perforated 10-80 ft (3.05-24.4 m). Depth 80.0 ft (24.4 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 3.30 ft (1.00 m), above mean sea level, from topographic map. Measuring point: Top of shelter floor, 3.45 ft (1.05 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on November 6, 1997. Water levels affected by nearby pumping.

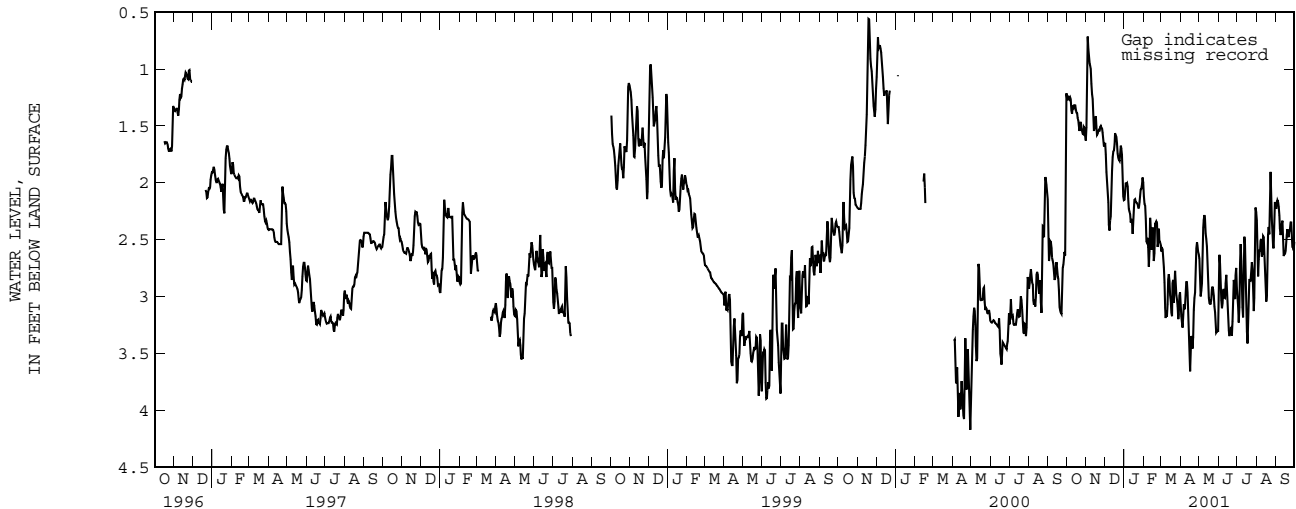
PERIOD OF RECORD.--November 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.02 ft (0.006 m), below land-surface datum, May 16, 1986; lowest water level recorded, 4.24 ft (1.29 m), below land-surface datum, Apr. 29, 2000.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.20	1.63	1.66	2.16	2.07	2.59	3.00	2.64	3.29	2.99	2.26	2.26
2	1.32	1.40	1.64	2.14	2.17	2.62	3.12	2.70	2.63	3.00	2.40	2.20
3	1.23	.65	1.86	2.00	2.20	2.53	3.23	2.99	2.64	3.18	2.83	2.17
4	1.24	.78	1.95	2.00	2.20	2.64	3.23	3.01	2.78	3.28	2.82	2.14
5	1.29	.87	2.00	2.03	2.44	2.68	3.32	2.89	2.94	2.91	2.53	2.20
6	1.25	.91	2.12	1.98	2.59	2.81	3.04	2.88	3.13	2.51	2.65	2.23
7	1.26	.99	2.23	2.09	2.46	2.94	3.10	2.43	3.08	2.57	2.56	2.35
8	1.28	.95	2.51	2.19	2.51	3.26	3.13	2.36	3.04	2.81	2.47	2.45
9	1.45	1.05	2.33	2.27	2.63	3.12	3.05	2.30	2.88	3.04	2.52	2.47
10	1.34	1.21	2.34	2.24	2.85	3.13	2.89	2.27	2.99	3.15	2.78	2.42
11	1.32	1.23	2.25	2.31	2.36	3.23	2.86	2.37	3.03	3.22	2.49	2.31
12	1.33	1.30	2.00	2.39	2.26	2.91	2.89	2.52	3.00	2.51	2.45	2.36
13	1.35	1.52	1.79	2.25	2.53	2.79	3.04	2.47	2.77	2.44	2.51	2.64
14	1.29	1.57	1.76	2.45	2.65	2.82	3.30	2.65	2.85	2.64	2.67	2.65
15	1.35	1.46	1.69	2.45	2.47	2.91	3.33	2.74	3.04	2.80	2.79	2.61
16	1.37	1.41	1.74	2.26	2.32	3.07	3.71	2.97	3.15	3.13	3.02	2.64
17	1.40	1.42	1.58	2.18	2.54	3.01	3.61	3.06	3.25	3.49	3.07	2.56
18	1.38	1.58	1.55	2.12	2.84	3.28	3.42	3.06	3.35	3.34	2.91	2.52
19	1.48	1.58	1.61	2.17	2.40	3.07	3.28	3.07	3.35	3.11	2.60	2.40
20	1.42	1.56	1.58	2.17	2.32	2.70	3.46	3.06	3.30	2.89	2.32	2.42
21	1.59	1.53	1.73	2.18	2.39	3.01	3.46	3.00	3.26	2.82	2.46	2.50
22	1.50	1.54	1.76	2.18	2.29	3.10	3.26	2.88	3.29	2.89	2.45	2.46
23	1.46	1.54	1.80	2.20	2.42	2.73	2.98	2.95	3.40	2.83	1.86	2.40
24	1.47	1.48	1.80	2.24	2.71	2.82	3.05	2.94	3.04	2.75	1.95	2.42
25	1.58	1.52	1.82	2.20	2.33	2.96	2.88	3.05	2.97	2.65	2.26	2.28
26	1.51	1.51	1.67	2.14	2.48	3.02	2.61	3.13	2.74	2.87	2.40	2.42
27	1.63	1.54	1.68	2.07	2.55	3.04	2.54	3.15	3.07	3.09	2.47	2.56
28	1.52	1.58	1.72	2.05	2.49	3.14	2.51	3.31	2.98	3.17	2.67	2.57
29	1.50	1.66	1.79	2.06	---	3.26	2.60	3.33	2.65	2.86	2.47	2.57
30	1.54	1.69	2.09	1.98	---	3.06	2.62	3.29	2.85	2.18	2.21	2.62
31	1.63	---	2.15	1.93	---	2.93	---	3.32	---	2.26	2.13	---
MEAN	1.40	1.36	1.88	2.16	2.45	2.94	3.08	2.86	3.02	2.88	2.52	2.43

WTR YR 2001 MEAN 2.41 HIGHEST 0.64 NOV. 3, 2000 LOWEST 3.72 APR. 16, 17, 2001



GROUND-WATER LEVELS

RIO DE LA PLATA BASIN--Continued

180649066095500. Local number, 1134.

LOCATION.--Lat 18°06'49", long 66°09'55", Hydrologic Unit 21010005, 0.10 mi southeast of Cayey plaza, 0.50 mi northwest of the intersection of Hwy 1 with Hwy 15, and 1.30 mi west of Cayey exit from Hwy 52. Owner: PR Aqueduct and Sewer Authority, Name: Minima.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Abandoned production well, diameter 13 in (0.34 m), screened 40.0-90.0 ft (12.2-27.4 m) Depth 125 ft (38.1 m).

DATUM.--Elevation of land-surface datum is about 1296 ft (395 m), above mean sea level, from topographic map. Measuring point: On highest part of motor support, 1.86 ft (0.57 m), above land-surface datum.

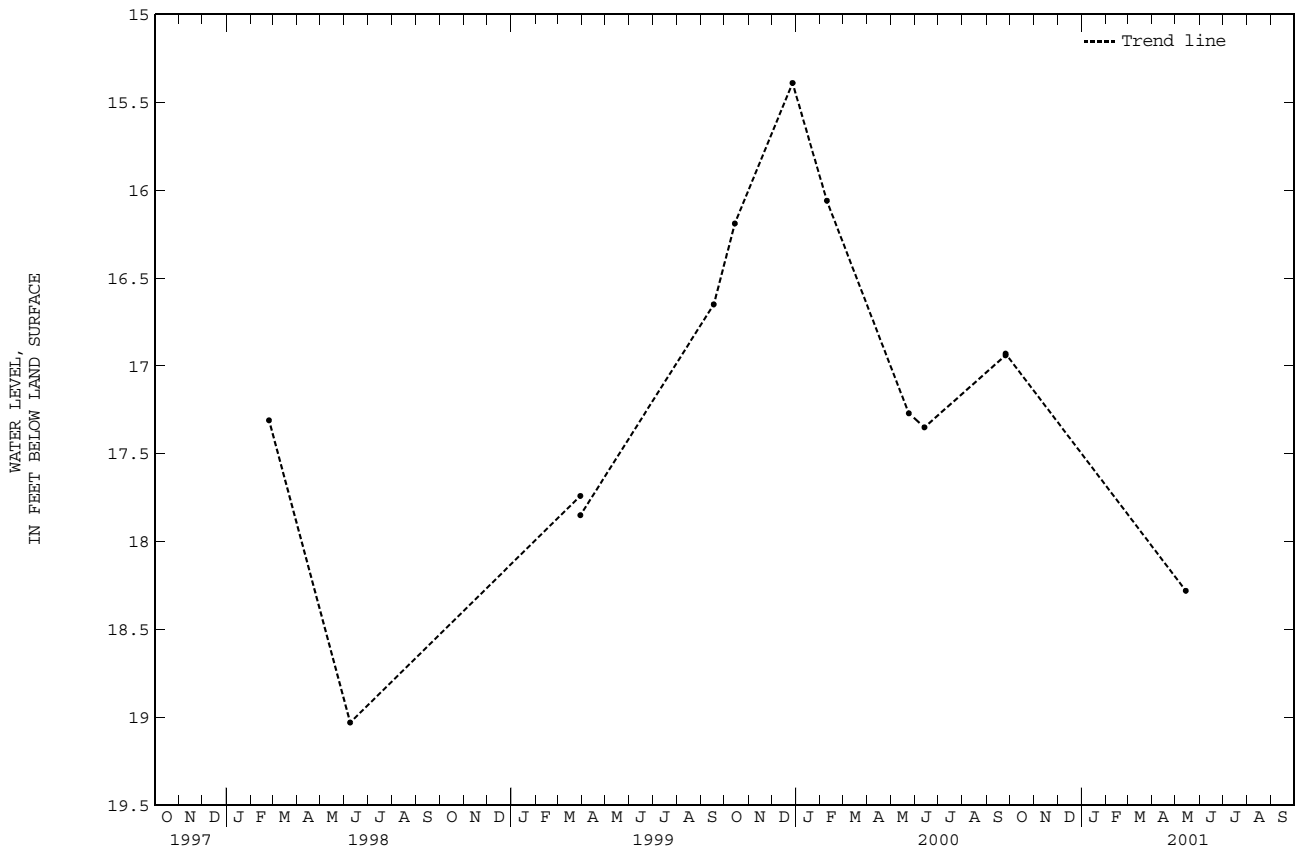
REMARKS.--Observation well.

PERIOD OF RECORD.--February 28, 1998 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.39 ft (4.69 m), below land-surface datum, Dec. 27, 1999; lowest water level measured, 19.03 ft (5.80 m), below land-surface datum, June 11, 1998.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL
MAY 14	18.28



GROUND-WATER LEVELS

RIO HONDO TO RIO PUERTO NUEVO BASINS

182441066082600. Local number, 219.

LOCATION.--Lat 18°24'41", long 66°08'26", Hydrologic Unit 21010005, 0.47 mi west of Fort Buchanan main gate, 1.74 mi northeast of Bayamón plaza, and 1.88 mi southwest of PR National Cemetary. Owner: Compañía de Parques Nacionales, Name: Buchanan Park Well.

AQUIFER.--Cibao Formation.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 10 in (0.25 m), cased 10 in (0.25 m) 0-270 ft (0-82.3 m), perforated 46-68.5 ft (14.0-20.7 m), 88-120 ft (26.8-36.6 m), 160-191 ft (48.8-58.2 m), 240-270 ft (73.2-82.3 m). Depth 270 ft (82.3 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 66.0 ft (20.1 m), above mean sea level, from topographic map. Measuring point: Hole on side of casing, 0.75 ft (0.23 m), above land-surface datum. Prior June 30, 1986, top of shelter floor, 3.59 ft (1.09 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on January 28, 1998.

PERIOD OF RECORD.--December 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 34.9 ft (10.7 m), below land-surface datum, Nov. 12, 13, 14, 1989; lowest water level recorded, 55.67 ft (17.0 m), below land-surface datum, May 13, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43.84	42.53	42.32	42.75	43.43	43.24	43.98	43.81	43.67	43.55	41.75	41.58
2	43.87	42.43	42.32	42.76	43.43	43.28	44.04	43.80	43.68	43.47	41.65	41.57
3	43.83	42.24	42.35	42.72	43.44	43.35	44.07	43.84	43.73	43.50	41.59	41.58
4	43.68	41.97	42.38	42.69	43.47	43.37	44.07	43.82	43.77	43.44	41.57	41.37
5	43.56	41.89	42.39	42.71	43.47	43.34	44.07	43.77	43.79	43.37	41.59	41.25
6	43.50	41.90	42.45	42.75	43.50	43.31	44.10	43.77	43.78	43.28	41.55	41.24
7	43.49	41.97	42.48	42.80	43.54	43.39	44.15	43.73	43.75	43.28	41.56	41.24
8	43.51	42.05	42.57	42.85	43.57	43.47	44.14	43.64	43.76	43.28	41.60	41.26
9	43.54	41.99	42.59	42.86	43.60	43.51	44.09	43.54	43.77	43.29	41.61	41.33
10	43.61	41.98	42.60	42.92	43.63	43.52	44.09	43.44	43.80	43.29	41.65	41.37
11	43.65	42.01	42.60	42.96	43.65	43.60	44.13	43.37	43.83	43.30	41.69	41.38
12	43.60	42.05	42.65	42.95	43.68	43.65	44.19	43.35	43.83	43.16	41.76	41.40
13	43.53	42.12	42.72	42.95	43.69	43.64	44.16	43.33	43.84	42.80	41.79	41.46
14	43.50	42.18	42.73	42.99	43.67	43.63	44.11	43.30	43.84	42.59	41.77	41.53
15	43.22	42.19	42.68	43.04	43.63	43.64	44.11	43.29	43.84	42.52	41.80	41.59
16	43.08	42.24	42.67	43.08	43.64	43.72	44.14	43.29	43.84	42.54	41.91	41.65
17	43.03	42.29	42.63	43.10	43.63	43.75	44.20	43.37	43.86	42.59	41.95	41.69
18	43.03	42.39	42.56	43.12	43.60	43.73	44.23	43.44	43.88	42.57	41.96	41.52
19	43.05	42.44	42.49	43.17	43.62	43.73	44.23	43.46	43.91	42.57	41.92	41.42
20	43.07	42.48	42.48	43.23	43.62	43.80	44.28	43.46	43.92	42.58	41.86	41.42
21	43.08	42.52	42.48	43.23	43.61	43.83	44.29	43.50	43.92	42.58	41.82	41.43
22	43.08	42.51	42.47	43.23	43.58	43.80	44.27	43.54	43.90	42.60	41.77	41.44
23	43.08	42.49	42.48	43.23	43.51	43.83	44.23	43.54	43.88	42.66	41.72	41.47
24	42.99	42.45	42.46	43.25	43.45	43.85	44.24	43.57	43.89	42.52	41.54	41.53
25	42.91	42.40	42.46	43.30	43.38	43.89	44.19	43.58	43.87	42.37	41.45	41.56
26	42.93	42.37	42.46	43.31	43.28	43.91	44.08	43.60	43.89	42.31	41.45	41.59
27	42.97	42.32	42.48	43.37	43.24	43.93	43.96	43.59	43.87	42.31	41.46	41.60
28	42.91	42.32	42.52	43.42	43.23	43.95	43.89	43.62	43.79	42.32	41.52	41.61
29	42.76	42.33	42.54	43.40	---	43.98	43.85	43.67	43.72	42.24	41.52	41.68
30	42.65	42.32	42.62	43.41	---	43.98	43.84	43.68	43.66	41.99	41.53	41.75
31	42.61	---	42.69	43.41	---	43.97	---	43.67	---	41.85	41.55	---
MEAN	43.26	42.25	42.53	43.06	43.53	43.66	44.11	43.56	43.82	42.80	41.67	41.48

WTR YR 2001 MEAN 42.97 HIGHEST 41.22 SEPT. 5, 6, 7, 2001 LOWEST 44.29 APR. 21, 2001



GROUND-WATER LEVELS

RIO HONDO TO RIO PUERTO NUEVO BASINS--Continued

182531066075900. Local number, 652.

LOCATION.--Lat 18°25'31", long 66°06'59", Hydrologic Unit 21010005, 0.07 mi north of Hwy 22, 0.32 mi southwest of the intersection of Hwy 165 with Hwy 28, and 1.40 mi south of the Cataño ferry building. Owner: US Geological Survey, WRD, Name: Piezometer USGS Building 652.

AQUIFER.--Aymamón Limestone.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 4.0 in (0.10 m), cased 0-192 ft (0-58.5 m). Depth 192 ft (58.5 m).

INSTRUMENTATION.--Pressure transducer with integrated electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 10.0 ft (3.05 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of the 4.0 in (0.10 m) casing, 3.27 ft (1.00 m), above land-surface datum.

REMARKS.--Recording observation well. Electronic Data Logger (EDL), installed on May 14, 1997. Water level affected by marine tides.

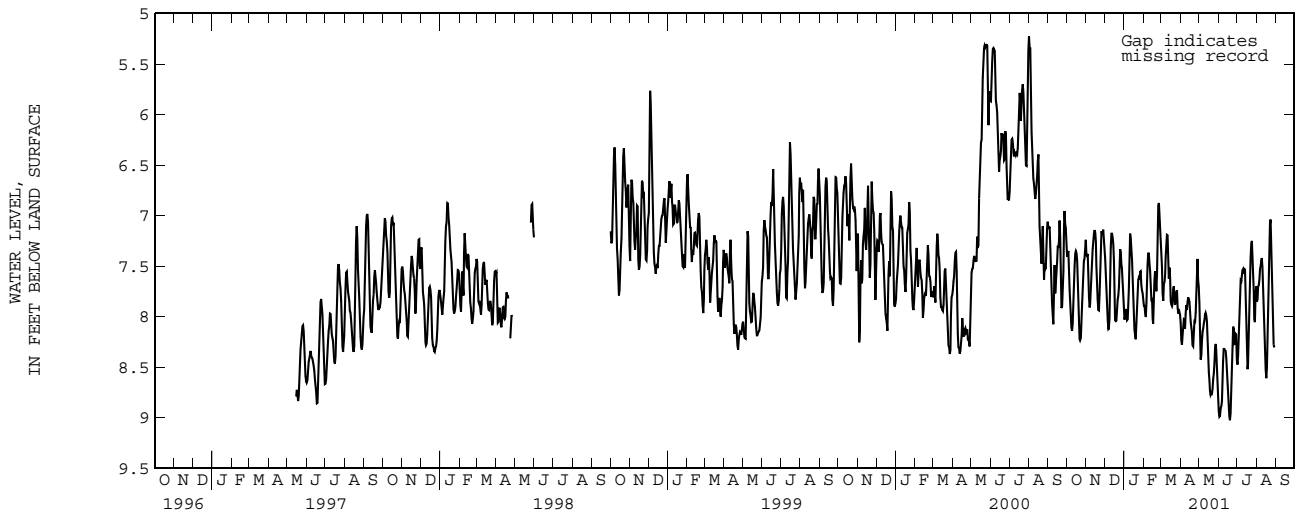
PERIOD OF RECORD.--May 14, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.59 ft (1.40 m), below land-surface datum, May 28, 2000; lowest water level recorded, 9.16 ft (2.79 m), below land-surface datum, Oct. 1, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.38	7.26	7.38	8.02	7.83	7.31	8.02	7.67	8.90	8.59	7.79	---
2	7.43	7.52	7.47	8.04	7.95	7.42	8.10	8.06	8.98	8.36	7.91	---
3	7.35	7.28	7.65	7.95	7.84	7.59	8.37	8.40	9.00	8.40	7.76	---
4	7.35	7.48	7.81	7.90	8.08	7.94	8.19	8.45	8.96	8.05	7.65	---
5	7.67	7.72	7.94	7.99	7.93	7.75	8.17	8.32	8.85	8.07	7.73	---
6	7.81	7.90	8.12	8.08	7.80	7.60	8.05	8.16	8.93	7.64	7.54	---
7	7.91	7.92	8.13	7.97	7.57	7.72	8.00	8.14	8.74	7.64	7.52	---
8	8.06	7.83	8.11	7.79	7.40	7.44	8.06	8.09	8.53	7.66	7.50	---
9	8.15	7.66	7.92	7.67	7.35	7.39	8.18	8.06	8.35	7.55	7.41	---
10	8.13	7.63	7.48	7.26	7.40	7.23	7.77	8.02	8.29	7.53	7.43	---
11	8.01	7.41	7.16	7.10	7.55	7.15	8.00	7.95	8.35	7.53	7.59	---
12	7.82	7.25	7.20	7.36	7.55	7.24	7.87	7.98	8.31	7.62	7.83	---
13	7.58	7.25	7.16	7.30	7.81	7.68	7.84	8.00	8.37	7.44	8.13	---
14	7.42	7.11	7.28	7.58	7.86	7.57	7.78	8.09	8.45	7.63	8.29	---
15	7.33	7.18	7.29	7.78	7.80	7.46	7.87	8.31	8.56	7.90	8.42	---
16	7.37	7.15	7.61	7.94	8.25	7.78	7.84	8.50	8.68	8.20	8.61	---
17	7.37	7.37	8.00	8.13	7.89	7.92	8.05	8.60	8.88	8.47	8.61	---
18	7.52	7.61	8.07	8.13	7.75	7.84	8.07	8.68	8.94	8.57	8.41	---
19	7.77	7.69	8.02	8.23	7.53	7.95	8.13	8.79	9.03	8.37	8.00	---
20	7.92	7.96	8.06	8.22	7.57	7.80	8.17	8.76	9.02	8.19	7.70	---
21	8.21	7.91	7.80	7.97	7.69	7.67	8.40	8.76	8.89	7.88	7.49	---
22	8.23	7.97	7.87	7.99	7.81	7.73	8.19	8.77	8.66	7.51	7.32	---
23	8.24	7.60	7.72	7.69	7.36	7.88	8.15	8.67	8.44	7.32	6.85	---
24	8.19	7.40	7.70	7.58	6.94	7.88	7.94	8.57	8.23	7.25	7.23	---
25	7.96	7.23	7.36	7.65	6.86	7.80	8.16	8.56	7.97	7.25	7.49	---
26	7.79	7.08	7.31	7.61	6.89	7.71	7.76	8.36	8.26	7.54	7.76	---
27	7.73	7.27	7.44	7.50	7.07	7.77	7.82	8.26	8.28	7.63	8.02	---
28	7.48	7.08	7.51	7.60	7.18	8.06	7.33	8.28	8.25	7.89	8.23	---
29	7.42	7.20	7.55	7.77	---	7.88	7.53	8.38	8.09	8.16	8.32	---
30	7.43	7.28	7.76	7.71	---	7.97	7.74	8.53	8.27	7.95	8.29	---
31	7.22	---	7.83	7.82	---	7.94	---	8.66	---	7.61	---	---
MEAN	7.72	7.47	7.67	7.78	7.59	7.68	7.99	8.35	8.58	7.85	7.83	---

WTR YR 2001 MEAN 7.87 HIGHEST 5.57 JULY 29, 2001 LOWEST 9.36 JUNE 5, 2001



GROUND-WATER LEVELS

RIO HONDO TO RIO PUERTO NUEVO BASINS--Continued

182511066045401. Local number, 1152.

LOCATION.--Lat 18°25'11", long 66°04'54", Hydrologic Unit 21010005, 1.58 mi northeast of Fort Buchanan Military main. gate, 2.95 mi southeast of Cataño plaza, and 2.45 mi southeast of US Naval Reservation in Miramar. Owner: US Geological Survey, WRD, Name: Piezometer La Esperanza 2.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in (0.10 m), cased 4 in (0.10 m), 0-40.0 ft (0-12.2 m), perforated 30-40 ft (9.15-12.2 m). Depth 40.0 ft (12.2 m).

INSTRUMENTATION.--Electronic water level logger--15-minutes interval.

DATUM.--Elevation of land-surface datum is about 13.0 ft (3.96 m), above mean sea level, from topographic map. Measuring point:

Hole on well shaft, 3.17 ft (0.97 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on April 8, 1998. Formerly published as local number PN-2.

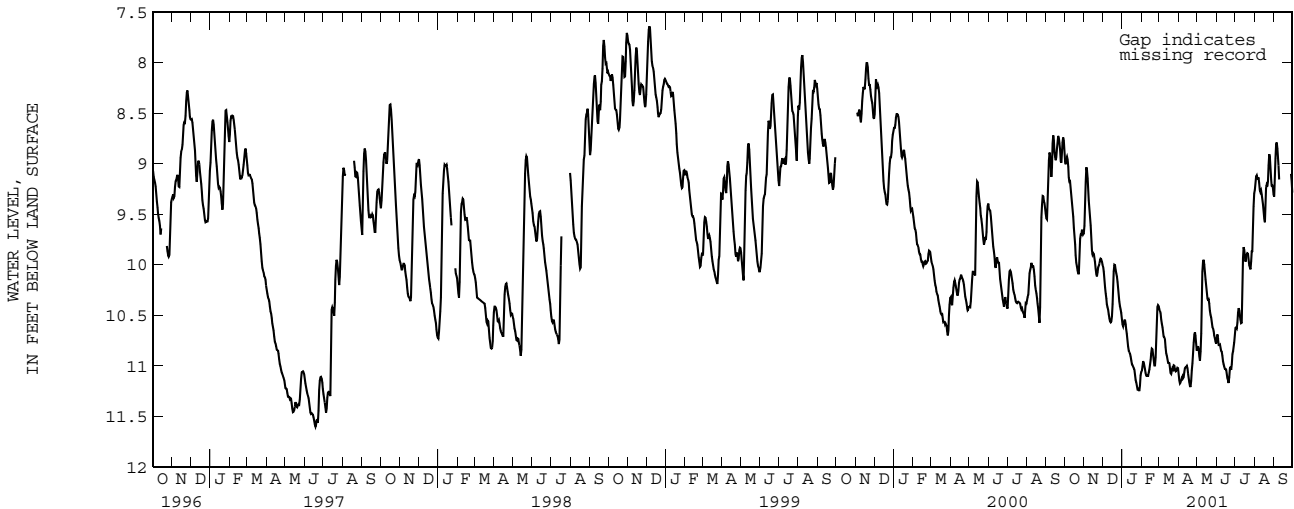
PERIOD OF RECORD.--July 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 7.63 ft (2.32 m), below land-surface datum, Dec. 6, 1998; lowest water level recorded, 11.9 ft (3.63 m), below land-surface datum, July 15, 16, 1991.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.91	9.67	10.01	10.56	11.06	10.42	11.05	10.87	10.78	10.64	9.26	9.36
2	9.04	9.56	10.03	10.62	11.04	10.46	11.12	10.79	10.69	10.61	9.26	9.29
3	8.97	9.31	10.11	10.60	10.97	10.45	11.17	10.82	10.69	10.63	9.13	9.04
4	8.93	9.05	10.19	10.56	10.94	10.51	11.18	10.85	10.78	10.63	9.12	8.85
5	8.93	9.02	10.26	10.54	11.00	10.58	11.15	10.96	10.81	10.52	9.11	8.77
6	8.99	9.11	10.31	10.56	11.01	10.59	11.14	10.94	10.78	10.43	9.18	8.81
7	9.07	9.18	10.36	10.62	11.05	10.65	11.10	10.78	10.80	10.43	9.12	8.89
8	9.20	9.32	10.42	10.66	11.09	10.69	11.11	10.58	10.85	10.47	9.15	8.97
9	9.16	9.41	10.42	10.71	11.10	10.73	11.14	10.13	10.85	10.53	9.23	9.07
10	9.19	9.49	10.47	10.79	11.09	10.70	11.09	10.01	10.87	10.56	9.29	9.24
11	9.30	9.56	10.51	10.83	11.11	10.77	11.04	9.94	10.93	10.60	9.27	---
12	9.34	9.66	10.55	10.87	11.09	10.86	11.01	9.96	10.98	10.55	9.26	---
13	9.43	9.82	10.57	10.86	11.04	10.89	11.02	10.04	10.99	10.04	9.35	---
14	9.47	9.90	10.57	10.90	11.03	10.91	11.00	10.11	11.03	9.83	9.36	---
15	9.58	9.90	10.55	10.92	10.95	10.96	11.00	10.18	11.03	9.82	9.45	---
16	9.69	9.87	10.47	10.98	10.93	10.98	11.05	10.22	11.03	9.89	9.51	---
17	9.75	9.92	10.31	10.99	10.83	10.96	11.11	10.31	11.05	9.95	9.58	---
18	9.85	9.94	10.12	10.99	10.83	10.99	11.14	10.36	11.12	9.99	9.58	---
19	9.96	10.01	10.01	11.02	10.84	11.07	11.18	10.33	11.12	9.90	9.28	---
20	10.00	10.07	9.99	11.02	10.93	11.07	11.21	10.35	11.16	9.90	9.21	---
21	10.03	10.11	10.02	11.05	10.95	11.09	11.21	10.42	11.18	9.87	9.21	---
22	10.08	10.12	10.08	11.13	11.04	11.01	11.09	10.49	11.05	9.91	9.24	---
23	10.09	10.03	10.09	11.15	10.95	11.04	11.00	10.50	11.01	9.99	9.11	---
24	10.08	10.02	10.14	11.18	10.88	11.03	10.95	10.54	11.01	10.02	8.92	---
25	9.80	10.00	10.20	11.22	10.64	10.96	10.82	10.60	11.07	10.03	8.89	---
26	9.69	9.97	10.28	11.25	10.44	11.04	10.72	10.63	10.90	10.06	8.98	---
27	9.71	9.93	10.34	11.22	10.40	11.05	10.66	10.63	10.87	9.87	9.08	---
28	9.69	9.95	10.39	11.24	10.40	11.06	10.68	10.69	10.84	9.85	9.23	9.08
29	9.63	9.94	10.43	11.26	---	11.03	10.73	10.71	10.80	9.90	9.20	9.12
30	9.69	9.99	10.45	11.13	---	11.04	10.83	10.74	10.74	9.52	9.23	9.22
31	9.71	---	10.51	11.06	---	11.00	---	10.78	---	9.33	9.25	---
MEAN	9.51	9.73	10.30	10.92	10.92	10.86	11.02	10.49	10.93	10.14	9.23	9.05

WTR YR 2001 MEAN 10.31 HIGHEST 8.69 SEPT. 5, 2001 LOWEST 11.26 JAN. 26, 2001



GROUND-WATER LEVELS

RIO HONDO TO RIO PUERTO NUEVO BASINS--Continued

182435066052700. Local number, 1153.

LOCATION.--Lat 18°24'35", long 66°05'27", Hydrologic Unit 21010005, 2.94 mi southeast of Cataño plaza, 0.44 mi north of Escuela Superior Gabriela Mistral, and 1.19 mi northeast of WAPA TV radio antenna. Owner: US Geological Survey, WRD, Name: Piezometer Salud Mental 1.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m), 0-83.0 ft (0-25.3 m), perforated 73-83.0 ft (22.2-25.3 m). Depth 83.0 ft (25.3 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 85.0 ft (25.9 m), above mean sea level, from topographic map. Measuring point:

Hole on well shaft, 2.85 ft (0.87 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on April 8, 1998. Formerly published as local number PN-5.

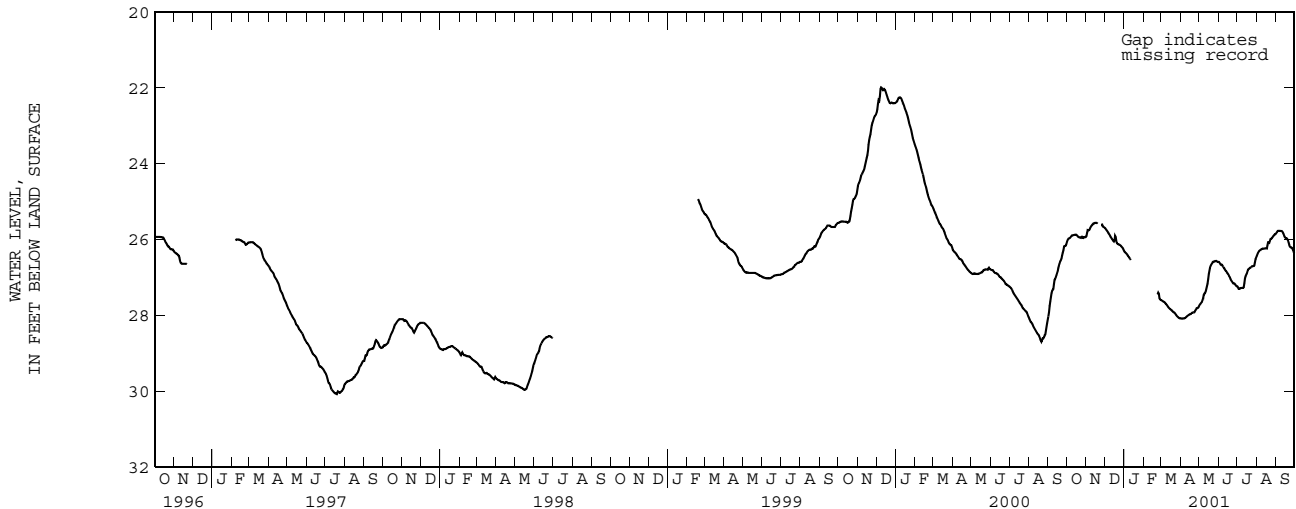
PERIOD OF RECORD.--April 1989 to July 1, 1998, discontinued, February 17, 1999 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 21.97 ft (6.69 m), below land-surface datum, Dec. 8, 9, 1999; lowest water level recorded, 32.82 ft (10.0 m), below land-surface datum, Sept. 25-28, 1994.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.08	25.93	25.69	26.31	---	27.60	28.08	27.76	26.59	27.23	26.46	25.86
2	26.04	25.90	25.71	26.33	---	27.60	28.08	27.72	26.59	27.25	26.41	25.82
3	25.98	25.75	25.74	26.35	---	27.62	28.09	27.70	26.62	27.29	26.37	25.80
4	25.98	25.75	25.76	26.36	---	27.63	28.09	27.68	26.65	27.32	26.33	25.77
5	25.97	25.76	25.78	26.38	---	27.64	28.08	27.66	26.67	27.29	26.31	25.77
6	25.96	25.75	25.81	26.40	---	27.65	28.08	27.64	26.65	27.29	26.29	25.77
7	25.94	25.72	25.83	26.43	---	27.66	28.08	27.56	26.68	27.28	26.28	25.77
8	25.93	25.69	25.86	26.45	---	27.68	28.08	27.51	26.70	27.28	26.27	25.77
9	25.90	25.65	25.88	26.47	---	27.70	28.07	27.43	26.73	27.28	26.26	25.78
10	25.89	25.63	25.92	26.50	---	27.72	28.06	27.43	26.75	27.28	26.25	25.77
11	25.89	25.62	25.95	26.53	---	27.74	28.04	27.41	26.78	27.28	26.24	25.78
12	25.88	25.58	25.97	26.56	---	27.77	28.02	27.35	26.81	27.24	26.24	25.81
13	25.88	25.58	26.00	---	---	27.79	28.01	27.27	26.83	27.07	26.24	25.84
14	25.87	25.58	26.03	---	---	27.81	28.00	27.21	26.85	26.98	26.24	25.88
15	25.87	25.56	26.04	---	---	27.83	27.98	27.12	26.89	26.94	26.23	25.94
16	25.87	25.56	26.07	---	---	27.84	27.97	26.97	26.90	26.92	26.23	25.95
17	25.89	25.56	25.95	---	---	27.86	27.97	26.85	26.93	26.88	26.23	25.97
18	25.90	25.56	25.85	---	---	27.87	27.96	26.79	26.96	26.81	26.24	25.97
19	25.92	25.57	26.02	---	---	27.88	27.95	26.72	26.99	26.79	26.08	25.97
20	25.94	25.59	26.08	---	---	27.90	27.93	26.68	27.01	26.77	26.08	26.01
21	25.94	---	26.11	---	---	27.92	27.93	26.65	27.07	26.76	26.09	26.04
22	25.95	---	26.12	---	---	27.92	27.93	26.62	27.09	26.75	26.09	26.12
23	25.95	---	26.13	---	27.45	27.94	27.92	26.60	27.12	26.74	25.99	26.17
24	25.96	---	26.14	---	27.44	27.96	27.92	26.58	27.15	26.71	25.98	26.21
25	25.90	25.64	26.14	---	27.37	27.99	27.86	26.58	27.16	26.71	25.98	26.20
26	25.95	25.56	26.16	---	27.51	28.01	27.85	26.58	27.15	26.70	25.96	26.22
27	25.96	25.64	26.17	---	27.57	28.03	27.81	26.57	27.17	26.70	25.92	26.22
28	25.96	25.66	26.19	---	27.59	28.05	27.81	26.57	27.19	26.70	25.91	26.25
29	25.93	25.67	26.21	---	---	28.06	27.81	26.56	27.21	26.67	25.89	26.30
30	25.94	25.68	26.23	---	---	28.07	27.79	26.59	27.24	26.54	25.86	26.34
31	25.94	---	26.26	---	---	28.08	---	26.59	---	26.50	25.86	---
MEAN	25.93	25.66	25.99	26.42	27.49	27.83	27.98	27.06	26.90	26.97	26.16	25.97

WTR YR 2001 MEAN 26.67 HIGHEST 25.55 NOV. 17, 2000 LOWEST 28.09 APR. 2, 3, 4, 2001



GROUND-WATER LEVELS

RIO HONDO TO RIO PUERTO NUEVO BASINS--Continued

182445066043401. Local number, 1154.

LOCATION.--Lat 18°24'45", long 66°04'34", Hydrologic Unit 21010005, 0.28 mi northeast of Escuela Dr. Pedreira, 3.52 mi southeast of Cataño plaza, and 0.53 mi south of Hiram Bithorn Stadium main gate. Owner: US Geological Survey, WRD, Name: Piezometer Alsacia 2.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in (0.10 m), cased 4 in (0.10 m), 0-27.0 ft (0-8.23 m), perforated 21-27.0 ft (6.40-8.23 m). Depth 27 ft (8.23 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 13.0 ft (3.96 m), above mean sea level, from topographic map. Measuring point:

Hole on well shaft, 3.58 ft (1.09 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR) replaced by an Electronic Data Logger (EDL), installed on January 26, 1998. Formerly published as local number PN-6.

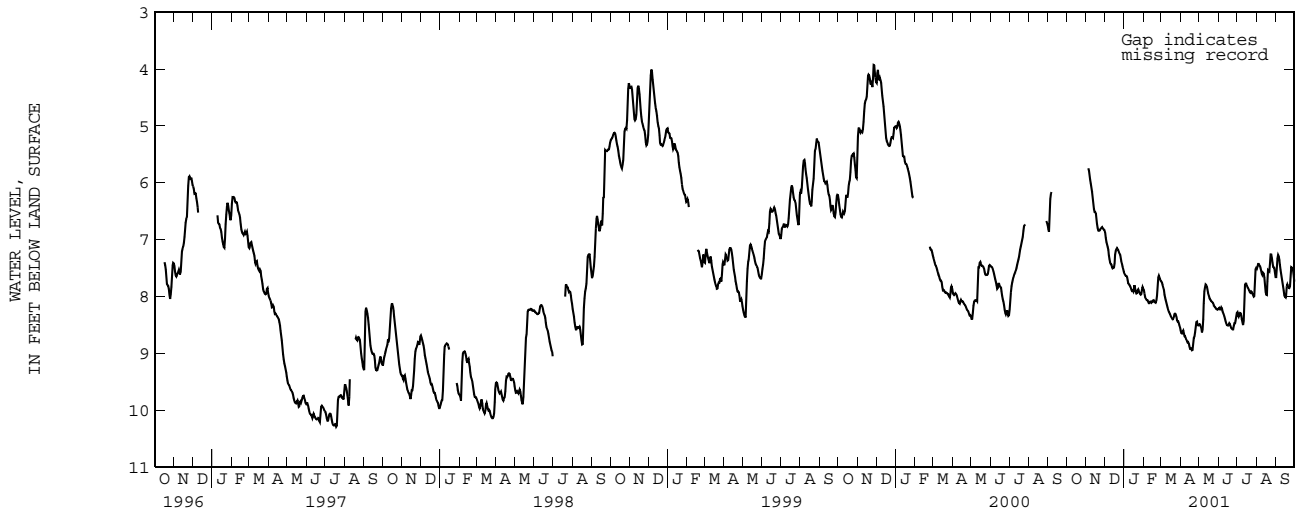
PERIOD OF RECORD.--July 1989 to November 27, 1991, Temporary discontinued, September 9, 1993 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 2.60 ft (0.79 m), below land-surface datum, Nov. 25, 1999; lowest water level recorded, 13.65 ft (4.16 m), below land-surface datum, Oct. 6, 7, 1994.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	6.83	7.60	7.88	7.73	8.57	8.51	8.23	8.27	7.50	7.70
2	---	---	6.92	7.61	7.90	7.75	8.63	8.47	8.19	8.29	7.54	7.62
3	---	---	7.03	7.64	8.01	7.76	8.66	8.52	8.21	8.38	7.43	7.39
4	---	5.74	7.06	7.64	8.02	7.84	8.65	8.53	8.25	8.34	7.43	7.28
5	---	5.75	7.11	7.64	8.06	7.84	8.59	8.58	8.21	8.30	7.43	7.26
6	---	5.83	7.15	7.68	8.06	7.92	8.61	8.69	8.18	8.29	7.48	7.33
7	---	5.93	7.22	7.76	8.07	8.02	8.69	8.48	8.25	8.31	7.46	7.40
8	---	5.96	7.33	7.78	8.07	8.03	8.71	8.33	8.28	8.38	7.54	7.49
9	---	6.07	7.36	7.79	8.11	8.09	8.69	7.93	8.29	8.42	7.56	7.58
10	---	6.11	7.45	7.80	8.13	8.12	8.76	7.90	8.34	8.49	7.64	7.64
11	---	6.21	7.41	7.84	8.11	8.18	8.76	7.79	8.36	8.52	7.61	7.72
12	---	6.32	7.47	7.85	8.08	8.21	8.80	7.79	8.43	8.35	7.56	7.78
13	---	6.41	7.50	7.91	8.10	8.26	8.82	7.81	8.45	7.80	7.64	7.87
14	---	6.52	7.52	7.90	8.12	8.28	8.79	7.85	8.50	7.80	7.70	7.93
15	---	6.51	7.48	7.90	8.07	8.30	8.87	7.93	8.51	7.75	7.90	8.05
16	---	6.52	7.51	7.94	8.11	8.33	8.90	7.97	8.51	7.80	7.94	7.97
17	---	6.56	7.33	7.78	8.04	8.36	8.95	8.00	8.52	7.83	8.00	8.07
18	---	6.69	7.21	7.83	8.10	8.38	8.90	8.06	8.47	7.84	7.95	7.89
19	---	6.76	7.20	7.89	8.10	8.40	8.94	8.04	8.48	7.87	7.53	7.77
20	---	6.83	7.14	7.94	8.11	8.41	8.96	8.08	8.50	7.88	7.54	7.81
21	---	6.85	7.16	7.96	8.12	8.39	8.93	8.09	8.55	7.92	7.55	7.84
22	---	6.84	7.18	7.93	8.04	8.35	8.75	8.10	8.56	7.94	7.57	7.86
23	---	6.84	7.19	7.86	7.94	8.28	8.72	8.11	8.58	7.94	7.29	7.85
24	---	6.81	7.25	7.89	7.73	8.33	8.70	8.13	8.58	7.89	7.24	7.81
25	---	6.81	7.25	7.92	7.61	8.30	8.57	8.17	8.58	7.96	7.29	7.49
26	---	6.77	7.29	7.95	7.66	8.40	8.51	8.19	8.46	7.96	7.36	7.48
27	---	6.79	7.38	7.97	7.66	8.43	8.40	8.19	8.48	8.00	7.46	7.51
28	---	6.81	7.39	7.97	7.72	8.45	8.49	8.22	8.46	8.01	7.50	7.50
29	---	6.81	7.46	7.95	---	8.43	8.51	8.22	8.40	7.98	7.47	7.57
30	---	6.84	7.50	7.82	---	8.50	8.51	8.24	8.32	7.55	7.53	7.68
31	---	---	7.54	7.85	---	8.52	---	8.23	---	7.50	7.62	---
MEAN	---	6.48	7.28	7.83	7.99	8.21	8.71	8.17	8.40	8.05	7.56	7.67

WTR YR 2001 MEAN 7.86 HIGHEST 5.67 NOV. 3, 2000 LOWEST 9.04 APR. 19, 2001



GROUND-WATER LEVELS

RIO HONDO TO RIO PUERTO NUEVO BASINS--Continued

182443066041502. Local number, 1155.

LOCATION.--Lat 18°24'43", long 66°04'15", Hydrologic Unit 21010005, 2.29 mi east of Fort Buchanan main gate, 3.83 mi southeast of Cataño plaza, and 0.16 mi southwest of Hospital del Maestro. Owner: US Geological Survey, WRD, Name: Piezometer Muñoz Marin 1C.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in (0.10 m), cased 4 in (0.10), 0-33.0 ft (0-10.1 m), perforated 33-40.0 ft (10.1-12.2 m). Depth 40.0 ft (12.2 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 13.0 ft (3.96 m), above mean sea level, from topographic map. Measuring point:

Hole on well shaft, 3.00 ft (0.91 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on January 26, 1998. Formerly published as local number PN-8c.

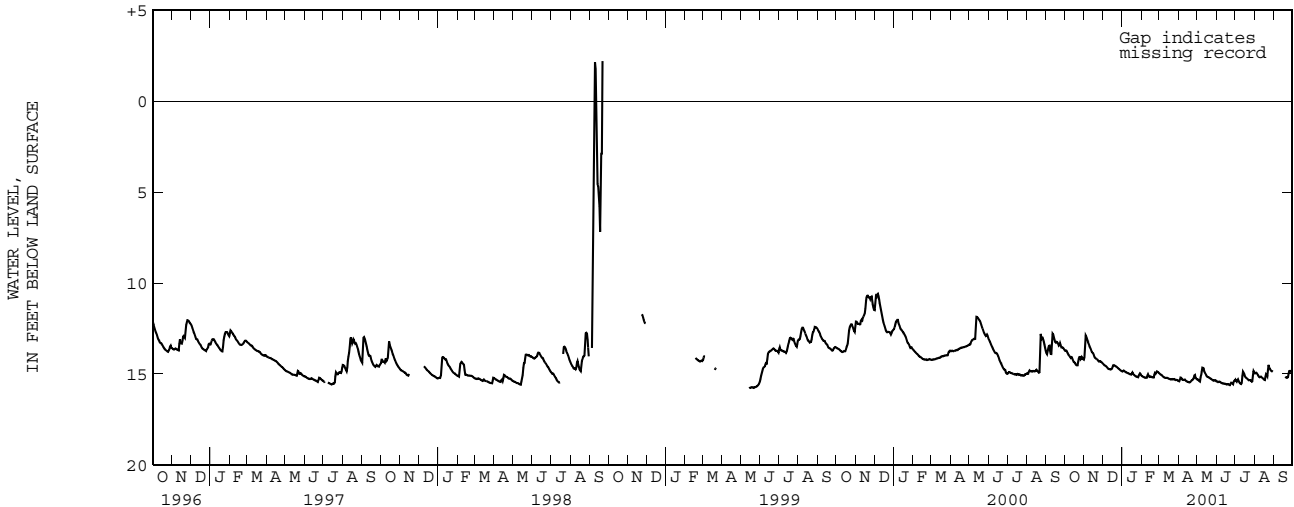
PERIOD OF RECORD.--February 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, +7.28 ft (+2.22 m), above land-surface datum, Sept. 21, 1998; lowest water level recorded, 16.18 ft (4.93 m), below land-surface datum, Oct. 5, 6, 7, 1994.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.71	14.22	14.43	14.86	15.11	14.95	15.36	15.31	15.41	15.29	14.94	---
2	13.75	13.96	14.46	14.87	15.13	14.98	15.41	15.28	15.41	15.33	15.00	---
3	13.70	12.86	14.51	14.79	15.15	15.02	15.40	15.33	15.44	15.44	14.94	---
4	13.73	12.91	14.54	14.84	15.17	15.05	15.24	15.39	15.46	15.43	14.92	---
5	13.81	12.99	14.55	14.87	15.18	15.06	15.17	15.41	15.43	15.26	14.99	---
6	13.88	13.11	14.58	14.89	15.19	15.08	15.26	15.44	15.41	15.33	15.04	---
7	13.95	13.22	14.60	14.91	15.21	15.15	15.31	14.95	15.46	15.43	15.08	---
8	13.99	13.31	14.64	14.93	15.21	15.16	15.34	15.19	15.48	15.48	15.16	---
9	14.02	13.39	14.69	14.94	15.21	15.19	15.32	14.56	15.49	15.52	15.17	---
10	14.10	13.50	14.73	14.95	15.21	15.20	15.36	14.76	15.51	15.55	15.20	---
11	14.14	13.56	14.73	14.97	14.97	15.22	15.27	14.57	15.52	15.56	15.14	---
12	14.01	13.66	14.74	15.00	15.06	15.22	15.34	14.82	15.53	15.45	15.16	---
13	14.16	13.75	14.74	15.01	15.15	15.23	15.39	14.91	15.53	14.81	15.21	---
14	14.23	13.86	14.77	15.03	15.19	15.20	15.40	14.97	15.54	14.93	15.24	---
15	14.32	13.82	14.72	15.03	15.14	15.24	15.42	15.03	15.54	14.93	15.26	---
16	14.38	13.91	14.72	15.05	15.15	15.26	15.44	15.10	15.55	15.08	15.30	---
17	14.36	14.00	14.54	14.86	15.17	15.27	15.45	15.16	15.59	15.18	15.35	---
18	14.43	14.09	14.53	14.97	15.18	15.28	15.46	15.18	15.57	15.20	15.32	---
19	14.51	14.13	14.52	15.01	15.20	15.29	15.46	15.16	15.54	15.22	15.01	15.13
20	14.52	14.15	14.54	15.06	15.19	15.31	15.48	15.20	15.57	15.25	15.01	15.18
21	14.54	14.19	14.57	15.08	15.20	15.30	15.40	15.22	15.60	15.28	15.10	15.21
22	14.51	14.19	14.59	15.12	14.88	15.28	15.39	15.25	15.61	15.32	15.15	15.21
23	14.16	14.25	14.60	15.14	15.01	15.28	15.32	15.26	15.62	15.37	14.43	15.21
24	14.16	14.31	14.65	15.15	14.97	15.32	15.36	15.29	15.46	15.30	14.59	15.16
25	13.97	14.32	14.67	15.16	14.86	15.27	15.25	15.33	15.51	15.37	14.67	14.83
26	14.16	14.30	14.71	15.18	14.86	15.30	15.23	15.35	15.51	15.35	14.76	14.86
27	14.24	14.30	14.73	15.19	14.90	15.33	14.95	15.37	15.55	15.40	14.81	14.81
28	14.07	14.34	14.76	15.06	14.92	15.34	15.18	15.35	15.57	15.44	14.84	14.86
29	14.08	14.35	14.79	14.99	---	15.31	15.23	15.40	15.31	15.38	14.87	14.92
30	14.18	14.39	14.82	14.95	---	15.35	15.27	15.31	15.45	14.81	14.83	14.96
31	14.21	---	14.84	15.05	---	15.36	---	15.38	---	14.88	14.93	---
MEAN	14.13	13.84	14.65	15.00	15.10	15.22	15.33	15.17	15.51	15.28	15.01	15.03

WTR YR 2001 MEAN 14.93 HIGHEST 12.74 NOV. 3, 2000 LOWEST 15.63 JUNE 22, 23, 2001



+ above land-surface datum.

GROUND-WATER LEVELS

RIO HONDO TO RIO PUERTO NUEVO BASINS--Continued

182417066042700. Local number, 1156.

LOCATION.--Lat 18°24'17", long 66°04'27", Hydrologic Unit 21010005, 3.96 mi southeast of Cataño plaza, 1.00 mi southwest of Escuela J.J. Osuna, and 2.26 mi east of WAPA TV radio antenna. Owner: US Geological Survey, WRD, Name: Piezometer Las Américas 1.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled observation well, cased 4 in (0.10 m), 0-80.0 ft (0-24.4 m), 4 in (0.10 m), perforated pipe 80-90.0 ft (24.4-27.4 m). Depth 90.0 ft (27.4 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 16.0 ft (4.89 m), above mean sea level, from topographic map. Measuring point:

Hole on well shaft, 3.37 ft (1.03 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR) replaced by an Electronic Data Logger (EDL), installed on February 23, 1998, and re-installed on May 22, 2000. Well affected by pumping during June 1994. [+ , above land-surface datum]. Formerly published as local number PN-10.

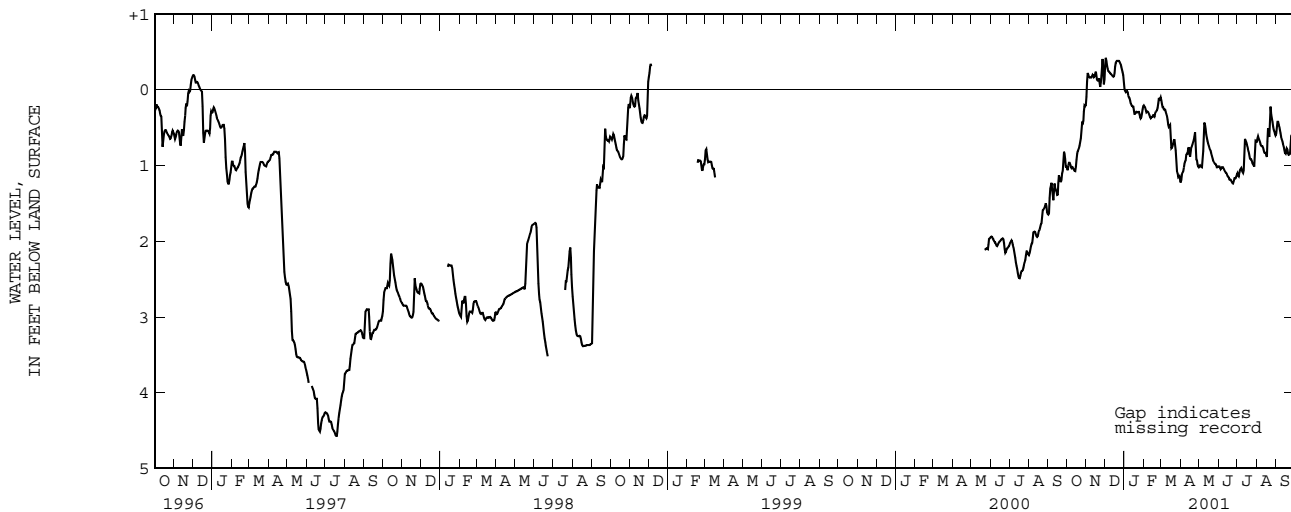
PERIOD OF RECORD.--October 1989 to March 19, 1999, discontinued, May 22, 2000 to September 30, 2000.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, +2.30 ft (+0.70 m), above land-surface datum, Jan. 9-12, 1993; lowest water level recorded, 6.92 ft (2.11 m) below land-surface datum, Oct. 6-9, 1994.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.97	.19	+ .23	+ .01	.21	.14	1.22	1.02	1.02	1.10	.68	.61
2	1.10	.00	+ .42	.00	.21	.14	1.23	.99	1.01	1.11	.69	.56
3	1.03	+ .22	+ .42	.04	.24	.24	1.15	1.01	1.02	1.16	.60	.45
4	.97	+ .22	+ .33	.03	.23	.22	1.09	1.02	1.04	1.13	.63	.40
5	.96	+ .18	+ .30	.02	.30	.24	1.10	1.02	1.06	1.06	.66	.45
6	.97	+ .16	+ .25	.02	.30	.28	1.06	1.03	1.01	1.06	.67	.47
7	1.00	+ .16	+ .24	.05	.29	.24	1.00	.81	1.04	1.03	.71	.51
8	1.04	+ .16	+ .24	.10	.29	.29	.95	.81	1.01	1.04	.73	.55
9	1.03	+ .16	+ .22	.10	.31	.29	.96	.42	1.04	1.08	.75	.60
10	1.01	+ .16	+ .21	.12	.32	.34	.91	.45	1.05	1.09	.74	.65
11	1.04	+ .19	+ .21	.17	.35	.35	.81	.47	1.07	1.11	.75	.66
12	1.05	+ .20	+ .19	.20	.38	.44	.88	.57	1.09	1.02	.78	.70
13	1.06	+ .17	+ .19	.20	.38	.48	.81	.62	1.10	.63	.82	.74
14	1.08	+ .16	+ .17	.23	.36	.51	.75	.66	1.10	.67	.84	.76
15	1.07	+ .19	+ .17	.21	.36	.46	.77	.70	1.13	.67	.83	.83
16	.97	+ .23	+ .18	.24	.36	.48	.92	.73	1.15	.71	.84	.84
17	.88	+ .24	+ .26	.32	.32	.77	.85	.75	1.15	.74	.89	.85
18	.82	+ .14	+ .34	.32	.37	.78	.78	.79	1.17	.77	.89	.79
19	.81	+ .12	+ .36	.32	.34	.75	.75	.79	1.20	.81	.47	.76
20	.79	+ .12	+ .38	.29	.30	.75	.75	.82	1.18	.83	.55	.82
21	.76	+ .13	+ .38	.30	.29	.69	.70	.86	1.20	.90	.61	.86
22	.72	+ .17	+ .38	.30	.28	.66	.69	.88	1.21	.92	.64	.86
23	.66	+ .01	+ .38	.30	.26	.65	.64	.93	1.23	.92	.15	.85
24	.63	+ .06	+ .38	.29	.22	.82	.60	.94	1.24	.92	.30	.85
25	.44	+ .13	+ .36	.30	.14	.79	.53	.97	1.24	.96	.36	.59
26	.44	+ .25	+ .34	.35	.08	1.07	.93	.97	1.18	.99	.40	.64
27	.45	+ .37	+ .32	.38	.19	1.08	.91	.99	1.16	.99	.46	.60
28	.37	+ .44	+ .28	.38	.07	1.13	.96	.98	1.18	1.02	.52	.60
29	.21	+ .10	+ .25	.35	---	1.18	1.00	1.01	1.16	.99	.53	.63
30	.21	+ .04	+ .21	.29	---	1.12	1.03	1.04	1.15	.67	.56	.66
31	.23	---	+ .17	.23	---	1.16	---	1.01	---	.68	.60	---
MEAN	.80	+ .16	+ .28	.21	.28	.60	.89	.84	1.12	.93	.63	.67

WTR YR 2001 MEAN .55 HIGHEST +.45 NOV. 29, 2000 LOWEST 1.27 JUNE 24, 2001



+ above land-surface datum.

GROUND-WATER LEVELS

RIO HONDO TO RIO PUERTO NUEVO BASINS--Continued

182406066034700. Local number, 1158.

LOCATION.--Lat 18°24'06", long 66°03'47", Hydrologic Unit 21010005, 4.65 mi southeast of Cataño plaza, 0.89 mi south of Escuela J.J. Osuna, and 0.78 mi southwest of University of Puerto Rico main gate. Owner: US Geological Survey, WRD, Name: Piezometer Jardín Botánico 3.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 4 in (0.10 m) cased 4.0 in (0.10 m), 0-48.0 ft (0-14.6 m), perforated 38-48 ft (11.6-14.6 m). Depth 48.0 ft.(14.6 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 32.0 ft (9.75 m), above mean sea level, from topographic map. Measuring point:

Hole on well shaft, 2.91 ft (0.88 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on May 22, 1998. Formerly published as local number PN-19.

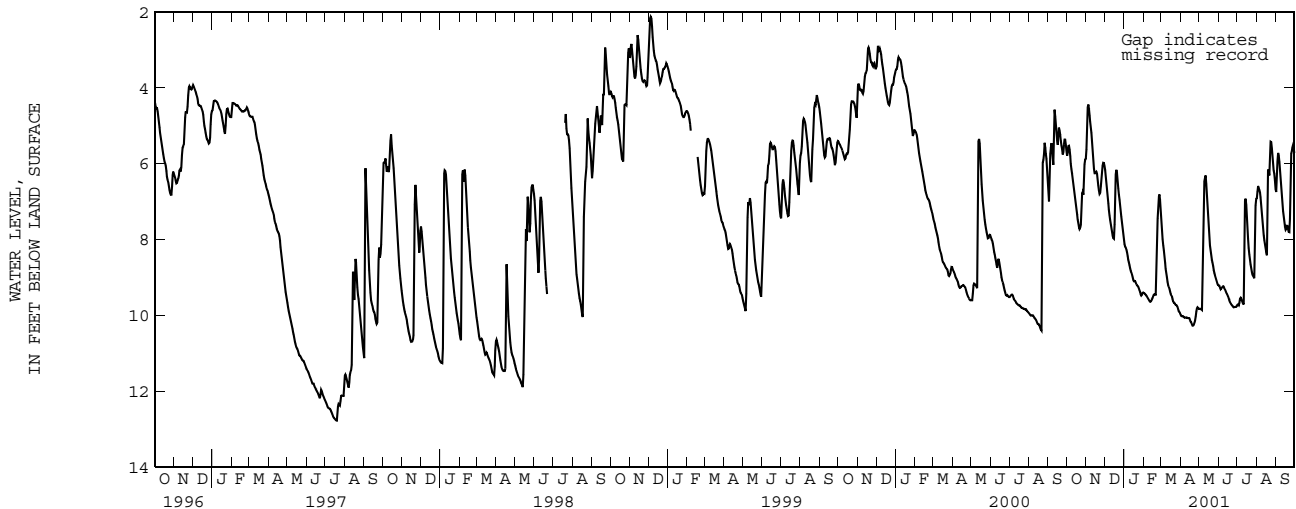
PERIOD OF RECORD.--June 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 2.05 ft (0.62 m), below land-surface datum, Dec. 4, 1998; lowest water level recorded, 13.43 ft (4.09 m), below land-surface datum, Nov. 8, 9, 1994.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.73	5.87	6.11	8.06	9.41	7.37	9.96	9.83	9.21	9.74	6.92	6.79
2	5.85	5.38	6.23	8.18	9.42	7.66	10.01	9.82	9.21	9.71	6.91	6.70
3	5.57	4.62	6.48	8.20	9.42	7.89	10.02	9.83	9.23	9.72	6.56	6.13
4	5.50	4.40	6.64	8.23	9.46	8.09	10.03	9.84	9.31	9.75	6.62	5.73
5	5.56	4.48	6.82	8.30	9.47	8.22	10.02	9.85	9.32	9.59	6.65	5.70
6	5.70	4.64	6.97	8.39	9.49	8.36	10.03	9.87	9.27	9.53	6.73	5.86
7	5.90	4.82	7.13	8.49	9.52	8.54	10.06	8.82	9.26	9.54	6.80	6.04
8	6.10	4.95	7.29	8.57	9.55	8.70	10.07	8.18	9.24	9.58	6.96	6.27
9	6.18	5.10	7.42	8.63	9.58	8.85	10.06	6.49	9.23	9.63	7.24	6.56
10	6.34	5.26	7.55	8.72	9.61	8.93	10.06	6.44	9.26	9.67	7.44	6.80
11	6.49	5.51	7.64	8.80	9.64	9.06	10.05	6.31	9.31	9.72	7.64	6.99
12	6.67	5.73	7.75	8.85	9.64	9.18	10.07	6.31	9.34	9.66	7.80	7.16
13	6.78	6.03	7.84	8.89	9.63	9.24	10.07	6.76	9.37	9.77	7.97	7.34
14	6.93	6.23	7.96	8.96	9.60	9.26	10.07	7.05	9.42	9.90	8.08	7.45
15	7.03	6.27	7.97	9.03	9.56	9.34	10.07	7.35	9.46	6.94	8.19	7.62
16	7.19	6.23	7.99	9.10	9.53	9.41	10.09	7.59	9.48	7.23	8.28	7.70
17	7.28	6.21	7.22	9.10	9.48	9.47	10.16	7.85	9.53	7.58	8.40	7.78
18	7.41	6.21	6.41	9.09	9.44	9.49	10.18	8.09	9.58	7.82	8.43	7.66
19	7.52	6.30	6.16	9.10	9.45	9.53	10.19	8.23	9.63	8.12	6.17	7.62
20	7.61	6.52	6.16	9.16	9.46	9.61	10.27	8.33	9.66	8.33	6.14	7.67
21	7.71	6.64	6.34	9.20	9.45	9.66	10.27	8.48	9.71	8.46	6.25	7.76
22	7.74	6.77	6.54	9.22	8.29	9.67	10.27	8.59	9.72	8.60	6.37	7.83
23	7.64	6.83	6.76	9.23	7.56	9.68	10.24	8.64	9.74	8.72	5.46	7.78
24	7.58	6.71	6.88	9.26	7.33	9.73	10.17	8.77	9.76	8.81	5.38	7.13
25	6.92	6.48	7.03	9.32	6.93	9.72	10.10	8.86	9.79	8.90	5.48	5.77
26	6.66	6.28	7.21	9.36	6.80	9.74	9.97	8.92	9.79	8.97	5.70	5.69
27	6.83	6.10	7.35	9.41	6.82	9.77	9.83	8.99	9.78	8.96	5.90	5.64
28	6.81	6.00	7.46	9.48	7.09	9.80	9.79	9.03	9.78	9.01	6.15	5.51
29	6.13	5.95	7.62	9.48	---	9.89	9.79	9.08	9.77	9.04	6.20	5.51
30	5.91	6.01	7.77	9.44	---	9.90	9.83	9.14	9.78	7.26	6.33	5.62
31	5.88	---	7.92	9.39	---	9.92	---	9.19	---	6.95	6.54	---
MEAN	6.62	5.82	7.12	8.92	8.95	9.15	10.06	8.40	9.50	8.69	6.83	6.73

WTR YR 2001 MEAN 8.06 HIGHEST 4.39 NOV. 4, 2000 LOWEST 10.27 APR. 20, 21, 22, 2001



GROUND-WATER LEVELS

RIO HONDO TO RIO PUERTO NUEVO BASINS--Continued

182451066080200. Local number, 1159.

LOCATION.--Lat 18°24'50", Long 66°08'05", Hydrologic Unit 21010005, 1.7 mi west of main gate of Fort Buchanan, 0.2 mi southeast of oil refinery, and 0.9 mi east of Goya Products plant. Owner: US Geological Survey, Name: Piezometer Ft. Buchanan 1.

AQUIFER.--Mucarabones Sand.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 4 in (0.10 m), screened 209-249 ft (63.7-75.9 m). Depth 249 ft (75.89 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 46.0 ft (14.0 m), about mean sea level, from topographic map. Measuring point: 3.33 ft (1.01 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed Sept. 12, 1997, replaced by an Electronic Data Logger (EDL), installed on Sept. 10, 1998. Well is affected by nearby pumping.

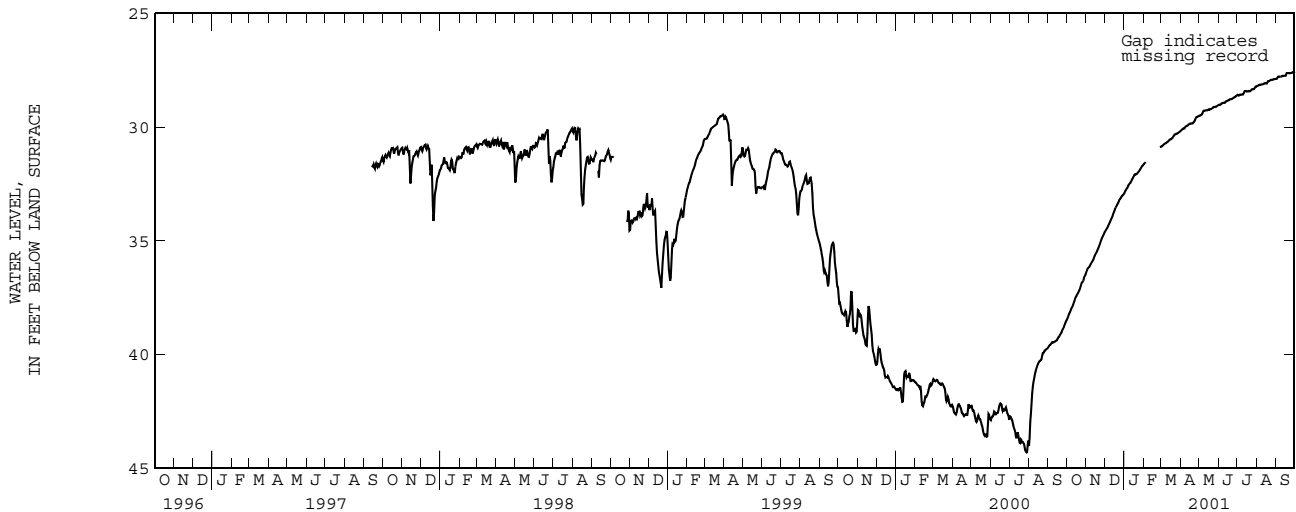
PERIOD OF RECORD.--September 12, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 27.56 ft (8.40 m), below land-surface datum, Sept. 29, 30, 2001; lowest water level recorded, 44.38 ft (13.53 m), below land-surface datum, July 28, 29, 2000.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38.49	36.41	34.61	32.92	31.64	30.86	30.18	29.50	29.03	28.58	28.21	27.88
2	38.43	36.34	34.56	32.86	31.60	30.84	30.15	29.48	29.01	28.58	28.20	27.87
3	38.36	36.24	34.51	32.79	31.58	30.84	30.13	29.49	29.01	28.62	28.18	27.87
4	38.27	36.20	34.47	32.75	31.56	30.80	30.10	29.48	29.01	28.60	28.17	27.78
5	38.20	36.17	34.41	32.70	31.52	30.78	30.07	29.45	29.00	28.57	28.15	27.78
6	38.16	36.15	34.38	32.67	---	30.74	30.06	29.43	28.96	28.57	28.13	27.77
7	38.08	36.11	34.30	32.62	---	30.73	30.06	29.33	28.95	28.57	28.13	27.78
8	38.02	36.05	34.26	32.56	---	30.72	30.05	29.29	28.94	28.56	28.13	27.78
9	37.94	36.00	34.20	32.51	---	30.70	29.98	29.27	28.93	28.56	28.12	27.78
10	37.90	35.95	34.13	32.49	---	30.68	29.97	29.27	28.93	28.56	28.12	27.77
11	37.85	35.90	34.06	32.44	---	30.67	29.94	29.26	28.92	28.56	28.11	27.77
12	37.74	35.85	34.00	32.40	---	30.64	29.94	29.26	28.92	28.47	28.10	27.74
13	37.68	35.81	33.94	32.34	---	30.62	29.93	29.26	28.87	28.41	28.10	27.74
14	37.59	35.72	33.87	32.29	---	30.57	29.90	29.26	28.85	28.41	28.07	27.74
15	37.48	35.64	33.76	32.22	---	30.54	29.86	29.24	28.85	28.40	28.06	27.74
16	37.45	35.58	33.71	32.17	---	30.54	29.84	29.21	28.82	28.43	28.08	27.74
17	37.39	35.54	33.62	32.12	---	30.53	29.84	29.23	28.82	28.44	28.08	27.74
18	37.33	35.49	33.56	32.07	---	30.51	29.84	29.24	28.81	28.41	28.07	27.62
19	37.32	35.44	33.51	32.08	---	30.48	29.83	29.21	28.78	28.42	27.99	27.62
20	37.25	35.36	33.46	32.08	---	30.46	29.84	29.20	28.77	28.43	27.97	27.62
21	37.19	35.30	33.41	32.06	---	30.40	29.83	29.20	28.77	28.42	27.97	27.62
22	37.12	35.23	33.35	32.04	---	30.35	29.78	29.17	28.77	28.42	27.97	27.62
23	37.05	35.15	33.30	32.00	---	30.32	29.75	29.14	28.75	28.40	27.93	27.63
24	36.93	35.06	33.23	31.97	---	30.32	29.74	29.13	28.74	28.34	27.92	27.63
25	36.84	34.98	33.15	31.92	30.87	30.30	29.65	29.12	28.71	28.34	27.92	27.61
26	36.81	34.90	33.14	31.88	---	30.29	29.57	29.11	28.69	28.32	27.91	27.61
27	36.78	34.84	33.09	31.84	30.89	30.28	29.55	29.11	28.69	28.32	27.91	27.61
28	36.71	34.80	33.04	31.80	30.88	30.27	29.55	29.09	28.65	28.33	27.91	27.58
29	36.60	34.74	33.01	31.74	---	30.24	29.55	29.08	28.64	28.30	27.89	27.58
30	36.55	34.68	33.00	31.71	---	30.23	29.52	29.08	28.63	28.22	27.88	27.56
31	36.49	---	32.95	31.69	---	30.20	---	29.05	---	28.22	27.88	---
MEAN	37.48	35.59	33.74	32.25	31.32	30.53	29.87	29.25	28.84	28.44	28.04	27.71

WTR YR 2001 MEAN 31.08 HIGHEST 27.56 SEPT. 29, 30, 2001 LOWEST 38.52 OCT. 1, 2000



GROUND-WATER LEVELS
RIO GRANDE DE LOIZA BASIN

181352066025300. Local number, 1176.

LOCATION.--Lat 18°13'52", long 66°02'53", Hydrologic Unit 21010005, 0.96 mi southwest of Caguas plaza, 1.02 mi northwest of Escuela Antonio S. Pedreira, and 0.30 mi southeast of Hwy 156 km 59.1. Owner: US Geological Survey, WRD, Name: Piezometer CJ 19A.

AQUIFER.--Unconsolidated deposits of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m), 0-67.0 ft (0-20.4 m), screened 50-65 ft (15.2-19.8 m). Depth 67.0 ft (20.4 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 262 ft (79.8 m), above mean sea level, from topographic map. Measuring point: Top of casing 3.48 ft (1.06 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on September 29, 1999. Formerly published as local number and name CJ-TW19A.

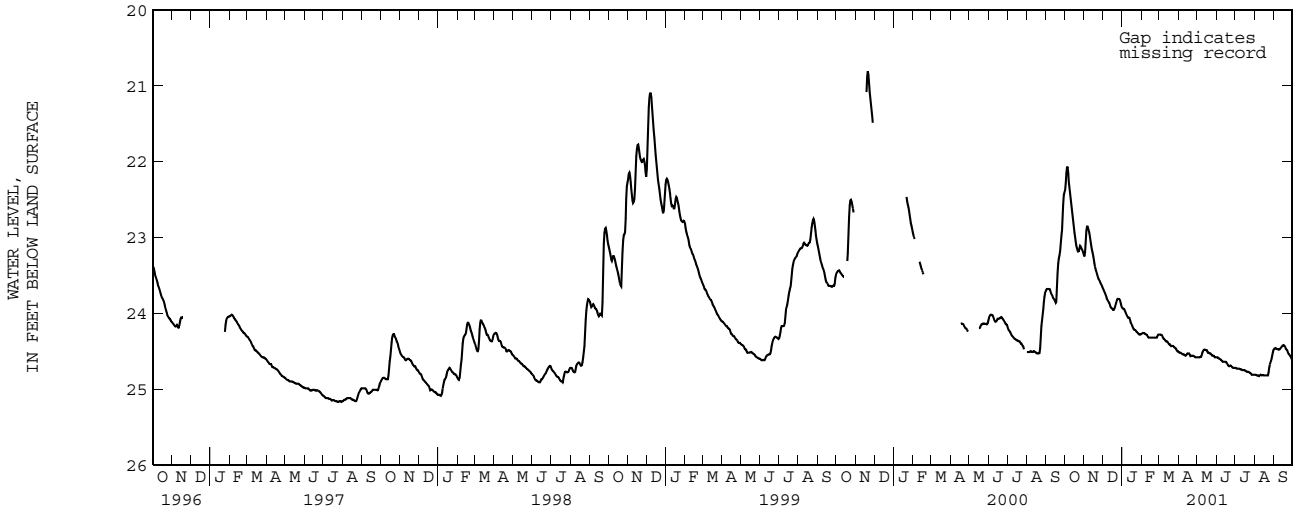
PERIOD OF RECORD.-- June 1992 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 20.75 ft (6.32 m), below land-surface datum, Nov. 20, 21, 1999; lowest water level recorded, 25.70 ft (7.83 m), below land-surface datum, May 31, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.40	23.24	23.67	23.93	24.27	24.28	24.50	24.58	24.58	24.72	24.81	24.47
2	22.36	23.26	23.68	23.94	24.27	24.28	24.52	24.58	24.58	24.72	24.81	24.47
3	22.22	23.12	23.71	23.94	24.26	24.28	24.52	24.58	24.58	24.73	24.81	24.46
4	22.09	22.97	23.73	23.94	24.26	24.28	24.52	24.58	24.59	24.73	24.82	24.46
5	22.06	22.86	23.74	23.96	24.26	24.29	24.52	24.58	24.60	24.73	24.82	24.47
6	22.09	22.85	23.77	23.98	24.27	24.29	24.53	24.58	24.60	24.73	24.82	24.47
7	22.21	22.86	23.79	24.00	24.27	24.32	24.54	24.57	24.61	24.73	24.82	24.47
8	22.31	22.89	23.82	24.02	24.28	24.33	24.54	24.58	24.61	24.73	24.83	24.48
9	22.40	22.92	23.83	24.03	24.28	24.34	24.54	24.53	24.62	24.74	24.83	24.48
10	22.48	22.97	23.85	24.06	24.29	24.34	24.54	24.51	24.63	24.74	24.81	24.48
11	22.58	23.03	23.86	24.06	24.31	24.36	24.55	24.49	24.64	24.74	24.81	24.47
12	22.64	23.08	23.87	24.06	24.32	24.37	24.56	24.48	24.64	24.75	24.82	24.46
13	22.72	23.15	23.91	24.06	24.32	24.37	24.56	24.48	24.64	24.75	24.82	24.45
14	22.77	23.18	23.93	24.11	24.32	24.37	24.55	24.48	24.64	24.75	24.81	24.43
15	22.84	23.22	23.93	24.13	24.32	24.38	24.53	24.49	24.64	24.75	24.82	24.43
16	22.90	23.27	23.94	24.15	24.32	24.40	24.53	24.48	24.64	24.75	24.82	24.42
17	22.98	23.32	23.95	24.16	24.32	24.41	24.53	24.49	24.65	24.76	24.82	24.42
18	23.02	23.36	23.96	24.18	24.32	24.41	24.53	24.52	24.66	24.76	24.82	24.43
19	23.08	23.41	23.95	24.20	24.32	24.41	24.53	24.52	24.68	24.77	24.82	24.44
20	23.13	23.43	23.93	24.22	24.32	24.44	24.57	24.52	24.69	24.77	24.82	24.46
21	23.15	23.46	23.91	24.22	24.32	24.43	24.56	24.53	24.70	24.77	24.82	24.48
22	23.18	23.49	23.87	24.22	24.32	24.43	24.56	24.53	24.70	24.77	24.82	24.48
23	23.19	23.52	23.85	24.23	24.32	24.43	24.56	24.53	24.69	24.78	24.82	24.50
24	23.17	23.54	23.81	24.25	24.32	24.43	24.56	24.55	24.69	24.78	24.74	24.53
25	23.11	23.56	23.81	24.25	24.32	24.45	24.56	24.56	24.70	24.79	24.69	24.54
26	23.11	23.58	23.81	24.26	24.32	24.45	24.57	24.56	24.71	24.79	24.66	24.55
27	23.13	23.59	23.81	24.27	24.29	24.46	24.57	24.56	24.72	24.81	24.64	24.56
28	23.15	23.61	23.82	24.28	24.28	24.46	24.58	24.56	24.72	24.81	24.61	24.57
29	23.16	23.63	23.83	24.28	---	24.48	24.58	24.58	24.72	24.81	24.58	24.59
30	23.18	23.64	23.88	24.28	---	24.50	24.58	24.58	24.72	24.81	24.53	24.61
31	23.21	---	23.91	24.28	---	24.50	---	24.58	---	24.81	24.49	---
MEAN	22.77	23.27	23.84	24.13	24.30	24.39	24.55	24.54	24.65	24.76	24.77	24.48

WTR YR 2001 MEAN 24.20 HIGHEST 22.05 OCT. 5, 6, 2000 LOWEST 24.83 AUG. 7, 8, 9, 2001



GROUND-WATER LEVELS

RIO GRANDE DE LOIZA BASIN--Continued

181311066022500. Local number, 1177.

LOCATION.--Lat 18°13'11", long 66°02'25", Hydrologic Unit 21010005, 1.13 mi south of the intersection of Hwy 156 with Hwy 52, 0.15 mi southeast of the intersection of Hwy 172 with Hwy 1, and 0.20 mi northeast of Escuela Antonio S. Pereira. Owner: US Geological Survey, WRD, Name: Piezometer Caguas-Juncos 11.

AQUIFER.--Unconsolidated deposits of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), 0-110 ft (0-33.5 m), screened 66-96 ft (20.1-29.3 m). Depth 110 ft (33.5 m).

INSTRUMENTATION.--Electronic water level logger--60-minute interval.

DATUM.--Elevation of land-surface datum is about 279 ft (85.0 m), above mean sea level. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 3.04 ft (0.24 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on May 2, 1997. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on September 17, 1999. Formerly published as local number and name CJ-TW11.

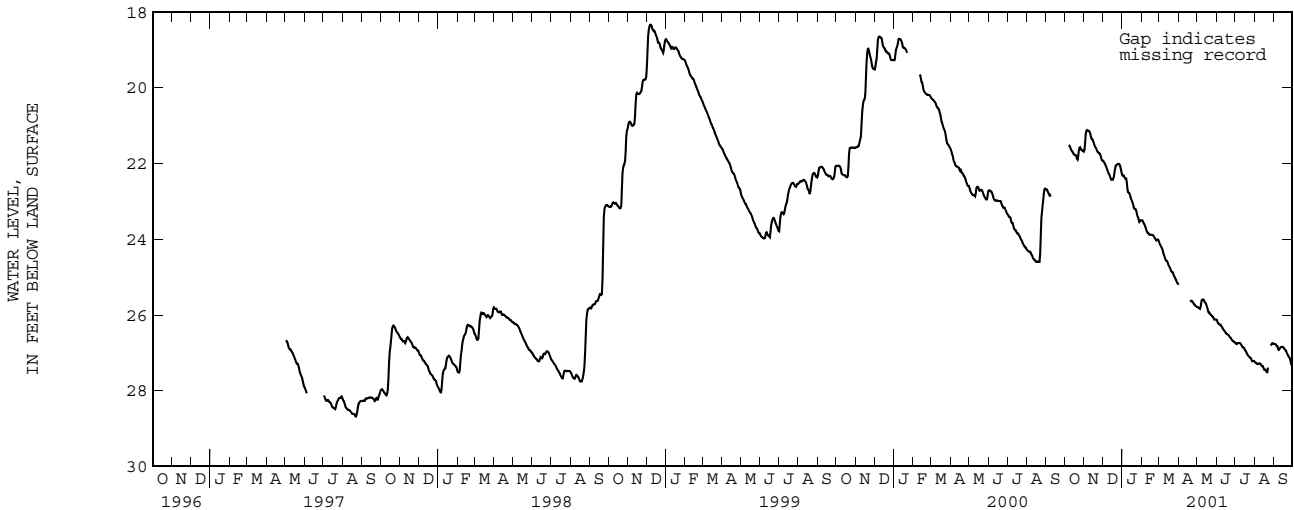
PERIOD OF RECORD.--May 2, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 18.34 ft (5.59 m), below land-surface datum, Dec. 6, 7, 8, 1998; lowest water level recorded, 28.73 ft (8.76 m), below land-surface datum, Aug. 22, 1997.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	21.69	21.93	22.32	23.50	24.06	25.18	25.79	26.12	26.73	27.22	26.76
2	---	21.61	21.93	22.32	23.50	24.11	25.23	25.79	26.13	26.74	27.25	26.76
3	---	21.32	21.98	22.32	23.51	24.17	---	25.80	26.21	26.78	27.26	26.77
4	---	21.15	21.99	22.33	23.58	24.17	---	25.83	26.23	26.76	27.27	26.77
5	---	21.12	22.03	22.39	23.58	24.23	---	25.83	26.23	26.74	27.30	26.82
6	---	21.12	22.08	22.40	23.63	24.24	---	25.85	26.26	26.74	27.30	26.82
7	21.52	21.14	22.11	22.40	23.65	24.30	---	25.75	26.25	26.74	27.28	26.83
8	21.52	21.14	22.16	22.40	23.72	24.38	---	25.62	26.27	26.74	27.28	26.92
9	21.54	21.14	22.18	22.62	23.77	24.43	---	25.60	26.30	26.74	27.28	26.92
10	21.57	21.17	22.27	22.75	23.82	24.44	---	25.59	26.31	26.77	27.28	26.91
11	21.64	21.21	22.27	22.77	23.83	24.53	---	25.59	26.36	26.79	27.29	26.86
12	21.66	21.32	22.32	22.79	23.84	24.56	---	25.60	26.38	26.82	27.35	26.86
13	21.68	21.35	22.36	22.79	23.88	24.57	---	25.67	26.41	26.86	27.35	26.84
14	21.71	21.37	22.43	22.88	23.88	24.58	---	25.67	26.42	26.86	27.35	26.84
15	21.75	21.37	22.43	22.92	23.88	24.61	---	25.70	26.45	26.86	27.36	26.84
16	21.77	21.45	22.43	22.97	23.88	24.68	---	25.73	26.48	26.90	27.45	26.85
17	21.78	21.47	22.43	23.01	23.88	24.72	---	25.81	26.50	26.94	27.44	26.88
18	21.78	21.54	22.43	23.03	23.89	24.74	---	25.83	26.50	26.96	27.44	26.89
19	21.78	21.57	22.32	23.12	23.89	24.76	---	25.94	26.52	26.97	27.44	26.92
20	21.84	21.59	22.22	23.19	23.90	24.82	25.57	25.93	26.52	27.03	27.49	26.94
21	21.90	21.62	22.09	23.20	23.95	24.86	25.64	25.94	26.55	27.05	27.51	26.94
22	21.89	21.68	22.05	23.20	23.96	24.86	25.64	25.99	26.58	27.08	27.51	27.03
23	21.72	21.70	22.05	23.21	23.98	24.87	25.63	25.99	26.59	27.09	27.27	27.03
24	21.61	21.72	22.03	23.29	24.04	24.91	25.65	26.01	26.61	27.12	---	27.09
25	21.57	21.74	22.01	23.38	24.04	24.98	25.70	26.05	26.63	27.13	---	27.10
26	21.58	21.74	22.01	23.41	24.02	25.00	25.71	26.05	26.68	27.13	26.81	27.14
27	21.63	21.76	22.02	23.44	24.00	25.03	25.72	26.05	26.69	27.18	26.79	27.14
28	21.66	21.82	22.02	23.55	24.02	25.08	25.75	26.12	26.69	27.22	26.79	27.24
29	21.65	21.91	22.09	23.55	---	25.08	25.77	26.12	26.70	27.22	26.75	27.31
30	21.65	21.93	22.14	23.50	---	25.16	25.78	26.12	26.73	27.21	26.75	27.34
31	21.69	---	22.25	23.50	---	25.17	---	26.12	---	27.22	26.75	---
MEAN	21.68	21.48	22.16	22.93	23.82	24.65	25.61	25.85	26.44	26.94	27.23	26.95

WTR YR 2001 MEAN 24.64 HIGHEST 21.11 NOV. 4, 5, 2000 LOWEST 27.56 AUG. 22, 23, 2001



GROUND-WATER LEVELS

RIO GRANDE DE LOIZA BASIN--Continued

181446066013400. Local number, 1178.

LOCATION.--Lat 18°14'46", long 66°01'34", Hydrologic Unit 21010005, 0.63 mi east of Hwy 1, 1.59 mi west of the intersection of Hwy 189 with Hwy 931, and 0.70 mi northeast of the intersection of Hwy 189 with Hwy 1. Owner: US Geological Survey, WRD, Name: Piezometer Caguas-Juncos 20.

AQUIFER.--Unconsolidated deposits of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), casing 4 in (0.10 m), 0-37.0 ft (0-11.3 m), screened 25-35 ft (7.62-11.3 m). Depth 35.0 ft (11.3 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 187.0 ft (57.0 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 3.63 ft (1.11 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on May 5, 1997. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on September 29, 1999. Formerly published as local number CJ-TW20.

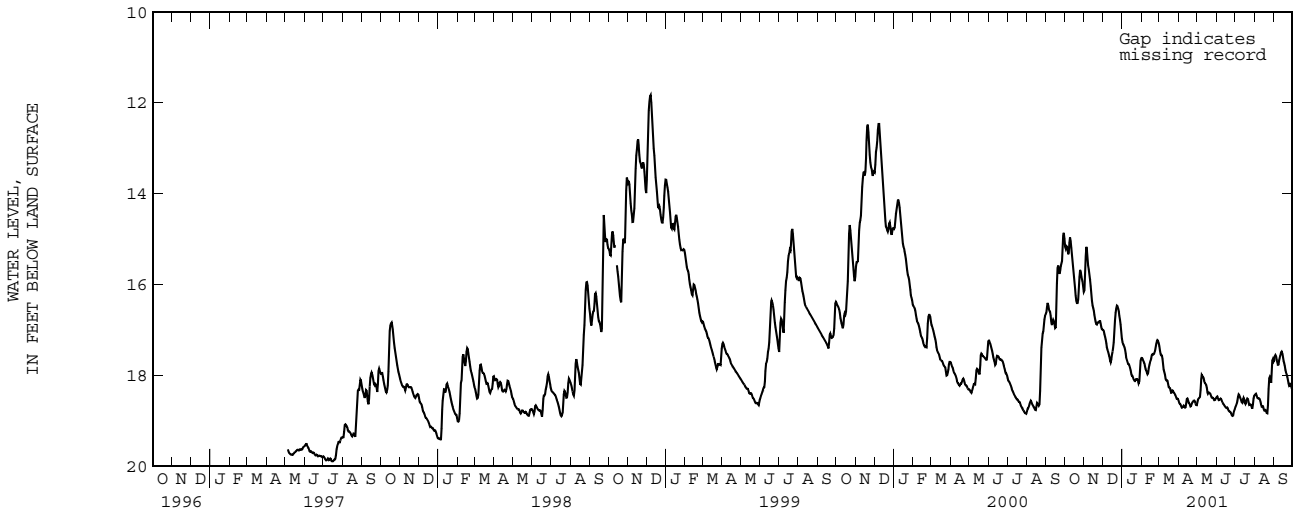
PERIOD OF RECORD.--May 5, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 11.75 ft (3.58 m), below land-surface datum, Dec. 7, 1998; lowest water level recorded, 19.89 ft (6.06 m), below land-surface datum, July 15, 16, 17, 1997.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.07	16.20	17.00	17.24	17.63	17.31	18.52	18.64	18.48	18.71	18.43	17.73
2	15.24	16.06	16.99	17.29	17.60	17.39	18.59	18.53	18.46	18.67	18.42	17.61
3	15.17	15.58	17.05	17.33	17.65	17.51	18.62	18.52	18.46	18.65	18.40	17.55
4	15.13	15.17	17.13	17.34	17.68	17.54	18.63	18.50	18.54	18.59	18.40	17.55
5	15.21	15.17	17.16	17.40	17.71	17.57	18.64	18.48	18.54	18.52	18.48	17.61
6	15.28	15.36	17.26	17.46	17.75	17.55	18.71	18.46	18.53	18.41	18.50	17.71
7	15.39	15.55	17.33	17.57	17.83	17.72	18.70	18.18	18.51	18.42	18.50	17.71
8	15.21	15.61	17.42	17.64	17.87	17.81	18.70	17.97	18.50	18.44	18.50	17.81
9	14.95	15.72	17.44	17.66	17.90	17.92	18.66	18.00	18.53	18.48	18.50	17.70
10	14.98	15.84	17.51	17.73	17.95	17.92	18.66	18.02	18.56	18.51	18.54	17.62
11	15.11	15.94	17.55	17.75	17.99	18.03	18.70	18.03	18.61	18.56	18.59	17.59
12	15.28	16.12	17.62	17.75	17.90	18.10	18.71	18.08	18.61	18.61	18.68	17.52
13	15.49	16.29	17.70	17.80	17.78	18.10	18.69	18.17	18.65	18.59	18.68	17.46
14	15.60	16.43	17.71	17.85	17.75	18.10	18.54	18.16	18.66	18.49	18.66	17.49
15	15.77	16.49	17.58	17.92	17.67	18.13	18.49	18.20	18.69	18.49	18.69	17.53
16	15.89	16.54	17.50	18.01	17.67	18.24	18.52	18.21	18.70	18.56	18.77	17.66
17	16.03	16.62	17.44	17.99	17.58	18.28	18.57	18.33	18.72	18.62	18.77	17.70
18	16.17	16.71	17.35	18.02	17.52	18.26	18.62	18.41	18.71	18.63	18.76	17.74
19	16.31	16.78	17.19	18.06	17.54	18.29	18.61	18.39	18.70	18.57	18.76	17.83
20	16.40	16.85	16.90	18.11	17.54	18.36	18.67	18.36	18.76	18.51	18.80	17.91
21	16.41	16.89	16.67	18.11	17.52	18.39	18.69	18.39	18.78	18.50	18.84	17.95
22	16.40	16.87	16.57	18.13	17.50	18.35	18.65	18.39	18.79	18.54	18.82	17.99
23	16.26	16.82	16.47	18.08	17.43	18.31	18.59	18.42	18.80	18.64	18.49	18.07
24	15.96	16.83	16.45	18.07	17.33	18.36	18.58	18.48	18.81	18.65	18.10	18.14
25	15.70	16.82	16.50	18.08	17.27	18.38	18.56	18.49	18.85	18.63	18.02	18.21
26	15.65	16.78	16.55	18.09	17.22	18.40	18.55	18.49	18.89	18.64	18.03	18.25
27	15.78	16.82	16.63	18.16	17.22	18.43	18.55	18.49	18.89	18.67	18.09	18.20
28	15.86	16.88	16.74	18.19	17.25	18.45	18.59	18.54	18.87	18.73	18.23	18.18
29	15.89	16.98	16.80	18.08	---	18.51	18.63	18.54	18.79	18.73	17.73	18.24
30	15.97	16.98	16.96	17.74	---	18.51	18.66	18.53	18.77	18.55	17.62	18.30
31	16.12	---	17.13	17.61	---	18.51	---	18.50	---	18.46	17.66	---
MEAN	15.67	16.32	17.11	17.81	17.62	18.09	18.62	18.35	18.67	18.57	18.43	17.82

WTR YR 2001 MEAN 17.76 HIGHEST 14.90 OCT. 9, 2000 LOWEST 18.89 JUNE 25, 26, 27, 2001



GROUND-WATER LEVELS

RIO GRANDE DE LOIZA BASIN--Continued

181539066014500. Local number, 1179.

LOCATION.--Lat 18°15'39", long 66°01'45", Hydrologic Unit 21010005, 0.55 mi southeast of the intersection of Hwy 1 with Hwy 30, 0.75 mi southeast of the intersection of Hwy 1 with Hwy 52, and 0.06 mi north of Hwy 796. Owner: US Geological Survey, WRD, Name: Piezometer Caguas-Juncos 15.

AQUIFER.--Unconsolidated deposits of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), 0-70.0 ft (0-21.3 m), screened 25-70 ft (7.62-21.3 m). Depth 70.0 ft (21.3 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 167.3 ft (51.0 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 3.75 ft (1.14 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on May 5, 1997. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on September 2, 1999. Formerly published as local number and name CJ-TW15.

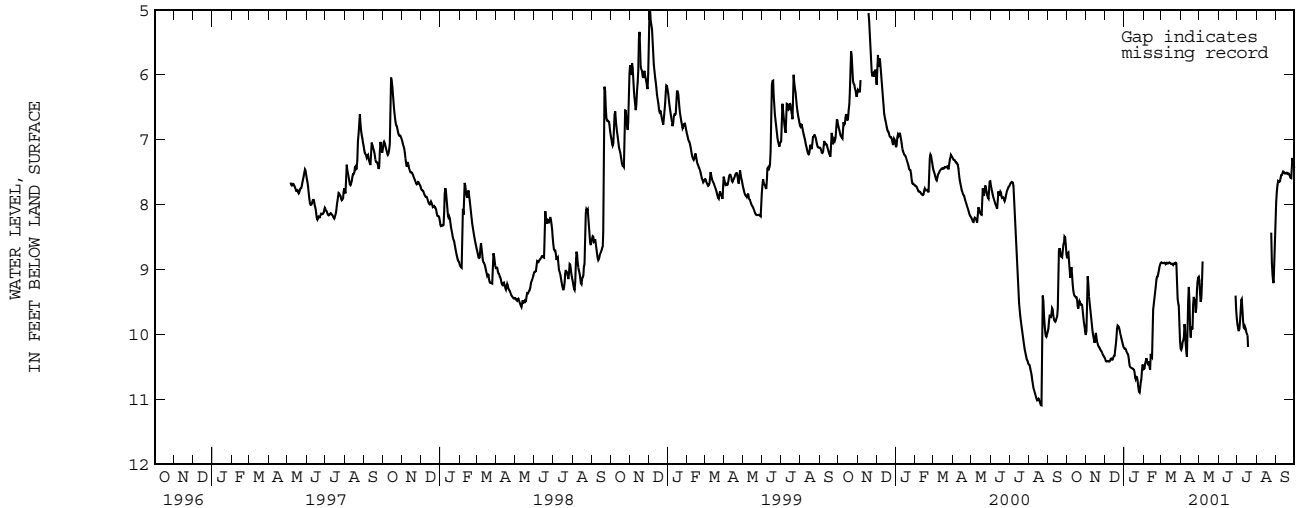
PERIOD OF RECORD.--May 5, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.92 ft (1.50 m), below land-surface datum, Dec. 3, 1998; lowest water level recorded, 11.11 ft (3.39 m), below land-surface datum, Aug. 11, 22, 2000.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.83	10.02	10.35	10.21	10.51	8.89	10.18	9.11	---	9.81	---	8.07
2	8.82	9.87	10.39	10.22	10.55	8.89	10.25	9.23	---	9.88	---	7.83
3	8.67	9.08	10.42	10.21	10.49	8.90	10.22	9.51	---	9.93	---	7.76
4	8.80	9.12	10.41	10.24	10.40	8.90	10.19	9.48	---	9.96	---	7.64
5	8.96	9.33	10.41	10.27	10.42	8.90	10.03	9.40	---	9.86	---	7.63
6	9.06	9.50	10.41	10.29	10.31	8.90	10.16	9.01	---	9.72	---	7.66
7	9.19	9.57	10.41	10.30	10.51	8.89	9.92	8.74	---	9.52	---	7.64
8	8.93	9.65	10.42	10.32	10.35	8.91	9.76	---	---	9.42	---	7.64
9	8.99	9.77	10.41	10.44	10.59	8.92	10.04	---	---	9.49	---	7.55
10	9.16	9.83	10.39	10.49	10.24	8.89	10.21	---	---	9.72	---	7.55
11	9.29	9.93	10.36	10.50	10.74	8.90	10.31	---	---	9.85	---	7.54
12	9.36	10.00	10.38	10.51	10.34	8.91	10.37	---	---	9.93	---	7.50
13	9.40	10.05	10.39	10.52	10.25	8.90	9.66	---	---	9.88	---	7.48
14	9.41	10.11	10.38	10.52	10.42	8.89	9.28	---	---	9.87	---	7.51
15	9.42	10.14	10.33	10.53	10.28	8.89	9.25	---	---	9.94	---	7.52
16	9.43	9.96	10.33	10.53	9.67	8.91	9.74	---	---	9.98	---	7.52
17	9.42	9.99	10.32	10.55	9.56	8.91	10.10	---	---	9.99	---	7.52
18	9.52	10.08	10.18	10.58	9.48	8.91	9.99	---	---	10.04	---	7.51
19	9.59	10.12	10.16	10.72	9.39	8.91	9.77	---	---	10.34	---	7.51
20	9.61	10.15	9.97	10.65	9.30	8.93	10.06	---	---	---	---	7.54
21	9.46	10.19	9.86	10.65	9.23	8.93	9.76	---	---	---	---	7.52
22	9.51	10.19	9.86	10.66	9.09	8.89	9.31	---	---	---	---	7.52
23	9.51	10.21	9.88	10.77	9.13	8.92	9.53	---	---	---	---	7.55
24	9.57	10.24	9.89	10.84	9.08	8.89	9.48	---	---	---	8.08	7.58
25	9.50	10.25	9.96	10.91	9.04	8.90	9.50	---	---	---	8.78	7.59
26	9.59	10.26	10.00	10.87	8.98	8.91	9.82	---	---	---	9.02	7.59
27	9.69	10.29	10.03	10.77	8.95	9.37	9.34	---	---	---	9.13	7.27
28	9.80	10.31	10.08	10.72	8.91	9.53	9.26	---	9.26	---	9.25	7.29
29	9.82	10.32	10.11	10.66	---	9.51	9.14	---	9.54	---	9.16	7.37
30	9.92	10.35	10.16	10.44	---	9.60	9.11	---	9.71	---	8.74	7.41
31	9.99	---	10.19	10.48	---	10.02	---	---	---	---	8.28	---
MEAN	9.36	9.96	10.22	10.53	9.86	9.02	9.79	9.21	9.50	9.85	8.81	7.56

WTR YR 2001 MEAN 9.53 HIGHEST 7.25 SEPT. 27, 2001 LOWEST 11.11 JULY 20, 2001



GROUND-WATER LEVELS

RIO GRANDE DE LOIZA BASIN--Continued

181550065593200. Local number, 50.

LOCATION.--Lat 18°15'50", long 65°59'32", Hydrologic Unit 21010005, 1.36 mi northwest of Gurabo plaza, 0.70 mi north of Estación Experimental Agrícola, and 2.42 mi southwest of Escuela José M. Gallardo. Owner: University of Puerto Rico, Gurabo Agricultural Experimental Station, Name: Piezometer USGS 50 Gurabo.

AQUIFER.--Unconsolidated deposits of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 13 in (0.34 m), cased 4 in (0.10 m), 0-145 ft (0-44.2 m). Depth 145 ft (44.2 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 148 ft (45.1 m), above mean sea level, from topographic map. Measuring point:

Top of 12 in (0.30 m) casing, 2.09 ft (0.64 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on September 30, 1999. Water level is affected by water level in Lago Loiza.

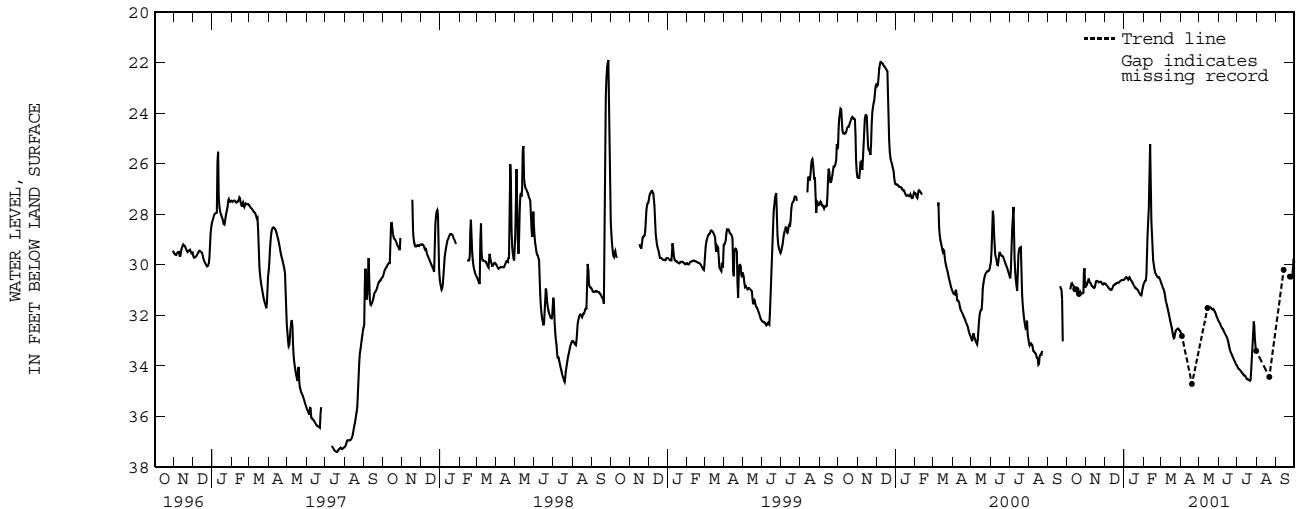
PERIOD OF RECORD.--December 1960 to March 1985, discontinued, and September 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.6 ft (3.86 m), below land-surface datum, Sept. 9, 1975; lowest water level measured, 44.4 ft (13.5 m), below land-surface datum, June 18, 1975.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	30.71	30.76	30.60	30.80	30.70	32.63	---	32.22	34.00	---	---
2	---	30.78	30.75	30.56	30.71	30.75	32.70	---	32.26	34.05	---	---
3	---	30.78	30.78	30.52	30.65	30.82	32.82	---	32.30	34.13	---	---
4	---	30.63	30.82	30.49	30.63	30.92	---	---	32.35	34.13	---	---
5	---	30.54	30.84	30.50	30.62	30.96	---	---	32.41	34.15	---	---
6	31.02	30.61	30.88	30.54	30.13	31.02	---	---	32.49	34.18	---	---
7	30.93	30.70	30.90	30.57	29.14	31.18	---	---	32.51	34.22	---	---
8	30.82	30.72	30.96	30.61	28.46	31.32	---	---	32.54	34.25	---	---
9	30.67	30.75	30.96	30.45	28.11	31.47	---	---	32.57	34.28	---	---
10	30.79	30.84	30.98	30.54	27.34	31.53	---	---	32.65	34.30	---	---
11	30.82	30.85	31.00	30.58	25.21	31.66	---	---	32.71	34.35	---	---
12	30.83	30.88	30.99	30.62	25.25	31.77	---	---	32.73	34.40	---	---
13	30.89	30.91	30.95	30.64	27.87	31.89	---	---	32.83	34.38	---	---
14	30.95	30.92	30.87	30.70	28.73	32.00	---	---	32.82	34.40	---	---
15	30.98	30.89	30.80	30.74	29.30	32.14	---	31.69	32.91	34.46	---	---
16	---	30.73	30.80	30.82	29.74	32.26	---	31.67	32.98	34.50	---	---
17	---	30.65	30.79	30.83	29.90	32.37	---	31.69	33.11	34.55	---	---
18	---	30.64	30.74	30.88	30.09	32.48	---	31.73	33.22	34.52	---	---
19	---	30.64	30.75	30.92	30.25	32.61	---	31.68	33.32	34.55	---	---
20	31.09	30.66	30.74	30.95	30.32	32.75	---	31.70	33.42	34.57	---	---
21	31.22	30.69	30.72	30.95	30.40	32.89	---	31.74	33.47	34.57	---	---
22	31.03	30.71	30.69	30.97	30.42	32.92	---	31.77	33.53	34.61	---	---
23	31.11	30.67	30.72	31.01	30.49	32.84	---	31.77	33.59	34.49	---	30.45
24	31.18	30.67	30.70	31.06	30.49	32.63	---	31.73	33.66	33.81	---	30.49
25	31.12	30.68	30.66	31.11	30.49	32.60	---	31.81	33.69	33.36	---	30.51
26	31.12	30.74	30.64	31.15	30.49	32.56	---	31.85	33.78	32.92	---	30.57
27	31.13	30.76	30.63	31.17	30.55	32.54	---	31.89	33.82	32.46	---	30.49
28	31.10	30.79	30.60	31.23	30.60	32.51	---	31.96	33.87	32.03	---	30.52
29	29.46	30.76	30.60	31.20	---	32.56	---	32.04	33.93	32.81	---	29.64
30	30.83	30.71	30.60	30.99	---	32.58	---	32.07	33.97	33.10	---	29.89
31	30.99	---	30.60	30.88	---	32.59	---	32.15	---	33.41	---	---
MEAN	30.91	30.73	30.78	30.80	29.54	31.99	32.72	31.82	33.06	34.00	---	30.32

WTR YR 2001 MEAN 31.52 HIGHEST 24.53 FEB. 12, 2001 LOWEST 34.62 JULY 22, 2001



GROUND-WATER LEVELS

RIO GRANDE DE LOIZA BASIN--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 06	31.02	NOV 06	30.61	JAN 10	30.54	MAR 20	32.75	MAY 14	31.71	AUG 21	34.44
OCT 16	30.98	DEC 12	30.99	FEB 16	29.73	APR 19	34.72	JUN 27	33.82	SEP 13	30.20
OCT 20	31.09	DEC 18	30.64								

WATER YEAR 2001 HIGHEST 30.20 SEPT. 13, 2001 LOWEST 34.72 APR. 19, 2001

GROUND-WATER LEVELS

RIO GRANDE DE LOIZA BASIN--Continued

182515065594100. Local number, 222.

LOCATION.--Lat 18°25'15", Long 65°59'41", Hydrologic Unit 21010005, 3.56 mi northwest of Carolina plaza, 1.21 mi northwest of Escuela Extensión El Comandante, and 0.74 mi southwest of Escuela Vistamar. Owner: US Geological Survey, WRD, Name: Piezometer Campo Rico TW-1.

AQUIFER.--Surficial Deposits.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m). Depth 100 ft (30.5 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 10.0 ft (3.05 m), above mean sea level, from topographic map. Measuring point: Hole on side of casing, 0.90 ft (0.27 m), above land-surface datum. Prior July 28, 1986, top of shelter floor, 3.10 ft (0.94 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on June 28, 1999. Well level affected by marine tides.

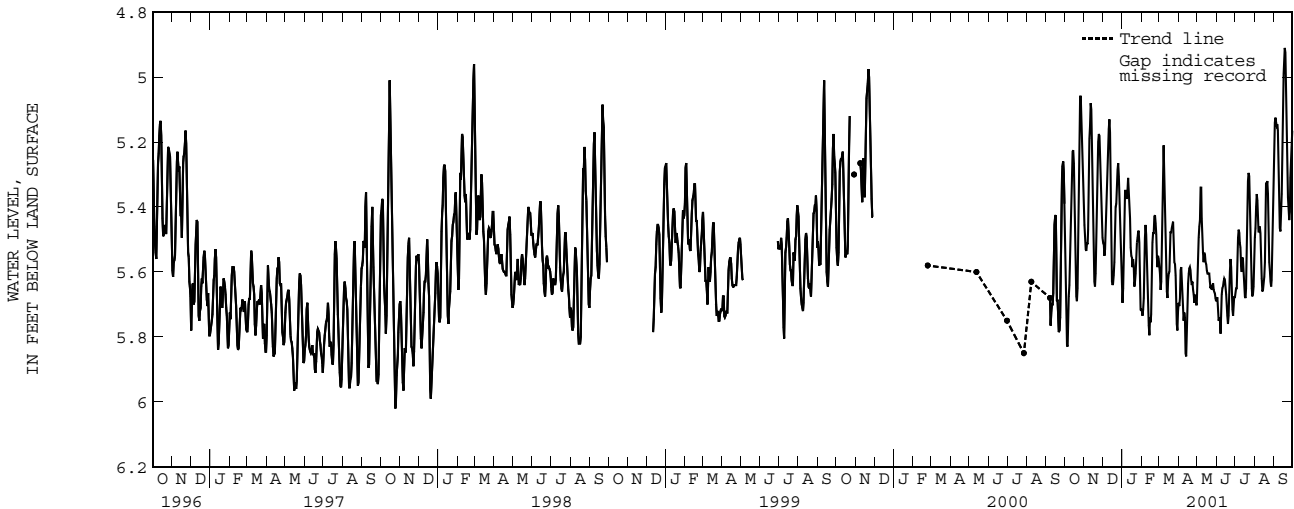
PERIOD OF RECORD.--February 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.33 ft (1.32 m), below land-surface datum, Sept. 6, 1995; lowest water level recorded, 7.42 ft (2.26 m), below land-surface datum, Feb. 9, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.44	5.43	5.53	5.69	5.70	5.61	5.70	5.71	5.69	5.70	5.50	5.25
2	5.57	5.48	5.49	5.70	5.74	5.55	5.69	5.58	5.67	5.63	5.49	5.17
3	5.70	5.50	5.54	5.60	5.73	5.66	5.72	5.53	5.69	5.67	5.44	5.11
4	5.77	5.56	5.56	5.49	5.70	5.65	5.64	5.46	5.74	5.63	5.36	5.14
5	5.88	5.51	5.50	5.36	5.66	5.61	5.55	5.46	5.76	5.51	5.36	5.14
6	5.78	5.51	5.41	5.34	5.55	5.43	5.62	5.42	5.72	5.48	5.40	5.16
7	5.67	5.52	5.37	5.36	5.44	5.33	5.66	5.26	5.78	5.46	5.45	5.13
8	5.68	5.42	5.30	5.36	5.47	5.18	5.72	5.42	5.80	5.50	5.50	5.20
9	5.60	5.22	5.23	5.39	5.50	5.24	5.72	5.45	5.70	5.52	5.45	5.27
10	5.50	5.16	5.19	5.31	5.59	5.36	5.78	5.51	5.64	5.53	5.47	5.41
11	5.44	5.14	5.13	5.31	5.67	5.40	5.67	5.57	5.66	5.63	5.49	5.52
12	5.33	5.02	5.13	5.40	5.71	5.59	5.81	5.57	5.63	5.57	5.59	5.43
13	5.25	5.18	5.21	5.38	5.82	5.60	5.89	5.51	5.63	5.54	5.65	5.38
14	5.21	5.26	5.42	5.49	5.77	5.72	5.83	5.58	5.61	5.59	5.67	5.34
15	5.24	5.39	5.61	5.56	5.71	5.64	5.76	5.56	5.64	5.61	5.64	5.16
16	5.29	5.54	5.65	5.54	5.80	5.61	5.67	5.59	5.65	5.66	5.63	5.00
17	5.39	5.60	5.63	5.57	5.66	5.60	5.60	5.60	5.69	5.69	5.60	4.98
18	5.53	5.66	5.64	5.60	5.55	5.60	5.61	5.61	5.72	5.67	5.54	4.93
19	5.67	5.63	5.58	5.52	5.47	5.47	5.57	5.60	5.75	5.63	5.33	4.89
20	5.68	5.58	5.56	5.64	5.49	5.48	5.60	5.61	5.77	5.53	5.32	4.96
21	5.70	5.47	5.39	5.65	5.47	5.48	5.59	5.60	5.70	5.36	5.35	5.12
22	5.60	5.36	5.41	5.61	5.39	5.45	5.66	5.66	5.66	5.28	5.29	5.19
23	5.44	5.21	5.37	5.60	5.46	5.46	5.62	5.64	5.54	5.31	5.43	5.34
24	5.29	5.19	5.32	5.52	5.44	5.43	5.64	5.64	5.58	5.30	5.57	5.40
25	5.10	5.16	5.25	5.50	5.53	5.57	5.67	5.67	5.59	5.43	5.57	5.40
26	5.02	5.20	5.28	5.49	5.58	5.57	5.67	5.62	5.69	5.53	5.62	5.48
27	5.10	5.29	5.33	5.46	5.59	5.58	5.72	5.65	5.74	5.62	5.64	5.35
28	5.16	5.33	5.38	5.49	5.51	5.64	5.63	5.66	5.73	5.68	5.65	5.27
29	5.17	5.40	5.47	5.53	---	5.70	5.71	5.66	5.69	5.67	5.60	5.24
30	5.27	5.46	5.59	5.70	---	5.82	5.69	5.67	5.66	5.67	5.45	5.18
31	5.30	---	5.61	5.73	---	5.74	---	5.69	---	5.62	5.38	---
MEAN	5.44	5.38	5.42	5.51	5.60	5.54	5.68	5.57	5.68	5.56	5.50	5.22

WTR YR 2001 MEAN 5.51 HIGHEST 4.85 SEPT. 22, 2001 LOWEST 6.21 APR. 13, 2001



GROUND-WATER LEVELS

RIO GRANDE DE LOIZA BASIN--Continued

181540065580300. Local number, 1180.

LOCATION.--Lat 18°15'40", long 65°58'03", Hydrologic Unit 21010005, 0.75 mi northeast of the intersection of Hwy 181 with Hwy 30, 0.88 mi south of the intersection of Hwy 943 with Hwy 181, and 0.01 mi west of Hwy 181. Owner: US Geological Survey, WRD, Name: Piezometer Caguas-Juncos 18.

AQUIFER.--Unconsolidated deposits of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), 0-65.0 ft (0-19.8 m), screened 25-65 ft (7.62-19.8 m). Depth 65.0 ft (19.8 m).

DATUM.--Elevation of land-surface datum is about 164.0 ft (50.0 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 3.65 ft (1.11 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on June 23, 1997. Shelter with instrumentation found destroyed due to construction in the area, September 30, 1997. Since then, tapedown measurements only. Formerly published as local number and name CJ-TW18.

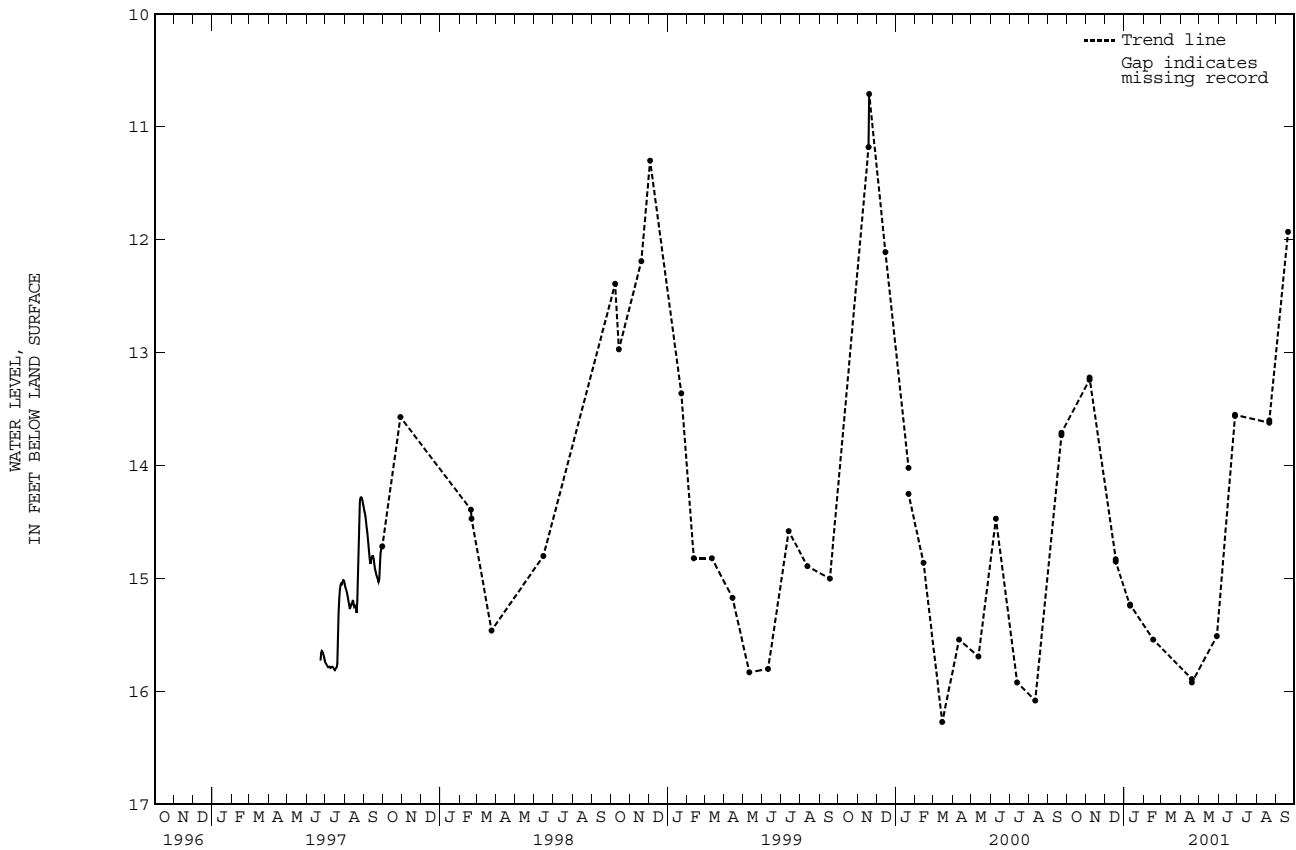
PERIOD OF RECORD.--June 23, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.71 ft (3.26 m), below land-surface datum, Jan. 21, 2000; lowest water level measured, 16.27 ft (4.96 m) below land-surface datum, Mar. 15, 2000.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06	13.24	DEC 18	14.85	FEB 16	15.54	MAY 29	15.51	JUN 27	13.55	AUG 21	13.60
06	13.22	JAN 10	15.24	APR 19	15.89	JUN 27	13.56	AUG 21	13.62	SEP 20	11.93
DEC 18	14.83	JAN 10	15.23	APR 19	15.92						

WATER YEAR 2001 HIGHEST 11.93 SEPT. 20, 2001 LOWEST 15.92 APR. 19, 2001



GROUND-WATER LEVELS

RIO GRANDE DE LOIZA BASIN--Continued

181513065554601. Local number, 1181.

LOCATION.--Lat 18°15'13", long 65°55'46", Hydrologic Unit 21010005, 2.86 mi east of Gurabo plaza, 3.57 mi southwest of Hwy 186 km 4.7, and 1.39 mi southwest of Hwy 185 km 15.7. Owner: US Geological Survey, WRD, Name: Piezometer CJ 3B.

AQUIFER.--Unconsolidated deposits of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m), 0-38 ft (0-11.6 m) screened 25-35 ft (7.62 m). Depth 38.0 ft (11.6 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes punch.

DATUM.--Elevation of land-surface datum is about 187 ft (57.0 m), above mean sea level, from topographic map. Measuring point: Top of casing 2.95 ft (0.90 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Data Recorder (ADR) change to an Electronic Data Logger (EDL), installed on Feb. 17, 2000. Formerly published as local number and name CJ-TW3B.

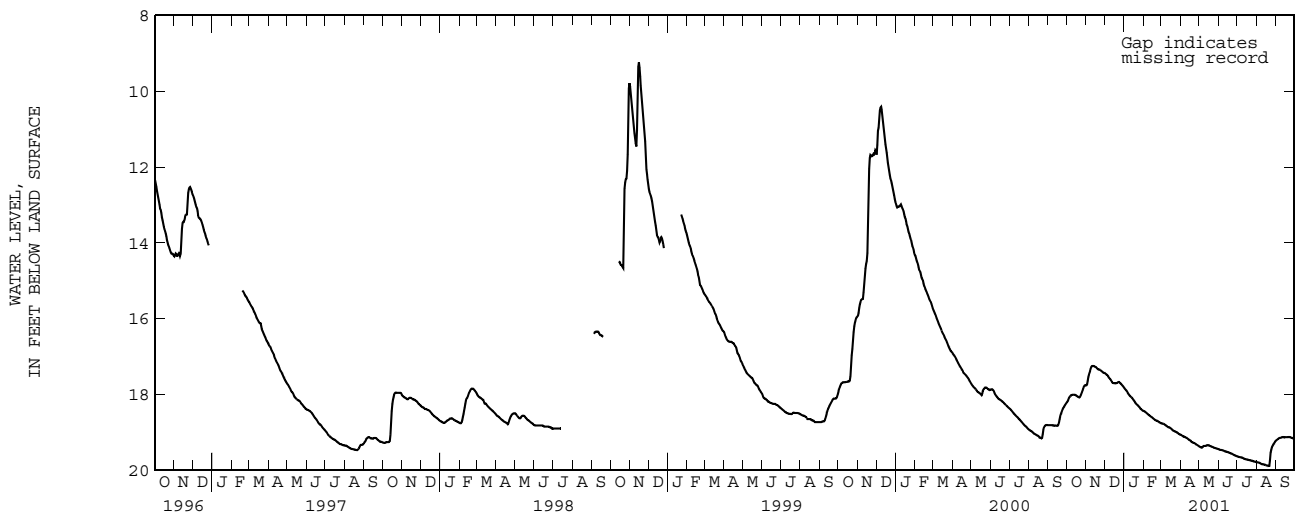
PERIOD OF RECORD.--September 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 9.18 ft (2.80 m), below land-surface datum, Nov. 15, 16, 1998; lowest water level recorded, 20.31 ft (6.19 m), below land-surface datum, Sept. 19, 1994.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.21	17.76	17.44	17.83	18.44	18.76	19.06	19.37	19.44	19.63	19.79	19.22
2	18.19	17.76	17.45	17.85	18.44	18.76	19.07	19.38	19.45	19.64	19.79	19.21
3	18.17	17.71	17.47	17.87	18.45	18.78	19.08	19.39	19.46	19.65	19.79	19.20
4	18.12	17.58	17.48	17.89	18.47	18.77	19.09	19.40	19.47	19.65	19.80	19.18
5	18.07	17.50	17.49	17.91	18.48	18.78	19.11	19.40	19.46	19.65	19.80	19.17
6	18.06	17.45	17.51	17.94	18.49	18.78	19.11	19.41	19.47	19.66	19.81	19.16
7	18.04	17.41	17.54	17.97	18.51	18.80	19.11	19.38	19.47	19.66	19.81	19.15
8	18.02	17.35	17.57	17.99	18.52	18.81	19.13	19.36	19.48	19.67	19.83	19.15
9	18.02	17.29	17.58	18.01	18.54	18.82	19.13	19.36	19.48	19.67	19.84	19.14
10	18.01	17.26	17.60	18.04	18.55	18.83	19.14	19.36	19.49	19.67	19.84	19.14
11	18.01	17.25	17.63	18.05	18.56	18.85	19.15	19.36	19.50	19.69	19.84	19.13
12	18.01	17.25	17.66	18.07	18.58	18.86	19.16	19.36	19.51	19.70	19.85	19.13
13	18.01	17.25	17.69	18.08	18.59	18.87	19.17	19.35	19.51	19.70	19.85	19.12
14	18.01	17.26	17.70	18.10	18.60	18.86	19.19	19.34	19.51	19.71	19.85	19.14
15	18.02	17.27	17.70	18.13	18.61	18.88	19.20	19.34	19.52	19.71	19.86	19.13
16	18.03	17.28	17.70	18.15	18.63	18.89	19.21	19.34	19.52	19.72	19.87	19.13
17	18.04	17.28	17.71	18.17	18.64	18.90	19.22	19.35	19.53	19.72	19.87	19.13
18	18.05	17.30	17.71	18.19	18.65	18.92	19.23	19.36	19.54	19.72	19.88	19.13
19	18.07	17.32	17.70	18.22	18.67	18.93	19.26	19.36	19.54	19.73	19.88	19.13
20	18.07	17.34	17.70	18.25	18.68	18.95	19.26	19.37	19.55	19.73	19.89	19.13
21	18.08	17.34	17.70	18.26	18.69	18.96	19.27	19.38	19.56	19.73	19.89	19.13
22	18.08	17.34	17.68	18.28	18.69	18.97	19.28	19.38	19.56	19.74	19.89	19.12
23	18.04	17.35	17.67	18.29	18.70	18.97	19.28	19.39	19.57	19.75	19.59	19.13
24	18.00	17.36	17.67	18.31	18.71	18.98	19.29	19.40	19.58	19.75	19.49	19.13
25	17.96	17.38	17.70	18.33	18.72	18.99	19.30	19.41	19.59	19.75	19.43	19.14
26	17.91	17.39	17.71	18.35	18.73	19.00	19.32	19.41	19.60	19.76	19.37	19.14
27	17.87	17.40	17.72	18.38	18.74	19.00	19.33	19.42	19.61	19.77	19.35	19.15
28	17.81	17.42	17.74	18.39	18.75	19.03	19.34	19.42	19.61	19.77	19.32	19.15
29	17.78	17.43	17.76	18.40	---	19.03	19.34	19.43	19.62	19.77	19.30	19.17
30	17.76	17.43	17.78	18.42	---	19.05	19.36	19.43	19.63	19.78	19.27	19.18
31	17.76	---	17.80	18.43	---	19.05	---	19.44	---	19.78	19.24	---
MEAN	18.01	17.39	17.64	18.15	18.60	18.90	19.21	19.38	19.53	19.71	19.71	19.15

WTR YR 2001 MEAN 18.78 HIGHEST 17.24 NOV. 11, 12, 13, 2000 LOWEST 19.89 AUG. 20, 21, 22, 2001



GROUND-WATER LEVELS

RIO HERRERA TO RIO ANTON RUIZ BASINS

182344065490801. Local number, 1201.

LOCATION.--Lat 18°23'44", long 65°49'08", Hydrologic Unit 2101005, 0.35 mi west of Hwy 187, 1.30 mi southwest of the intersection of Hwy 187 with Hwy 3, and 1.83 mi south of Punta San Agustín. Owner: US Geological Survey, WRD, Name: Piezometer USGS RE-2A.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 0-22.0 ft (0-6.70 m), screened 3.00-22.0 ft (0.90-6.70 m). Depth 22.0 ft (6.7 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is 5.78 ft (1.71 m), above mean sea level, from survey. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 5.60 ft (1.71 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on December 24, 1996 replaced by an Electronic Data Logger (EDL), installed on January 14, 1997. Formerly published as local number RE-2A.

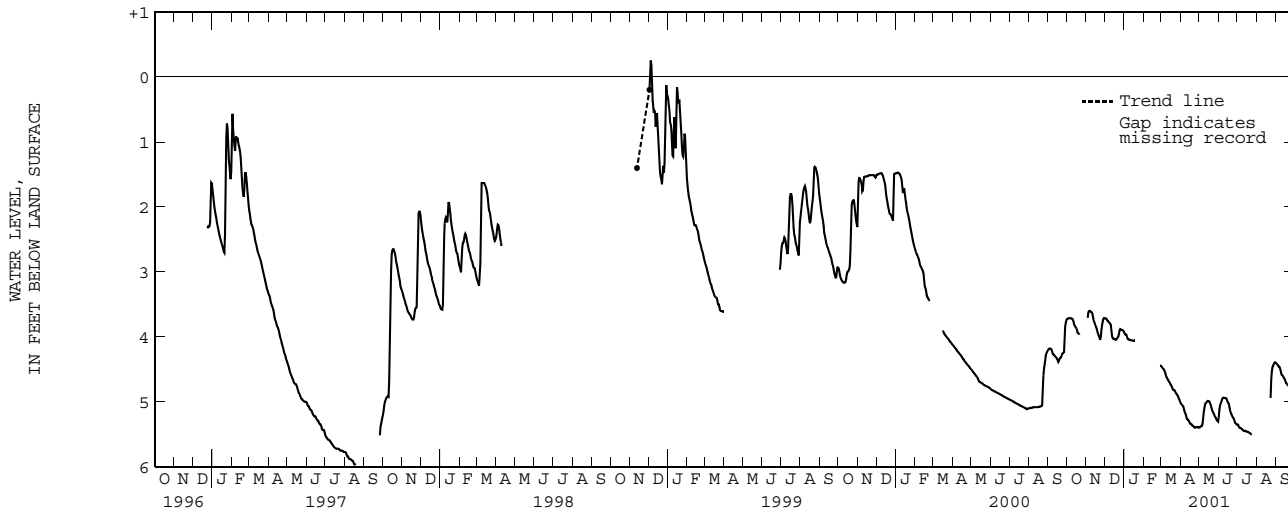
PERIOD OF RECORD.--December 24, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, +0.36 ft (+0.11 m), above land-surface datum, Dec. 4, 5, 1998; lowest water level recorded, 6.02 ft (1.83 m), below land-surface datum, Aug. 19, 1997.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.73	---	3.71	3.92	---	4.44	5.01	5.39	5.31	5.35	---	4.40
2	3.72	---	3.71	3.96	---	4.46	5.03	5.39	5.16	5.35	---	4.41
3	3.72	3.77	3.72	3.96	---	4.47	5.04	5.39	5.08	5.36	---	4.42
4	3.71	3.64	3.72	3.96	---	4.49	5.05	5.37	5.04	5.39	---	4.43
5	3.71	3.61	3.75	3.97	---	4.49	5.06	5.37	5.02	5.40	---	4.45
6	3.71	3.60	3.76	4.03	---	4.51	5.07	5.37	4.99	5.40	---	4.46
7	3.71	3.60	3.76	4.03	---	4.53	5.14	5.29	4.95	5.40	---	4.46
8	3.71	3.61	3.78	4.04	---	4.56	5.15	5.19	4.94	5.42	---	4.49
9	3.72	3.61	3.79	4.04	---	4.59	5.18	5.14	4.93	5.42	---	4.53
10	3.72	3.62	3.80	4.04	---	4.62	5.19	5.06	4.94	5.43	---	4.58
11	3.73	3.63	3.82	4.05	---	4.64	5.25	5.03	4.94	5.44	---	4.59
12	3.77	3.70	3.97	4.05	---	4.65	5.27	5.01	4.94	5.45	---	4.59
13	3.82	3.74	4.00	4.05	---	4.68	5.27	5.01	4.94	5.45	---	4.62
14	3.83	3.77	4.03	4.05	---	4.69	5.28	4.99	4.95	5.44	---	4.63
15	3.85	3.79	4.03	4.06	---	4.70	5.30	4.98	4.98	5.45	---	4.65
16	3.86	3.83	4.03	4.06	---	4.73	5.33	4.99	5.01	5.46	---	4.67
17	3.88	3.85	4.04	4.06	---	4.74	5.34	4.99	5.02	5.46	---	4.70
18	3.93	3.86	4.04	4.06	---	4.76	5.34	5.00	5.04	5.46	---	4.72
19	3.94	3.92	4.04	4.06	---	4.78	5.34	5.03	5.10	5.47	---	4.72
20	3.95	3.94	4.04	---	---	4.81	5.36	5.05	5.14	5.47	---	4.74
21	3.95	3.98	4.02	---	---	4.82	5.38	5.10	5.17	5.48	---	4.75
22	3.98	3.99	4.00	---	---	4.82	5.37	5.13	5.20	5.48	---	4.75
23	---	4.03	3.99	---	---	4.82	5.39	5.15	5.21	5.50	5.17	4.76
24	---	4.06	3.92	---	---	4.85	5.40	5.17	5.24	5.50	4.71	4.77
25	---	3.93	3.88	---	---	4.87	5.39	5.19	5.25	5.51	4.59	4.77
26	---	3.84	3.88	---	---	4.88	5.39	5.22	5.26	---	4.47	4.80
27	---	3.80	3.89	---	4.44	4.89	5.39	5.23	5.31	---	4.45	4.81
28	---	3.74	3.89	---	4.44	4.91	5.38	5.25	5.33	---	4.44	4.82
29	---	3.71	3.89	---	---	4.93	5.39	5.27	5.33	---	4.41	4.82
30	---	3.71	3.90	---	---	4.96	5.40	5.29	5.35	---	4.39	4.84
31	---	---	3.91	---	---	4.97	---	5.30	---	---	4.39	---
MEAN	3.80	3.78	3.89	4.02	4.44	4.71	5.26	5.17	5.10	5.44	4.56	4.64

WTR YR 2001 MEAN 4.61 HIGHEST 3.60 NOV. 6, 7, 8, 2000 LOWEST 5.53 JULY 25, 2001



+ above land-surface datum.

GROUND-WATER LEVELS

RIO HERRERA TO RIO ANTON RUIZ BASINS--Continued

182223065455900. Local number, 1202.

LOCATION.--Lat 18°22'23", long 65°45'59", Hydrologic Unit 21010005, 0.06 mi south of Hwy 2 and 0.27 mi east of Hwy 191. Owner: US Geological Survey, WRD, Name: Piezometer Río Mameyes 2.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled piezometer well, constructed in 1993 as part of a study of northeast of Puerto Rico, diameter 2 in (0.05 m), screened 13.0-24.0 ft (3.96-7.32 m). Depth 24.0 ft (7.32 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land surface datum is about 20.0 ft (6.10 m), above mean sea level, from topographic map. Measuring point: On shelter floor, 6.65 ft (2.03 m), above land-surface datum.

REMARKS.--Recording observation well. Electronic Data Logger (EDL), installed on Sept. 25, 1997. Formerly published as local number RM-02. From April 19, 2001, tapdowns measurements only.

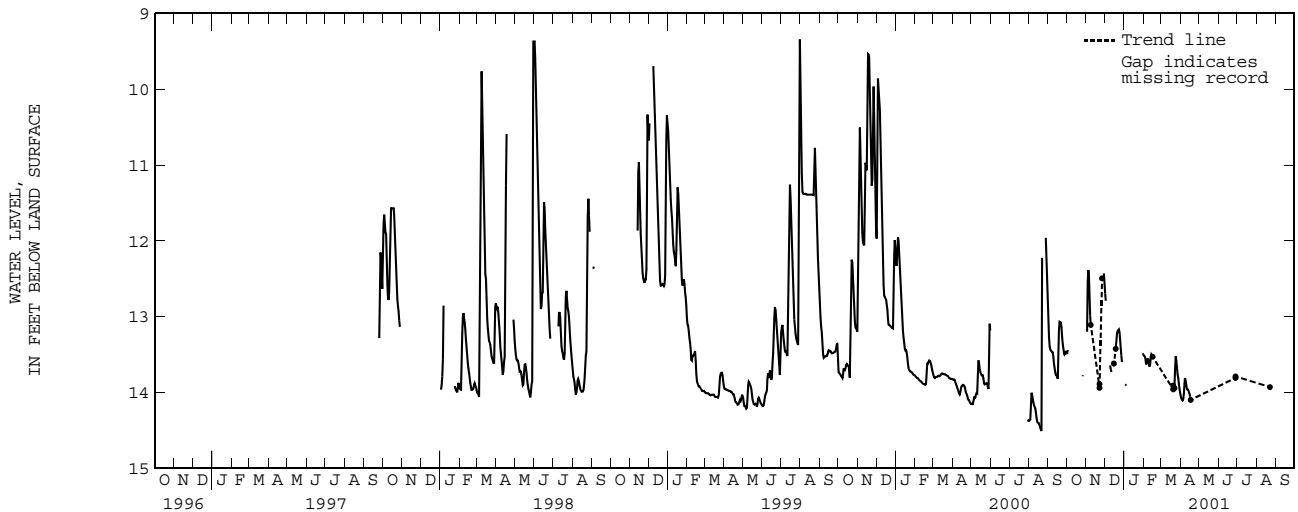
PERIOD OF RECORD.--September 25, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 9.30 ft (2.83 m), below land-surface datum, July 30, 31, 1999; lowest water level recorded, 14.52 ft (4.43 m), below land-surface datum, Aug. 22, 23, 2000.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.48	---	12.65	---	13.51	---	14.03	---	---	---	---	---
2	13.51	13.71	12.74	13.89	13.52	---	14.06	---	---	---	---	---
3	13.37	12.69	12.84	13.90	13.52	---	14.09	---	---	---	---	---
4	---	12.38	---	13.90	13.55	---	14.10	---	---	---	---	---
5	---	12.39	---	13.92	13.64	---	14.11	---	---	---	---	---
6	13.38	12.58	---	---	13.62	---	14.07	---	---	---	---	---
7	---	12.87	---	---	13.56	---	13.96	---	---	---	---	---
8	---	13.09	---	---	13.56	---	13.80	---	---	---	---	---
9	---	13.13	13.62	---	13.56	---	13.82	---	---	---	---	---
10	---	---	13.67	---	13.64	---	13.88	---	---	---	---	---
11	---	---	13.72	---	13.68	---	13.93	---	---	---	---	---
12	---	---	13.74	---	13.59	---	13.98	---	---	---	---	---
13	---	---	---	---	13.50	---	13.95	---	---	---	---	---
14	---	---	---	---	13.50	---	13.98	---	---	---	---	---
15	---	---	13.64	---	13.53	---	14.00	---	---	---	---	---
16	---	---	---	---	---	---	14.03	---	---	---	---	---
17	---	---	---	---	---	---	14.08	---	---	---	---	---
18	---	---	13.47	---	---	---	14.12	---	---	---	---	---
19	---	---	13.38	---	---	---	---	---	---	---	---	---
20	---	---	13.26	---	---	---	---	---	---	---	---	---
21	---	---	13.19	---	---	---	---	---	---	---	---	---
22	---	---	13.19	---	---	14.02	---	---	---	---	---	---
23	---	---	13.17	---	---	13.87	---	---	---	---	---	---
24	---	---	13.17	---	---	13.51	---	---	---	---	---	---
25	---	---	13.25	---	---	13.54	---	---	---	---	---	---
26	13.74	12.63	13.38	---	---	13.63	---	---	---	---	---	---
27	13.82	12.36	13.45	---	---	13.72	---	---	---	---	---	---
28	---	---	13.57	---	---	13.81	---	---	---	---	---	---
29	---	12.37	13.63	---	---	13.82	---	---	---	---	---	---
30	---	12.49	---	13.52	---	13.92	---	---	---	---	---	---
31	---	---	---	13.49	---	13.97	---	---	---	---	---	---
MEAN	13.55	12.72	13.34	13.77	13.57	13.78	14.00	---	---	---	---	---

WTR YR 2001 MEAN 13.52 HIGHEST 12.31 NOV. 27, 2000 LOWEST 14.12 APR. 18, 2001



GROUND-WATER LEVELS

RIO HERRERA TO RIO ANTON RUIZ BASINS--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 08	13.09	DEC 15	13.88	FEB 15	13.54	MAR 20	13.91	APR 17	14.08	JUN 28	13.79
22	13.94	15	13.95	15	13.53	APR 17	14.07	JUN 28	13.81	AUG 22	13.93
22	13.89	15	13.62	MAR 20	13.96						
WATER YEAR 2001		HIGHEST 13.09		NOV. 8, 2000		LOWEST 14.08		APR. 17, 2001			

GROUND-WATER LEVELS

RIO HERRERA TO RIO ANTON RUIZ BASINS--Continued

181217065453000. Local number, 1203.

LOCATION.--Lat 18°12'17", long 65°45'30", Hydrologic Unit 21010005, 0.01 mi south of Hwy 927 at Km 8.0 and 0.62 mi south of Hwy 31. Owner: Carlos Arroyo, Name: Piezometer Carlos Arroyo 1.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), screened 29.0-32.0 ft (8.84-9.75 m). Depth 32.0 ft (9.75 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 16.0 ft (4.87 m), above mean sea level, from topographic map. Measuring point: Shelter floor, 4.80 ft (1.46 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on Oct. 26, 1997. Well is affected by stage in nearby Ro Blanco. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on September 27, 1999. Formerly published as local number ARR-1.

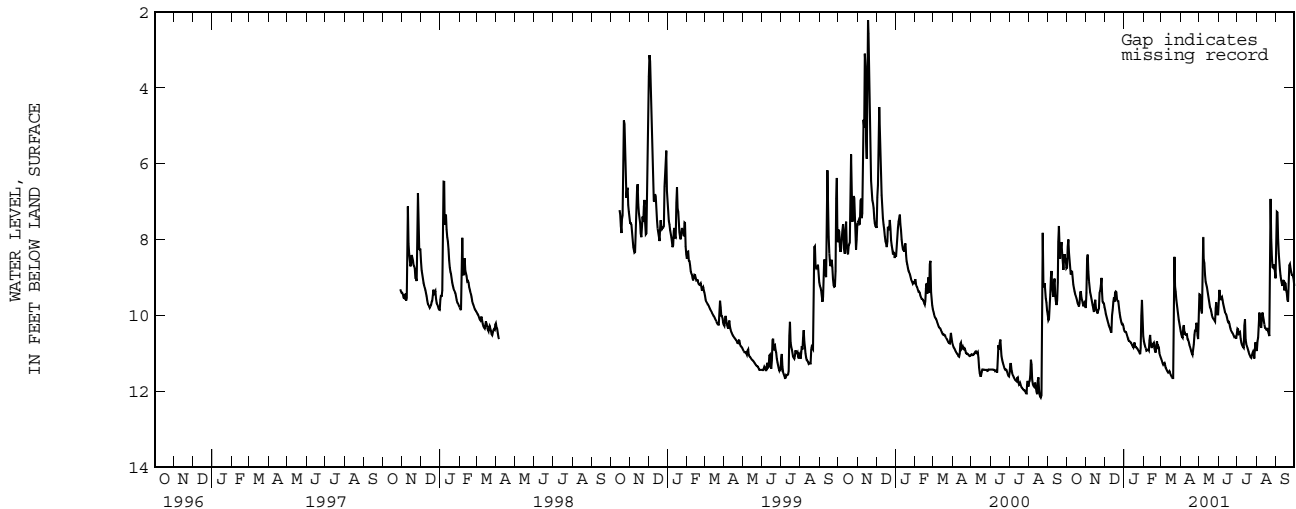
PERIOD OF RECORD.--October 26, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 1.66 ft (0.51 m), below land-surface datum, Nov. 13, 1999; lowest water level recorded, 12.20 ft (3.72 m), below land-surface datum, Aug. 21, 22, 2000.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.86	9.83	9.78	10.40	10.65	11.13	10.37	9.62	9.96	10.34	10.92	9.10
2	8.61	8.99	9.93	10.44	10.71	11.18	10.47	9.27	9.25	10.37	10.96	7.74
3	7.77	8.10	9.99	10.44	10.81	11.23	10.53	9.65	9.41	10.38	10.42	6.80
4	8.23	8.70	10.06	10.44	10.84	11.29	10.60	9.82	9.59	10.60	10.76	7.77
5	8.48	9.00	10.13	10.50	10.90	11.31	10.58	9.92	9.61	10.35	9.84	8.23
6	8.67	9.19	10.18	10.56	10.97	11.24	10.06	9.98	9.46	10.55	10.02	8.52
7	8.86	9.35	10.24	10.61	10.88	11.28	10.46	7.27	9.57	10.69	10.18	8.67
8	8.99	9.43	10.29	10.66	10.95	11.36	10.57	8.62	9.64	10.74	10.28	8.88
9	8.76	9.51	10.33	10.68	10.85	11.40	10.38	8.44	9.73	10.79	10.39	9.03
10	8.89	9.62	10.39	10.68	11.01	11.43	10.64	8.81	9.80	10.83	9.86	9.11
11	9.14	9.69	10.44	10.72	10.32	11.47	10.39	9.04	9.88	10.85	10.00	9.19
12	9.25	9.79	10.48	10.71	10.72	11.50	10.62	9.19	9.94	10.87	10.06	9.26
13	9.32	9.87	9.53	10.77	10.73	11.52	10.65	9.18	9.97	9.66	10.19	8.87
14	9.42	9.95	10.19	10.80	10.95	11.47	10.64	9.33	10.00	10.56	10.29	9.35
15	9.47	9.51	9.12	10.84	10.73	11.48	10.77	9.43	10.10	10.72	10.37	9.33
16	9.52	9.67	9.94	10.86	10.89	11.56	10.81	9.56	10.16	10.79	10.32	8.96
17	9.58	9.91	9.34	10.67	10.61	11.59	10.86	9.64	10.20	10.83	10.43	9.38
18	9.66	9.83	9.45	10.77	10.84	11.62	10.93	9.76	10.15	10.89	10.28	9.29
19	9.70	9.98	9.29	10.83	10.89	11.64	10.97	9.80	10.26	10.93	10.43	9.52
20	9.73	9.93	9.49	10.85	10.99	11.67	11.03	9.84	10.34	11.01	10.41	9.65
21	9.81	9.79	9.67	10.85	10.98	11.64	11.05	9.95	10.39	11.03	10.54	9.63
22	9.56	9.87	9.57	10.88	10.58	7.71	10.74	10.03	10.44	11.09	10.56	8.86
23	9.27	8.95	9.69	10.90	10.80	9.21	10.80	10.06	10.45	11.12	6.14	8.51
24	9.46	9.77	9.86	10.95	10.87	9.28	10.25	10.11	10.49	11.13	7.72	8.80
25	9.62	8.67	9.99	10.97	10.75	9.50	10.52	10.11	10.51	10.99	8.28	8.75
26	9.59	9.35	10.09	11.01	10.96	9.69	10.35	10.17	10.56	11.00	8.62	8.97
27	9.77	9.52	10.15	11.04	11.03	9.82	10.05	10.17	10.60	10.91	8.85	8.90
28	9.76	9.77	10.21	10.68	11.08	9.97	10.45	9.45	10.53	11.10	8.64	8.97
29	9.60	9.58	10.26	9.35	---	10.07	10.61	9.87	10.60	11.18	8.68	8.96
30	9.72	9.79	10.20	9.84	---	10.17	10.65	9.96	10.64	10.58	8.74	9.14
31	9.78	---	10.33	10.45	---	10.28	---	9.99	---	10.84	8.95	---
MEAN	9.25	9.50	9.96	10.65	10.83	10.83	10.59	9.55	10.07	10.77	9.75	8.87

WTR YR 2001 MEAN 10.05 HIGHEST 4.45 AUG. 22, 2001 LOWEST 11.68 MAR. 20, 21, 2001



GROUND-WATER LEVELS

RIO HERRERA TO RIO ANTON RUIZ BASINS--Continued

182138065431800. Local number, 1204.

LOCATION.--Lat 18°21'38", long 65°43'18", Hydrologic Unit 21010005, 0.87 mi southwest of Hwy 3, 0.39 mi south of the intersection of Hwy 992 with Hwy 991, 0.39 mi north of Hwy 983, and 0.07 mi east of Hwy 991. Owner: US Geological Survey, WRD, Name: Piezometer USGS RS-2.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m) 0-56.0 ft (0-17.1 m), screened 2.56-56.0 ft (0.78-17.1 m). Depth 56.0 ft (17.1 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 33.9 ft (10.3 m), above mean sea level, from topographic survey. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 3.34 ft (1.02 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on July 23, 1999. Formerly published as local number RS-02.

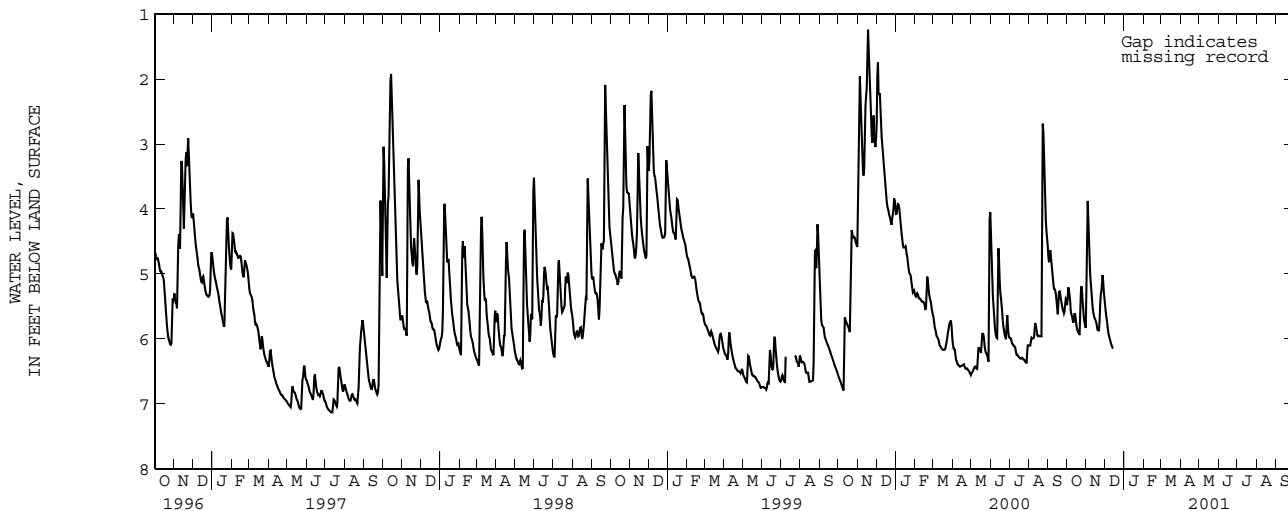
PERIOD OF RECORD.--August 22, 1995 to Jan 4, 2001, discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.91 ft (0.28 m), below land-surface datum, Oct. 14, 1997; lowest water level recorded, 7.13 ft (2.17 m), below land-surface datum, July 9-13, 1997.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.44	5.83	5.43	---	---	---	---	---	---	---	---	---
2	5.52	4.87	5.55	---	---	---	---	---	---	---	---	---
3	5.21	3.80	5.63	---	---	---	---	---	---	---	---	---
4	5.20	3.95	5.71	---	---	---	---	---	---	---	---	---
5	5.32	4.32	5.77	---	---	---	---	---	---	---	---	---
6	5.36	4.64	5.89	---	---	---	---	---	---	---	---	---
7	5.52	4.90	5.92	---	---	---	---	---	---	---	---	---
8	5.62	5.09	5.96	---	---	---	---	---	---	---	---	---
9	5.62	5.17	6.00	---	---	---	---	---	---	---	---	---
10	5.68	5.33	6.03	---	---	---	---	---	---	---	---	---
11	5.73	5.47	6.08	---	---	---	---	---	---	---	---	---
12	5.77	5.58	6.09	---	---	---	---	---	---	---	---	---
13	5.60	5.61	6.13	---	---	---	---	---	---	---	---	---
14	5.61	5.67	6.15	---	---	---	---	---	---	---	---	---
15	5.65	5.68	6.14	---	---	---	---	---	---	---	---	---
16	5.77	5.72	---	---	---	---	---	---	---	---	---	---
17	5.83	5.73	---	---	---	---	---	---	---	---	---	---
18	5.87	5.77	---	---	---	---	---	---	---	---	---	---
19	5.89	5.86	---	---	---	---	---	---	---	---	---	---
20	5.89	5.87	---	---	---	---	---	---	---	---	---	---
21	5.94	5.87	---	---	---	---	---	---	---	---	---	---
22	5.94	5.87	---	---	---	---	---	---	---	---	---	---
23	5.43	5.59	---	---	---	---	---	---	---	---	---	---
24	5.16	5.35	---	---	---	---	---	---	---	---	---	---
25	5.22	5.26	---	---	---	---	---	---	---	---	---	---
26	5.39	5.25	---	---	---	---	---	---	---	---	---	---
27	5.54	4.99	---	---	---	---	---	---	---	---	---	---
28	5.65	5.04	---	---	---	---	---	---	---	---	---	---
29	5.72	5.21	---	---	---	---	---	---	---	---	---	---
30	5.77	5.36	---	---	---	---	---	---	---	---	---	---
31	5.83	---	---	---	---	---	---	---	---	---	---	---
MEAN	5.60	5.29	5.90	---	---	---	---	---	---	---	---	---

WTR YR 2001 MEAN 5.54 HIGHEST 3.75 NOV. 3, 2000 LOWEST 6.16 DEC. 13, 2000



GROUND-WATER LEVELS

RIO HERRERA TO RIO ANTON RUIZ BASINS--Continued

182131065421100. Local number, 1205.

LOCATION.--Lat. 18°21'31", long. 65°42'11", Hydrologic Unit 21010005, 1.39 mi southeast of the intersection of Hwy 992 with Hwy 3, 0.40 mi southeast of the intersection of Hwy 983 with Hwy 3, 0.12 mi northwest of the intersection with Hwy 940 with Hwy 983, and 0.03 mi southwest of Hwy 983. Owner: US Geological Survey, WRD, Name: Piezometer USGS RP-4.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m) 0-39.0 ft (0-11.9 m), screened 4.00-39.0 ft (1.20-11.9 m). Depth 39.0 ft (11.9 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 82.1 ft (25.0 m), above mean sea level, from topographic survey. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 4.42 ft (1.35 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on July 23, 1999. Water levels affected by nearby pumping well. Formerly published as local number RP-04.

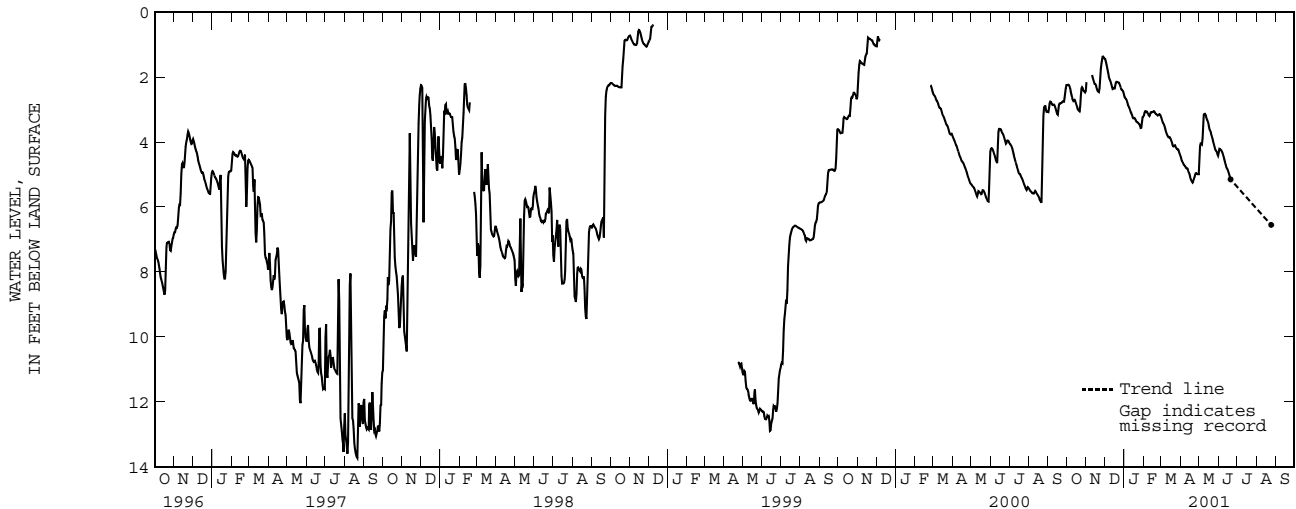
PERIOD OF RECORD.--August 15, 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.32 ft (0.10 m), below land-surface datum, Dec. 10, 1998; lowest water level recorded, 14.05 ft (4.28 m), below land-surface datum, Aug. 21, 1997.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.24	2.37	1.41	2.58	3.23	3.21	4.41	4.99	4.43	---	---	---
2	2.25	1.94	1.47	2.63	3.14	3.28	4.47	4.20	4.21	---	---	---
3	2.23	---	1.56	2.66	3.06	3.34	4.56	4.05	4.21	---	---	---
4	2.24	---	1.64	2.67	3.04	3.40	4.61	4.03	4.23	---	---	---
5	2.26	---	1.76	2.71	3.06	3.44	4.63	4.05	4.24	---	---	---
6	2.32	---	1.84	2.78	3.06	3.46	4.68	4.08	4.27	---	---	---
7	2.39	---	1.95	2.86	3.07	3.55	4.72	3.68	4.32	---	---	---
8	2.50	---	2.03	2.90	3.12	3.61	4.72	3.21	4.35	---	---	---
9	2.57	---	2.07	2.93	3.16	3.68	4.75	3.14	4.41	---	---	---
10	2.66	1.90	2.12	2.98	3.20	3.72	4.79	3.13	4.49	---	---	---
11	2.74	1.97	2.18	3.05	3.20	3.78	4.81	3.13	4.59	---	---	---
12	2.73	2.06	2.26	3.10	3.09	3.82	4.81	3.19	4.64	---	---	---
13	2.70	2.08	2.35	3.13	3.08	3.86	4.82	3.29	4.73	---	---	---
14	2.70	2.20	2.38	3.19	3.09	3.85	4.94	3.31	4.79	---	---	---
15	2.76	2.21	2.33	3.27	3.07	3.85	4.95	3.37	4.83	---	---	---
16	2.83	2.21	2.34	3.27	3.07	3.87	5.01	3.42	4.84	---	---	---
17	2.88	2.28	2.35	3.26	3.05	3.94	5.12	3.58	4.95	---	---	---
18	2.95	2.33	2.23	3.26	3.05	3.99	5.15	3.64	4.96	---	---	---
19	3.02	2.40	2.15	3.29	3.07	4.05	5.19	3.64	5.05	---	---	---
20	3.01	2.45	2.14	3.35	3.13	4.11	5.24	3.71	5.11	---	---	---
21	3.05	2.44	2.15	3.38	3.13	4.14	5.26	3.81	---	---	---	---
22	3.05	2.48	2.16	3.38	3.15	4.13	5.18	3.83	---	---	---	---
23	2.77	2.21	2.17	3.40	3.17	4.09	5.12	3.95	---	---	---	---
24	2.39	1.86	2.18	3.42	3.19	4.11	5.07	4.02	---	---	---	---
25	2.32	1.63	2.24	3.45	3.16	4.17	4.97	4.08	---	---	---	---
26	2.31	1.54	2.29	3.46	3.14	4.20	4.96	4.17	---	---	---	---
27	2.38	1.37	2.36	3.55	3.14	4.23	4.96	4.24	---	---	---	---
28	2.43	1.37	2.39	3.58	3.17	4.22	4.99	4.27	---	---	---	---
29	2.43	1.36	2.40	3.53	---	4.23	4.99	4.28	---	---	---	---
30	2.45	1.45	2.42	3.26	---	4.31	4.99	4.34	---	---	---	---
31	2.49	---	2.47	3.21	---	4.36	---	4.39	---	---	---	---
MEAN	2.58	2.00	2.12	3.14	3.12	3.87	4.90	3.81	4.58	---	---	---

WTR YR 2001 MEAN 3.33 HIGHEST 1.36 NOV. 28, 29, 2000 LOWEST 5.26 APR. 20, 21, 2001



GROUND-WATER LEVELS

RIO HERRERA TO RIO ANTON RUIZ BASINS--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 22	2.48	DEC 15	2.33	APR 17	5.13	APR 17	5.12	JUN 20	5.15	AUG 24	6.55
DEC 15	2.32	FEB 15	3.07								
WATER YEAR 2001		HIGHEST 2.32 DEC. 15, 2000		LOWEST 6.55 AUG. 24, 2001							

GROUND-WATER LEVELS

RIO HERRERA TO RIO ANTON RUIZ BASINS--Continued

181823065401900. Local number, 1206.

LOCATION.--Lat 18°18'23", long 65°40'19", Hydrologic Unit 2101005, 1.72 mi southwest of the intersection of Hwy 3 with Hwy 976, 1.44 mi west of Hwy 3, 1.33 mi northwest of Hwy 982, and 0.49 mi south of Hwy 976. Owner: US Geological Survey, WRD, Name: Piezometer Rio Fajardo No. 4.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), cased 6 in (0.15 m) 0-40.0 ft (0-12.2 m), screened 20.0-40.0 ft (6.10-12.2 m). Depth 40.0 ft (12.2 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is 86.3 ft (26.3 m), above mean sea level, from topographic survey. Measuring point:

Shelter floor on top of 4 in (0.10 m) casing, 3.50 ft (1.07 m), above land-surface datum.

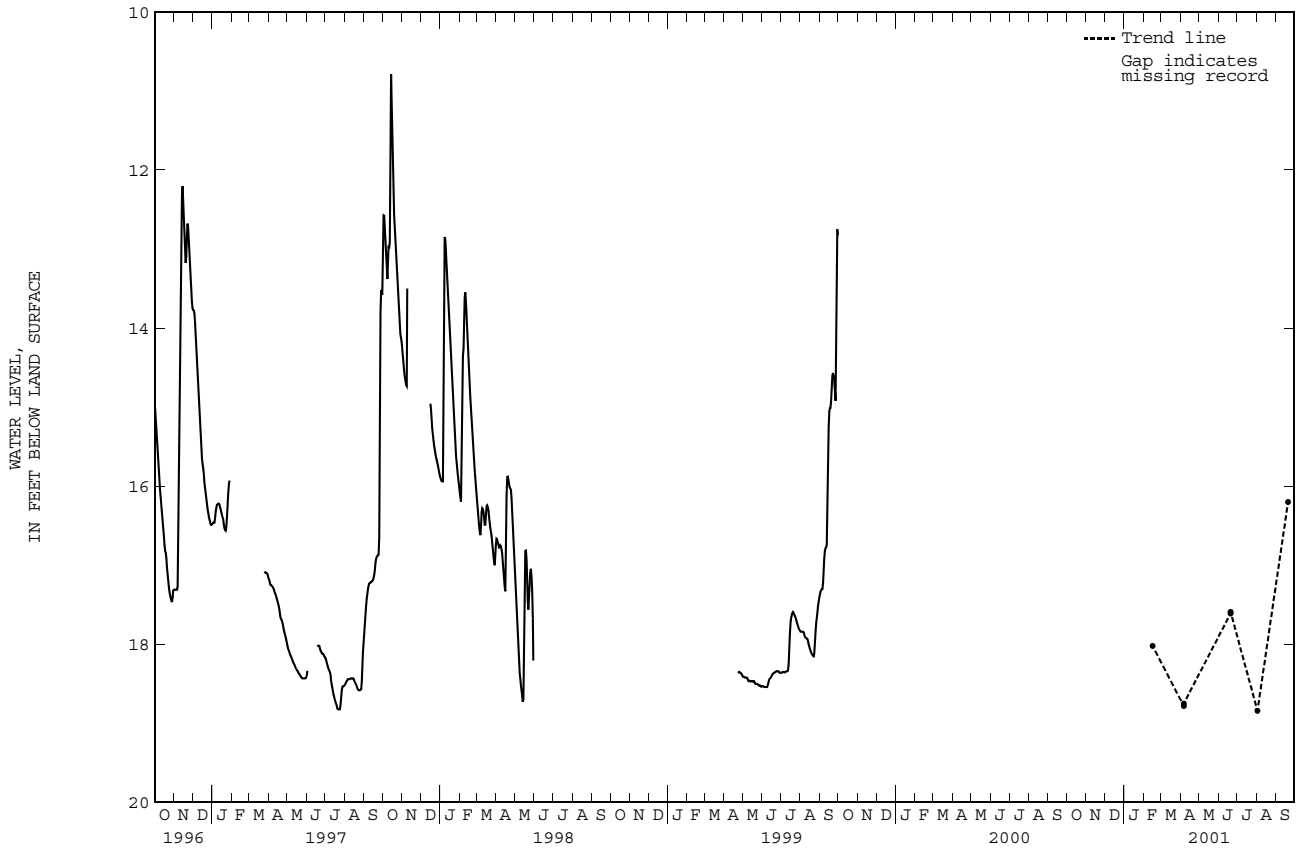
REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on May 22, 1998. Formerly published as local number RF-04. For water year 2001 tapedowns measurements only.

PERIOD OF RECORD.--August 31, 1993 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 10.7 ft (03.26 m), below land-surface datum, Oct. 14, 15, 1997; lowest water level recorded, 18.82 ft (5.74 m), below land-surface datum, July 21-25, 1997.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB 15	18.02	APR 06	18.75	JUN 20	17.61	AUG 02	18.84	SEP 20	16.20	SEP 20	16.17
APR 06	18.78	MAY 29	17.50	20	17.59						
WATER YEAR 2001		HIGHEST 16.17 SEPT. 20, 2001				LOWEST 18.84 AUG. 2, 2001					



GROUND-WATER LEVELS

RIO HERRERA TO RIO ANTON RUIZ BASINS--Continued

181917065382701. Local number, 1207.

LOCATION.--Lat 18°19'17", Long 65°38'27", Hydrologic Unit 2101005, 1.20 mi northwest of Punta Barrancas, 0.81 mi east of Hwy 3, 0.82 mi south of Hwy 195, and 0.61 mi east of Hwy 194. Owner: US Geological Survey, WRD, Name: Piezometer RF-12.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m) 0-34.0 ft (0-10.4 m), screened 3.75-34.0 ft (1.14-10.4 m). Depth 34.0 ft (10.4 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is 13.7 ft (4.18 m), above mean sea level, from topographic survey. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 4.16 ft (1.27 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on May 14, 1999. Formerly published as local number RF-12.

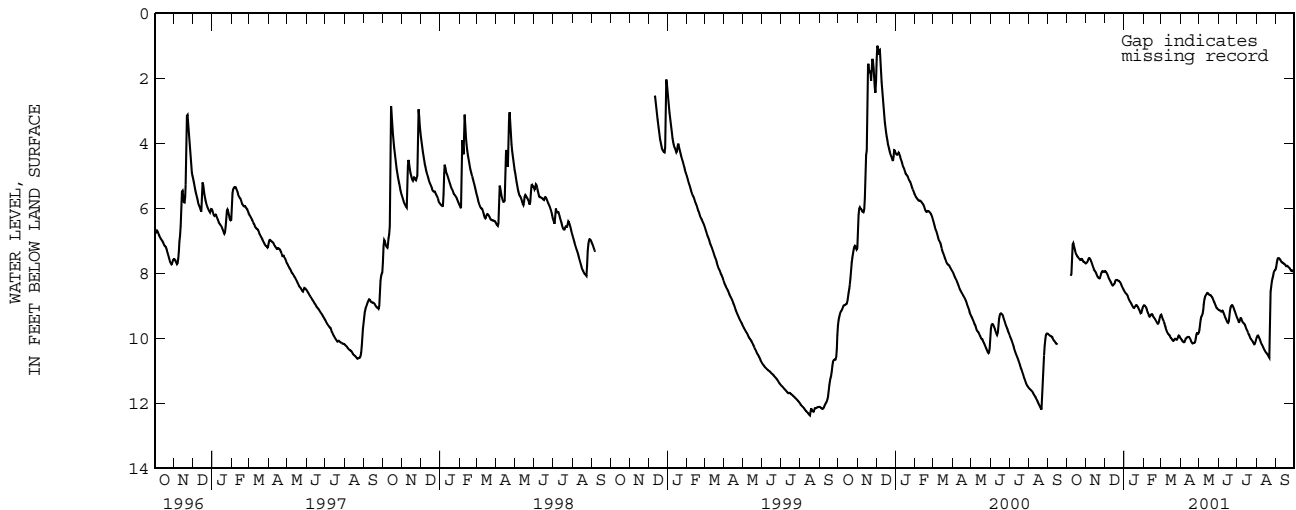
PERIOD OF RECORD.--August 11, 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.58 ft (0.18 m), below land-surface datum, Dec. 3, 1999; lowest water level recorded, 12.4 ft (3.78 m), below land-surface datum, Aug. 17, 18, 1999.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	7.70	7.93	8.54	8.99	9.26	9.99	9.80	9.13	9.36	10.00	7.88
2	---	7.67	7.94	8.58	8.98	9.29	10.02	9.69	9.13	9.41	9.94	7.73
3	---	7.65	7.96	8.61	8.99	9.36	10.03	9.49	9.13	9.47	9.92	7.61
4	---	7.61	7.99	8.62	9.02	9.42	10.08	9.36	9.16	9.52	9.92	7.54
5	---	7.54	8.02	8.64	9.05	9.45	10.11	9.30	9.18	9.48	9.98	7.53
6	---	7.53	8.08	8.68	9.09	9.51	10.11	9.30	9.18	9.39	10.02	7.54
7	8.08	7.55	8.13	8.70	9.16	9.60	10.13	9.21	9.15	9.37	10.06	7.55
8	8.07	7.58	8.18	8.78	9.21	9.64	10.10	9.06	9.16	9.40	10.12	7.58
9	7.99	7.61	8.21	8.82	9.25	9.71	10.05	8.87	9.20	9.46	10.17	7.61
10	7.19	7.67	8.25	8.86	9.32	9.76	10.01	8.76	9.25	9.52	10.21	7.65
11	7.04	7.73	8.27	8.89	9.34	9.81	9.97	8.70	9.30	9.52	10.25	7.67
12	7.11	7.79	8.33	8.92	9.31	9.86	9.97	8.67	9.36	9.55	10.28	7.67
13	7.20	7.84	8.37	8.95	9.27	9.88	9.96	8.63	9.40	9.57	10.33	7.69
14	7.28	7.90	8.38	9.00	9.26	9.89	9.96	8.61	9.44	9.61	10.37	7.71
15	7.35	7.94	8.35	9.04	9.26	9.92	9.96	8.61	9.50	9.67	10.41	7.71
16	7.42	7.95	8.33	9.07	9.30	9.97	10.00	8.63	9.53	9.73	10.44	7.74
17	7.44	7.99	8.29	9.06	9.35	10.00	10.03	8.65	9.53	9.76	10.46	7.77
18	7.48	8.02	8.23	9.04	9.36	10.01	10.07	8.68	9.43	9.80	10.47	7.79
19	7.50	8.09	8.21	9.00	9.40	10.04	10.11	8.65	9.23	9.85	10.51	7.76
20	7.53	8.12	8.20	8.98	9.43	10.08	10.16	8.69	9.08	9.89	10.55	7.78
21	7.55	8.14	8.21	8.98	9.47	10.08	10.16	8.71	9.02	9.93	10.59	7.80
22	7.58	8.16	8.23	9.00	9.50	10.06	10.14	8.73	8.98	9.99	10.62	7.83
23	7.60	8.15	8.23	9.04	9.54	10.02	10.15	8.77	8.98	10.02	8.64	7.84
24	7.57	8.10	8.24	9.08	9.56	10.01	10.13	8.83	9.00	10.05	8.49	7.86
25	7.55	8.01	8.27	9.12	9.54	10.03	10.09	8.89	9.04	10.07	8.31	7.93
26	7.58	7.96	8.29	9.16	9.46	10.05	9.94	8.91	9.10	10.10	8.19	7.92
27	7.63	7.93	8.33	9.22	9.38	10.03	9.85	8.98	9.16	10.15	8.12	7.92
28	7.65	7.94	8.36	9.25	9.32	9.98	9.84	9.00	9.20	10.18	8.03	7.91
29	7.64	7.95	8.43	9.19	---	9.92	9.86	9.06	9.26	10.20	7.95	7.95
30	7.67	7.96	8.46	9.09	---	9.92	9.86	9.09	9.32	10.15	7.92	7.97
31	7.69	---	8.50	9.04	---	9.94	---	9.09	---	10.07	7.89	---
MEAN	7.54	7.86	8.23	8.93	9.29	9.82	10.03	8.95	9.22	9.75	9.65	7.75

WTR YR 2001 MEAN 8.94 HIGHEST 7.04 OCT. 11, 2000 LOWEST 10.63 AUG. 22, 2001



GROUND-WATER LEVELS

RIO HERRERA TO RIO ANTON RUIZ BASINS--Continued

182234065440000. Local number, 1208.

LOCATION.--Lat 18°22'34", long 65°44'00", Hydrologic Unit 2101005, 0.7 mi south of Balneario de Luquillo, 1.1 mi west of Luquillo, and 1.0 mi northwest of intersectin of Hwy 991 with Hwy 992. Owner: US Geological Survey, Name: Piezometer Quebrada Mata de Platanos 1.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--PVC cased ran levels, diameter 4 in (0.10 m) screened 5.00-25.0 ft (1.52-7.62 m). Depth 25.0 ft (7.62 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface is about 2.39 ft (0.73 m), about mean sea level, from topographic map. Measuring point: Floor of shelter, 5.60 ft (1.71 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on Sept. 17, 1997. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on August 24, 1999.

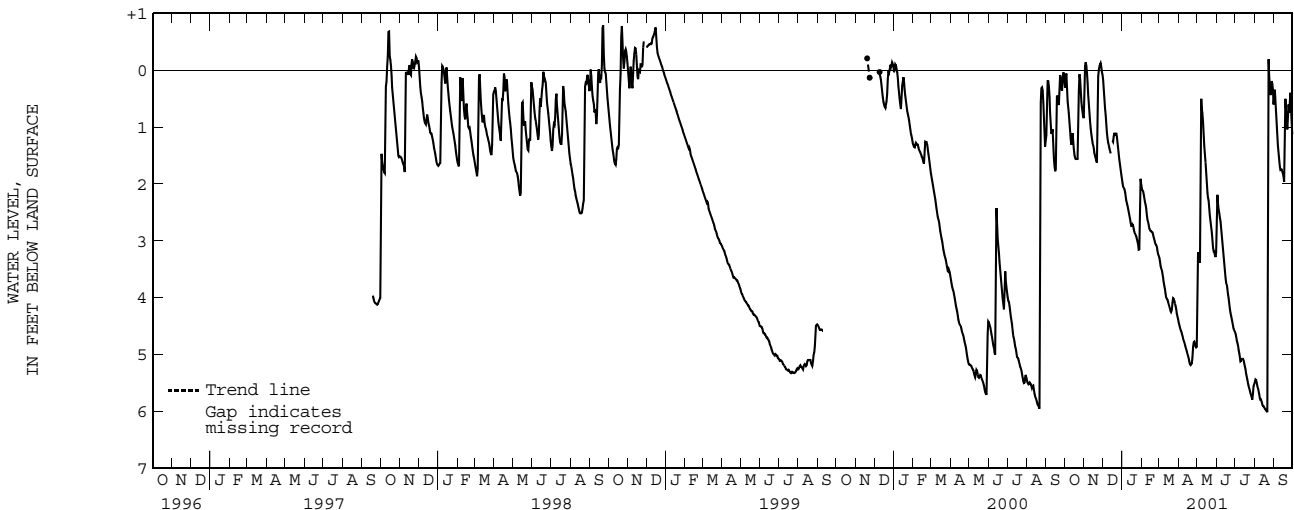
PERIOD OF RECORD.--September 17, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, +1.60 ft (+0.49 m), above land-surface datum, Sept. 21, 22, 1998; lowest water level measured, 6.03 ft (1.84 m), below land-surface datum, Aug. 19-22, 2001.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	.80	.08	1.93	2.05	3.27	4.41	4.85	3.13	4.61	5.53	.70
2	.30	.01	.27	2.04	2.11	3.32	4.46	3.17	2.10	4.64	5.45	.22
3	+ .01	+ .16	.45	2.06	2.11	3.40	4.50	3.23	2.28	4.72	5.43	.46
4	.12	+ .12	.61	2.08	2.15	3.48	4.55	3.29	2.42	4.78	5.47	.69
5	.43	+ .03	.74	2.10	2.23	3.49	4.57	3.34	2.49	4.81	5.53	.88
6	.66	.13	.85	2.18	2.29	3.54	4.61	3.44	2.55	4.88	5.59	1.07
7	.66	.32	1.03	2.26	2.34	3.63	4.65	.38	2.65	4.97	5.60	1.24
8	.83	.50	1.13	2.31	2.38	3.68	4.69	.62	2.69	4.99	5.67	1.40
9	.97	.62	1.25	2.35	2.48	3.77	4.73	.72	2.83	5.10	5.72	1.50
10	1.13	.82	1.29	2.41	2.61	3.81	4.77	.79	2.93	5.14	5.81	1.63
11	1.28	.96	1.34	2.47	2.65	3.88	4.79	1.00	3.08	5.08	5.79	1.74
12	1.33	1.08	1.40	2.53	2.68	3.98	4.85	1.25	3.23	5.08	5.80	1.77
13	1.06	1.16	1.44	2.58	2.78	4.02	4.89	1.42	3.35	5.07	5.86	1.72
14	1.15	1.25	1.48	2.65	2.80	4.02	4.92	1.53	3.49	5.08	5.90	1.77
15	1.34	1.31	---	2.72	2.82	4.05	4.97	1.72	3.60	5.12	5.91	1.80
16	1.45	1.33	1.19	2.75	2.83	4.10	5.00	1.92	3.71	5.20	5.91	1.84
17	1.53	1.44	1.29	2.71	2.84	4.13	5.05	2.08	3.78	5.23	5.96	1.92
18	1.56	1.47	1.22	2.71	2.84	4.18	5.09	2.23	3.77	5.30	5.94	2.01
19	1.56	1.53	1.11	2.75	2.86	4.21	5.15	2.24	3.90	5.36	5.98	.39
20	1.56	1.55	1.09	2.83	2.92	4.25	5.18	2.34	3.97	5.41	5.99	.61
21	1.56	1.63	1.18	2.85	2.96	4.26	5.19	2.51	4.04	5.47	6.00	.82
22	1.56	1.62	1.09	2.90	2.99	4.18	5.15	2.62	4.16	5.54	6.03	.99
23	.67	.15	1.11	2.89	3.06	4.01	5.17	2.70	4.24	5.57	+ .44	1.09
24	.07	.06	1.24	2.95	3.06	4.01	4.93	2.80	4.30	5.61	.05	.55
25	.07	+ .07	1.33	2.99	3.09	4.03	4.81	2.90	4.34	5.66	.21	.65
26	.24	+ .07	1.45	3.04	3.12	4.08	4.77	3.05	4.42	5.71	.25	.85
27	.49	+ .14	1.52	3.10	3.22	4.13	4.78	3.20	4.46	5.73	.62	.29
28	.62	+ .11	1.62	3.21	3.24	4.17	4.84	3.18	4.54	5.78	.11	.50
29	.67	+ .02	1.68	3.09	---	4.24	4.87	3.20	4.56	5.81	.27	.78
30	.80	.07	1.78	1.85	---	4.31	4.88	3.28	4.58	5.58	.18	1.04
31	.85	---	1.87	1.97	---	4.34	---	3.29	---	5.53	.50	---
MEAN	.86	.64	1.17	2.56	2.70	3.93	4.84	2.40	3.52	5.24	4.15	1.10

WTR YR 2001 MEAN 2.77 HIGHEST +.85 AUG. 23, 2001 LOWEST 6.03 AUG. 19-22, 2001



+ above land-surface datum.

GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS

180358065503700. Local number, 1226.

LOCATION.--Lat 18°03'58", long 65°50'37", Hydrologic Unit 21010004, 2.01 mi east of Central Roig, 1.37 mi north of Yabucoa Sun Oil Refinery, and 0.19 mi east of Hwy 53. Owner: Yabucoa Sun Oil Refinery, Name: Piezometer Yabucoa USGS Brackish.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled piezometer well, constructed in 1993 as part of study of Valle de Yabucoa, diameter 2 in (0.05 m), screened in brackish water, 320-340 ft (97.5-104 m). Depth 350 ft (107 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 2.00 ft (0.61 m), above mean sea level, from topographic map. Measuring point: Top of shelter floor, 7.30 ft (2.22 m), above land-surface datum.

REMARKS.--Recording observation well. Electronic Data Logger (EDL), installed on September 16, 1997. Formerly published as local number YD0-1.

PERIOD OF RECORD.--September 16, 1997 to current year.

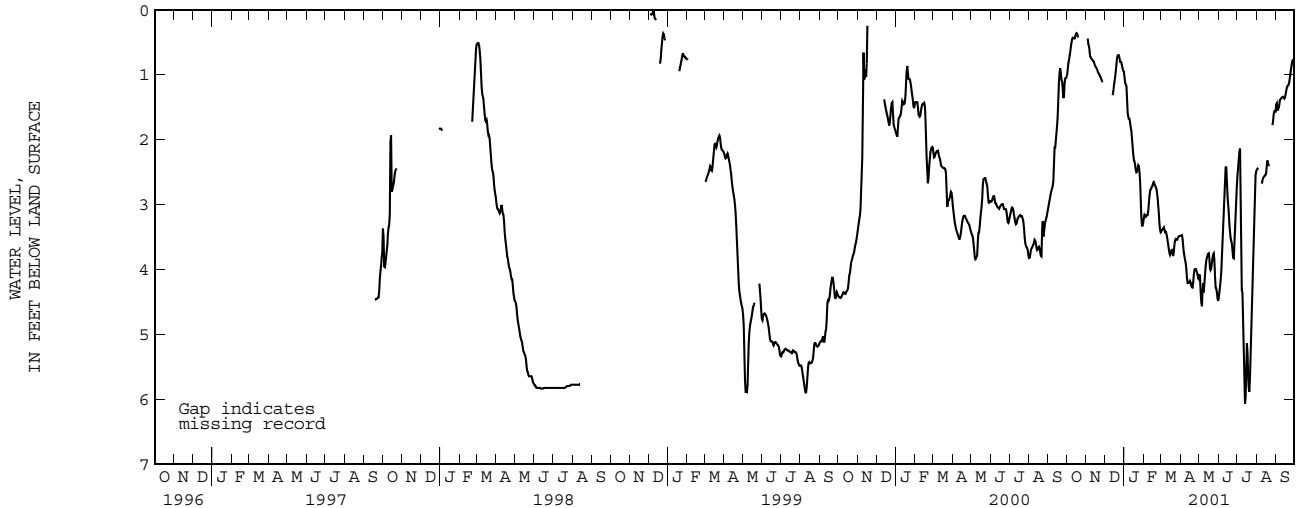
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, +0.26 ft (+0.08 m), above land-surface datum, Aug. 23, 2001; lowest water level recorded, 6.19 ft (1.89 m), below land-surface datum, July 14, 2001.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.04	---	---	.95	3.25	3.43	3.48	4.12	4.48	2.61	2.48	1.57
2	.98	---	---	1.13	3.16	3.40	3.48	4.03	4.39	2.49	2.44	1.35
3	.84	.37	---	1.12	3.15	3.38	3.47	4.23	4.29	2.40	2.45	1.53
4	.80	.51	---	1.17	3.19	3.38	3.47	4.47	4.22	2.25	2.47	1.55
5	.75	.55	---	1.17	3.18	3.35	3.59	4.54	4.09	2.12	---	1.53
6	.66	.57	---	1.60	3.16	3.35	3.71	4.59	3.95	2.15	---	1.49
7	.63	.71	---	1.60	3.16	3.43	3.77	4.00	3.61	3.21	---	1.41
8	.53	.72	---	1.68	3.16	3.41	3.83	4.42	3.30	4.37	---	1.37
9	.50	.74	---	1.68	3.04	3.42	3.86	4.28	3.06	4.26	2.69	1.38
10	.42	.76	---	1.68	2.93	3.45	3.92	4.17	2.81	4.43	2.66	1.35
11	.44	.77	---	1.80	2.80	3.52	4.04	4.02	2.63	5.07	2.60	1.35
12	.43	.78	---	1.83	2.77	3.59	4.20	3.88	2.48	5.56	2.59	1.34
13	.44	.79	1.32	1.91	2.76	3.66	4.20	3.84	2.37	5.94	2.56	1.34
14	.44	.82	1.31	2.07	2.73	3.72	4.18	3.79	2.48	6.19	2.56	1.35
15	.39	.85	1.20	2.16	2.72	3.78	4.22	3.77	2.78	5.73	2.55	1.38
16	.36	.88	1.13	2.32	2.69	3.77	4.18	3.74	2.97	5.13	2.53	1.32
17	.36	.89	1.07	2.31	2.64	3.72	4.17	3.76	3.06	5.14	2.46	1.28
18	.38	.90	1.00	2.35	2.66	3.69	4.23	3.94	3.21	5.44	2.30	1.23
19	.41	.92	.91	2.42	2.69	3.71	4.26	4.00	3.35	5.73	2.34	1.18
20	.44	.96	.79	2.50	2.72	3.78	4.28	4.01	3.47	5.88	2.38	1.17
21	---	.98	.71	2.50	2.73	3.80	4.27	3.95	3.55	5.88	2.40	1.16
22	---	.99	.70	2.48	2.77	3.66	4.14	3.86	3.56	5.47	2.41	1.14
23	---	1.01	.70	2.40	2.85	3.57	4.02	3.79	3.65	4.98	---	1.07
24	---	1.04	.70	2.39	2.95	3.53	3.99	3.74	3.77	4.53	---	1.01
25	---	1.05	.80	2.44	3.08	3.53	3.99	3.76	3.86	4.03	---	.92
26	---	1.09	.80	2.57	3.22	3.54	3.99	3.98	3.79	3.55	1.80	.86
27	---	1.11	.80	2.77	3.35	3.54	4.03	4.27	3.53	3.29	1.75	.80
28	---	1.12	.82	3.08	3.42	3.51	4.05	4.29	3.33	3.08	1.65	.77
29	---	---	.89	3.29	---	3.49	4.09	4.29	3.09	2.87	1.57	.77
30	---	---	.92	3.35	---	3.49	4.17	4.39	2.82	2.59	1.56	.77
31	---	---	.95	3.29	---	3.48	---	4.48	---	2.50	1.56	---
MEAN	.56	.84	.92	2.13	2.96	3.55	3.98	4.08	3.40	4.16	2.28	1.22

WTR YR 2001 MEAN 2.65 HIGHEST +.26 AUG. 23, 2001 LOWEST 6.19 JULY 14, 2001

+ above land-surface datum.



GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

180415065513900. Local number, 96.

LOCATION.--Lat 18°04'15", long 65°51'39", Hydrologic Unit 21010005, 2.44 mi northwest of Escuela Eugenio María de Hostos 4.67 mi southwest of Escuela Segunda Unidad Luciano, and 3.93 mi southwest of Escuela Asunción López. Owner: PR Aqueduct and Sewer Authority, Name: Yabucoa 7 Well.

WELL CHARACTERISTICS.--Alluvium of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 16 in (0.41 m), cased 0-10 ft (0-3.05 m), diameter 6 in (0.15 m), cased about 0-183 ft (0-55.8 m), perforated 56-81 ft (17.1-24.7 m), 102-123 ft, (31.1-37.5 m), 144-181 ft (43.9-55.2 m). Depth 181 ft (55.2 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 25 ft (7.62 m), above mean sea level, from topographic map. Measuring point: Top of shelter floor, 4.00 ft (1.22 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on August 3, 1999.

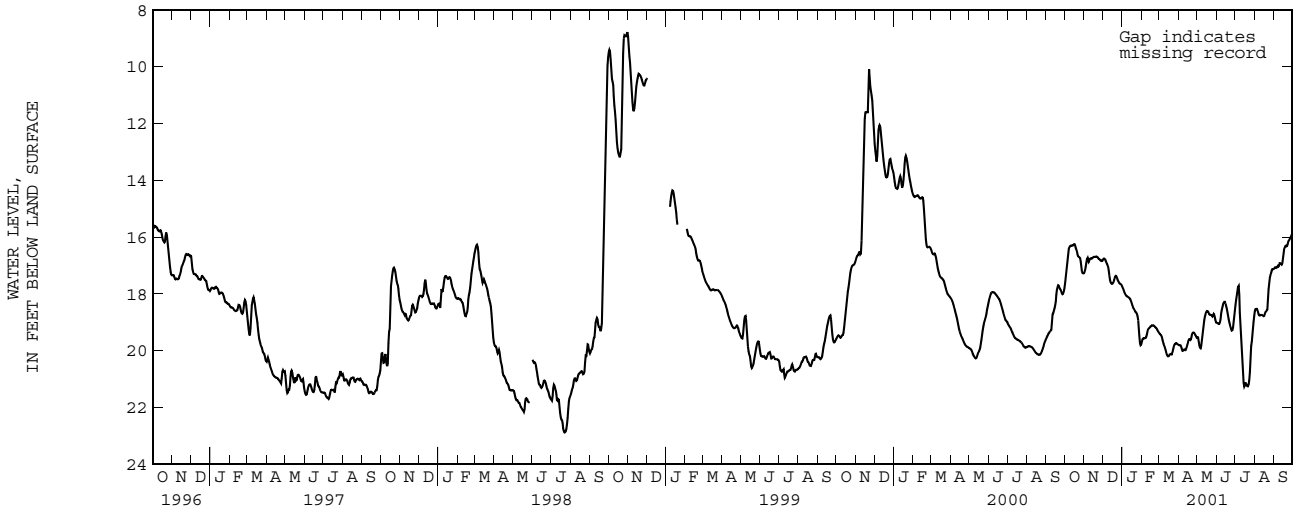
PERIOD OF RECORD.--April 25, 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 8.75 ft (2.67 m), below land-surface datum, Oct. 31, 1998; lowest water level recorded, 28.29 ft (8.62 m) below land-surface datum, Sept. 20, 1980.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.72	17.26	16.81	17.73	19.74	19.36	19.79	19.56	19.01	18.50	18.67	17.13
2	17.53	17.23	16.76	17.78	19.61	19.40	19.80	19.48	19.02	18.29	18.54	17.09
3	17.27	17.11	16.75	17.84	19.56	19.42	19.80	19.57	19.03	18.14	18.53	17.05
4	17.04	16.97	16.76	17.90	19.57	19.44	19.80	19.75	19.04	17.97	18.53	17.08
5	16.83	16.82	16.80	17.97	19.57	19.46	19.81	19.85	19.06	17.82	18.52	17.07
6	16.64	16.71	16.85	18.02	19.55	19.56	19.90	19.92	19.04	17.68	18.59	17.07
7	16.48	16.74	16.91	18.05	19.54	19.67	19.98	19.89	18.95	17.74	18.67	17.00
8	16.38	16.87	16.95	18.07	19.55	19.73	20.01	19.76	18.80	18.34	18.74	17.02
9	16.33	16.87	17.00	18.08	19.48	19.79	19.99	19.55	18.62	18.95	18.76	17.04
10	16.31	16.78	17.08	18.10	19.38	19.84	19.95	19.36	18.52	19.27	18.76	16.94
11	16.30	16.75	17.27	18.11	19.26	19.92	19.96	19.17	18.42	19.70	18.74	16.90
12	16.29	16.75	17.45	18.13	19.24	20.00	19.99	18.99	18.33	20.17	18.73	16.95
13	16.30	16.76	17.57	18.15	19.20	20.09	19.96	18.84	18.29	20.60	18.74	16.94
14	16.30	16.75	17.62	18.19	19.19	20.15	19.90	18.75	18.26	21.01	18.75	17.00
15	16.27	16.72	17.64	18.24	19.16	20.19	19.83	18.67	18.29	21.26	18.77	16.83
16	16.24	16.70	17.64	18.31	19.14	20.20	19.74	18.61	18.38	21.26	18.79	16.67
17	16.25	16.69	17.62	18.37	19.11	20.17	19.64	18.59	18.47	21.16	18.75	16.48
18	16.33	16.69	17.60	18.43	19.10	20.13	19.59	18.63	18.57	21.12	18.66	16.39
19	16.40	16.69	17.54	18.49	19.10	20.11	19.58	18.60	18.68	21.16	18.63	16.34
20	16.43	16.68	17.44	18.54	19.11	20.11	19.60	18.70	18.81	21.23	18.61	16.29
21	16.56	16.68	17.36	18.57	19.12	20.13	19.63	18.73	18.93	21.25	18.56	16.31
22	16.67	16.70	17.36	18.62	19.14	20.12	19.50	18.73	19.03	21.25	18.55	16.33
23	16.68	16.71	17.39	18.66	19.17	20.00	19.41	18.73	19.12	21.14	17.88	16.25
24	16.70	16.76	17.45	18.66	19.19	19.90	19.37	18.74	19.19	20.94	17.77	16.16
25	16.72	16.77	17.51	18.73	19.21	19.83	19.35	18.79	19.27	20.57	17.47	16.10
26	16.76	16.78	17.56	18.83	19.24	19.77	19.36	18.80	19.31	19.91	17.37	16.09
27	16.97	16.81	17.60	19.02	19.29	19.74	19.40	18.71	19.23	19.75	17.29	16.03
28	17.14	16.83	17.63	19.32	19.33	19.73	19.44	18.69	19.10	19.61	17.24	16.00
29	17.25	16.84	17.65	19.63	---	19.73	19.46	18.77	18.92	19.37	17.13	15.96
30	17.27	16.84	17.65	19.80	---	19.75	19.51	18.87	18.71	19.08	17.12	15.89
31	17.28	---	17.68	19.80	---	19.77	---	18.99	---	18.88	17.12	---
MEAN	16.70	16.81	17.32	18.46	19.32	19.85	19.70	19.06	18.81	19.78	18.29	16.61

WTR YR 2001 MEAN 18.39 HIGHEST 15.87 SEPT. 30, 2001 LOWEST 21.28 JULY 15, 16, 2001



GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

175855066023100. Local number, 1227.

LOCATION.--Lat 17°58'55", long 66°02'31", Hydrologic Unit 21010004, 0.25 mi north of Hwy 3 @ km 128.5, and 1.74 mi northeast of Arroyo plaza. Owner: Santuri Trucking, Name: Fidel 2 Well.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Unused water-table well, diameter 15 in (0.38 m). Depth 116 ft (35.4 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 41.0 ft (12.5 m), above mean sea level, from topographic map. Measuring point: Shelter floor, 3.12 ft (0.95 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on December 11, 1996. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger installed on May 18, 2000. Formerly published as local number FID-2.

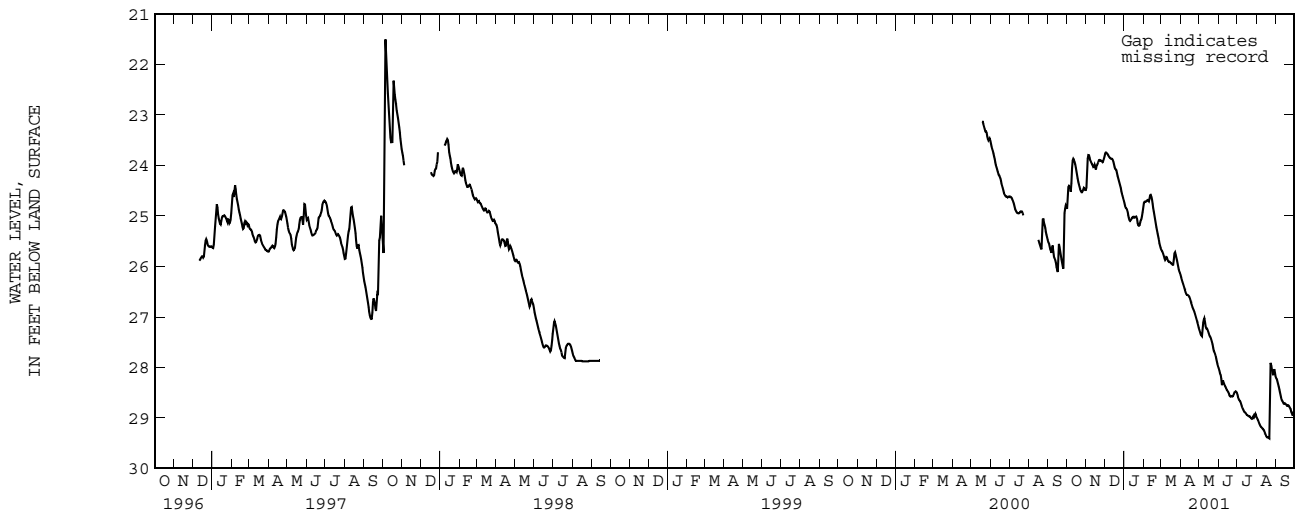
PERIOD OF RECORD.--December 11, 1996 to September 30, 1998, discontinued. May 18, 2000 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 21.39 ft (6.52 m), below land-surface datum, Oct. 5, 1997; lowest water level recorded, 29.42 ft (8.97 m), below land-surface datum, Aug. 22, 2001.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.85	24.48	23.79	24.72	24.78	25.66	26.14	27.24	28.00	28.50	28.98	28.21
2	24.87	24.40	23.75	24.78	24.72	25.68	26.20	27.27	28.03	28.57	29.01	28.21
3	24.45	23.92	23.74	24.83	24.72	25.70	26.25	27.32	28.09	28.61	29.03	28.25
4	24.40	23.81	23.76	24.85	24.73	25.73	26.29	27.36	28.14	28.64	29.06	28.31
5	24.41	23.78	23.77	24.86	24.71	25.77	26.33	27.37	28.15	28.66	29.10	28.35
6	24.43	23.82	23.79	24.89	24.70	25.81	26.37	27.39	28.31	28.67	29.13	28.41
7	24.51	23.88	23.81	24.95	24.69	25.87	26.41	27.09	28.39	28.71	29.15	28.46
8	24.53	23.91	23.83	25.02	24.68	25.87	26.45	27.13	28.23	28.75	29.17	28.51
9	24.18	23.92	23.85	25.06	24.71	25.83	26.49	27.00	28.29	28.78	29.19	28.57
10	23.94	23.97	23.86	25.11	24.71	25.80	26.53	27.06	28.31	28.82	29.19	28.63
11	23.87	23.98	23.87	25.09	24.61	25.84	26.56	27.14	28.35	28.83	29.22	28.66
12	23.87	24.02	23.87	25.08	24.58	25.88	26.57	27.23	28.38	28.87	29.23	28.67
13	23.91	24.05	23.87	25.05	24.59	25.91	26.56	27.22	28.39	28.89	29.24	28.71
14	23.95	24.00	23.90	25.03	24.64	25.91	26.58	27.23	28.44	28.89	29.28	28.72
15	24.01	23.98	23.94	25.02	24.72	25.90	26.59	27.27	28.46	28.91	29.31	28.71
16	24.09	24.10	24.01	25.02	24.81	25.93	26.62	27.30	28.47	28.94	29.34	28.71
17	24.17	24.06	24.05	25.05	24.88	25.94	26.66	27.35	28.49	28.94	29.38	28.73
18	24.23	24.01	24.08	25.02	24.95	25.95	26.71	27.38	28.53	28.95	29.38	28.74
19	24.29	23.99	24.07	25.02	25.04	25.96	26.74	27.39	28.56	28.96	29.38	28.77
20	24.36	23.96	24.12	25.03	25.11	25.97	26.79	27.42	28.58	28.97	29.39	28.75
21	24.39	23.92	24.18	25.00	25.19	25.96	26.82	27.46	28.58	28.96	29.40	28.75
22	24.45	23.88	24.24	25.10	25.25	25.78	26.85	27.51	28.56	28.98	29.41	28.76
23	24.50	23.91	24.28	25.18	25.32	25.70	26.88	27.56	28.57	29.00	29.43	28.79
24	24.52	23.90	24.33	25.19	25.38	25.74	26.92	27.66	28.58	29.02	29.44	28.81
25	24.54	23.91	24.38	25.20	25.44	25.80	26.96	27.68	28.55	29.02	29.45	28.83
26	24.52	23.91	24.42	25.17	25.51	25.85	27.01	27.71	28.51	29.00	29.46	28.92
27	24.50	23.94	24.48	25.09	25.57	25.91	27.05	27.75	28.49	28.94	29.47	28.89
28	24.45	23.93	24.54	25.09	25.61	25.98	27.10	27.79	28.48	28.96	29.48	28.98
29	24.44	23.90	24.58	25.05	---	26.04	27.13	27.85	28.47	29.01	29.49	28.88
30	24.48	23.85	24.63	24.97	---	26.08	27.19	27.91	28.49	28.91	29.50	28.88
31	24.49	---	24.67	24.89	---	26.12	---	27.96	---	28.93	29.51	---
MEAN	24.34	23.97	24.08	25.01	24.94	25.87	26.66	27.42	28.40	28.86	29.31	28.65

WTR YR 2001 MEAN 26.43 HIGHEST 23.73 DEC. 3, 4, 2000 LOWEST 29.42 AUG. 22, 2001



GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

175855066050500. Local number, 1228.

LOCATION.--Lat 17°58'55", long 66°05'05", Hydrologic Unit 21010004, 1.97 mi east-southeast of the intersection of Hwy 16 with Hwy 3, 1.00 mi west of the intersection of Hwy 3 with Hwy 178, and 0.04 mi south of Hwy 3. Owner: PR Land Authority, Name: Algarrobos Domestic Well.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well. Depth 57.0 ft (17.4 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 89.0 ft (27.1 m), above mean sea level. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 2.95 ft (0.90 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on May 24, 1997. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on September 30, 1999. Formerly published as local number ALG-1.

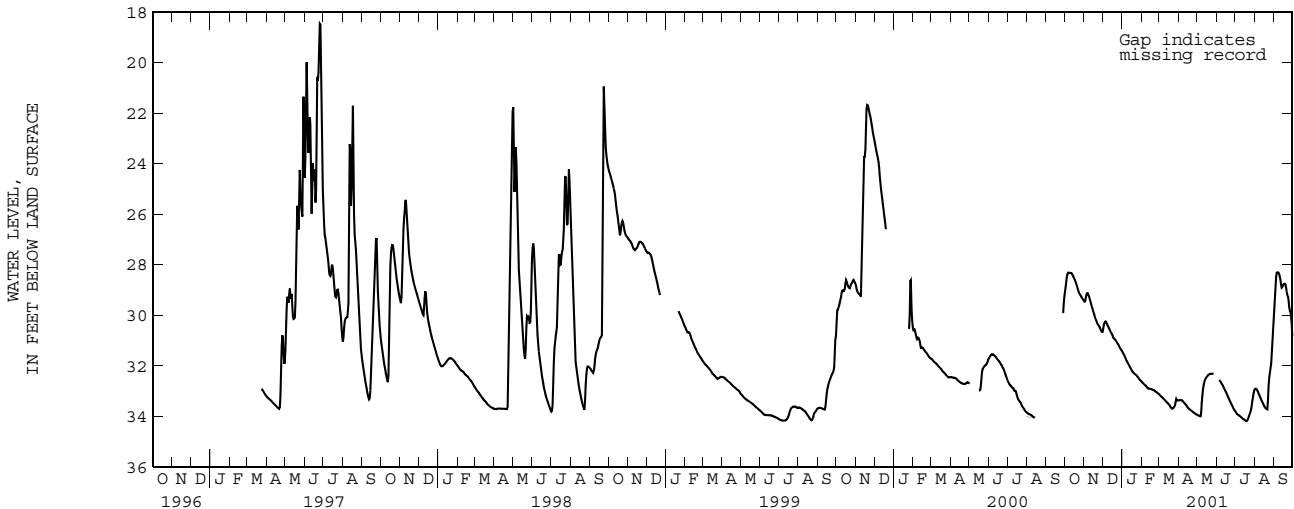
PERIOD OF RECORD.--May 24, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 18.19 ft (5.54 m), below land-surface datum, June 26, 1997; lowest water level recorded, 34.19 ft (10.42 m), below land-surface datum, July 19, 20, 2001.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29.13	29.43	30.64	31.42	32.63	33.12	33.37	33.94	---	33.79	32.94	29.81
2	28.97	29.48	30.44	31.48	32.66	33.15	33.37	33.95	---	33.83	32.91	29.43
3	28.75	29.42	30.34	31.52	32.68	33.17	33.36	33.97	---	33.89	32.90	29.06
4	28.52	29.24	30.28	31.58	32.71	33.20	33.36	33.98	---	33.91	32.92	28.64
5	28.38	29.15	30.24	31.61	32.73	33.23	33.36	33.99	32.55	33.93	32.96	28.33
6	28.32	29.12	30.26	31.68	32.75	33.25	33.36	34.00	32.58	33.95	33.00	28.30
7	28.30	29.13	30.30	31.73	32.77	33.28	33.37	33.99	32.61	33.97	33.06	28.30
8	28.33	29.18	30.36	31.79	32.79	33.30	33.40	33.65	32.65	33.98	33.12	28.30
9	28.33	29.25	30.41	31.83	32.81	33.32	33.43	33.31	32.69	33.99	33.17	28.33
10	28.32	29.34	30.46	31.90	32.86	33.35	33.45	33.04	32.73	34.03	33.23	28.40
11	28.32	29.43	30.51	31.93	32.89	33.37	33.48	32.83	32.77	34.04	33.29	28.53
12	28.33	29.53	30.57	31.98	32.90	33.40	33.51	32.69	32.81	34.07	33.35	28.67
13	28.37	29.62	30.64	32.03	32.91	33.43	33.54	32.63	32.88	34.09	33.41	28.90
14	28.42	29.71	30.68	32.08	32.91	33.45	33.57	32.54	32.93	34.11	33.46	28.91
15	28.48	29.79	30.73	32.13	32.91	33.48	33.62	32.48	32.97	34.12	33.51	28.85
16	28.54	29.88	30.75	32.17	32.92	33.51	33.65	32.45	33.03	34.14	33.56	28.79
17	28.60	29.96	30.84	32.21	32.93	33.54	33.67	32.43	33.08	34.16	33.62	28.76
18	28.64	30.03	30.90	32.25	32.93	33.57	33.71	32.39	33.13	34.18	33.66	28.75
19	28.71	30.11	30.92	32.27	32.95	33.61	33.72	32.36	33.19	34.19	33.68	28.75
20	28.79	30.18	30.94	32.29	32.95	33.65	33.74	32.35	33.25	34.18	33.70	28.81
21	28.87	30.23	30.97	32.32	32.97	33.67	33.76	32.33	33.30	34.14	33.72	28.97
22	28.96	30.32	31.01	32.34	32.99	33.70	33.78	32.33	33.35	34.09	33.73	29.15
23	29.05	30.36	31.06	32.36	33.01	33.70	33.80	32.31	33.41	34.01	33.01	29.24
24	29.12	30.40	31.10	32.38	33.03	33.67	33.82	32.31	33.47	33.93	32.54	29.26
25	29.17	30.43	31.14	32.41	33.05	33.63	33.84	32.31	33.51	33.86	32.40	29.56
26	29.21	30.47	31.17	32.44	33.06	33.59	33.86	32.31	33.57	33.79	32.19	29.82
27	29.24	30.53	31.21	32.48	33.08	33.56	33.87	32.32	33.61	33.64	31.99	29.83
28	29.29	30.59	31.27	32.51	33.10	33.29	33.90	32.33	33.68	33.48	31.86	29.87
29	29.32	30.64	31.32	32.55	---	33.34	33.91	---	33.72	33.34	31.07	30.20
30	29.36	30.67	31.35	32.57	---	33.37	33.93	---	33.76	33.17	30.57	30.41
31	29.40	---	31.39	32.59	---	33.37	---	---	---	33.03	30.14	---
MEAN	28.76	29.85	30.78	32.09	32.89	33.43	33.62	32.91	33.12	33.90	32.86	29.03

WTR YR 2001 MEAN 31.91 HIGHEST 28.29 SEPT. 6, 7, 2001 LOWEST 34.19 JULY 19, 20, 2001



GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

1757280660722000. Local number, 1229.

LOCATION.--Lat 17°57'28", long 66°07'22", Hydrologic Unit 21010004, 0.65 mi west of Central Machete. 0.75 mi northwest of Playita Machete, 2.00 mi south of the intersection of Hwy 15 with Hwy 3, and 1.13 mi southeast of intersection of Hwy 710 with Hwy 3. Owner: PR Land Authority, Name: Barranca Dug Well.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Hand-dug unused water-table well. Depth 38.0 ft (11.7 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 59.1 ft (18.0 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 4.60 ft (1.40 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on April 3, 1997. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on September 27, 1999. Formerly published as local number BAR-1.

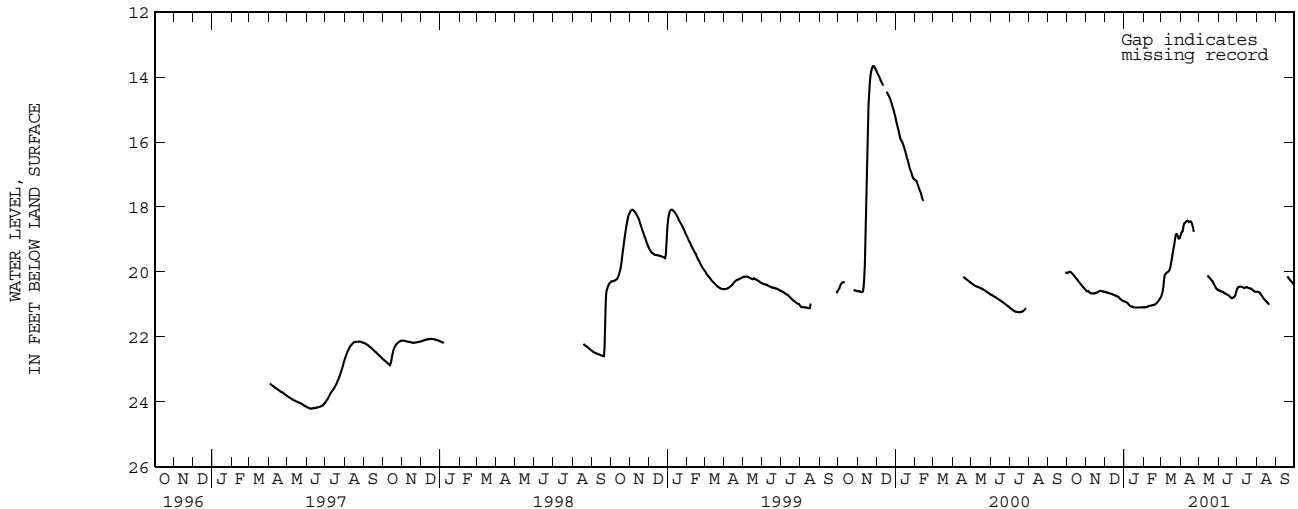
PERIOD OF RECORD.--April 3, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 13.66 ft (4.16 m), below land-surface datum, Nov. 25, 26, 27, 1999; lowest water level recorded, 24.21 ft (7.38 m), below land-surface datum, June 7, 8, 9, 1997.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.03	20.57	20.61	20.90	21.09	20.78	18.93	---	20.56	20.52	20.61	---
2	20.03	20.60	20.62	20.92	21.09	20.73	18.83	---	20.57	20.48	20.61	---
3	20.03	20.60	20.63	20.92	21.09	20.65	18.76	---	20.57	20.46	20.61	---
4	20.01	20.58	20.63	20.93	21.08	20.58	18.77	---	20.59	20.45	20.62	---
5	20.00	20.59	20.63	20.94	21.08	20.42	18.73	---	20.60	20.45	20.62	---
6	19.99	20.62	20.65	20.95	21.08	20.17	18.56	---	20.60	20.45	20.63	---
7	20.00	20.64	20.65	20.97	21.07	20.08	18.50	---	20.61	20.45	20.66	---
8	20.02	20.65	20.66	20.99	21.06	20.07	18.49	---	20.61	20.45	20.69	---
9	20.03	20.66	20.66	21.03	21.06	20.04	18.48	---	20.62	20.46	20.72	---
10	20.06	20.66	20.67	21.04	21.05	20.03	18.46	---	20.64	20.47	20.74	---
11	20.07	20.66	20.67	21.06	21.04	20.02	18.43	---	20.67	20.48	20.77	---
12	20.09	20.66	20.68	21.06	21.04	20.00	18.43	---	20.65	20.49	20.81	---
13	20.12	20.67	20.68	21.06	21.03	19.98	18.41	---	20.68	20.50	20.83	---
14	20.15	20.67	20.70	21.07	21.03	19.96	18.46	20.10	20.69	20.48	20.85	---
15	20.17	20.65	20.71	21.08	21.03	19.94	18.48	20.11	20.70	20.47	20.88	---
16	20.20	20.65	20.71	21.08	21.03	19.83	18.44	20.15	20.71	20.46	20.90	---
17	20.22	20.65	20.72	21.09	21.02	19.73	18.44	20.17	20.72	20.47	20.91	---
18	20.24	20.64	20.73	21.09	21.01	19.62	18.46	20.19	20.73	20.48	20.93	---
19	20.27	20.63	20.73	21.09	21.01	19.51	18.47	20.20	20.74	20.49	20.95	20.12
20	20.29	20.62	20.74	21.09	21.00	19.40	18.53	20.23	20.77	20.50	20.97	20.14
21	20.32	20.61	20.75	21.09	20.98	19.29	18.60	20.26	20.79	20.50	21.00	20.18
22	20.34	20.60	20.76	21.09	20.96	19.19	18.72	20.27	20.80	20.50	21.02	20.21
23	20.37	20.58	20.77	21.09	20.94	19.06	18.81	20.30	20.81	20.51	---	20.23
24	20.39	20.58	20.79	21.09	20.91	18.91	---	20.35	20.80	20.52	---	20.25
25	20.42	20.59	20.83	21.09	20.89	18.84	---	20.38	20.78	20.54	---	20.28
26	20.43	20.59	20.83	21.09	20.86	18.83	---	20.42	20.77	20.56	---	20.30
27	20.46	20.59	20.85	21.09	20.83	18.85	---	20.46	20.76	20.57	---	20.32
28	20.49	20.60	20.86	21.09	20.80	18.90	---	20.49	20.72	20.59	---	20.34
29	20.50	20.61	20.88	21.09	---	18.97	---	20.52	20.66	20.61	---	20.37
30	20.52	20.61	20.89	21.08	---	18.97	---	20.54	20.58	20.61	---	20.40
31	20.54	---	20.89	21.08	---	18.97	---	20.54	---	20.61	---	---
MEAN	20.22	20.62	20.73	21.04	21.01	19.69	18.57	20.32	20.68	20.50	20.79	20.26

WTR YR 2001 MEAN 20.40 HIGHEST 18.40 APR. 12, 13, 2001 LOWEST 21.09 JAN. 17 TO FEB. 3, 2001



GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

175719066085500. Local number, 1230.

LOCATION.--Lat 17°57'19", long 66°08'55", Hydrologic Unit 2101004, 1.0 mi east of the intersection of Hwy 3 with Hwy 707, 0.28 mi south of Hwy 3, and 0.25 mi northwest of the Phillips Petroleum oil refinery. Owner: Phillips Petroleum, Name: Phillips Petroleum 13 Well.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well.

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 33.0 ft (10.1 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 3.21 ft (0.98 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on April 15, 1998. Sampling performed on June 7, 1996 by private company. Formerly published as local number P-13.

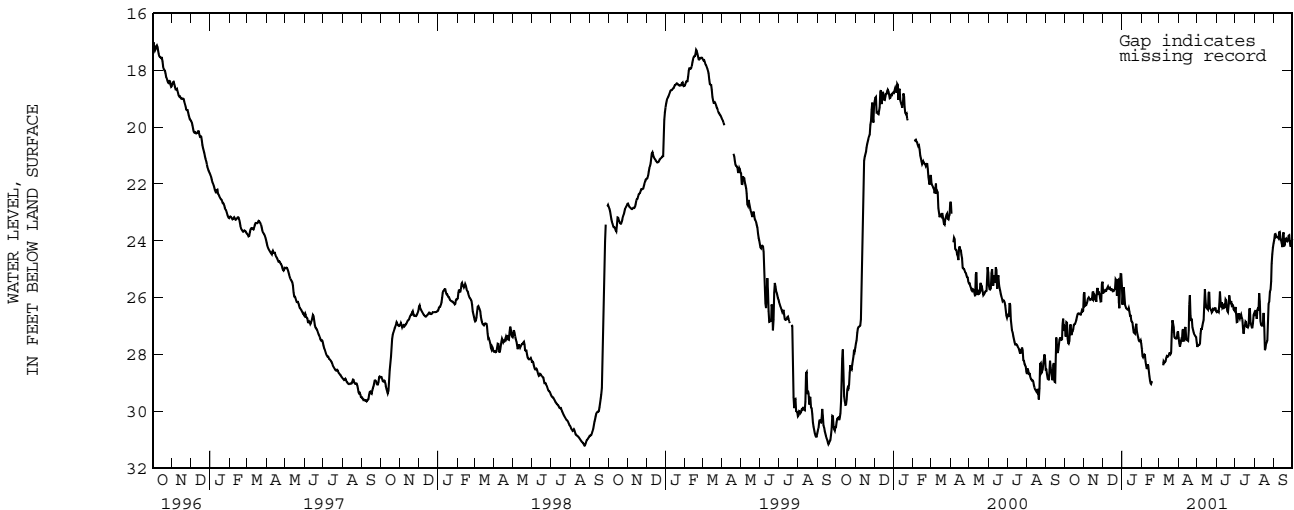
PERIOD OF RECORD.--September 25, 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 14.47 ft (4.41 m), below land-surface datum, Mar. 22, 24, 1993; lowest water level recorded, 31.22 ft (9.52 m), below land-surface datum, Aug. 24, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.60	25.34	25.90	26.30	27.76	---	27.32	27.78	26.55	26.40	26.65	24.02
2	27.44	26.29	25.80	26.20	27.86	---	27.52	27.69	26.47	26.25	26.64	23.93
3	27.30	26.27	25.80	25.55	28.24	---	27.70	27.64	26.47	26.87	26.32	23.62
4	26.42	26.25	25.73	25.72	27.95	---	27.76	27.68	26.49	26.85	26.67	23.91
5	27.35	26.27	25.74	26.23	28.10	---	27.45	27.64	26.52	26.85	26.82	23.84
6	27.55	26.11	25.80	26.28	27.90	---	27.53	27.60	25.92	26.41	26.00	23.88
7	27.65	26.05	25.72	26.35	28.13	28.57	27.56	26.94	25.65	26.68	26.76	23.85
8	27.59	26.00	25.69	26.39	28.39	28.19	26.77	27.21	26.63	26.69	26.14	23.89
9	27.50	25.98	25.61	26.40	28.40	28.30	27.45	27.05	26.05	26.78	25.55	23.93
10	26.53	26.09	25.60	26.44	28.62	28.28	27.54	26.95	26.27	26.50	26.70	23.48
11	27.35	26.06	25.76	26.42	28.25	28.26	27.54	26.81	26.45	26.68	26.94	23.91
12	27.29	26.04	25.60	26.31	28.45	28.21	26.62	26.76	26.21	26.73	26.96	23.97
13	27.16	26.05	25.70	26.67	28.67	28.05	27.45	25.51	26.22	26.78	27.00	23.99
14	27.22	26.07	25.74	26.59	28.85	28.07	27.47	25.90	26.48	27.37	26.96	24.17
15	26.98	25.56	25.66	26.68	28.98	28.10	27.50	26.32	26.18	27.16	26.81	24.27
16	26.93	26.06	25.76	26.95	29.06	28.05	27.51	26.37	25.95	26.96	26.26	23.29
17	26.94	26.07	25.76	26.75	29.02	28.02	27.53	26.38	26.25	27.00	27.80	24.12
18	26.91	26.00	25.71	27.00	28.93	27.89	26.77	26.41	26.47	26.68	27.90	24.27
19	26.84	25.87	25.81	27.13	29.04	28.01	25.72	26.42	26.48	27.04	27.70	24.01
20	26.73	26.10	25.64	27.31	---	27.95	26.11	25.27	26.55	26.99	27.57	23.87
21	26.62	26.19	25.75	27.18	---	27.90	27.16	26.33	26.02	27.05	27.61	23.97
22	26.55	25.35	24.96	27.36	---	26.52	26.49	26.41	25.82	27.05	27.43	24.04
23	26.57	25.97	25.83	26.72	---	27.07	26.99	26.40	26.35	26.93	26.09	24.01
24	26.53	25.84	26.02	27.12	---	26.74	27.09	26.46	26.10	25.94	26.35	23.98
25	26.61	25.73	24.77	27.26	---	27.34	27.19	26.58	26.14	26.81	25.96	23.66
26	26.56	25.99	25.97	27.35	---	27.41	27.27	26.39	26.41	26.94	25.66	23.95
27	26.63	26.07	26.34	27.45	---	27.43	27.32	26.39	26.09	26.96	25.81	24.15
28	26.42	26.19	26.40	27.51	---	27.44	27.35	26.40	26.48	27.10	25.03	24.20
29	26.48	26.06	24.82	27.55	---	27.44	27.37	26.42	26.33	27.05	24.60	24.15
30	26.50	24.98	25.53	27.53	---	27.43	27.40	26.32	26.55	26.77	24.34	23.89
31	26.43	---	24.83	27.47	---	27.05	---	26.42	---	26.47	24.15	---
MEAN	26.91	25.96	25.67	26.78	28.45	27.75	27.22	26.67	26.28	26.80	26.43	23.94

WTR YR 2001 MEAN 26.50 HIGHEST 22.93 SEPT. 30, 2001 LOWEST 29.27 FEB. 20, 2001



GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

175858066100200. Local number, 6.

LOCATION.--Lat 17°58'58", long 66°10'02", Hydrologic Unit 21010004, 4.23 mi northeast of Central Aguirre Church, 4.08 mi northeast of Colegio del Perpetuo Socorro Church, and 1.77 mi northwest of Hwy 3 km 144.2. Owner: Doctor Bruno, Name: Juana 5 Well.

AQUIFER.--Alluvium of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 16 in (0.41 m). Depth 173 ft (52.74 m) reported, 110 ft (33.54 m) measured.

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 127 ft (38.7 m), above mean sea level, from topographic map. Measuring point: Top of shelter floor, 3.00 ft (0.91 m), above land-surface datum. After Aug. 7, 1981, top of 16 in (0.41 m) casing, 1.55 ft (0.47 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on April 15, 1998.

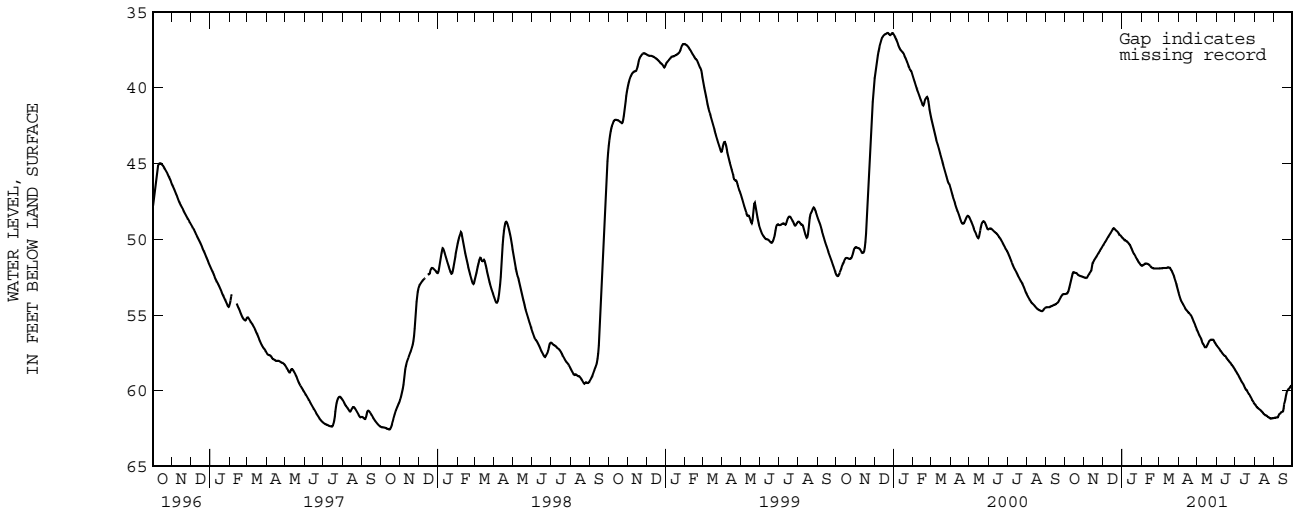
PERIOD OF RECORD.--November 1960 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 26.20 ft (7.99 m), below land-surface datum, Dec. 10, 1979; lowest water level recorded, 65.95 ft (20.1 m), below land-surface datum, June 2, 1968.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53.62	52.52	50.44	49.92	51.75	51.93	53.46	56.00	57.00	58.61	60.88	61.79
2	53.62	52.53	50.37	49.94	51.75	51.93	53.63	56.08	57.04	58.72	60.90	61.80
3	53.61	52.54	50.30	49.95	51.73	51.92	53.77	56.16	57.11	58.75	60.96	61.78
4	53.60	52.56	50.23	50.06	51.71	51.92	53.90	56.30	57.14	58.84	61.06	61.77
5	53.58	52.58	50.16	50.06	51.68	51.92	54.02	56.37	57.21	58.91	61.10	61.77
6	53.52	52.51	50.10	50.05	51.61	51.92	54.11	56.47	57.26	58.97	61.11	61.76
7	53.41	52.44	50.03	50.13	51.61	51.91	54.20	56.53	57.35	59.06	61.16	61.75
8	53.26	52.37	49.96	50.13	51.60	51.91	54.26	56.62	57.39	59.13	61.20	61.75
9	53.09	52.30	49.89	50.15	51.60	51.90	54.31	56.76	57.42	59.19	61.23	61.59
10	52.90	52.23	49.82	50.22	51.62	51.90	54.44	56.87	57.50	59.27	61.25	61.53
11	52.72	52.16	49.75	50.23	51.64	51.90	54.45	56.93	57.56	59.37	61.30	61.52
12	52.54	52.10	49.68	50.35	51.66	51.90	54.58	56.96	57.59	59.44	61.34	61.45
13	52.37	52.03	49.62	50.35	51.68	51.89	54.63	57.13	57.66	59.50	61.39	61.42
14	52.20	51.61	49.55	50.41	51.73	51.90	54.70	57.13	57.70	59.56	61.42	61.40
15	52.18	51.54	49.48	50.54	51.75	51.86	54.70	57.13	57.70	59.63	61.51	61.39
16	52.20	51.47	49.41	50.63	51.85	51.86	54.83	57.13	57.76	59.75	61.53	61.34
17	52.21	51.40	49.34	50.71	51.85	51.87	54.84	57.00	57.84	59.85	61.59	60.99
18	52.22	51.33	49.28	50.79	51.90	51.88	54.86	56.95	57.90	59.91	61.60	60.82
19	52.23	51.26	49.29	50.89	51.90	51.90	54.91	56.88	57.93	59.95	61.62	60.69
20	52.24	51.20	49.32	50.98	51.93	52.01	54.95	56.76	57.99	59.97	61.64	60.41
21	52.27	51.13	49.37	51.03	51.93	52.06	55.03	56.70	58.03	60.07	61.65	60.19
22	52.35	51.06	49.42	51.12	51.93	52.10	55.07	56.67	58.12	60.18	61.72	60.05
23	52.38	50.99	49.46	51.18	51.93	52.28	55.18	56.62	58.14	60.21	61.73	59.97
24	52.40	50.92	49.49	51.31	51.93	52.29	55.25	56.63	58.19	60.28	61.76	59.92
25	52.42	50.85	49.54	51.32	51.93	52.46	55.40	56.63	58.27	60.34	61.79	59.86
26	52.43	50.78	49.58	51.41	51.93	52.60	55.46	56.63	58.32	60.46	61.83	59.85
27	52.44	50.71	49.70	51.50	51.93	52.71	55.58	56.64	58.36	60.49	61.83	59.77
28	52.46	50.65	49.71	51.55	51.93	52.86	55.66	56.68	58.42	60.60	61.82	59.71
29	52.47	50.58	49.72	51.57	---	53.00	55.78	56.79	58.49	60.67	61.82	59.68
30	52.49	50.51	49.80	51.69	---	53.15	55.86	56.84	58.55	60.70	61.81	59.67
31	52.51	---	49.82	51.71	---	53.31	---	56.91	---	60.81	61.81	---
MEAN	52.71	51.63	49.73	50.71	51.79	52.16	54.73	56.71	57.76	59.72	61.46	60.91

WTR YR 2001 MEAN 55.01 HIGHEST 49.28 DEC. 18, 2000 LOWEST 61.83 AUG. 26, 27, 28, 2001



GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

180002066132200. Local number, 1231.

LOCATION.--Lat 18°00'02", long 66°13'22", Hydrologic Unit 21010004, 3.30 mi southwest of Cerro Guaraco, 8.71 mi southwest of Cayey plaza, and 2.80 mi southeast of Hwy 1 km 82.3 on Rabo del Buey. Owner: US Geological Survey, WRD, Name: Piezometer Aguirre HW 1 Well.

AQUIFER.--Fractured, volcanic rock, water-table aquifer.

WELL CHARACTERISTICS.--Drilled observation well, diameter 7 in (0.18 m), 0-39.5 ft (0-12.0 m), cased 4 in (0.10 m), 0-38.2 ft (0-11.6 m), screened 32-37.0 ft (9.75-11.3 m). Depth 39.5 ft (12.0 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 190 ft (58.0 m), above mean sea level. Measuring point: Hole on side of 4 in (0.10 m) casing, 2.84 ft (0.87 m), above land-surface datum. Prior October 13, 1988, top of shelter floor, 3.48 ft (1.06 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 10, 1998. Formerly published as local number and name HW-TW-01.

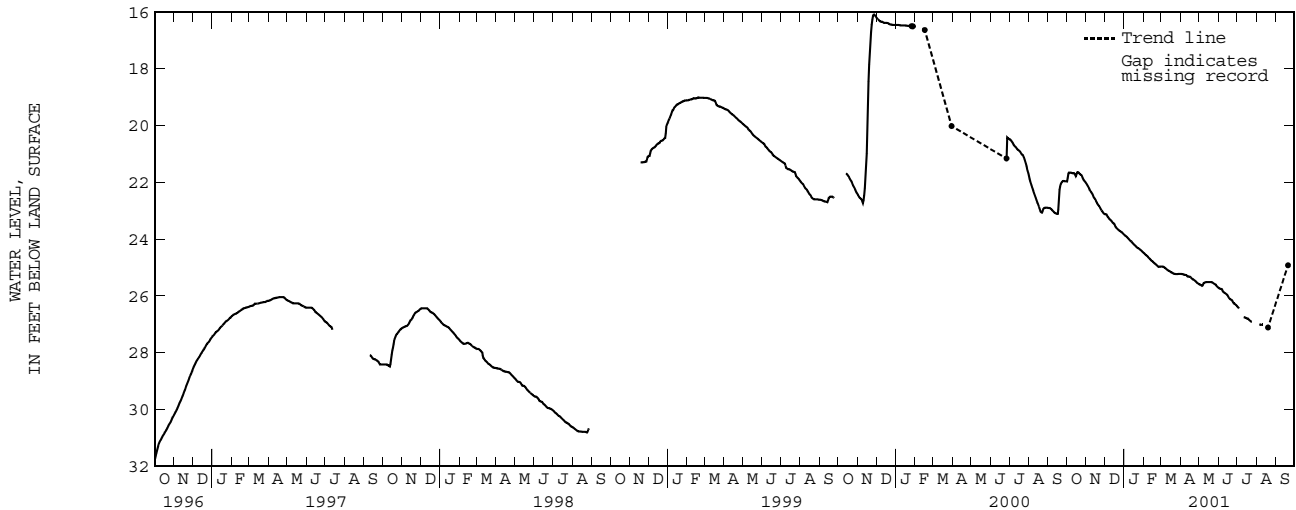
PERIOD OF RECORD.--April 14, 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 16.09 ft (4.90 m), below land-surface datum, Nov. 27, 28, 1999; lowest water level recorded, 37.45 ft (11.4 m), below land-surface datum, Sept. 10, 1996.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.96	22.03	23.12	23.84	24.48	24.97	25.22	25.58	25.71	26.35	---	---
2	21.97	22.06	23.12	23.87	24.50	24.96	25.22	25.59	25.72	26.40	---	---
3	21.73	22.10	23.12	23.88	24.51	24.96	25.22	25.60	25.74	26.41	---	---
4	21.67	22.15	23.14	23.89	24.55	24.97	25.23	25.62	25.75	26.43	---	---
5	21.65	22.18	23.19	23.92	24.56	24.97	25.23	25.63	25.75	26.44	27.00	---
6	21.66	22.23	23.23	23.94	24.58	24.99	25.25	25.65	25.75	---	26.99	---
7	21.66	22.27	23.24	23.96	24.59	25.01	25.25	25.61	25.78	---	27.01	---
8	21.66	22.31	23.29	23.98	24.62	25.02	25.25	25.56	25.84	---	27.02	---
9	21.67	22.34	23.30	24.01	24.65	25.04	25.26	25.54	25.85	---	27.01	---
10	21.68	22.37	23.33	24.04	24.67	25.06	25.26	25.53	25.88	---	27.01	---
11	21.68	22.41	23.34	24.06	24.69	25.08	25.26	25.52	25.89	26.74	27.02	---
12	21.67	22.44	23.36	24.07	24.71	25.09	25.31	25.51	25.91	26.74	27.01	---
13	21.68	22.52	23.41	24.09	24.75	25.11	25.31	25.51	25.92	26.76	---	---
14	21.71	22.55	23.43	24.13	24.76	25.12	25.31	25.51	25.94	26.76	---	---
15	21.76	22.58	23.44	24.15	24.78	25.12	25.32	25.51	25.96	26.77	---	---
16	21.80	22.62	23.46	24.17	24.79	25.16	25.32	25.51	25.99	26.79	---	---
17	21.66	22.66	23.49	24.20	24.81	25.16	25.33	25.51	26.05	26.79	---	---
18	21.64	22.70	23.55	24.21	24.85	25.17	25.35	25.51	26.07	26.79	---	---
19	21.64	22.73	23.59	24.23	24.85	25.18	25.37	25.51	26.09	26.80	27.11	---
20	21.65	22.80	23.61	24.26	24.87	25.20	25.40	25.51	26.12	26.84	---	---
21	21.68	22.80	23.63	24.27	24.89	25.21	25.41	25.51	26.13	26.86	---	---
22	21.71	22.85	23.66	24.31	24.92	25.22	25.42	25.52	26.14	26.87	---	---
23	21.73	22.88	23.67	24.31	24.93	25.22	25.44	25.53	26.15	26.90	---	---
24	21.73	22.92	23.70	24.32	24.96	25.22	25.45	25.55	26.20	26.91	---	---
25	21.76	22.97	23.71	24.34	24.98	25.23	25.48	25.57	26.25	26.91	---	---
26	21.82	23.00	23.73	24.36	24.98	25.23	25.49	25.58	26.26	---	---	---
27	21.87	23.02	23.74	24.38	24.97	25.23	25.52	25.59	26.27	---	---	---
28	21.92	23.05	23.75	24.39	24.96	25.22	25.54	25.61	26.30	---	---	---
29	21.94	23.09	23.77	24.41	---	25.22	25.55	25.64	26.31	---	---	---
30	21.96	23.11	23.80	24.44	---	25.22	25.57	25.67	26.34	---	---	---
31	22.00	---	23.82	24.46	---	25.22	---	25.69	---	---	---	---
MEAN	21.75	22.59	23.48	24.16	24.76	25.12	25.35	25.56	26.00	26.71	27.02	---

WTR YR 2001 MEAN 24.54 HIGHEST 21.64 OCT. 18, 19, 2000 LOWEST 27.13 AUG. 20, 2001



GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 12	21.68	OCT 23	21.73	FEB 26	24.98	APR 12	25.31	MAY 07	25.59	JUL 05	26.44
12	21.65	NOV 20	22.80	MAR 06	24.99	12	25.31	JUN 04	21.69	SEP 20	24.92
23	21.73										

WATER YEAR 2001 HIGHEST 21.65 OCT. 12, 2000 LOWEST 26.44 JULY 5, 2001

GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

180001066122002. Local number, 1232.

LOCATION.--Lat 18°00'01", long 66°12'20", Hydrologic Unit 21010004, 8.27 mi southwest of Cayey plaza, 2.38 mi southwest of Cerro Garau, and 3.45 mi southeast of Hwy 1 km 82.3. Owner: US Geological Survey, WRD, Name: Piezometer Aguirre HW 3C Well.

AQUIFER.--Fractured, volcanic rock, water-table aquifer.

WELL CHARACTERISTICS.--Drilled observation well, diameter 7 in (0.18 m), 0-220 ft (0-67.0 m), cased 4 in (0.10 m), 0-150 ft (0-45.7 m), open hole 150-220 ft (45.7-67.0 m). Depth 220 ft (67.0 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 270 ft (82.6 m), above mean sea level. Measuring point: Top of shelter floor, 3.32 ft (1.01 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on April 15, 1998. Aquifer test performed during May 24, 25, 26, 1989. Formerly published as local number and name HW-TW-03C.

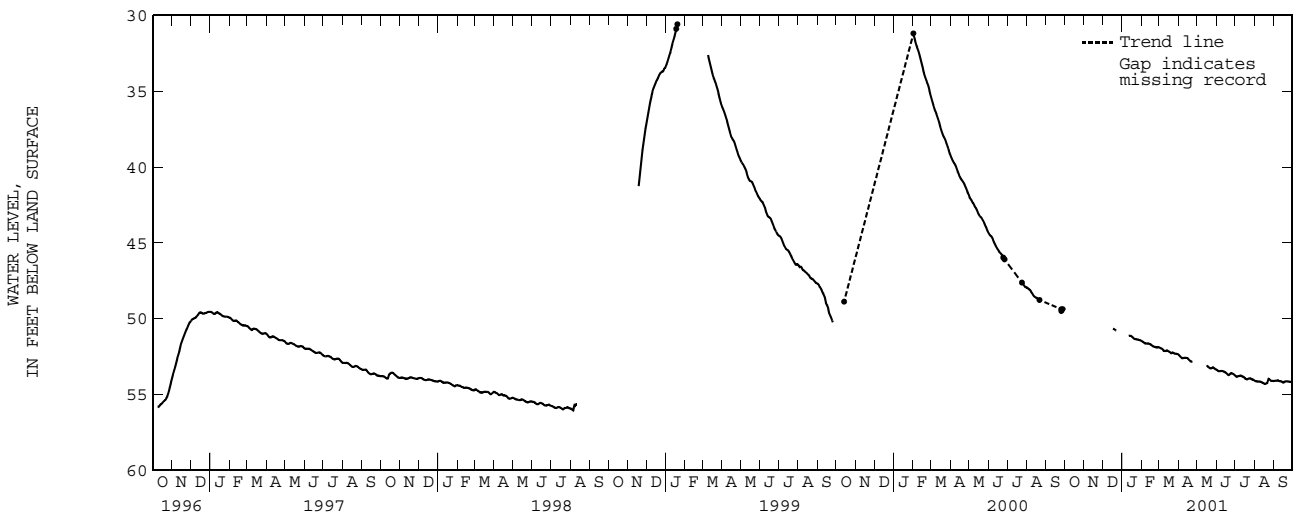
PERIOD OF RECORD.--December 15, 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 26.29 ft (8.01 m), below land-surface datum, Dec. 15, 1990; lowest water level recorded, 59.82 ft (18.2 m), below land-surface datum, Mar. 1, 1996.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	51.48	51.90	52.36	---	53.37	53.74	54.08	54.12
2	---	---	---	---	51.49	51.91	52.40	---	53.39	53.79	54.13	54.09
3	---	---	---	---	51.53	51.94	52.46	---	53.42	53.84	54.12	54.11
4	---	---	---	---	51.56	51.96	52.50	---	53.47	53.84	54.13	54.09
5	---	---	---	---	51.58	51.98	52.53	---	53.47	53.82	54.16	54.09
6	---	---	---	---	51.62	51.99	52.59	---	53.48	53.79	54.16	54.09
7	---	---	---	---	51.64	52.04	52.62	---	53.46	53.79	54.15	54.07
8	---	---	---	---	51.64	52.10	52.61	---	53.45	53.78	54.15	54.07
9	---	---	---	---	51.65	52.13	52.61	---	53.45	53.76	54.14	54.11
10	---	---	---	---	51.64	52.13	52.58	---	53.45	53.75	54.16	54.13
11	---	---	---	51.15	51.63	52.13	52.58	---	53.47	53.77	54.17	54.12
12	---	---	---	51.12	51.64	52.14	52.58	---	53.48	53.82	54.19	54.13
13	---	---	---	51.14	51.66	52.11	52.59	---	53.49	53.83	54.22	54.15
14	---	---	---	51.13	51.68	52.09	52.59	---	53.52	53.82	54.23	54.17
15	---	---	---	51.15	51.69	52.12	52.59	---	53.54	53.85	54.26	54.21
16	---	---	---	51.17	51.71	52.15	52.62	53.05	53.57	53.92	54.29	54.23
17	---	---	50.64	51.20	51.75	52.19	52.68	53.11	53.60	53.97	54.30	54.21
18	---	---	50.68	51.23	51.77	52.20	52.72	53.17	53.65	53.96	54.32	54.16
19	---	---	50.69	51.28	51.83	52.23	52.75	53.19	53.68	54.00	54.29	54.15
20	---	---	50.72	51.33	51.84	52.27	52.80	53.21	53.72	54.01	54.28	54.14
21	---	---	50.76	51.34	51.84	52.30	52.84	53.26	53.73	54.01	54.27	54.13
22	---	---	50.77	51.35	51.86	52.23	52.84	53.28	53.70	53.97	54.24	54.14
23	---	---	50.78	51.35	51.88	52.23	52.83	53.28	53.66	53.96	53.98	54.14
24	---	---	---	51.37	51.90	52.26	52.83	53.28	53.60	53.94	53.98	54.15
25	---	---	---	51.38	51.92	52.30	---	53.26	53.59	53.94	54.01	54.16
26	---	---	---	51.39	51.90	52.31	---	53.21	53.62	53.95	54.05	54.16
27	---	---	---	51.38	51.88	52.31	---	53.23	53.64	53.99	54.09	54.17
28	---	---	---	51.42	51.88	52.31	---	53.27	53.65	54.01	54.13	54.17
29	---	---	---	51.41	---	52.32	---	53.30	53.68	54.02	54.09	54.19
30	---	---	---	51.43	---	52.33	---	53.32	53.73	54.02	54.11	54.20
31	---	---	---	51.45	---	52.34	---	53.35	---	54.06	54.12	---
MEAN	---	---	50.72	51.29	51.72	52.16	52.63	53.24	53.56	53.89	54.16	54.14

WTR YR 2001 MEAN 52.98 HIGHEST 50.62 DEC. 16, 17, 2000 LOWEST 54.33 AUG. 21, 2001



GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

175947066130601. Local number, 1233.

LOCATION.--Lat 17°59'47", long 66°13'06", Hydrologic Unit 21010004, 2.70 mi northeast of Central Aguirre Church, 6.16 mi northwest of Escuela de Guayama, and 2.70 mi northeast of Hwy 3 km 151.3. Owner: US Geological Survey, WRD, Name: Piezometer Aguirre HW 5B Well.

AQUIFER.--Fractured, volcanic rock, water-table aquifer.

WELL CHARACTERISTICS.--Drilled observation well, diameter 7 in (0.18 m), 0-52.0 ft (0-15.8 m), cased 4 in (0.10 m), 0-51.0 ft (0-15.5 m), screened 41-46 ft (12.5-14.0 m). Depth 52.0 ft (15.8 m).

INSTRUMENTATION.--Data collector platform--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 145 ft (44.2 m), above mean sea level. Measuring point: Hole on side of casing, 3.00 ft (0.91 m), above land-surface datum. Prior October 13, 1989 top of shelter floor, 3.47 ft (1.06 m), above land-surface datum.

REMARKS.--Recording observation well. Electronic Data Logger (EDL), installed on April 15, 1998, replaced by a Data Collector Platform (DCP), installed on Aug. 3, 2000. Formerly published as local number and name HW-TW-5B.

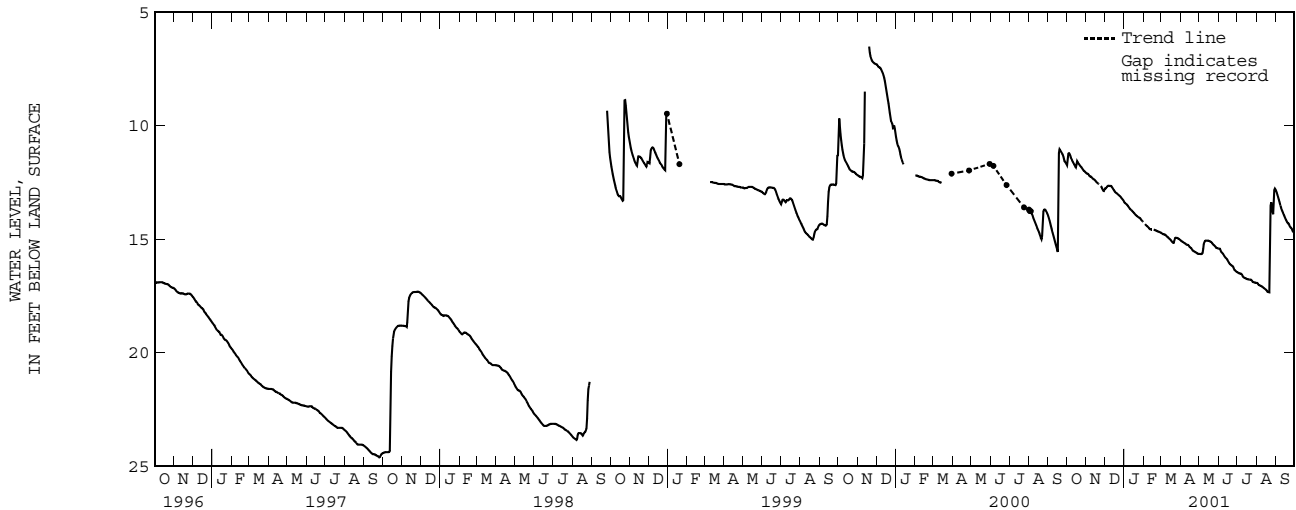
PERIOD OF RECORD.--April 13, 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 5.55 ft (1.69 m), below land-surface datum, Nov. 13, 1999; lowest water level recorded, 28.55 ft (8.70 m), below land-surface datum, Aug. 14, 15, 1996.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.72	12.08	12.76	13.37	14.27	14.72	15.03	15.65	15.41	16.45	16.92	12.85
2	11.76	12.12	12.78	13.40	---	14.73	15.07	15.65	15.42	16.46	16.92	12.90
3	11.26	12.12	12.76	13.43	14.31	14.76	15.10	15.65	15.42	16.48	16.95	13.01
4	11.22	12.12	12.71	13.45	14.36	14.78	15.10	15.66	15.43	16.50	17.00	13.09
5	11.22	12.17	12.68	13.47	14.39	14.79	15.13	15.65	15.55	16.51	17.02	13.20
6	11.27	12.21	12.66	13.51	14.41	14.79	15.14	15.65	15.57	16.51	17.04	13.29
7	11.35	12.24	12.65	13.54	14.43	14.79	15.17	15.57	15.61	16.52	17.04	13.39
8	11.45	12.24	12.65	13.58	14.46	14.82	15.18	15.27	15.63	16.54	17.06	13.47
9	11.48	12.25	12.66	13.61	14.48	14.83	15.19	15.19	15.67	16.55	17.07	13.57
10	11.55	12.28	12.66	13.67	14.52	14.86	15.22	15.10	15.73	16.65	17.09	13.68
11	11.62	12.32	12.65	13.68	14.56	14.90	15.24	15.07	15.76	16.66	17.10	13.73
12	11.67	12.35	12.69	13.71	14.57	14.91	15.25	15.06	15.80	16.69	17.13	13.80
13	11.72	12.36	12.74	13.74	14.57	14.94	15.26	15.06	15.83	16.71	17.16	13.88
14	11.78	12.38	12.79	13.76	14.57	14.97	15.25	15.06	15.86	16.71	17.18	13.95
15	11.82	12.40	12.82	13.81	14.57	15.00	15.33	15.06	15.89	16.73	17.20	14.00
16	11.86	12.44	12.87	13.83	---	15.01	15.35	15.07	15.94	16.74	17.22	14.08
17	11.56	12.47	12.90	13.85	14.58	15.06	15.37	15.08	16.01	16.76	17.24	14.13
18	11.59	12.49	12.95	13.89	14.58	15.10	15.39	15.09	16.05	16.76	17.30	14.18
19	11.64	12.52	12.96	13.92	14.60	15.12	15.40	15.11	16.08	16.77	17.32	14.24
20	11.67	12.55	12.98	13.95	14.61	15.15	15.48	15.11	16.11	16.77	17.33	14.30
21	11.71	12.57	13.00	13.97	14.61	15.17	15.51	15.14	16.13	16.78	17.33	14.31
22	11.76	12.60	13.03	14.00	14.63	15.15	15.52	15.17	16.16	16.78	17.34	14.33
23	11.79	---	13.06	14.02	14.65	14.97	15.53	15.22	16.17	16.78	17.39	14.42
24	11.82	12.65	13.08	14.04	14.66	14.94	15.56	15.25	16.20	16.79	17.37	14.47
25	11.86	12.67	13.10	14.06	14.67	14.94	15.57	15.27	16.21	16.86	17.49	14.50
26	11.91	12.72	13.13	14.07	14.68	14.94	15.59	15.30	16.34	16.88	17.70	14.52
27	11.94	12.79	13.17	14.09	14.69	14.95	15.61	15.32	16.36	16.89	17.86	14.57
28	11.99	12.85	13.20	14.14	14.70	14.96	15.62	15.37	16.38	16.90	17.95	14.64
29	12.00	12.88	13.23	14.17	---	14.97	15.64	15.39	16.40	16.90	17.92	14.69
30	12.02	12.89	13.27	14.20	---	15.00	15.65	15.39	16.44	16.92	17.77	14.70
31	12.06	---	13.30	14.23	---	15.02	---	15.40	---	16.92	17.78	---
MEAN	11.68	12.44	12.90	13.81	14.54	14.94	15.35	15.29	15.92	16.71	16.05	13.93

WTR YR 2001 MEAN 14.47 HIGHEST 11.21 OCT. 4, 2000 LOWEST 17.34 AUG. 21, 22, 2001



GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

175957066123400. Local number, 1234.

LOCATION.--Lat 17°59'57", long 66°12'34", Hydrologic Unit 21010004, 3.11 northeast of Central Aguirre Church, 5.76 mi northwest of Escuela de Guayama, and 2.03 mi northeast of Hwy 3 km 151.3. Owner: US Geological Survey, WRD, Name: Piezometer Aguirre HW 13 Well.

AQUIFER.--Fractured, volcanic rock, water-table aquifer.

WELL CHARACTERISTICS.--Drilled observation well, diameter 7 in (0.18 m), 0-69.0 ft (0-21.0 m), cased 4 in (0.10 m), 0-69.0 ft (0-21.0 m), screened 4.0-69 ft (1.22-21.0 m). Depth 69.0 ft (21.0 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 203 ft (61.9 m), above mean sea level. Measuring point: Hole on side of casing, 2.33 ft (0.71 m), above land-surface datum. Prior October 14, 1988, top of shelter floor, 3.47 ft (1.06 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on July 22, 1998. Formerly published as local number and name HW-TW-13. For water years 2000 and 2001, tapedowns measurements only.

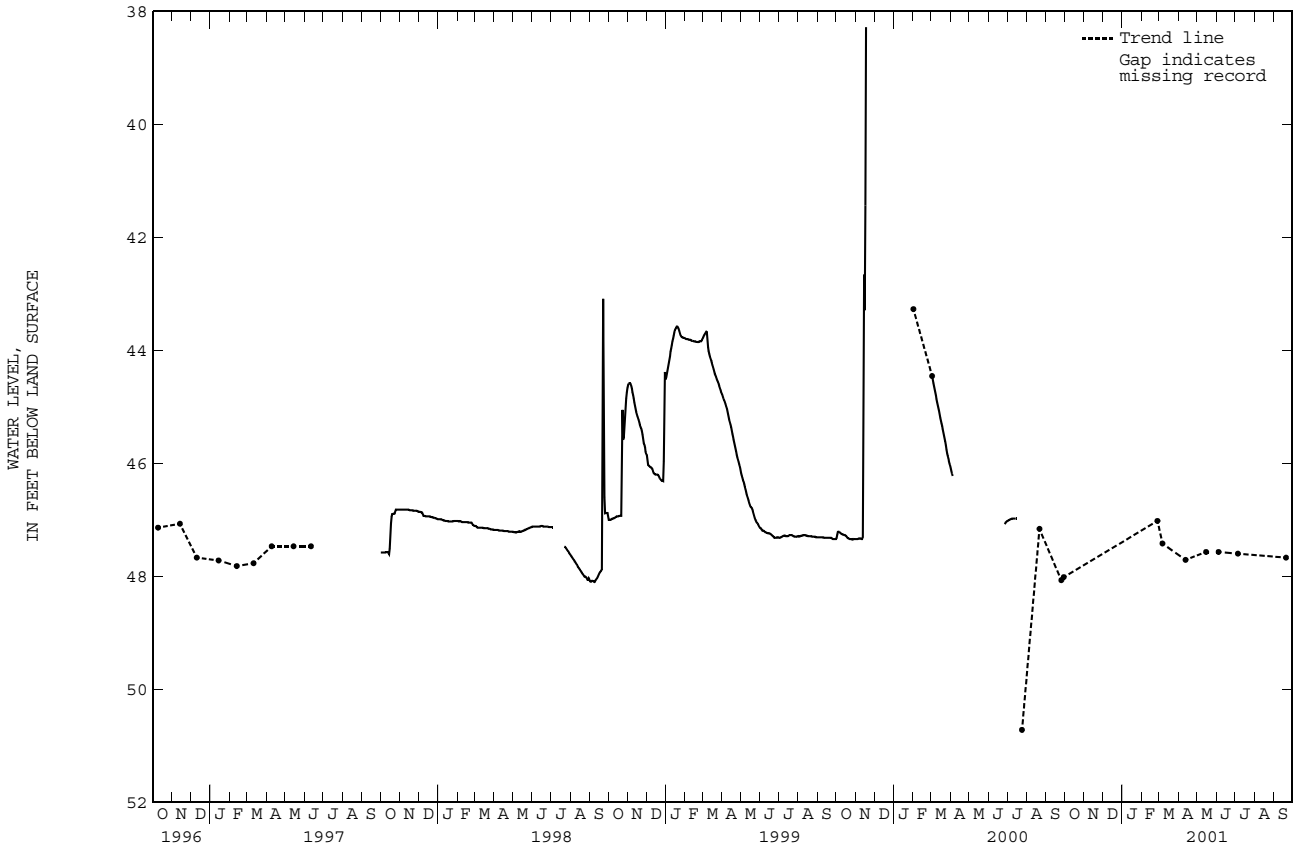
PERIOD OF RECORD.--April 14, 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 34.39 ft (10.5 m), below land-surface datum, Oct. 27, 1990; lowest water level measured, 50.72 ft (15.46 m), below land-surface datum, July 24, 2000.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB 26	47.02	MAR 06	47.42	APR 12	47.71	JUN 04	47.57	JUL 05	47.60	SEP 20	47.67
26	47.02	APR 12	47.71	MAY 15	47.57	04	47.57				

WATER YEAR 2001 HIGHEST 47.02 FEB. 26, 2001 LOWEST 47.71 APR. 12, 2001



GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

175841066104500. Local number, 1238.

LOCATION.--Lat 17°58'41", long 66°10'45", Hydrologic Unit 21010004, on east side of Hwy 713, 1.0 mi south of Hwy 53, and 0.7 mi north of Hwy 3. Owner: PR Aqueduct and Sewer Authority, Name: PRASA Villodas.

AQUIFER.--Fractured rock.

WELL CHARACTERISTICS.--Abandoned production well, diameter 12 in (0.30 m), 0-20.0 ft (0-6.10 m), diameter 10 in (0.25 m), 20.0-97.0 ft (6.10-29.6 m), and diameter 8 in (0.20 m), 97.0-143 ft (29.6-43.6 m), open screened >20.0 ft (>6.10 m). Depth 143 ft (43.60 m).

INSTRUMENTATION.--Pressure transducer with integrated electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 82.0 ft (25.0 m), above mean sea level, from topographic map. Measuring point:

Hole in steel plate over well, 2.24 ft (0.68 m), above land-surface datum.

REMARKS.--Recording observation well. Electronic Data Logger (EDL), installed on Oct. 4, 1999.

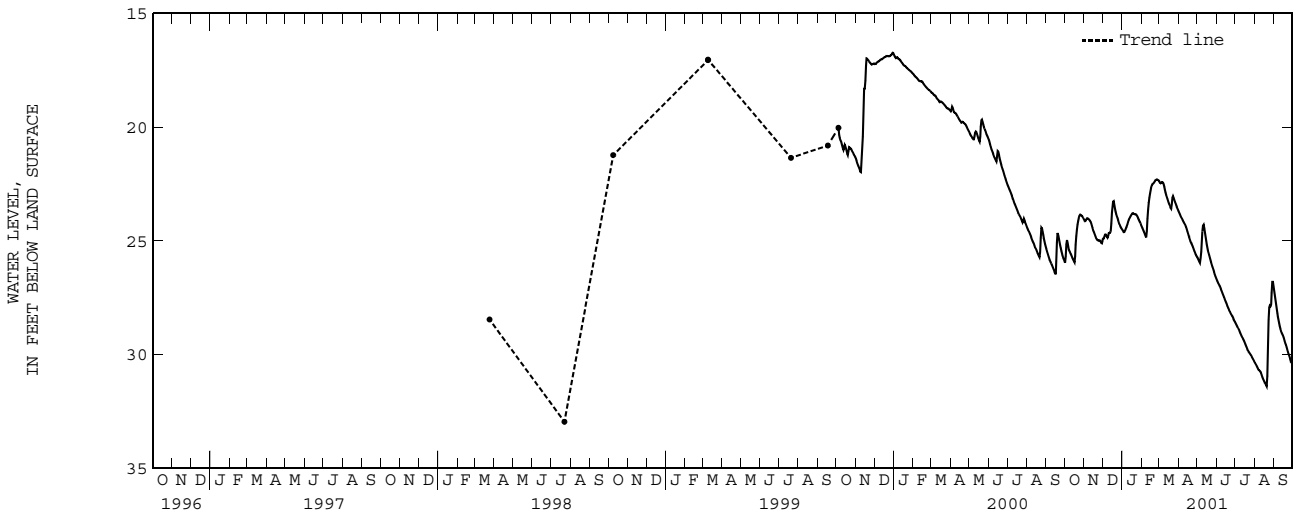
PERIOD OF RECORD.--March 24, 1998 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.68 ft (5.08 m), below land-surface datum, Dec. 31, 1999; lowest water level measured, 32.96 ft (10.0 m), below land-surface datum, July 22, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.93	24.06	24.90	24.51	24.35	22.35	23.66	25.71	26.66	28.57	30.32	27.12
2	26.00	24.13	24.91	24.54	24.40	22.41	23.74	25.75	26.74	28.64	30.39	27.35
3	25.39	24.15	24.89	24.60	24.48	22.48	23.79	25.82	26.80	28.69	30.43	27.55
4	24.93	24.08	24.75	24.63	24.54	22.46	23.86	25.88	26.87	28.74	30.48	27.75
5	25.01	24.02	24.70	24.59	24.61	22.42	23.94	25.94	26.93	28.81	30.53	27.93
6	25.18	24.00	24.74	24.52	24.68	22.42	23.99	26.00	26.97	28.86	30.59	28.11
7	25.34	24.02	24.79	24.46	24.73	22.44	24.05	25.54	27.02	28.91	30.65	28.27
8	25.43	24.03	24.85	24.39	24.82	22.44	24.08	25.43	27.11	28.97	30.69	28.41
9	25.45	24.06	24.89	24.32	24.88	22.55	24.14	24.75	27.17	29.02	30.70	28.55
10	25.54	24.10	24.70	24.23	24.26	22.69	24.20	24.43	27.24	29.11	30.73	28.70
11	25.59	24.14	24.63	24.13	23.78	22.82	24.26	24.24	27.32	29.15	30.77	28.82
12	25.66	24.18	24.67	24.05	23.47	22.93	24.30	24.34	27.39	29.23	30.85	28.92
13	25.73	24.29	24.63	23.99	23.19	23.03	24.35	24.54	27.45	29.28	30.95	29.02
14	25.79	24.38	24.56	23.94	23.01	23.11	24.44	24.73	27.54	29.33	31.02	29.08
15	25.86	24.50	23.92	23.88	22.84	23.19	24.54	24.92	27.62	29.39	31.09	29.13
16	25.91	24.58	23.58	23.85	22.71	23.30	24.63	25.09	27.69	29.44	31.15	29.20
17	25.96	24.62	23.37	23.81	22.61	23.36	24.73	25.27	27.74	29.53	31.21	29.28
18	25.39	24.69	23.18	23.78	22.54	23.42	24.81	25.38	27.82	29.58	31.26	29.36
19	24.95	24.78	23.33	23.79	22.50	23.51	24.90	25.48	27.89	29.64	31.31	29.47
20	24.63	24.85	23.52	23.82	22.47	23.58	24.98	25.58	27.94	29.71	31.37	29.54
21	24.39	24.94	23.66	23.83	22.44	23.59	25.06	25.68	28.02	29.79	31.41	29.62
22	24.18	24.95	23.78	23.83	22.39	23.19	25.11	25.79	28.10	29.85	30.49	29.73
23	24.06	24.97	23.89	23.83	22.35	23.01	25.17	25.90	28.14	29.90	28.99	29.83
24	23.92	25.01	23.94	23.87	22.32	23.06	25.25	26.00	28.20	29.93	27.97	29.93
25	23.86	24.98	24.04	23.91	22.29	23.16	25.31	26.09	28.27	29.98	27.91	30.01
26	23.84	24.98	24.16	23.95	22.31	23.23	25.41	26.18	28.29	30.02	27.78	30.09
27	23.89	24.99	24.23	24.04	22.32	23.32	25.47	26.25	28.34	30.07	27.98	30.17
28	23.90	25.06	24.29	24.10	22.33	23.37	25.53	26.34	28.41	30.11	27.63	30.30
29	23.90	25.11	24.34	24.14	---	23.47	25.60	26.44	28.49	30.17	26.94	30.34
30	23.96	25.10	24.42	24.19	---	23.54	25.66	26.52	28.53	30.22	26.67	30.38
31	24.03	---	24.46	24.27	---	23.60	---	26.60	---	30.27	26.94	---
MEAN	24.95	24.52	24.28	24.12	23.34	23.01	24.63	25.57	27.62	29.45	29.91	29.07

WTR YR 2001 MEAN 25.89 HIGHEST 22.27 FEB. 25, 2001 LOWEST 31.41 AUG. 21, 2001



GROUND-WATER LEVELS

RIO HUMACAO TO QUEBRADA AGUAS VERDES BASINS--Continued

175814066102200. Local number, 1239.

LOCATION.--Lat 17°58'14", long 66°10'22", Hydrologic Unit 21010004, 1.0 mi northwest of Jobos community, 3.8 mi east of Colegio del Perpetuo Socorro, and 3.5 mi northeast of Central Aguirre. Owner: US Geological Survey, Name: Jobos Well.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well.

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 59.0 ft (18.0 m), above mean sea level, from topographic map. Measuring point: On shelter floor, 2.86 ft (0.87 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on Apr. 2, 1997, replaced by an Electronic Data Logger (EDL), installed on September 27, 1999.

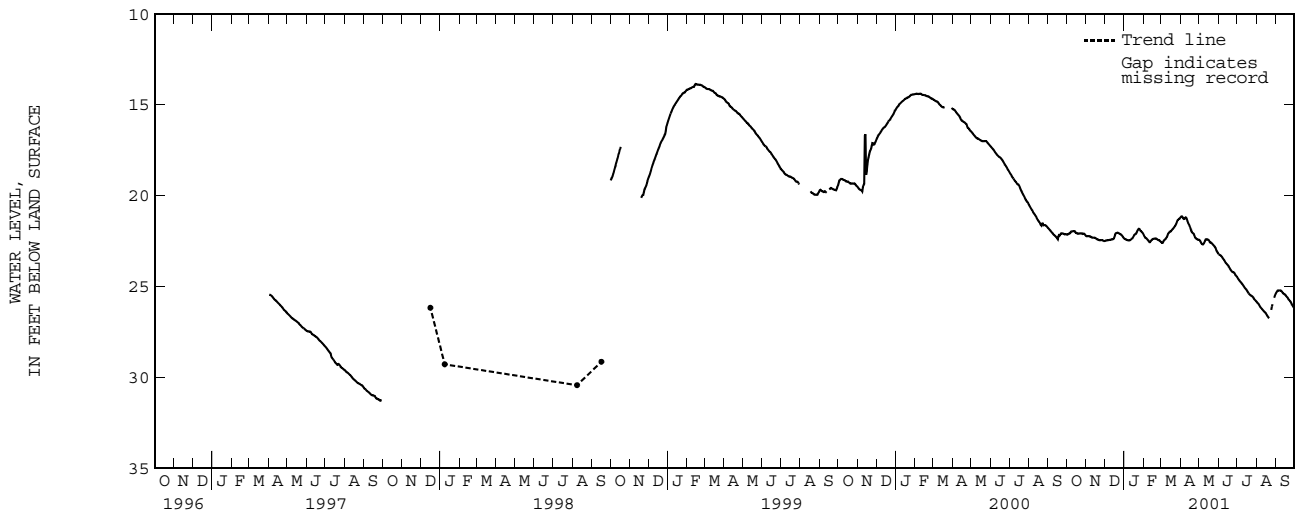
PERIOD OF RECORD.--April 2, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 6.14 ft (1.87 m), below land-surface datum, Oct. 18, 1998; lowest water level measured, 31.42 ft (9.27 m), below land-surface datum, Aug. 6, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.14	22.23	22.48	22.36	22.14	22.53	21.22	22.43	23.20	24.47	25.82	25.38
2	22.14	22.23	22.48	22.38	22.19	22.58	21.15	22.44	23.23	24.54	25.88	25.31
3	22.14	22.22	22.47	22.40	22.30	22.61	21.14	22.49	23.26	24.59	25.91	25.25
4	22.08	22.22	22.45	22.41	22.31	22.59	21.13	22.58	23.27	24.64	25.93	25.21
5	22.08	22.21	22.45	22.42	22.33	22.49	21.22	22.64	23.30	24.69	26.01	25.21
6	22.06	22.24	22.44	22.45	22.36	22.44	21.28	22.68	23.33	24.72	26.07	25.21
7	22.06	22.24	22.44	22.45	22.40	22.43	21.28	22.68	23.39	24.77	26.13	25.21
8	21.96	22.23	22.43	22.46	22.43	22.38	21.25	22.67	23.45	24.81	26.15	25.21
9	21.96	22.28	22.43	22.46	22.48	22.33	21.20	22.61	23.48	24.85	26.20	25.21
10	21.96	22.29	22.42	22.46	22.54	22.31	21.20	22.56	23.52	24.89	26.23	25.25
11	21.95	22.30	22.42	22.44	22.56	22.25	21.23	22.43	23.59	24.95	26.28	25.28
12	21.95	22.31	22.40	22.41	22.55	22.13	21.35	22.40	23.67	25.00	26.32	25.35
13	21.94	22.31	22.39	22.37	22.46	22.05	21.45	22.39	23.71	25.06	26.36	25.38
14	21.95	22.31	22.40	22.34	22.43	22.01	21.55	22.40	23.74	25.09	26.40	25.40
15	22.04	22.30	22.38	22.30	22.40	21.98	21.61	22.40	23.78	25.14	26.43	25.43
16	22.04	22.34	22.33	22.23	22.39	21.97	21.67	22.44	23.82	25.18	26.46	25.43
17	22.04	22.35	22.19	22.17	22.38	21.95	21.79	22.45	23.86	25.24	26.56	25.51
18	22.09	22.39	22.11	22.12	22.36	21.91	21.88	22.56	23.92	25.29	26.59	25.53
19	22.09	22.40	22.05	22.10	22.35	21.86	21.97	22.57	23.99	25.34	26.62	25.58
20	22.08	22.40	22.05	22.10	22.35	21.84	22.02	22.57	24.04	25.40	26.70	25.59
21	22.08	22.43	22.03	22.03	22.35	21.78	22.07	22.59	24.10	25.43	26.72	25.70
22	22.07	22.45	22.04	21.95	22.37	21.73	22.07	22.65	24.14	25.47	26.75	25.72
23	22.07	22.45	22.06	21.86	22.42	21.71	22.12	22.67	24.19	25.50	---	25.77
24	22.07	22.44	22.08	21.83	22.43	21.63	22.24	22.71	24.20	25.50	26.38	25.79
25	22.06	22.44	22.10	21.82	22.44	21.57	22.33	22.76	24.20	25.53	26.19	25.86
26	22.10	22.43	22.12	21.86	22.45	21.51	22.35	22.81	24.23	25.56	26.01	25.93
27	22.09	22.44	22.14	21.94	22.45	21.38	22.38	22.85	24.28	25.61	25.92	26.00
28	22.09	22.47	22.16	21.96	22.53	21.32	22.40	22.90	24.34	25.68	---	26.06
29	22.08	22.48	22.20	21.97	---	21.30	22.42	23.03	24.40	25.70	25.65	26.12
30	22.12	22.51	22.27	22.02	---	21.28	22.42	23.07	24.42	25.75	25.57	26.14
31	22.18	---	22.30	22.06	---	21.25	---	23.13	---	25.77	25.45	---
MEAN	22.06	22.34	22.28	22.20	22.40	21.97	21.71	22.63	23.80	25.17	26.20	25.53

WTR YR 2001 MEAN 23.18 HIGHEST 21.13 APR. 3, 4, 2001 LOWEST 26.75 AUG. 21, 22, 2001



GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS

175809066133100. Local number, 1251.

LOCATION.--Lat 17°58'09", long 66°13'31", Hydrologic Unit 21010004, 0.49 mi southwest of the intersection of Hwy 706 with Hwy 3, 0.30 mi south of Hwy 3, and 0.12 mi east of Hwy 705. Owner: PR Land Authority, Name: Coqui Battery 1 Well.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 18 in (0.46 m). Depth 199 ft (60.7 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is 16.4 ft (5.00 m), above mean sea level, from topographic map. Measuring point: Hole in the side of the 18 in (0.46 m) casing, 1.33 ft (0.41 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on March 6, 1997. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on September 27, 1999. Formerly published as local number CQ-1. Well is affected by nearby pumping.

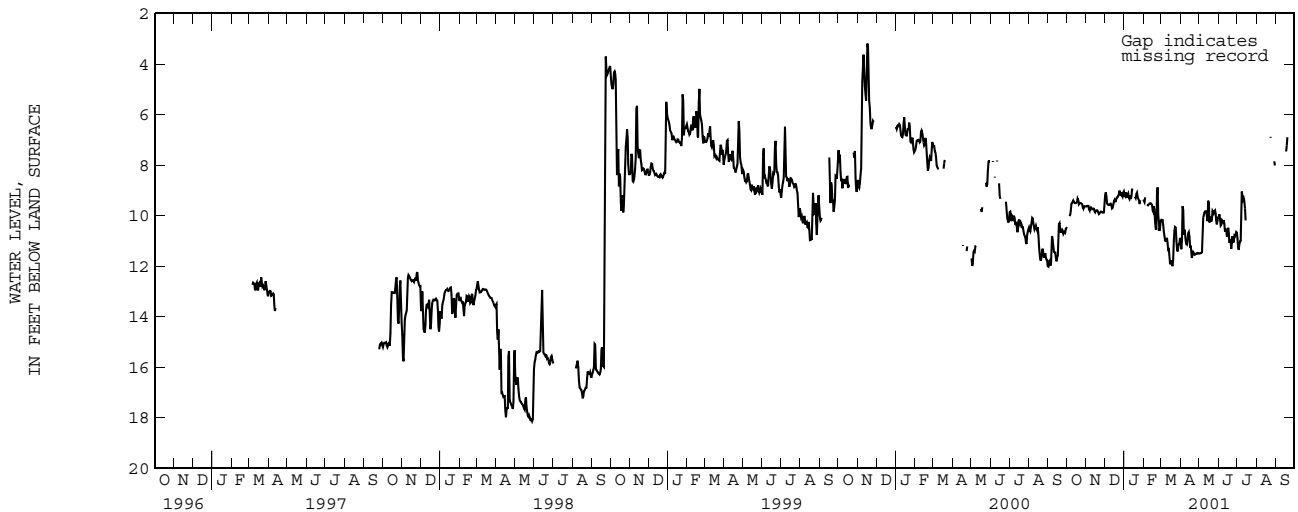
PERIOD OF RECORD.--March 6, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 1.04 ft (0.32 m), below land-surface datum, Nov. 10, 1999; lowest water level recorded, 18.64 ft (5.68 m), below land-surface datum, May 29, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.49	9.64	9.26	9.03	9.23	10.17	10.85	11.49	10.17	10.67	---	---
2	10.43	9.64	9.12	9.37	9.58	10.16	11.29	11.50	9.95	11.16	---	---
3	---	9.62	9.04	9.10	9.35	10.19	11.37	11.49	9.95	11.34	---	---
4	---	9.61	9.46	9.05	9.21	10.17	10.59	11.49	10.31	11.37	---	---
5	10.08	9.62	9.54	9.39	---	10.60	8.67	11.48	10.48	10.87	---	---
6	9.96	9.85	9.57	9.21	9.57	10.72	10.90	11.45	10.23	11.18	---	---
7	9.97	9.73	9.58	9.12	9.57	10.96	10.62	10.05	10.14	10.84	---	---
8	9.67	9.67	9.59	9.13	9.59	11.03	10.50	10.10	10.30	9.21	---	---
9	9.40	9.68	9.56	9.44	9.60	10.98	10.88	9.91	10.21	8.89	---	---
10	9.59	9.76	9.53	9.23	9.53	10.97	11.09	9.85	10.16	9.58	---	---
11	9.35	9.74	9.53	9.17	9.53	10.79	11.15	9.83	10.51	9.18	---	---
12	9.46	9.71	9.66	9.52	9.52	11.36	11.14	9.83	10.76	9.46	---	---
13	9.48	9.73	9.77	9.01	9.51	11.35	10.76	9.83	10.36	9.42	---	---
14	9.52	9.74	9.61	8.93	9.57	11.33	10.68	10.22	10.75	10.00	---	---
15	9.49	9.93	9.50	8.93	9.60	11.93	10.64	10.23	10.92	10.38	---	---
16	9.51	9.82	9.39	---	9.98	11.92	11.03	8.59	10.50	---	---	---
17	9.47	9.79	9.37	---	9.69	11.71	11.43	10.38	10.47	---	---	7.54
18	9.48	9.79	9.50	9.10	9.58	11.90	11.02	10.17	10.92	---	---	7.38
19	9.18	9.80	9.36	9.41	9.98	11.99	11.79	10.05	11.24	---	---	7.09
20	9.59	9.81	9.30	9.20	10.50	12.01	11.57	10.04	10.69	---	---	6.71
21	9.50	9.93	9.27	9.10	10.54	11.52	11.49	10.44	11.26	---	---	---
22	9.50	9.94	9.27	9.09	10.52	10.55	11.39	9.90	11.37	---	---	---
23	9.50	9.89	9.17	9.43	7.81	10.65	11.56	9.72	10.80	---	5.30	---
24	9.51	9.85	9.12	9.24	9.96	10.25	11.54	9.99	10.82	---	8.51	---
25	9.54	9.84	8.91	9.51	10.02	10.70	11.55	9.84	11.26	---	---	---
26	9.55	9.87	9.32	9.58	10.52	11.21	11.50	9.82	10.81	---	8.11	---
27	9.78	9.88	9.12	9.21	10.68	11.40	11.52	9.78	10.76	---	---	---
28	9.67	9.87	9.03	---	10.29	11.44	11.50	10.11	10.87	---	---	---
29	9.63	9.89	9.35	---	---	11.00	11.47	10.30	10.63	---	8.08	---
30	9.64	9.86	9.14	---	---	11.30	11.52	10.40	10.67	---	7.63	---
31	9.63	---	9.07	9.51	---	10.91	---	9.99	---	---	8.41	---
MEAN	9.64	9.78	9.36	9.23	9.74	11.07	11.10	10.27	10.61	10.24	7.67	7.18

WTR YR 2001 MEAN 10.02 HIGHEST 4.70 AUG. 23, 2001 LOWEST 12.99 APR. 17, 2001



GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

180104066152300. Local number, 1253.

LOCATION.--Lat 18°01'04", long 66°15'23", Hydrologic Unit 21010004, 8.00 mi southeast of Coamo plaza, 1.07 mi northeast of Escuela de Coco, and 0.70 mi southwest of Escuela Sabana Llana. Owner: US Geological Survey, WRD, Name: Piezometer RM 10.

AQUIFER.--Quaternary alluvium.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m), 0-37.0 ft (0-11.3 m), screened 27-37 ft (8.23-11.3 m). Depth 37.0 ft (11.3 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 164 ft (50.0 m), above mean sea level, from leveling survey. Measuring point: Top of shelter floor, 3.62 ft (1.10 m), above land-surface datum.

REMARKS.--Recording observation well. Pumping test performed on February 8, 1990. Well dry at 35.77 ft (10.9 m). Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 11, 1998. Formerly published as local number and name RM-10.

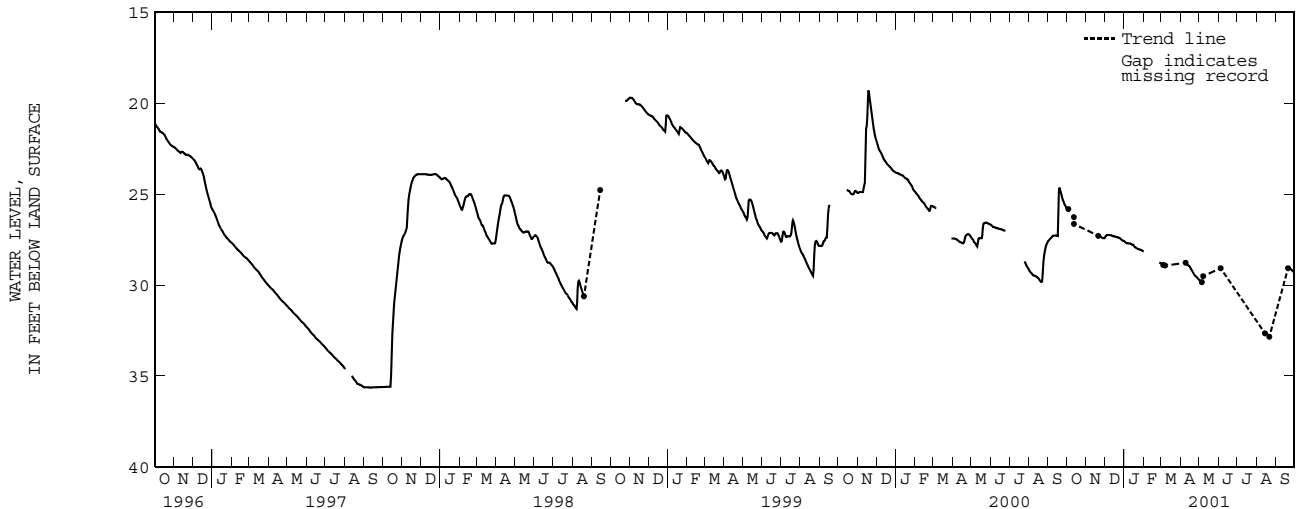
PERIOD OF RECORD.--March 13, 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 18.00 ft (5.49 m), below land-surface datum, Nov. 9, 1990; lowest water level recorded, 35.77 ft (10.9 m), below land-surface datum, Sept. 14 to Oct. 5, 1994

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.84	---	27.42	27.58	28.14	28.80	---	29.72	---	---	---	---
2	25.84	---	27.32	27.64	28.16	28.82	---	29.74	---	---	---	---
3	25.83	---	27.28	27.65	---	28.83	---	29.77	---	---	---	---
4	25.82	---	27.25	27.70	---	28.88	---	29.79	---	---	---	---
5	---	---	27.25	27.70	---	28.92	---	29.85	---	---	---	---
6	---	---	27.25	27.71	---	---	---	29.85	---	---	---	---
7	---	---	27.25	27.71	---	---	---	---	---	---	---	---
8	---	---	27.26	27.72	---	---	---	---	---	---	---	---
9	---	---	27.26	27.72	---	---	28.78	---	---	---	---	---
10	---	---	27.26	27.72	---	---	28.81	---	---	---	---	---
11	---	---	27.26	27.72	---	---	28.87	---	---	---	---	---
12	---	---	27.27	27.73	---	---	28.89	---	---	---	---	---
13	---	---	27.31	27.79	---	---	28.89	---	---	---	---	---
14	---	---	27.32	27.79	---	---	28.94	---	---	---	32.65	---
15	---	---	27.32	27.79	---	---	28.95	---	---	---	32.65	---
16	---	---	27.32	27.79	---	---	28.99	---	---	---	32.65	---
17	---	---	27.32	27.88	---	---	29.05	---	---	---	32.66	---
18	---	---	27.35	27.91	---	---	29.13	---	---	---	32.70	---
19	---	---	27.36	27.94	---	---	29.15	---	---	---	32.73	---
20	---	27.30	27.37	27.96	---	---	29.23	---	---	---	32.77	---
21	---	27.30	27.37	27.96	---	---	29.30	---	---	---	32.83	29.08
22	---	27.31	27.37	28.02	---	---	29.35	---	---	---	32.87	29.08
23	---	27.32	27.41	28.02	---	---	29.42	---	---	---	---	29.09
24	---	27.34	27.41	28.03	---	---	29.48	---	---	---	---	29.09
25	---	27.36	27.41	28.03	---	---	29.51	---	---	---	---	29.15
26	---	27.41	27.48	28.05	28.76	---	29.53	---	---	---	---	29.17
27	---	27.41	27.48	28.05	28.76	---	29.57	---	---	---	---	29.19
28	---	27.42	27.53	28.08	28.79	---	29.60	---	---	---	---	29.24
29	---	27.43	27.54	28.10	---	---	29.64	---	---	---	---	29.27
30	---	27.43	27.58	28.11	---	---	29.67	---	---	---	---	29.27
31	---	---	27.58	28.13	---	---	---	---	---	---	---	---
MEAN	25.83	27.37	27.36	27.86	28.52	28.85	29.22	29.79	---	---	32.72	29.16

WTR YR 2001 MEAN 28.44 HIGHEST 25.75 OCT. 1, 2000 LOWEST 32.88 AUG. 22, 23, 2001



GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 12	26.27	NOV 20	27.30	MAR 07	28.93	APR 09	28.78	JUN 04	29.08	AUG 14	32.66
12	26.64	FEB 26	27.76	APR 09	28.78	MAY 07	29.52	04	29.08	SEP 20	29.08
WATER YEAR 2001		HIGHEST 26.27 OCT. 12, 2000		LOWEST 32.66 AUG. 14, 2001							

GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

175910066155500. Local number, 1254.

LOCATION.--Lat 17°59'10", long 66°15'55", Hydrologic Unit 21010004, 0.55 mi south of Hwy 52, 0.92 mi north of the Salinas Speedway, and 2.27 mi northeast of the intersection if Hwy 1 with Hwy 3. Owner: US Geological Survey, WRD, Name: Piezometer USGS D.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), 0-86.0 ft (0-26.2 m). Depth 86.0 ft (26.2 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 73.0 ft (22.3 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 3.00 ft (0.91 m), above land-surface datum.

REMARKS.--recording observation well. Automated Digital Recorder (ADR), installed on Feb. 19, 1997. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on August 17, 1999. Formerly published as local number SA-D.

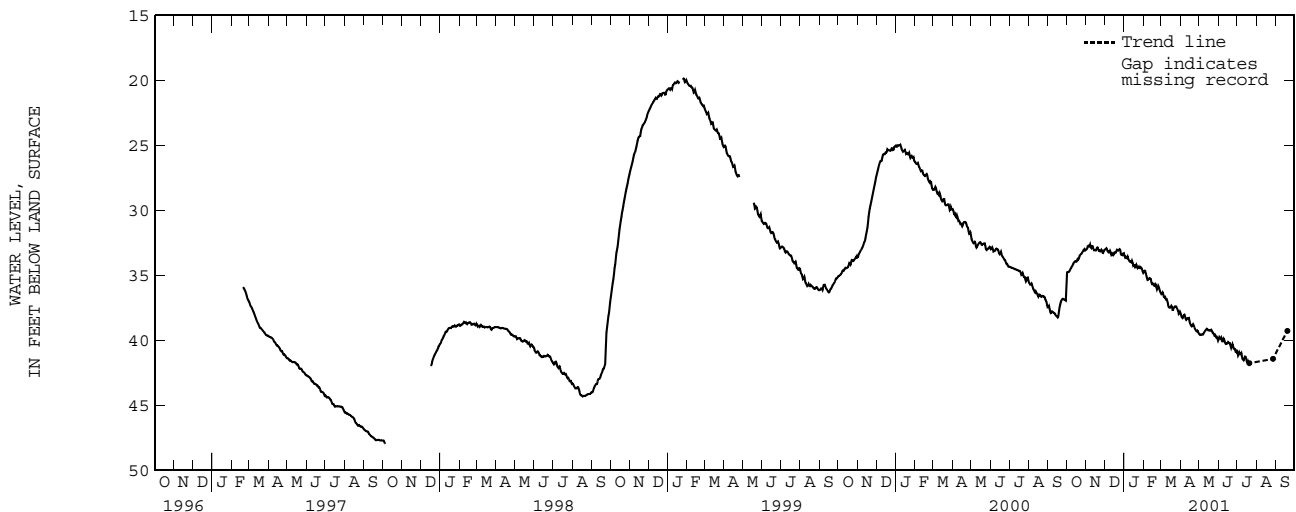
PERIOD OF RECORD.--February 19, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 19.70 ft (6.00 m), below land-surface datum, Jan. 24, 25, 1999; lowest water level recorded, 47.98 ft (14.6 m) below land-surface datum, Oct. 7, 1997.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34.78	32.91	33.02	33.30	34.83	36.42	37.79	39.50	40.01	40.73	---	---
2	34.76	33.12	33.00	33.67	34.64	36.48	38.06	39.54	39.81	41.12	---	---
3	34.75	32.79	32.91	33.59	34.65	36.31	38.18	39.64	39.71	41.26	---	---
4	34.73	32.74	32.91	33.56	34.66	36.32	38.31	39.54	39.96	40.92	---	---
5	34.73	32.71	33.13	33.80	35.02	36.58	38.27	39.55	39.83	40.93	---	---
6	34.62	32.87	33.17	33.57	35.02	36.73	38.09	39.56	39.73	41.14	---	---
7	34.51	32.64	33.15	33.56	35.39	36.66	38.05	39.57	40.13	40.98	---	---
8	34.45	32.63	33.33	33.82	35.34	36.67	38.03	39.52	40.14	40.99	---	---
9	34.34	33.06	33.13	33.85	35.33	36.96	38.25	39.40	39.90	41.38	---	---
10	34.26	32.76	33.08	34.00	35.23	36.85	38.42	39.33	39.87	41.46	---	---
11	34.20	32.76	33.36	33.85	35.19	36.87	38.43	39.25	40.10	41.53	---	---
12	34.05	32.77	33.53	34.12	35.28	37.19	38.30	39.19	40.28	41.57	---	---
13	33.97	33.08	33.26	33.90	35.28	37.42	38.31	39.16	40.27	41.26	---	---
14	33.95	33.06	33.41	33.84	35.79	37.48	38.27	39.08	40.20	41.27	---	---
15	33.87	33.06	33.45	34.21	35.56	37.45	38.29	39.24	40.31	41.27	---	---
16	33.97	33.06	33.26	34.33	35.73	37.54	38.73	39.25	40.18	41.60	---	---
17	33.91	33.10	33.20	34.11	35.69	37.36	38.73	39.19	40.11	41.78	---	---
18	33.76	32.91	33.23	34.35	35.66	37.36	38.90	39.24	40.27	41.65	---	---
19	33.73	32.85	33.27	34.39	35.97	37.53	38.88	39.26	40.19	41.57	---	---
20	33.86	32.87	33.07	34.18	35.69	37.79	38.98	39.22	40.27	41.92	---	---
21	33.54	33.11	33.00	34.18	35.74	37.55	38.77	39.17	40.63	41.61	---	---
22	33.47	33.10	33.11	34.47	36.05	37.47	38.78	39.36	40.59	---	---	---
23	33.40	33.06	33.07	34.44	36.12	37.40	38.93	39.44	40.34	---	---	---
24	33.36	33.27	33.00	34.33	35.81	37.39	39.07	39.38	40.25	---	---	---
25	33.29	33.02	32.97	34.33	35.79	37.40	39.22	39.67	40.67	---	---	---
26	33.21	33.08	33.13	34.55	36.04	37.40	39.23	39.58	40.63	---	---	---
27	33.13	33.18	33.52	34.35	36.11	37.70	39.36	39.58	40.70	---	---	---
28	33.07	33.32	33.31	34.40	36.29	37.57	39.30	39.74	40.67	---	---	---
29	32.97	33.23	33.56	34.44	---	37.94	39.23	39.80	41.09	---	---	---
30	32.98	33.07	33.34	34.55	---	38.01	39.46	39.69	40.74	---	---	---
31	33.21	---	33.31	34.79	---	37.80	---	40.06	---	---	---	---
MEAN	33.90	32.97	33.20	34.09	35.50	37.21	38.62	39.44	40.25	41.33	---	---

WTR YR 2001 MEAN 36.50 HIGHEST 32.58 NOV. 8, 2000 LOWEST 41.92 JULY 20, 2001



GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04	34.74	JAN 23	34.58	FEB 20	35.72	APR 19	38.71	JUN 14	40.10	AUG 27	41.43
04	34.76	23	34.58	MAR 14	37.35	19	38.71	JUL 19	41.48	SEP 19	39.28
04	34.78	FEB 20	35.72	15	37.35	MAY 14	39.08	AUG 27	41.43	19	39.28
WATER YEAR 2001		HIGHEST 34.58 JAN. 23, 2001		LOWEST 41.48 JULY 19, 2001							

GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

175903066165000. Local number, 1256.

LOCATION.--Lat 17°59'03", long. 66°16'50", Hydrologic Unit 21010004, 0.42 mi north of Hwy 3, 0.60 mi southeast of the intersection of Hwy 1 with Hwy 52, and 1.56 mi northeast of Punta Salinas. Owner: C. Godreau, Name: Godreau 7 Well.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 20 in (0.51 m), cased 20 in (0.51 m) 0-120 ft (0-36.6 m), perforated 30.0-120 ft (9.10-36.6 m). Depth 120 ft (36.6 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 54.0 ft (16.5 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 20 in (0.50 m) casing, 3.63 ft (1.11 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on June 3, 1998. Formerly published as local number PG-07.

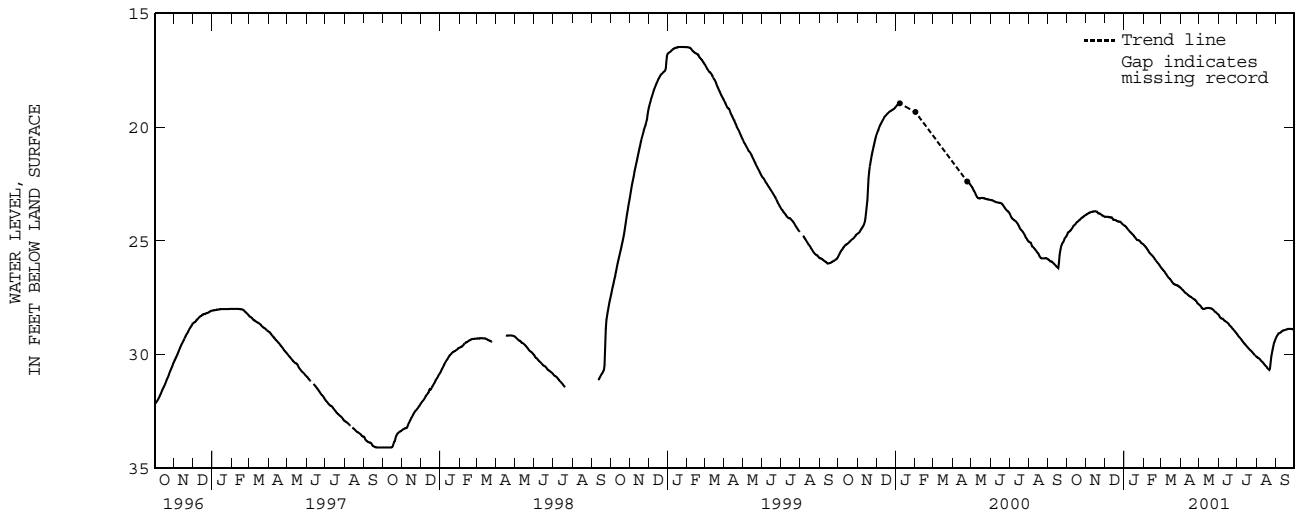
PERIOD OF RECORD.--September 25, 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 16.46 ft (5.02 m), below land-surface datum, Jan. 27, 28 1999; lowest water level recorded, 34.87 ft (10.6 m), below land-surface datum, Sept. 3, 1996.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	24.77	23.85	23.95	24.33	25.17	26.17	27.06	27.81	28.25	29.10	30.10	29.28	
2	24.71	23.84	23.94	24.34	25.19	26.21	27.07	27.83	28.26	29.16	30.12	29.23	
3	24.65	23.83	23.94	24.36	25.23	26.23	27.11	27.85	28.36	29.19	30.14	29.17	
4	24.60	23.79	23.94	24.38	25.27	26.28	27.15	27.89	28.38	29.23	30.14	29.13	
5	24.60	23.78	23.94	24.44	25.28	26.31	27.17	27.94	28.41	29.24	30.18	29.08	
6	24.58	23.77	23.94	24.46	25.31	26.33	27.19	27.97	28.42	29.29	30.20	29.06	
7	24.54	23.76	23.95	24.49	25.39	26.38	27.23	28.00	28.42	29.31	30.22	29.06	
8	24.51	23.75	23.97	24.52	25.39	26.42	27.26	27.99	28.43	29.36	30.27	29.05	
9	24.48	23.73	23.97	24.55	25.45	26.45	27.29	27.99	28.46	29.39	30.29	29.02	
10	24.44	23.73	23.96	24.59	25.51	26.49	27.30	27.99	28.49	29.43	30.31	29.00	
11	24.39	23.72	23.96	24.62	25.53	26.54	27.32	27.98	28.52	29.47	30.34	28.97	
12	24.34	23.72	23.98	24.64	25.57	26.59	27.35	27.96	28.54	29.49	30.38	28.95	
13	24.32	23.70	23.99	24.67	25.61	26.61	27.37	27.96	28.55	29.54	30.42	28.94	
14	24.29	23.70	24.07	24.71	25.62	26.65	27.40	27.95	28.58	29.57	30.45	28.93	
15	24.26	23.70	24.07	24.73	25.65	26.66	27.42	27.95	28.59	29.59	30.48	28.93	
16	24.21	23.70	24.07	24.75	25.69	26.70	27.45	27.95	28.62	29.64	30.52	28.92	
17	24.18	23.70	24.08	24.81	25.71	26.74	27.45	27.95	28.64	29.66	30.54	28.91	
18	24.16	23.71	24.08	24.83	25.75	26.79	27.47	27.96	28.69	29.69	30.57	28.90	
19	24.15	23.72	24.10	24.86	25.81	26.82	27.49	27.96	28.72	29.72	30.62	28.90	
20	24.11	23.79	24.13	24.90	25.83	26.85	27.51	27.97	28.75	29.75	30.64	28.87	
21	24.10	23.79	24.13	24.95	25.88	26.88	27.54	27.97	28.77	29.78	30.67	28.87	
22	24.08	23.79	24.15	24.97	25.91	26.91	27.55	28.00	28.80	29.81	30.70	28.87	
23	24.04	23.80	24.15	24.97	25.95	26.91	27.58	28.01	28.85	29.83	30.55	28.87	
24	24.01	23.82	24.15	24.97	25.97	26.93	27.58	28.05	28.88	29.86	30.19	28.87	
25	24.00	23.85	24.16	24.98	26.02	26.94	27.61	28.07	28.90	29.89	30.04	28.87	
26	23.97	23.86	24.16	25.02	26.04	26.96	27.64	28.12	28.94	29.93	29.88	28.87	
27	23.96	23.89	24.20	25.03	26.09	26.96	27.67	28.13	28.97	29.95	29.72	28.88	
28	23.92	23.89	24.22	25.09	26.13	26.96	27.73	28.14	29.00	29.99	29.62	28.88	
29	23.92	23.92	24.26	25.11	---	---	27.00	27.76	28.17	29.04	30.02	29.52	28.90
30	23.89	23.93	24.28	25.12	---	---	27.01	27.78	28.20	29.07	30.04	29.43	28.92
31	23.87	---	24.30	25.14	---	---	27.04	---	28.22	---	30.07	29.37	---
MEAN	24.26	23.78	24.07	24.75	25.64	26.67	27.42	28.00	28.64	29.61	30.21	28.97	

WTR YR 2001 MEAN 26.84 HIGHEST 23.70 NOV. 13-18, 2000 LOWEST 30.70 APR. 21, 22, 2001



GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

17594306224800. Local number 1257.

LOCATION.--Lat 17°59'43", long 66°22'48", Hydrologic Unit 2101004, 0.74 mi east of Hwy 153, 1.45 mi northeast of Estación Santa Isabel, and 1.98 mi north of Hwy 1. Owner: Luce and Company, Name: Paso Seco 7 Well.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well. Depth 235 ft (71.6 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 89.0 ft (27.1 m) above mean sea level, from topographic map. Measuring point: Side of the casing, 0.80 ft (0.24 m) above land-surface datum.

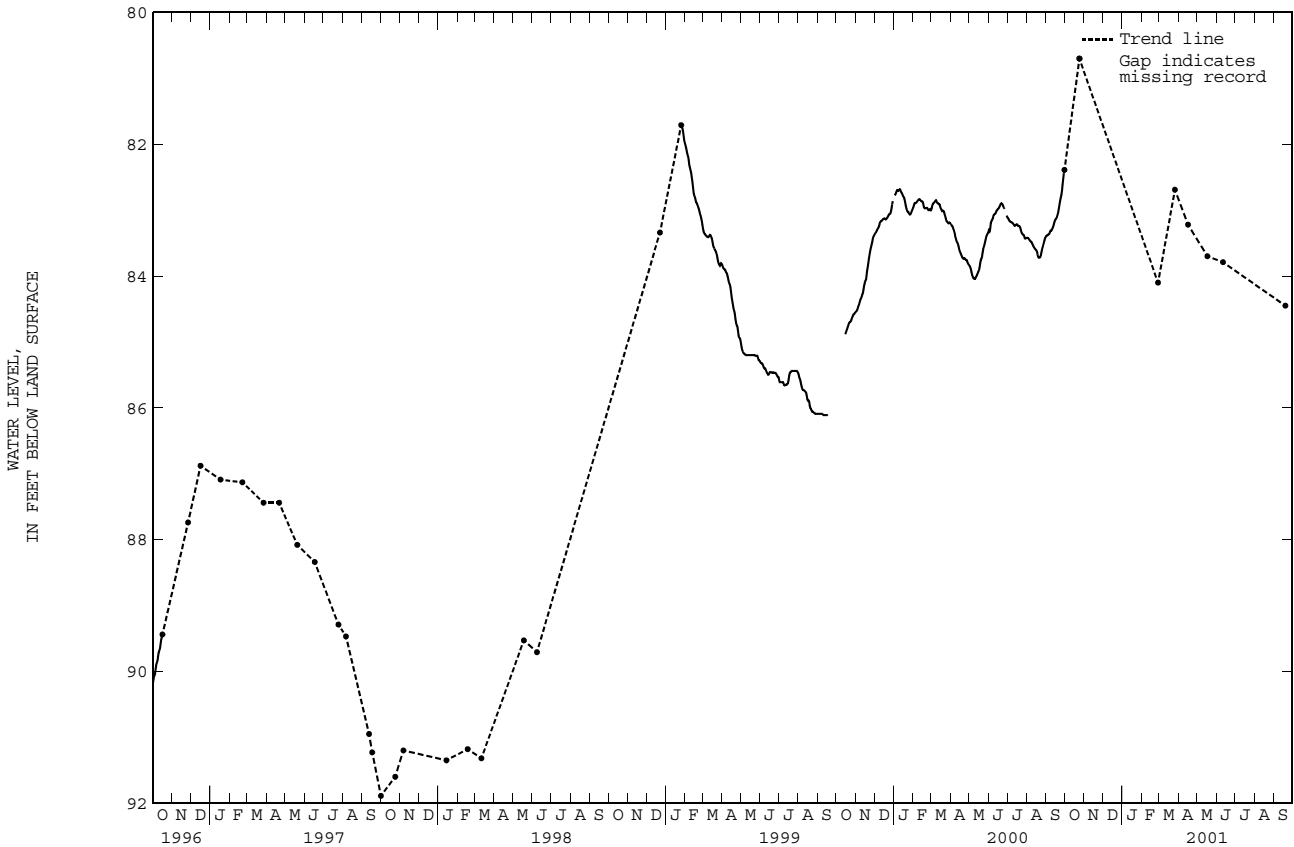
REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on September 17, 1997. Water levels affected by nearby pumping wells. Formerly published as local number PS-07. For water year 2001, tapedowns measurements only.

PERIOD OF RECORD.--March 27, 1992 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 81.11 ft (24.72 m) below land-surface datum, Dec. 3, 4, 6, 7, 1992; lowest water level recorded, 101.28 ft (30.87 m) below land-surface datum, Sept. 13, 1994.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	80.70	FEB 27	84.10	APR 16	83.22	MAY 17	83.70	JUN 11	83.79	SEP 19	84.45
24	80.70	MAR 26	82.69	16	83.22	JUN 11	83.79				
WATER YEAR 2001		HIGHEST 80.70 OCT 24, 2000		LOWEST 84.45 SEPT. 19, 2001							



GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

175829066232200. Local number, 87.

LOCATION.--Lat 17°58'29", long 66°23'22", Hydrologic Unit 21010004, 1.10 mi northeast of Santa Isabel plaza, 3.69 mi southeast of Escuela Playita Cortada, and 1.07 mi southeast of Estación Experimental Santa Isabel. Owner: Francisco Alomar, Name: Alomar 1 Well.

AQUIFER.--Alluvium of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 20 in (0.51 m), iron cased. Depth 112 ft (34.14 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 35.3 ft (10.8 m), above mean sea level. Measuring point: Bottom of clean-out shelter door, 2.50 ft (0.76 m), above land-surface datum. Prior to August 1981, top of recorder shelter floor, 4.00 ft (1.22 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on December 16, 1997.

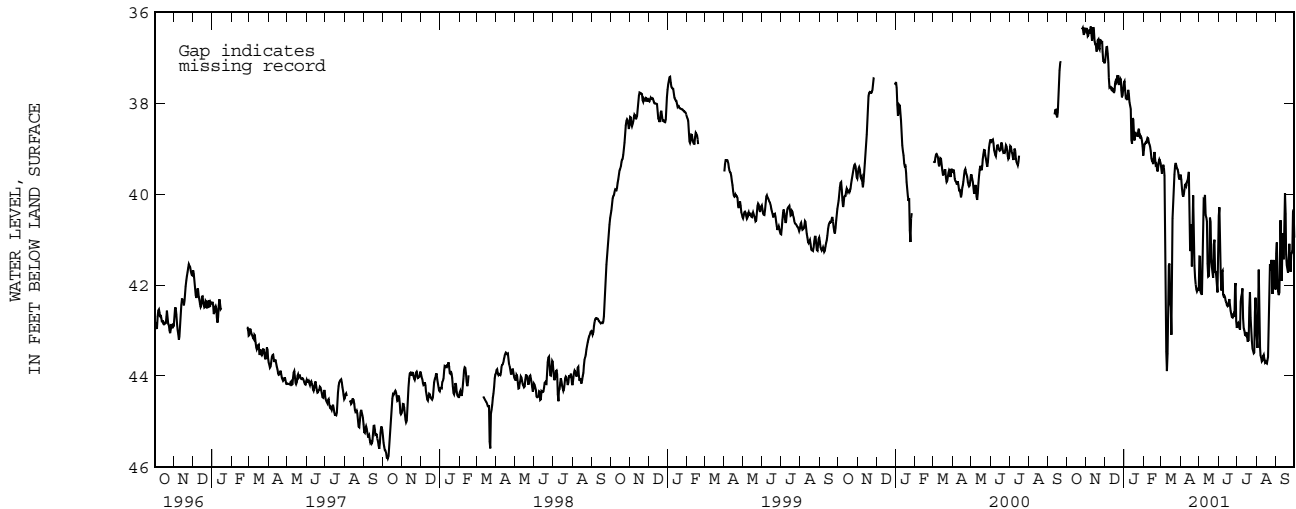
PERIOD OF RECORD.--April 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 8.45 ft (2.58 m), below land-surface datum, Dec. 10, 1970; lowest water level recorded, 49.18 ft (14.99 m) below land-surface datum, July 27, 1974.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	36.36	37.14	37.53	39.24	39.34	39.56	42.12	40.57	42.93	43.11	42.20
2	---	36.33	37.00	37.52	38.84	39.55	39.59	40.63	40.39	42.78	43.22	40.42
3	---	36.48	36.85	37.93	38.96	39.56	39.78	42.13	40.19	42.89	43.55	41.71
4	---	36.57	36.69	37.84	38.82	39.38	39.97	42.19	41.42	42.94	41.75	42.04
5	---	36.44	36.84	37.91	38.90	39.33	40.05	42.19	42.02	42.94	41.58	42.26
6	---	36.33	36.98	37.96	38.83	39.49	40.07	42.24	42.22	43.03	43.22	42.19
7	---	36.57	37.24	37.70	38.80	39.71	39.93	40.92	41.20	41.71	43.53	42.16
8	---	36.33	37.65	37.72	38.73	41.75	39.86	40.15	42.17	42.79	43.56	40.82
9	---	36.30	37.66	37.88	38.83	43.14	39.73	40.08	42.24	41.62	43.63	40.33
10	---	36.64	37.62	38.08	38.90	43.80	39.83	40.18	42.26	42.53	43.73	41.87
11	---	36.62	37.67	38.03	38.90	43.99	39.80	39.86	42.21	42.94	43.59	41.96
12	---	36.39	37.74	38.23	39.02	43.04	39.68	41.07	42.32	42.96	43.55	40.13
13	---	36.27	37.70	39.40	39.10	42.49	39.72	39.94	42.39	43.04	43.53	41.59
14	---	36.57	37.67	38.38	39.32	40.67	39.55	41.27	42.36	43.15	43.73	41.28
15	---	36.71	37.73	38.28	39.22	42.39	39.48	41.79	42.53	43.07	43.68	40.22
16	---	36.70	37.83	38.44	39.36	42.41	41.10	41.84	42.40	43.00	43.69	39.74
17	---	36.72	37.61	38.89	39.32	42.56	41.41	41.76	42.49	43.18	43.75	41.14
18	---	36.97	37.52	38.75	39.08	43.63	39.94	41.15	42.30	43.28	43.71	41.51
19	---	36.72	37.50	38.56	39.07	40.73	41.45	39.89	42.32	43.18	43.61	41.62
20	---	36.52	37.58	38.74	39.37	40.35	41.74	41.34	42.54	43.25	43.56	41.68
21	---	36.68	37.34	38.64	39.35	40.05	40.18	41.50	42.59	41.76	42.44	41.79
22	---	36.89	37.43	38.73	39.33	39.71	39.88	41.71	42.68	42.55	41.67	40.93
23	---	36.74	37.65	38.75	39.55	39.43	41.40	41.76	42.73	42.88	41.42	41.26
24	---	36.49	37.55	38.47	39.46	39.32	41.74	41.93	42.70	43.08	41.92	41.61
25	36.39	36.75	37.53	38.66	39.31	39.31	41.93	40.29	42.60	43.39	40.98	41.81
26	36.37	36.63	37.38	38.79	39.24	39.45	42.05	41.72	42.65	43.41	42.11	40.82
27	36.33	36.63	37.59	38.76	39.23	39.42	42.15	41.69	42.76	43.49	42.29	41.77
28	36.56	37.11	37.85	38.69	39.32	39.49	42.14	41.73	41.29	43.52	40.82	40.70
29	36.44	37.03	37.90	38.82	---	39.57	42.10	41.86	42.63	43.46	42.08	40.09
30	36.28	37.11	37.77	38.84	---	39.67	42.08	42.12	42.96	41.73	41.58	40.59
31	36.45	---	37.58	39.07	---	39.69	---	42.21	---	42.83	42.00	---
MEAN	36.40	36.62	37.48	38.39	39.12	40.72	40.60	41.33	42.14	42.88	42.79	41.27

WTR YR 2001 MEAN 40.24 HIGHEST 36.07 OCT. 30, 2000 LOWEST 44.00 MAR. 11, 2001



GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

180020066261500. Local number, 1258.

LOCATION.--Lat 18°00'20", long 66°26'15", Hydrologic Unit 21010004, 1.04 mi north of the intersection of Hwy 536 with Hwy 1, 0.60 mi northwest of Central Cortada, and 0.10 mi west of Hwy 536. Owner: PR Land Authority, Name: Cabrera 1 Well.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 18 in (0.46 m). Depth 80.0 ft (24.4 m).

INSTRUMENTATION.--Pressure transducer with integrated electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 65.6 ft (20.0 m), above mean sea level, from topographic map. Measuring point: Shelter floor on the top of 4 in (0.10 m) casing, 3.14 ft (0.95 m), above land-surface datum. Prior Oct. 4, 1999, 3.12 ft (0.95 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on Mar. 1, 1997. Well level affected by nearby pumping well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on July 22, 1998. Formerly published as local number CA-1.

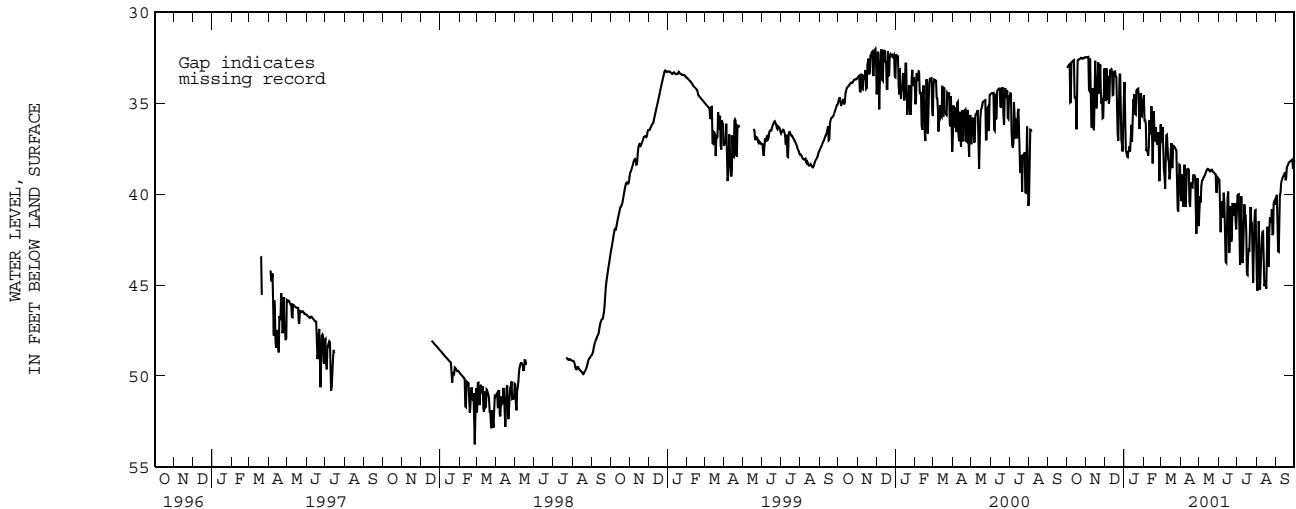
PERIOD OF RECORD.--March 18, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 31.93 ft (9.73 m), below land-surface datum, Dec. 1, 1999; lowest water level recorded, 55.0 ft (16.8 m), below land-surface datum, Apr. 14, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33.09	32.47	33.09	33.81	34.58	36.16	38.11	42.41	39.17	40.16	44.05	40.87
2	33.03	32.48	36.53	33.87	34.57	38.04	41.52	39.22	39.23	40.04	45.22	40.10
3	32.98	32.48	33.12	37.48	37.33	36.32	39.27	41.05	39.22	40.03	45.41	39.98
4	32.91	32.45	33.06	37.62	34.56	36.33	38.57	39.88	42.99	40.00	41.95	43.36
5	32.87	32.47	36.37	37.77	37.70	38.56	41.41	39.27	41.22	43.83	41.04	42.96
6	32.84	36.09	33.13	38.10	37.59	38.67	39.97	39.29	39.89	43.94	45.26	43.41
7	37.09	32.59	33.88	37.83	37.48	39.27	38.41	39.20	40.91	40.15	45.25	39.72
8	32.79	32.53	36.20	37.55	37.88	40.14	38.37	39.10	41.67	40.11	43.57	40.44
9	32.74	35.67	33.21	37.72	37.90	36.79	40.64	39.03	40.33	43.57	43.66	39.45
10	32.72	36.93	33.20	37.06	36.85	36.75	40.76	39.00	39.52	44.02	41.31	39.32
11	32.69	35.72	33.12	38.25	35.03	36.72	38.62	38.91	41.47	42.57	42.84	39.21
12	32.65	32.67	33.14	35.48	38.14	38.28	38.68	38.81	43.63	40.83	41.27	39.08
13	32.64	36.04	33.36	36.92	35.15	37.87	38.62	38.70	43.81	40.31	44.89	39.02
14	36.71	36.95	35.77	37.30	35.20	38.58	38.61	38.63	43.74	42.01	45.26	38.94
15	32.64	32.70	33.30	34.32	38.37	39.80	38.72	38.61	40.55	40.35	44.64	38.85
16	37.08	32.65	33.25	35.27	38.26	37.92	42.22	38.65	39.87	43.88	44.92	38.77
17	35.81	35.55	33.28	34.75	35.44	37.19	39.16	38.70	39.87	44.93	45.50	39.72
18	32.68	35.04	33.24	34.27	35.47	37.21	39.82	38.73	43.13	43.97	42.25	38.63
19	32.63	34.46	33.82	36.89	37.43	39.81	38.92	38.79	43.32	42.96	41.35	38.52
20	32.60	32.77	33.34	34.36	36.77	37.34	40.30	38.69	40.00	43.01	45.34	38.44
21	32.61	32.76	36.47	34.27	35.85	37.35	38.97	38.65	41.32	43.33	42.64	38.35
22	32.58	36.05	36.85	34.23	37.92	37.38	38.97	38.68	43.94	40.73	41.43	38.28
23	32.51	32.89	37.29	34.23	36.62	37.42	38.95	38.79	40.75	40.69	41.16	38.22
24	32.52	32.84	33.53	34.19	37.22	37.45	38.99	38.78	40.25	42.38	41.96	38.20
25	32.55	35.92	33.40	36.97	35.99	37.62	39.06	38.85	40.97	40.80	40.90	38.17
26	32.54	34.14	33.39	35.89	39.19	37.57	42.22	38.85	41.42	45.15	40.77	38.16
27	32.53	35.38	37.20	34.43	39.40	40.73	42.14	38.91	40.52	44.60	43.75	38.08
28	32.57	36.28	36.84	34.46	36.18	40.88	39.14	38.94	40.49	42.58	40.61	38.12
29	32.48	35.30	37.67	36.88	---	41.03	39.11	40.78	42.37	40.94	40.45	39.10
30	32.51	33.10	37.64	34.54	---	38.02	41.12	39.07	41.51	40.89	40.38	37.96
31	32.50	---	35.65	35.24	---	38.76	---	39.10	---	40.89	40.29	---
MEAN	33.20	34.18	34.62	35.87	36.79	38.13	39.65	39.16	41.24	42.05	42.88	39.38

WTR YR 2001 MEAN 38.10 HIGHEST 32.44 NOV. 3, 4, 5, 2000 LOWEST 45.50 AUG. 17, 2001



GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

180602066133100. Local number, 1260.

LOCATION.--Lat 18°06'02", long 66°13'31", Hydrologic Unit 21010004, 130 ft (39.62 m) north of Hwy 1 km. 68.9, 0.10 mi east of Hwy 162, and 4.0 mi west southwest of Cayey plaza. Owner: PR Aqueduct and Sewer Authority, Name: Bauzá 1 Well.

AQUIFER.--Fractured rock Limestone.

WELL CHARACTERISTICS.--Unused production well, diameter 10 in (0.25 m), open screen 220-320 ft (67.1-97.5 m). Depth 320 ft (97.5 m).

DATUM.--Elevation of land-surface datum is about 2,178 ft (664 m), above mean sea level, from topographic map. Measuring point:

Top of access hole, 0.49 ft (0.15 m), above land-surface datum.

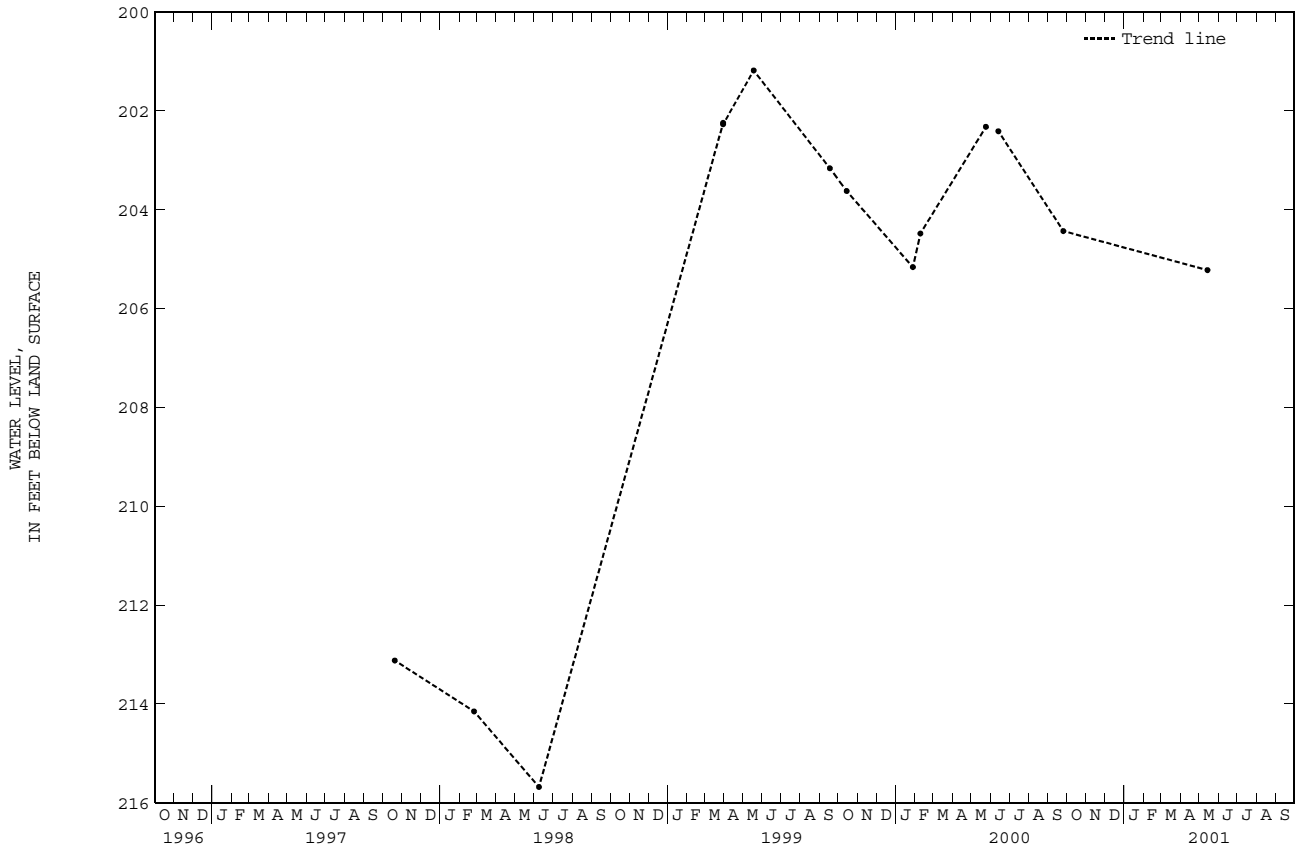
REMARKS.--Observation well.

PERIOD OF RECORD.--October 20, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 201.2 ft (61.32 m), below land-surface datum, May 18, 1999; lowest water level measured, 215.7 ft (65.74 m), below land-surface datum, June 8, 1998.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL
MAY 14	205.22



GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

175833066145800. Local number, 1261.

LOCATION.--Lat 17°58'33", long 66°14'58", Hydrologic Unit 21010004, 0.30 mi north of Hwy 3, 1.30 mi west of Colegio Perpetuo Socorro, and 2.20 mi northwest of Central Aguirre. Owner: US Geological Survey, Name: Piezometer A RASA.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 0-154 ft (0-46.94 m). Depth 154 ft (46.94 m).

INTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 56 ft (17.07 m), above mean sea level, from topographic map. Measuring point: Top of shelter floor 3.83 ft (1.17 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on Sept. 17, 1992, replaced by an Electronic Data Logger (EDL), installed on June 2, 1998.

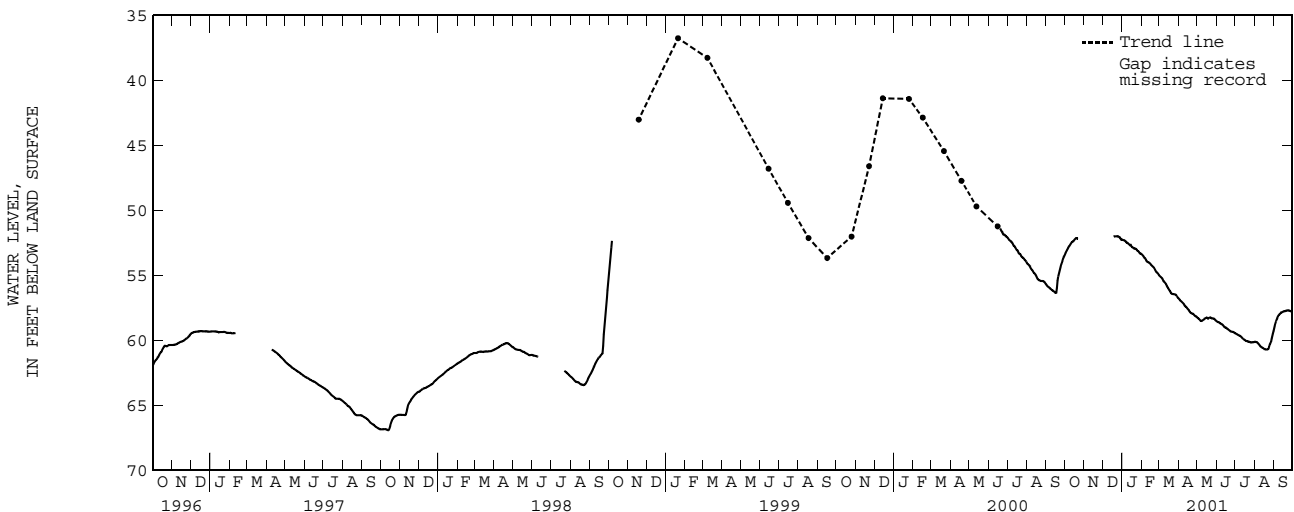
PERIOD OF RECORD.--September 17, 1992 to May 17, 1994, discontinued, January 15, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 36.75 ft (11.20 m), below land-surface datum, Jan. 20, 1999; lowest water level recorded, 70.28 ft (21.42 m), below land-surface datum, Oct. 1 to 7, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53.46	---	---	52.26	53.38	55.00	56.76	58.23	58.52	59.47	60.13	59.20
2	53.32	---	---	52.27	53.41	55.04	56.80	58.29	58.57	59.49	60.11	58.95
3	53.21	---	---	52.30	53.47	55.09	56.89	58.32	58.59	59.51	60.13	58.78
4	53.11	---	---	52.30	53.51	55.13	56.95	58.35	58.60	59.55	60.14	58.63
5	53.02	---	---	52.32	53.65	55.20	56.98	58.41	58.60	59.58	60.15	58.46
6	52.93	---	---	52.36	53.66	55.21	57.02	58.48	58.67	59.60	60.20	58.34
7	52.83	---	---	52.39	53.69	55.31	57.08	58.52	58.70	59.61	60.25	58.23
8	52.77	---	---	52.51	53.76	55.43	57.12	58.52	58.72	59.65	60.29	58.12
9	52.71	---	---	52.48	53.91	55.48	57.16	58.51	58.75	59.67	60.35	58.05
10	52.62	---	---	52.50	53.96	55.51	57.20	58.48	58.78	59.70	60.46	58.02
11	52.54	---	---	52.61	53.97	55.60	57.32	58.43	58.80	59.74	60.49	57.97
12	52.47	---	---	52.58	54.00	55.64	57.39	58.39	58.86	59.80	60.54	57.89
13	52.39	---	---	52.70	54.03	55.73	57.41	58.35	58.94	59.87	60.56	57.84
14	52.44	---	---	52.67	54.05	55.87	57.44	58.31	59.00	59.89	60.59	57.85
15	52.35	---	---	52.67	54.11	55.94	57.54	58.29	59.01	59.94	60.60	57.83
16	52.28	---	---	52.83	54.19	56.01	57.59	58.26	59.03	59.96	60.66	57.79
17	52.22	---	---	52.82	54.21	56.14	57.63	58.26	59.06	60.01	60.69	57.76
18	52.18	---	52.05	52.84	54.28	56.19	57.71	58.32	59.09	60.05	60.70	57.76
19	52.14	---	51.99	52.91	54.32	56.21	57.77	58.33	59.13	60.05	60.71	57.76
20	52.14	---	52.00	52.94	54.35	56.34	57.85	58.30	59.18	60.05	60.71	57.75
21	52.14	---	52.00	52.93	54.43	56.42	57.90	58.27	59.21	60.09	60.71	57.72
22	52.22	---	51.99	52.95	54.52	56.43	57.93	58.25	59.24	60.11	60.70	57.71
23	52.14	---	52.01	52.98	54.59	56.44	57.94	58.24	59.30	60.10	60.70	57.69
24	---	---	51.99	52.99	54.74	56.44	57.96	58.31	59.32	60.13	60.61	57.70
25	---	---	51.99	53.13	54.76	56.45	57.97	58.33	59.34	60.16	60.37	57.71
26	---	---	52.01	53.11	54.79	56.46	58.04	58.31	59.35	60.16	60.24	57.73
27	---	---	52.05	53.15	54.83	56.47	58.10	58.33	59.35	60.16	60.21	57.75
28	---	---	52.08	53.19	54.90	56.50	58.13	58.34	59.36	60.16	59.99	57.76
29	---	---	52.10	53.33	---	56.57	58.15	58.35	59.39	60.15	59.79	57.79
30	---	---	52.27	53.31	---	56.62	58.17	58.44	59.42	60.15	59.57	57.80
31	---	---	52.24	53.34	---	56.71	---	58.49	---	60.14	59.37	---
MEAN	52.59	---	52.06	52.76	54.12	55.92	57.53	58.36	59.00	59.89	60.35	58.01

WTR YR 2001 MEAN 56.76 HIGHEST 51.96 DEC. 20, 21, 22, 24, 25, 2000 LOWEST 60.71 AUG. 18-23, 2001



GROUND-WATER LEVELS

RIO SALINAS TO RIO JACAGUAS BASINS--Continued

175735066151800. Local number, 1262.

LOCATION.--Lat 17°57'35", long 66°15'18", Hydrologic Unit 21010004, 1.0 mi southeast of Salinas Speedway, 1.30 mi northeast of dock at Las Mareas, and 3.10 mi southeast of Salinas Plaza. Owner: US Geological Survey, Name: Piezometer C RASA.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), screen cased 22-82 ft (6.70-24.99 m). Depth 82.0 ft (24.99 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 20 ft (6.10 m), above mean sea level, from topographic map. Measuring point: Top of shelter floor, 4.15 in (0.10 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on Sept. 24, 1991, replaced by an Electronic Data Logger (EDL), installed on June 2, 1998. Well is affected by nearby pumping.

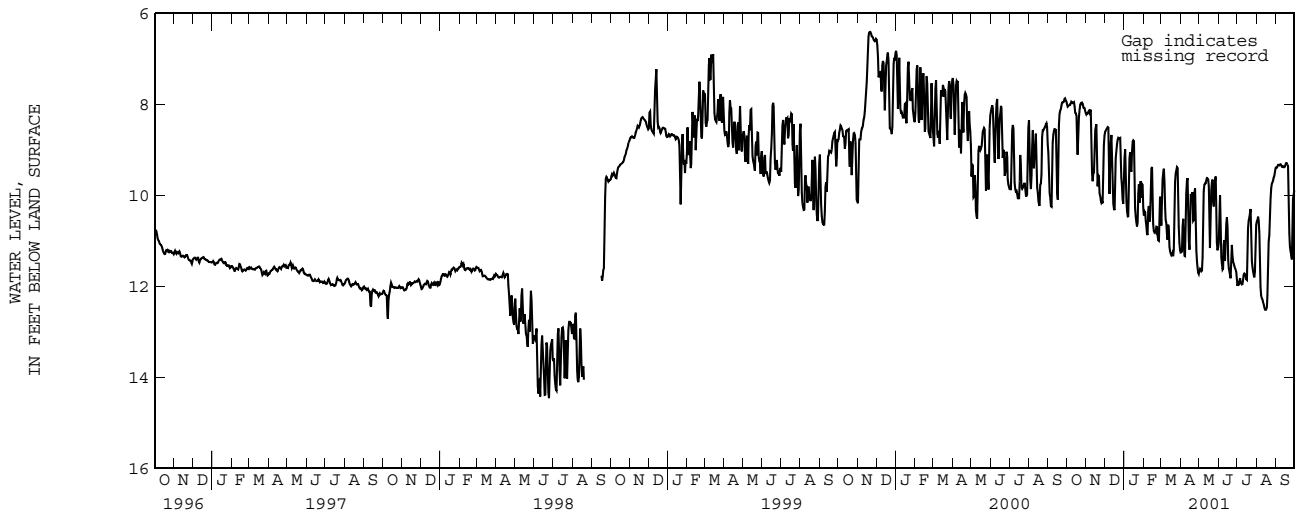
PERIOD OF RECORD.--September 24, 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.36 ft (1.94 m), below land-surface datum, Nov. 22, 1999; lowest water level recorded, 14.58 ft (4.44 m), below land-surface datum, June 25, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.94	8.21	8.60	9.32	10.36	10.58	11.25	11.71	11.05	11.98	10.60	9.39
2	8.06	8.23	8.60	9.02	10.52	10.75	11.26	11.60	11.03	12.00	10.55	9.38
3	8.04	8.16	8.55	8.96	10.19	9.74	11.24	11.64	10.10	11.87	10.54	9.40
4	8.03	8.23	8.54	9.94	10.56	9.53	11.22	11.66	9.89	12.08	10.40	9.34
5	8.01	8.09	8.52	10.30	10.58	9.48	10.14	11.69	11.29	11.73	10.75	9.32
6	8.00	8.19	8.48	10.41	10.79	9.35	10.89	11.62	11.43	11.91	10.96	9.34
7	8.02	8.18	8.54	10.50	10.87	10.10	11.33	11.09	11.61	11.92	11.89	9.34
8	7.94	8.14	9.84	10.46	10.88	10.49	11.33	10.02	11.65	11.95	12.14	9.31
9	7.94	8.09	10.10	9.29	9.83	10.58	11.34	9.80	11.57	11.97	12.27	9.33
10	7.97	9.34	9.00	9.08	10.64	10.63	10.14	9.73	10.60	11.93	12.24	9.32
11	7.97	9.68	8.70	9.03	10.52	11.04	9.75	9.75	11.38	11.78	12.33	9.42
12	7.96	9.70	8.64	9.79	10.45	10.91	9.64	9.72	11.51	11.71	12.37	9.33
13	7.94	9.32	9.49	9.17	9.52	10.38	9.60	9.62	10.45	11.73	12.41	9.39
14	8.15	9.68	10.11	8.88	9.31	11.08	10.90	9.62	10.82	11.74	12.51	9.37
15	8.22	8.62	10.27	8.76	9.44	11.20	11.11	9.64	10.15	11.81	12.51	9.39
16	8.17	8.53	10.31	8.82	10.54	11.26	11.28	9.65	11.27	11.88	12.52	9.34
17	8.32	8.45	10.34	8.80	10.73	11.30	10.11	9.96	11.57	11.84	12.50	9.30
18	9.39	8.43	9.26	10.16	10.82	11.33	9.91	11.05	11.64	10.86	12.42	9.28
19	8.82	9.70	9.10	10.39	10.80	11.25	10.12	11.27	11.68	10.58	11.99	9.30
20	8.37	9.90	8.94	10.55	10.78	11.28	9.83	10.02	11.80	10.53	11.09	9.35
21	8.19	9.22	8.82	10.63	10.84	11.40	10.03	9.78	11.85	10.45	10.94	9.36
22	8.06	9.94	8.74	10.74	10.54	10.99	11.09	9.65	10.93	10.35	10.81	10.60
23	7.97	9.98	8.74	10.46	10.86	9.86	9.98	9.66	11.25	10.25	10.20	11.07
24	7.99	10.04	8.77	9.44	10.93	9.54	9.92	10.61	11.44	11.36	9.91	11.21
25	7.99	10.18	8.72	10.08	11.05	9.49	9.78	9.88	11.48	11.53	9.76	11.26
26	7.94	10.15	8.76	10.24	10.95	9.41	11.05	9.72	11.52	11.65	9.72	11.37
27	8.04	10.12	9.64	9.40	10.00	9.35	11.39	9.60	11.60	11.71	9.71	11.45
28	8.10	10.23	9.57	9.97	10.06	9.45	11.52	9.57	11.60	11.80	9.62	10.12
29	8.05	9.01	10.02	10.14	---	10.48	11.64	10.90	11.65	11.81	9.60	10.04
30	8.11	8.77	10.15	9.36	---	10.91	11.74	11.15	11.70	11.56	9.56	9.93
31	8.17	---	10.23	10.18	---	11.17	---	11.27	---	10.70	9.42	---
MEAN	8.12	9.08	9.23	9.75	10.48	10.46	10.68	10.41	11.25	11.52	11.10	9.78

WTR YR 2001 MEAN 10.15 HIGHEST 7.82 OCT. 9, 2000 LOWEST 12.58 AUG. 16, 2001



GROUND-WATER LEVELS

RIO INABON TO RIO LOCO BASINS

175950066354200. Local number, 141.

LOCATION.--Lat 17°59'50", long 66°35'42", Hydrologic Unit 21010004, 1.71 mi southeast of Plaza Degetau at Ponce, 1.31 mi southeast of the intersection between Hwy 10 and Hwy 2, and 2.60 mi notheast of Muellle de Ponce. Owner: PR Aqueduct and Sewer Authority, Name: Restaurada 8A Well.

AQUIFER.--Alluvium of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused public supply well, diameter 16-10 in (0.41-0.25 m), cased 16 in (0.41 m) 2.00-20.0 ft (0.6-6.1 m), perforated 20-130 ft (6.10-39.6 m), 10 in (0.25 m) 128-165 ft (39.0-50.3 m), perforated. Depth 165 ft (50.3 m). INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 24.0 ft (7.30 m), above mean sea level, from topographic map. Measuring point: Bottom edge of hole on side of casing 1.90 ft (0.58 m), above land-surface datum, 26.2 ft (7.67 m), above mean sea level.

REMARKS.--Recording observation well. Discontinued on Nov. 8, 1994 due to apparent collapsed casing, repair on August 7, 1996. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 12, 1998.

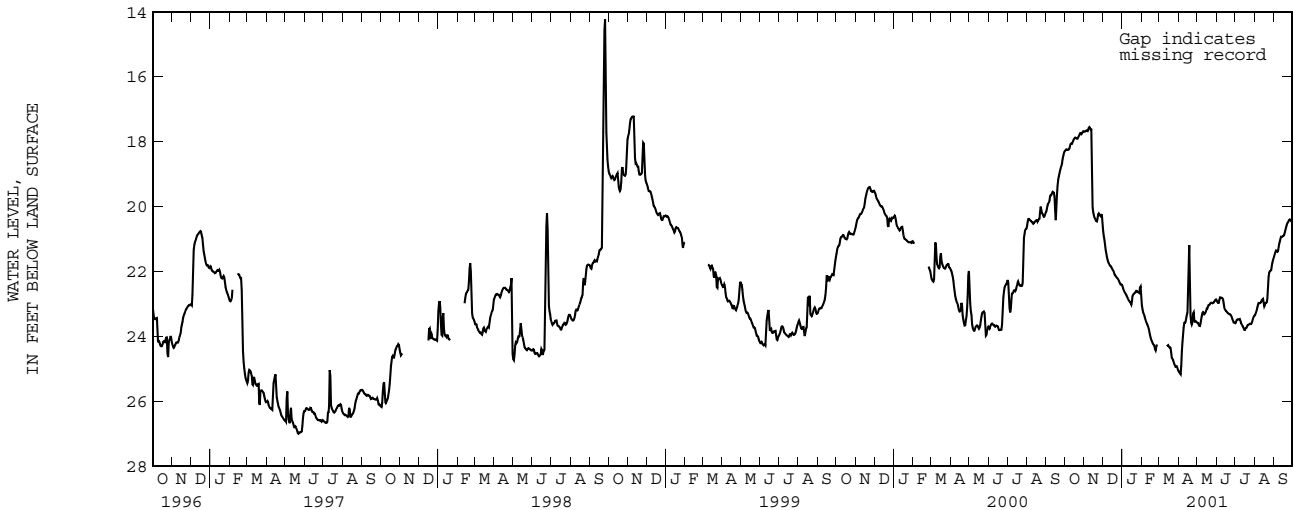
PERIOD OF RECORD.--October 1981 to March 1, 1986, discontinued, November 18, 1991 to November 8, 1994, discontinued, August 7, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 11.2 ft (3.41 m), below land-surface datum, Oct. 9, 1985; lowest water level recorded, 28.6 ft (8.71 m), below land-surface datum, July 9, 1982.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.30	17.70	20.67	22.40	22.98	---	25.07	23.58	22.84	23.58	23.36	21.57
2	18.27	17.68	20.84	22.49	23.10	---	25.07	23.57	22.92	23.59	23.34	21.49
3	18.23	17.70	20.97	22.55	23.22	---	25.10	23.59	22.95	23.50	23.28	21.44
4	18.24	17.65	21.08	22.58	23.28	---	25.16	23.66	22.97	23.49	23.23	21.35
5	18.24	17.66	21.26	22.64	23.31	---	25.16	23.67	22.95	23.47	23.15	21.35
6	18.26	17.67	21.42	22.67	23.40	---	24.65	23.67	22.79	23.47	23.04	21.38
7	18.24	17.68	21.49	22.70	23.45	---	24.24	23.49	22.81	23.47	22.99	21.40
8	18.23	17.61	21.57	22.72	23.51	---	24.06	23.45	22.81	23.47	22.95	21.35
9	18.18	17.54	21.67	22.78	23.57	---	23.89	23.30	22.80	23.45	22.98	21.20
10	18.09	17.56	21.72	22.82	23.62	---	23.57	23.25	22.82	23.57	22.97	21.10
11	18.05	17.60	21.75	22.86	23.65	---	23.58	23.24	22.82	23.60	22.95	21.05
12	18.06	17.64	21.82	22.90	23.72	---	23.57	23.30	22.87	23.65	22.93	20.93
13	18.07	17.61	21.82	22.92	23.79	24.27	23.52	23.32	23.06	23.67	22.86	20.93
14	17.99	19.94	21.84	22.94	23.92	24.32	23.37	23.26	23.14	23.71	22.85	20.94
15	17.95	20.11	21.87	22.99	24.00	24.24	23.29	23.25	23.19	23.76	22.83	20.91
16	17.91	20.23	21.92	23.03	24.07	24.28	23.22	23.16	23.20	23.82	23.08	20.89
17	17.87	20.30	21.95	22.79	24.10	24.32	22.21	23.12	23.22	23.77	23.06	20.90
18	17.87	20.33	21.97	22.74	24.16	24.34	21.26	23.15	23.25	23.72	22.98	20.85
19	17.88	20.39	22.02	22.69	24.20	24.32	21.10	23.02	23.26	23.75	22.97	20.76
20	17.90	20.42	22.10	22.68	24.25	24.37	23.19	23.04	23.30	23.70	22.96	20.69
21	17.91	20.47	22.12	22.66	24.26	24.61	23.47	23.02	23.29	23.64	22.94	20.59
22	17.90	20.44	22.15	22.65	24.29	24.70	23.66	22.98	23.32	23.65	22.75	20.54
23	17.83	20.28	22.18	22.61	24.46	24.68	23.61	22.97	23.30	23.62	22.27	20.49
24	17.82	20.18	22.19	22.57	24.38	24.75	23.54	22.94	23.35	23.61	22.06	20.47
25	17.77	20.23	22.22	22.62	24.26	24.82	23.06	22.98	23.35	23.60	22.00	20.43
26	17.71	20.25	22.26	22.63	24.22	24.87	23.46	22.97	23.45	23.62	21.98	20.39
27	17.77	20.29	22.29	22.63	---	24.90	23.54	22.96	23.47	23.60	21.97	20.40
28	17.77	20.29	22.32	22.66	---	24.96	23.54	22.95	23.55	23.56	21.94	20.43
29	17.73	20.21	22.39	22.66	---	24.90	23.53	22.89	23.57	23.51	21.77	20.45
30	17.69	20.30	22.40	22.33	---	24.93	23.53	22.89	23.57	23.43	21.70	20.39
31	17.67	---	22.41	22.59	---	24.98	---	22.87	---	23.37	21.62	---
MEAN	17.98	19.13	21.83	22.69	23.81	24.61	23.64	23.21	23.14	23.59	22.70	20.90

WTR YR 2001 MEAN 22.18 HIGHEST 17.52 NOV. 9, 2000 LOWEST 25.19 APR. 5, 2001



GROUND-WATER LEVELS

RIO INABON TO RIO LOCO BASINS--Continued

175934066364800. Local number, 1276.

LOCATION.--Lat 17°59'34", long 66°36'48", Hydrologic Unit 21010004, 0.35 mi southeast of the intersection of Hwy 10 with Hwy 2, 0.32 mi south of Hwy 2, 0.10 mi southwest of Plaza del Caribe Mall, and 1.90 mi north of Punta Carenero. Owner: Plaza del Caribe, Name: Constancia 3 Well.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 13 in (0.33 m). Depth 84 ft (25.6 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is 16.0 ft (4.90 m), above mean sea level, from topographic map. Measuring point: Shelter floor on the top of 4 in (0.10 m) casing, 3.12 ft (0.95 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on May 30, 1996, replaced by an Electronic Data Logger (EDL) installed during Mar. 19 to April 9, 1997. Automated Digital Recorder (ADR), re-installed on April 9, 1997, replaced by an Electronic Data Logger (EDL), installed on June 4, 1998. Formerly published as local number CO-3.

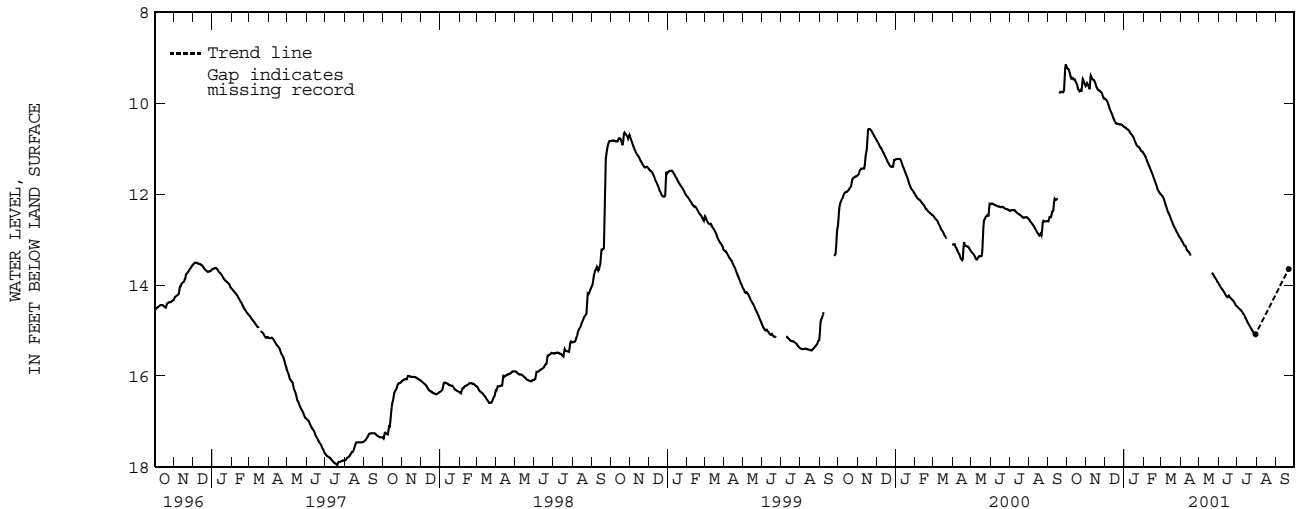
PERIOD OF RECORD.--May 30, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 9.13 ft (2.78 m), below land-surface datum, Sept. 28, 29, 2000; lowest water level recorded, 17.96 ft (5.47 m), below land-surface datum, July 19, 20, 21, 1997.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.22	9.64	9.90	10.53	11.11	12.01	12.97	---	13.96	14.47	---	---
2	9.24	9.55	9.91	10.53	11.12	12.03	12.99	---	13.99	14.49	---	---
3	9.24	9.57	9.92	10.54	11.15	12.04	13.02	---	14.01	14.50	---	---
4	9.26	9.60	9.95	10.54	11.18	12.06	13.05	---	14.04	14.52	---	---
5	9.29	9.63	9.97	10.57	11.21	12.09	13.06	---	14.06	14.53	---	---
6	9.36	9.67	10.00	10.58	11.24	12.12	13.10	---	14.08	14.54	---	---
7	9.40	9.72	10.04	10.58	11.28	12.18	13.13	---	14.10	14.56	---	---
8	9.46	9.38	10.09	10.59	11.31	12.22	13.14	---	14.11	14.57	---	---
9	9.46	9.41	10.12	10.61	11.35	12.26	13.14	---	14.14	14.59	---	---
10	9.43	9.44	10.16	10.64	11.38	12.29	13.15	---	14.16	14.62	---	---
11	9.46	9.47	10.19	10.66	11.41	12.35	13.22	---	14.17	14.63	---	---
12	9.49	9.49	10.23	10.68	11.45	12.39	13.24	---	14.21	14.66	---	---
13	9.46	9.49	10.26	10.69	11.49	12.41	13.26	---	14.23	14.68	---	---
14	9.49	9.50	10.30	10.72	11.52	12.45	13.27	---	14.25	14.71	---	---
15	9.52	9.53	10.34	10.73	11.55	12.47	13.28	---	14.26	14.74	---	---
16	9.55	9.58	10.37	10.75	11.59	12.51	13.31	---	14.28	14.77	---	---
17	9.58	9.61	10.40	10.79	11.62	12.56	13.34	---	14.22	14.80	---	---
18	9.61	9.65	10.43	10.82	11.67	12.59	13.37	---	14.25	14.83	---	---
19	9.69	9.68	10.45	10.86	11.70	12.61	---	---	14.26	14.85	---	---
20	9.71	9.71	10.45	10.90	11.74	12.65	---	---	14.28	14.87	---	---
21	9.73	9.72	10.45	10.92	11.78	12.68	---	13.73	14.30	14.90	---	---
22	9.75	9.71	10.46	10.95	11.82	12.72	---	13.74	14.31	14.93	---	---
23	9.69	9.74	10.46	10.96	11.88	12.74	---	13.75	14.32	14.95	---	---
24	9.73	9.75	10.47	10.96	11.91	12.76	---	13.78	14.34	14.97	---	---
25	9.76	9.76	10.47	10.98	11.94	12.80	---	13.81	14.35	15.00	---	---
26	9.47	9.77	10.46	11.00	11.96	12.83	---	13.83	14.38	15.02	---	---
27	9.47	9.81	10.47	11.02	11.97	12.86	---	13.85	14.39	15.04	---	---
28	9.52	9.84	10.47	11.04	12.00	12.87	---	13.87	14.43	15.06	---	---
29	9.56	9.89	10.48	11.07	---	12.91	---	13.88	14.45	15.08	---	---
30	9.58	9.91	10.50	11.06	---	12.93	---	13.92	14.46	15.08	---	---
31	9.61	---	10.51	11.08	---	12.96	---	13.94	---	15.09	---	---
MEAN	9.51	9.64	10.28	10.79	11.55	12.50	13.17	13.83	14.23	14.78	---	---

WTR YR 2001 MEAN 11.84 HIGHEST 9.19 OCT. 1, 2000 LOWEST 15.09 JULY 29, 30, 31, 2001



GROUND-WATER LEVELS

RIO INABON TO RIO LOCO BASINS--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	9.71	NOV 20	9.71	MAR 12	12.39	APR 11	13.22	JUN 07	14.10	SEP 21	13.65
20	9.71	FEB 22	11.85	APR 11	13.22	MAY 21	13.73	07	14.10		
WATER YEAR 2001		HIGHEST 9.71 OCT. 20, 2000		LOWEST 13.65 SEPT. 21, 2001							

GROUND-WATER LEVELS
RIO INABON TO RIO LOCO BASIN

180045066381600. Local number 1277.

LOCATION.--Lat 18°00'45", long 66°38'16", Hydrologic Unit 21010004, 0.27 mi east of the intersection of Hwy 10 with Hwy 132, 0.60 mi northwest of Parque Paquito Montaner, and 0.04 mi south of Hwy 132. Owner: Albergue de Niños de Ponce, Name: Albergue de Niños Well.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well.

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 49.0 ft (14.90 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 5.42 ft (1.65 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 12, 1998. Formerly published as local number AN-1.

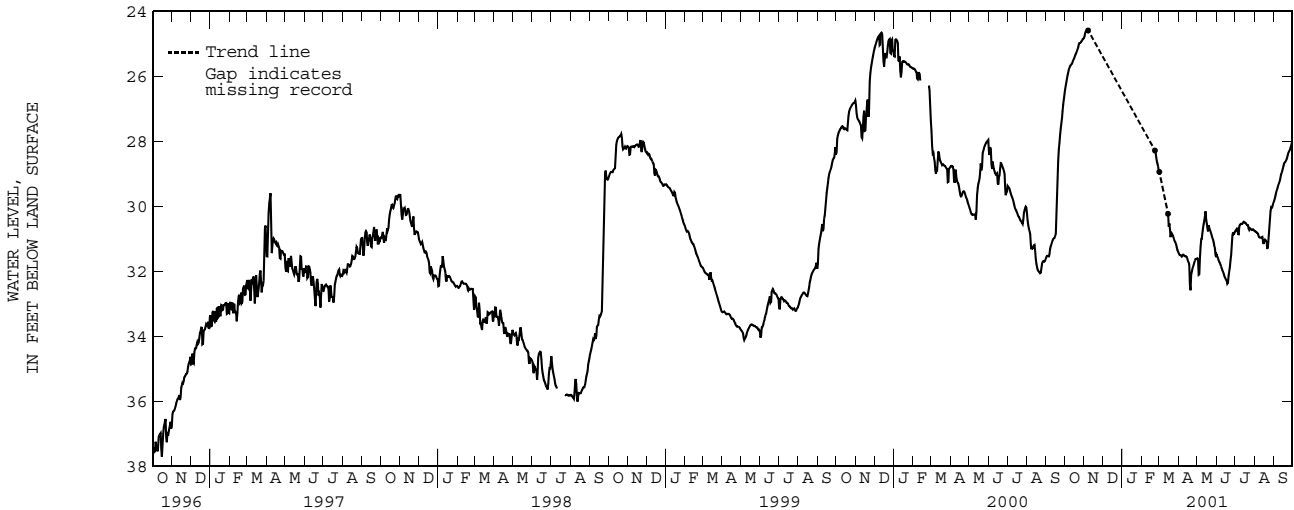
PERIOD OF RECORD.--March 30, 1992 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 24.42 ft (7.44 m), below land-surface datum, Nov. 8, 9, 2000; lowest water level recorded, 51.88 ft (15.81 m), below land-surface datum, Aug. 30, 1994.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.47	24.82	---	---	---	28.94	31.39	31.59	31.46	30.76	30.76	29.88
2	26.34	24.74	---	---	---	---	31.47	31.62	31.52	30.75	30.77	29.79
3	26.22	24.62	---	---	---	---	31.50	31.64	31.56	30.74	30.77	29.72
4	26.11	24.62	---	---	---	---	31.50	32.57	31.63	30.67	30.80	29.62
5	26.00	24.62	---	---	---	---	31.50	31.60	31.68	30.64	30.82	29.54
6	25.90	24.62	---	---	---	---	31.55	31.54	31.73	31.07	30.82	29.50
7	25.83	24.62	---	---	---	---	31.55	30.94	31.76	30.65	30.88	29.42
8	25.77	24.55	---	---	---	---	31.50	31.08	31.83	30.59	30.93	29.36
9	25.71	---	---	---	---	---	31.48	30.92	31.87	30.57	30.96	29.31
10	25.68	---	---	---	---	---	31.51	30.74	31.93	30.54	30.96	29.25
11	25.63	---	---	---	---	---	31.53	30.61	31.99	30.54	30.96	29.20
12	25.62	---	---	---	---	---	31.54	30.49	32.02	30.55	30.96	29.04
13	25.60	---	---	---	---	---	31.54	30.41	32.10	30.53	30.96	28.99
14	25.53	---	---	---	---	---	31.54	30.21	32.17	30.48	30.93	28.94
15	25.47	---	---	---	---	---	31.58	30.10	32.20	30.47	31.24	28.85
16	25.46	---	---	---	---	30.74	31.66	30.72	32.25	30.50	31.08	28.78
17	25.38	---	---	---	---	30.50	31.71	30.35	32.28	30.51	31.01	28.70
18	25.34	---	---	---	---	30.55	31.75	31.00	32.32	30.51	31.03	28.65
19	25.30	---	---	---	---	30.91	31.80	30.54	32.44	30.56	31.03	28.64
20	25.26	---	---	---	---	30.98	33.01	30.62	32.25	30.58	31.08	28.61
21	25.20	---	---	---	---	30.80	32.16	30.68	32.04	30.57	31.13	28.58
22	25.15	---	---	---	---	30.87	32.07	30.74	31.97	30.59	31.49	28.52
23	25.05	---	---	---	28.26	30.88	31.95	30.79	31.77	30.78	31.01	28.42
24	24.97	---	---	---	28.43	30.94	31.90	30.87	31.55	30.67	30.81	28.37
25	24.97	---	---	---	28.58	31.00	31.84	30.94	31.43	30.67	30.44	28.31
26	24.97	---	---	---	28.66	31.08	31.77	31.00	31.02	30.70	30.29	28.28
27	24.93	---	---	---	28.69	31.09	31.70	31.05	30.75	30.72	30.02	28.24
28	24.91	---	---	---	28.84	31.16	31.64	31.17	30.86	30.74	30.04	28.18
29	24.89	---	---	---	---	31.21	31.61	31.24	30.86	30.71	30.05	28.12
30	24.85	---	---	---	---	31.31	31.64	31.30	30.83	30.70	29.98	28.02
31	24.84	---	---	---	---	31.38	---	31.67	---	30.74	29.90	---
MEAN	25.46	24.65	---	---	28.58	30.84	31.70	30.99	31.74	30.64	30.77	28.89

WTR YR 2001 MEAN 29.86 HIGHEST 24.42 NOV. 8, 9, 2000 LOWEST 33.03 APR. 20, 2001



GROUND-WATER LEVELS

RIO INABON TO RIO LOCO BASIN

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB 22	28.28	APR 17	31.71	MAY 21	30.68	JUN 11	31.98	SEP 11	29.20	SEP 11	29.20
MAR 15	30.23	17	31.71	JUN 11	31.98						
WATER YEAR 2001		HIGHEST 28.28 FEB. 22, 2001		LOWEST 31.98 JUNE 11, 2001							

GROUND-WATER LEVELS

RIO INABON TO RIO LOCO BASINS--Continued

180156066434000. Local number, 1278.

LOCATION.--Lat 18°01'56", long 66°43'40", Hydrologic Unit 21010004, 1.23 mi north of Hwy 2, 0.10 mi west of Hwy 385, and 0.14 mi east of Rio Tallaboa. Owner: CORCO, Name: Luciano Ventura Well.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well. Depth 66.4 ft (20.2 m).

INSTRUMENTATION.--Pressure transducer with integrated electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 66.0 ft (20.1 m), above mean sea level, from topographic map.. Measuring point: Top of shelter floor, 3.00 ft (0.91 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on September 5, 1997. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on September 7, 1999. Formerly published as local number LV-1.

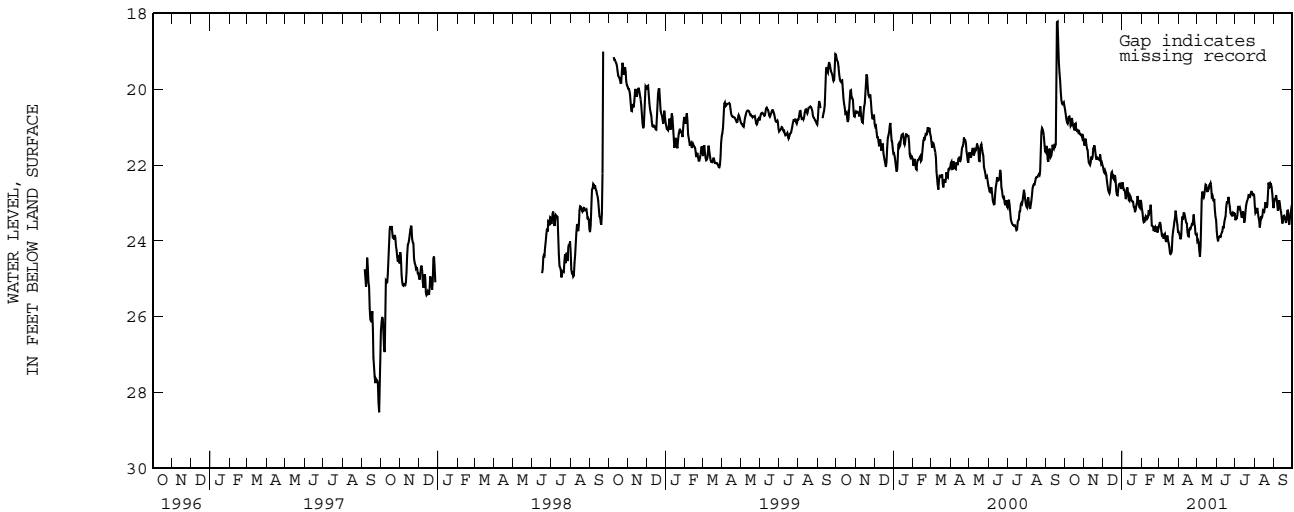
PERIOD OF RECORD.--September 5, 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 16.65 ft (5.07 m), below land-surface datum, Sept. 23, 1998; lowest water level recorded, 28.87 ft (8.80 m), below land-surface datum, Sept. 28, 1997.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.60	21.57	22.11	22.39	23.14	23.63	23.78	23.98	23.65	23.40	22.87	23.16
2	20.49	21.40	22.03	22.52	23.15	23.51	23.73	24.05	23.85	23.51	23.31	22.77
3	20.83	21.33	22.30	22.64	23.36	23.50	23.89	23.93	23.98	23.31	23.22	23.02
4	20.74	21.28	22.10	22.67	23.52	23.64	23.88	24.18	24.05	23.50	23.25	22.76
5	21.01	21.63	22.18	22.64	23.50	23.82	24.04	24.35	23.79	23.14	23.10	22.83
6	20.80	21.50	22.20	22.79	23.50	23.88	23.69	24.49	23.99	23.06	23.16	23.00
7	20.77	21.70	22.35	23.01	23.38	23.78	23.31	23.78	23.78	23.14	23.43	23.17
8	20.69	21.84	22.46	22.66	23.36	23.92	23.41	23.06	24.00	23.14	23.32	23.24
9	20.75	22.02	22.61	22.60	23.48	23.97	23.46	22.73	23.69	23.10	23.61	22.96
10	20.87	21.92	22.70	22.58	23.27	23.71	23.08	22.67	23.89	23.28	23.68	22.90
11	21.07	22.08	22.72	22.92	23.54	23.92	23.46	22.99	23.62	23.31	23.35	23.13
12	20.80	21.78	22.77	22.93	23.16	24.02	23.23	22.73	23.61	23.47	23.34	23.20
13	20.72	21.77	22.55	22.96	23.21	24.04	23.65	22.84	23.73	23.20	23.45	23.29
14	21.05	21.95	22.34	22.64	23.34	23.79	23.38	22.45	23.30	23.24	23.26	23.50
15	20.89	21.65	22.08	23.03	23.12	23.93	23.70	22.58	23.55	23.44	23.11	23.58
16	21.15	21.49	22.28	22.82	22.97	24.07	23.85	22.48	23.16	23.60	23.28	23.36
17	21.02	21.58	22.28	23.09	23.49	24.07	23.89	22.80	23.07	23.25	23.16	23.33
18	20.81	21.38	22.21	22.82	23.71	24.29	23.88	22.63	22.90	23.16	23.06	23.34
19	20.99	21.77	22.53	23.11	23.50	24.38	23.54	22.62	23.08	23.01	22.91	23.40
20	21.17	21.68	22.27	23.10	23.74	24.32	23.81	22.65	22.84	22.97	23.15	23.52
21	21.02	22.00	22.26	23.13	23.75	24.34	23.57	22.42	22.84	22.91	23.11	23.54
22	21.14	21.68	22.56	23.36	23.57	24.18	23.71	22.61	23.16	22.87	23.01	23.22
23	21.11	21.94	22.81	23.03	23.70	23.64	23.42	22.34	23.06	22.72	22.44	23.19
24	21.04	21.74	22.76	23.11	23.83	23.86	23.71	22.82	23.49	22.88	22.49	23.21
25	21.29	21.96	22.84	22.88	23.51	23.42	23.21	22.84	23.12	22.85	22.69	23.69
26	21.08	21.78	22.48	22.76	23.74	23.58	23.40	22.77	23.37	22.71	22.46	23.45
27	21.35	21.66	22.55	23.10	23.82	23.20	23.64	23.01	23.34	22.70	22.52	23.35
28	21.09	21.97	22.49	22.96	23.64	23.21	23.63	22.90	23.18	22.71	22.53	23.30
29	21.26	21.96	22.50	23.25	---	23.49	24.00	22.88	23.37	22.77	22.66	23.13
30	21.34	21.91	22.59	23.01	---	23.42	23.67	23.47	23.17	22.80	22.84	23.03
31	21.19	---	22.68	22.83	---	23.74	---	23.26	---	22.74	23.11	---
MEAN	20.97	21.73	22.44	22.88	23.46	23.82	23.62	23.07	23.45	23.09	23.06	23.22

WTR YR 2001 MEAN 22.90 HIGHEST 20.44 OCT. 2, 2000 LOWEST 24.50 MAY 6, 2001



GROUND-WATER LEVELS

RIO GUANAJIBO BASIN

180132067033800. Local number, 143.

LOCATION.--Lat 18°01'32", Long 67°03'38", Hydrologic Unit 21010003, 1.86 mi south of Lajas plaza, 1.27 mi southeast of the Estación Experimental Agrícola, and 1.30 mi northwest of the intersection of Hwy 116 with Hwy 305. Owner: Pedro P. Vivoni, Name: Vivoni-Col Amistad Well, Lajas.

AQUIFER.--Limestone of unknown age.

WELL CHARACTERISTICS.--Drilled unused irrigation well, diameter 12 in (0.30 m). Depth 200 ft (60.98 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 52.5 ft (16.0 m), above mean sea level, from topographic map. Measuring point: Hole side of casing, 0.80 ft (0.24 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on January 14, 1998. From July 27, 1998 to Mar. 18, 1999, monthly measurements only.

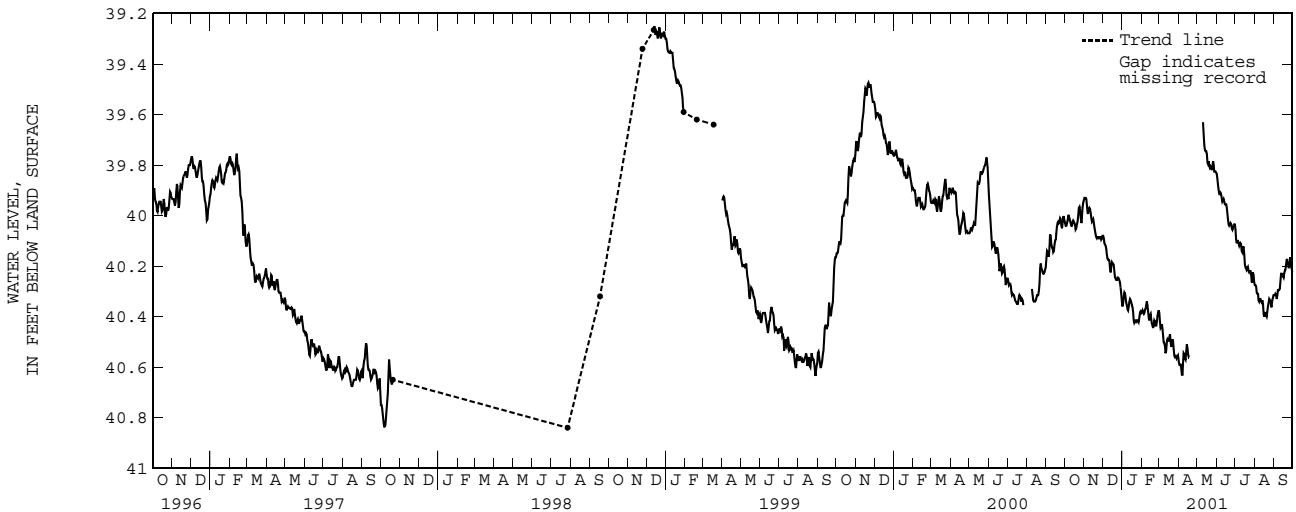
PERIOD OF RECORD.--December 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 37.4 ft (11.4 m), below land-surface datum, Nov. 20, 1985; lowest water level recorded, 40.85 ft (12.45 m) below land-surface datum, Oct. 8, 9, 1997.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40.03	39.93	40.08	40.36	40.39	40.37	40.56	---	39.83	40.04	40.27	40.31
2	40.03	39.93	40.08	40.36	40.37	40.40	40.59	---	39.84	40.07	40.28	40.32
3	40.05	39.93	40.10	40.33	40.38	40.44	40.59	---	39.87	40.12	40.27	40.31
4	40.03	39.93	40.12	40.31	40.39	40.45	40.59	---	39.89	40.10	40.29	40.31
5	40.03	39.94	40.11	40.30	40.39	40.43	40.59	---	39.91	40.10	40.32	40.32
6	40.01	39.98	40.13	40.32	40.38	40.43	40.62	---	39.92	40.10	40.30	40.34
7	39.99	40.00	40.14	40.34	40.37	40.47	40.64	---	39.91	40.12	40.32	40.29
8	40.01	39.98	40.17	40.35	40.37	40.49	40.62	---	39.91	40.12	40.35	40.30
9	40.01	39.97	40.17	40.36	40.34	40.51	40.55	---	39.92	40.11	40.33	40.29
10	40.03	39.97	40.18	40.38	40.34	40.50	40.54	39.60	39.94	40.11	40.33	40.30
11	40.03	39.98	40.17	40.37	40.37	40.53	40.56	39.66	39.95	40.12	40.33	40.28
12	40.05	40.00	40.19	40.35	40.39	40.56	40.57	39.70	39.93	40.16	40.35	40.24
13	40.03	40.02	40.23	40.33	40.42	40.51	40.57	39.74	39.94	40.13	40.34	40.22
14	40.02	40.03	40.22	40.33	40.41	40.49	40.51	39.74	39.95	40.12	40.33	40.24
15	40.02	40.01	40.18	40.34	40.38	40.49	40.51	39.75	39.96	40.13	40.37	40.23
16	40.03	40.02	40.19	40.35	40.40	40.50	40.54	39.74	39.95	40.18	40.41	40.25
17	40.03	40.04	40.19	40.36	40.42	40.49	40.56	39.77	39.96	40.21	40.39	40.24
18	40.05	40.05	40.19	40.36	40.43	40.47	40.56	39.81	39.98	40.20	40.38	40.22
19	40.06	40.07	40.20	40.40	40.44	40.47	40.56	39.78	40.00	40.21	40.39	40.22
20	40.04	40.08	40.24	40.43	40.45	40.52	---	39.79	40.03	40.22	40.40	40.21
21	40.03	40.09	40.25	40.42	40.42	40.52	---	39.81	40.04	40.20	40.40	40.18
22	40.02	40.09	40.25	40.42	40.41	40.49	---	39.81	40.04	40.21	40.36	40.17
23	39.98	40.08	40.26	40.41	40.43	40.49	---	39.80	40.03	40.23	40.36	40.18
24	39.96	40.09	40.25	40.42	40.44	40.51	---	39.82	40.03	40.22	40.33	40.20
25	39.97	40.09	40.24	40.42	40.43	40.55	---	39.82	40.04	40.22	40.33	40.21
26	39.99	40.09	40.25	40.41	40.41	40.56	---	39.79	40.06	40.22	40.34	40.20
27	40.03	40.08	40.25	40.42	40.39	40.56	---	39.78	40.05	40.25	40.34	40.17
28	40.03	40.09	40.26	40.42	40.38	40.55	---	39.82	40.04	40.28	40.38	40.16
29	39.99	40.10	40.27	40.39	---	40.56	---	39.83	40.04	40.24	40.34	40.20
30	39.95	40.08	40.30	40.38	---	40.57	---	39.82	40.03	40.21	40.33	40.22
31	39.95	---	40.32	40.38	---	40.55	---	39.83	---	40.26	40.32	---
MEAN	40.02	40.02	40.20	40.37	40.40	40.50	40.57	39.77	39.97	40.17	40.34	40.24

WTR YR 2001 MEAN 40.21 HIGHEST 39.50 MAY 9, 2001 LOWEST 40.64 APR. 7, 2001



GROUND-WATER LEVELS

RIO GUANAJIBO BASIN--Continued

180542067084000. Local number, 1301.

LOCATION.--Lat 18°05'42", long 67°08'40", Hydrologic Unit 21010003, 0.35 mi east of Hwy 311, 0.30 mi north of Hwy 102 in Central Cabo Rojo, and 0.50 mi northwest of the intersection of Hwy 102 with Hwy 103. Owner: PR Aqueduct and Sewer Authority, Name: PRASA 1, Cabo Rojo Well.

Y-AQUIFER.--Coquí Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 12 in (0.30 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 18.9 ft (12.0 m), above mean sea level, from topographic map. Measuring point: Hole in the side of the 12.0 in (0.30 m) casing, 1.30 ft (0.40 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on May 25, 1996. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on April 9, 1999. Formerly published as local number CR-1.

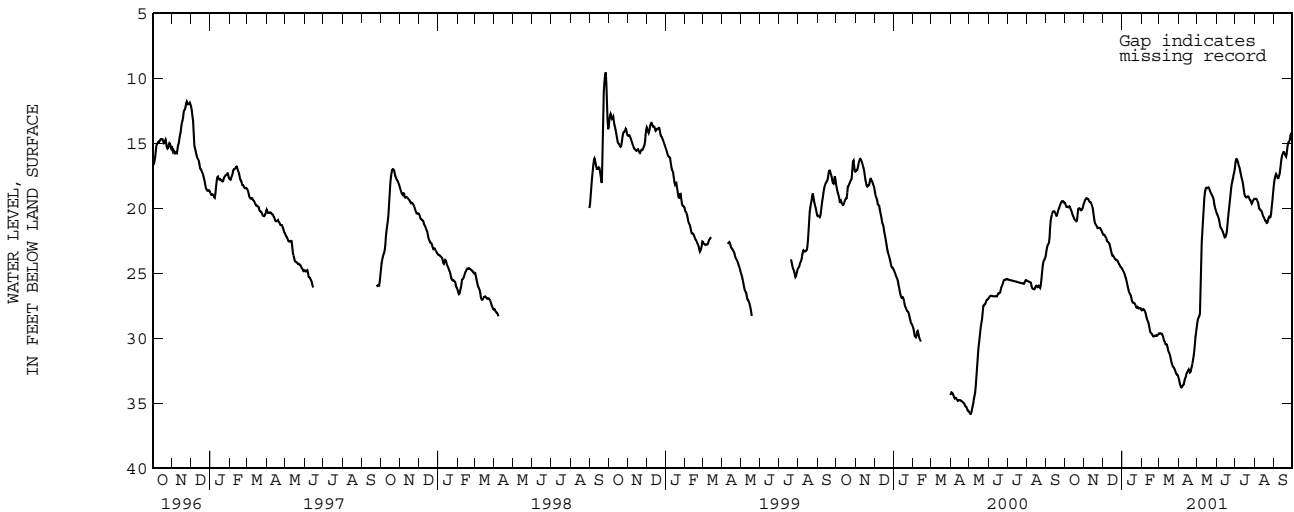
PERIOD OF RECORD.--May 25, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 9.37 ft (2.86 m), below land-surface datum, Sept. 27, 1998; lowest water level recorded, 35.91 ft (10.94 m) below land-surface datum, May 3, 4, 2000.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.55	19.60	21.98	24.62	27.84	29.63	32.99	28.96	20.33	16.68	19.24	18.18
2	19.59	19.45	22.04	24.77	27.87	29.61	33.12	28.59	20.43	16.28	19.30	17.76
3	19.89	19.32	22.01	24.88	27.77	29.61	33.43	28.43	20.54	16.18	19.25	17.60
4	19.88	19.23	22.09	24.91	27.75	29.63	33.61	28.40	20.66	16.23	19.27	17.36
5	19.86	19.20	22.20	25.11	27.79	29.66	33.74	28.18	20.85	16.34	19.33	17.36
6	19.87	19.25	22.25	25.26	27.86	29.66	33.80	27.97	21.11	16.59	19.49	17.55
7	19.97	19.30	22.36	25.36	27.95	29.81	33.73	25.40	21.48	16.76	19.59	17.64
8	19.82	19.29	22.54	25.62	28.15	29.99	33.66	23.25	21.47	16.84	19.90	17.68
9	19.86	19.41	22.57	25.82	28.40	30.17	33.57	22.01	21.57	17.11	20.08	17.62
10	19.97	19.54	22.62	26.06	28.56	30.23	33.55	21.13	21.66	17.30	20.10	17.39
11	20.12	19.50	22.65	26.25	28.65	30.37	33.14	20.29	21.74	17.59	20.13	17.13
12	20.21	19.58	22.80	26.46	28.80	30.56	33.09	19.52	21.89	17.78	20.19	16.62
13	20.41	19.69	23.03	26.56	29.02	30.42	32.97	18.98	22.05	17.91	20.27	16.18
14	20.55	19.85	23.27	26.59	29.37	30.54	32.73	18.60	22.17	18.33	20.49	15.97
15	20.63	20.02	23.42	26.77	29.53	30.79	32.62	18.45	22.30	18.65	20.63	15.84
16	20.81	20.59	23.67	27.02	29.59	31.05	32.57	18.38	22.10	19.01	20.70	15.70
17	20.89	20.68	23.62	27.15	29.63	31.07	32.38	18.42	21.92	19.05	20.80	15.63
18	20.89	21.12	23.66	27.24	29.70	31.24	32.40	18.49	21.68	19.11	20.98	15.73
19	20.95	21.18	23.77	27.29	29.81	31.37	32.60	18.39	21.07	19.17	20.93	15.86
20	21.06	21.29	23.86	27.24	29.87	31.61	32.68	18.39	20.58	19.14	21.01	16.03
21	20.87	21.34	23.93	27.34	29.86	31.88	32.51	18.54	20.25	19.06	21.25	16.01
22	20.13	21.43	23.97	27.40	29.80	31.99	32.24	18.70	19.69	19.09	20.96	15.58
23	20.00	21.61	23.95	27.53	29.78	32.18	32.08	18.77	19.22	19.13	20.87	15.11
24	20.00	21.43	24.01	27.71	29.82	32.19	31.81	18.91	18.67	19.29	20.59	14.96
25	19.99	21.55	24.05	27.60	29.79	32.30	31.49	19.00	18.26	19.37	20.70	14.86
26	20.09	21.50	24.20	27.58	29.78	32.38	31.18	19.08	17.92	19.38	20.71	14.88
27	20.19	21.53	24.31	27.71	29.82	32.49	30.63	19.22	17.79	19.66	20.64	14.58
28	20.09	21.64	24.33	27.69	29.66	32.70	30.13	19.48	17.52	19.61	20.15	14.26
29	20.11	21.72	24.46	27.69	---	32.76	29.69	19.79	17.31	19.48	19.79	14.25
30	19.92	21.82	24.54	27.67	---	32.81	29.35	19.97	17.16	19.37	19.24	14.25
31	19.74	---	24.58	27.70	---	32.79	---	20.10	---	19.30	18.64	---
MEAN	20.19	20.42	23.31	26.60	29.01	31.08	32.45	21.35	20.38	18.22	20.17	16.19

WTR YR 2001 MEAN 23.24 HIGHEST 14.16 SEPT. 30, 2001 LOWEST 33.80 APR. 5, 6, 2001



GROUND-WATER LEVELS

RIO GUANAJIBO BASIN--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11	6.09	NOV 15	6.19	MAR 21	DRY	MAY 09	1.85	JUN 13	6.59	SEP 18	3.17
11	6.09	FEB 27	19.19	APR 24	DRY	JUN 13	6.59				
WATER YEAR 2001		HIGHEST 6.09 OCT. 11, 2000		LOWEST 19.19 FEB. 27, 2001							

GROUND-WATER LEVELS

RIO GUANAJIBO BASIN--Continued

180628067084301. Local number, 1303.

LOCATION.--Lat 18°06'28", long 67°08'43", Hydrologic Unit 21010003, 1.29 mi north of Cabo Rojo plaza, 1.54 mi northwest of Escuela Segunda Unidad Antonio Acarón Correa, and 1.23 mi southeast of Escuela Sabana Alta. Owner: US Geological Survey, WRD, Name: Piezometer Cabo Rojo 9B Well.

AQUIFER.--Cotu Limestone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), cased 4 in (0.10 m), 0-109 ft (0-33.2m), screened 104-109 ft (31.7-33.2 m). Depth 109 ft (33.2 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 33.2 ft (10.1 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 4.73 ft (1.44 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on May 29, 1996. Automatic Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on Jan. 27, 1999. Formerly published as local number and name CR-TW-9B.

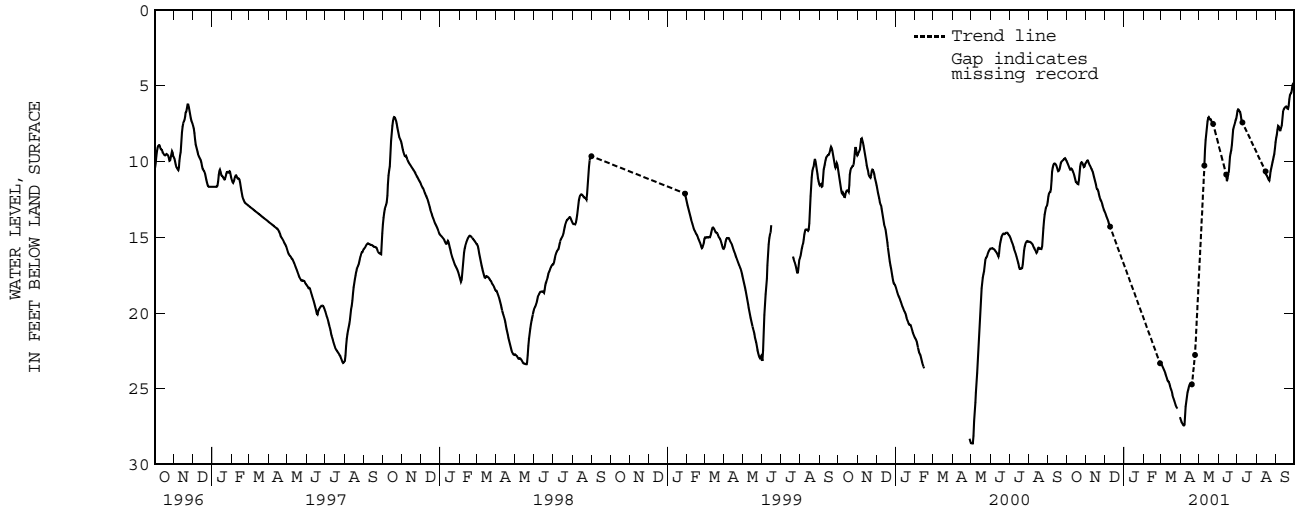
PERIOD OF RECORD.--May 29, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.88 ft (1.49 m), below land-surface datum, Sept. 28, 2001; lowest water level recorded, 28.61 ft (8.72 m), below land-surface datum, May 3, 4, 2000.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.00	10.07	13.32	---	---	23.33	26.94	---	---	6.73	---	8.55
2	10.08	10.00	13.43	---	---	23.40	27.08	---	---	6.61	---	8.34
3	10.18	9.92	13.56	---	---	23.48	27.17	---	---	6.54	---	8.13
4	10.30	9.97	13.67	---	---	23.58	27.30	---	---	6.66	---	7.69
5	10.39	10.07	13.77	---	---	23.67	27.36	---	---	6.72	---	7.61
6	10.51	10.19	13.89	---	---	23.76	27.45	---	---	6.72	---	7.78
7	10.58	10.27	14.02	---	---	23.87	27.40	---	---	7.11	---	7.90
8	10.48	10.33	14.17	---	---	23.99	27.36	---	---	7.31	---	8.00
9	10.49	10.42	14.26	---	---	24.12	26.46	---	---	7.33	---	7.90
10	10.56	10.55	14.35	---	---	24.22	25.90	9.65	---	7.54	---	7.70
11	10.66	10.59	---	---	---	24.38	25.83	8.83	---	---	---	7.53
12	10.76	10.73	---	---	---	24.54	25.27	8.34	---	---	---	6.82
13	10.92	10.92	---	---	---	24.50	25.19	7.88	---	---	---	6.65
14	11.10	11.09	---	---	---	24.58	24.95	7.52	11.23	---	---	6.53
15	11.28	11.25	---	---	---	24.75	24.83	7.19	11.38	---	10.71	6.47
16	11.43	11.42	---	---	---	24.92	24.70	7.08	10.84	---	10.85	6.43
17	11.37	11.59	---	---	---	25.04	24.64	7.08	10.82	---	10.91	6.37
18	11.42	11.79	---	---	---	25.12	24.63	7.25	10.59	---	10.97	6.37
19	11.54	11.85	---	---	---	25.34	24.66	7.22	9.92	---	11.04	6.48
20	11.47	11.84	---	---	---	25.51	24.77	7.22	9.51	---	11.16	6.54
21	11.02	12.05	---	---	---	25.62	---	7.36	9.40	---	11.27	6.52
22	10.50	12.27	---	---	---	25.75	---	7.45	9.11	---	11.25	6.13
23	10.19	12.40	---	---	---	25.87	23.45	7.53	8.73	---	10.77	5.70
24	10.06	12.52	---	---	---	26.02	---	7.53	8.01	---	10.54	5.57
25	10.05	12.60	---	---	---	26.16	---	---	7.79	---	10.36	5.51
26	10.11	12.70	---	---	---	26.25	---	---	7.68	---	10.16	5.47
27	10.20	12.84	---	---	---	26.30	---	---	7.54	---	9.94	5.08
28	10.32	12.99	---	---	23.32	26.32	---	---	7.39	---	9.77	4.90
29	10.44	13.11	---	---	---	---	---	---	7.20	---	9.63	4.90
30	10.24	13.23	---	---	---	---	---	---	7.20	---	9.39	4.95
31	10.13	---	---	---	---	26.82	---	---	---	---	8.94	---
MEAN	10.61	11.39	13.84	---	23.32	24.87	25.87	7.68	9.08	6.93	10.45	6.68

WTR YR 2001 MEAN 13.33 HIGHEST 4.88 SEPT. 28, 2001 LOWEST 27.45 APR. 6, 2001



GROUND-WATER LEVELS

RIO GUANAJIBO BASIN--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11	10.66	NOV 15	11.23	MAR 21	25.62	MAY 09	10.28	AUG 15	10.66	SEP 18	6.37
11	10.66	FEB 27	23.32	APR 24	22.77	JUN 13	10.87				
WATER YEAR 2001		HIGHEST 6.37 SEPT. 18, 2001		LOWEST 25.62 MAR. 21, 2001							

GROUND-WATER LEVELS
RIO CULEBRINAS BASIN

182017067143300. Local number, 1352.

LOCATION.--Lat 18°20'17", long 67°14'33", Hydrologic Unit 21010003, 0.63 mi southeast of the intersection of Hwy 412 with Hwy 115, 1.13 mi south of the intersection of Hwy 413 with Hwy 115, and 0.01 mi north of Hwy 411. Owner: PR Aqueduct and Sewer Authority, Name: Rincón 4 Well.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 12 in (0.30 m), cased 0-69.0 ft (0-21.0 m). Depth 64.0 ft (21.0 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 39.0 ft (11.9 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of the 4 in (0.10 m) casing, 3.53 ft (1.08 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), installed on May 30, 1996. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 18, 1999. Formerly published as local number R-4.

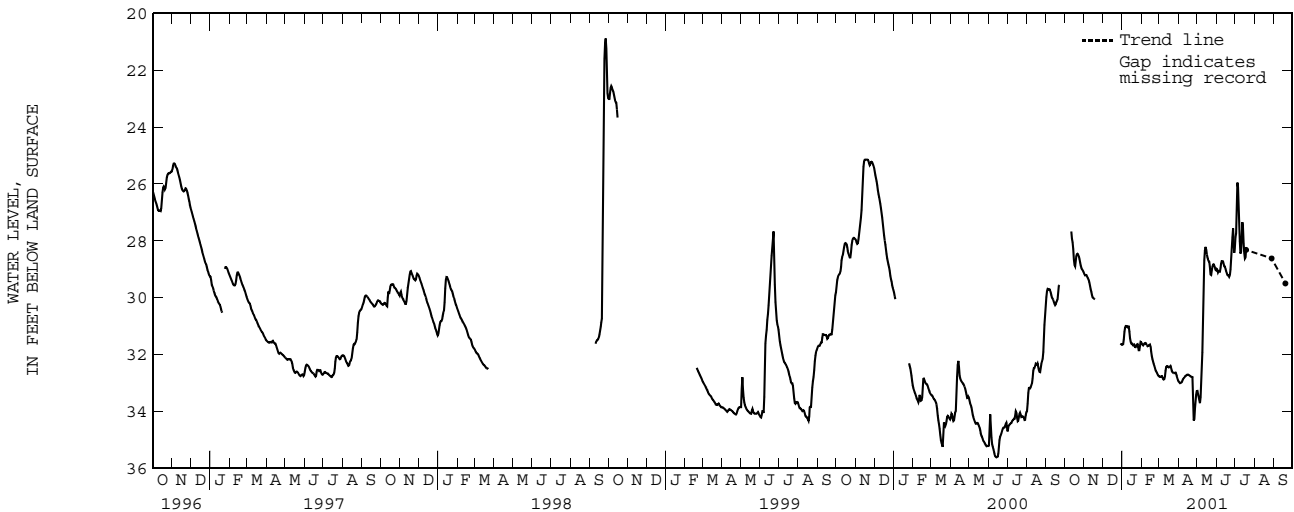
PERIOD OF RECORD.--May 30, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 20.80 ft (6.34 m), below land-surface datum, Sept. 27, 1998; lowest water level recorded, 35.62 ft (10.86 m), below land-surface datum, June 12-15, 2000.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	29.13	---	31.66	31.61	32.77	32.94	33.25	29.02	27.99	---	---
2	---	29.23	---	31.65	31.62	32.78	32.96	33.32	28.97	27.76	---	---
3	---	29.21	---	31.63	31.69	32.79	33.00	33.46	29.07	27.71	---	---
4	---	29.19	---	31.31	31.67	32.78	33.01	33.53	29.16	26.22	---	---
5	---	29.21	---	31.10	31.62	32.75	32.99	33.67	28.98	25.69	---	---
6	---	29.27	---	31.02	31.60	32.77	32.99	33.75	29.15	26.54	---	---
7	---	29.31	---	30.99	31.60	32.84	32.95	33.25	29.01	27.03	---	---
8	---	29.34	---	31.00	31.59	32.89	32.89	32.63	28.89	27.77	---	---
9	---	29.41	---	31.01	31.64	32.88	32.86	32.30	28.72	28.25	---	---
10	---	29.53	---	31.06	31.71	32.85	32.83	31.55	28.71	28.64	---	---
11	---	29.65	---	30.97	31.71	32.70	32.80	29.84	28.72	28.14	---	---
12	27.81	29.75	---	31.06	31.69	32.46	32.76	28.92	28.72	27.47	---	---
13	28.05	29.83	---	31.34	31.67	32.41	32.75	28.44	28.90	27.22	---	---
14	28.05	29.98	---	31.52	31.66	32.41	32.73	28.24	28.89	27.86	---	---
15	28.53	30.00	---	31.58	31.64	32.41	32.71	28.19	28.93	28.34	---	---
16	28.78	30.02	---	31.65	31.81	32.45	32.71	28.40	29.03	28.53	---	---
17	28.90	30.04	---	31.62	31.99	32.46	32.71	28.55	29.11	28.72	---	---
18	28.88	30.05	---	31.63	32.11	32.43	32.73	28.61	29.16	28.45	---	---
19	28.61	30.08	---	31.73	32.21	32.40	32.73	28.68	29.23	---	---	---
20	28.49	---	---	31.62	32.29	32.40	32.77	28.74	29.20	---	---	---
21	28.46	---	---	31.69	32.37	32.54	32.77	28.73	29.25	---	---	---
22	28.46	---	---	31.78	32.42	32.60	32.79	29.10	29.29	---	---	---
23	28.51	---	---	31.70	32.53	32.64	32.79	29.27	29.12	---	---	---
24	28.57	---	---	31.67	32.58	32.64	32.80	29.13	28.89	---	---	---
25	28.71	---	---	31.63	32.62	32.67	34.01	28.96	28.50	---	---	---
26	28.81	---	---	31.65	32.65	32.65	34.64	28.87	28.08	---	---	---
27	28.93	---	---	31.84	32.70	32.63	33.92	28.81	27.67	---	---	---
28	28.98	---	---	31.85	32.75	32.64	33.85	28.85	27.46	---	---	---
29	29.01	---	31.69	31.85	---	32.73	33.52	28.87	28.34	---	---	---
30	29.04	---	31.65	31.58	---	32.79	33.33	28.97	28.51	---	---	---
31	29.09	---	31.62	31.53	---	32.87	---	29.06	---	---	---	---
MEAN	28.63	29.59	31.65	31.48	31.99	32.65	33.04	30.19	28.82	27.68	---	---

WTR YR 2001 MEAN 30.72 HIGHEST 25.69 JULY 5, 2001 LOWEST 34.64 APR. 26, 2001



GROUND-WATER LEVELS

RIO CULEBRINAS BASIN

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11	27.67	NOV 15	30.00	APR 23	32.79	JUN 13	28.90	JUL 18	28.32	AUG 28	28.62
11	27.67	FEB 28	32.75	23	32.79	JUN 13	28.90	JUL 18	28.32	SEP 19	29.50
NOV 15	30.00	MAR 20	32.40	MAY 24	29.10						
WATER YEAR 2001		HIGHEST 27.67 OCT. 11, 2000		LOWEST 32.79 APR. 23, 2001							

GROUND-WATER LEVELS

RIO CULEBRINAS BASIN--Continued

182442067091700. Local number, 200.

LOCATION.--Lat 18°24'42", long 67°09'17", Hydrologic Unit 21010002, 1.40 mi south of Aguadilla plaza, 3.04 mi northeast of Aguada plaza, and 0.20 mi north of Hwy 2 km 146.4. Owner: Carmelo Sánchez, Name: Aguadilla Cement North Well.

AQUIFER.--Alluvial deposits.

WELL CHARACTERISTICS.--Abandoned water-table industrial well, diameter 4 in (0.10 m), cased 0-20.0 ft (0-6.10 m), perforated 11.0-20.0 ft (3.35-6.10 m). Depth 20.0 ft (6.10 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes interval.

DATUM.--Elevation of land-surface datum is about 10.0 ft (3.05 m), above mean sea level, from topographic map. Measuring point: Shelter floor on top of 4 in (0.10 m) casing, 3.25 ft (0.99 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on February 18, 1998. Water levels affected by nearby pumping well.

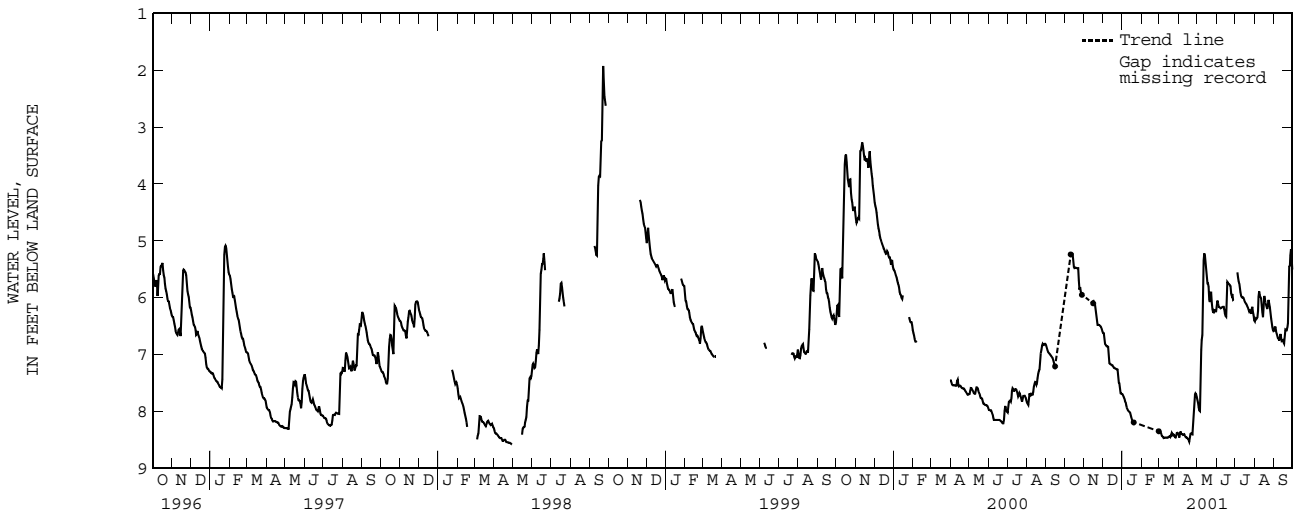
PERIOD OF RECORD.--October 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 1.61 ft (0.49 m), below land-surface datum, Sept. 22, 1998; lowest water level recorded, 9.60 ft (2.93 m), below land-surface datum, Feb. 20, 1992.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	6.62	7.70	---	8.34	8.39	7.78	6.24	---	6.45	6.60
2	---	---	6.62	7.70	---	8.36	8.45	7.82	6.06	---	6.39	6.56
3	---	---	6.63	7.74	---	8.36	8.47	7.88	6.04	---	6.34	6.48
4	---	---	6.80	7.75	---	8.36	8.32	7.98	6.16	5.53	6.42	6.56
5	---	---	6.83	7.80	---	8.42	8.39	7.99	6.17	5.58	6.32	6.63
6	---	---	6.84	7.84	---	8.44	8.40	8.00	6.16	5.71	6.38	6.64
7	---	---	6.85	7.85	---	8.44	8.40	7.03	6.19	5.72	6.08	6.71
8	---	---	6.86	7.93	---	8.47	8.41	6.81	6.18	5.78	5.89	6.71
9	---	---	6.86	7.94	---	8.47	8.42	6.68	6.18	5.85	5.89	6.72
10	---	---	6.87	7.98	---	8.46	8.40	6.64	6.17	5.96	6.02	6.79
11	5.24	---	7.15	7.99	---	8.46	8.41	5.46	6.16	5.97	5.96	6.61
12	5.23	---	7.16	8.01	---	8.46	8.44	5.23	6.16	6.00	6.06	6.67
13	5.23	---	7.17	8.01	---	8.47	8.46	5.21	6.16	6.00	6.22	6.74
14	5.23	---	7.18	8.03	---	8.46	8.46	5.30	6.25	5.99	6.30	6.79
15	5.44	6.02	7.18	8.10	---	8.46	8.46	5.46	6.31	6.02	6.39	6.73
16	5.47	6.06	7.19	8.11	---	8.46	8.49	5.55	6.33	6.06	5.95	6.77
17	5.49	6.09	7.19	8.17	---	8.45	8.49	5.71	6.34	6.09	5.99	6.81
18	5.46	6.12	7.23	8.18	---	8.43	8.53	5.79	5.72	6.10	6.08	6.80
19	5.48	6.12	7.23	8.19	---	8.44	8.53	5.71	5.73	6.11	6.09	6.55
20	5.48	6.30	7.24	8.20	---	8.46	8.40	5.91	5.75	6.13	6.15	6.57
21	5.48	6.31	7.25	---	---	8.38	8.39	6.15	5.76	6.17	6.18	6.57
22	5.48	6.48	7.25	---	---	8.38	8.39	6.00	5.77	6.18	6.22	6.58
23	5.48	6.48	7.26	---	---	8.43	8.41	5.82	5.79	6.24	6.01	6.49
24	5.92	6.48	7.26	---	---	8.42	8.40	6.00	5.80	6.25	6.07	6.41
25	5.80	6.48	7.27	---	---	8.40	8.08	6.18	6.05	6.20	6.15	5.48
26	5.83	6.49	7.49	---	---	8.45	7.98	6.22	5.88	6.26	6.19	5.43
27	5.95	6.50	7.50	---	---	8.46	7.73	6.29	5.99	6.31	6.36	5.45
28	5.95	6.51	7.51	---	8.35	8.46	7.68	6.23	6.09	6.08	6.38	5.06
29	5.95	6.54	7.68	---	---	8.39	7.69	6.21	5.98	6.24	6.47	5.23
30	---	6.57	7.68	---	---	8.38	7.71	6.24	---	6.26	6.55	5.36
31	---	---	7.69	---	---	8.38	---	6.24	---	6.35	6.58	---
MEAN	5.56	6.35	7.15	7.96	8.35	8.43	8.31	6.37	6.05	6.04	6.21	6.38

WTR YR 2001 MEAN 6.84 HIGHEST 4.29 MAY 10, 2001 LOWEST 8.54 APR. 18, 2001

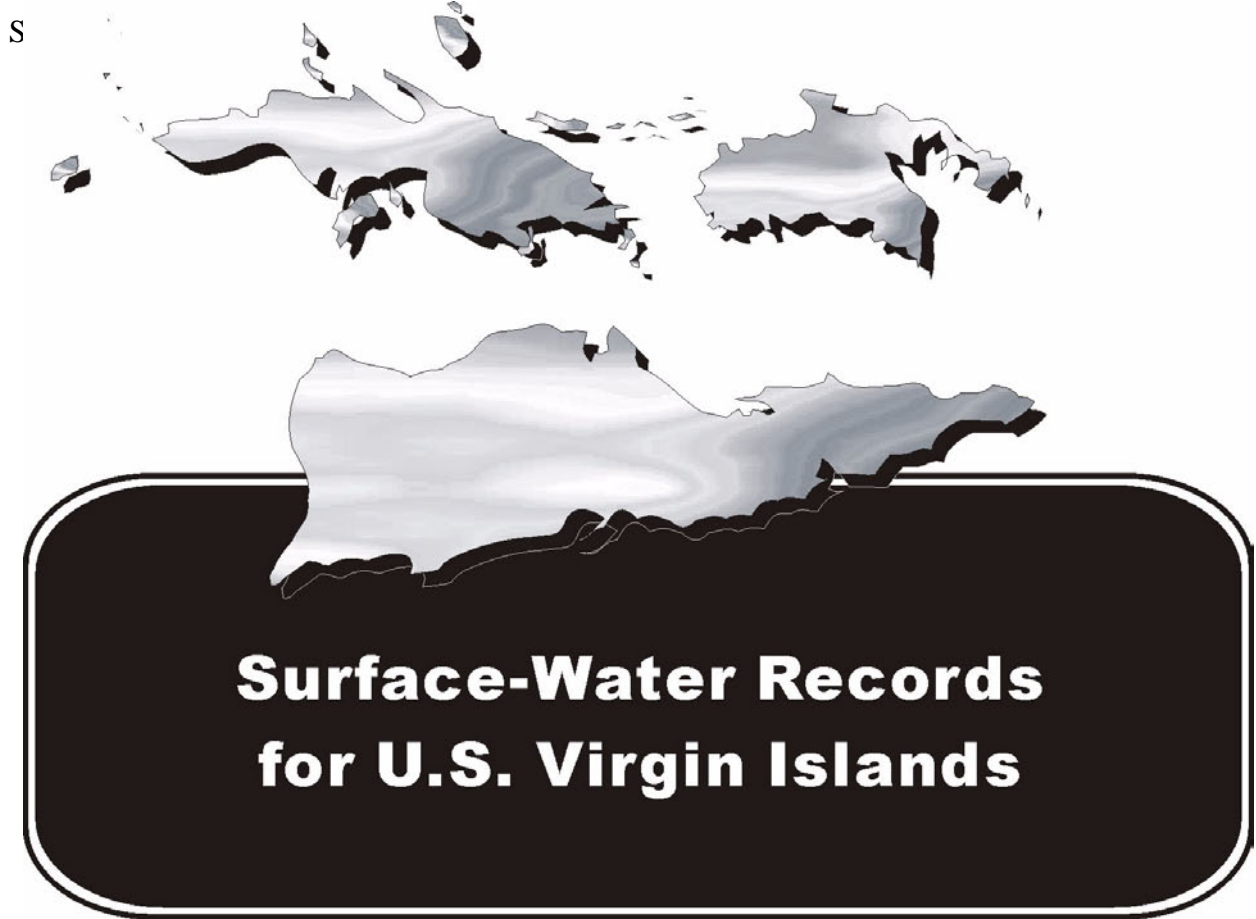


GROUND-WATER LEVELS

RIO CULEBRINAS BASIN--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10	5.24	FEB 28	8.35	APR 23	8.40	JUN 12	5.69	JUL 18	6.10	AUG 22	6.22
10	5.24	MAR 20	8.43	23	8.40	12	5.69	18	6.10	SEP 20	6.55
NOV 15	6.10	20	8.43	MAY 23	5.85						
WATER YEAR 2001		HIGHEST 5.24 OCT. 10, 2000		LOWEST 8.43 MAR. 20, 2001							



**Surface-Water Records
for U.S. Virgin Islands**

ST. THOMAS, U.S. VIRGIN ISLANDS

50252000 BONNE RESOLUTION GUT AT BONNE RESOLUTION, ST. THOMAS, VI

LOCATION.--Lat 18°21'57", long 64°57'34", Hydrologic Unit 21020001, on right bank near Hull Bay Road, 0.5 mi (0.8 km) upstream from mouth, and 2.5 mi (4.0 km) northwest of Fort Christian, Charlotte Amalie.

DRAINAGE AREA.--0.49 mi² (1.27 km²).

PERIOD OF RECORD.--December 1962 to February 1967, March 1979 to April 1981, May 1982 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 280 ft (85 m), from topographic map. December 1962 to February 1967 and March 1979 to April 1981 at site about 100 ft (30 m) upstream at different datum.

REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	e.10	e.02	e.04	.05	.07	.04	.08	.02	.01	.01	.01
2	.04	.11	e.02	.03	.04	.03	.04	.06	.02	.01	.00	.01
3	.03	e.15	e.02	.04	.04	.03	.04	.05	.02	.01	.01	.01
4	.03	.05	e.02	e.03	.04	.03	.04	.05	.02	.01	.01	.00
5	.02	.03	e.02	e.03	.04	.03	e.05	.04	.02	.01	.01	.00
6	e.02	.02	e.02	e.03	.04	.03	.04	.04	.02	.01	.01	.00
7	e.02	.02	e.03	e.03	.04	.03	.04	.54	.02	.01	.01	.00
8	e.03	.02	e.03	e.02	.04	.03	.05	.24	.02	.01	.01	.00
9	.07	.02	e.02	e.03	.04	.03	.04	.89	.02	.01	.01	.00
10	.03	.02	e.02	e.02	.04	.03	e.04	.06	.01	.01	.01	.00
11	.03	.02	e.02	e.02	.03	.03	.04	.04	.01	.01	.01	.00
12	.03	.02	e.02	e.02	.03	.04	.04	.03	.01	.01	.01	.00
13	e.03	.02	e.02	.03	.03	.04	.05	.02	.01	.01	.01	.00
14	e.03	.02	e.02	.02	.04	.03	.04	.02	.01	.01	.01	.00
15	.02	.02	e.02	.03	.04	.04	.04	.02	.01	.01	.01	.01
16	.02	.02	e.02	.02	.04	.03	.04	.03	.01	.01	.01	.01
17	.02	.02	e.02	.03	.04	.03	.04	.02	.01	.01	.01	.00
18	e.03	.02	e.02	.03	.04	.03	.03	.03	.01	.01	.00	.00
19	e.03	.02	e.02	.03	.04	.03	.04	.03	.01	.01	.01	.00
20	.03	.02	e.02	.03	.05	.03	.04	.03	.01	.01	.01	.00
21	.05	.03	.02	.02	e.04	.04	.04	.02	.01	.01	.00	.00
22	e.03	e.03	.02	e.03	e.04	.03	.04	.02	.01	.01	.01	1.1
23	e.19	e.05	e.02	.03	.06	.05	.03	.03	.01	.00	.01	.05
24	e.07	e.03	.02	.03	.03	.03	.09	.03	.01	.01	.01	.02
25	e.44	e.02	.02	.04	.03	e.03	.04	.03	.01	.01	.01	.01
26	e.06	e.02	.02	.04	.03	.03	.04	.03	.01	.01	.00	.01
27	e.03	e.02	.03	.04	.03	.03	e.04	.02	.01	.00	.00	.01
28	e.04	e.02	.03	.04	.03	.03	.04	.02	.01	.00	.01	.01
29	e.03	e.02	e.03	.34	---	.04	.04	.02	.01	.02	.00	.01
30	e.03	e.02	.03	.12	---	.04	.04	.02	.01	.02	.00	.01
31	e.03	---	e.03	.05	---	.04	---	.02	---	.01	.00	---
TOTAL	1.61	1.00	0.69	1.34	1.08	1.06	1.26	2.58	0.39	0.30	0.23	1.28
MEAN	.052	.033	.022	.043	.039	.034	.042	.083	.013	.010	.007	.043
MAX	.44	.15	.03	.34	.06	.07	.09	.89	.02	.02	.01	1.1
MIN	.02	.02	.02	.02	.03	.03	.03	.02	.01	.00	.00	.00
AC-FT	3.2	2.0	1.4	2.7	2.1	2.1	2.5	5.1	.8	.6	.5	2.5
CFSM	.11	.07	.05	.09	.08	.07	.09	.17	.03	.02	.02	.09
IN.	.12	.08	.05	.10	.08	.08	.10	.20	.03	.02	.02	.10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2001, BY WATER YEAR (WY)

	1986	1988	1999	1992	1992	1987	1986	1987	1987	1988	1988	1989
MEAN	.46	.63	.13	.066	.058	.049	.060	.26	.10	.042	.057	.77
MAX	3.09	4.22	.67	.35	.38	.31	.34	2.06	.89	.18	.23	8.91
(WY)	1986	1988	1999	1992	1992	1987	1986	1987	1987	1988	1988	1989
MIN	.011	.011	.002	.016	.005	.001	.000	.002	.004	.010	.007	.009
(WY)	1997	1995	1995	1986	1995	1995	1995	1995	1995	1994	2001	1994

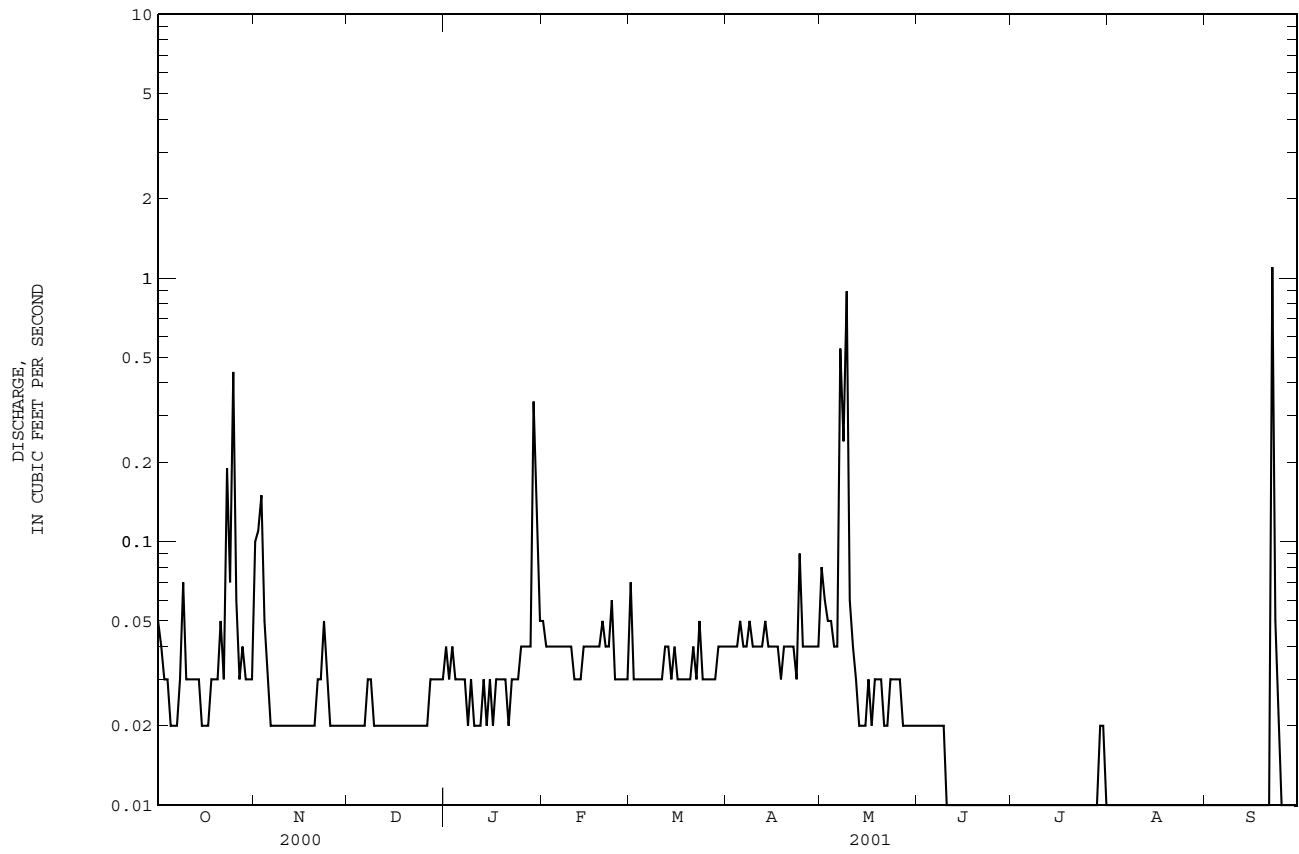
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1963 - 2001

ANNUAL TOTAL	15.01	12.82	
ANNUAL MEAN	.041	.035	.23
HIGHEST ANNUAL MEAN			.77
LOWEST ANNUAL MEAN			.026
HIGHEST DAILY MEAN	.51 May 30	1.1 Sep 22	169 Apr 18 1983
LOWEST DAILY MEAN	.01 Sep 2	.00 Jul 23	.00 Apr 11 1980
ANNUAL SEVEN-DAY MINIMUM	.01 Sep 6	.00 Sep 4	.00 Jan 31 1986
MAXIMUM PEAK FLOW		43 Sep 22	1650 Apr 18 1983
MAXIMUM PEAK STAGE		2.38 Sep 22	7.00 Apr 18 1983
ANNUAL RUNOFF (AC-FT)	30	25	167
ANNUAL RUNOFF (CFSM)	.084	.072	.47
ANNUAL RUNOFF (INCHES)	1.14	.97	6.37
10 PERCENT EXCEEDS	.06	.04	.11
50 PERCENT EXCEEDS	.03	.02	.03
90 PERCENT EXCEEDS	.02	.01	.01

e Estimated

ST. THOMAS, U.S. VIRGIN ISLANDS

50252000 BONNE RESOLUTION GUT AT BONNE RESOLUTION, ST. THOMAS, VI--Continued



LOCATION.--Lat 18°19'55", long 64°53'20", Hydrologic Unit 21020001, on left bank at Mount Zion, 0.6 mi (1.0 km) east southeast from Donoe School, 0.5 mi (0.8 km) northwest from Mariendal, and 0.4 mi (0.6 km) southeast from conjunction of roads 38 and 32.

DRAINAGE AREA.--2.33 mi² (6.03 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1963 to December 1969, October 1992 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 120 ft (36 m), from topographic map. Datum of gage for period of October 1992 to current year is 1.62 ft (0.49 m), higher than previous record.

REMARKS.--Records poor. Flow affected by three sewage treatment plants, Donoe, Old Tutu and New Tutu that discharges to a retention pond located 0.80 mi (1.29 km) upstream from station. Gage-height and precipitation satellite telemetry at station. Prior to October 1992, maximum discharge 5,028 ft³/s (142.39 m³/s), May 23, 1969, gage-height 5.00 ft, (1.524 m); minimum discharge prior to October 1992 0.00 ft³/s (0.00 m³/s) Nov. 6, 1963 gage-height 0.005 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	1.9	e.18	e.42	e.22	e.10	e.20	e.35	e.19	e.07	.42	.75
2	1.1	1.0	e.18	e.31	e.22	e.10	e.19	e.35	e.19	e.07	.16	.33
3	1.0	.89	e.18	e.31	e.22	e.10	e.30	e.23	e.19	e.07	.73	1.9
4	.90	.63	e.18	e.31	e.22	e.11	e.80	e.23	e.19	e.07	.22	.51
5	.75	.56	e.31	e.31	e.22	e.11	.28	e6.3	e.19	e.07	.13	.33
6	.84	e.19	e.31	e.19	e.22	e.10	.34	e2.8	e.19	e.07	.60	.32
7	1.1	e.19	e.19	e.31	e.22	e.11	.24	e10	e.19	e.07	.25	.30
8	5.1	e.19	e.19	e.19	e.22	e.11	e.21	e.66	e.07	e.07	.20	.28
9	3.8	e.19	e.18	e.18	e.10	e.11	.21	e.43	e.07	e.07	.26	.27
10	1.3	e.19	e.18	e.18	e.10	e.22	.18	e.31	e.07	e.07	.15	.29
11	.71	e.19	e.18	e.31	e.10	e.23	.17	e.19	e.07	.07	.21	.23
12	.69	e.19	e.18	e.18	e.22	e.11	e.19	e.19	e.07	.16	.27	.19
13	.69	e.19	e.18	e.30	e.22	e.22	e.54	e.19	e.07	.08	.15	.13
14	.64	e.19	e.19	e.18	e.22	e.11	e.23	e.31	e.07	.04	.12	.18
15	.59	e.19	e.18	e.31	e.22	e.10	e.23	e.19	e.07	.11	.13	.21
16	.52	e.19	e.18	e.30	e.22	e.11	e.11	e.31	e.07	.04	.23	.25
17	.64	e.19	e.18	e.30	e.22	e.11	e.23	e.31	e.07	.05	.43	.21
18	.51	e.19	e.18	e.31	e.34	e.11	e.23	e.31	e.07	.05	.25	.21
19	1.6	e.31	e.18	e.19	e.22	e.22	e.23	e.19	e.07	.05	.30	1.3
20	.95	e.30	e.18	e.29	e.22	e.11	e.23	e.19	e.07	.07	.15	.29
21	.84	e.54	e.18	e.29	e.45	e.34	e.11	e.31	e.07	.06	.15	.23
22	1.1	e.31	e.18	e.29	e.11	e.11	e.82	e.31	e.07	.11	4.3	.42
23	3.2	e.19	e.18	e.34	e1.7	e.11	e.23	e.31	e.07	.08	1.4	.24
24	1.4	e.19	e.18	e.34	e.10	e.11	e.23	e.31	e.07	.10	.38	.35
25	13	e.18	e.31	e.34	e.10	e.11	e.23	e.19	e.07	.46	.31	.18
26	1.1	e.18	e.31	e.34	e.11	e.10	e.23	e.19	e.07	.28	.25	e.07
27	.69	e.18	e.31	e3.8	e.58	e.20	e.23	e.19	e.07	.10	.21	e.07
28	.53	e.18	e.31	e1.2	e.11	e.15	e.23	e.19	e.07	.11	.22	e.07
29	.45	e.18	e.30	e.34	---	.19	e.70	e.19	e.07	2.6	.30	e.07
30	.40	e.18	e.42	e.35	---	e.19	e.47	e.19	e.07	.51	.34	e.07
31	.41	---	e.31	e.22	---	e.22	---	e.19	---	.28	.25	---
TOTAL	48.75	10.37	6.88	13.23	7.42	4.43	8.82	26.61	2.94	6.11	13.47	10.25
MEAN	1.57	.35	.22	.43	.27	.14	.29	.86	.098	.20	.43	.34
MAX	13	1.9	.42	3.8	1.7	.34	.82	10	.19	2.6	4.3	1.9
MIN	.40	.18	.18	.18	.10	.10	.11	.19	.07	.04	.12	.07
AC-FT	97	21	14	26	15	8.8	17	53	5.8	12	27	20
CFSM	.67	.15	.10	.18	.11	.06	.13	.37	.04	.08	.19	.15
IN.	.78	.17	.11	.21	.12	.07	.14	.42	.05	.10	.22	.16

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2001, BY WATER YEAR (WY)

MEAN	1.62	2.63	1.79	.69	.56	.36	.42	.50	.61	.39	.59	6.16
MAX	3.58	6.49	4.79	1.12	1.86	.76	.92	1.08	3.16	.74	1.63	38.0
(WY)	1999	1993	1993	2000	2000	2000	1993	2000	1993	1996	1999	1995
MIN	.33	.35	.22	.16	.13	.076	.025	.15	.098	.15	.16	.25
(WY)	1994	2001	2001	1994	1994	1995	1995	1995	2001	1994	1993	1994

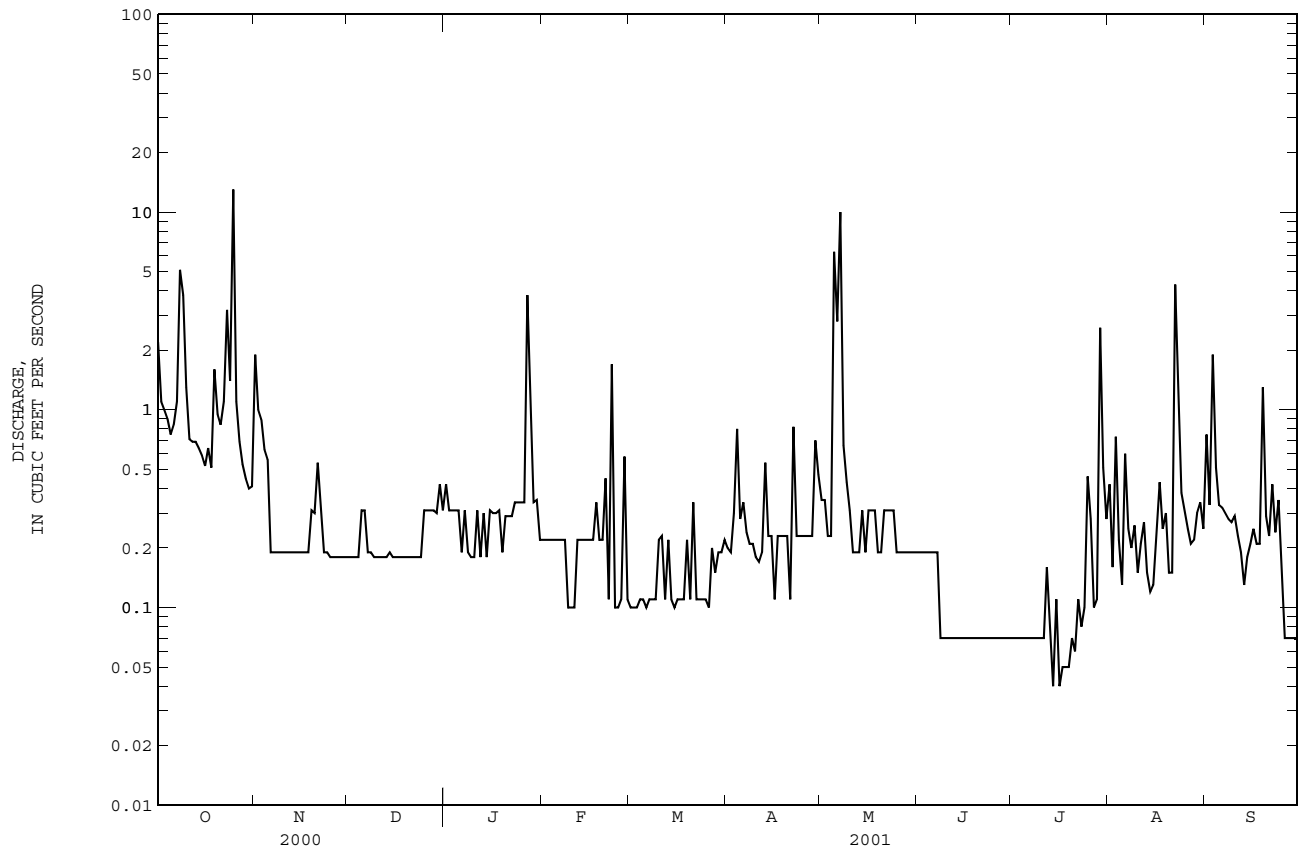
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1993 - 2001

ANNUAL TOTAL	299.31	159.28	
ANNUAL MEAN	.82	.44	1.35
HIGHEST ANNUAL MEAN			3.43
LOWEST ANNUAL MEAN			.44
HIGHEST DAILY MEAN	29	Feb 23	802
LOWEST DAILY MEAN	.17	May 16	.01
ANNUAL SEVEN-DAY MINIMUM	.18	Nov 25	.06
MAXIMUM PEAK FLOW			603
MAXIMUM PEAK STAGE			5.24
ANNUAL RUNOFF (AC-FT)	594	316	981
ANNUAL RUNOFF (CFSM)	.35	.19	.58
ANNUAL RUNOFF (INCHES)	4.78	2.54	7.90
10 PERCENT EXCEEDS	1.2	.72	1.4
50 PERCENT EXCEEDS	.56	.21	.36
90 PERCENT EXCEEDS	.19	.07	.11

e Estimated

ST. THOMAS, U.S. VIRGIN ISLANDS

50274000 TURPENTINE RUN AT MOUNT ZION, ST. THOMAS, VI--Continued



LOCATION.--Lat 18°19'55", long 64°46'50", Hydrologic Unit 21020001, 600 ft (183 m) southeast of Bethany Church, and 1.0 mi (1.6 km) east of Government House at Cruz Bay.

DRAINAGE AREA.--0.37 mi² (0.96 km²).

PERIOD OF RECORD.--January 1963 to October 1967, September 1982 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 260 ft (79 m), from topographic map. Prior to September 1982, at datum 1.00 ft (0.30 m) higher.

REMARKS.--Records poor. Gage-height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.00	e.02	.01	e.01	e.01	.01	.01	.01	.01	e.01	.04
2	.01	.01	e.02	.01	e.01	e.01	.01	.01	.01	.01	e.01	.01
3	.01	.02	e.01	.01	e.01	.01	.01	.01	.01	.01	e.01	.00
4	.01	.01	e.01	.01	e.01	e.01	.01	.01	.01	.01	e.01	.00
5	.01	.01	e.01	.01	e.01	.01	.01	.01	.01	.01	e.01	.00
6	.01	.01	e.01	.01	e.01	.01	.01	.01	.01	e.01	e.01	.00
7	.01	.01	e.01	.01	e.01	.01	.01	.03	.01	e.01	e.01	.00
8	.01	.01	e.01	.01	e.01	.01	.01	.02	.01	e.01	e.01	.00
9	.00	.01	e.01	.01	e.01	.01	.01	.02	.01	e.01	e.01	.00
10	.00	.01	e.01	.01	e.01	.01	.01	.02	.01	e.01	e.01	.00
11	.00	.01	e.01	.01	e.01	.01	.01	.01	.01	e.01	e.01	.00
12	.00	.01	e.01	.01	e.01	.01	.01	.01	.01	e.01	e.01	.00
13	.00	.01	e.01	.01	e.01	.01	.01	.01	.01	e.01	e.01	.00
14	.00	.01	e.01	.01	e.01	.01	.01	.01	.01	e.01	e.01	.00
15	.00	.01	e.01	.01	e.01	.01	.01	.01	.01	e.01	e.01	.00
16	.00	.02	e.01	.01	e.01	.01	.01	.01	.01	e.01	e.01	.00
17	.00	.02	e.01	.01	e.01	.01	.01	.01	.01	e.01	e.01	.00
18	.00	.01	e.01	.01	e.01	.01	.01	.01	.01	e.01	e.01	.00
19	.00	.02	e.01	.01	e.01	.01	.01	.01	.01	e.01	e.01	.00
20	.00	.01	e.01	.01	e.01	.01	.01	.01	.01	e.01	e.01	.00
21	.00	.02	e.01	.01	e.02	.01	.01	.01	.01	e.01	e.01	.00
22	.00	.02	.01	.01	e.01	.01	.01	.02	.01	e.01	e.01	.00
23	.40	.02	.01	e.01	e.01	.02	.01	.02	.01	e.01	e.01	.00
24	.04	.02	.01	e.01	e.01	.02	.02	.01	.01	e.01	e.01	.00
25	.02	.02	.01	e.01	e.01	.02	.01	.01	.01	e.01	e.01	.00
26	.01	.02	.01	e.01	e.01	.02	.01	.01	.01	e.01	e.01	.00
27	.01	.02	.01	e.12	e.01	.02	.01	.00	.01	e.01	e.01	.01
28	.01	.02	.01	e.04	e.01	.02	.01	.01	.01	e.01	e.01	.01
29	.00	.02	.01	e.02	---	.01	.01	.00	.01	e.01	e.01	.01
30	.00	.03	.01	e.02	---	.01	.01	.00	.01	e.01	e.01	.01
31	.00	---	.01	e.01	---	.01	---	.01	---	e.01	.00	---
TOTAL	0.57	0.44	0.33	0.47	0.29	0.37	0.31	0.35	0.30	0.31	0.30	0.09
MEAN	.018	.015	.011	.015	.010	.012	.010	.011	.010	.010	.010	.003
MAX	.40	.03	.02	.12	.02	.02	.02	.03	.01	.01	.01	.04
MIN	.00	.00	.01	.01	.01	.01	.01	.00	.01	.01	.00	.00
AC-FT	1.1	.9	.7	.9	.6	.7	.6	.7	.6	.6	.6	.2
CFSM	.05	.04	.03	.04	.03	.03	.03	.03	.03	.03	.03	.01
IN.	.06	.04	.03	.05	.03	.04	.03	.04	.03	.03	.03	.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2001, BY WATER YEAR (WY)

MEAN	.079	.37	.080	.024	.017	.010	.23	.075	.012	.012	.014	.27
MAX	.42	2.52	.57	.12	.12	.051	4.03	.89	.036	.041	.082	2.35
(WY)	1998	1985	2000	2000	2000	2000	1983	1986	1999	1996	1983	1989
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1992	1992	1987	1992	1992	1986	1995	1994	1991	1987	1991	1991

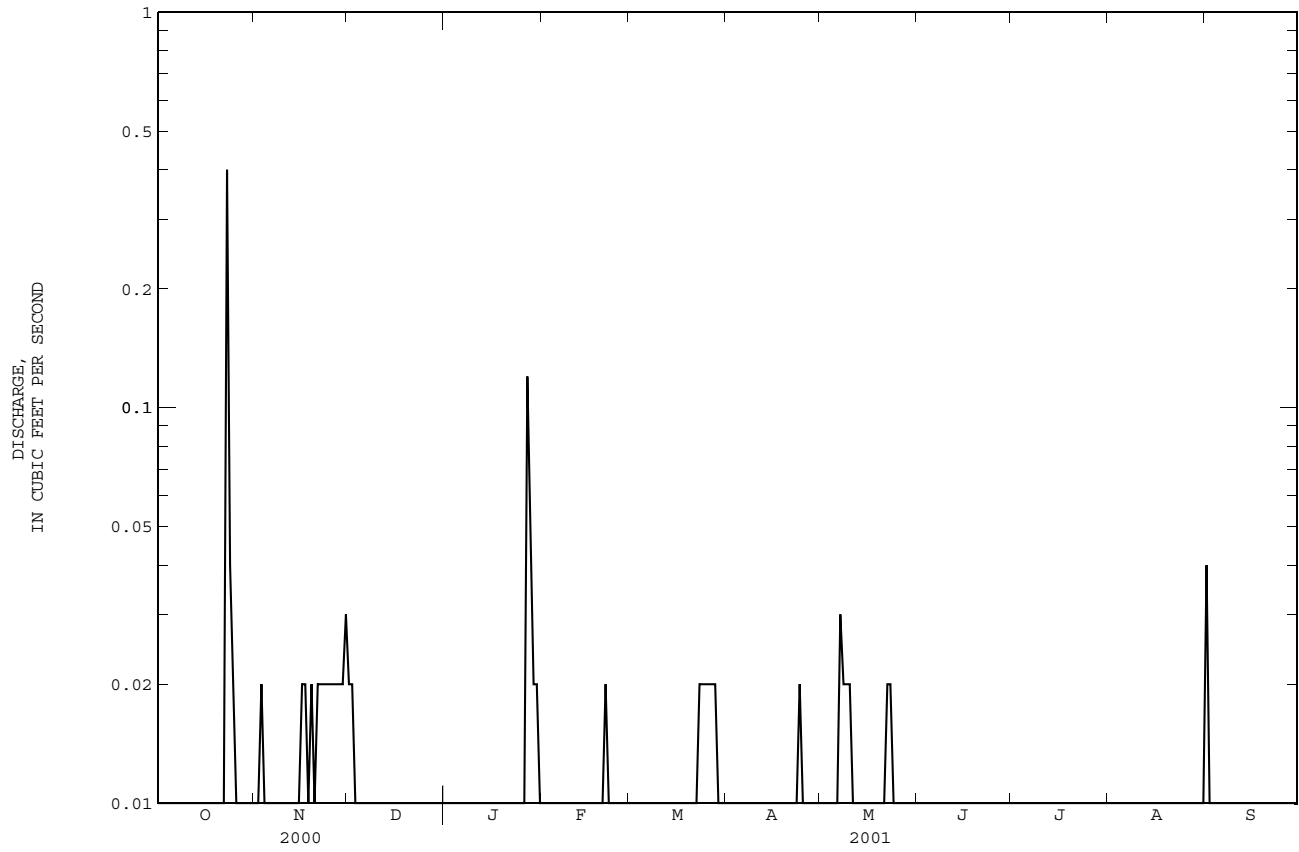
SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1964 - 2001

ANNUAL TOTAL	13.36	4.16	
ANNUAL MEAN	.037	.011	.083
HIGHEST ANNUAL MEAN			.35 1983
LOWEST ANNUAL MEAN			.00 1967
HIGHEST DAILY MEAN	.42 Oct 23	.42 Oct 23	110 Apr 18 1983
LOWEST DAILY MEAN	.00 Oct 9	.00 Oct 9	.00 Jan 3 1964
ANNUAL SEVEN-DAY MINIMUM	.00 Oct 9	.00 Oct 9	.00 Sep 6 1964
MAXIMUM PEAK FLOW		11 Oct 23	946 Apr 18 1983
MAXIMUM PEAK STAGE		2.04 Oct 23	5.33 Apr 18 1983
ANNUAL RUNOFF (AC-FT)	26	8.3	60
ANNUAL RUNOFF (CFSM)	.099	.031	.22
ANNUAL RUNOFF (INCHES)	1.34	.42	3.05
10 PERCENT EXCEEDS	.11	.02	.05
50 PERCENT EXCEEDS	.02	.01	.01
90 PERCENT EXCEEDS	.01	.00	.00

e Estimated

ST. JOHN, U.S. VIRGIN ISLANDS

50295000 GUINEA GUT AT BETHANY, ST. JOHN, VI--Continued



LOCATION.--Lat 17°44'00", long 64°51'47", Hydrologic Unit 21020002, on Mahogany Road at Jolly Hill, 1.8 mi (2.9 km) northeast of Frederiksted.

DRAINAGE AREA.--2.10 mi² (5.44 km²).

PERIOD OF RECORD.--January 1963 to December 1968. Monthly measurements, 1962- 69. October 1982 to current year.

GAGE.--Water-stage recorder, crest-stage gage and sharp-crested concrete control. Elevation of gage is 140 ft (43 m), from topographic map.

REMARKS.--Records poor. Low-water diversions upstream from station. Gage- height and precipitation satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.10	e.01	.02	e.00	e.01	e.00	.00	e.00	.24	e.05	.00	e.00
2	e.03	e.01	.01	e.00	e.03	e.00	.00	e.00	.24	e.06	.00	e.00
3	e.02	e.01	.01	e.00	e.04	e.00	.00	e.00	.21	.08	.00	.00
4	e.00	e.04	.00	e.00	e.03	e.00	e.00	e.00	.19	.08	.01	.00
5	e.00	e.04	e.00	e.00	e.02	e.00	.00	.00	.18	.08	.00	.00
6	e.00	e.07	e.00	e.00	e.01	e.00	.00	.00	.16	.05	.00	.00
7	e.03	e.11	e.00	e.00	e.01	e.00	.00	e.27	.14	.03	.00	.00
8	e.34	e.05	e.00	e.00	e.02	e.00	.00	e8.5	.14	.02	.00	.00
9	e.03	e.03	e.00	e.00	e.01	e.00	.00	.22	.14	.01	.00	.00
10	e.02	e.04	e.00	e.00	e.00	e.00	.00	e.21	.17	.01	e.00	.00
11	e.02	e.03	e.00	e.00	e.00	.00	.00	.22	.13	.02	e.00	.00
12	e.02	e.02	e.00	e.00	e.00	.00	.00	.22	.13	.01	e.00	.00
13	e.02	e.02	e.00	.00	e.00	.00	.00	.23	.10	.01	e.00	.00
14	e.00	e.02	e.00	e.00	e.00	.00	e.00	.24	.09	.01	.00	.00
15	e.00	e.04	e.00	e.00	e.01	.00	e.00	.25	.08	.01	e.00	.00
16	e.00	e.02	e.00	.03	e.00	.00	.00	.24	.10	.00	e.00	.00
17	e.03	e.01	e.01	e.03	e.00	.00	e.00	.23	.09	.00	.00	.00
18	e.03	e.01	e.01	e.04	e.00	.00	.00	.26	.08	.01	e.00	.00
19	e.03	.04	e.01	e.06	e.00	.00	.00	e.24	.07	.00	e.00	.00
20	e.18	.06	e.01	e.08	e.00	.00	e.00	.23	.06	.00	e.00	.00
21	e.03	e.03	e.00	e.06	e.00	.00	e.00	.21	.06	.01	e.00	.00
22	e1.3	e.03	.00	e.05	e.00	e.00	.00	.22	.09	e.00	e.00	.00
23	e.34	e.01	e.00	.03	e.00	.00	e.00	.28	.11	.01	.00	.00
24	e3.2	e.01	e.00	e.01	e.00	.00	e.00	.29	.09	.01	e.00	.00
25	e.26	.02	e.00	e.01	e.00	.00	.00	.32	.05	.00	e.00	.00
26	e.02	.01	e.00	.01	e.00	.00	e.00	.32	.06	.00	e.00	.00
27	e.11	.02	.00	e.01	e.00	.00	e.00	.29	.05	.00	e.00	.00
28	e.02	.01	e.00	e.03	.00	.00	e.00	.28	.05	.00	e.00	.00
29	e.02	.01	e.00	e.01	---	.00	.00	.26	.05	e.03	e.00	.00
30	e.03	.01	e.00	e.01	---	.00	e.00	.25	.04	.02	e.00	.00
31	e.00	---	e.00	e.00	---	.00	---	.26	---	.00	e.00	---
TOTAL	6.23	0.84	0.08	0.47	0.19	0.00	0.00	14.54	3.39	0.62	0.01	0.00
MEAN	.20	.028	.003	.015	.007	.000	.000	.47	.11	.020	.000	.000
MAX	3.2	.11	.02	.08	.04	.00	.00	8.5	.24	.08	.01	.00
MIN	.00	.01	.00	.00	.00	.00	.00	.00	.04	.00	.00	.00
AC-FT	12	1.7	.2	.9	.4	.00	.00	29	6.7	1.2	.02	.00
CFSM	.10	.01	.00	.01	.00	.00	.00	.22	.05	.01	.00	.00
IN.	.11	.01	.00	.01	.00	.00	.00	.26	.06	.01	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2001, BY WATER YEAR (WY)

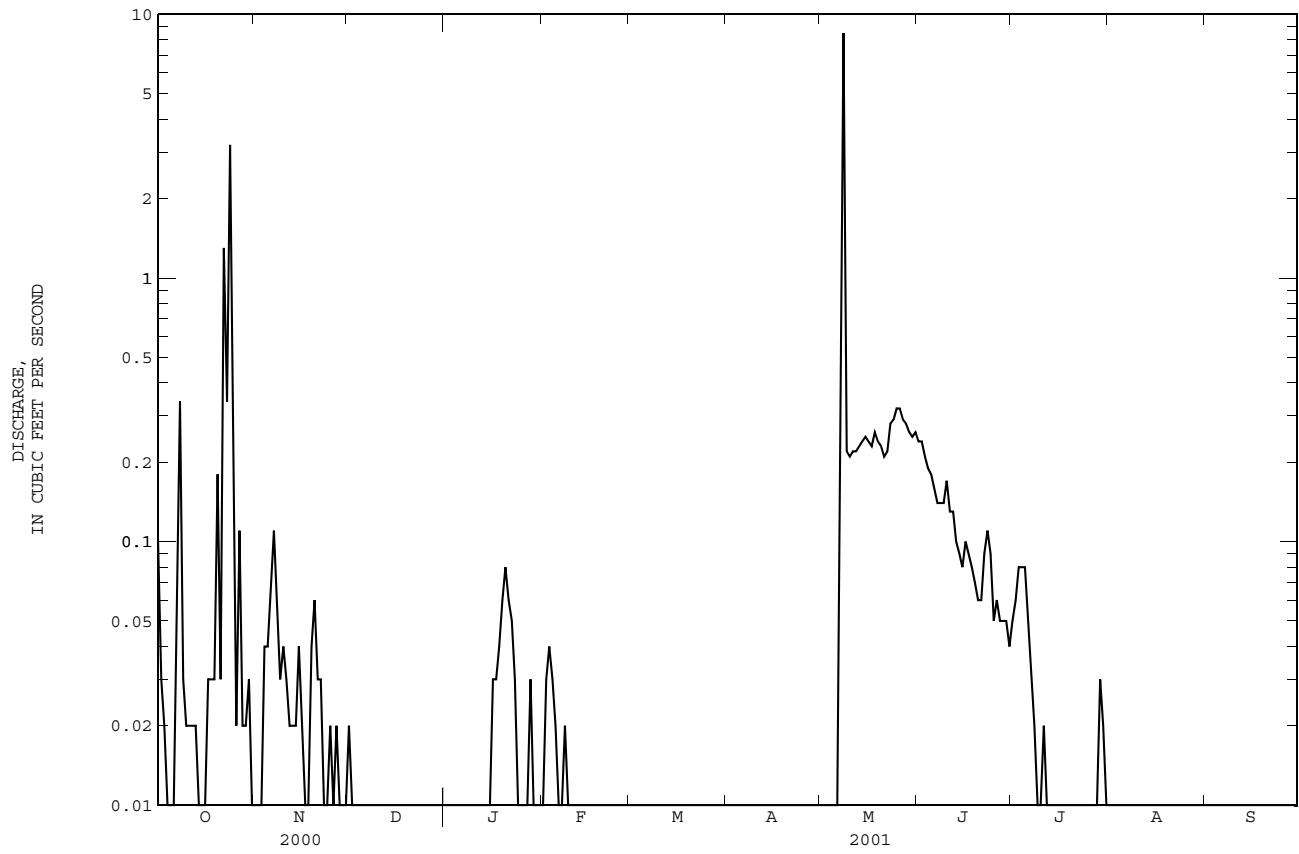
MEAN	.90	1.18	1.13	.41	.23	.10	.064	.11	.14	.067	.023	.58
MAX	5.92	7.34	6.56	2.04	.82	.34	.23	.47	1.43	.52	.18	3.80
(WY)	1996	2000	2000	2000	2000	1990	1990	2001	1987	1987	1987	1995
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1987	1992	1992	1992	1989	1989	1989	1989	1989	1989	1989	1991

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1964 - 2001

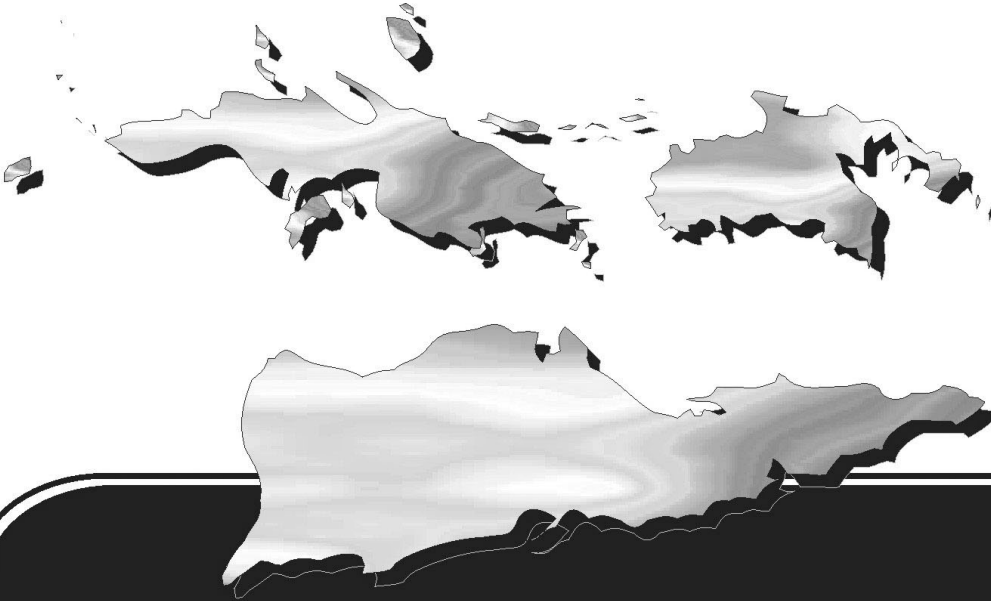
ANNUAL TOTAL	110.42	26.37	
ANNUAL MEAN	.30	.072	.30
HIGHEST ANNUAL MEAN			1.47 2000
LOWEST ANNUAL MEAN			.0003 1965
HIGHEST DAILY MEAN	3.5 Jan 4	8.5 May 8	79 Nov 17 1999
LOWEST DAILY MEAN	.00 Sep 2	.00 Oct 4	.00 Jan 26 1964
ANNUAL SEVEN-DAY MINIMUM	.00 Dec 4	.00 Dec 4	.00 Jan 26 1964
MAXIMUM PEAK FLOW		32 May 8	937 Sep 15 1995
MAXIMUM PEAK STAGE		2.07 May 8	5.38 Sep 15 1995
ANNUAL RUNOFF (AC-FT)	219	52	215
ANNUAL RUNOFF (CFSM)	.14	.034	.14
ANNUAL RUNOFF (INCHES)	1.96	.47	1.92
10 PERCENT EXCEEDS	1.0	.17	.79
50 PERCENT EXCEEDS	.04	.00	.04
90 PERCENT EXCEEDS	.01	.00	.00

e Estimated

ST. CROIX, U.S. VIRGIN ISLANDS
50345000 JOLLY HILL GUT AT JOLLY HILL, ST. CROIX, VI--Continued



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**Ground-Water Records
for U.S. Virgin Islands**

GROUND-WATER LEVELS

ST. CROIX, U.S. VIRGIN ISLANDS

174225064472000. Local number, 2.

LOCATION.--Lat 17°42'25", long 64°47'20", Hydrologic Unit 21020002, 0.90 mi southeast of the Experimental Station, 0.6 mi southwest of Christiansted Plaza, and 0.18 mi northeast of the Alexander Hamilton Airport entrance on Hwy 64. Owner: US Virgin Islands Water and Power Authority, Name: USGS-10, Fairplains 2 Well.

AQUIFER.--Alluvium and marl.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), cased 6 in (0.15 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes punch.

DATUM.--Elevation of land-surface datum is about 20 ft (6.10 m), above mean sea level, from topographic map. Measuring point: Top of shelter floor, 3.76 ft (1.15 m), above land-surface datum. Prior to Nov. 19, 1999, top of 0.5 in (0.01 m) hole at concrete base wall, 3.00 ft (0.91 m), above land-surface datum.

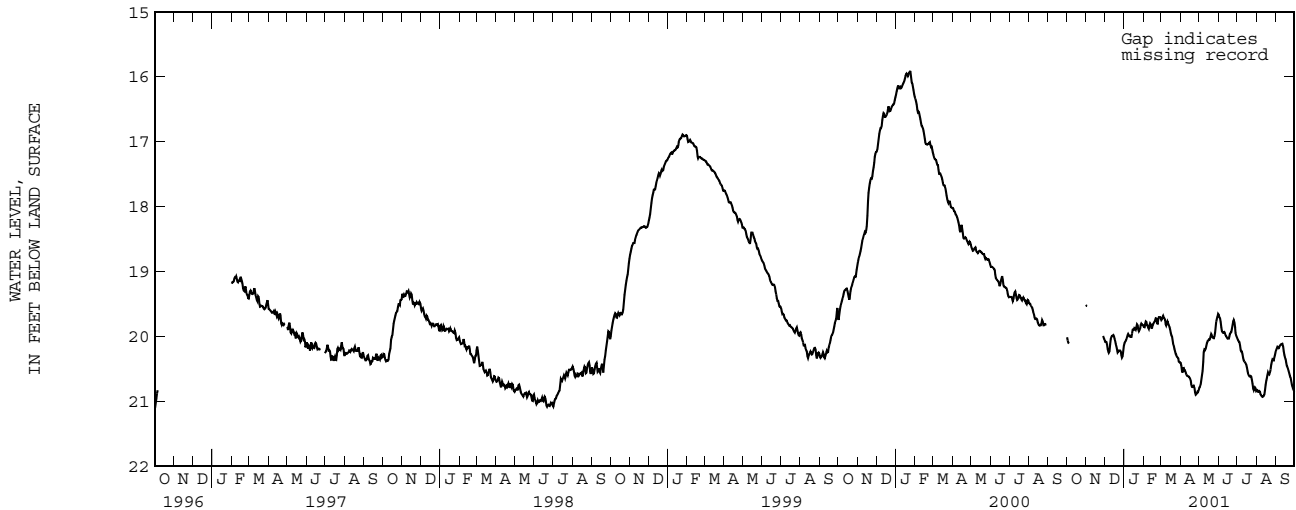
REMARKS.--Recording observation well. Water level affected by nearby pumping well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on Oct. 27, 1999.

PERIOD OF RECORD.--June 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 15.86 ft (4.83 m), below land-surface datum, Jan. 24, 2000; lowest water level recorded, 26.46 ft (8.06 m), below land-surface datum, Aug. 25, 1990.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.98	19.53	20.07	20.11	19.83	19.75	20.39	20.79	19.63	20.02	20.86	20.22
2	20.04	19.52	20.09	20.09	19.87	19.74	20.42	20.77	19.70	20.04	20.80	20.20
3	20.08	19.54	20.07	20.07	19.84	19.72	20.47	20.77	19.71	20.07	20.85	20.17
4	20.11	---	20.10	20.06	19.77	19.68	20.58	20.71	19.73	20.08	20.85	20.14
5	20.10	---	20.15	20.03	19.76	19.68	20.53	20.62	19.82	20.09	20.85	20.18
6	---	---	20.24	19.99	19.79	19.74	20.45	20.57	19.90	20.18	20.83	20.17
7	---	---	20.22	19.96	19.85	19.70	20.52	20.49	19.94	20.23	20.88	20.15
8	---	---	20.28	19.96	19.81	19.79	20.52	20.29	19.93	20.23	20.90	20.13
9	---	---	20.18	20.00	19.91	19.82	20.52	20.19	19.95	20.23	20.91	20.12
10	---	---	20.06	19.99	19.85	19.84	20.57	20.21	19.93	20.30	20.93	20.11
11	---	---	20.02	19.99	19.80	19.75	20.60	20.21	19.93	20.35	20.93	20.12
12	---	---	20.00	20.02	19.79	19.78	20.60	20.17	19.97	20.38	20.92	20.10
13	---	---	19.98	19.99	19.83	19.81	20.61	20.12	19.99	20.39	20.91	20.19
14	---	---	19.99	19.92	19.90	19.83	20.61	20.08	20.00	20.40	20.88	20.26
15	---	---	19.96	19.87	19.83	19.87	20.62	20.08	20.03	20.43	20.77	20.30
16	---	---	20.03	19.91	19.81	19.91	20.64	20.04	20.03	20.43	20.72	20.34
17	---	---	20.04	19.88	19.81	19.97	20.65	20.05	20.03	20.52	20.64	20.35
18	---	---	20.08	19.86	19.77	19.99	20.70	20.05	20.03	20.54	20.63	20.44
19	---	---	20.14	19.90	19.77	20.01	20.77	20.02	19.97	20.59	20.56	20.45
20	---	---	20.15	19.89	19.74	20.09	20.77	19.97	19.94	20.60	20.54	20.48
21	---	---	20.24	19.82	19.70	20.13	20.78	19.95	19.94	20.62	20.61	20.51
22	---	---	20.25	19.80	19.75	20.15	20.76	20.01	19.92	20.61	20.56	20.55
23	---	---	20.21	19.85	19.84	20.23	20.76	20.01	19.85	20.60	20.55	20.59
24	---	---	20.22	19.93	19.76	20.23	20.81	20.03	19.80	20.63	20.46	20.62
25	---	---	20.21	19.91	19.71	20.30	20.91	20.02	19.74	20.70	20.40	20.64
26	---	---	20.22	19.89	19.69	20.27	20.88	19.98	19.75	20.75	20.37	20.73
27	---	---	20.25	19.86	19.71	20.35	20.89	19.90	19.80	20.84	20.33	20.75
28	---	19.95	20.31	19.79	19.69	20.29	20.85	19.80	19.92	20.81	20.39	20.78
29	---	20.03	20.34	19.81	---	20.38	20.85	19.74	19.97	20.79	20.34	20.81
30	---	20.02	20.27	19.82	---	20.39	20.86	19.72	19.99	20.77	20.31	20.83
31	19.54	---	20.17	19.82	---	20.40	---	19.67	---	20.82	20.26	---
MEAN	19.98	19.77	20.15	19.93	19.79	19.99	20.66	20.16	19.89	20.45	20.67	20.38
WTR YR 2001	MEAN 20.20	HIGHEST 19.52	NOV 1, 2, 2000	LOWEST 20.95	AUG. 10, 2001							



GROUND-WATER LEVELS

ST. CROIX, U.S. VIRGIN ISLANDS--Continued

174243064475100. Local number, 3.

LOCATION.--Lat 17°42'43", long 64°47'51", Hydrologic Unit 21020002, 0.75 mi northwest of the Alexander Hamilton Airport entrance on Hwy 64, 6.45 mi southwest of Christiansted Plaza, and 0.57 mi southwest of the Experimental Station. Owner: US Virgin Islands Government, Name: Golden Grove 6 Well.

AQUIFER.--Alluvium and marl.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 8 in (0.20 m), cased 8 in (0.20 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes punch.

DATUM.--Elevation of land-surface datum is about 40 ft (12.2 m), above mean sea level, from topographic map. Measuring point: Upper edge of hole at 8 in (0.20 m) casing, 4.20 ft (1.28 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on Oct. 27, 1999. From February 21 2001 to September 30, 2001, tapedowns measurements only.

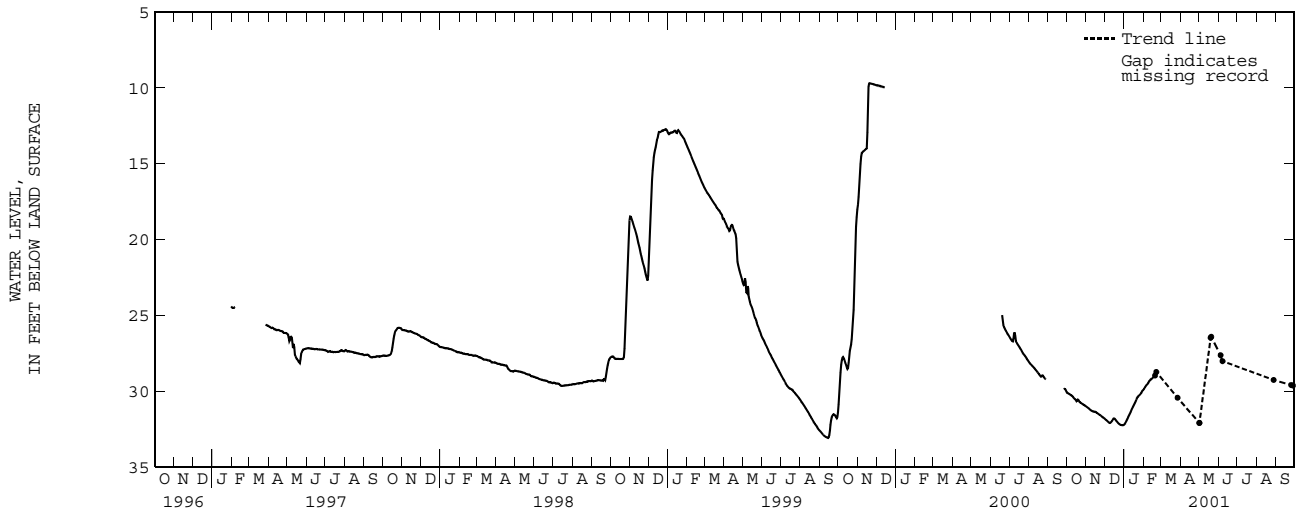
PERIOD OF RECORD.--March 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 9.68 ft (2.95 m), below land-surface datum, Nov. 19, 20, 1999; lowest water level recorded, 41.05 ft (12.5 m), below land-surface datum, Sept. 15, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30.09	31.01	31.83	32.21	29.91	---	---	---	---	---	---	---
2	30.12	31.04	31.87	32.16	29.84	---	---	---	---	---	---	---
3	30.15	31.08	31.91	32.09	29.76	---	---	---	---	---	---	---
4	30.17	31.11	31.94	32.01	29.71	---	---	---	27.56	---	---	---
5	30.20	31.14	31.98	31.94	29.62	---	---	---	27.71	---	---	---
6	30.22	31.18	32.02	31.85	29.59	---	---	---	27.84	---	---	---
7	30.25	31.21	32.06	31.76	29.55	---	---	---	27.96	---	---	---
8	30.28	31.25	32.09	31.69	29.51	---	---	---	28.10	---	---	---
9	30.30	31.28	32.12	31.60	29.47	---	---	---	---	---	---	---
10	30.33	31.30	32.10	31.52	29.33	---	---	---	---	---	---	---
11	30.38	31.32	32.05	31.42	29.30	---	---	---	---	---	---	---
12	30.45	31.35	32.01	31.33	29.26	---	---	---	---	---	---	---
13	30.49	31.36	31.94	31.21	29.23	---	---	---	---	---	---	---
14	30.53	31.36	31.86	31.13	29.21	---	---	---	---	---	---	---
15	30.56	31.36	31.80	31.06	29.14	---	---	---	---	---	---	---
16	30.66	31.37	31.81	30.95	29.12	---	---	---	---	---	---	---
17	30.68	31.40	31.83	30.89	29.07	---	---	---	---	---	---	---
18	30.58	31.43	31.88	30.82	29.04	---	---	---	---	---	---	---
19	30.54	31.46	31.94	30.74	29.00	---	---	26.53	---	---	---	---
20	30.60	31.48	31.99	30.62	28.95	---	---	26.44	---	---	---	---
21	30.69	31.52	32.04	30.53	---	---	---	26.40	---	---	---	---
22	30.73	31.55	32.09	30.43	---	---	---	---	---	---	---	---
23	30.77	31.58	32.14	30.37	---	---	---	---	---	---	---	---
24	30.79	31.60	32.17	30.33	---	---	---	---	---	---	---	---
25	30.82	31.64	32.22	30.28	---	---	---	---	---	---	---	---
26	30.85	31.68	32.23	30.23	---	---	---	---	---	---	---	---
27	30.88	31.71	32.24	30.20	---	---	---	---	---	---	---	---
28	30.90	31.73	32.24	30.17	---	---	---	---	---	---	---	---
29	30.93	31.76	32.25	30.10	---	---	---	---	---	---	---	---
30	30.96	31.79	32.26	29.99	---	---	32.07	---	---	---	---	---
31	30.98	---	32.25	29.94	---	---	---	---	---	---	---	---
MEAN	30.54	31.40	32.04	31.02	29.38	---	32.07	26.46	27.83	---	---	---

WTR YR 2001 MEAN 30.80 HIGHEST 26.32 MAY 22, 2001 LOWEST 32.26 DEC. 30, 2000



GROUND-WATER LEVELS

ST. CROIX, U.S. VIRGIN ISLANDS--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31	30.98	DEC 19	31.94	MAR 27	30.44	MAY 01	32.10	JUN 18	28.41	SEP 28	29.64
NOV 28	31.74	FEB 21	28.74	MAR 27	30.44	MAY 01	32.11	AUG 28	29.27	SEP 28	29.60
WATER YEAR 2001		HIGHEST 28.41		JUNE 18, 2001		LOWEST 32.11		MAY 1, 2001			

GROUND-WATER LEVELS

ST. CROIX, U.S. VIRGIN ISLANDS--Continued

174316064480800. Local number, 13.

LOCATION.--Lat 17°43'16", long 64°48'08", Hydrologic Unit 21020002, 5.25 mi east of Fort Frederick at Frederickstead, 0.95 mi southeast of Holy Cross Church, and 0.65 mi northeast of Adventure Ruins. Owner: US Virgin Islands Water and Power Authority, Name: WAPA-17 Well.

AQUIFER.--Kingshill Limestone.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in (0.10 m), cased 0-95.0 ft (0-29.0 m), screened 10.0-40.0 ft (3.05-12.2 m). Depth 95.0 ft (29.0 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes punch.

DATUM.--Elevation of land-surface datum is about 75.0 ft (22.9 m), above mean sea level, from topographic map. Measuring point: Top of shelter floor, 2.33 ft (0.71 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on Oct. 27, 1999. From October 1, 2000 to March 26, 2001, tapedowns measurements only.

PERIOD OF RECORD.--February 28, 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.27 ft (0.08 m), below land-surface datum, Sept. 10, 1996; lowest water level recorded, 27.88 ft (8.50 m), below land-surface datum, Sept. 6, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	12.36	12.97	8.71	9.35	11.01	---
2	---	---	---	---	---	---	12.38	12.93	8.72	9.38	11.05	---
3	---	---	---	---	---	---	12.39	12.92	8.76	9.42	11.09	---
4	---	---	---	---	---	---	12.42	12.89	8.78	9.47	11.11	---
5	---	---	---	---	---	---	12.42	12.81	8.78	9.53	11.17	---
6	---	---	---	---	---	---	12.44	12.79	8.80	9.60	11.21	---
7	---	---	---	---	---	---	12.48	12.39	8.82	9.70	11.26	---
8	---	---	---	---	---	---	12.48	7.78	8.84	9.76	11.33	---
9	---	---	---	---	---	---	12.54	8.08	8.88	9.82	11.38	---
10	---	---	---	---	---	---	12.55	8.12	8.93	9.87	11.41	---
11	---	---	---	---	---	---	12.58	8.09	8.91	9.96	11.49	---
12	---	---	---	---	---	---	12.60	8.09	8.94	10.03	11.53	---
13	---	---	---	---	---	---	12.63	---	8.94	10.11	---	---
14	---	---	---	---	---	---	12.65	---	8.99	10.20	---	---
15	---	---	---	---	---	---	12.67	---	9.02	10.30	---	---
16	---	---	---	---	---	---	12.72	---	9.04	10.36	---	---
17	---	---	---	---	---	---	12.72	---	9.06	10.41	---	---
18	---	---	---	---	---	---	12.76	---	9.07	10.46	---	---
19	---	---	---	---	---	---	12.80	---	9.08	10.52	---	---
20	---	---	---	---	---	---	12.80	---	9.07	10.54	---	---
21	---	---	---	---	---	---	12.84	---	9.07	10.52	---	---
22	---	---	---	---	---	---	12.84	---	9.07	10.54	---	---
23	---	---	---	---	---	---	12.85	---	9.09	10.59	11.31	---
24	---	---	---	---	---	---	12.86	8.81	9.11	10.63	11.36	---
25	---	---	---	---	---	---	12.87	8.83	9.09	10.67	11.42	---
26	---	---	---	---	---	---	12.89	8.82	9.15	10.73	11.42	12.14
27	---	---	---	---	---	12.25	12.92	8.82	9.16	10.82	11.42	12.20
28	---	---	---	---	---	12.26	12.92	8.79	9.20	10.86	11.42	12.25
29	---	---	---	---	---	12.27	12.95	8.79	9.25	10.92	11.43	12.31
30	---	---	---	---	---	12.31	12.97	8.75	9.28	10.84	11.45	12.36
31	---	---	---	---	---	12.33	---	8.71	---	10.95	11.47	---
MEAN	---	---	---	---	---	12.28	12.68	10.01	8.99	10.22	11.32	12.25

WTR YR 2001 MEAN 10.76 HIGHEST 6.88 MAY 7,2001 LOWEST 12.97 APR. 30, MAY 1, 2001



GROUND-WATER LEVELS

ST. CROIX, U.S. VIRGIN ISLANDS--Continued

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31	9.35	DEC 19	10.14	MAR 27	12.27	MAY 01	12.97	JUN 19	9.07	SEP 25	12.15
NOV 28	9.34	FEB 21	11.37	MAY 01	12.90	JUN 19	9.07	AUG 28	11.42		
WATER YEAR 2001		HIGHEST 9.07 JUNE 19, 2001		LOWEST 12.97 MAY 01, 2001							

GROUND-WATER LEVELS

ST. THOMAS, U.S. VIRGIN ISLANDS

182038064550300. Local number, 6.

LOCATION.--Lat 18°20'38", Long 64°55'03", Hydrologic Unit 21020001, 1.12 mi east of Charlotte Amalie, 0.75 mi southwest of Winterberg Peak, and 1.08 mi southeast of Canaan. Owner: US Virgin Islands Government, Name: Grade School 3 Well.

AQUIFER.--Volcanic breccia.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), cased 6 in (0.15 m). Depth 70.0 ft (21.3 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes punch.

DATUM.--Elevation of land-surface datum is about 52.0 ft (15.8 m), above mean sea level, from topographic map. Prior to June 30, 1999, is about 60.0 ft (18.3 m), above mean sea level. Measuring point: Top of 0.5 in (0.01 m) hole at 6 in (0.15 m) casing, 3.30 ft (1.00 m), above land-surface datum. Prior to June 30, 1999, top of 0.5 in (0.01 m) hole at 6 in (0.15 m) casing, 1.30 ft (0.40 m), above land-surface datum. Prior to June 27, 1983, top of 6 in (0.15 m) casing, 2.90 ft (0.88 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on Oct. 28, 1999. A datum correction was required after land-surface elevation in the area changed from 60.0 ft (18.3 m) to 52.0 ft (15.8 m) on June 29, 1999.

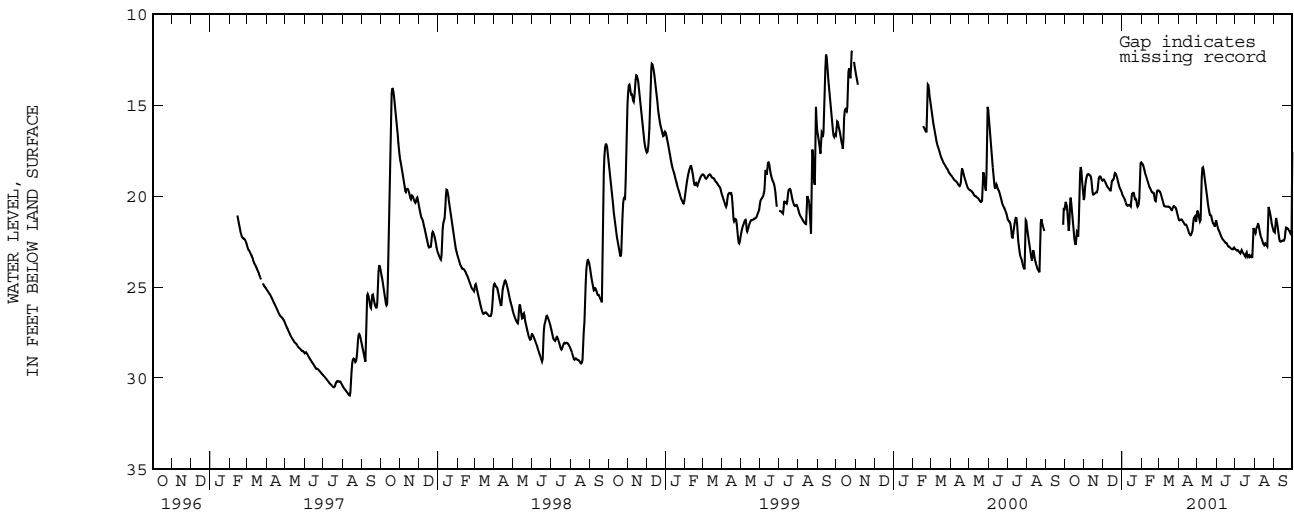
PERIOD OF RECORD.--March 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 1.53 ft (0.47 m), below land-surface datum, Oct. 1, 1989; lowest water level recorded, 35.38 ft (10.8 m), below land-surface datum, July 21, 1982.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.87	20.41	19.13	19.87	18.20	19.71	21.19	20.80	21.43	22.92	21.95	22.00
2	20.21	19.70	19.08	19.98	18.24	19.74	21.30	20.80	21.58	22.94	21.96	21.93
3	20.44	19.35	19.11	20.05	18.24	19.78	21.37	20.98	21.72	22.97	22.11	22.08
4	20.42	19.10	19.18	20.11	18.36	19.89	21.29	21.14	21.84	23.01	21.60	21.09
5	20.80	18.93	19.24	20.16	18.50	20.02	21.32	21.33	21.91	22.95	21.87	21.31
6	21.26	18.83	19.33	20.27	18.64	20.16	21.26	21.49	21.98	23.02	21.51	21.51
7	21.71	18.79	19.38	20.40	18.76	20.28	21.34	21.16	22.08	23.06	21.48	21.66
8	22.13	18.79	19.47	20.48	18.87	20.39	21.39	19.49	22.16	23.09	21.67	21.89
9	20.85	18.81	19.53	20.54	18.97	20.53	21.43	18.56	22.22	23.13	21.87	22.17
10	20.02	18.84	19.56	20.53	19.09	20.57	21.49	18.39	22.31	23.18	22.06	22.45
11	20.16	18.89	19.61	20.52	19.20	20.57	21.55	18.48	22.38	22.92	22.23	22.50
12	20.70	18.93	19.67	20.50	19.32	20.57	21.60	18.69	22.42	23.03	22.28	22.51
13	21.11	19.22	19.71	20.49	19.43	20.58	21.55	18.96	22.45	23.09	22.39	22.49
14	21.52	19.71	19.67	20.53	19.54	20.58	21.59	19.22	22.50	23.16	22.52	22.48
15	21.89	19.92	19.22	20.59	19.60	20.58	21.70	19.50	22.55	23.21	22.65	22.44
16	22.24	19.91	19.13	19.92	19.64	20.59	21.80	19.78	22.60	23.25	22.66	22.44
17	22.57	19.89	19.12	19.85	19.74	20.59	21.90	20.07	22.56	23.32	22.75	22.44
18	22.61	19.87	19.14	19.87	19.80	20.61	22.03	20.33	22.64	23.37	22.56	22.45
19	22.75	19.83	18.97	19.78	19.81	20.65	22.09	20.56	22.72	22.99	22.65	22.23
20	22.01	19.80	18.74	19.89	19.81	20.72	22.14	20.76	22.76	23.21	22.65	21.73
21	21.90	19.80	18.74	20.12	19.85	20.78	22.16	20.96	22.79	23.31	22.78	21.75
22	22.11	19.80	18.79	20.21	20.16	20.76	22.08	21.11	22.80	23.37	22.76	21.76
23	22.33	19.57	18.87	20.11	20.33	20.68	22.00	20.97	22.84	23.17	20.54	21.77
24	20.35	19.08	19.01	20.32	20.23	20.54	21.86	21.19	22.87	23.32	20.67	21.84
25	19.03	18.96	19.18	20.59	19.87	20.56	21.24	21.33	22.91	23.38	20.78	21.89
26	18.39	18.92	19.33	20.57	19.71	20.59	21.28	21.45	22.93	23.23	20.96	21.96
27	18.43	18.93	19.44	20.48	19.69	20.62	21.05	21.57	22.92	23.31	21.18	22.01
28	18.83	18.94	19.52	20.43	19.69	20.66	21.19	21.50	22.94	23.39	21.41	22.09
29	19.23	19.08	19.61	19.77	---	20.77	21.35	21.63	22.78	23.41	21.59	22.11
30	19.63	19.18	19.68	18.26	---	20.93	21.49	21.75	22.89	21.68	21.69	21.50
31	20.03	---	19.76	18.11	---	21.06	---	21.22	---	21.84	21.85	---
MEAN	20.86	19.33	19.29	20.11	19.33	20.49	21.57	20.49	22.45	23.07	21.92	22.02

WTR YR 2001 MEAN 20.92 HIGHEST 18.10 JAN. 31, 2001 LOWEST 23.41 JULY 29, 2001



GROUND-WATER LEVELS

ST. THOMAS, U.S. VIRGIN ISLANDS--Continued

182038064580000. Local number, 8.

LOCATION.--Lat 18°20'38", long 64°58'00", Hydrologic Unit 21020001, 2.08 mi northwest of Charlotte Amalie, 0.50 mi northeast of Harry S. Truman Airport entrance on Hwy 302, and 1.15 mi southwest of Dorothea. Owner: US Virgin Islands Water and Power Authority, Name: Kirwan Terrace, VIEO-6 Well.

AQUIFER.--Alluvial deposits, volcanic rock.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in (0.10 m), cased 0-56.0 ft (0-17.1 m), screened 56.0-76.0 ft (17.1-23.2 m). Depth 76.0 ft (23.2 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes punch.

DATUM.--Elevation of land-surface datum is about 35.0 ft (10.7 m), above mean sea level, from topographic map. Measuring point:

Top of shelter floor, 3.00 ft (0.91 m), above land-surface datum.

REMARKS.--Recording observation well. Drilled on July 1, 1991. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on Oct. 29, 1999.

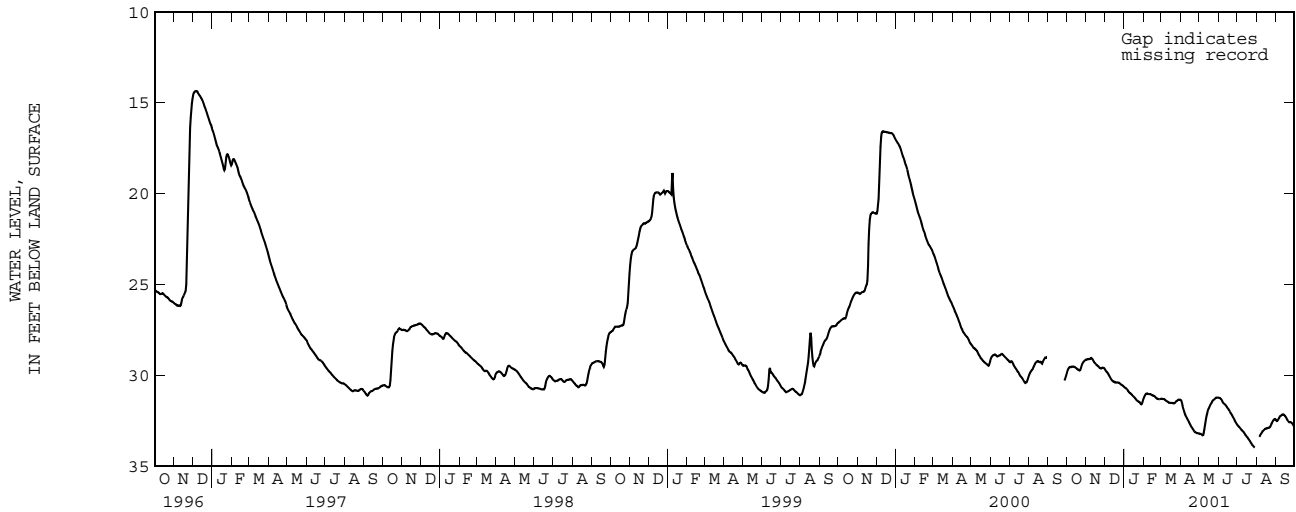
PERIOD OF RECORD.--October 2, 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 14.3 ft (4.37 m), below land-surface datum, Dec. 6, 7, 1996; lowest water level recorded, 33.97 ft (10.35 m), below land-surface datum, July 29, 30, 2001.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29.90	29.12	29.65	30.64	31.28	31.28	31.33	33.19	31.21	32.70	---	32.45
2	29.76	29.12	29.70	30.66	31.18	31.27	31.35	33.20	31.23	32.74	---	32.49
3	29.67	29.12	29.76	30.68	31.11	31.28	31.38	33.20	31.23	32.78	---	32.51
4	29.58	29.09	29.80	30.71	31.03	31.29	31.61	33.21	31.25	32.82	---	32.45
5	29.54	29.09	29.83	30.73	31.00	31.29	31.74	33.24	31.29	32.86	33.40	32.40
6	29.51	29.10	29.89	30.77	30.99	31.29	31.85	33.27	31.33	32.90	33.34	32.33
7	29.53	29.07	29.93	30.83	30.98	31.32	31.97	33.30	31.40	32.95	33.28	32.28
8	29.54	29.06	30.00	30.88	31.02	31.35	32.08	33.24	31.47	32.99	33.20	32.22
9	29.51	29.04	30.07	30.91	31.01	31.39	32.16	33.07	31.51	33.03	33.17	32.22
10	29.50	29.04	30.13	30.96	31.02	31.40	32.23	32.83	31.55	33.05	33.11	32.18
11	29.50	29.08	30.20	30.98	31.02	31.42	32.31	32.60	31.57	33.09	33.06	32.16
12	29.51	29.15	30.24	31.00	31.02	31.43	32.37	32.38	31.60	33.13	33.02	32.13
13	29.52	29.22	30.28	31.04	31.04	31.49	32.44	32.21	31.65	33.20	32.99	32.13
14	29.54	29.27	30.32	31.09	31.06	31.49	32.51	32.06	31.71	33.25	32.94	32.16
15	29.56	29.31	30.34	31.12	31.09	31.49	32.57	31.92	31.76	33.30	32.92	32.19
16	29.58	29.34	30.33	31.15	31.09	31.51	32.65	31.84	31.80	33.34	32.91	32.24
17	29.62	29.38	30.35	31.19	31.11	31.50	32.71	31.78	31.85	33.39	32.91	32.29
18	29.66	29.44	30.39	31.22	31.11	31.50	32.78	31.70	31.90	33.43	32.90	32.33
19	29.66	29.45	30.38	31.26	31.14	31.50	32.83	31.62	31.95	33.48	32.88	32.41
20	29.68	29.47	30.37	31.31	31.19	31.51	32.88	31.55	32.02	33.52	32.87	32.47
21	29.71	29.50	30.37	31.35	31.22	31.53	32.93	31.51	32.08	33.58	32.87	32.52
22	29.73	29.55	30.39	31.38	31.27	31.52	32.99	31.44	32.13	33.63	32.85	32.56
23	29.68	29.59	30.39	31.42	31.27	31.52	33.05	31.37	32.19	33.69	32.81	32.56
24	29.56	29.60	30.39	31.43	31.28	31.48	33.10	31.35	32.27	33.74	32.74	32.55
25	29.44	29.62	30.44	31.44	31.30	31.43	33.12	31.31	32.33	33.81	32.66	32.56
26	29.34	29.59	30.47	31.48	31.30	31.40	33.13	31.28	32.39	33.85	32.59	32.60
27	29.27	29.56	30.49	31.55	31.29	31.38	33.16	31.24	32.46	33.89	32.49	32.61
28	29.23	29.57	30.52	31.58	31.28	31.34	33.16	31.21	32.52	33.92	32.46	32.66
29	29.21	29.58	30.53	31.59	---	31.32	33.17	31.21	32.59	33.95	32.40	32.72
30	29.17	29.58	30.55	31.53	---	31.33	33.17	31.21	32.65	33.95	32.39	32.79
31	29.15	---	30.59	31.39	---	31.32	---	31.21	---	---	32.38	---
MEAN	29.53	29.32	30.23	31.14	31.13	31.41	32.49	32.12	31.83	33.33	32.87	32.41

WTR YR 2001 MEAN 31.47 HIGHEST 29.03 NOV 9, 10, 2000 LOWEST 33.97 JULY 29, 30, 2001



GROUND-WATER LEVELS

ST. JOHN, U.S. VIRGIN ISLANDS

181956064464500. Local number, 11.

LOCATION.--Lat 18°19'56", long 64°46'45", Hydrologic Unit 21020001, 1.05 mi southeast of Cruz Bay plaza, 0.25 mi southeast of Bethany Church, and 0.48 mi southeast of Margaret Hill. Owner: US Virgin Islands Government, Name: Guinea Gut Well.

AQUIFER.--Louisenhoj Formation (Donnelly, 1959).

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), cased 6 in (0.15 m). Depth 85.0 ft (25.9 m).

INSTRUMENTATION.--Electronic water level logger--60-minutes punch.

DATUM.--Elevation of land-surface datum is about 280 ft (85.36 m), above mean sea level, from topographic map. Measuring point:

Bottom of 0.5 in (0.01 m) hole at 6 in (0.15 m) casing, 1.50 ft (0.46 m), above land-surface datum. Prior to June 28, 1983, top of 6 in (0.15 m) casing, 1.80 ft (0.55 m), above land-surface datum.

REMARKS.--Recording observation well. Automated Digital Recorder (ADR), replaced by an Electronic Data Logger (EDL), installed on Feb. 17, 2000.

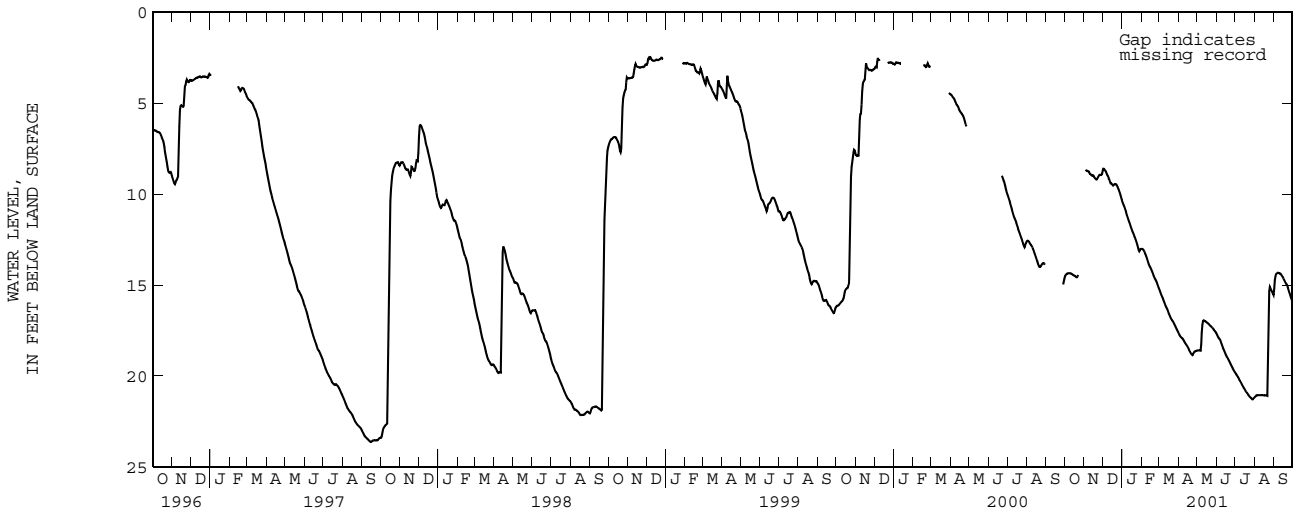
PERIOD OF RECORD.--March 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 2.34 ft (0.71 m), below land-surface datum, Dec. 7, 1998; lowest water level recorded, 34.18 ft (10.4 m), below land-surface datum, Sept. 6, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.55	---	8.63	10.41	13.02	15.19	17.60	18.61	17.66	19.82	21.18	15.58
2	14.48	---	8.58	10.47	13.01	15.28	17.69	18.59	17.73	19.86	21.14	14.87
3	14.44	8.79	8.63	10.58	13.03	15.37	17.75	18.60	17.81	19.92	21.11	14.61
4	14.39	8.71	8.68	10.64	13.07	15.48	17.83	18.59	17.89	19.99	21.07	14.44
5	14.37	8.70	8.71	10.75	13.13	15.56	17.87	18.59	17.94	20.03	21.07	14.39
6	14.36	8.72	8.77	10.86	13.19	15.64	17.90	18.62	17.97	20.10	21.07	14.36
7	14.35	8.76	8.85	10.95	13.28	15.73	17.93	18.61	18.03	20.16	21.05	14.33
8	14.36	8.74	8.95	11.08	13.35	15.81	17.96	17.90	18.11	20.23	21.06	14.33
9	14.35	8.78	8.98	11.20	13.45	15.89	18.01	17.38	18.19	20.28	21.06	14.35
10	14.35	8.88	9.07	11.30	13.57	15.98	18.06	17.03	18.29	20.35	21.06	14.38
11	14.37	8.92	9.16	11.41	13.68	16.09	18.14	16.96	18.40	20.41	21.06	14.35
12	14.39	8.92	9.26	11.50	13.79	16.17	18.20	16.94	18.49	20.48	21.06	14.39
13	14.41	8.97	9.39	11.59	13.89	16.25	18.25	16.98	18.57	20.56	21.05	14.45
14	14.45	9.01	9.42	11.71	13.98	16.31	18.30	17.00	18.65	20.61	21.05	14.51
15	14.47	8.98	9.42	11.82	14.04	16.39	18.36	17.01	18.74	20.67	21.06	14.55
16	14.49	8.98	9.48	11.92	14.09	16.51	18.43	17.04	18.83	20.72	21.08	14.61
17	14.49	9.05	9.54	12.02	14.16	16.59	18.48	17.08	18.91	20.79	21.07	14.69
18	14.51	9.12	9.52	12.08	14.24	16.67	18.55	17.10	18.96	20.85	21.06	14.75
19	14.57	9.14	9.48	12.16	14.34	16.75	18.62	17.12	19.02	20.89	21.07	14.82
20	14.58	9.18	9.45	12.25	14.44	16.83	18.70	17.15	19.09	20.93	21.07	14.91
21	14.57	9.22	9.46	12.35	14.54	16.90	18.76	17.20	19.15	20.98	21.08	14.94
22	14.51	9.16	9.45	12.44	14.60	16.95	18.81	17.24	19.22	21.05	21.10	14.98
23	14.39	9.09	9.50	12.55	14.70	16.98	18.84	17.27	19.29	21.09	17.61	15.09
24	---	9.02	9.55	12.64	14.74	17.05	18.87	17.30	19.36	21.13	15.61	15.23
25	---	8.97	9.64	12.78	14.82	17.11	18.77	17.34	19.44	21.17	15.06	15.33
26	---	8.94	9.72	12.90	14.91	17.19	18.69	17.37	19.51	21.20	15.15	15.45
27	---	8.94	9.81	13.02	15.00	17.26	18.66	17.42	19.58	21.24	15.21	15.52
28	---	8.96	9.88	13.14	15.10	17.33	18.65	17.48	19.65	21.27	15.31	15.64
29	---	8.95	10.02	13.15	---	17.41	18.63	17.51	19.71	21.31	15.35	15.75
30	---	8.90	10.14	13.03	---	17.46	18.62	17.55	19.77	21.26	15.43	15.84
31	---	---	10.24	13.02	---	17.54	---	17.60	---	21.22	15.50	---
MEAN	14.44	8.95	9.33	11.86	13.97	16.44	18.33	17.55	18.73	20.66	19.48	14.85

WTR YR 2001 MEAN 15.46 HIGHEST 8.57 DEC. 2, 2000 LOWEST 21.31 JULY 29, 2001



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U.S. DEPARTMENT OF THE INTERIOR
U.S. Geological Survey, WRD
GSA Center, 651 Federal Dr., Suite 400-15
Guaynabo PR 00965