

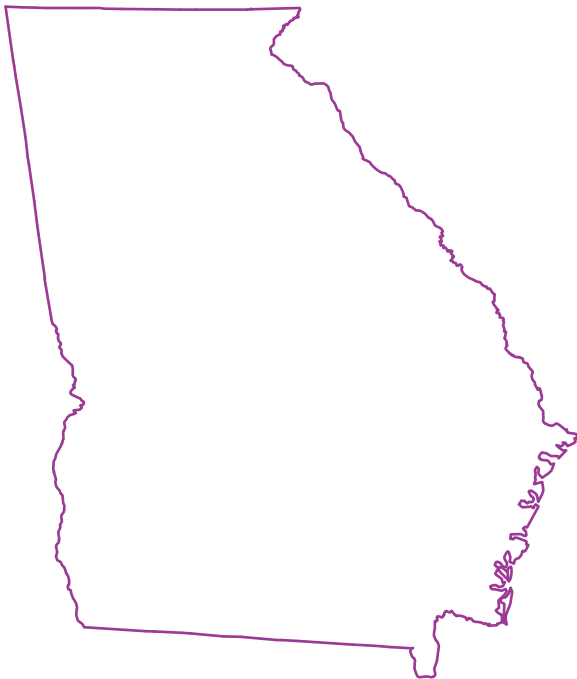
Water Resources Data—Georgia, 2004

Volume 2: Continuous ground-water-level data and periodic ground-water-quality data, Calendar Year 2004

Water-Data Report GA-04-2

Compilers: Brian E. McCallum and Daniel V. Alhadeff

Authors: Michael F. Peck, Alan M. Cressler, and Jaime A. Painter



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Water-Data Report GA-04-2

**U.S. Department of the Interior
U.S. Geological Survey**

U.S. Department of the Interior
Gale A. Norton, Secretary

U.S. Geological Survey
P. Patrick Leahy, Acting Director

U.S. Geological Survey, Reston, Virginia: 2005

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Suggested citation:

Peck, M.F., A.M. Cressler, and J.A. Painter, 2005, Water Resources Data—Georgia, 2004, Volume 2—Continuous ground-water-level data and periodic ground-water-quality data, calendar year 2004, B.E. McCallum and D.V. Alhadeff (compilers): Reston, Va., U.S. Geological Survey Water-Data Report GA-04-2,239 p.

ACKNOWLEDGMENTS

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

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey 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 Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data:

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S. Jack Alhadeff	Fred C. Gozzi	Ronald T. Nichols
Robert J. Allen	Jonathan J. Graham	Patricia L. Nobles
Paul D. Ankcorn	Susan C. Grams	Dawn A. Odom
Alex E. Arthurton	M. Brian Gregory	Mark A. Pederson
Brent T. Aulenbach	Michael D. Hamrick	Kelly J. Prescott
Jacqueline R. Avery	Susan L. Hartley	Timothy K. Pojunas
Nancy L. Barber	Kathryn M. Hartsfield	Jessica D. Richardson
William P. Bennett	Andrew C. Hickey	Mark S. Reynolds
Deidre D. Black	O. Gary Holloway	Claudia B. Russell
Gary R. Buell	Evelyn H. Hopkins	Ryan M. Scott
Christina E. Cloran	William B. Hughes	Jacqueline A. Shea
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Kevin M. Craley	Sara K. Jones	James H. Smith
Dianna M. Crilley	John K. Joiner	Charles G. Somerindyke
Charles D. Curbow	John F. Kerestes	Timothy C. Stamey
Melinda S. Dalton	Andrew E. Knaak	Samuel R. Stafford
Arthur C. Day	Jerrell O. Knight	Welby L. Stayton
Gregory B. Donley	Prince O. Kwartang	Jennifer L. Steinmueller
Donald D. Dowling	David A. Lairson	Daniel P. Stephens
Thomas R. Dyar	Jacob H. LaFontaine	Maurice W. Treece, Jr.
Sarah W. Ellisor	Stephen J. Lawrence	Mark V. Truhlar
J. Darryl Everett	Timothy J. Lawrence	Christopher B. Walls
C. David Fowler	David C. Leeth	Gerald B. Wetta
Elizabeth A. Frick	John M. McCranie	Lance J. Wilhelm
Joshua S. Fulson		Caryl J. Wipperfurth

This report was prepared in cooperation with the State of Georgia and with other agencies under the general supervision of Edward H. Martin, Georgia Water Science Center Director.

SPECIAL THANKS

The employees of the USGS Georgia Water Science Center wish to dedicate this edition of the Water Resources for Georgia annual data report to the following individuals who have left an indelible impression upon our work, our office, our agency, and our lives.



S. Jack Alhadeff (1955–2005)—Senior hydrologist with the USGS who specialized in developing innovative ways to present the data and interpretive results of the USGS, including the Georgia GIS Annual Data Report CD-ROM. A friend to many, a person we all strove to be like. He will be missed.



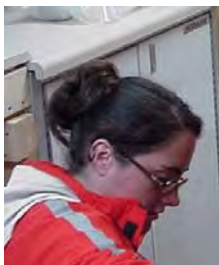
Evelyn H. Hopkins—Senior geographer with the National Water-Quality Assessment Program. Evelyn shared her strong technical skills, keen sense of humor, and sophistication with the NAWQA program for over a decade. She was willing to take on any task—be it a major GIS project or wading through a swamp. She is now retired to northern Georgia to spend time more time in the water—preferably in a kayak.



John F. "Jack" Kerestes—Senior hydrologic technician who helped to lead the USGS data collection in Georgia into a time of unprecedented growth and technological advances. Jack's good nature and vast expertise in streamgaging and water-quality were critical to the growth of the data program. He has retired to cooler climes.



Ronald T. "Terry" Nichols—Senior hydrologic technician from the Tifton Field Office that anchored the streamgaging network operations in southwest Georgia for more than 30 years. Terry's experience, work ethic, good humor, and common sense approach were something that always could be counted on. He now is plowing the back 40 (plus a few more) acres in his second interest—south Georgia farming.



Jennifer A. Steinmueller (1982–2005)—student working in the Urban Hydrology Unit of the Atlanta Field Office. Jennifer's smile and positive attitude always brightened your day. Her sudden death was a profound loss to her friends at the USGS.

COOPERATION

The U.S. Geological Survey (USGS) and organizations of the State of Georgia have had cooperative agreements for the systematic collection of streamflow records since 1896, for water-quality records since 1937, and for ground-water levels since 1938. Organizations that supplied data are acknowledged in station descriptions. Organizations that assisted in collecting data through cooperative agreement with the USGS are:

Georgia Department of Natural Resources (DNR), <i>Noel Holcomb, Commissioner</i>	Athens-Clarke County Public Utilities Department
Georgia Department of Transportation (DOT), <i>Harold Linnenkohl, Commissioner</i>	Atlanta Regional Commission
Georgia Department of Agriculture (DOA), <i>Tommy Irvin, Commissioner</i>	Bibb County
City of Albany	Chattooga County Commission
City of Atlanta	Cherokee County Water and Sewerage Authority
City of Attapulgus	Clayton County Water Authority
City of Blairsville	Cobb County Water System
City of Brunswick	Dalton Utilities
City of Covington	Etowah Water and Sewer Authority
City of East Point	Fayette County Water System
City of Griffin	Fulton County Department of Public Works
City of Helena	Glynn County
City of Lawrenceville	Gwinnett County Public Works Department
City of Macon	Heard County Water Authority
City of Roswell	Henry County Water and Sewerage Authority
City of Savannah	Jekyll Island Authority
City of Springfield	Liberty County
City of Summerville	Monroe Water, Light and Gas Commission
City of Thomaston	Polk County Water, Sewage, and Solid Waste Authority
City of Valdosta	Rockdale County Department of Water Resources
City of Winder	St. Johns Water Management District
Albany Water, Gas, and Light Commission	Suwannee River Water Management District
Albany-Dougherty Planning Commission	University of Georgia Marine Institute
	Upper Oconee Water Authority
	University of Georgia Marine Institute

Assistance in the form of funds and/or services was given by the following Federal agencies:

U.S. Army Corps of Engineers (USACE)
U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS)
U.S. Department of Agriculture (USDA), U.S. Forest Service (USFS)
U.S. Environmental Protection Agency (USEPA)
U.S. Department of Army
U.S. Department of Air Force
U.S. Department of the Interior (DOI), National Park Service (NPS)
U.S. Department of Commerce (USDC), National Oceanic and Atmospheric Administration (NOAA),
National Weather Service (NWS)
Tennessee Valley Authority (TVA)
Centers for Disease Control and Prevention (CDC)

The following organizations aided in collecting records:

Southern Company
Oglethorpe Power Company
Crisp County Power Commission
Southeastern Waters (formerly AmeriCorps)

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INTRODUCTION

Water-resources data for the 2004 water year for Georgia consist of records of stage, discharge, and water quality of streams; lake and reservoir levels, ground-water levels, and ground-water quality published in two volumes in a digital format on a CD-ROM and the World Wide Web. Volume one of this report contains water-resources data for Georgia collected during water year 2004, including discharge records for 176 gaging stations, stage for 192 gaging stations, precipitation for 158 gaging stations, information for 19 lakes and reservoirs, continuous water-quality records for 46 stations, the annual peak stage and annual peak discharge for 64 crest-stage partial-record stations, miscellaneous streamflow measurements at 39 stations, and miscellaneous water-quality data at 47 stations in Georgia. Volume two of this report contains water resources data for Georgia collected during calendar year 2004, including continuous water-level records for 179 ground-water wells, discrete chloride sample data at 72 wells, and ground-water quality data collected at 13 wells and 1 drain. These data represent a part of the National Water Data System collected by the U.S. Geological Survey (USGS) and cooperating State and Federal agencies in Georgia.

Records of discharge and stage of streams, and contents or stage of lakes and reservoirs were first published in a series of USGS water-supply papers entitled, "Surface-Water Supply of the United States." Through September 30, 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961–65 and 1966–70. Records of chemical quality, water temperature, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled, "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of water-supply papers titled, "Ground-Water Levels in the United States." Water-supply papers may be consulted in the libraries of the principal cities in the United States or may be purchased from the U.S. Geological Survey, Branch of Information Services, Federal Center, Box 25286, Denver, CO 80225.

For water years 1961 through 1970, streamflow data were released by the USGS in annual reports on a State-boundary basis prior to the two 5-year series water-supply papers, which cover this period. The data contained in the water-supply papers are considered the official record. Water-quality records for water years 1964 through 1970 were similarly released either in separate reports or in conjunction with streamflow records.

Beginning with the 1971 water year, water data for streamflow, water quality, and ground water are published in official Survey reports on a State-boundary basis. These official Survey reports carry 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 GA-00-1." These water-data reports are for sale in various formats, by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the USGS Water Science Center office at the address provided at the end of this text in the section titled "Access to USGS Water Data."

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 50 sites in small drainage basins around the country whose purpose is to provide consistent data on the streamflow representative of undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by human activities. At 10 of these sites, water-quality information is being gathered on major ions and nutrients, primarily to assess the effects of acid deposition on stream chemistry. Additional information on the Hydrologic Benchmark Program can be found at <http://water.usgs.gov/hbn/>

National Stream-Quality Accounting Network (NASQAN) monitors the water quality of large rivers within the Nation's largest river basins. From 1995 through 1999, a network of approximately 40 stations was operated in the Mississippi, Columbia, Colorado, and Rio Grande basins. For the period 2000 through 2004, sampling was reduced to a few index stations on the Colorado and Columbia so that a network of five stations could be implemented on the Yukon River. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment Program (NAWQA); (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals. Additional information about the NASQAN Program can be found at <http://water.usgs.gov/nasqan/>

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) provides continuous measurement and assessment of the chemical constituents in precipitation throughout the United States. As the lead Federal agency, the USGS works together with over 100 organizations to provide a long-term, spatial and temporal record of atmospheric deposition generated from a network of 225 precipitation chemistry monitoring sites. This long-term, nationally consistent monitoring program, coupled with ecosystem research, provides critical information toward a national scorecard to evaluate the effectiveness of ongoing and future regulations intended to reduce atmospheric emissions and subsequent impacts to the Nation's land and water resources. Reports and other information on the NADP/NTN Program, as well as all data from the individual sites, can be found at <http://bqs.usgs.gov/acidrain/>

The National Water-Quality Assessment (NAWQA) Program of the USGS is a long-term program with goals to describe the status and trends of water-quality conditions for a large, representative part of the Nation's ground- and surface-water resources; provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 59 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.

Communication and coordination between USGS personnel and other local, State, and Federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representatives from key Federal, State, and local water resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies. Additional information about the NAWQA Program can be found at <http://water.usgs.gov/nawqa/>

Explanation of Records

The surface-water records published in this report are for the 2004 water year that began on October 1, 2003, and ended September 30, 2004. The records contain streamflow data and information for lakes and reservoirs. 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 in this report, whether stream site, or other site, 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 system used by the USGS 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 surface-water stations and the “latitude-longitude” system is used for wells and other off-stream sites.

Downstream Order System

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

The station-identification number is assigned according to downstream order. 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. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete number for each station, such as 02351890, which appears just to the left of the station name, includes the two-digit Part number “02” plus the downstream-order number “351890,” which can be from six to 12 digits. Most of the station-identification numbers in this report are eight digits; however, up to 14 digit numbers are permissible.

Latitude-Longitude System

The identification numbers for wells and other off-stream sites, such as rain gages, are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells or other sites within a 1-second grid. This site-identification number, once assigned, is a pure number, and has no location significance. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description.

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of stage or discharge are those obtained using a continuous or specified time-interval 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. Occasionally, other parameters such as tainter gate openings and stream velocity will also be needed to compute discharges. Stations for which daily mean discharges or gage heights are published 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 “Crest-stage partial records,” or “Low-flow partial records.” Records of miscellaneous peak discharge at selected sites or of measurements from specific studies, such as low-flow seepage studies, may be considered as partial records and these are presented under the appropriate heading. Locations of all complete-record and crest-stage partial-record stations for which data are given in this report are displayed by activating the appropriate theme on the user interface.

Data Collection and Computation

The data obtained at a complete-record gaging station on a stream or canal consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relations between stage and discharge. These data, together with supplemental information, as weather records, are used to compute daily discharges.

Continuous records of stage are obtained with devices that record stage values at selected time intervals or with analog recorders that trace continuous graphs of stage. Measurements of discharge are made with current meters using methods adapted by the USGS 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 (TWRI), Book 3, Chapters A1 through A19 and Book 8, Chapters A2 and B2. The methods referenced above are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for Standards (ISO).

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 is also used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. For some stations, formation of ice in the winter may so obscure the stage-discharge relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes of observations, and records for other stations in the same or nearby basins for comparable periods.

At some stream-gaging stations the backwater from reservoirs, tributary streams, or other sources affects the stage-discharge relations. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relations are affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

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. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged; the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous and following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. 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.”

Computation of records of lake or reservoir contents requires a stage-contents relation, which can be obtained from surveys, curves, or tables defining this relationship. The application of stage to the stage-contents curves or tables gives the contents from which daily, monthly, or yearly changes then are determined. If the stage-contents relation changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relation.

Data Presentation

Streamflow data in the 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 minimums, and flow duration.

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 station manuscript.

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. River mileages, given for only a few stations, were determined by methods given in “River Mileage Measurement,” Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

DRAINAGE AREA.—Drainage areas are measured using the most accurate maps available. Because the type of maps available at the time of determination of drainage area varies from one drainage basin to another, the accuracy of drainage areas likewise varies. Drainage areas are updated as better maps and funds 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 be reasonably considered equivalent with records from the present station.

REVISED RECORDS.—Published records, because of new information, 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 does 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 referred to mean sea level (see glossary), 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 computation, to conditions that affect natural flow at the station and, possibly, to other pertinent items.

COOPERATION.—Records provided by a cooperating organization or obtained for the USGS by a cooperating organization are identified here.

EXTREMES OUTSIDE THE 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 USGS.

PEAK DISCHARGES FOR CURRENT YEAR.—For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented under this heading. The peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330.

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

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 obtain the record from published data reports may wish to contact the USGS Georgia Water Science Center office to determine if the published records were revised after the station was discontinued. Data obtained from computer files for discontinued stations will be current since these files are updated with appropriate revisions at the time revisions are made.

Manuscript information for lake or reservoir stations differs slightly from that for stream and stage stations. A paragraph describing the dam, beginning storage date, if known, and pertinent contents and elevation information is included in the description. Normally there is no “REMARKS” section. “EXTREMES” sections are presented only for those reservoirs where daily or more frequent pool elevations are available.

Headings for **AVERAGE DISCHARGE, EXTREMES FOR PERIOD OF RECORD, AND EXTREMES FOR CURRENT YEAR** have been deleted and the information contained in these paragraphs, except for the listing of secondary instantaneous peak discharges, which are now presented in the **PEAK DISCHARGES FOR CURRENT YEAR** paragraph, is now presented in the tabular summaries following the discharge table or in the **REMARKS** paragraph, as appropriate. No changes have been made to the data presentations of lake contents.

Data table of daily mean values

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 regulation or diversion or if the drainage area includes large noncontributing areas. At some stations monthly and (or) yearly-observed discharges are adjusted for reservoir storage or diversion, or diversion data or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

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 maximum and minimum monthly flows 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 record 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.

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 record 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 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.

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 statistic.

MAXIMUM PEAK FLOW.—The maximum instantaneous peak discharge occurring for the water year or designated period. Occasionally the maximum flow for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak flow is given in the table and the maximum flow may be reported in a footnote or in the REMARKS paragraph in the manuscript.

MAXIMUM PEAK STAGE.—The maximum instantaneous peak stage occurring for the water year or designated period. Occasionally the maximum stage for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak stage is given in the table and the maximum stage may be reported in the REMARKS paragraph in the manuscript or in a footnote. If the dates of occurrence of the maximum peak stage and maximum peak flow are different, 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 measurement 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) indicate the depth to which the drainage area would be covered if all of the runoff for a given time period were uniformly distributed on it.

10 PERCENT EXCEEDS.—The discharge that has been exceeded 10 percent of the time for the designated period.

50 PERCENT EXCEEDS.—The discharge that has been exceeded 50 percent of the time for the designated period.

90 PERCENT EXCEEDS.—The discharge that has been exceeded 90 percent of the time for the designated period.

There are several exceptions to the above-described format. First, if a station was operated under both non-regulated and significantly regulated flow regimes, two sets of monthly mean and summary statistics are furnished. One set of monthly mean and summary statistics represents the period prior to regulation, and the second set represents the period since flow has been regulated. The summary statistics prior to regulation do not include current calendar or water year statistics since they are included in the SINCE REGULATION summary statistics. Also, in the station manuscript there is an AVERAGE DISCHARGE line heading, which is the arithmetic mean of the complete water-year mean discharges for the entire period of record, and includes both the regulated and non-regulated periods of record. Some AVERAGE DISCHARGE computations may include mean discharges adjusted for reservoir storage or diversion. Another exception occurs when discharge records are fragmentary for various reasons. Then, the monthly mean and summary statistics have been eliminated or modified, based on available information, and EXTREMES FOR PERIOD OF RECORD and EXTREMES FOR CURRENT YEAR line headings have been included in the station manuscript. Extremes may include maximum and minimum stages and maximum and minimum discharges. The highest stage may have been obtained from a graphic, digital, or electronic recorder, a crest-stage gage, or by direct observation. Similarly, the minimum is the instantaneous minimum discharge, unless otherwise qualified, and was determined and reported in the same manner as the maximum.

The daily table of gage-height stations gives mean gage-height for each day. In the monthly summary, the line headed "MEAN" gives the average gage height during the month. The lines headed "MAX" and "MIN" provides the maximum and minimum daily gage heights, respectively, for the month.

Data for reservoirs are presented following the continuous-station data for the basin in which they are located. Month-end elevations, contents, and monthly and yearly change in contents are presented in tabular form following the reservoir station description.

Data collected at partial-record stations follow the information for continuous-record sites. If collected, data for partial-record discharge stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at low-flow partial-record stations. The data contained in the partial-record station tables are often supplemented by information gathered at miscellaneous sites that are neither continuous record nor partial-record stations. This information is presented in tables similar to those for the partial-record stations and the table headings explain the data that are shown.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified either by flagging individual daily values with the letter symbol "e" and printing a table footnote, "e Estimated," or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

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, measurement 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 the nearest whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures for values 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.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, and increase or decrease in evaporation due to artificial causes or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Records Available

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 USGS Georgia Water Science Center office. In addition, 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 Center office.

The National Water Data Exchange (NAWDEX), U.S. Geological Survey, Reston, VA 22092, indexes the water data available from more than 400 organizations, and serves as a focal point to help those in need of water data to determine what information is available. Information and assistance on how to use this system can be obtained from the Georgia Water Science Center office.

Records of Surface-Water Quality

Records of surface-water quality usually 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, quarterly or semi-annually. A periodic-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 station is a site other than a continuous or periodic-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 refer 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 displayed by activating the appropriate theme coverage.

On-Site Measurements and Sample Collection

A primary concern of the water-quality data acquisition efforts of the USGS is how well the data collected represent on-site water-quality conditions. Measurements of unstable variables such as water temperature, pH, and dissolved oxygen are made on site when samples are taken to assure that the reported readings accurately represent the water-quality at the time of sampling. Standard USGS procedures for the collection, treatment, and, if necessary, shipment of samples prior to laboratory analysis are also followed to assure that the constituents for which these samples are analyzed have changed minimally from their on-site values. These representative sampling procedures are documented in publications on “Techniques of Water-Resources Investigations,” Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4. These TWRIIs are listed in the “Publications on Techniques of Water-Resources Investigations” section of this report. The procedures are consistent with ASTM standards and generally follow ISO standards. Supplemental information to that found in the listed references may be obtained from the USGS Georgia Water Science Center Office.

One sample can adequately define 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 (NASQAN) program are obtained from at least several verticals. Whether samples collected at other sites are obtained from the centroid of flow or from several verticals, depends on flow conditions and other factors that must be evaluated by the collector.

Water Temperature

Water temperatures are measured at the water-quality stations, and are also obtained at the time of discharge measurements for water-discharge stations. At stations where recording instruments are used, maximum and minimum temperatures for each day are published. Daily-mean temperatures for these stations and water temperatures measured at the time of water-discharge measurements are on file in the Georgia Water Science Center Office.

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 discharge.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples are usually 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 section. Although data collected periodically may represent conditions only at the time of sampling, data are useful in establishing seasonal relations between quality and streamflow and in predicting long-term sediment-discharge characteristics of a stream. The methods used in the computation of sediment records are described in the TWRI Book 5, Chapter C1, are consistent with ASTM standards, and generally follow ISO standards.

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

Laboratory Measurements

Samples for indicator bacteria are analyzed locally. Samples for the National Stream-Quality Accounting Network, the Hydrologic Benchmark Network (see definitions), and several long-term trend stations are analyzed in the USGS laboratory in Arvada, Colo. The Alabama Water Science Center Sediment Laboratory or the Pennsylvania Water Science Center Sediment Laboratory analyzes all sediment samples. Georgia Environmental Protection Division (EPD) network samples are analyzed by the Laboratory Services Section, Georgia Department of Natural Resources, Environmental Protection Division, and this is so stated in the “Remarks” section of the station description. Methods used to analyze sediment samples and to compute sediment records are described in the TWRI Book 5, Chapter C1. Methods used by the USGS laboratories are given in the TWRI Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, A4, and A5. These methods are consistent with ASTM standards and generally follow ISO standards.

Data Presentation

Water-quality records collected at a surface-water daily-record station are published immediately following that record, regardless of the sampling frequency. Station number and name are the same for both records. If no daily surface-water record is available, continuing water-quality record is published with its own station number and name in the regular downstream-order sequence, while data for partial-record stations and miscellaneous sites appear in separate tables following tables of discharge at partial-record stations and miscellaneous sites. Here each partial-record station and miscellaneous site is published with its own station number and name in the regular downstream-order sequence and without descriptive statements.

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 constituents measured daily. Tables of chemical, physical, biological, and radiochemical data obtained at a frequency less than daily are presented first. In tables where both field and laboratory measurements of the same parameter are published (pH, specific conductance, and total alkalinity in this report), the laboratory determinations represent the quality of the sample at the time of analysis. Laboratory values for parameters measured in the field generally will be comparable to the field values for these parameters. Differences between the field and laboratory values represent a summation of (1) actual changes in the sample between the time of collection and the time of analysis, (2) errors in precision associated with instrument operation, and (3) errors in accuracy inherent in the instruments themselves. Tables of “daily values” of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence.

If the location is identical to that of the discharge-gaging station, the LOCATION and the DRAINAGE AREA statements are not repeated in the descriptive headings. The following information, as appropriate, is provided with each continuing 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 constituents measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the constituents individually.

EXTREMES.—Maximums and minimums are given only for constituents measured daily or more frequently. None are given for constituents 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 water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the USGS'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 USGS water-quality data are encouraged to obtain all required data from the appropriate computer file to insure the most recent updates.

Remark Codes

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

<u>PRINTED</u> <u>OUTPUT</u>	<u>REMARK</u>
E	Value is estimated.
>	Actual value is known to be greater than the value shown.
<	Actual value is known to be less than the value shown.
M	Presence of material verified, but not quantified.
N	Presumptive evidence of presence of material.
U	Material specifically analyzed for, but not detected.
A	Value is an average.
V	Analyte was detected in both the environmental sample and the associated blanks.
S	Most probable value.

Records of Ground-Water Levels

Water-level data from National and State networks of observation wells are given in this report. These data are intended to provide a sampling and historical record of water-level changes in the State's most important aquifers.

In this report, water-level records are presented for 179 wells that have continuous water-level data. In addition to these data, water level and other records for 365 wells throughout Georgia were obtained through cooperative efforts of many Federal, State, and local agencies and placed in the USGS National Water Information System. Every 2 years, the USGS Georgia Water Science Center and the Georgia Department of Natural Resources, Environmental Protection Division, publish a report for the previous calendar year entitled "Ground-Water Conditions for Georgia." This report contains water-level hydrographs for recorder wells, maps showing water-level changes from the previous year, and other useful information. Details about the availability of the data in the water-level file may be obtained from the Director, USGS Georgia Water Science Center.

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 ensure that measurements at each well are consistently accurate and reliable.

Hydrographs and summary of tables of water-level data are presented by aquifer and alphabetically by county. The primary site identification number for a given well is the 15-digit number that appears in header of the manuscript. The secondary identification number is the site name, derived according to a well-numbering system developed by the Georgia Water Science Center and based on the USGS index of 7½-minute topographic maps for Georgia. A matrix has been created to assign an alphanumeric designation to each topographic map in the State, with the column of maps covering the western-most portion of the State assigned the number "01" and the row of maps covering the southern-most portion of the State assigned the letter "A." Column numbers increase sequentially from west to east, and row letters advance alphabetically from south to north. Rows north of "Z" are designated by double letters; AA, BB, and so forth. The letters "I," "O," "II," and "OO" are not used. Each well in each 7½-minute quadrangle has been assigned a six-character designation consisting first of the column number, then of the row letter, or letters, of the quadrangle in which the well is located. The remaining digits of the local well number are assigned chronologically. The first well inventoried within the boundaries of a quadrangle is number 1. The number 1 is preceded by two zeros if the well is located on a quadrangle with a single-letter designation, and it is preceded by one zero if the well is located on a quadrangle with a double-letter designation. For example, the first well inventoried in the 08G quadrangle is designated the local well number 08G001, or the fourth well inventoried in the 11AA quadrangle is designated the local well number 11AA04.

Water-level records are obtained with devices that record water levels at selected time intervals. The water-level measurements in this report are given in feet with reference to land-surface datum (LSD). LSD is a datum plane that is approximately at land surface at each well. The elevation of the land-surface datum is given in the well description.

Data Presentation

Hydrographs for selected periods of record follow the station description. The first graph is a hydrograph of daily mean water levels in feet above or below land-surface datum for the current calendar year (negative sign indicates water level above land surface). The second graph shows monthly-mean water levels for the period of record and the maximum, mean, and minimum of the monthly values for the calendar year. Summary statistics of monthly and annual water levels is given in a table below this graph. Monthly statistics are not computed nor graphed if more than 5 days of missing record occurs. If missing record occurs during the calendar year, it is implied that the highest and lowest water levels are the highest and lowest recorded during the year. If missing record occurs for the period of record, it is implied that the highest and lowest water levels are the highest and lowest recorded during the period of record. The third hydrograph shows monthly mean water levels for the period-of-record in feet above or below land-surface datum. Blank areas on a graph or hydrograph indicate missing records.

AQUIFER.—Designates by name the aquifer(s) tapped by the well. A map showing the approximate area of aquifer use is included for each well.

LATITUDE AND LONGITUDE.—Furnishes the latitude and longitude of the well in degrees minutes and seconds. The datum for these coordinates is the North American Datum of 1983 (NAD 83).

SITE NAME.—Furnishes the site name assigned according to the Georgia state well naming system described previously.

PERIOD OF RECORD.—This entry indicates the period for which there are published records for the well. It lists the year of the start and end of water-level data reported for a give well.

WELL DEPTH.—This entry describes the depth of the well from land-surface datum.

DATUM.—This entry describes the land-surface elevation at the well. The elevation of the land-surface datum is described in feet above (or below) mean sea level; it is reported with a precision depending on the method of determination.

WELL DIAMETER.—This entry describes the diameter of the well opened to the aquifer, in inches.

ACCESS TO USGS WATER DATA

The U.S. Geological Survey (USGS) is the principal Federal water-data agency and, as such, collects and disseminates about 70 percent of the water data currently being used by numerous State, local, private, and other Federal agencies to develop and manage our water resources. The USGS 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). Some water-quality and ground water data also are available through the WWW. These data may be accessed nationwide at:

<http://water.usgs.gov>

In addition, considerable information concerning the water resources in Georgia can be accessed through the WWW at:

<http://ga.water.usgs.gov>

Data also can be provided in various machine-readable formats by email or CD-ROM. Information about the availability of specific types of data or products, and user charges, can be obtained locally from the USGS Georgia Water Science Center at the following address:

Director
USGS Georgia Water Science Center
Peachtree Business Center
3039 Amwiler Road, Suite 130
Atlanta, GA 30360-2824
(770) 903-9100

SUMMARY OF HYDROLOGIC CONDITIONS IN GEORGIA FOR THE 2004 WATER YEAR

Streamflow

The summary of hydrologic conditions for the 2004 water year for Georgia is based on the recorded daily precipitation totals and the daily mean streamflow from four “index” continuous streamflow gages operated by the U.S. Geological Survey (USGS). The four USGS index streamflow gages are 02226000 Altamaha River at Doortown, Ga.; 02317500 Alapaha River at Statenville, Ga.; 02347500 Flint River near Culloden, Ga.; and 02392000 Etowah River at Canton, Ga. Normal streamflow conditions represent the 25–75 percentile range of historical mean streamflow.

For the 2004 water year, the general trend was from normal to slightly above-normal rainfall and runoff patterns for the months from October through December, followed by dry conditions throughout the spring across the State, and ending with an extremely wet August and September caused by a very active tropical season.

From October through December, all areas of the State were at- or above-normal streamflow conditions. The south-central region of Georgia experienced more than 6.5 inches of rainfall at the Statenville gage during October, causing the streamflow to be above normal for October and November. The streamflow at Statenville gage was almost 8 times the normal-flow conditions for the month of November. The northwest region of the State also experienced heavy rainfall during November, with more than 6 inches of rainfall recorded at the Canton gage, causing the streamflow to be above normal for November and December.

The flow conditions across the State abruptly changed to below-normal conditions starting during January, with a brief respite during February, but continuing throughout the spring and early summer. Streamflows during January fell by more than half that recorded during December at three of the four index stations. Only the Culloden gage during January recorded about 75 percent of the December streamflow. Rainfall amounts of 3.13 inches at the Canton gage, 3.92 inches at the Culloden gage, and 3.95 inches at the Statenville gage helped the streamflow conditions recover for February to normal conditions. Dry conditions returned in March, with less than 0.20 inches of rainfall recorded at the Doortown and Statenville gages. Below-normal streamflow conditions continued through June, with flows averaging about 65 percent of normal.

Much needed rainfall began again during June and continued during July, bringing the streamflow conditions at all four index stations back into the normal range. Conditions were generally dry during August, which again returned streamflows to the at- or below-normal range at all four index stations. This changed quickly in the southeast region of Georgia as the first of five tropical storms impacted the State. Tropical Storm Bonnie grazed the southeastern edge of Georgia with minimal impact. This was followed a few days later by the remnants of Hurricane Charley, which dumped 5.42 inches of rainfall at the Statenville gage and 3.76 inches of rainfall at the Doortown gage during August 11 to 13. The remnants of Hurricane Frances tracked across the central region of Georgia during early September, followed by Hurricanes Ivan and Jeanne by mid-September. The rainfall amounts and subsequent flooding were dependent on the tracks of each storm. Rainfall amounts of 32.04 inches were recorded at the Statenville gage for the months of August and September. The Canton gage recorded almost 15 inches of rain during the same period. Especially hard hit was the Atlanta metropolitan area, where period of record floods occurred at several long-term stations, including Sope Creek near Marietta and Peachtree Creek at Atlanta. The gage at Peachtree Creek was inundated twice in less than 2 weeks by back-to-back period-of-record floods. Nearly every area of Georgia was affected by the series of tropical systems during August and September, bringing the dry conditions experienced earlier that year to end.

Ground Water

Hydrographs in this section of the report provide an overview of ground-water levels in major aquifers in Georgia during 2004. Changes in ground-water levels measured in wells are caused by changes in aquifer storage. Taylor and Alley (2001) describe the many factors that affect ground-water storage; these are briefly discussed here. When recharge to an aquifer exceeds discharge, ground-water levels rise; and when discharge exceeds recharge, ground-water levels decline. Recharge varies in response to precipitation and surface-water infiltration into an aquifer. Discharge occurs as natural flow from an aquifer to streams and springs, as evapotranspiration, and as withdrawal from wells.

Water levels in aquifers in Georgia typically follow a cyclic pattern of seasonal fluctuation, with rising water levels during winter and spring due to greater recharge from precipitation, and declining water levels during summer and fall due to less recharge, greater evapotranspiration, and pumping. The magnitude of fluctuations can vary greatly from season to season and from year to year in response to varying climatic conditions.

Ground-water pumping is the most significant human activity that affects the amount of ground water in storage and the rate of discharge from an aquifer (Taylor and Alley, 2001). As ground-water storage is depleted within the radius of influence of pumping, water levels in the aquifer decline, forming a cone of depression around the well. In areas having a high density of pumped wells, multiple cones of depression can form and produce water-level declines across a large area. These declines may alter ground-water-flow directions, reduce flow to streams, capture water from a stream or adjacent aquifer, or alter ground-water quality.

Ground-water levels are monitored continuously in a network of wells completed in major aquifers of the State. This network includes, but is not limited to, 20 wells in the surficial aquifer, 18 wells in the upper and lower Brunswick aquifers, 5 wells in the Floridan Aquifer system, 67 wells in the Upper Floridan aquifer, 17 wells in the Lower Floridan aquifer and underlying units, 12 wells in the Claiborne aquifer, 1 well in the Gordon aquifer, 11 wells in the Clayton aquifer, 12 wells in the Cretaceous aquifer system, 2 wells in Paleozoic-rock aquifers, and 14 wells in crystalline-rock aquifers. In this report, data from these 179 wells were evaluated to determine whether mean-annual ground-water levels were within, below, or above the normal range during 2004. This evaluation indicates that water levels during 2004 were mostly above normal in almost all aquifers monitored, largely reflecting climatic effects from the end of the drought and reduced pumping.

Reference Cited

Taylor, C.J., and Alley, W.M., 2001, Ground-water-level monitoring and the importance of long-term water-level data: U.S. Geological Survey Circular 1217, 68 p.

Water Quality

Chemical and biological water-quality network data collection continued throughout the 2004 calendar year in cooperation with the Georgia Department of Natural Resources, Environmental Protection Division (GaEPD). All water-quality data collection was in accordance with the data-quality objectives set forth in the Quality Assurance Project Plan for river basin monitoring per the GaEPD River-Basin Management Plan (RBMP). The RBMP was in its ninth year of implementation during 2004. For the statewide network of USGS-GaEPD water-quality stations, data were collected as many as 20 times at each of the 147 stations statewide with emphasis on collecting data at stations in the “Middle Georgia 3” RBMP basin-of-focus,

which is comprised of the Oconee, Ocmulgee, and Altamaha River Basins. Major ion and nutrient samples were collected once monthly at each of 83 stations, which included 34 long-term statewide monitoring stations, or “core” stations, and 16 lake-standards stations that are sampled each year. Five core stations and four lake-standards stations were located in the 2004 RBMP basin-of-focus. Additionally, fecal coliform samples were collected at all of the 147 stations sampled during 2004, such that four samples were collected in a 30-day period once quarterly. Two trace-metal samples were collected at 33 stations in the RBMP basin-of-focus, one during high-flow conditions and one during low-flow conditions. This report contains data collected during the 2004 calendar year for the USGS-GaEPD network and other data collected, in cooperation with the GaEPD, to support of water-resources planning and management. These data also are supplemented by data from other USGS water-quality programs such as National Water-Quality Assessment (NAWQA). Large parts of the Georgia–Florida Coastal Plain and Apalachicola–Chattahoochee–Flint River Basin NAWQA study units are located in Georgia.

Water Use in Georgia

The Georgia Water-Use Program (GWUP)—a cooperative project between the USGS and the Georgia Department of Natural Resources, Environmental Protection Division, Georgia Geologic Survey—has documented the use of water in the State since 1977. The primary purpose of the program is to collect, compile, and disseminate data on the principal water users in Georgia. Water-use data—compiled by various Federal, State, and local agencies—are combined into a centralized database known as the Georgia Water-Use Data System (GWUDS). GWUDS contains permitted water-use information on public supplies, industrial and commercial supplies, and thermoelectric- and hydroelectric-power uses from 1980-2003. The GWUP personnel estimate water withdrawals for irrigation use by inches of water applied per crop and acre, domestic water use by population and per capita, and livestock water use by animal.

Georgia water law requires a withdrawal permit for all public-supply, industrial, and other water users that withdraw more than 100,000 gallons per day (gal/d). The Georgia Department of Natural Resources, Environmental Protection Division, Water Resources Management Branch (WRMB), is responsible for the issuance of all permits and enforcement of reporting requirements. Each year, water users are required to report monthly withdrawals to the WRMB. During 1988, the Georgia Legislature enacted a permitting law for irrigation water users that withdraw more than 100,000 gal/d; however, reporting of water-withdrawal amounts to the WRMB is not required.

Reported off-stream withdrawal for thermoelectric-power, public-supply, and industrial and commercial water-use categories totaled about 4,085 million gallons per day (Mgal/d) during 2004. Eighteen thermoelectric-power plants, the largest water users in Georgia, withdrew about 2,278 Mgal/d during 2004, a continual decline since 2000. During 2000, during the height of the drought, greater demands were placed on thermoelectric power, therefore requiring larger water withdrawals. During the last few years, one thermoelectric-power plant has closed and at least two other plants have greatly reduced their water withdrawals. Permitted withdrawals by public-supply systems totaled about 1,210 Mgal/d, of which about 81 percent were from surface-water sources. Permitted withdrawals by industrial and commercial users totaled about 596 Mgal/d.

DEFINITION OF TERMS

Specialized technical terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. Definitions of common terms such as algae, water level, and precipitation are given in standard dictionaries. Not all terms defined in this alphabetical list apply to every State. See also table for converting inch/pound units to International System (SI) units at the end of this report. Other glossaries that also define water-related terms are accessible from <http://water.usgs.gov/glossaries.html>.

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.

Adjusted discharge is discharge data that have been mathematically adjusted (for example, to remove the effects of a daily tidal cycle or reservoir storage).

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. (See also “Biomass” and “Dry weight”)

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 through 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 poly-chlorinated 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 percentage weight of the hydrogen-substituted chlorine.

DEFINITION OF TERMS—continued.

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 collected. 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” and “Dry mass”)

Aspect is the direction toward which a slope faces with respect to the compass.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, whereas 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.

Bankfull stage, as used in this report, is the stage at which a stream first overflows its natural banks formed by floods with 1- to 3-year recurrence intervals.

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 peak flows per year will be published. (See also “Peak flow”)

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 foot) that are retained in the bedload sampler. A sample collected with a pressure-differential bedload sampler also may contain a component of the suspended load.

Bedload discharge (tons per day) is the 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,” “Dry weight,” “Sediment,” and “Suspended-sediment discharge”)

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.

DEFINITION OF TERMS—continued.

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 that 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”)

Bulk electrical conductivity is the combined electrical conductivity of all material within a doughnut-shaped volume surrounding an induction probe. Bulk conductivity is affected by different physical and chemical properties of the material including the dissolved solids content of the pore water and lithology and porosity of the rock.

Canadian Geodetic Vertical Datum 1928 is a geodetic datum derived from a general adjustment of Canada’s first order level network in 1928.

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 or 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 (π) is the ratio of the circumference to the diameter of a circle; $\pi = 3.14159\dots$

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 for all species.

Cfs-day (See “Cubic foot per second-day”)

Channel bars, as used in this report, are the lowest prominent geomorphic features higher than the channel bed.

DEFINITION OF TERMS—continued.

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 water 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 that physically affects 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, ft^3/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-foot” sometimes is used synonymously with “cubic foot per second” but is now obsolete.

Cubic foot per second-day (CFS-DAY, Cfs-day, $[(\text{ft}^3/\text{s})/\text{d}]$) 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, $(\text{ft}^3/\text{s})/\text{mi}^2$] 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”)

DEFINITION OF TERMS—continued.

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 “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.

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 sediment 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 chemicals, 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.

DEFINITION OF TERMS—continued.

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:

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

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”)

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”)

Embeddedness is the degree to which gravel-sized and larger particles are surrounded or enclosed by finer-sized particles. (See also “Substrate embeddedness class”)

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 Enterococcus 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 (nutrient medium for bacterial growth) and subsequent transfer to EIA medium. Enterococci include *Streptococcus faecalis*, *Streptococcus faecium*, *Streptococcus avium*, and their variants. (See also “Bacteria”)

DEFINITION OF TERMS—continued.

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 (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also “Bacteria”)

Estimated (E) concentration value 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 semivolatile and extractable by ethyl acetate from air-dried streambed sediment. 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 sediment.

Fecal coliform bacteria are present in the intestines or feces of warm-blooded animals. They often are 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 intestines 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.

DEFINITION OF TERMS—continued.

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 greater 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 often is 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.

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.

Geomorphic channel units, as used in this report, are fluvial geomorphic descriptors of channel shape and stream velocity. Pools, riffles, and runs are types of geomorphic channel units considered for National Water-Quality Assessment (NAWQA) Program habitat sampling.

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, as used in this report, includes all nonliving (physical) aspects of the aquatic ecosystem, although living components like aquatic macrophytes and riparian vegetation also are usually included. Measurements of habitat are typically made over a wider geographic scale than are measurements of species distribution.

Habitat quality index is the qualitative description (level 1) of in stream 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 commonly is 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 (CaCO₃).

DEFINITION OF TERMS—continued.

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 that uses tolerance values to weight taxa abundances; usually increases with pollution. It is calculated as follows:

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

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

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. An 8-digit number identifies each hydrologic unit.

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")

International Boundary Commission Survey Datum refers to a geodetic datum established at numerous monuments along the United States-Canada boundary by the International Boundary Commission.

Island, as used in this report, is a mid-channel bar that has permanent woody vegetation, is flooded once a year on average, and remains stable except during large flood events.

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 nondetection 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 (NWQL) 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 on the basis of the most current quality-control data and, therefore, may change. [Note: In several previous NWQL documents (NWQL Technical Memorandum 98.07, 1998), the LRL was called the nondetection 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.

DEFINITION OF TERMS—continued.

Latent heat flux (often used interchangeably with latent heat-flux density) is the amount of heat energy that converts water from liquid to vapor (evaporation) or from vapor to liquid (condensation) across a specified cross-sectional area per unit time. Usually expressed in watts per square meter.

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 usually are 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.

DEFINITION OF TERMS—continued.

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.

Megahertz is a unit of frequency. One megahertz equals one million cycles per second.

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.

Method of Cubatures is a method of computing discharge in tidal estuaries based on the conservation of mass equation.

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 milligrams per liter and is based on the mass of dry sediment per liter of water-sediment mixture.

DEFINITION OF TERMS—continued.

Minimum reporting level (MRL) is the smallest measured concentration of a constituent that may be reliably reported by using a given analytical method.

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.

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 Datum of 1927 (NAD 27) is the horizontal control datum for the United States that was defined by a location and azimuth on the Clarke spheroid of 1866.

North American Datum of 1983 (NAD 83) is the horizontal control datum for the United States, Canada, Mexico, and Central America that is based upon the adjustment of 250,000 points including 600 satellite Doppler stations that constrain the system to a geocentric origin. NAD 83 has been officially adopted as the legal horizontal datum for the United States by the Federal government.

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 United States. This datum was established in 1991 by minimum-constraint adjustment of the Canadian, Mexican, and United States first-order terrestrial leveling networks.

DEFINITION OF TERMS—continued.

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 sediment. May be reported as dissolved organic carbon (DOC), particulate organic carbon (POC), or total organic carbon (TOC).

Organic mass or volatile mass of a 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).

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:

<u>Classification</u>	<u>Size (mm)</u>	<u>Method of analysis</u>
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
Cobble	>64 - 25	Manual measurement
Boulder	>256	Manual measurement

DEFINITION OF TERMS—continued.

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. For the sedimentation method, 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 of 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 a measure of the amount of sunlight potentially reaching the stream. A clinometer is used to measure left and right bank canopy angles. These values are added together, divided by 180, and multiplied by 100 to compute percentage of shade.

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. Although 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 7.0 standard units are termed “acidic,” and solutions with a pH greater than 7.0 are termed “basic.” Solutions with a pH of 7.0 are neutral. The presence and concentration of many dissolved chemical constituents found in water are affected, in part, by the hydrogen-ion activity of water. Biological processes including growth, distribution of organisms, and toxicity of the water to organisms also are affected, 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 commonly are known as algae. (See also “Plankton”)

DEFINITION OF TERMS—continued.

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.

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.

Pool, as used in this report, is a small part of a stream reach with little velocity, commonly with water deeper than surrounding areas.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photo-synthetic 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. The 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 with unenriched water samples. 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. The 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 elements 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.

DEFINITION OF TERMS—continued.

Reach, as used in this report, is a length of stream that is chosen to represent a uniform set of physical, chemical, and biological conditions within a segment. It is the principal sampling unit for collecting physical, chemical, and biological data.

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 nonexceedance 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 nonexceedances of the $7Q_{10}$ occur less than 10 years after the previous nonexceedance, half occur less than 7 years after, and about one-eighth occur more than 20 years after the previous nonexceedance. 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 $7Q_{10}$.

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”)

Riffle, as used in this report, is a shallow part of the stream where water flows swiftly over completely or partially submerged obstructions to produce surface agitation.

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 is used to denote location along a river.

Run, as used in this report, is a relatively shallow part of a stream with moderate velocity and little or no surface turbulence.

DEFINITION OF TERMS—continued.

Runoff is the quantity of water that is discharged (“runs off”) from a drainage basin during 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.

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 affected by environmental and land-use factors. Some major factors are topography, soil characteristics, land cover, and depth and intensity of precipitation.

Sensible heat flux (often used interchangeably with latent sensible heat-flux density) is the amount of heat energy that moves by turbulent transport through the air across a specified cross-sectional area per unit time and goes to heating (cooling) the air. Usually expressed in watts per square meter.

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

Shelves, as used in this report, are stream bank features extending nearly horizontally from the flood plain to the lower limit of persistent woody vegetation.

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.

Soil heat flux (often used interchangeably with soil heat-flux density) is the amount of heat energy that moves by conduction across a specified cross-sectional area of soil per unit time and goes to heating (or cooling) the soil. Usually expressed in watts per square meter.

Soil-water content is the water lost from the soil upon drying to constant mass at 105 °C; expressed either as mass of water per unit mass of dry soil or as the volume of water per unit bulk volume of soil.

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.

DEFINITION OF TERMS—continued.

Stable isotope ratio (per 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 water, to evaluate mixing of different water, 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.

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 the percentage covered by fine sediment:

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

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 foot) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Surrogate is an analyte that behaves similarly to a target analyte, but that is highly unlikely to occur in a sample. A surrogate is added to a sample in known amounts before extraction and is measured with the same laboratory procedures used to measure the target analyte. Its purpose is to monitor method performance for an individual sample.

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

DEFINITION OF TERMS—continued.

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, on the basis of 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 foot 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/d) 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, on the basis of 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.

Synoptic studies are short-term investigations of specific water-quality conditions during selected seasonal or hydro-logic 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.

DEFINITION OF TERMS—continued.

Taxa (Species) richness is the number of species (taxa) present in a defined area or sampling unit.

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:	Hexagenia
Species:	Hexagenia limbata

Thalweg is the line formed by connecting points of minimum streambed elevation (deepest part of the channel).

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.)

DEFINITION OF TERMS—continued.

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 milliliters of sample. (See also “Bacteria”)

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 “Bedload,” “Bedload discharge,” “Sediment,” “Suspended sediment,” and “Suspended-sediment concentration”)

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”)

DEFINITION OF TERMS—continued.

Transect, as used in this report, is a line across a stream perpendicular to the flow and along which measurements are taken, so that morphological and flow characteristics along the line are described from bank to bank. Unlike a cross section, no attempt is made to determine known elevation points along the line.

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 U.S. 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.

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 path length of UV light through a sample.

Unconfined aquifer is an aquifer whose upper surface is a water table free to fluctuate under atmospheric pressure. (See “Water-table aquifer”)

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.

Water table is that surface in a ground-water body at which the water pressure is equal to the atmospheric pressure.

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

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, 2002, is called the “2002 water year.”

Watershed (See “drainage basin”)

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.)

DEFINITION OF TERMS—continued.

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 often are 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”)

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

The USGS publishes a series of manuals titled the “Techniques of Water-Resources Investigations” that describe procedures for planning and conducting specialized work in water-resources investigations. The material in these manuals 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. Each chapter then is limited to a narrow field of the section subject matter. This publication format permits flexibility when revision or printing is required.

Manuals in the Techniques of Water-Resources Investigations series, which are listed below, are available online at <http://water.usgs.gov/pubs/twri/>. Printed copies are available for sale from the USGS, Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (an authorized agent of the Superintendent of Documents, Government Printing Office). Please telephone “1-888-ASK-USGS” for current prices, and refer to the title, book number, section number, chapter number, and mention the “U.S. Geological Survey Techniques of Water-Resources Investigations.” Other products can be viewed online at <http://www.usgs.gov/sales.html>, or ordered by telephone or by FAX to (303)236-4693. Order forms for FAX requests are available online at <http://mac.usgs.gov/isb/pubs/forms/>. Prepayment by major credit card or by a check or money order payable to the “U.S. Geological Survey” is required.

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.

**PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS
OF THE U.S. GEOLOGICAL SURVEY—continued.**

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.
- 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.

**PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS
OF THE U.S. GEOLOGICAL SURVEY—continued.**

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 programmed 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.

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.

**PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS
OF THE U.S. GEOLOGICAL SURVEY—continued.**

- 4–A3. *Statistical methods in water resources*, by D.R. Helsel and R.M. Hirsch: USGS–TWRI book 4, chap. A3. 1991. Available only online at <http://water.usgs.gov/pubs/twri/twri4a3/>. (Accessed August 30, 2002.)

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.

**PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS
OF THE U.S. GEOLOGICAL SURVEY—continued.**

- 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. A6. 1996. 125 p.
- 6–A7. *User's guide to SEAWAT: A computer program for simulation of three-dimensional variable-density ground-water flow*, by Weixing Guo and Christian D. Langevin: USGS–TWRI book 6, chap. A7. 2002. 77 p.

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.

**PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS
OF THE U.S. GEOLOGICAL SURVEY—continued.**

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.

Continuous Ground-Water Level Data (Calendar Year)
by Aquifer

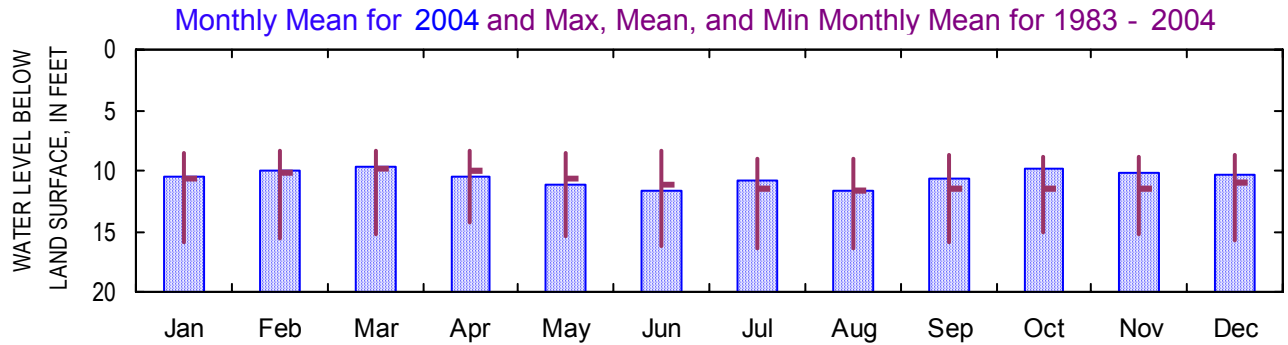
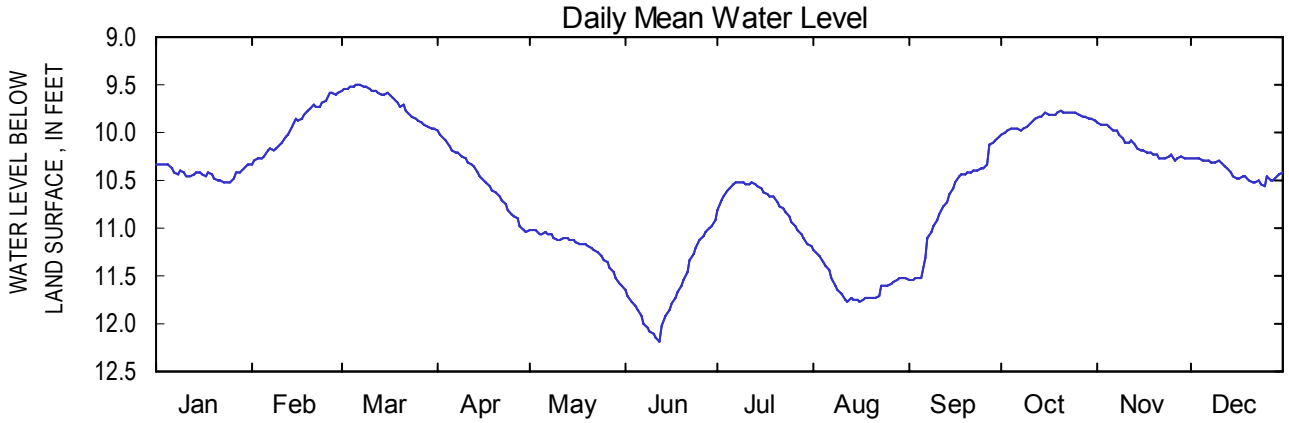


**SURFICIAL AQUIFER SYSTEM
2004 Calendar Year**

321240081411502

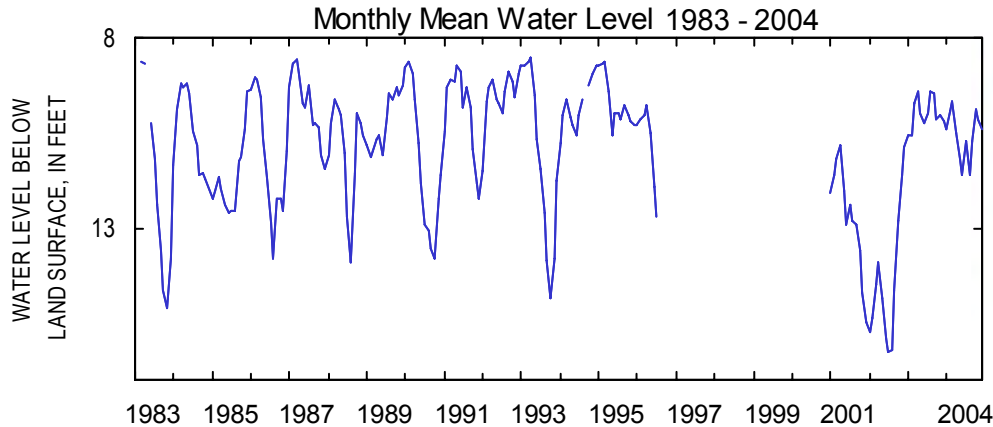
Site Name: 32R003

Latitude: 32° 12' 40" Longitude: 081° 41' 15" BULLOCH Period of Record: 1983 - 2004
Well Depth: 155 feet Datum: 120.00 feet Well Diameter 6.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	10.42	9.93	9.68	10.49	11.20	11.63	10.74	11.59	10.72	9.87	10.14	10.41
Max	10.52	10.32	9.96	11.03	11.61	12.19	11.20	11.78	11.53	10.02	10.29	10.55
Min	10.33	9.58	9.51	9.99	11.02	10.93	10.52	11.23	10.05	9.78	9.89	10.27
1983 - 2004												
Mean	10.71	10.20	9.84	9.97	10.59	11.12	11.41	11.63	11.41	11.40	11.39	11.07
Max	15.82	15.59	15.18	14.25	15.38	16.19	16.36	16.38	15.91	15.14	15.27	15.77
Min	8.55	8.40	8.41	8.28	8.52	8.42	9.07	8.98	8.73	8.93	8.84	8.62



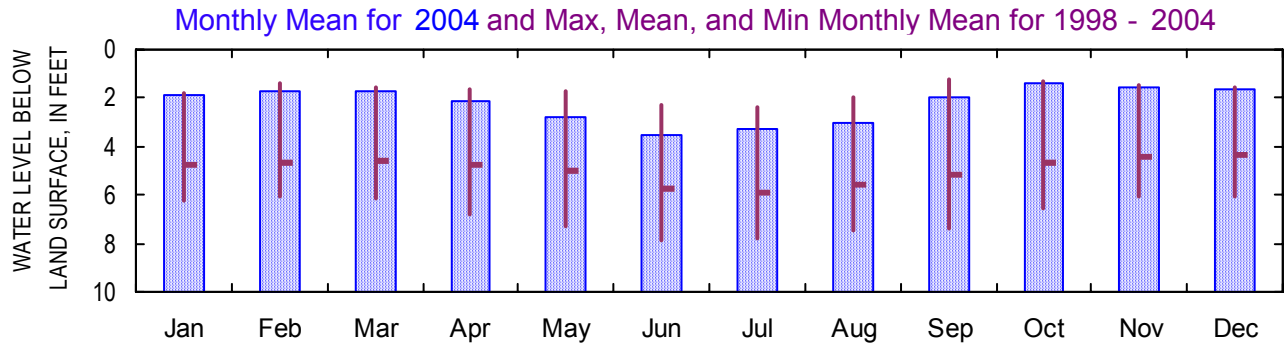
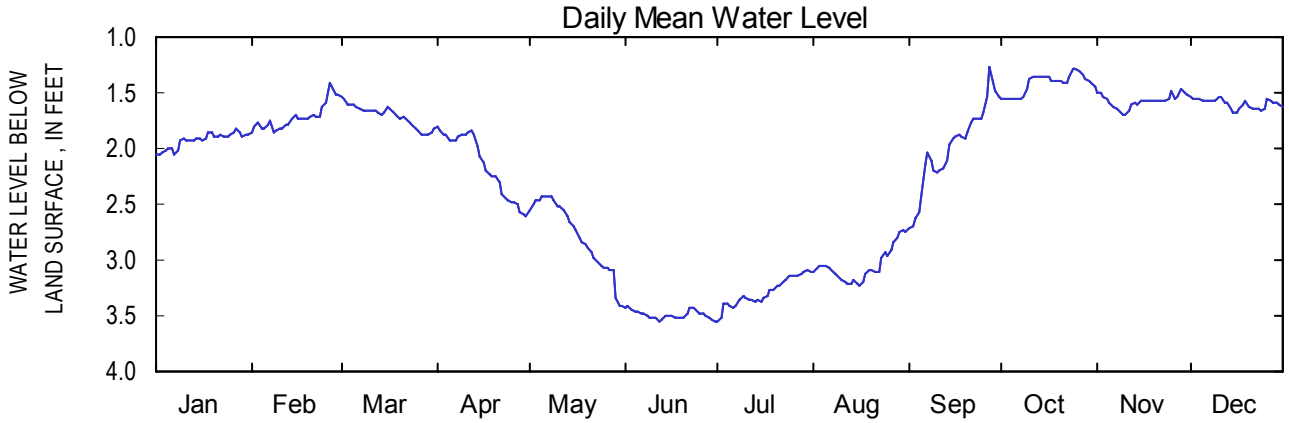


**SURFICIAL AQUIFER SYSTEM
2004 Calendar Year**

304406081330503

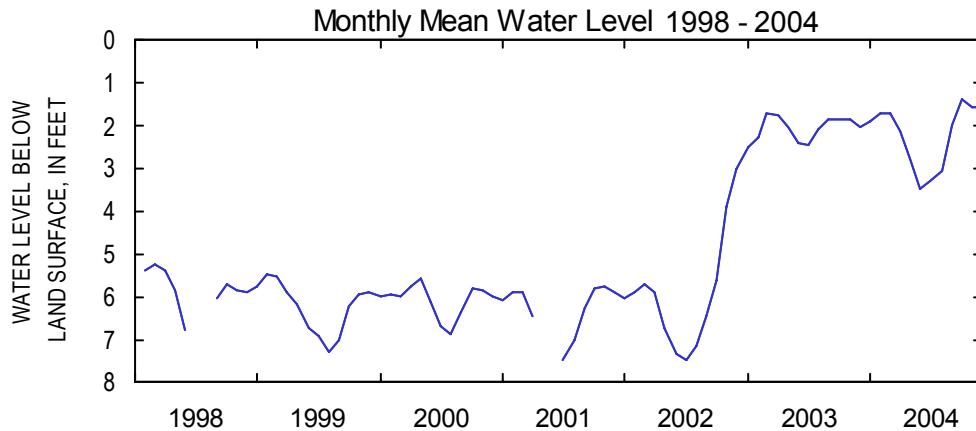
Site Name: 33D072

Latitude: 30° 44 '06" Longitude: 081° 33 '05" CAMDEN Period of Record: 1998 - 2004
Well Depth: 255 feet Datum: 10 feet Well Diameter 4 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	1.93	1.72	1.71	2.14	2.78	3.49	3.29	3.05	1.98	1.42	1.58	1.60
Max	2.06	1.86	1.88	2.60	3.41	3.55	3.55	3.23	2.72	1.56	1.70	1.67
Min	1.81	1.42	1.53	1.81	2.42	3.40	3.08	2.73	1.27	1.28	1.46	1.53
1998 - 2004												
Mean	4.76	4.66	4.56	4.77	5.03	5.70	5.89	5.61	5.16	4.64	4.39	4.33
Max	6.19	6.08	6.16	6.78	7.26	7.83	7.81	7.48	7.40	6.54	6.05	6.08
Min	1.81	1.42	1.53	1.62	1.76	2.28	2.38	1.95	1.27	1.28	1.46	1.53



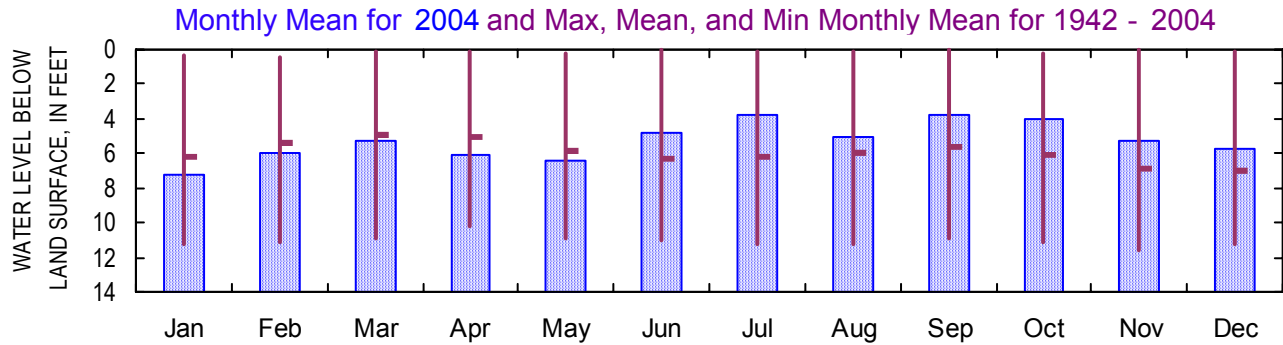
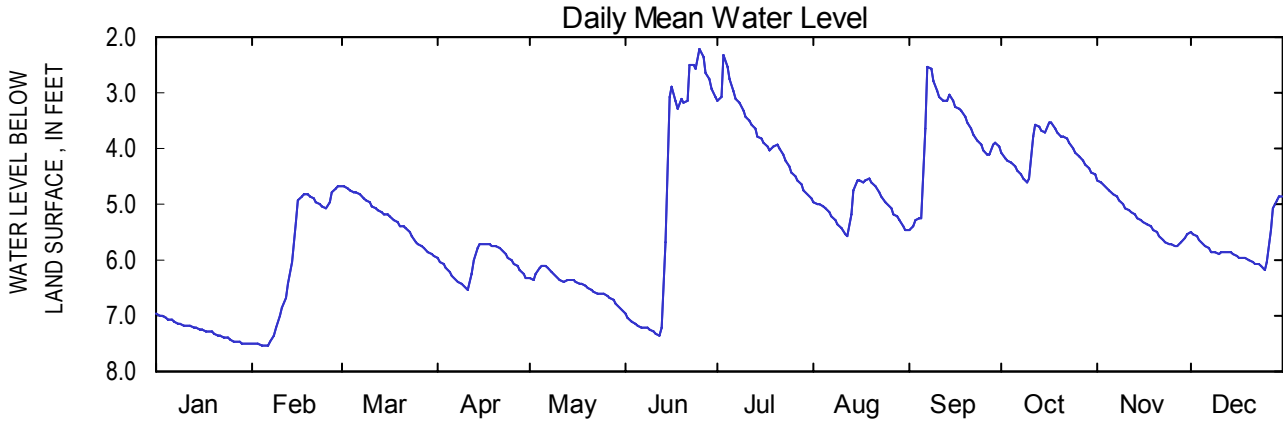


**SURFICIAL AQUIFER SYSTEM
2004 Calendar Year**

315950081161201

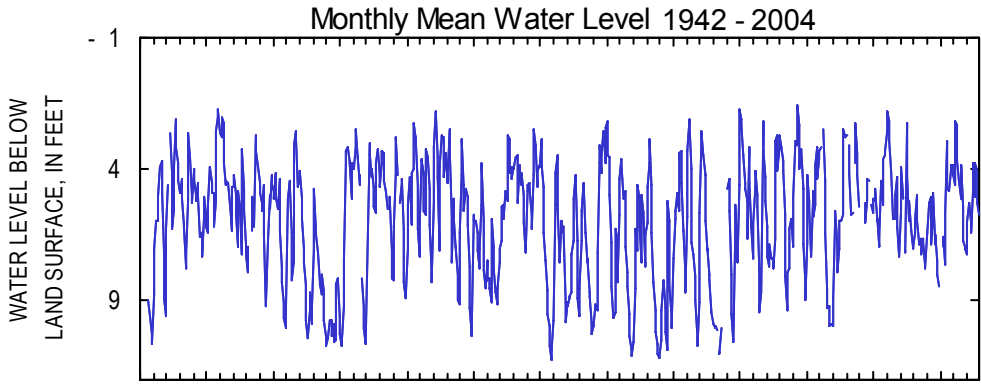
Site Name: 35P094

Latitude: 31° 59' 50" Longitude: 081° 16' 12" CHATHAM Period of Record: 1942 - 2004
Well Depth: 15 feet Datum: 18.67 feet Well Diameter 30.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	7.26	5.99	5.24	6.06	6.44	4.82	3.78	5.03	3.76	4.05	5.26	5.74
Max	7.50	7.53	5.92	6.55	6.90	7.36	4.89	5.59	5.47	4.59	5.76	6.17
Min	6.96	4.68	4.67	5.70	6.11	2.23	2.33	4.54	2.52	3.53	4.56	4.87
1942 - 2004												
Mean	6.22	5.41	4.93	5.10	5.89	6.28	6.22	5.98	5.62	6.09	6.91	7.02
Max	11.19	11.12	10.93	10.25	10.87	11.05	11.21	11.23	10.90	11.10	11.59	11.24
Min	0.33	0.51	0.16	0.09	0.28	0.00	0.12	0.17	0.05	0.28	0.00	0.07



1942 1947 1952 1957 1962 1967 1972 1977 1982 1987 1992 1997 2002 2004

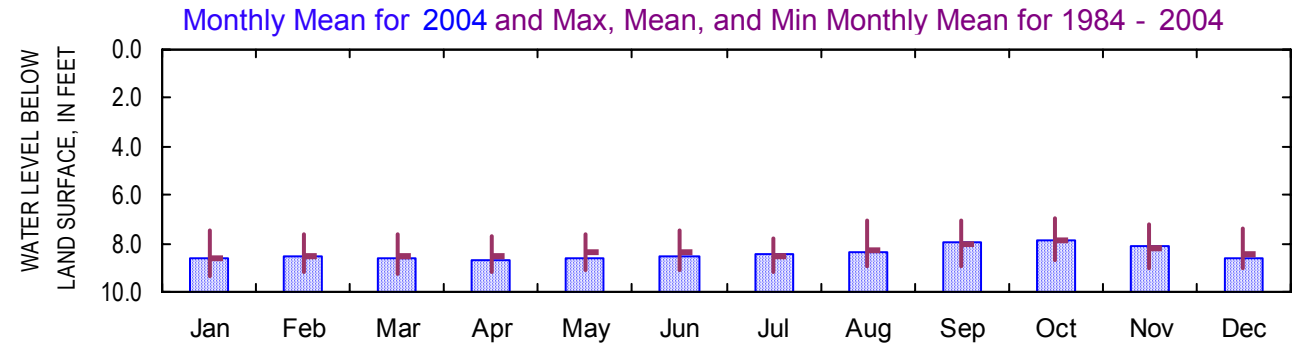
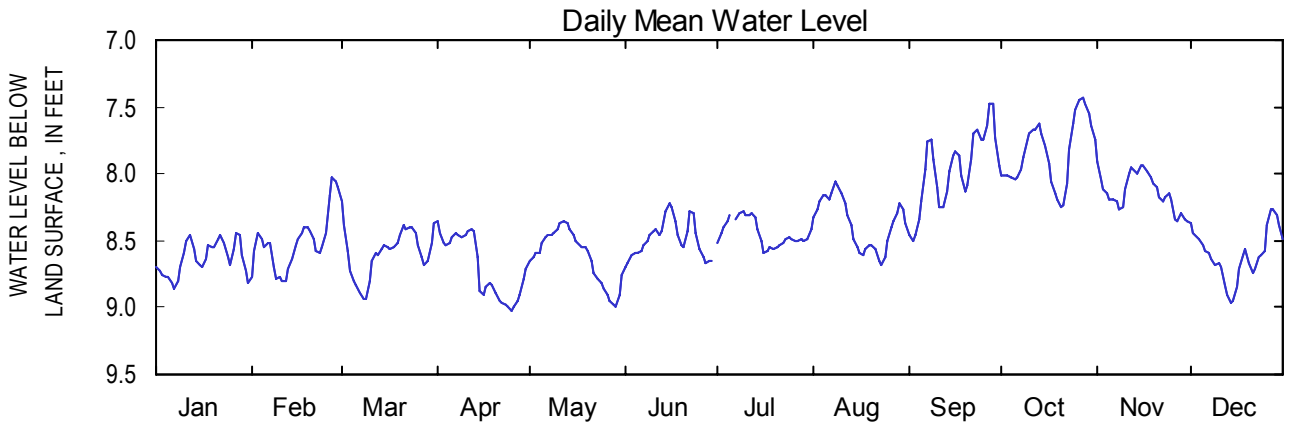


**SURFICIAL AQUIFER SYSTEM
2004 Calendar Year**

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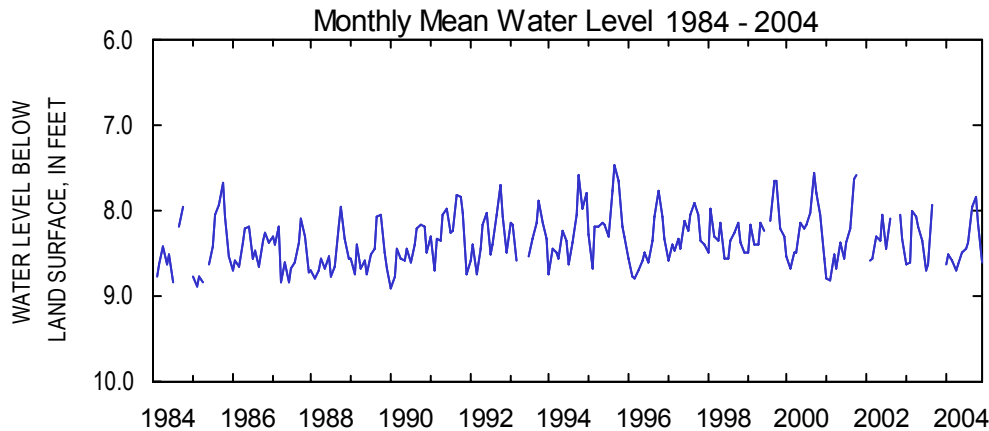
Site Name: 37P116

Latitude: 31° 59' 06" Longitude: 081° 01' 12" CHATHAM Period of Record: 1984 - 2004
Well Depth: 85 feet Datum: 10.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	8.63	8.51	8.58	8.70	8.62	8.49	8.44	8.37	7.96	7.84	8.13	8.60
Max	8.86	8.80	8.93	9.02	9.00	8.70	8.59	8.68	8.50	8.25	8.36	8.97
Min	8.44	8.02	8.21	8.35	8.36	8.22	8.29	8.06	7.47	7.43	7.91	8.27
1984 - 2004												
Mean	8.57	8.56	8.49	8.49	8.36	8.37	8.50	8.30	8.00	7.88	8.18	8.44
Max	9.33	9.21	9.27	9.16	9.06	9.10	9.19	8.93	8.96	8.67	9.02	9.05
Min	7.43	7.59	7.65	7.72	7.60	7.44	7.82	7.05	7.03	6.93	7.20	7.39



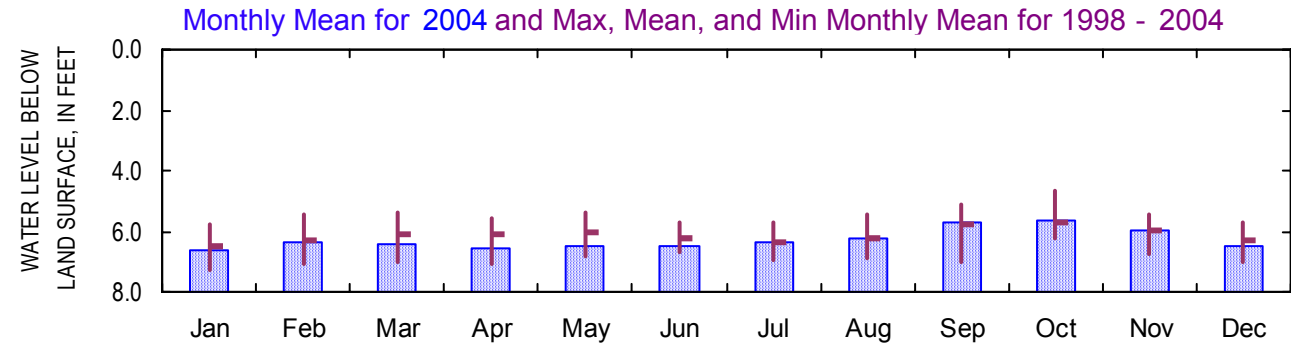
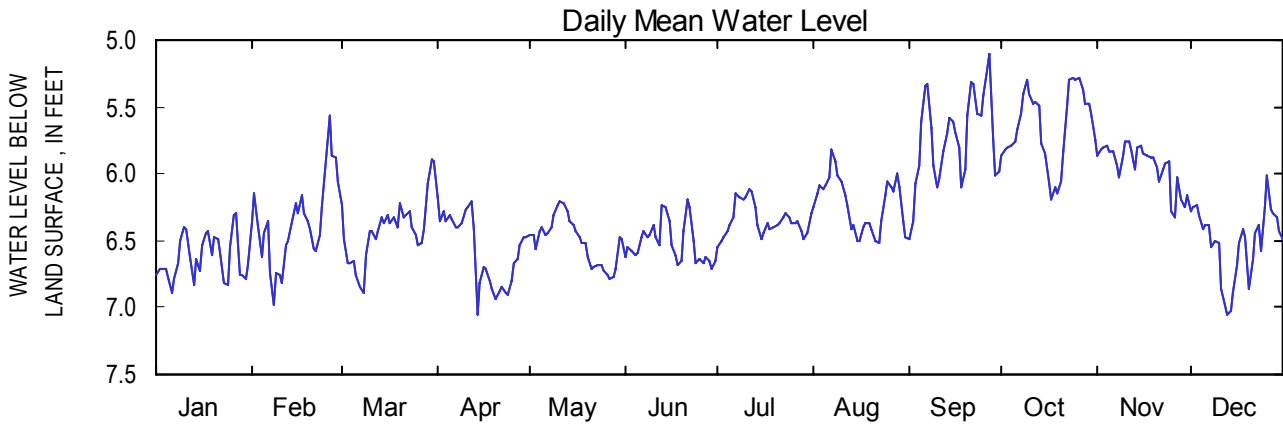


**SURFICIAL AQUIFER SYSTEM
2004 Calendar Year**

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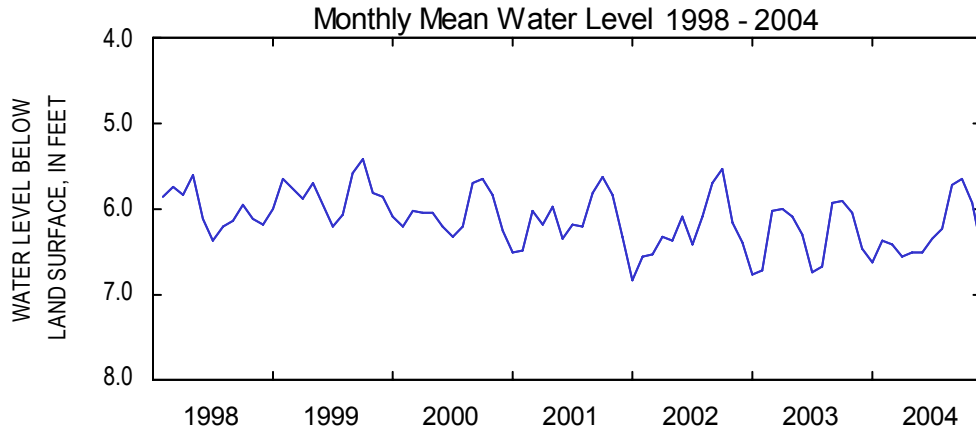
Site Name: 38Q208

Latitude: 32° 02' 02" Longitude: 080° 54' 12" CHATHAM Period of Record: 1998 - 2004
Well Depth: 62 feet Datum: 4.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	6.63	6.36	6.42	6.57	6.51	6.52	6.35	6.23	5.73	5.65	5.94	6.51
Max	6.89	6.98	6.90	7.06	6.78	6.71	6.55	6.52	6.49	6.19	6.32	7.05
Min	6.29	5.57	5.90	6.18	6.21	6.18	6.11	5.81	5.10	5.28	5.75	6.02
1998 - 2004												
Mean	6.47	6.27	6.08	6.12	6.04	6.22	6.37	6.24	5.80	5.67	5.96	6.28
Max	7.25	7.11	7.00	7.06	6.83	6.71	6.97	6.90	7.03	6.22	6.74	7.05
Min	5.76	5.42	5.39	5.59	5.35	5.69	5.74	5.47	5.10	4.66	5.46	5.69



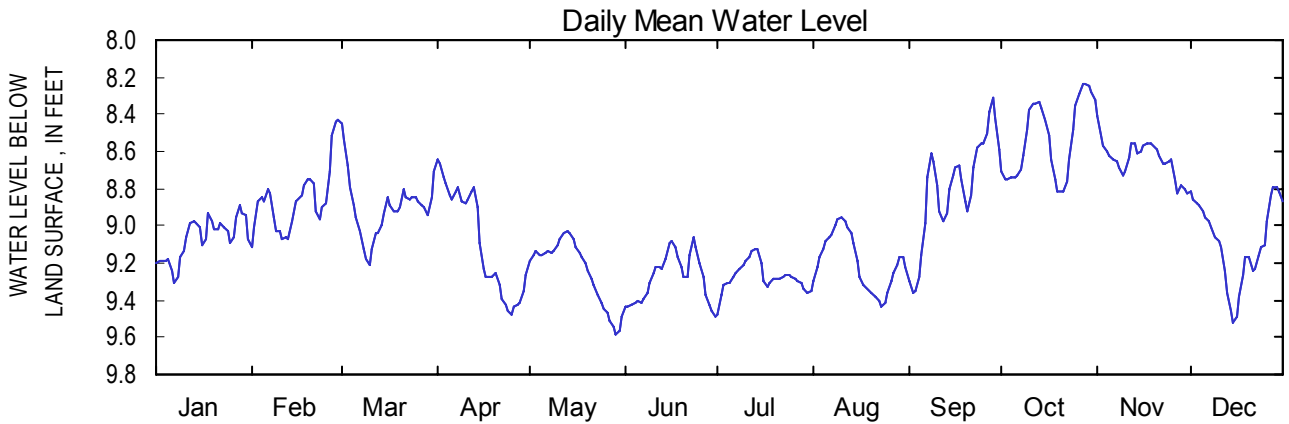


**SURFICIAL AQUIFER SYSTEM
2004 Calendar Year**

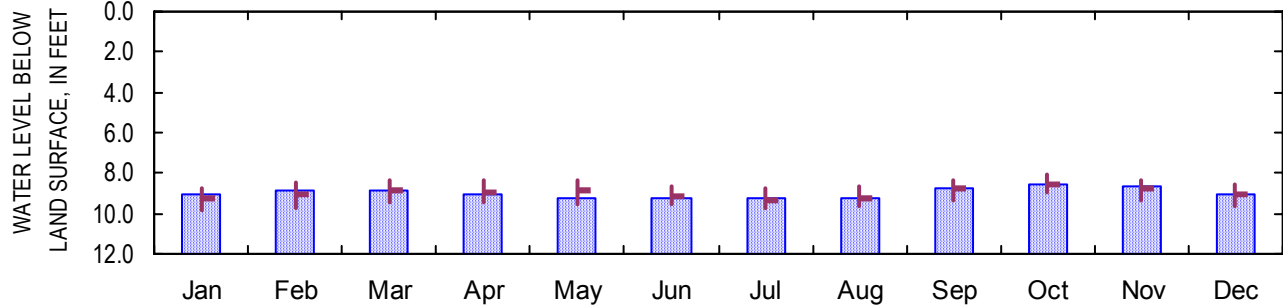
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Site Name: 38Q209

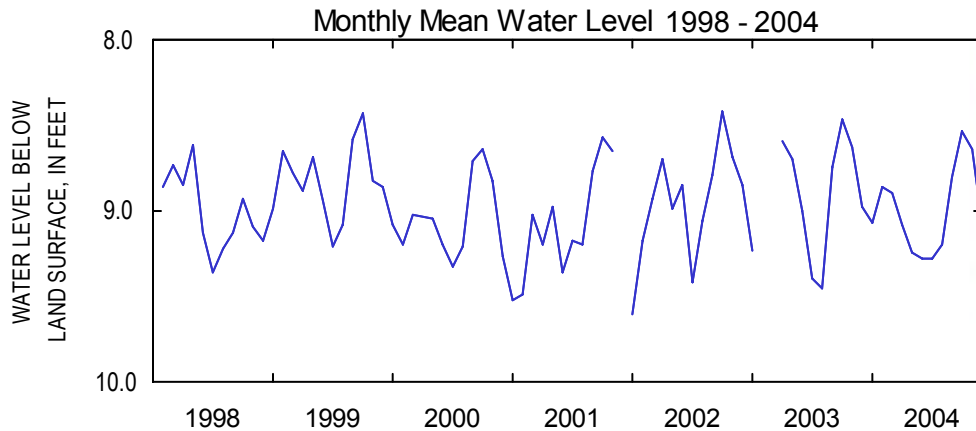
Latitude: 32 °02 '02" Longitude: 080° 54 '12" CHATHAM Period of Record: 1998 - 2004
Well Depth: 102.00 feet Datum: 4.00 feet Well Diameter 4 inches



Monthly Mean for 2004 and Max, Mean, and Min Monthly Mean for 1998 - 2004



Monthly Water-Level Statistics												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	9.07	8.86	8.90	9.09	9.24	9.28	9.27	9.20	8.80	8.54	8.64	9.08
Max	9.30	9.12	9.21	9.48	9.59	9.49	9.48	9.43	9.36	8.82	8.82	9.52
Min	8.89	8.43	8.45	8.65	9.03	9.07	9.12	8.96	8.31	8.23	8.41	8.79
1998 - 2004												
Mean	9.25	9.07	8.89	8.90	8.89	9.11	9.31	9.20	8.79	8.57	8.77	9.04
Max	9.88	9.72	9.40	9.48	9.59	9.57	9.73	9.66	9.37	8.99	9.36	9.68
Min	8.76	8.42	8.39	8.33	8.35	8.65	8.74	8.61	8.31	8.04	8.32	8.59



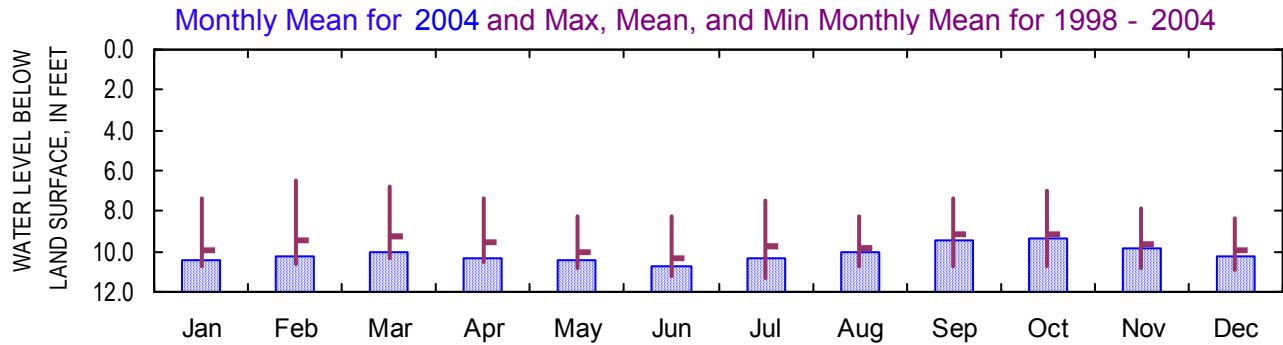
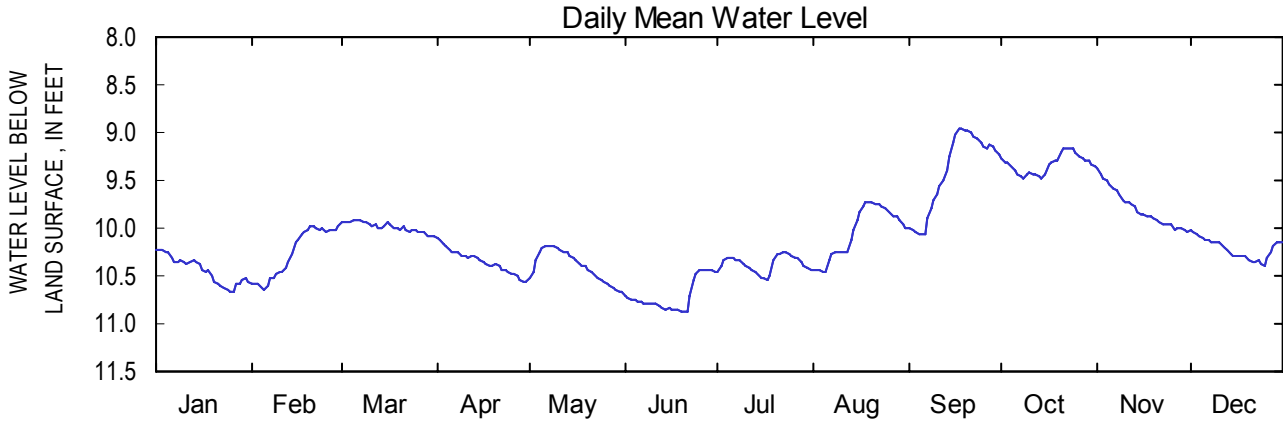


**SURFICIAL AQUIFER SYSTEM
2004 Calendar Year**

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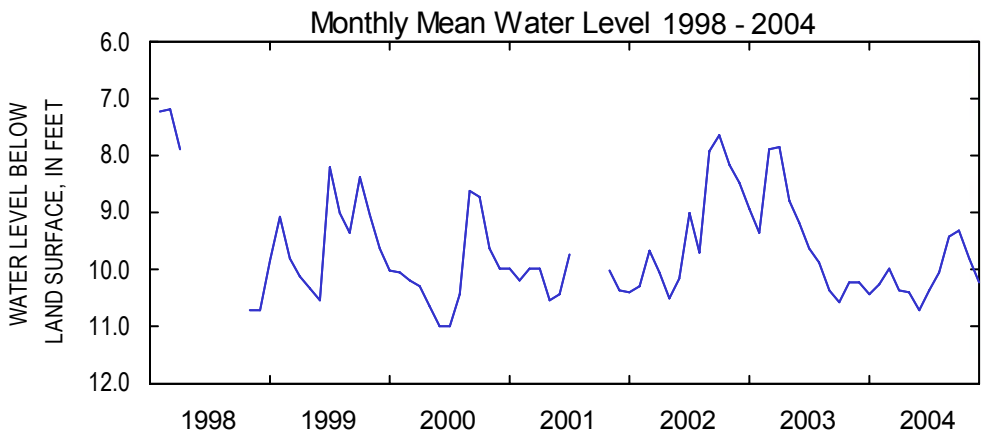
Site Name: 39Q029

Latitude: 32° 01' 27" Longitude: 080° 51' 12" CHATHAM Period of Record: 1998 - 2004
Well Depth: 37 feet Datum: 10.00 feet Well Diameter 4.00 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	10.44	10.26	9.99	10.35	10.40	10.71	10.38	10.04	9.41	9.33	9.79	10.22
Max	10.67	10.64	10.09	10.57	10.67	10.88	10.54	10.47	10.07	9.49	10.03	10.39
Min	10.23	9.97	9.91	10.11	10.19	10.43	10.25	9.73	8.95	9.16	9.38	10.03
1998 - 2004												
Mean	9.91	9.49	9.24	9.50	10.05	10.33	9.69	9.79	9.19	9.12	9.65	9.94
Max	10.67	10.64	10.33	10.57	10.78	11.18	11.30	10.72	10.75	10.68	10.81	10.87
Min	7.34	6.54	6.79	7.33	8.28	8.24	7.52	8.26	7.41	6.98	7.89	8.32



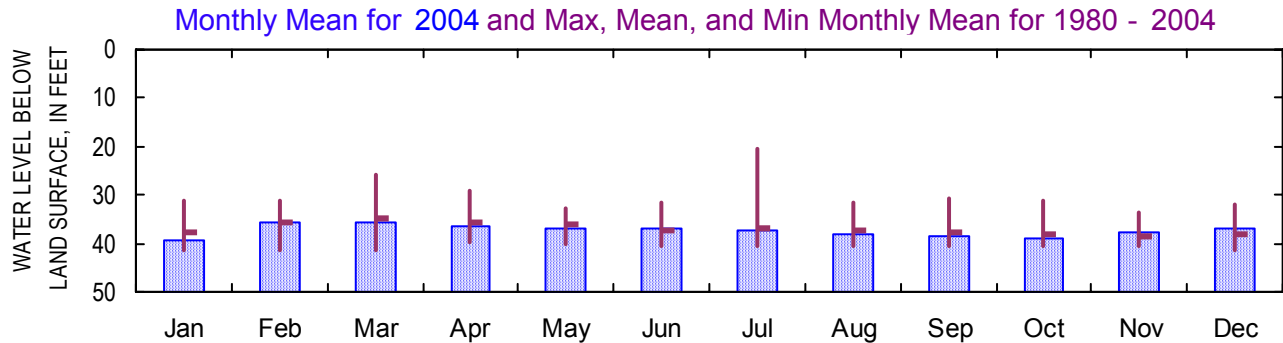
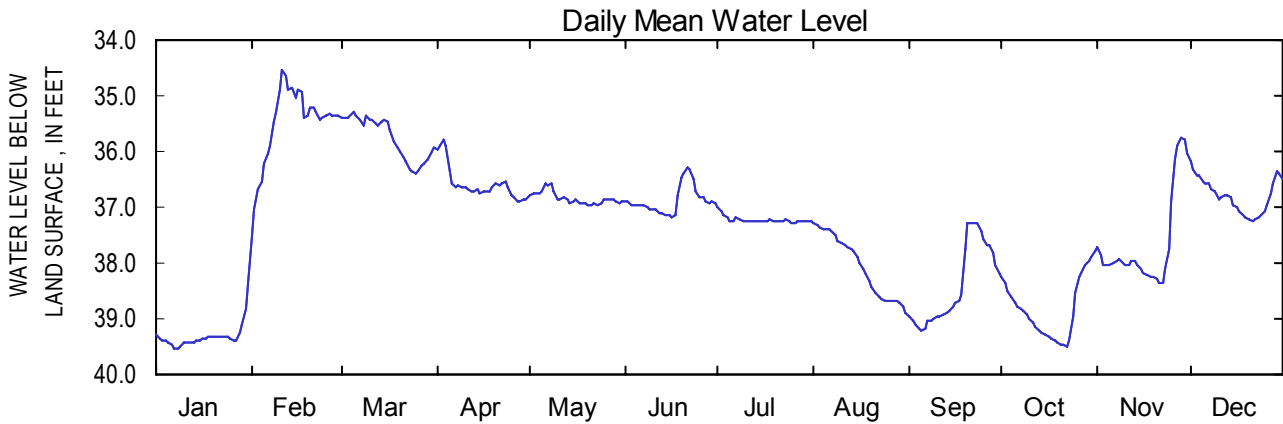


**SURFICIAL AQUIFER SYSTEM
2004 Calendar Year**

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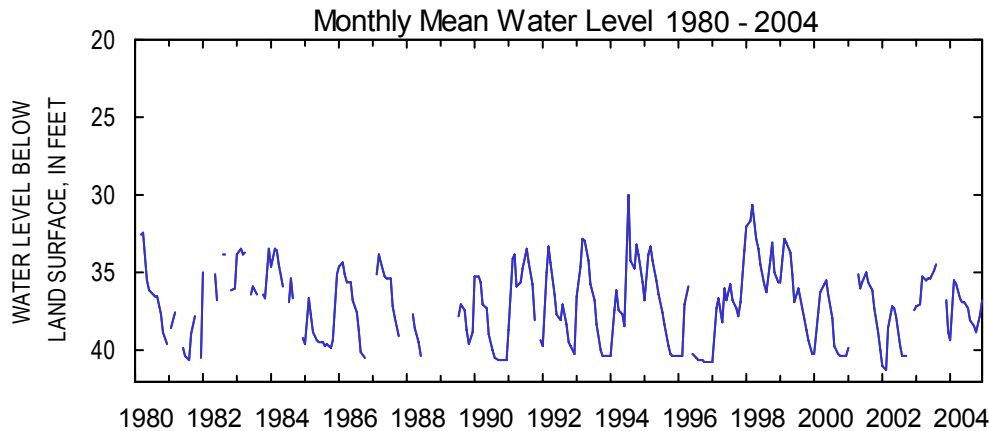
Site Name: 09G003

Latitude: 31° 04' 28" Longitude: 084° 31' 05" DECATUR Period of Record: 1980 - 2004
Well Depth: 40 feet Datum: 145.00 feet Well Diameter 4.00 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	39.33	35.49	35.76	36.58	36.84	36.87	37.23	38.06	38.41	38.82	37.67	36.79
Max	39.54	37.51	36.39	36.89	36.97	37.17	37.30	38.88	39.22	39.49	38.36	37.24
Min	38.40	34.53	35.28	35.77	36.56	36.30	36.98	37.27	37.27	37.78	35.74	36.18
1980 - 2004												
Mean	37.53	35.81	34.99	35.47	36.20	37.12	36.90	37.33	37.84	38.29	38.42	38.29
Max	41.20	41.20	41.20	39.67	40.05	40.75	40.69	40.64	40.72	40.72	40.73	41.42
Min	31.21	31.00	25.65	29.12	32.86	31.62	20.56	31.73	30.74	31.00	33.42	31.80



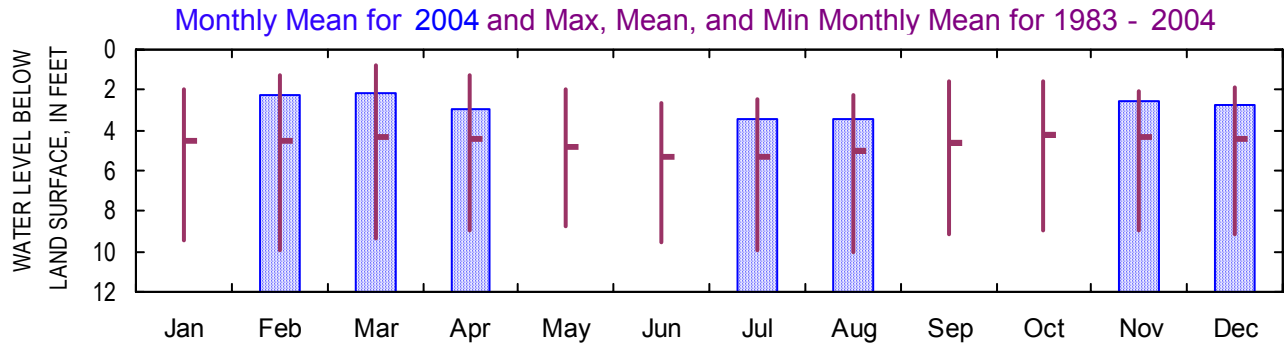
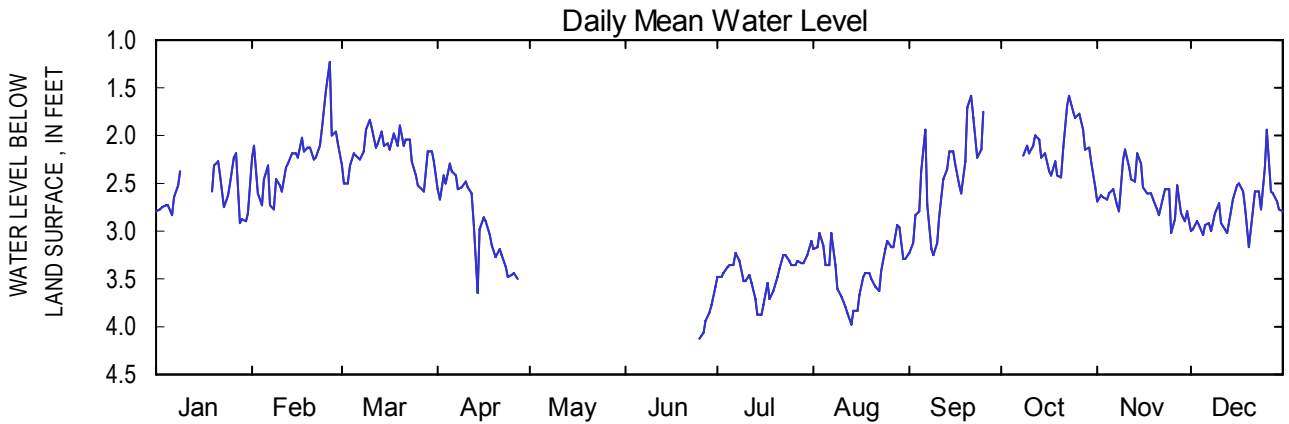


**SURFICIAL AQUIFER SYSTEM
2004 Calendar Year**

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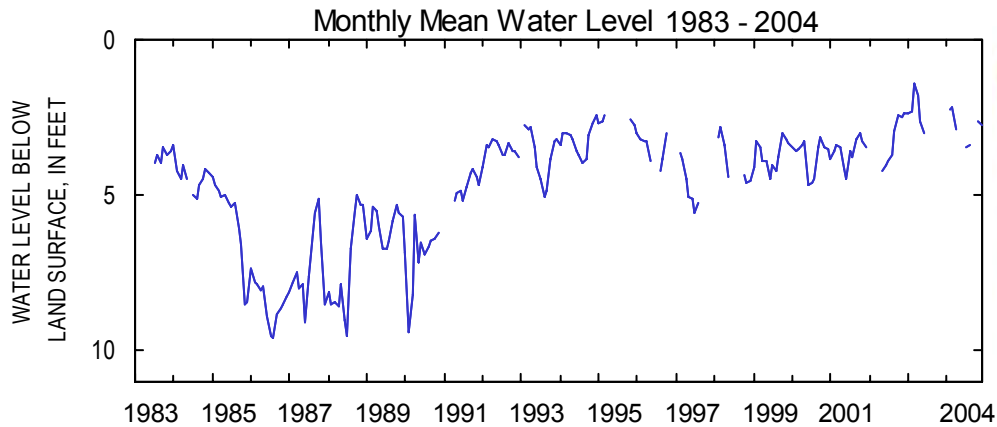
Site Name: 33H208

Latitude: 31° 09' 25" Longitude: 081° 31' 22" GLYNN Period of Record: 1983 - 2004
Well Depth: 155 feet Datum: 7.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	2.23	2.19	2.90	3.45	3.40	2.60	2.76					
Max	2.78	2.58	3.65	3.88	3.97	3.02	3.16					
Min	1.24	1.83	2.29	3.10	2.93	2.14	1.93					
1983 - 2004												
Mean	4.53	4.48	4.35	4.43	4.80	5.28	5.29	4.99	4.60	4.20	4.36	4.39
Max	9.44	9.93	9.38	8.96	8.74	9.56	9.97	10.04	9.12	8.92	8.92	9.16
Min	2.01	1.24	0.77	1.31	1.98	2.67	2.44	2.27	1.59	1.58	2.05	1.87



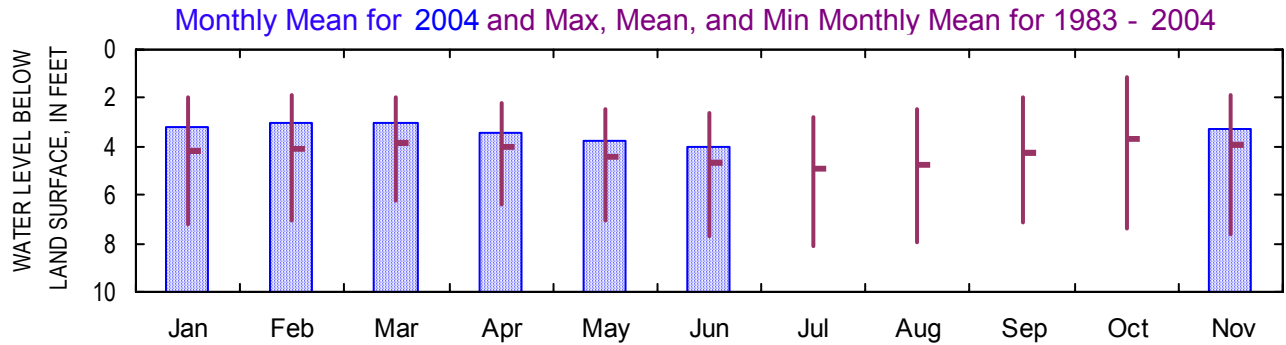
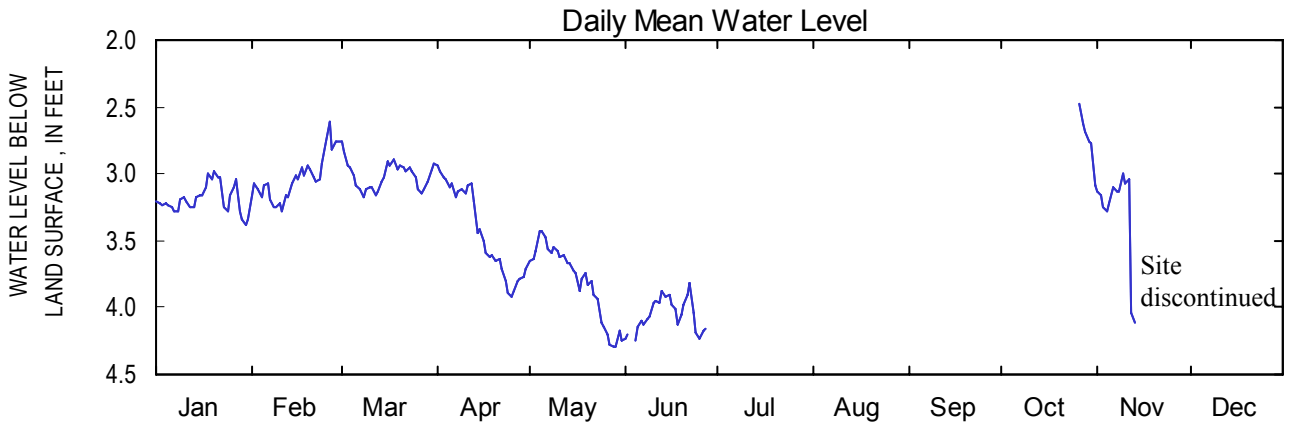


**SURFICIAL AQUIFER SYSTEM
2004 Calendar Year**

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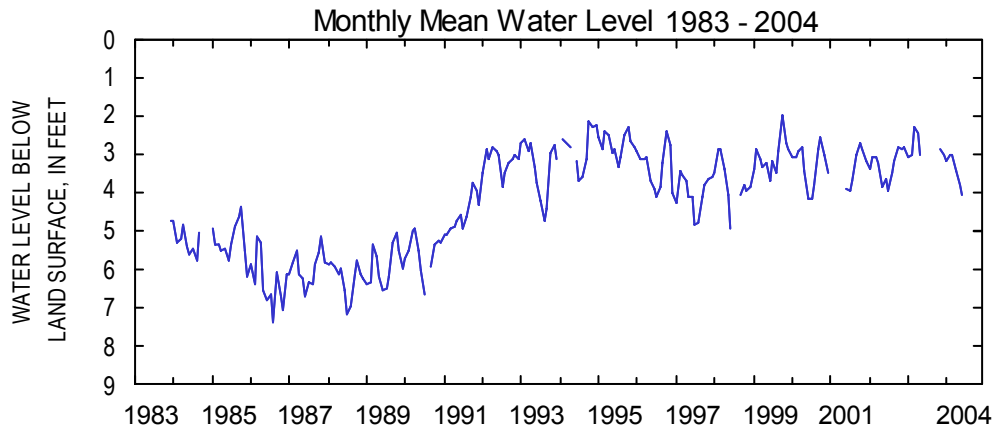
Site Name: 34H438

Latitude: 31° 09' 01" Longitude: 081° 28' 44" GLYNN Period of Record: 1983 - 2004
Well Depth: 202 feet Datum: 7.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	
2004												
Mean	3.19	3.03	3.01	3.43	3.81	4.06				3.28	-3.69	
Max	3.38	3.27	3.17	3.91	4.29	4.24				4.11	-3.08	
Min	2.99	2.60	2.76	2.94	3.42	3.82				3.00	-4.29	
1983 - 2004												
Mean	4.20	4.07	3.89	4.00	4.44	4.68	4.89	4.76	4.23	3.71	3.91	4.17
Max	7.21	7.02	6.26	6.42	7.06	7.67	8.13	7.93	7.15	7.36	7.65	6.82
Min	1.97	1.92	1.93	2.23	2.49	2.64	2.78	2.49	1.96	1.13	1.86	1.87



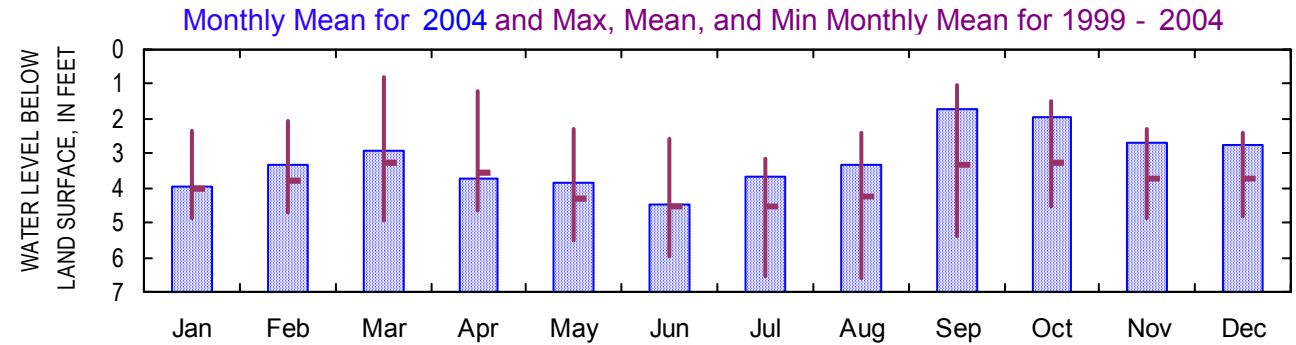
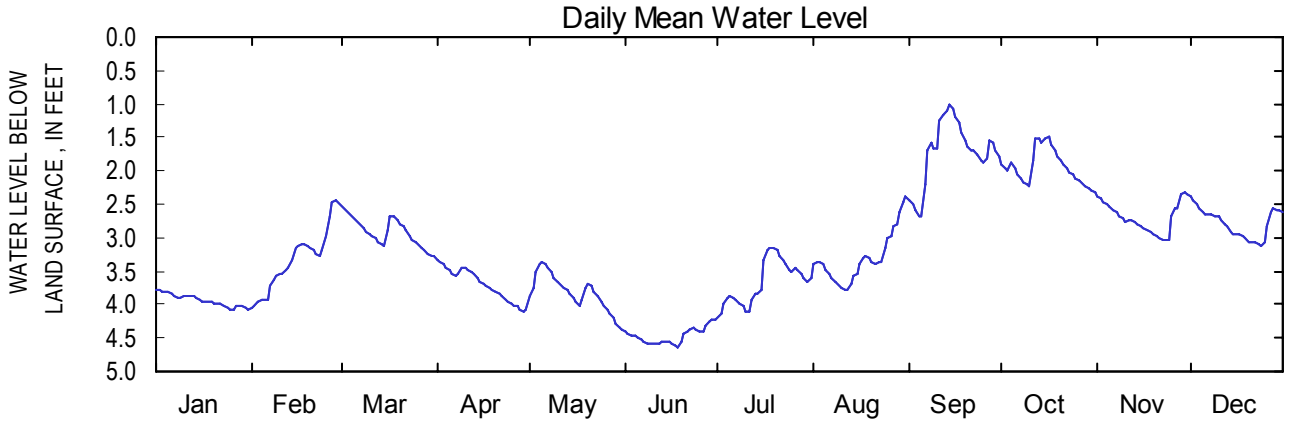


**SURFICIAL AQUIFER SYSTEM
2004 Calendar Year**

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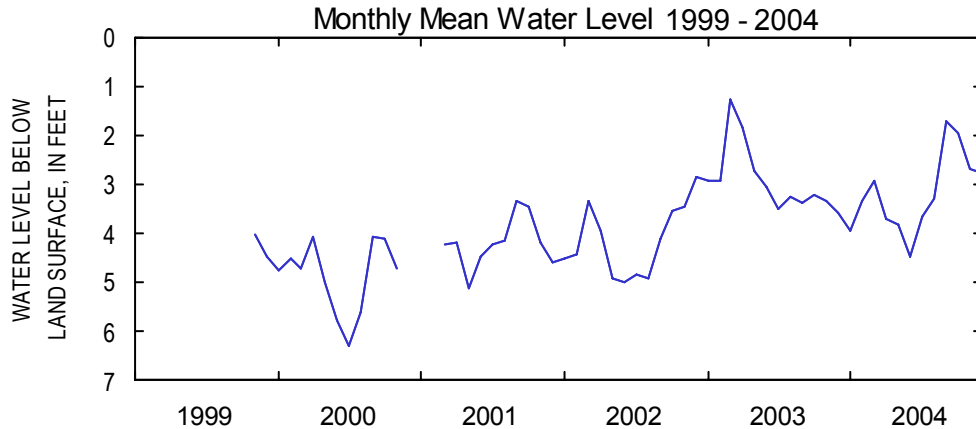
Site Name: 34H492

Latitude: 31° 10' 37" Longitude: 081° 28' 76" GLYNN Period of Record: 1999 - 2004
 Well Depth: 48.5 feet Datum: 12.54 feet Well Diameter 2 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	3.93	3.34	2.91	3.70	3.83	4.47	3.68	3.31	1.72	1.95	2.70	2.78
Max	4.07	4.06	3.29	4.10	4.37	4.64	4.19	3.77	2.69	2.33	3.04	3.11
Min	3.77	2.45	2.52	3.33	3.37	4.22	3.16	2.40	1.03	1.50	2.32	2.39
1999 - 2004												
Mean	4.04	3.81	3.29	3.56	4.32	4.56	4.52	4.26	3.32	3.26	3.75	3.74
Max	4.90	4.69	4.91	4.65	5.51	5.95	6.54	6.62	5.38	4.51	4.85	4.84
Min	2.36	2.07	0.78	1.18	2.30	2.60	3.16	2.40	1.03	1.50	2.32	2.39



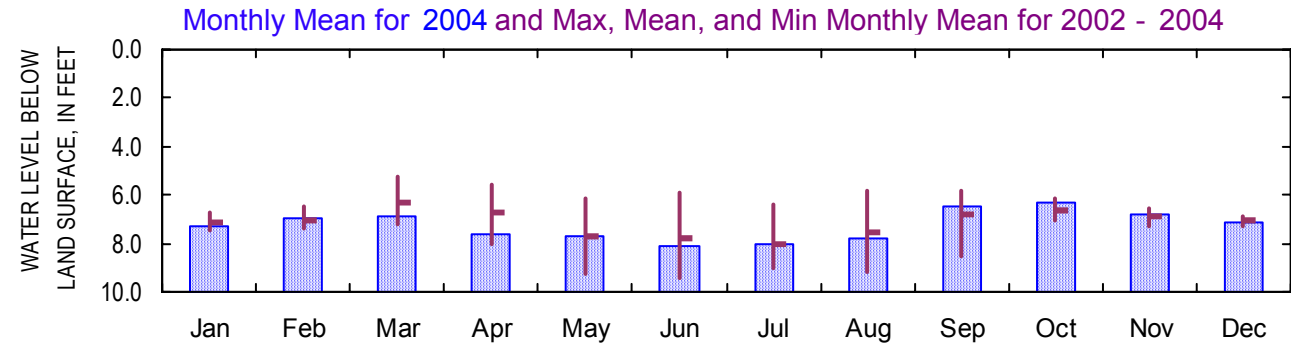
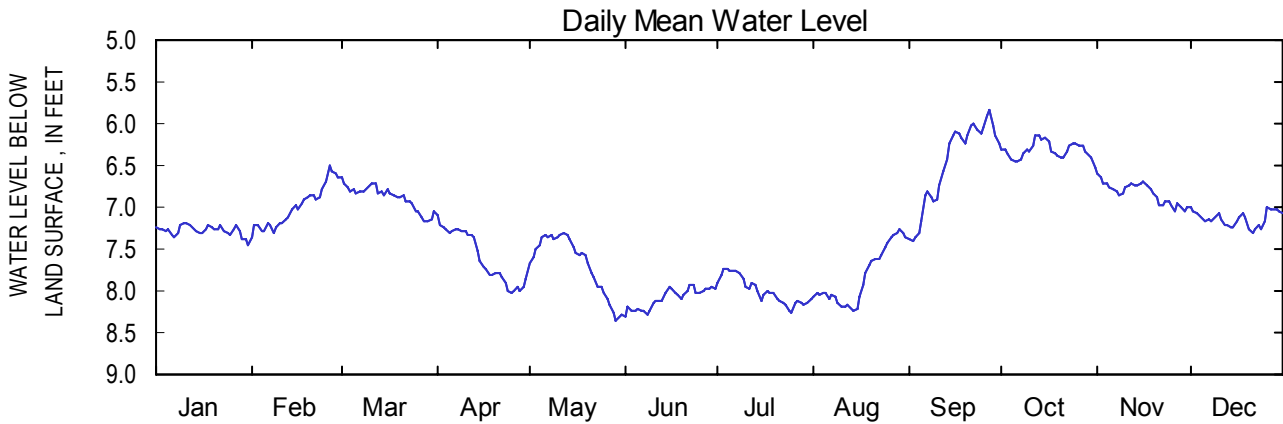


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2004 Calendar Year**

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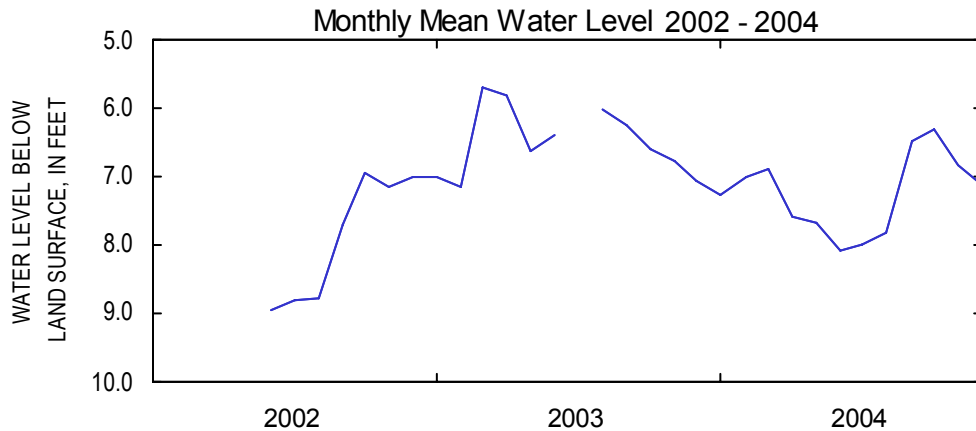
Site Name: 34J082

Latitude: 31° 19' 09" Longitude: 081° 28' 11" GLYNN Period of Record: 2002 - 2004
Well Depth: 160 feet Datum: 15.90 feet Well Diameter 4 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	7.28	7.00	6.88	7.59	7.68	8.09	8.00	7.82	6.48	6.32	6.83	7.14
Max	7.45	7.35	7.18	8.02	8.35	8.30	8.27	8.24	7.39	6.53	7.04	7.31
Min	7.20	6.49	6.64	7.10	7.32	7.92	7.73	7.26	5.82	6.13	6.60	7.00
2002 - 2004												
Mean	7.14	7.08	6.29	6.70	7.70	7.81	8.01	7.54	6.81	6.63	6.92	7.07
Max	7.45	7.37	7.18	8.02	9.26	9.41	8.99	9.17	8.50	7.08	7.28	7.31
Min	6.76	6.49	5.25	5.58	6.17	5.89	6.40	5.79	5.82	6.13	6.52	6.87



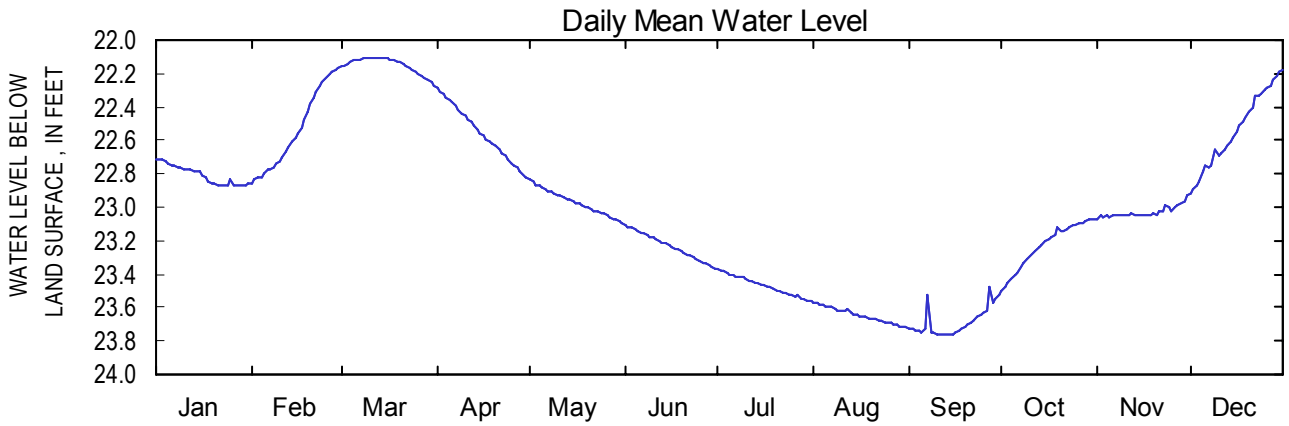


**SURFICIAL AQUIFER SYSTEM
2004 Calendar Year**

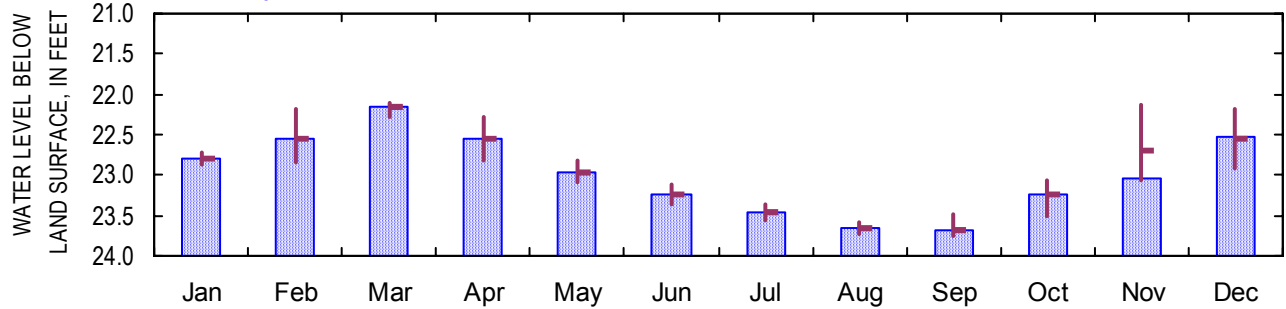
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Site Name: 13FF31

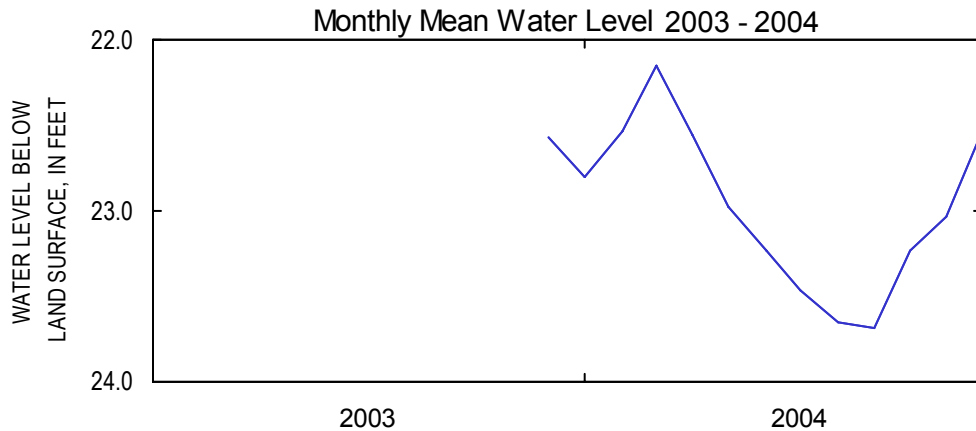
Latitude: 33 ° 56 ' 13" Longitude: 084° 01 ' 06" GWINNETT Period of Record: 2003 - 2004
Well Depth: 26.15 feet Datum: 1,000 feet Well Diameter 2 inches



Monthly Mean for 2004 and Max, Mean, and Min Monthly Mean for 2003 - 2004



Monthly Water-Level Statistics												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	22.81	22.54	22.15	22.56	22.97	23.23	23.47	23.65	23.69	23.23	23.03	22.54
Max	22.87	22.85	22.27	22.82	23.09	23.37	23.56	23.72	23.76	23.50	23.07	22.91
Min	22.71	22.17	22.10	22.29	22.83	23.10	23.37	23.57	23.47	23.07	22.93	22.17
2003 - 2004												
Mean	22.81	22.54	22.15	22.56	22.97	23.23	23.47	23.65	23.69	23.23	22.69	22.55
Max	22.87	22.85	22.27	22.82	23.09	23.37	23.56	23.72	23.76	23.50	23.07	22.91
Min	22.71	22.17	22.10	22.29	22.83	23.10	23.37	23.57	23.47	23.07	22.12	22.17



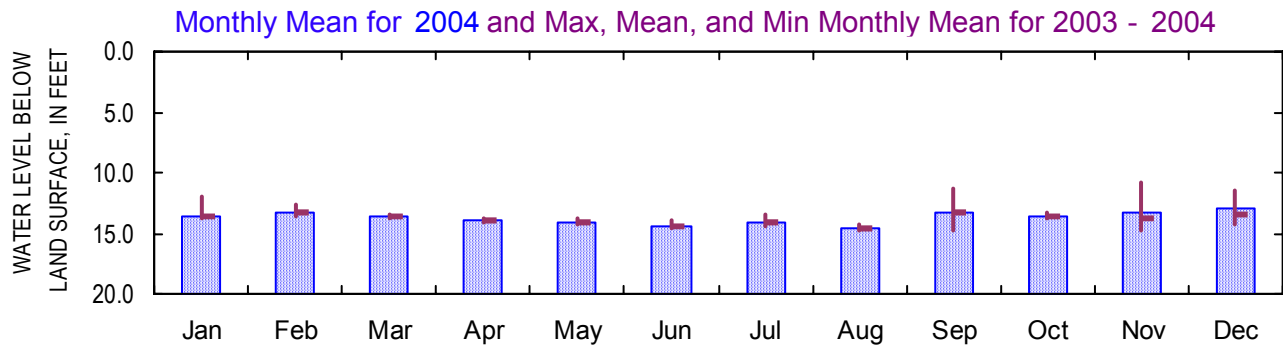
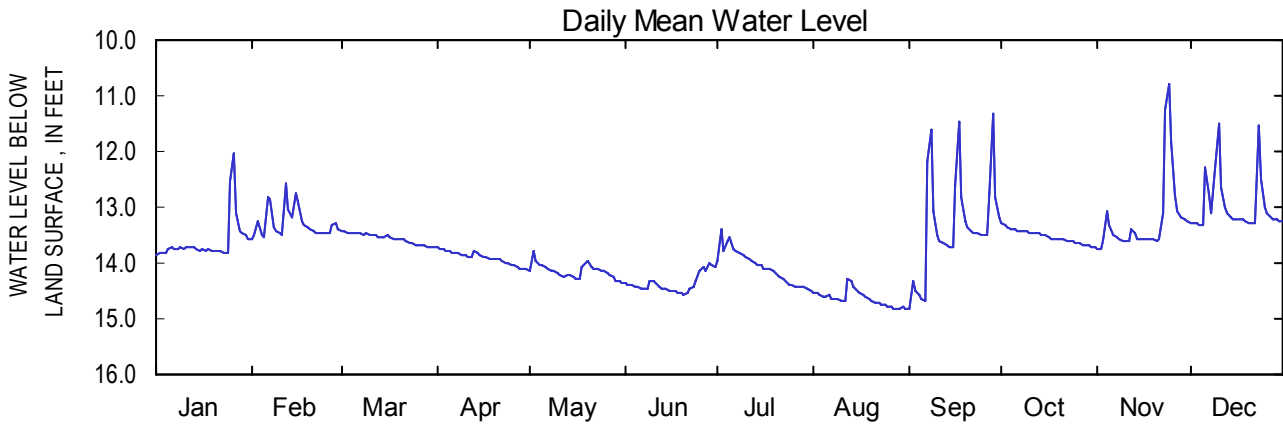


**SURFICIAL AQUIFER SYSTEM
2004 Calendar Year**

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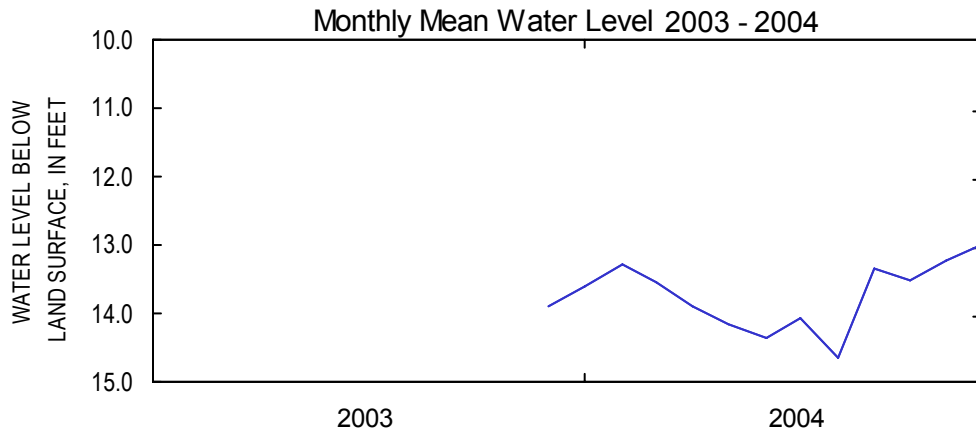
Site Name: 14FF66

Latitude: 33 ° 59 ' 05" Longitude: 083 ° 56 ' 50" GWINNETT Period of Record: 2003 - 2004
Well Depth: 19.90 feet Datum: 985 feet Well Diameter 2 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	13.62	13.28	13.56	13.90	14.15	14.37	14.08	14.64	13.35	13.53	13.23	12.99
Max	13.84	13.58	13.71	14.12	14.34	14.56	14.50	14.82	14.82	13.72	13.74	13.33
Min	12.04	12.58	13.41	13.73	13.79	13.99	13.40	14.27	11.34	13.29	10.78	11.50
2003 - 2004												
Mean	13.62	13.28	13.56	13.90	14.15	14.37	14.08	14.64	13.35	13.53	13.76	13.44
Max	13.84	13.58	13.71	14.12	14.34	14.56	14.50	14.82	14.82	13.72	14.71	14.19
Min	12.04	12.58	13.41	13.73	13.79	13.99	13.40	14.27	11.34	13.29	10.78	11.50



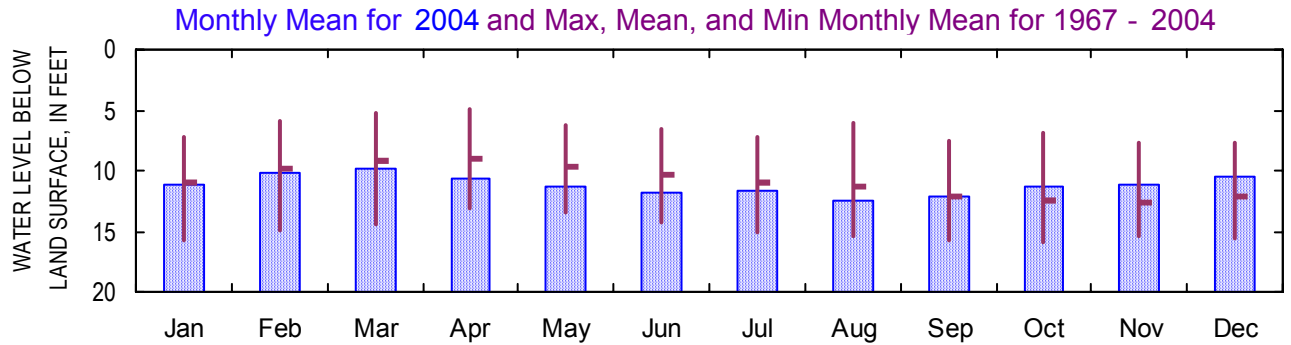
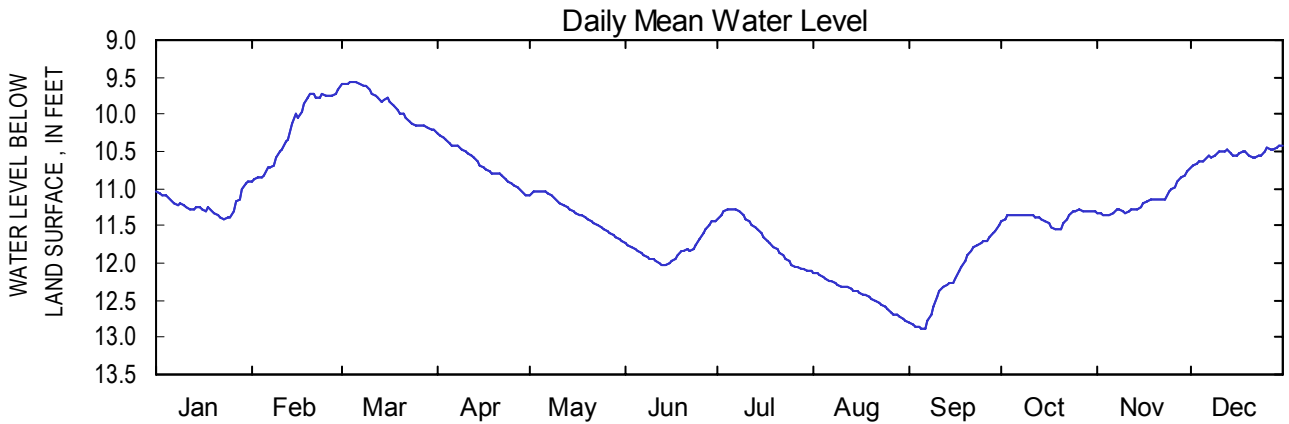


**SURFICIAL AQUIFER SYSTEM
2004 Calendar Year**

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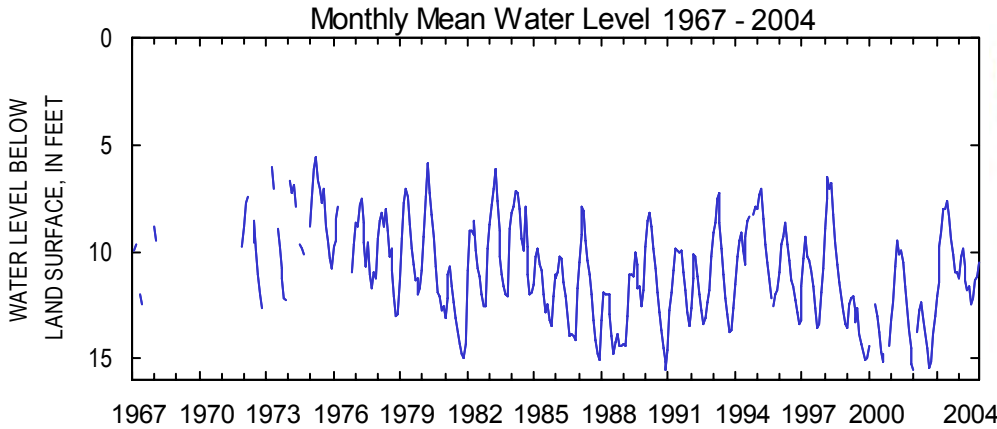
Site Name: 12Z001

Latitude: 33 ° 08 ' 58" Longitude: 084° 12 ' 29" LAMAR Period of Record: 1967 - 2004
Well Depth: 31 feet Datum: 852.00 feet Well Diameter 24.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	11.21	10.20	9.87	10.67	11.33	11.81	11.67	12.43	12.21	11.38	11.17	10.54
Max	11.40	10.90	10.22	11.08	11.70	12.03	12.11	12.78	12.90	11.55	11.36	10.72
Min	10.90	9.66	9.57	10.25	11.03	11.43	11.27	12.13	11.49	11.29	10.76	10.43
1967 - 2004												
Mean	11.02	9.79	9.13	9.01	9.61	10.41	10.95	11.39	12.10	12.51	12.66	12.13
Max	15.68	14.90	14.44	13.12	13.38	14.27	15.11	15.34	15.67	15.86	15.39	15.62
Min	7.27	5.96	5.18	4.96	6.25	6.53	7.27	6.09	7.52	6.85	7.68	7.70



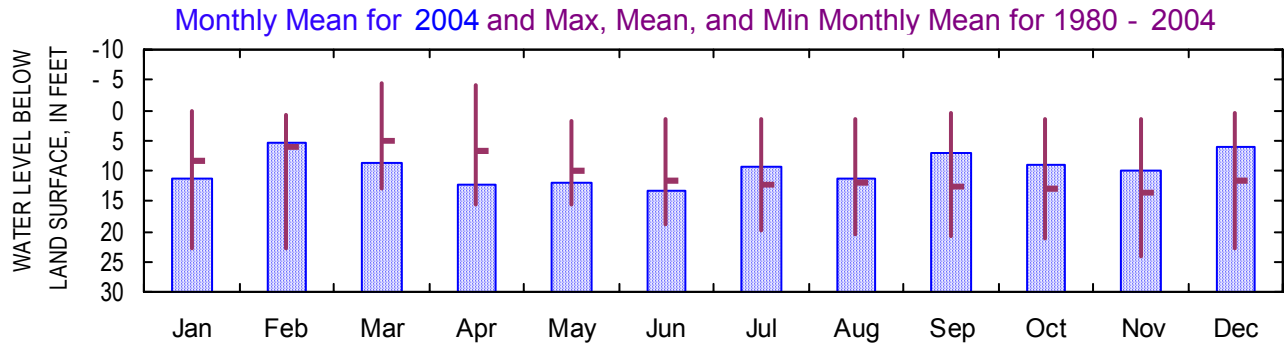
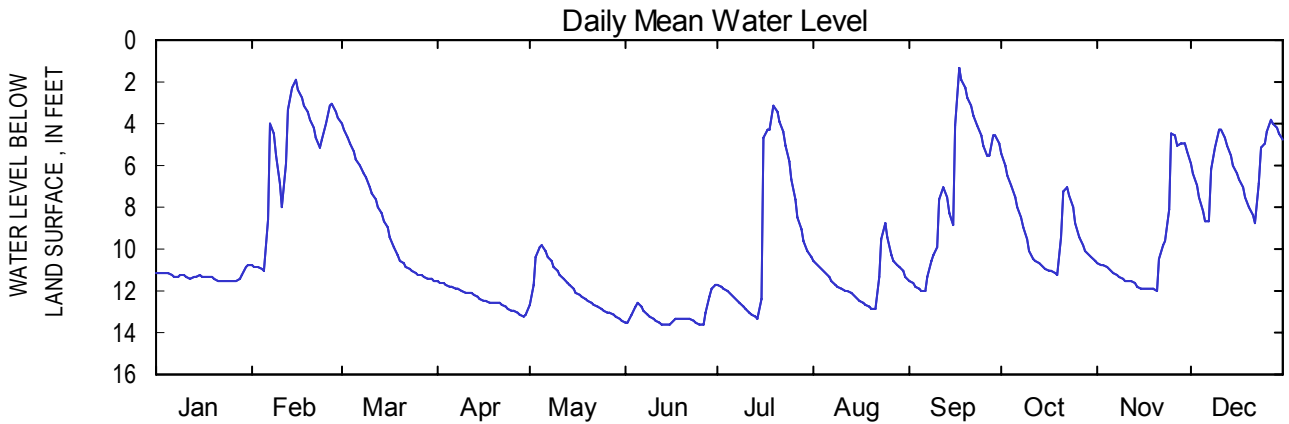


**SURFICIAL AQUIFER SYSTEM
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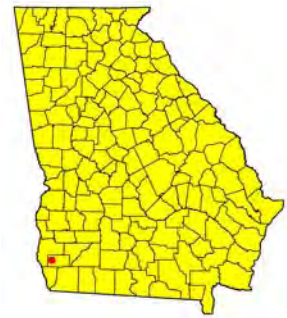
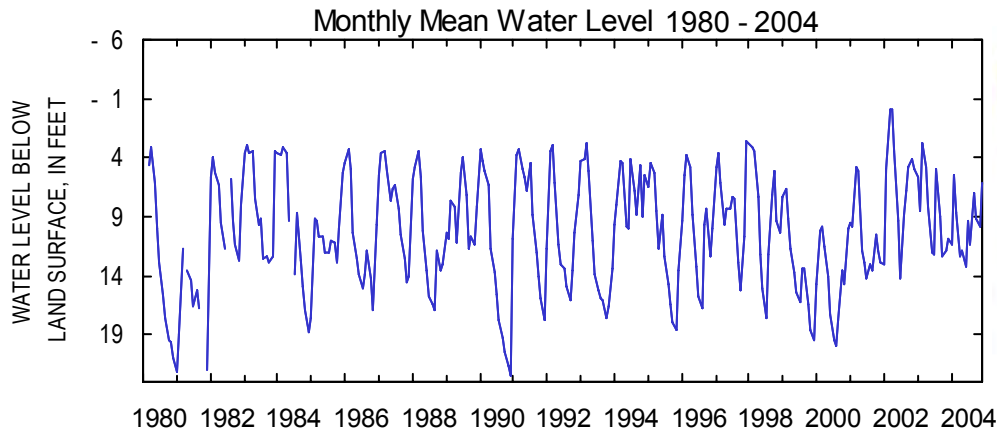
311009084495503

Site Name: 07H003

Latitude: 31° 10' 08" Longitude: 084° 49' 54" MILLER Period of Record: 1980 - 2004
Well Depth: 40 feet Datum: 167.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics												
2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	11.31	5.41	8.60	12.37	11.94	13.18	9.29	11.40	7.01	9.16	9.86	6.09
Max	11.54	11.00	11.49	13.20	13.44	13.65	13.32	12.85	12.02	11.22	11.97	8.74
Min	10.77	1.90	3.97	11.54	9.84	11.70	3.13	8.78	1.34	5.44	4.49	3.82
1980 - 2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	8.47	6.20	5.18	6.76	10.08	11.67	12.30	12.06	12.68	12.85	13.76	11.63
Max	22.78	22.84	13.11	15.49	15.52	18.93	19.79	20.59	20.73	21.01	24.19	22.73
Min	0.25	0.76	-4.52	-4.23	1.86	1.32	1.50	1.43	0.41	1.34	1.37	0.50



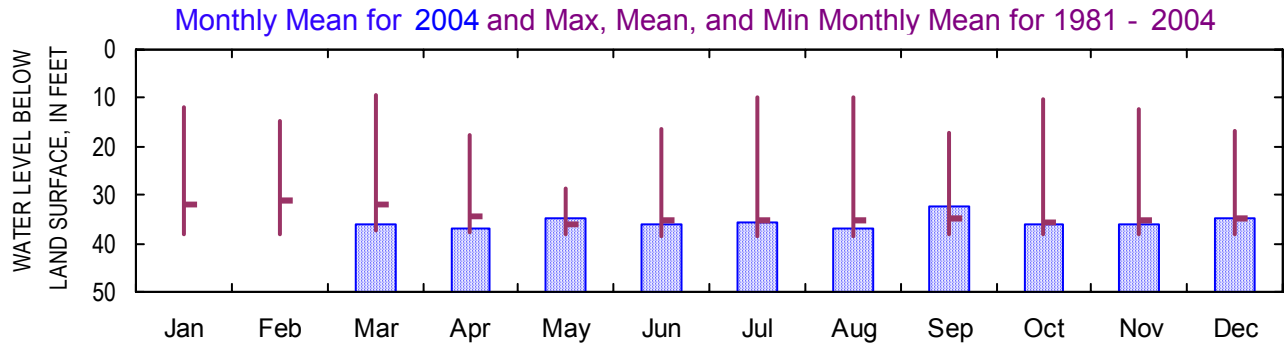
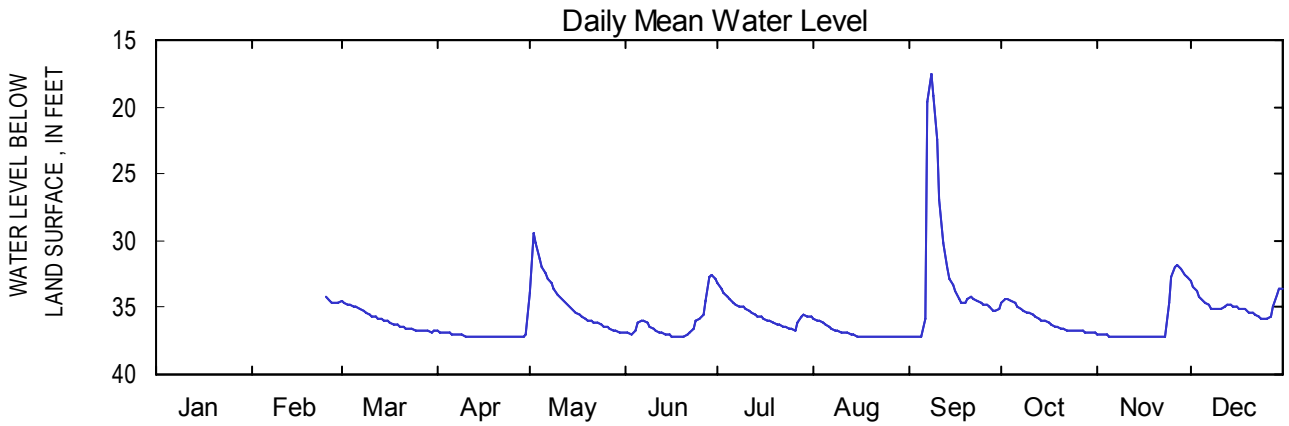


**SURFICIAL AQUIFER SYSTEM
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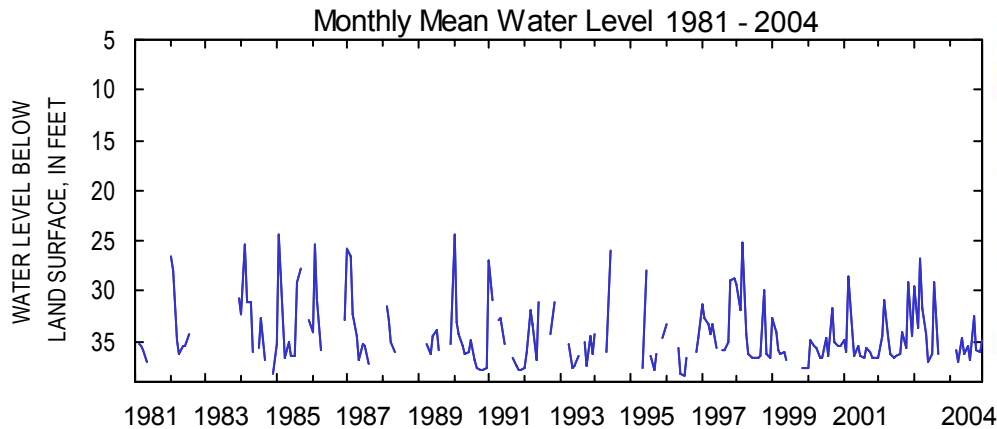
Site Name: 11J013

Latitude: 31° 18' 02" Longitude: 084° 19' 23" MITCHELL Period of Record: 1981 - 2004
Well Depth: 38.38 feet Datum: 165.00 feet Well Diameter 6.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	35.92	37.09	34.71	36.18	35.46	36.87	32.50	35.93	36.06	34.83		
Max	36.80	37.24	36.84	37.20	36.69	37.21	37.12	36.93	37.19	35.80		
Min	34.55	36.79	29.39	32.49	33.22	35.82	17.58	34.38	31.75	33.08		
1981 - 2004												
Mean	31.85	31.18	31.95	34.61	35.94	35.06	35.21	35.07	34.95	35.71	35.05	34.86
Max	38.19	37.92	37.16	37.56	38.00	38.35	38.35	38.37	38.31	38.12	38.19	38.19
Min	11.93	14.77	9.40	17.73	28.65	16.42	10.00	10.02	17.13	10.15	12.34	16.62



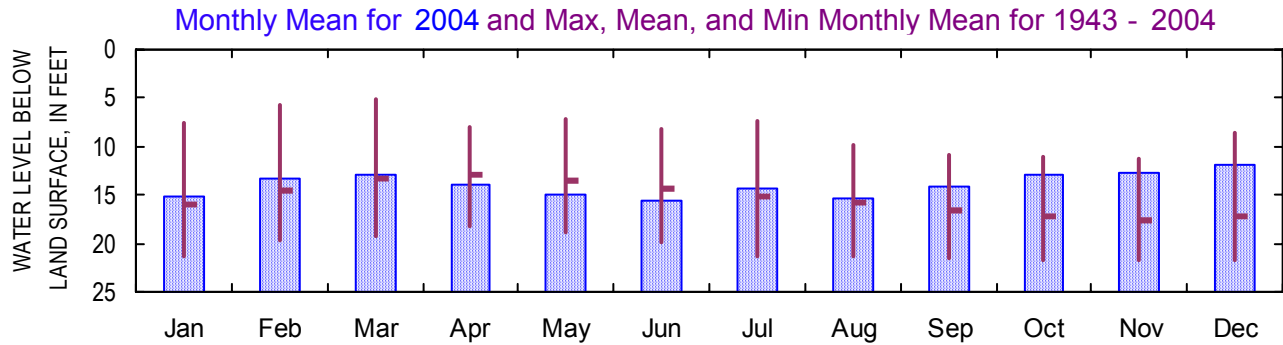
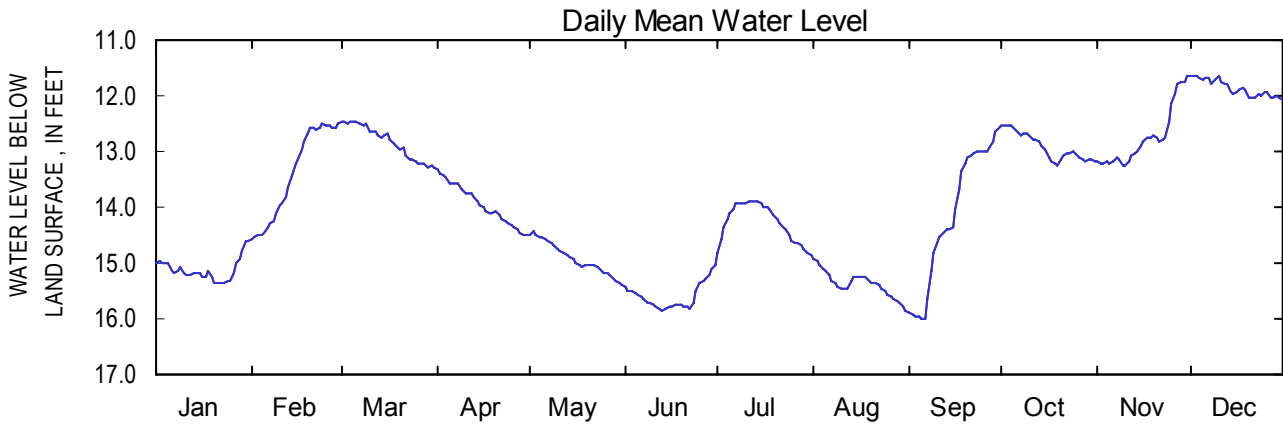


**SURFICIAL AQUIFER SYSTEM
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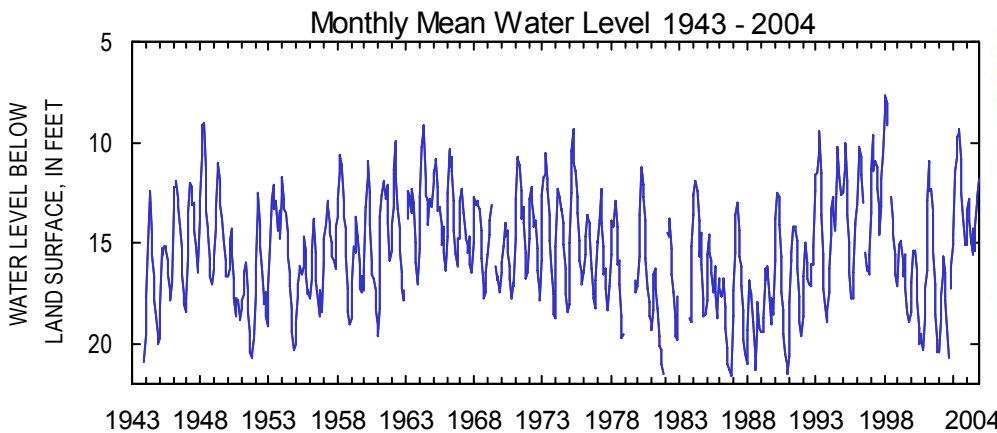
Site Name: 11AA01

Latitude: 33° 15' 54" Longitude: 084° 16' 56" SPALDING Period of Record: 1943 - 2004
Well Depth: 30 feet Datum: 950.00 feet Well Diameter 4 feet



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	15.11	13.40	12.83	13.94	14.92	15.60	14.26	15.38	14.15	12.92	12.76	11.86
Max	15.36	14.59	13.28	14.51	15.38	15.85	14.87	15.85	16.01	13.24	13.25	12.06
Min	14.60	12.49	12.45	13.34	14.44	15.02	13.89	14.92	12.56	12.53	11.65	11.63
1943 - 2004												
Mean	15.99	14.56	13.34	12.95	13.50	14.36	15.10	15.84	16.67	17.19	17.60	17.15
Max	21.40	19.71	19.24	18.26	18.80	19.82	21.28	21.38	21.43	21.70	21.82	21.78
Min	7.64	5.82	5.09	7.95	7.19	8.16	7.45	9.87	10.85	11.12	11.30	8.54



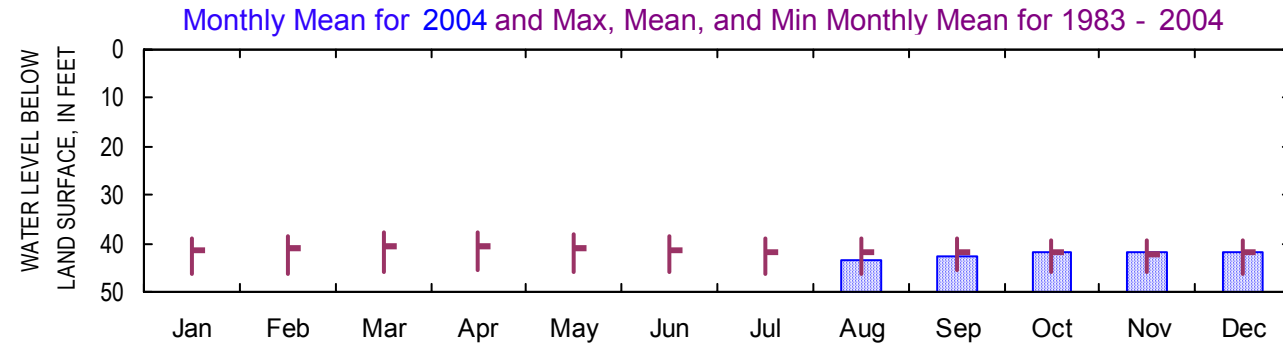
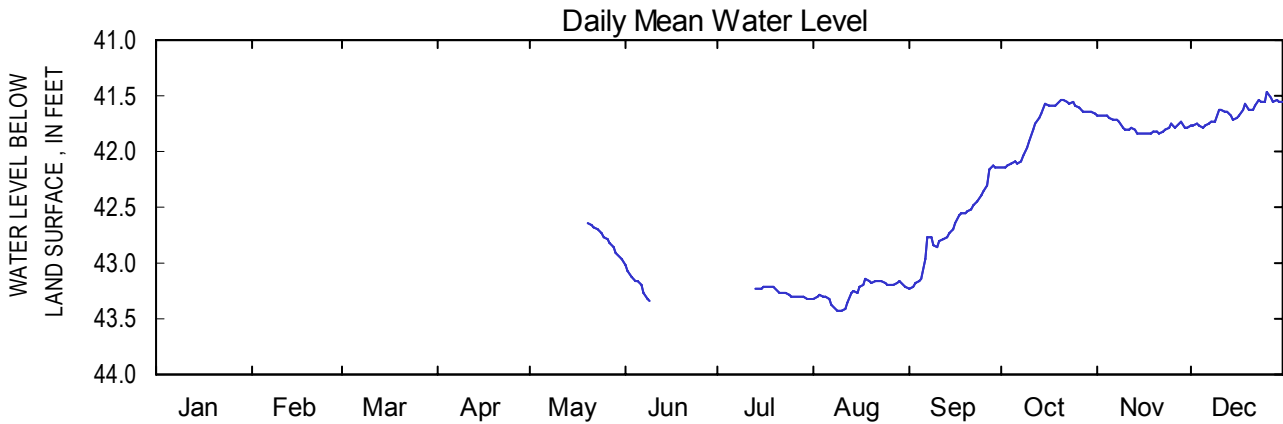


**SURFICIAL AQUIFER SYSTEM
2004 Calendar Year**

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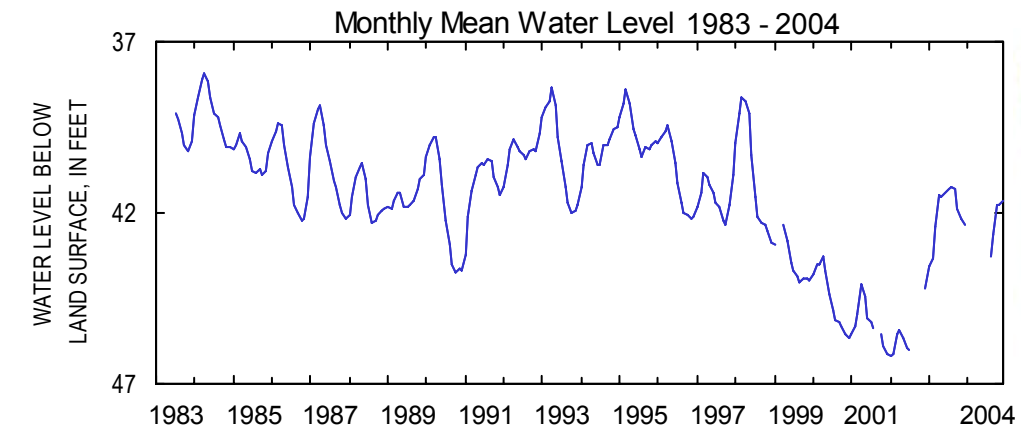
Site Name: 32L017

Latitude: 31° 32' 52" Longitude: 081° 43' 36" WAYNE Period of Record: 1983 - 2004
Well Depth: 215 feet Datum: 74.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean								43.26	42.66	41.77	41.78	41.64
Max								43.44	43.23	42.15	41.84	41.78
Min								43.15	42.13	41.53	41.67	41.46
1983 - 2004												
Mean	41.59	41.12	40.72	40.58	40.93	41.34	41.67	41.83	41.64	41.90	42.03	41.94
Max	46.26	46.28	45.88	45.47	45.81	46.09	46.16	46.38	45.33	45.88	46.05	46.14
Min	38.82	38.38	37.72	37.85	37.99	38.32	38.78	39.07	39.00	39.52	39.47	39.19



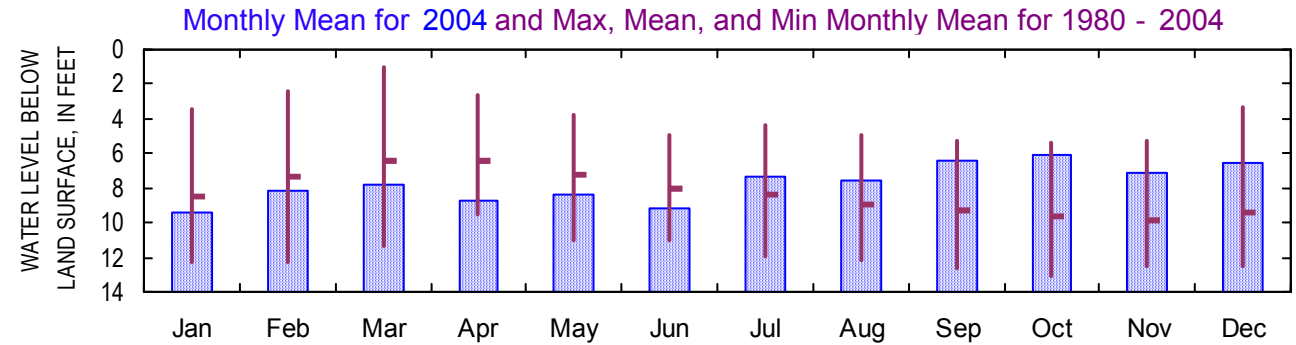
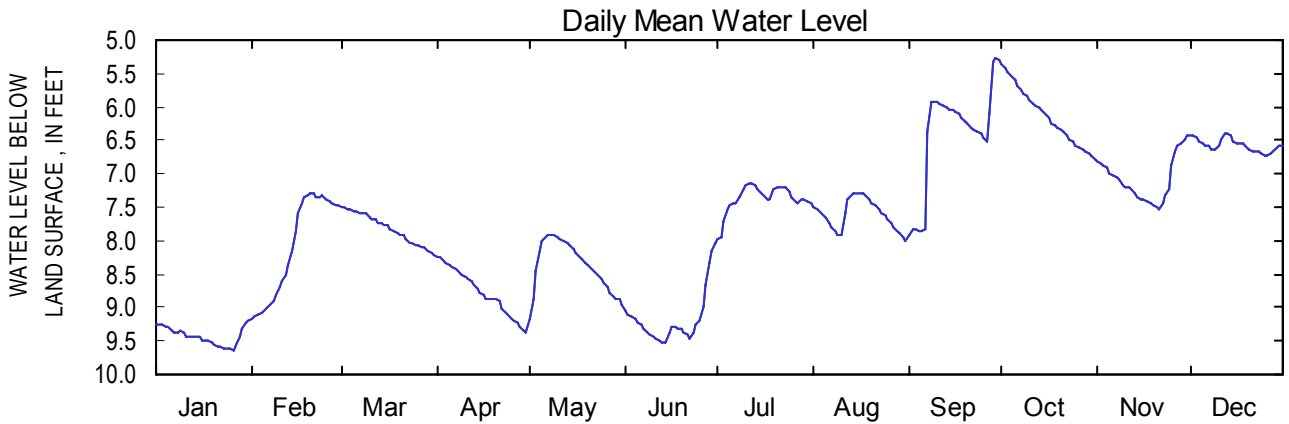


**SURFICIAL AQUIFER SYSTEM
2004 Calendar Year**

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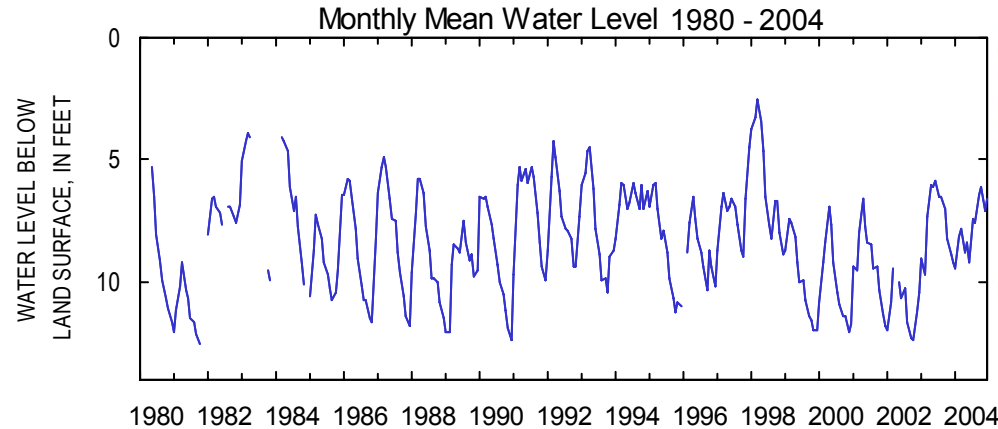
Site Name: 13M007

Latitude: 31° 43' 30" Longitude: 084° 00' 51" WORTH Period of Record: 1980 - 2004
Well Depth: 25 feet Datum: 238.00 feet Well Diameter 4.00 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	9.43	8.10	7.81	8.77	8.37	9.18	7.37	7.61	6.41	6.14	7.09	6.57
Max	9.65	9.18	8.20	9.37	9.16	9.54	7.98	8.00	7.92	6.77	7.53	6.72
Min	9.20	7.29	7.49	8.23	7.91	8.04	7.14	7.28	5.28	5.37	6.42	6.39
1980 - 2004												
Mean	8.54	7.37	6.46	6.38	7.18	7.98	8.35	8.91	9.32	9.67	9.89	9.38
Max	12.27	12.30	11.34	9.56	10.98	11.05	11.99	12.20	12.60	13.03	12.51	12.49
Min	3.48	2.38	0.99	2.65	3.79	4.96	4.31	4.92	5.28	5.37	5.26	3.31



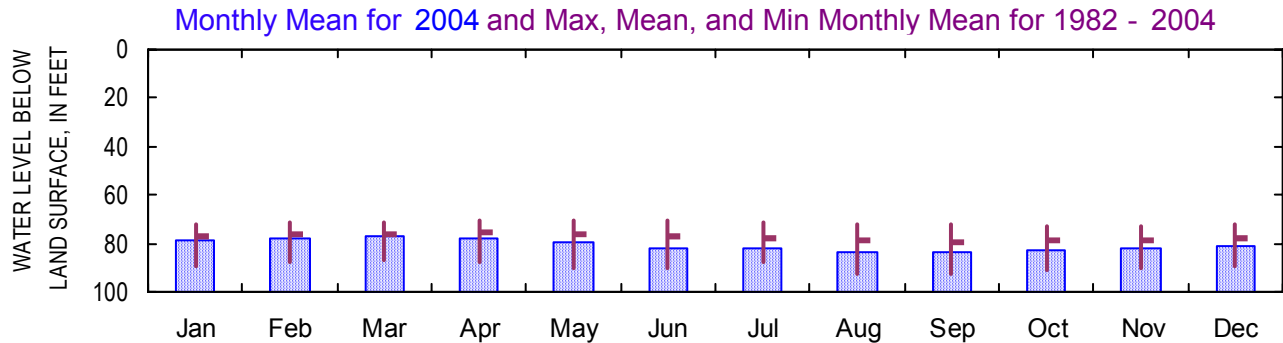
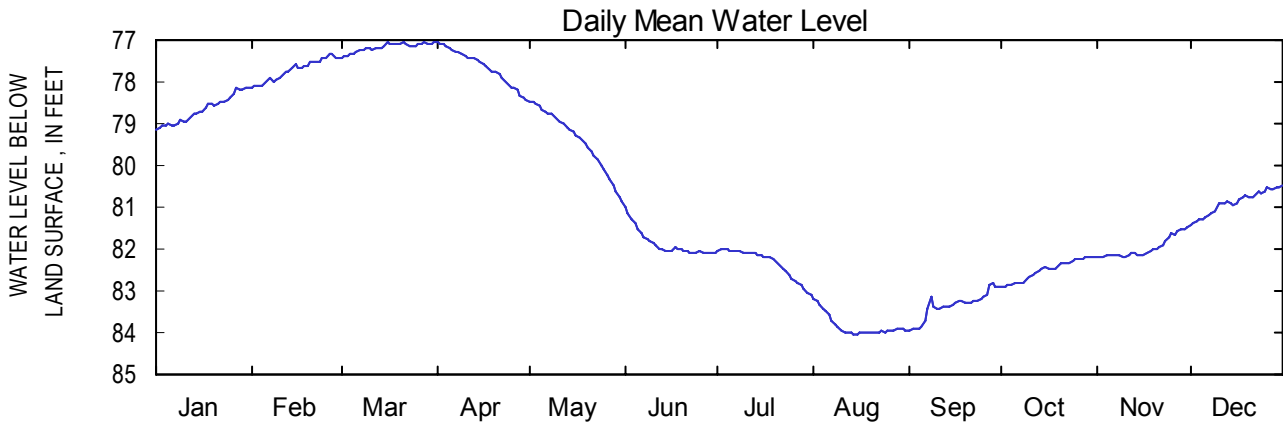


**UPPER BRUNSWICK AQUIFER
2004 Calendar Year**

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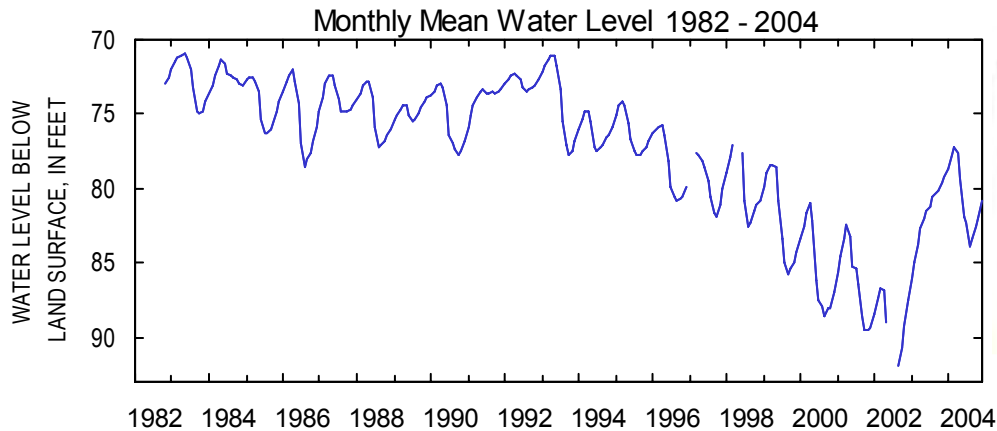
Site Name: 31U009

Latitude: 32° 31' 23" Longitude: 081° 51' 16" BULLOCH Period of Record: 1982 - 2004
Well Depth: 210 feet Datum: 205.00 feet Well Diameter 6.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	78.66	77.72	77.17	77.64	79.41	81.87	82.33	83.84	83.35	82.51	81.98	80.88
Max	79.14	78.15	77.40	78.44	80.85	82.11	83.10	84.05	83.93	82.91	82.20	81.42
Min	78.13	77.34	77.05	77.07	78.46	80.98	82.01	83.18	82.81	82.19	81.47	80.50
1982 - 2004												
Mean	77.15	76.49	75.97	75.68	76.13	76.74	77.83	78.77	79.46	79.04	78.65	78.06
Max	89.15	87.84	86.95	87.45	90.32	90.37	87.79	92.54	92.42	91.38	89.97	89.66
Min	71.74	71.32	71.09	70.77	70.80	70.82	71.46	72.30	72.52	72.60	72.65	72.32



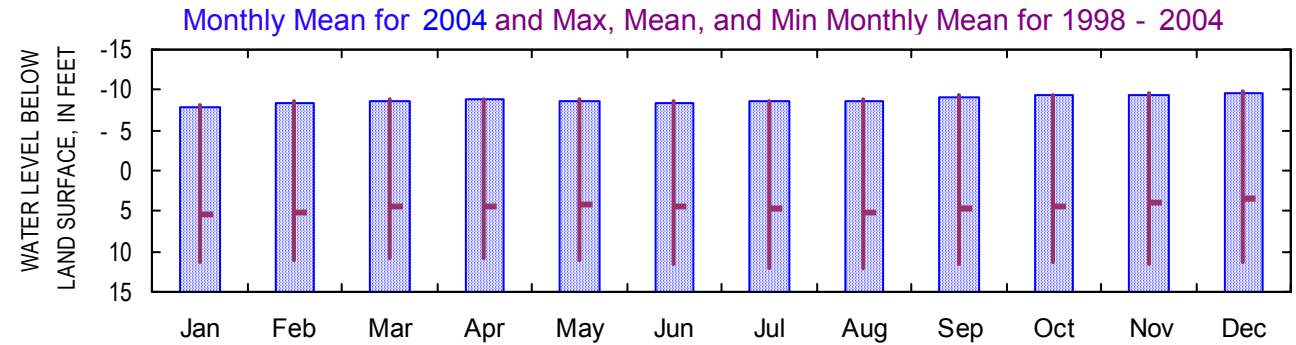
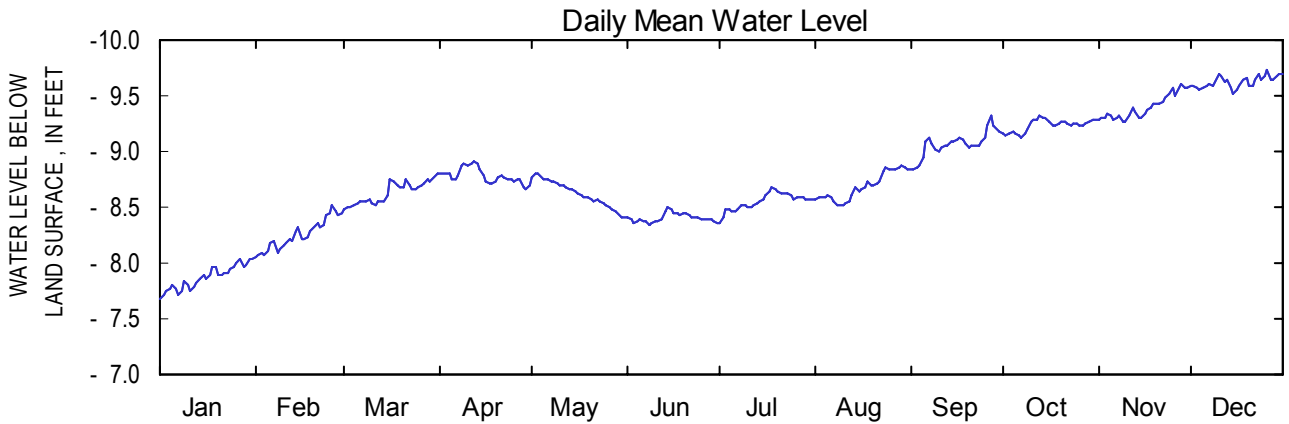


UPPER BRUNSWICK AQUIFER 2004 Calendar Year

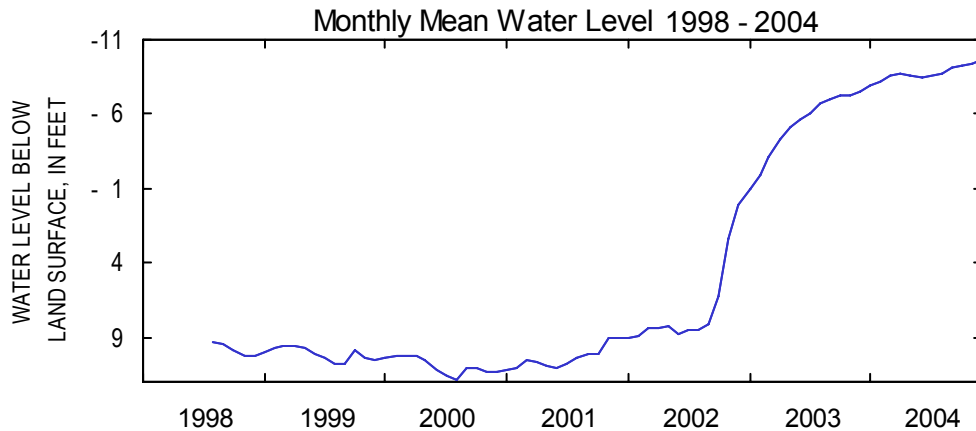
304406081330502

Site Name: 33D071

Latitude: 30° 44 '06" Longitude: 081° 33 '05" CAMDEN Period of Record: 1998 - 2004
 Well Depth: 365 feet Datum: 10 feet Well Diameter 4 inches



Monthly Water-Level Statistics												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	-7.87	-8.25	-8.63	-8.78	-8.62	-8.40	-8.55	-8.68	-9.07	-9.24	-9.40	-9.63
Max	-7.69	-8.05	-8.48	-8.66	-8.40	-8.35	-8.36	-8.51	-8.84	-9.12	-9.27	-9.53
Min	-8.04	-8.52	-8.81	-8.91	-8.81	-8.49	-8.67	-8.87	-9.33	-9.33	-9.61	-9.73
1998 - 2004												
Mean	5.47	5.09	4.52	4.50	4.28	4.50	4.58	5.06	4.77	4.39	3.82	3.43
Max	11.42	11.09	10.89	10.91	11.06	11.53	11.95	11.97	11.55	11.29	11.47	11.43
Min	-8.04	-8.52	-8.81	-8.91	-8.81	-8.49	-8.67	-8.87	-9.33	-9.33	-9.61	-9.73



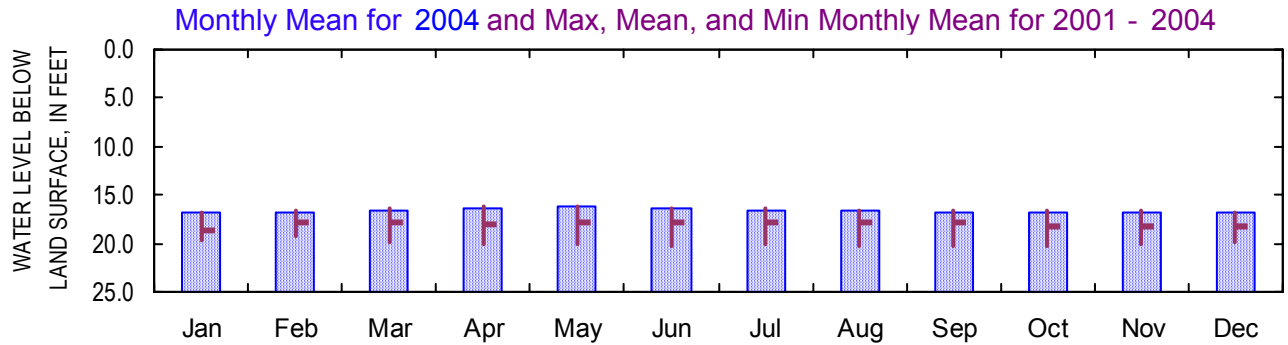
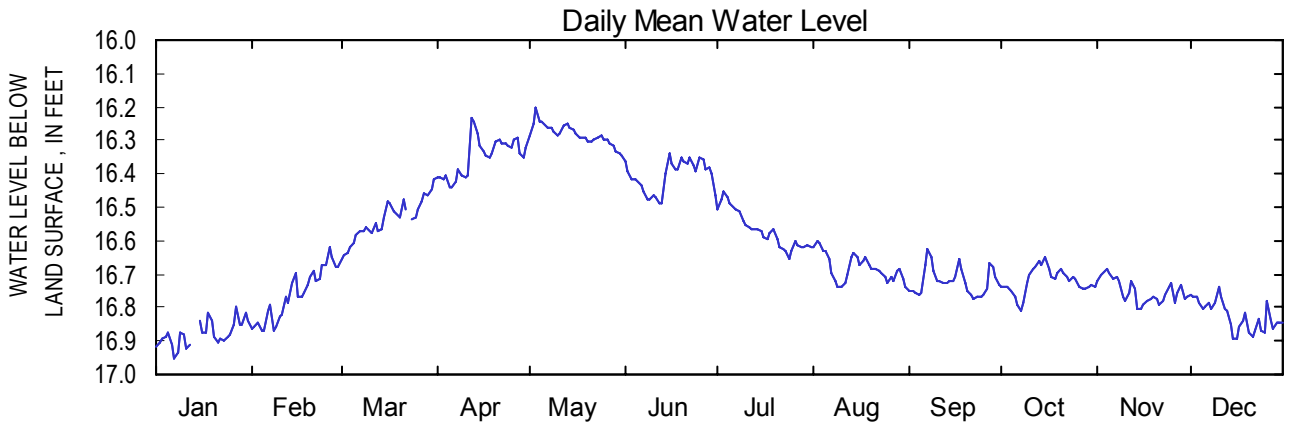


UPPER BRUNSWICK AQUIFER 2004 Calendar Year

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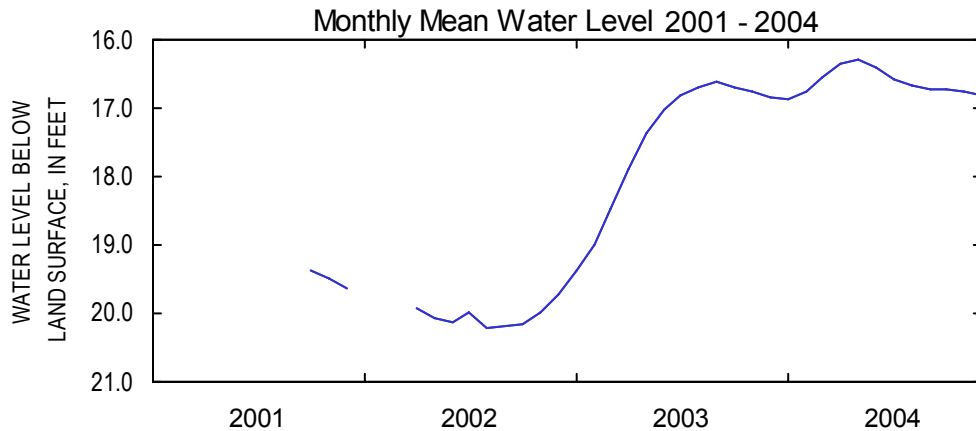
Site Name: 35Q050

Latitude: 32° 07' 16" Longitude: 081° 15' 35" CHATHAM Period of Record: 2001 - 2004
Well Depth: 210 feet Datum: 20 feet Well Diameter 6 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	16.88	16.76	16.54	16.35	16.28	16.41	16.57	16.68	16.72	16.72	16.75	16.82
Max	16.95	16.87	16.65	16.44	16.35	16.49	16.65	16.74	16.77	16.81	16.81	16.89
Min	16.80	16.62	16.41	16.23	16.20	16.34	16.45	16.60	16.63	16.65	16.68	16.74
2001 - 2004												
Mean	18.56	17.86	17.88	18.05	17.91	17.86	17.79	17.86	17.84	18.20	18.25	18.24
Max	19.70	19.16	19.93	19.98	20.15	20.25	20.12	20.27	20.26	20.23	20.12	19.91
Min	16.80	16.62	16.41	16.23	16.20	16.34	16.45	16.60	16.53	16.63	16.68	16.74



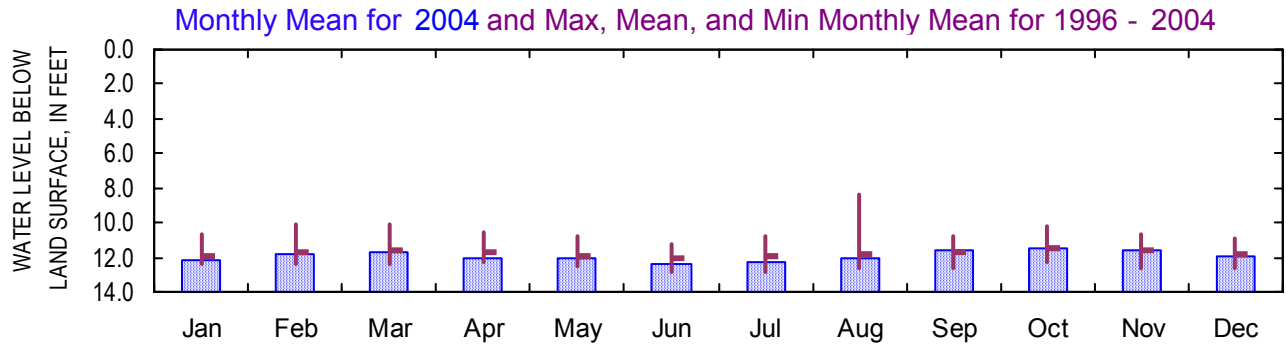
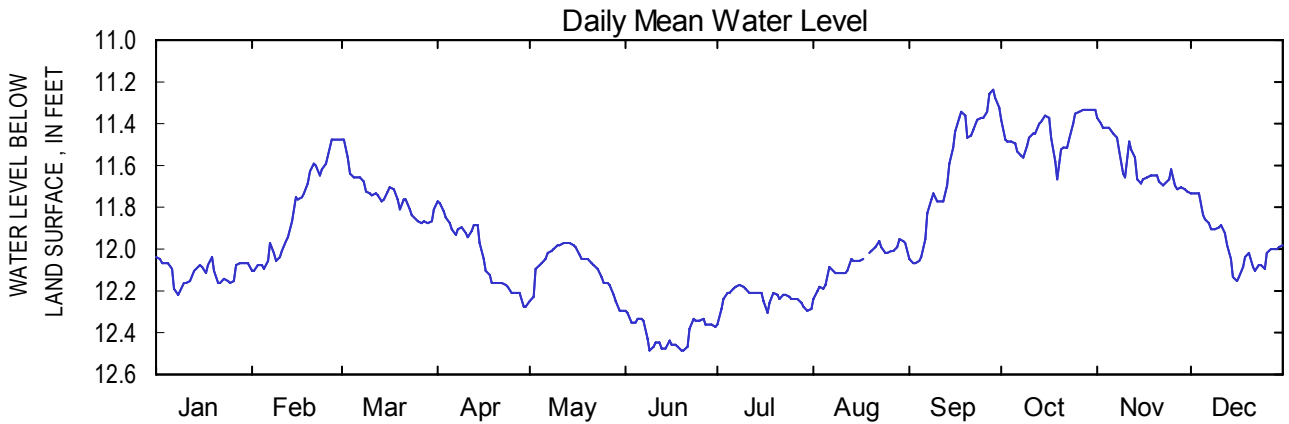


UPPER BRUNSWICK AQUIFER 2004 Calendar Year

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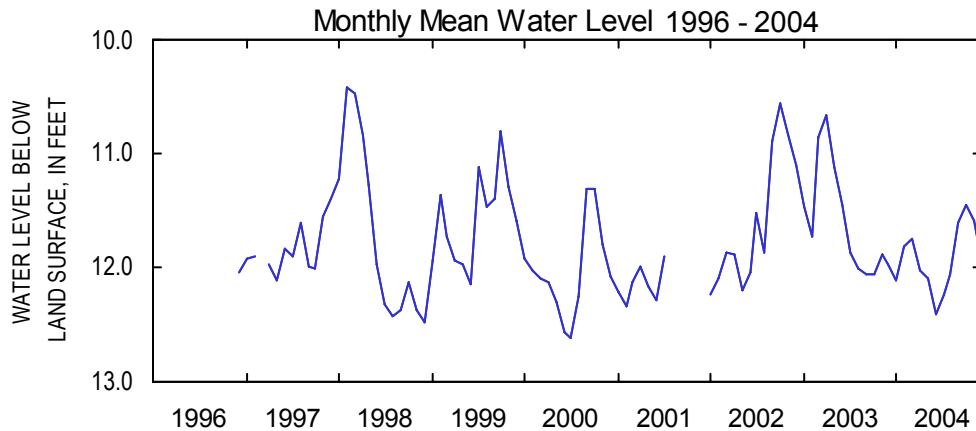
Site Name: 39Q026

Latitude: 32° 01' 27" Longitude: 080° 51' 12" CHATHAM Period of Record: 1996 - 2004
 Well Depth: 100 feet Datum: 10 feet Well Diameter 6 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	12.11	11.82	11.74	12.03	12.09	12.40	12.23	12.06	11.60	11.45	11.60	11.97
Max	12.22	12.11	11.88	12.28	12.30	12.49	12.36	12.24	12.07	11.66	11.73	12.15
Min	12.04	11.47	11.48	11.77	11.97	12.30	12.17	11.95	11.24	11.33	11.37	11.73
1996 - 2004												
Mean	11.88	11.71	11.59	11.68	11.90	12.09	11.93	11.84	11.66	11.43	11.62	11.85
Max	12.36	12.40	12.43	12.28	12.50	12.85	12.86	12.58	12.59	12.26	12.57	12.61
Min	10.62	10.12	10.13	10.53	10.77	11.28	10.79	8.35	10.74	10.22	10.70	10.91



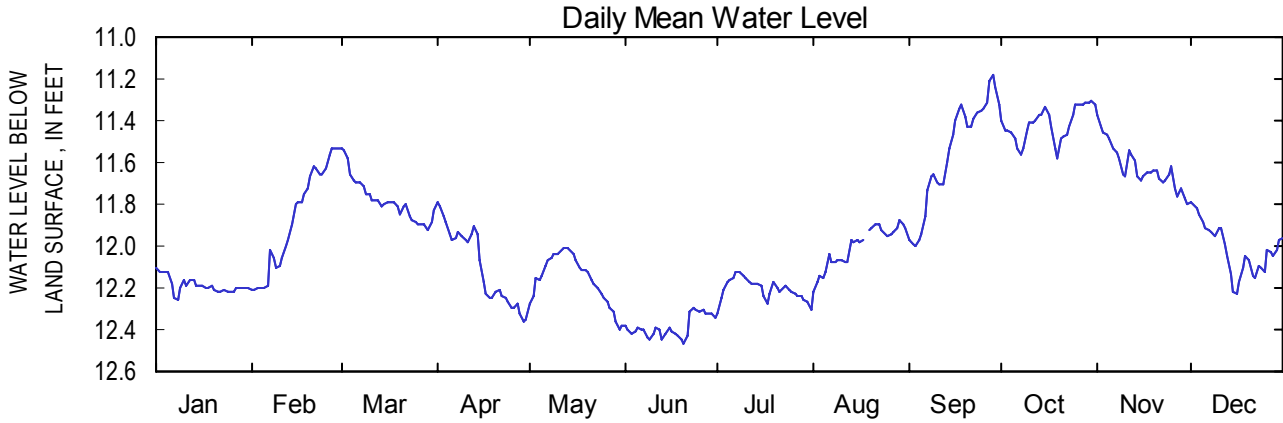


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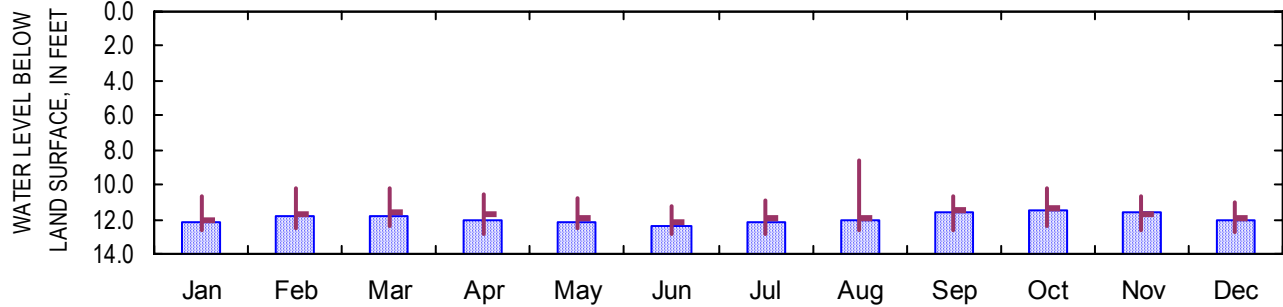
320127080511204

Site Name: 39Q028

Latitude: 32° 01' 27" Longitude: 080° 51' 12" CHATHAM Period of Record: 1998 - 2004
Well Depth: 104.00 feet Datum: 10.00 feet Well Diameter 4.00 inches

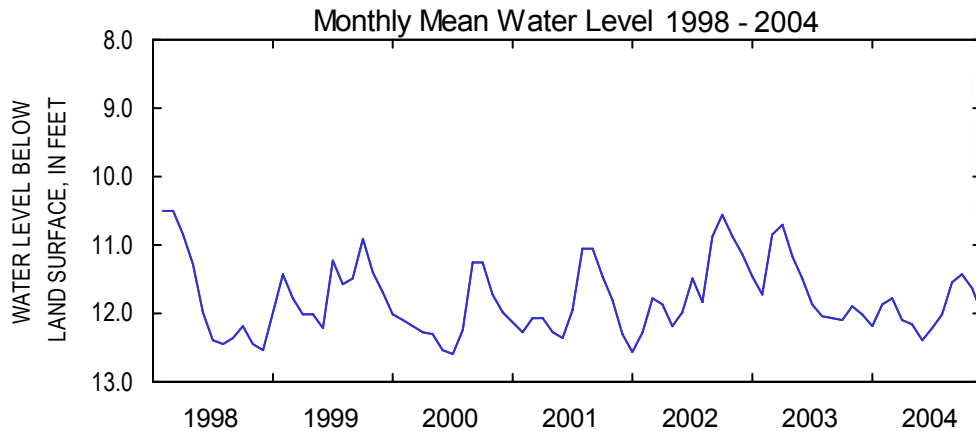


Monthly Mean for 2004 and Max, Mean, and Min Monthly Mean for 1998 - 2004



Monthly Water-Level Statistics

2004												
Mean	12.19	11.87	11.78	12.10	12.16	12.39	12.21	12.00	11.55	11.42	11.62	12.01
Max	12.26	12.21	11.92	12.36	12.40	12.46	12.32	12.22	12.00	11.58	11.80	12.23
Min	12.10	11.53	11.54	11.79	12.01	12.29	12.12	11.88	11.18	11.31	11.37	11.79
1998 - 2004												
Mean	12.05	11.74	11.56	11.69	11.91	12.14	11.96	11.89	11.53	11.41	11.68	11.95
Max	12.65	12.54	12.39	12.85	12.48	12.81	12.82	12.60	12.60	12.35	12.65	12.69
Min	10.70	10.20	10.19	10.53	10.79	11.30	10.88	8.56	10.71	10.19	10.72	10.99



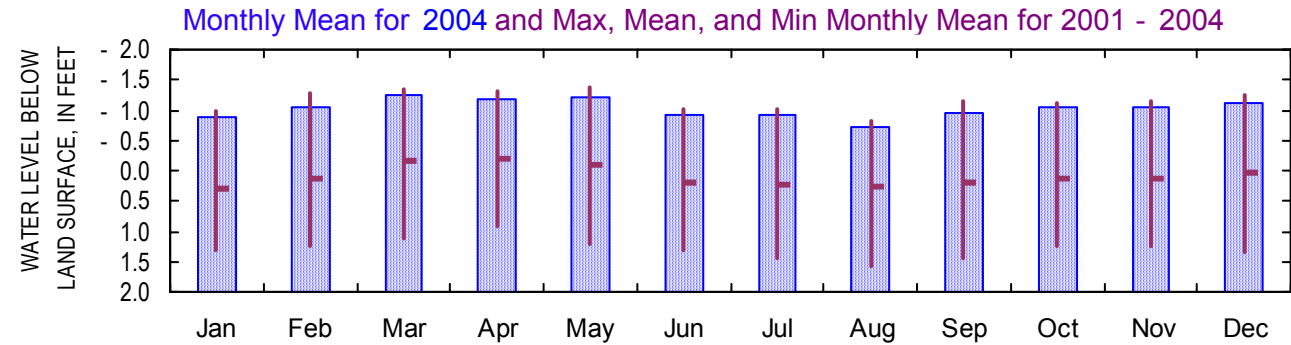
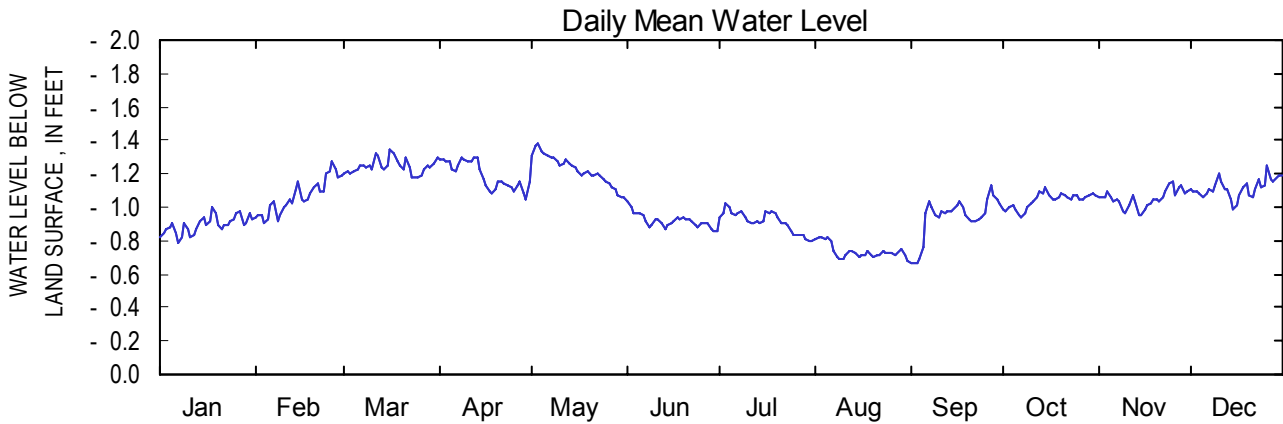


UPPER BRUNSWICK AQUIFER 2004 Calendar Year

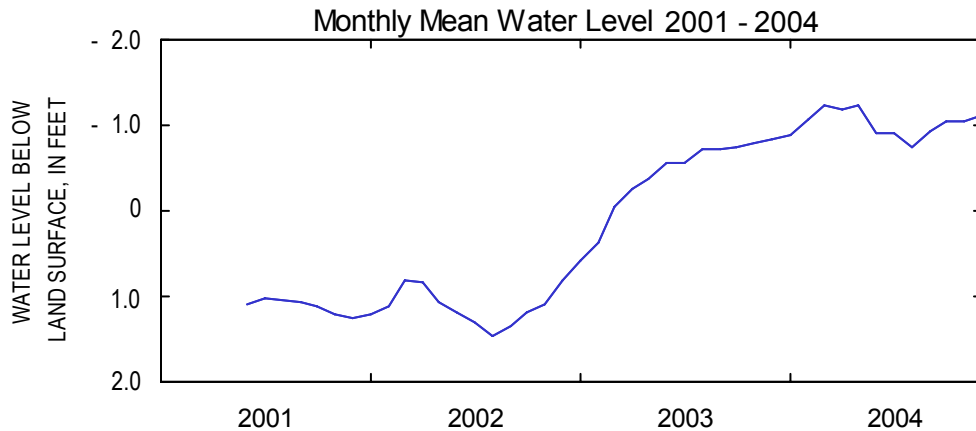
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Site Name: 33J065

Latitude: 31° 15' 30" Longitude: 081° 36' 39" GLYNN Period of Record: 2001 - 2004
 Well Depth: 412 feet Datum: 12 feet Well Diameter 6 inches



Monthly Water-Level Statistics												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	-0.89	-1.06	-1.24	-1.19	-1.22	-0.92	-0.91	-0.74	-0.94	-1.04	-1.05	-1.12
Max	-0.79	-0.91	-1.17	-1.05	-1.05	-0.86	-0.80	-0.68	-0.67	-0.94	-0.96	-0.99
Min	-1.00	-1.28	-1.35	-1.30	-1.39	-1.03	-1.03	-0.82	-1.13	-1.12	-1.15	-1.25
2001 - 2004												
Mean	0.29	0.13	-0.16	-0.20	-0.08	0.20	0.21	0.26	0.19	0.13	0.12	0.03
Max	1.31	1.23	1.13	0.93	1.21	1.31	1.44	1.58	1.43	1.26	1.26	1.33
Min	-1.00	-1.28	-1.35	-1.30	-1.39	-1.03	-1.03	-0.82	-1.13	-1.12	-1.15	-1.25



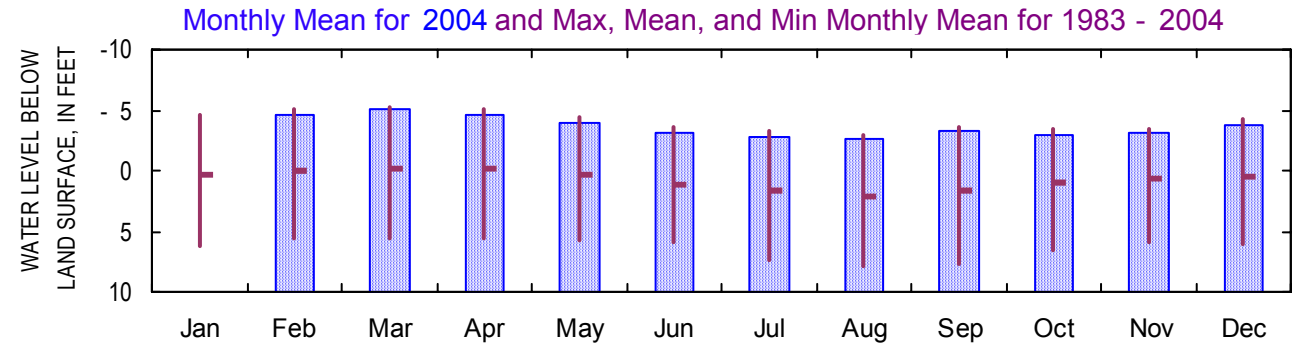
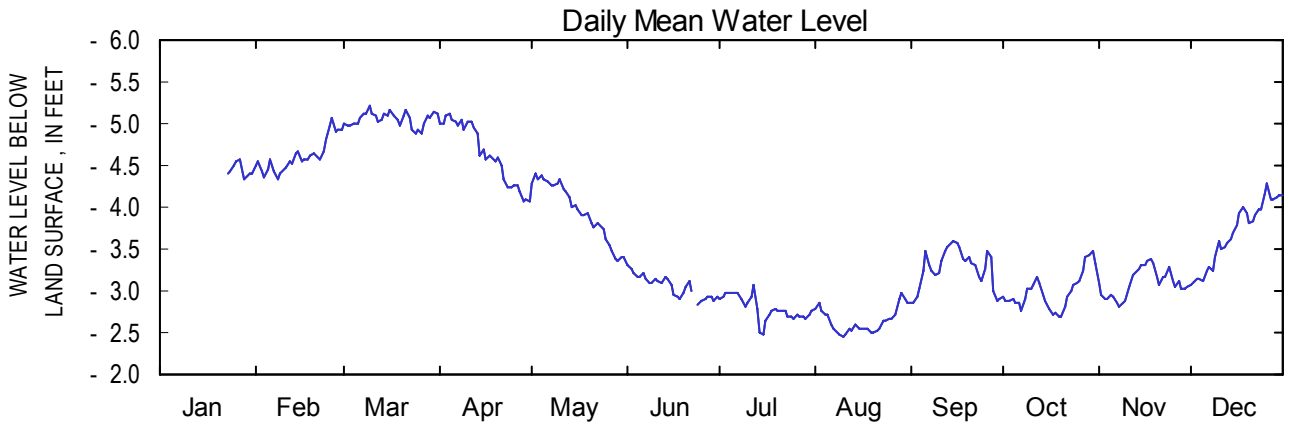


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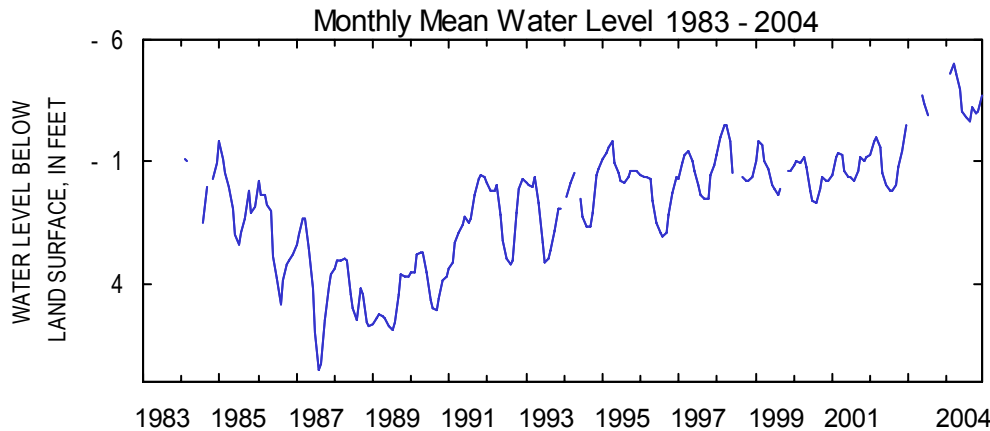
Site Name: 34H437

Latitude: 31° 09' 01" Longitude: 081° 28' 44" GLYNN Period of Record: 1983 - 2004
 Well Depth: 328 feet Datum: 7.00 feet Well Diameter 10.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	-4.61	-5.05	-4.65	-3.95	-3.06	-2.79	-2.64	-3.27	-2.99	-3.09	-3.69	
Max	-4.34	-4.88	-4.06	-3.36	-2.83	-2.49	-2.44	-2.86	-2.68	-2.82	-3.08	
Min	-5.08	-5.21	-5.11	-4.40	-3.31	-3.07	-2.99	-3.60	-3.47	-3.38	-4.29	
1983 - 2004												
Mean	0.38	0.01	-0.17	-0.13	0.28	1.11	1.64	2.05	1.59	1.03	0.68	0.41
Max	6.15	5.64	5.58	5.60	5.72	5.90	7.32	7.80	7.74	6.53	5.97	6.12
Min	-4.56	-5.08	-5.21	-5.11	-4.40	-3.58	-3.21	-2.99	-3.60	-3.47	-3.38	-4.29



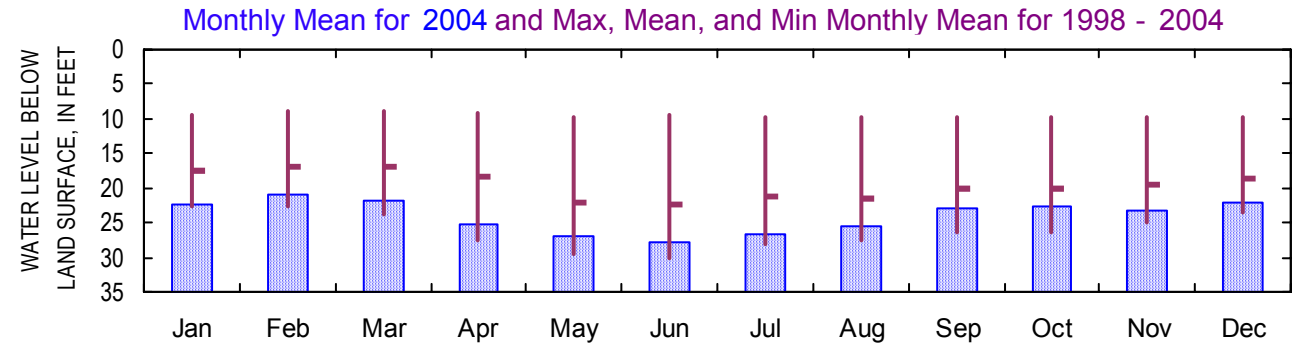
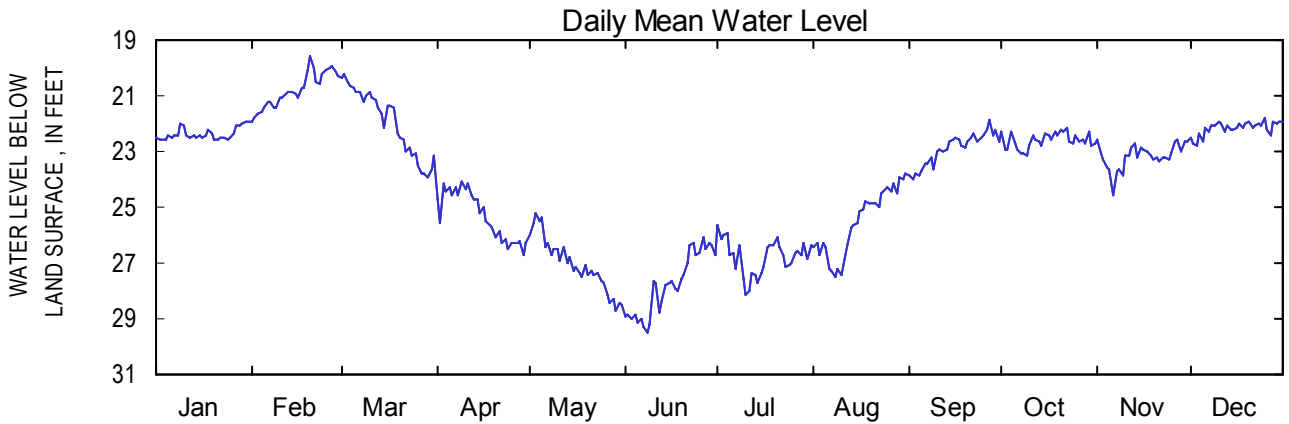


**UPPER BRUNSWICK AQUIFER
2004 Calendar Year**

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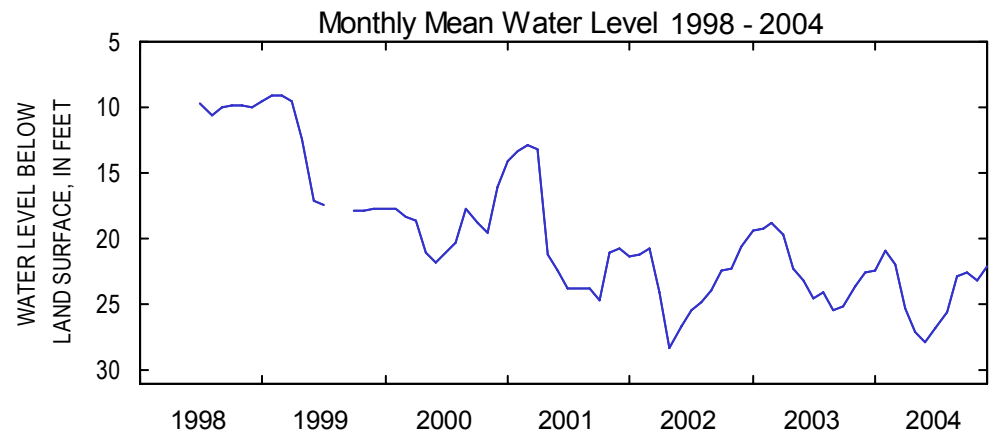
Site Name: 34J077

Latitude: 31° 17' 11" Longitude: 081° 28' 30" GLYNN Period of Record: 1998 - 2004
 Well Depth: 390 feet Datum: 15 feet Well Diameter 4 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	22.37	20.80	21.94	25.31	27.06	27.78	26.78	25.52	22.91	22.60	23.17	22.16
Max	22.59	21.94	23.95	26.68	28.72	29.52	28.14	27.50	23.98	23.12	24.57	22.78
Min	21.90	19.56	20.21	24.09	25.22	26.04	25.68	23.78	21.84	22.12	22.57	21.75
1998 - 2004												
Mean	17.39	16.89	16.93	18.40	22.04	22.29	21.28	21.61	20.07	20.15	19.63	18.52
Max	22.59	22.59	23.95	27.51	29.61	30.09	28.14	27.50	26.33	26.29	25.10	23.65
Min	9.40	8.91	8.87	9.30	9.66	9.53	9.62	9.70	9.77	9.71	9.81	9.78



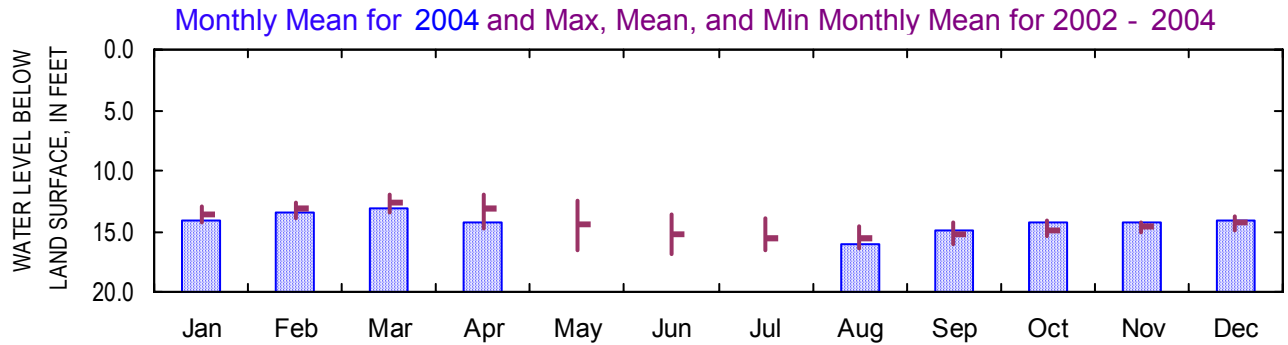
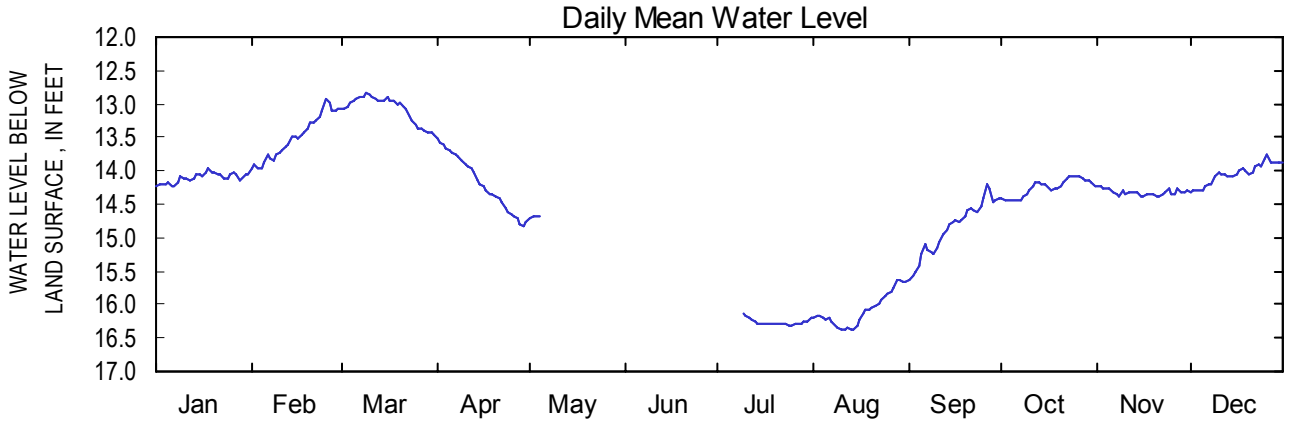


UPPER BRUNSWICK AQUIFER 2004 Calendar Year

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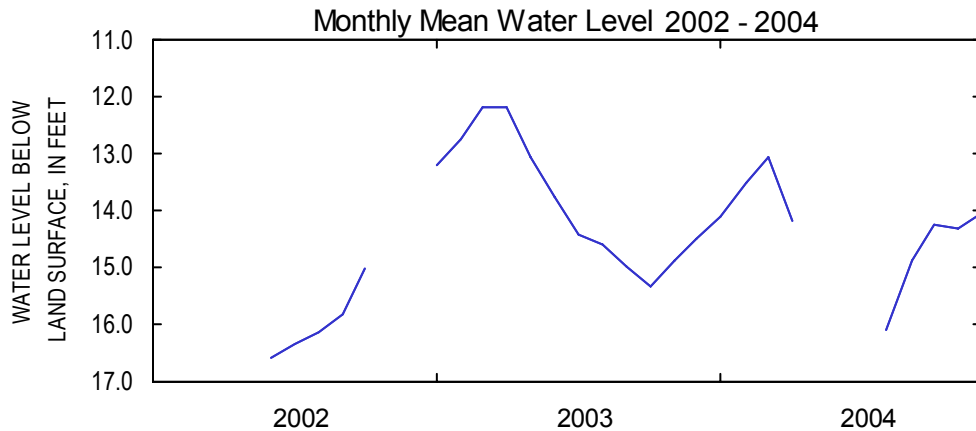
Site Name: 34J081

Latitude: 31° 19' 09" Longitude: 081° 28' 11" GLYNN Period of Record: 2002 - 2004
 Well Depth: 435 feet Datum: 14.68 feet Well Diameter 4 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	14.11	13.50	13.07	14.18				16.08	14.86	14.25	14.32	14.04
Max	14.24	13.97	13.46	14.83				16.38	15.62	14.45	14.39	14.32
Min	13.97	12.93	12.82	13.52				15.63	14.19	14.07	14.24	13.76
2002 - 2004												
Mean	13.66	13.13	12.64	13.18	14.38	15.18	15.62	15.61	15.22	14.86	14.64	14.26
Max	14.24	13.97	13.46	14.83	16.49	16.85	16.49	16.38	16.04	15.48	15.04	14.84
Min	12.89	12.54	11.90	11.98	12.49	13.63	13.93	14.56	14.19	14.07	14.24	13.76



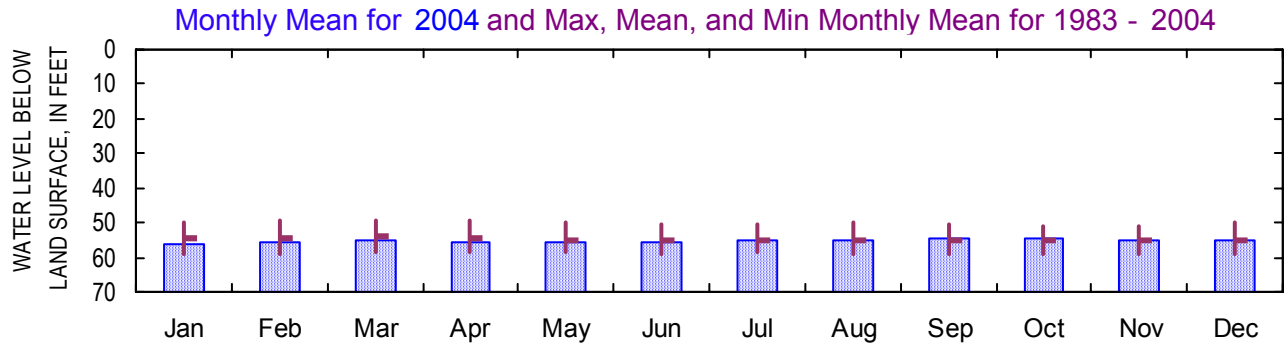
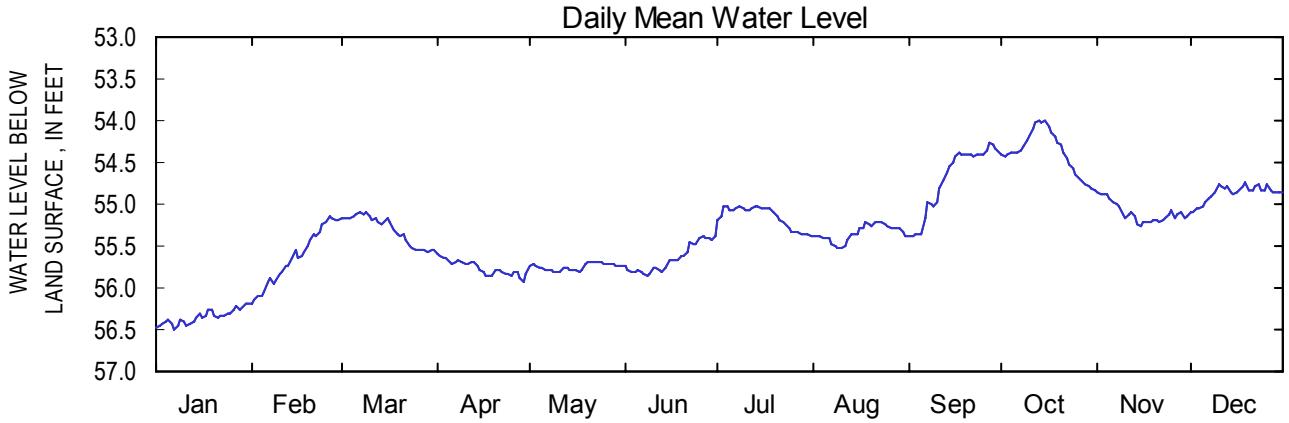


**UPPER BRUNSWICK AQUIFER
2004 Calendar Year**

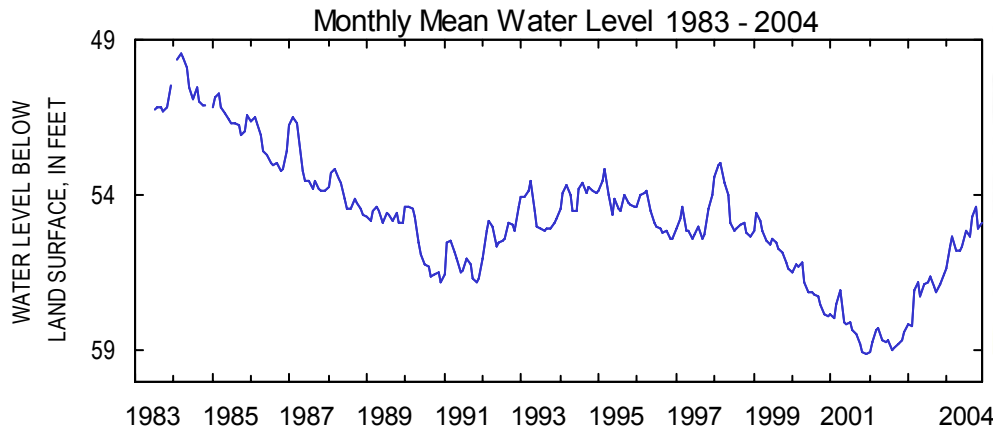
313253081433503

Site Name: 32L016

Latitude: 31° 32' 52" Longitude: 081° 43' 36" WAYNE Period of Record: 1983 - 2004
 Well Depth: 340 feet Datum: 74.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	56.35	55.64	55.31	55.76	55.75	55.65	55.15	55.34	54.70	54.38	55.10	54.87
Max	56.49	56.18	55.56	55.92	55.82	55.85	55.37	55.52	55.39	54.83	55.25	55.10
Min	56.18	55.14	55.09	55.60	55.69	55.39	55.01	55.21	54.27	54.00	54.86	54.75
1983 - 2004												
Mean	54.77	54.36	54.15	54.37	54.84	54.96	54.88	54.91	54.89	54.96	55.04	54.94
Max	59.15	59.02	58.65	58.39	58.73	58.86	58.80	59.06	58.97	59.04	59.10	59.17
Min	49.71	49.45	49.26	49.48	49.75	50.28	50.75	50.20	50.67	50.94	51.00	49.92



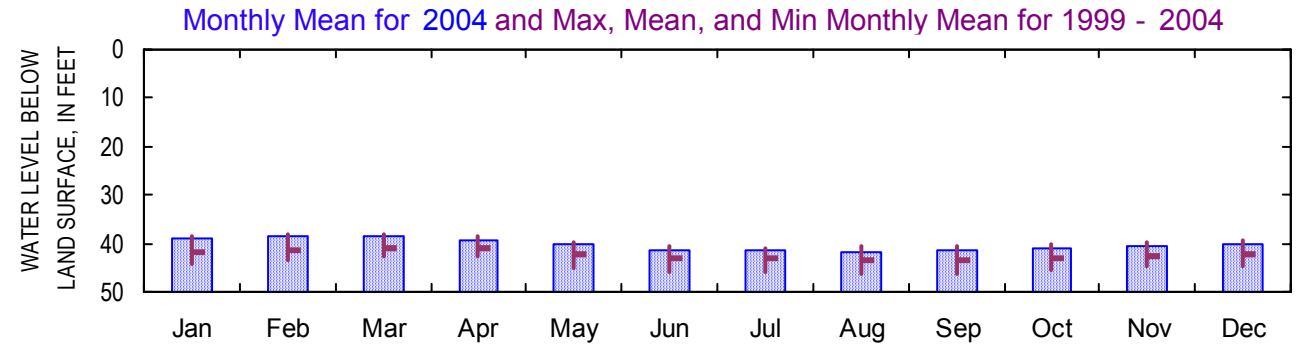
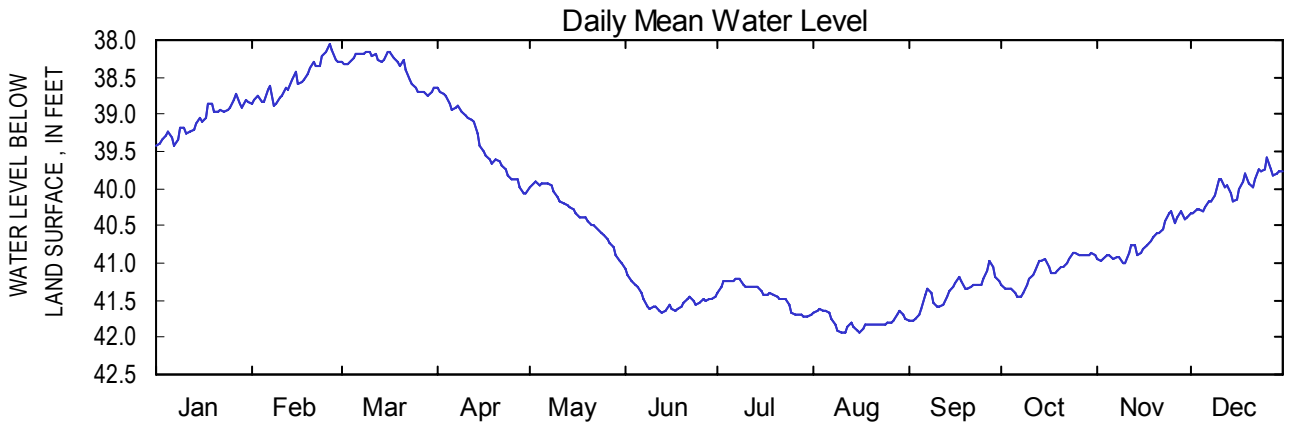


**LOWER BRUNSWICK AQUIFER
2004 Calendar Year**

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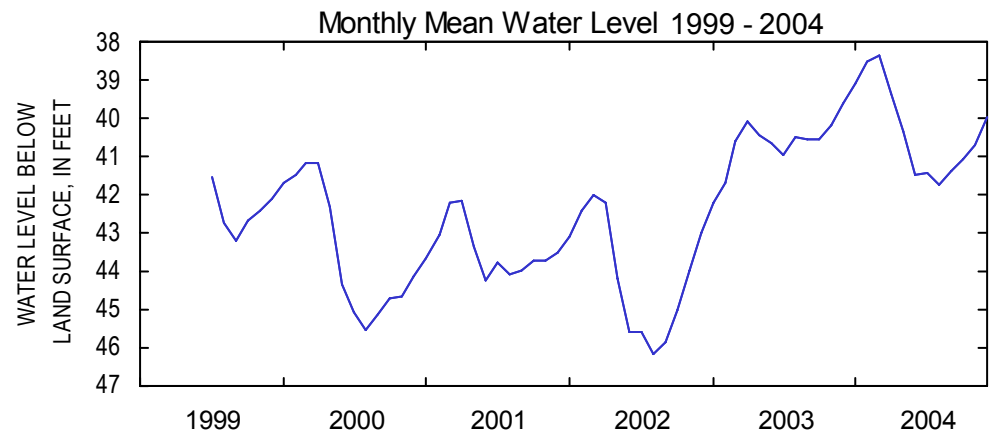
Site Name: 36N012

Latitude: 31° 51' 13" Longitude: 081° 12' 14" BRYAN Period of Record: 1999 - 2004
 Well Depth: 340 feet Datum: 20 feet Well Diameter 4 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	39.08	38.53	38.37	39.36	40.34	41.49	41.43	41.79	41.39	41.11	40.71	39.98
Max	39.43	38.87	38.75	40.07	40.99	41.68	41.73	41.94	41.78	41.47	41.01	40.33
Min	38.72	38.05	38.15	38.65	39.89	41.08	41.21	41.63	40.97	40.86	40.29	39.57
1999 - 2004												
Mean	41.96	41.43	40.90	41.02	42.15	43.12	43.10	43.50	43.38	42.99	42.64	42.09
Max	44.12	43.37	42.59	42.79	44.92	46.05	45.91	46.47	46.27	45.58	44.83	44.59
Min	38.72	38.05	38.15	38.65	39.89	40.56	40.84	40.41	40.37	40.36	39.86	39.27



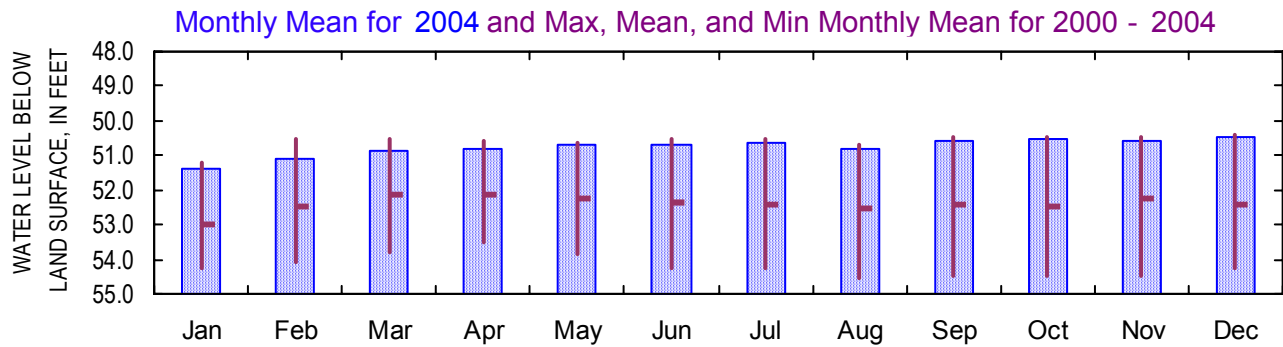
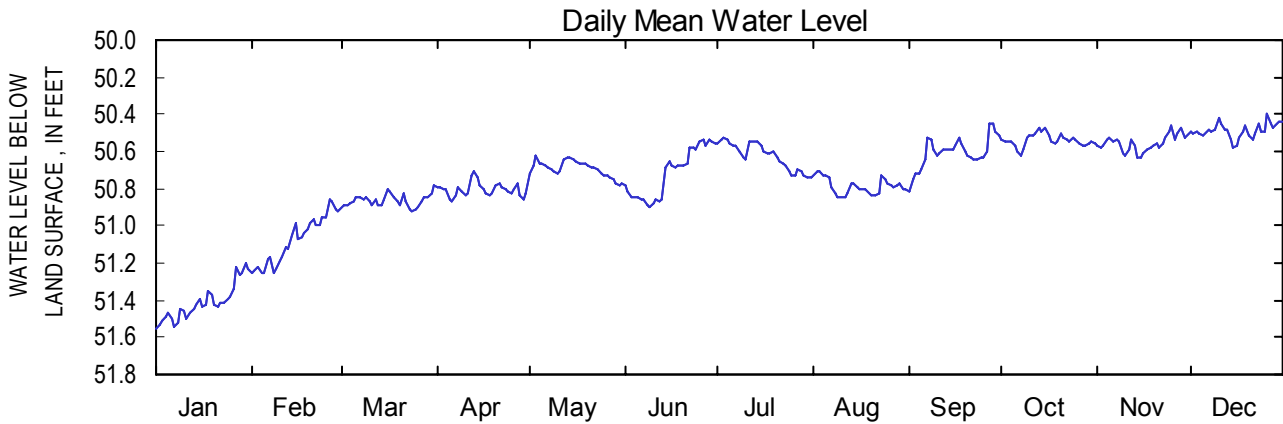


**LOWER BRUNSWICK AQUIFER
2004 Calendar Year**

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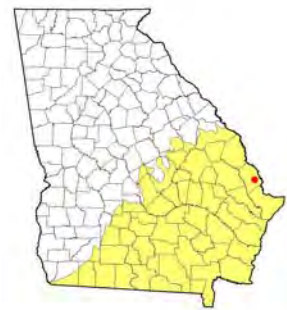
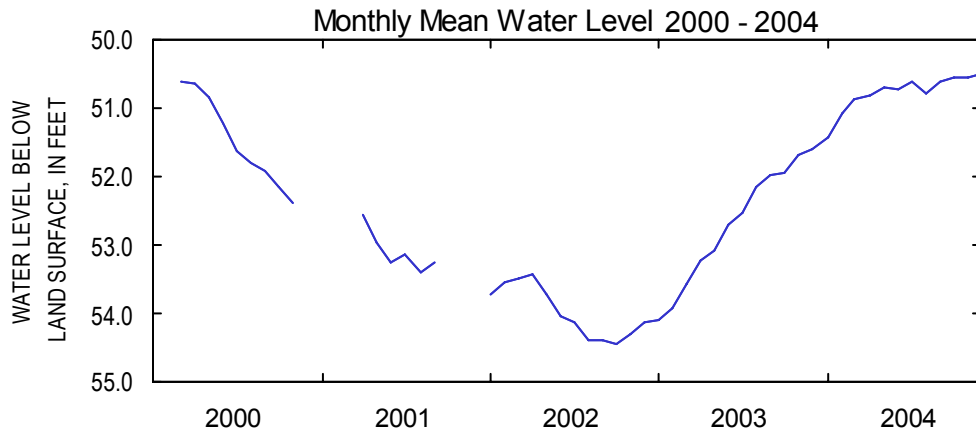
Site Name: 35S008

Latitude: 32° 19' 43" Longitude: 081° 15' 14" EFFINGHAM Period of Record: 2000 - 2004
 Well Depth: 215 feet Datum: 64 feet Well Diameter: 2 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	51.41	51.08	50.86	50.80	50.69	50.72	50.62	50.79	50.61	50.54	50.56	50.49
Max	51.55	51.26	50.92	50.86	50.78	50.90	50.74	50.84	50.81	50.62	50.64	50.58
Min	51.21	50.86	50.79	50.71	50.62	50.53	50.52	50.70	50.45	50.47	50.47	50.40
2000 - 2004												
Mean	53.02	52.46	52.14	52.13	52.27	52.39	52.41	52.51	52.43	52.45	52.24	52.44
Max	54.24	54.09	53.77	53.53	53.86	54.24	54.25	54.52	54.47	54.51	54.48	54.28
Min	51.21	50.54	50.53	50.58	50.62	50.53	50.52	50.70	50.45	50.47	50.47	50.40



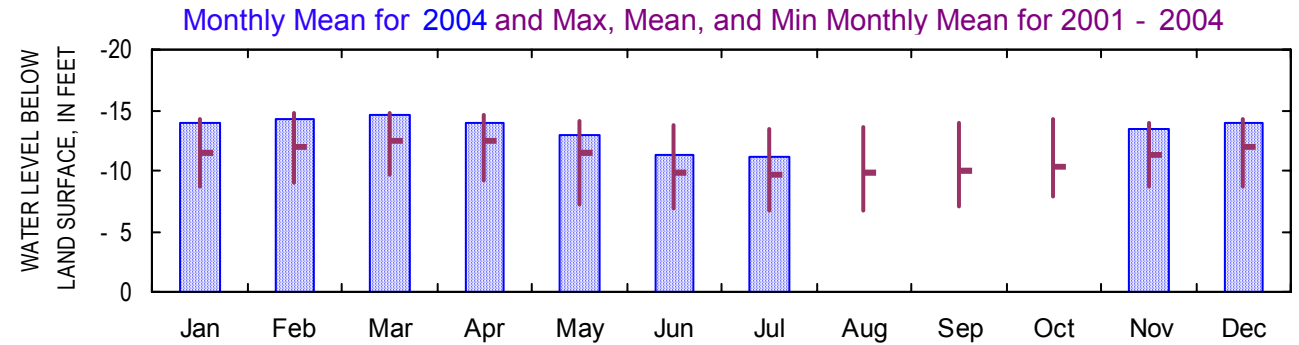
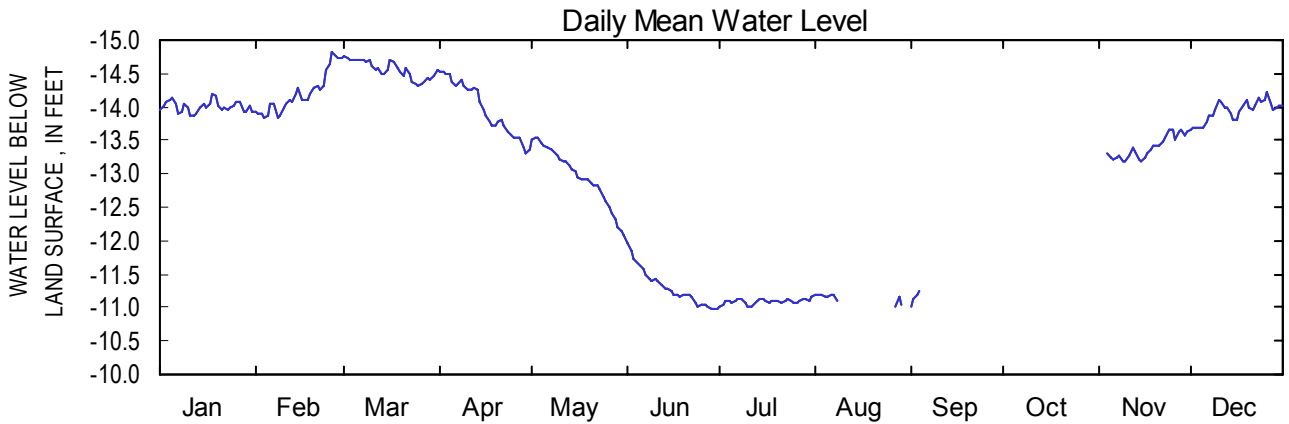


LOWER BRUNSWICK AQUIFER 2004 Calendar Year

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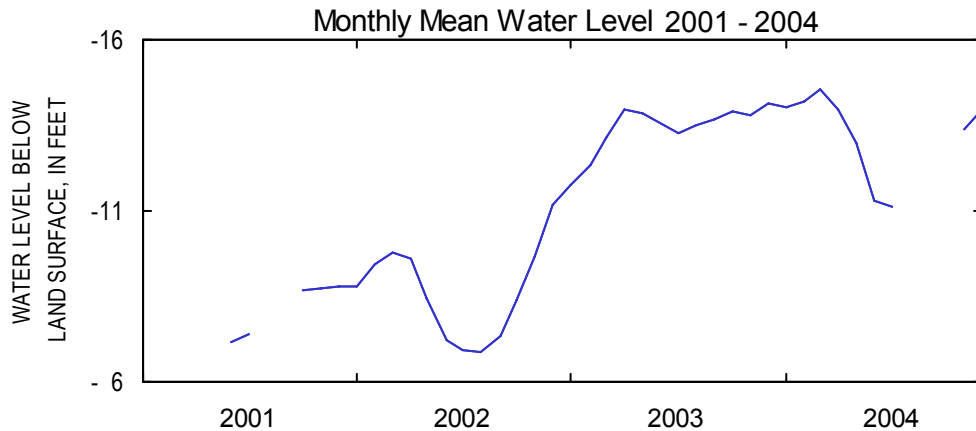
Site Name: 33J062

Latitude: 31° 15' 30" Longitude: 081° 36' 39" GLYNN Period of Record: 2001 - 2004
 Well Depth: 500 feet Datum: 12.00 feet Well Diameter 6.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	-14.01	-14.20	-14.56	-13.97	-12.95	-11.30	-11.09				-13.39	-13.94
Max	-13.86	-13.82	-14.32	-13.31	-12.08	-10.97	-11.02				-13.18	-13.66
Min	-14.20	-14.82	-14.76	-14.53	-13.55	-11.98	-11.16				-13.65	-14.23
2001 - 2004												
Mean	-11.52	-12.01	-12.49	-12.52	-11.44	-9.81	-9.66	-9.85	-10.01	-10.31	-11.34	-12.00
Max	-8.67	-8.94	-9.62	-9.23	-7.17	-6.89	-6.76	-6.77	-7.00	-7.90	-8.65	-8.64
Min	-14.20	-14.82	-14.76	-14.53	-14.07	-13.76	-13.44	-13.65	-13.97	-14.19	-13.97	-14.33



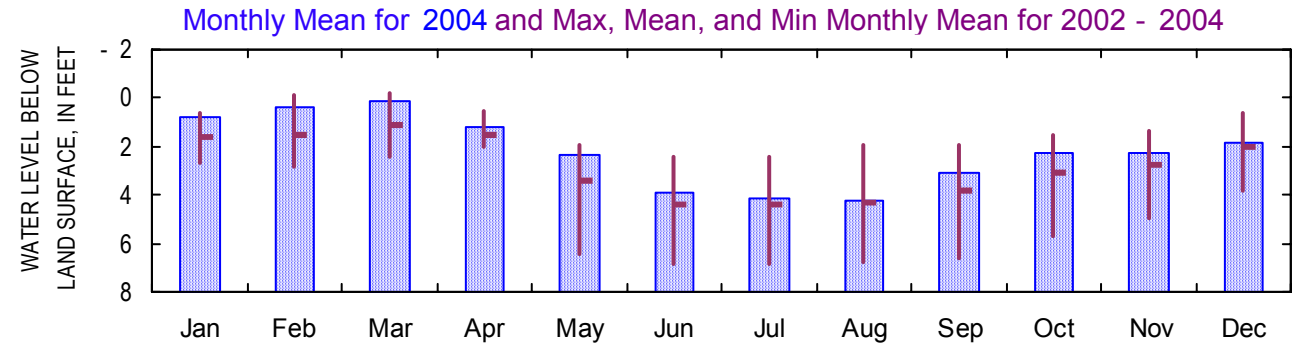
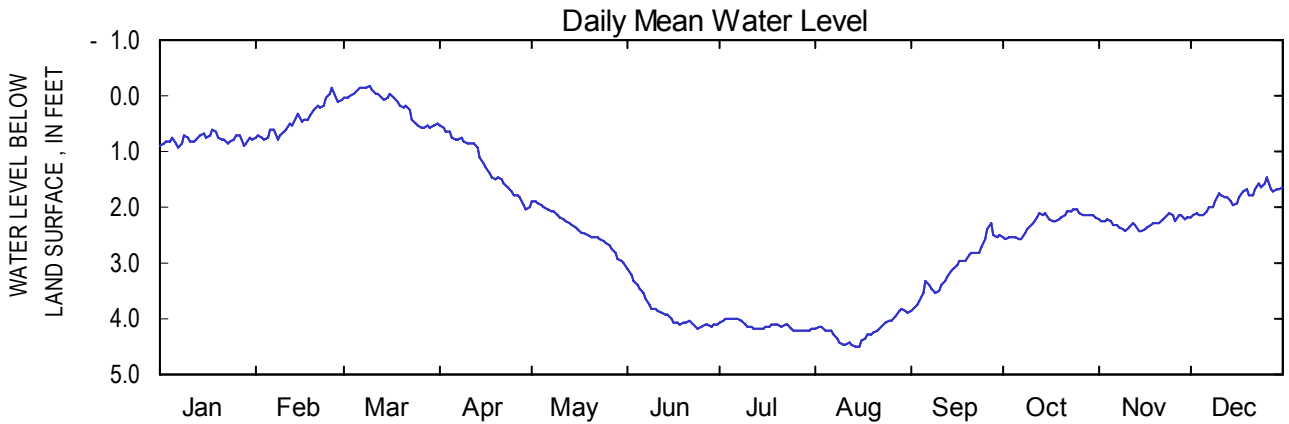


LOWER BRUNSWICK AQUIFER 2004 Calendar Year

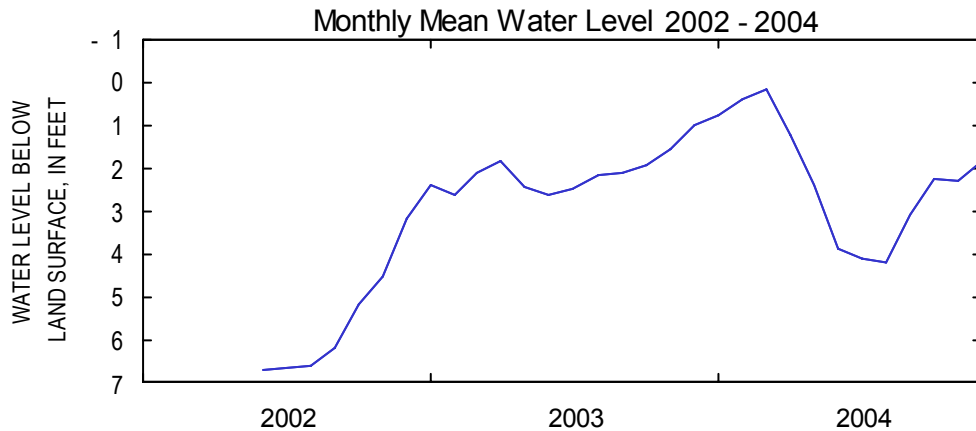
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Site Name: 34J080

Latitude: 31° 19' 09" Longitude: 081° 28' 11" GLYNN Period of Record: 2002 - 2004
 Well Depth: 555 feet Datum: 13.66 feet Well Diameter 4 inches



Monthly Water-Level Statistics												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	0.78	0.42	0.16	1.24	2.39	3.87	4.13	4.21	3.10	2.26	2.28	1.83
Max	0.93	0.80	0.57	2.04	2.99	4.17	4.23	4.49	3.86	2.57	2.44	2.17
Min	0.59	-0.13	-0.17	0.55	1.90	3.09	3.99	3.82	2.30	2.04	2.10	1.48
2002 - 2004												
Mean	1.60	1.50	1.13	1.55	3.44	4.41	4.43	4.34	3.80	3.12	2.78	2.00
Max	2.65	2.84	2.44	2.04	6.41	6.85	6.89	6.78	6.57	5.74	4.94	3.85
Min	0.59	-0.13	-0.17	0.55	1.90	2.39	2.39	1.94	1.97	1.52	1.32	0.61



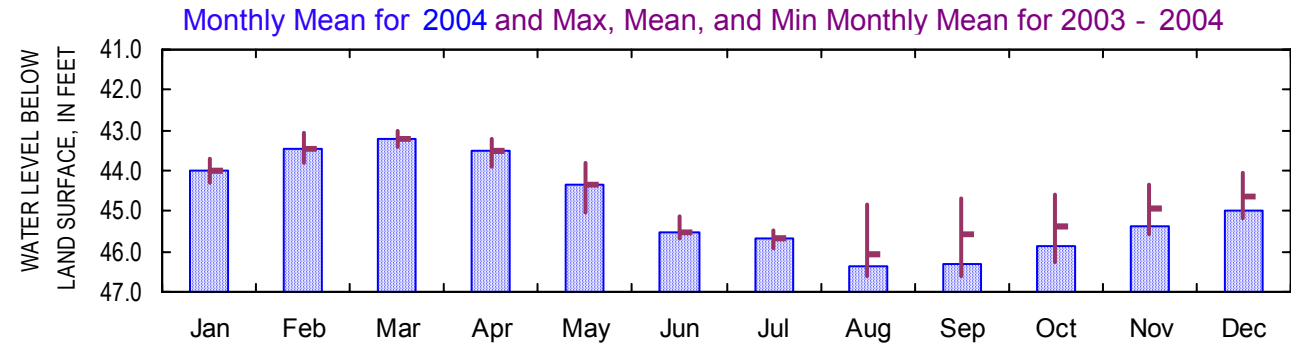
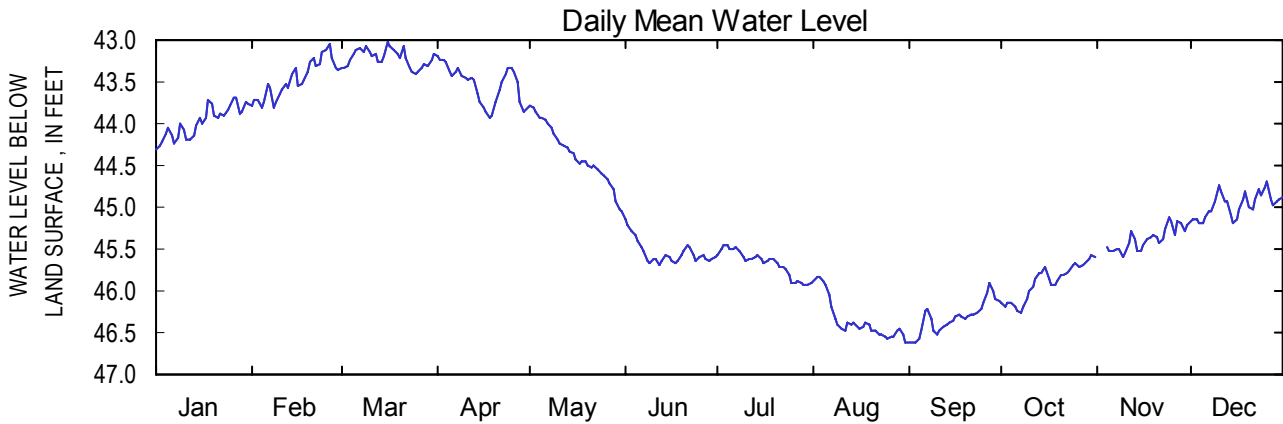


**LOWER BRUNSWICK AQUIFER
2004 Calendar Year**

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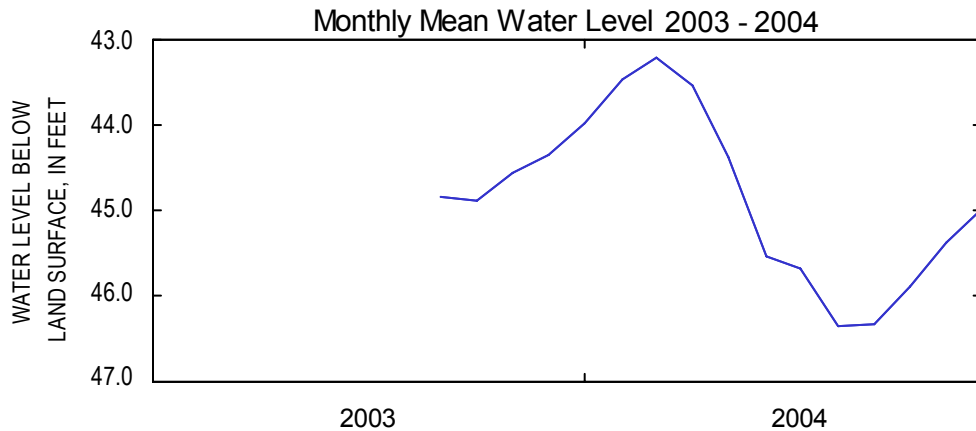
Site Name: 35N073

Latitude: 31° 46' 32" Longitude: 081° 20' 42" LIBERTY Period of Record: 2003 - 2004
 Well Depth: 322 feet Datum: 31.2 feet Well Diameter 4 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	43.98	43.47	43.22	43.53	44.37	45.54	45.67	46.35	46.32	45.89	45.38	44.97
Max	44.32	43.80	43.40	43.92	45.05	45.69	45.93	46.61	46.63	46.26	45.60	45.20
Min	43.69	43.04	43.03	43.19	43.79	45.14	45.46	45.83	45.90	45.57	45.12	44.68
2003 - 2004												
Mean	43.98	43.47	43.22	43.53	44.37	45.54	45.67	46.05	45.58	45.39	44.95	44.66
Max	44.32	43.80	43.40	43.92	45.05	45.69	45.93	46.61	46.63	46.26	45.60	45.20
Min	43.69	43.04	43.03	43.19	43.79	45.14	45.46	44.82	44.70	44.57	44.33	44.07



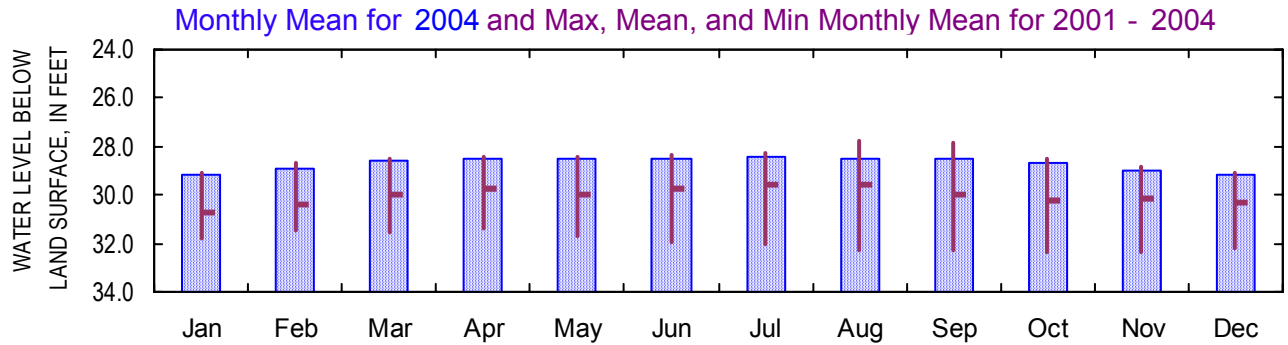
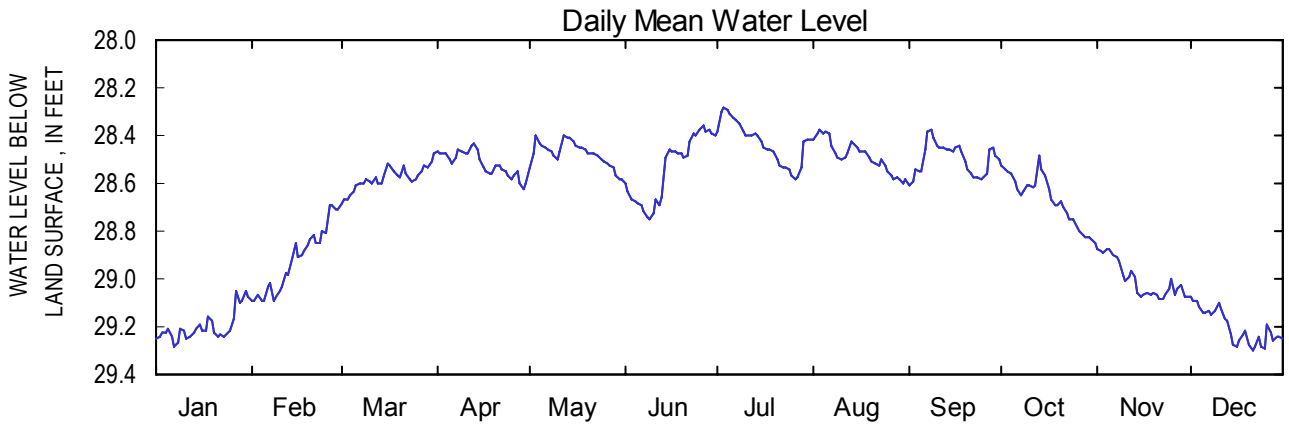


**BRUNSWICK AQUIFER SYSTEM
2004 Calendar Year**

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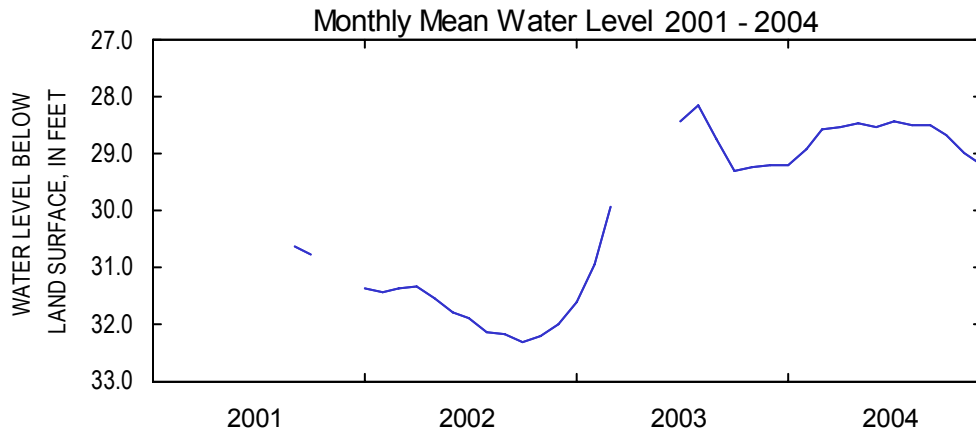
Site Name: 34S008

Latitude: 32° 17' 42" Longitude: 081° 23' 49" EFFINGHAM Period of Record: 2001 - 2004
 Well Depth: 185 feet Datum: 75 feet Well Diameter 6.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	29.20	28.92	28.58	28.52	28.48	28.54	28.43	28.49	28.50	28.67	29.00	29.20
Max	29.28	29.09	28.68	28.63	28.58	28.75	28.58	28.60	28.61	28.85	29.09	29.30
Min	29.05	28.69	28.48	28.43	28.40	28.36	28.29	28.38	28.37	28.48	28.87	29.07
2001 - 2004												
Mean	30.72	30.41	29.95	29.71	30.01	29.78	29.59	29.61	30.01	30.27	30.15	30.35
Max	31.76	31.49	31.51	31.37	31.70	31.97	32.05	32.29	32.25	32.38	32.37	32.21
Min	29.05	28.69	28.48	28.43	28.40	28.36	28.29	27.73	27.85	28.48	28.87	29.07



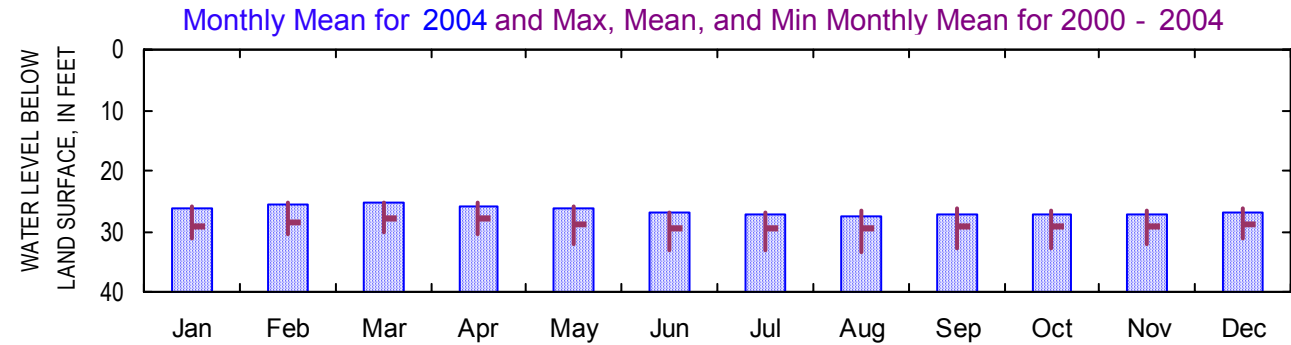
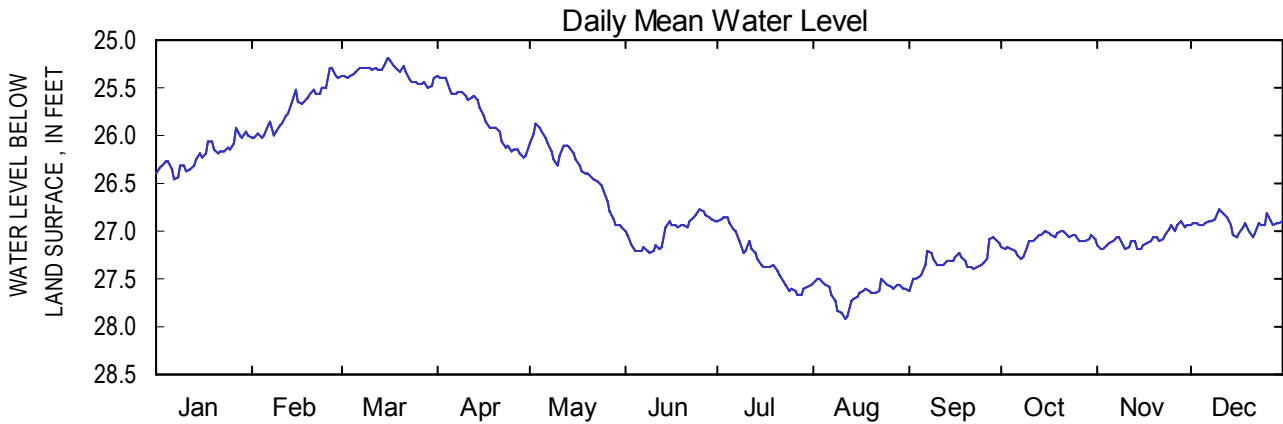


**BRUNSWICK AQUIFER SYSTEM
2004 Calendar Year**

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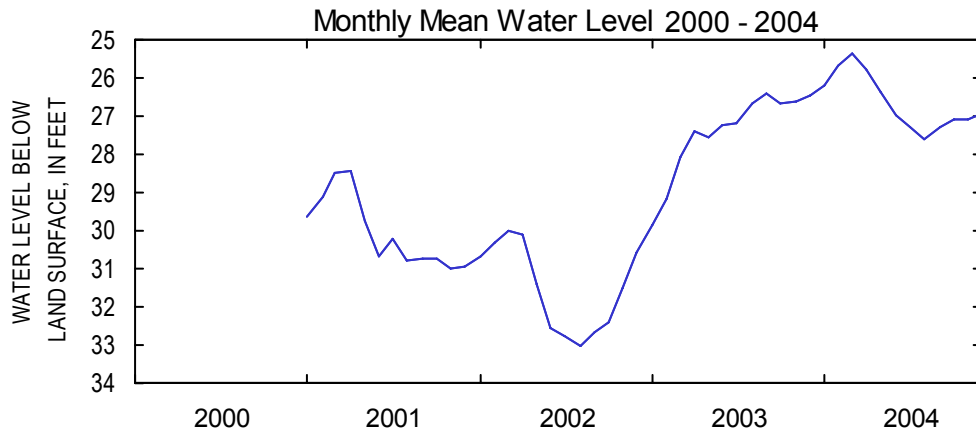
Site Name: 35T005

Latitude: 32° 22' 34" Longitude: 081° 19' 00" EFFINGHAM Period of Record: 2000 - 2004
 Well Depth: 190 feet Datum: 40 feet Well Diameter: 6 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	26.21	25.70	25.35	25.79	26.35	27.01	27.30	27.64	27.32	27.10	27.08	26.92
Max	26.46	26.02	25.49	26.23	26.97	27.22	27.68	27.91	27.62	27.29	27.19	27.07
Min	25.92	25.29	25.19	25.38	25.88	26.77	26.84	27.49	27.05	26.99	26.89	26.77
2000 - 2004												
Mean	29.11	28.56	27.99	27.93	28.77	29.39	29.38	29.56	29.29	29.24	29.06	28.84
Max	31.02	30.58	30.31	30.54	32.12	33.00	33.19	33.38	32.86	32.76	32.08	31.16
Min	25.92	25.29	25.19	25.38	25.88	26.77	26.84	26.45	26.20	26.48	26.53	26.37



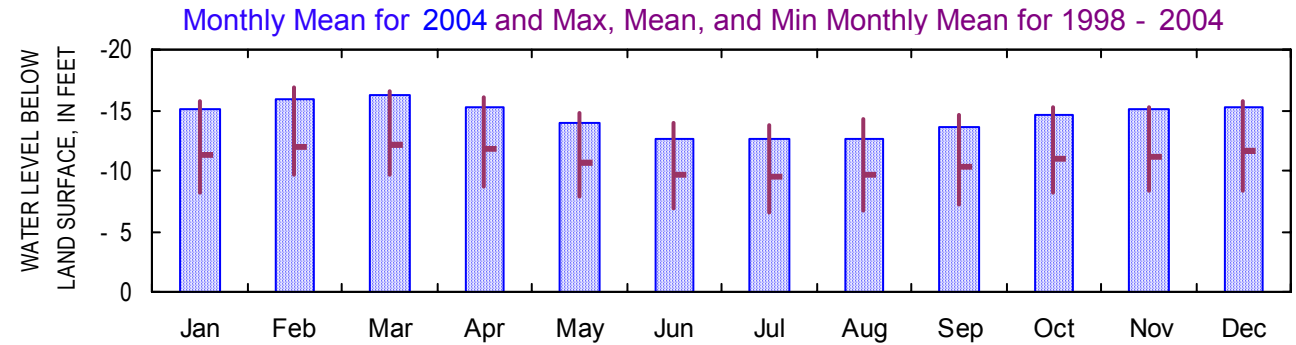
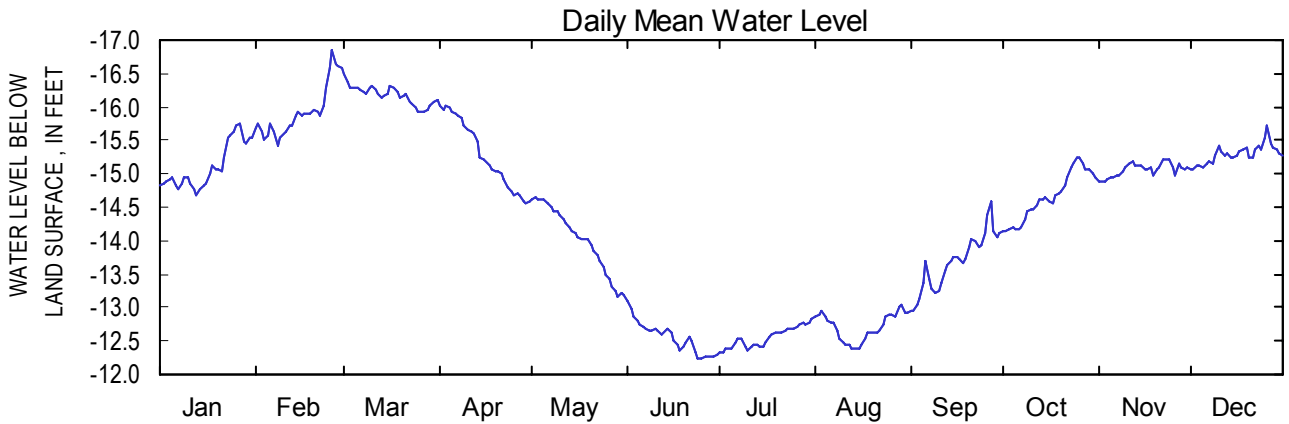


**BRUNSWICK AQUIFER SYSTEM
2004 Calendar Year**

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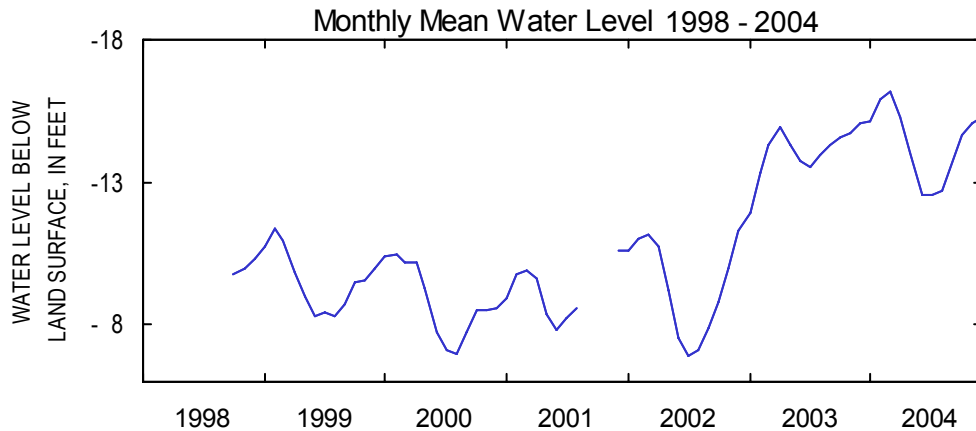
Site Name: 33G028

Latitude: 31° 06' 29" Longitude: 081° 32' 33" GLYNN Period of Record: 1998 - 2004
 Well Depth: 475 feet Datum: 10 feet Well Diameter 6 inches



Monthly Water-Level Statistics

2004												
Mean	-15.11	-15.93	-16.17	-15.29	-14.02	-12.55	-12.55	-12.70	-13.68	-14.66	-15.06	-15.29
Max	-14.69	-15.43	-15.92	-14.56	-13.15	-12.25	-12.32	-12.38	-12.96	-14.15	-14.88	-15.06
Min	-15.76	-16.84	-16.50	-16.01	-14.65	-13.09	-12.84	-13.04	-14.57	-15.26	-15.22	-15.71
1998 - 2004												
Mean	-11.28	-11.99	-12.12	-11.76	-10.69	-9.61	-9.47	-9.60	-10.28	-10.97	-11.19	-11.59
Max	-8.27	-9.66	-9.64	-8.64	-7.85	-6.89	-6.59	-6.79	-7.29	-8.18	-8.30	-8.35
Min	-15.76	-16.84	-16.50	-16.01	-14.68	-13.87	-13.78	-14.19	-14.64	-15.26	-15.22	-15.71



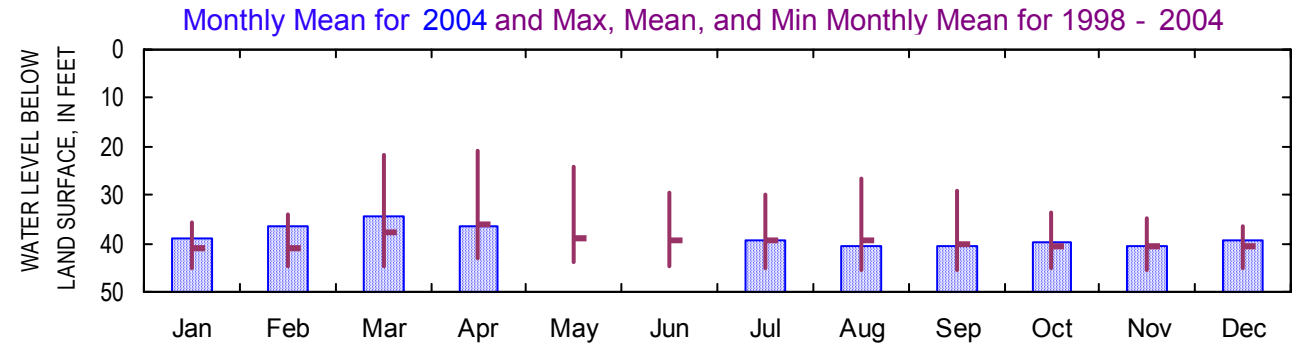
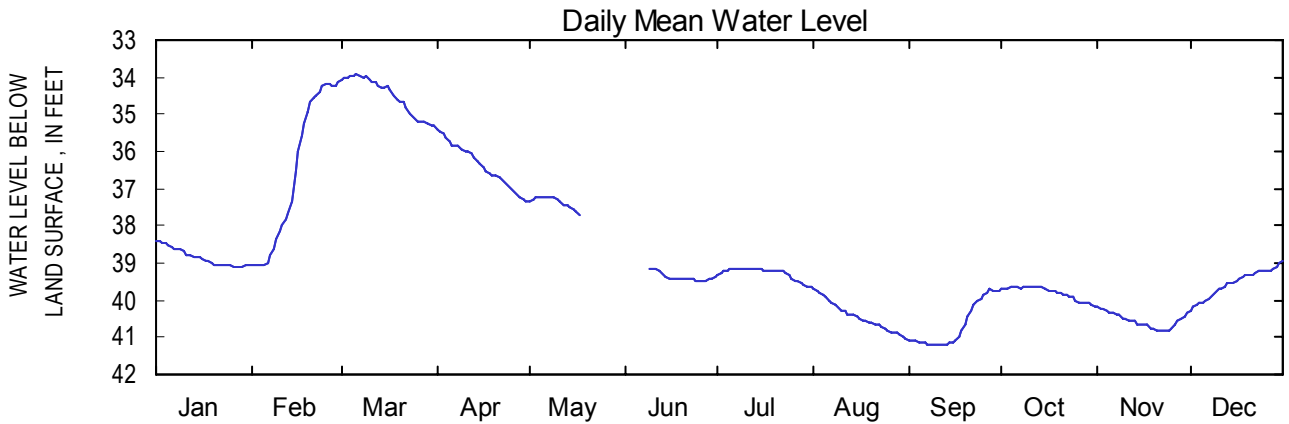


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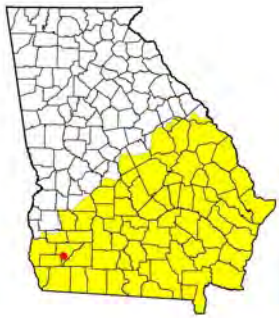
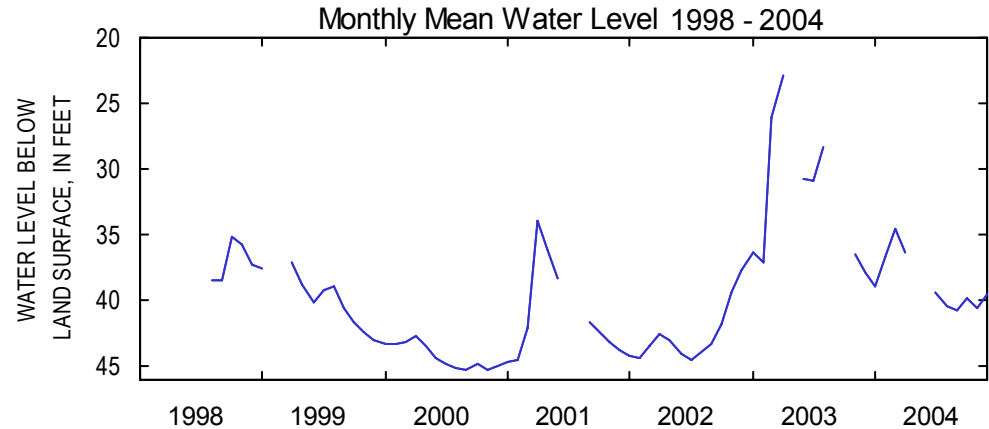
Site Name: 10H009

Latitude: 31° 14' 00" Longitude: 084° 29' 55" **BAKER** Period of Record: 1998 - 2004
 Well Depth: 200 feet Datum: 167 feet Well Diameter 4 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	38.84	36.57	34.50	36.37		39.27	40.44	40.68	39.80	40.55	39.54	
Max	39.11	39.06	35.32	37.32		39.67	41.02	41.22	40.16	40.83	40.26	
Min	38.41	34.15	33.93	35.39		39.14	39.72	39.71	39.65	40.19	38.95	
1998 - 2004												
Mean	40.80	40.84	37.66	35.92	39.02	39.46	39.53	39.30	40.34	40.62	40.43	40.57
Max	44.88	44.54	44.57	43.03	43.92	44.61	45.09	45.31	45.37	45.08	45.29	45.07
Min	35.80	34.15	21.65	20.78	24.31	29.60	29.80	26.47	29.12	33.59	34.87	36.58



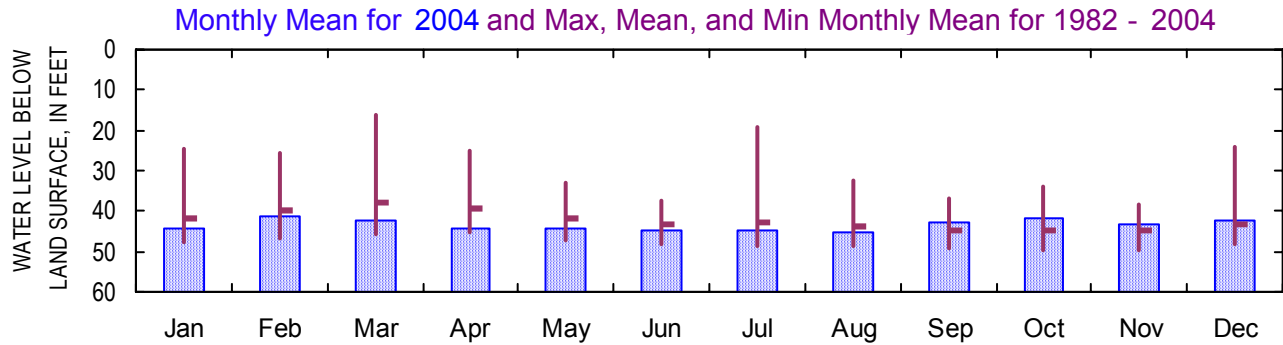
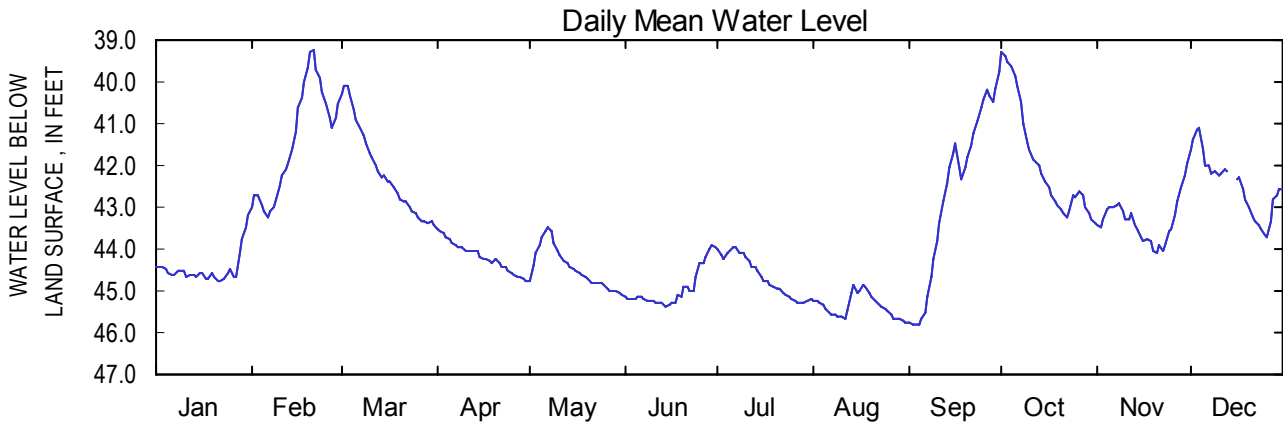


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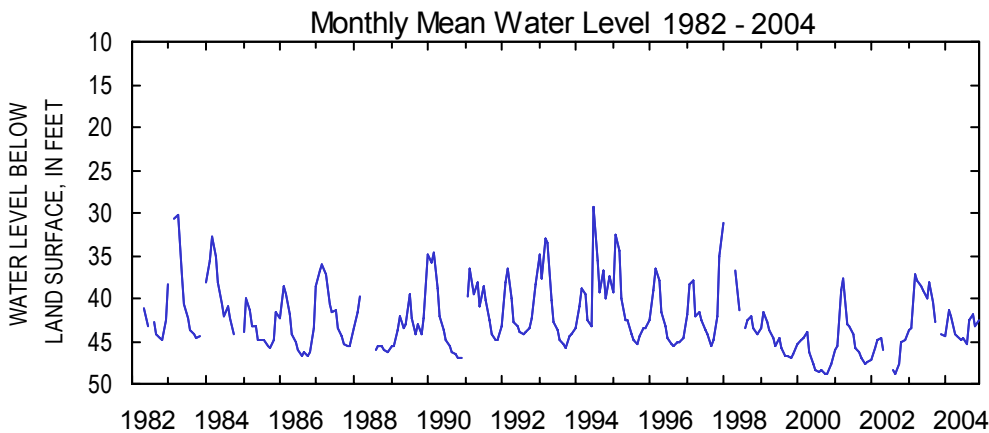
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Site Name: 12K014

Latitude: 31° 26' 11" Longitude: 084° 11' 05" **BAKER** Period of Record: 1982 - 2004
 Well Depth: 137 feet Datum: 183.36 feet Well Diameter: 2 inches



Monthly Water-Level Statistics												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	44.47	41.41	42.13	44.18	44.46	44.95	44.66	45.37	42.67	41.93	43.33	42.48
Max	44.78	43.23	43.44	44.76	45.10	45.36	45.30	45.77	45.81	43.37	44.09	43.73
Min	43.20	39.25	40.09	43.52	43.48	43.90	43.93	44.86	39.76	39.27	41.95	41.10
1982 - 2004												
Mean	41.58	39.64	37.75	39.50	41.79	43.20	42.95	43.96	44.63	44.72	44.79	43.46
Max	47.63	46.76	45.94	45.40	47.30	48.09	48.53	48.91	49.06	49.56	49.58	47.96
Min	24.42	25.36	16.07	25.05	33.19	37.33	19.05	32.58	37.11	33.86	38.28	24.04



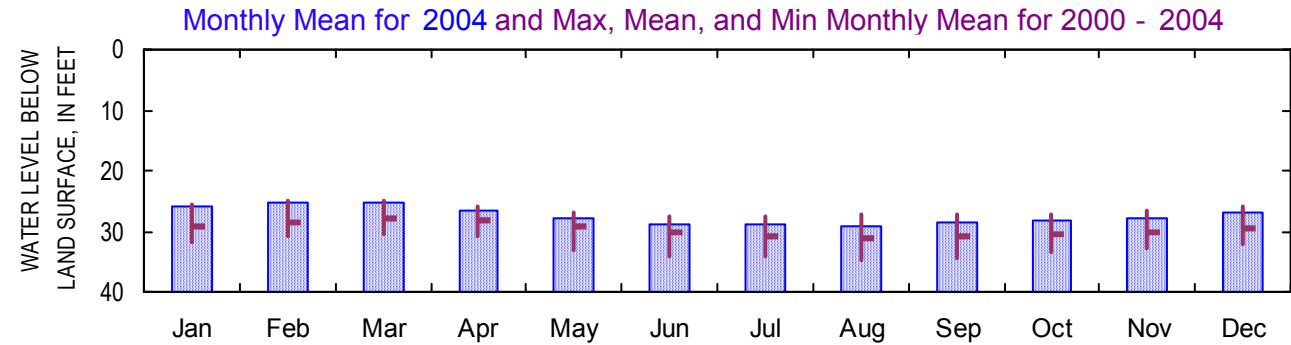
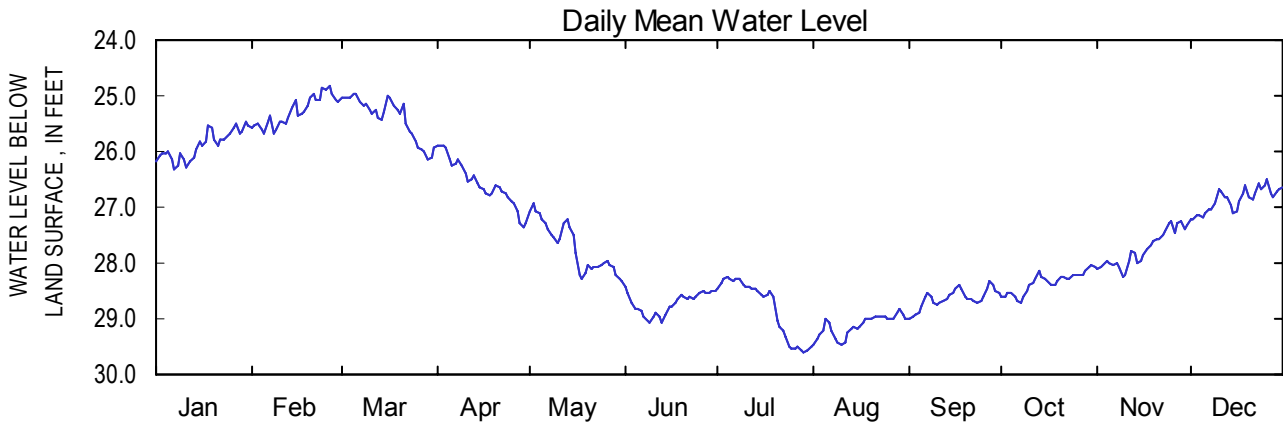


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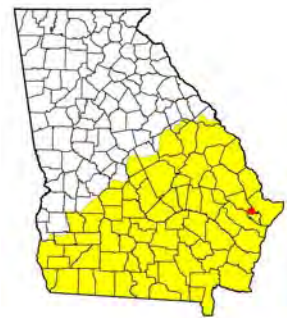
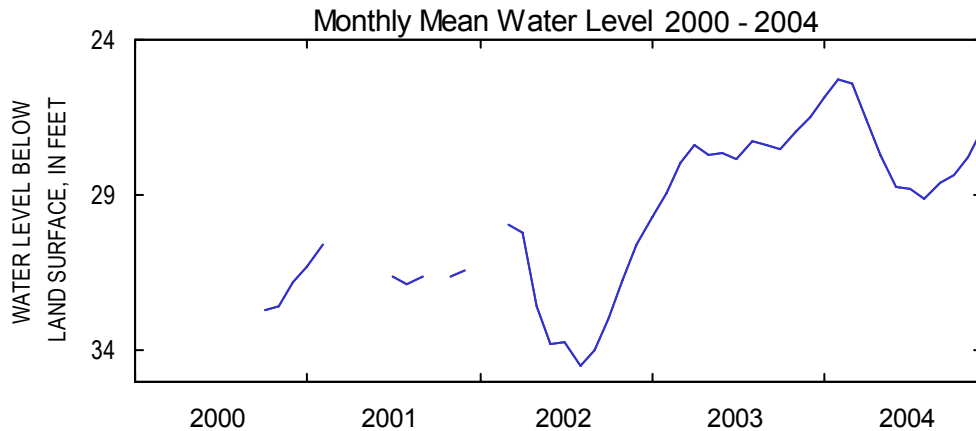
Site Name: 35P110

Latitude: 31° 54' 43" Longitude: 081° 18' 59" BRYAN Period of Record: 2000 - 2004
Well Depth: 441.25 feet Datum: 10.47 feet Well Diameter 8 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	25.88	25.28	25.39	26.57	27.72	28.72	28.81	29.12	28.64	28.35	27.75	26.86
Max	26.31	25.69	26.15	27.35	28.32	29.06	29.59	29.47	28.99	28.71	28.26	27.22
Min	25.47	24.81	24.97	25.88	26.92	28.42	28.26	28.82	28.31	28.05	27.24	26.51
2000 - 2004												
Mean	29.13	28.61	27.81	28.04	29.32	30.29	30.78	31.24	30.79	30.41	30.12	29.44
Max	31.80	30.93	30.38	30.85	33.22	34.25	34.15	34.73	34.39	33.56	32.85	32.24
Min	25.47	24.81	24.97	25.88	26.92	27.38	27.49	27.13	27.19	27.27	26.56	25.98



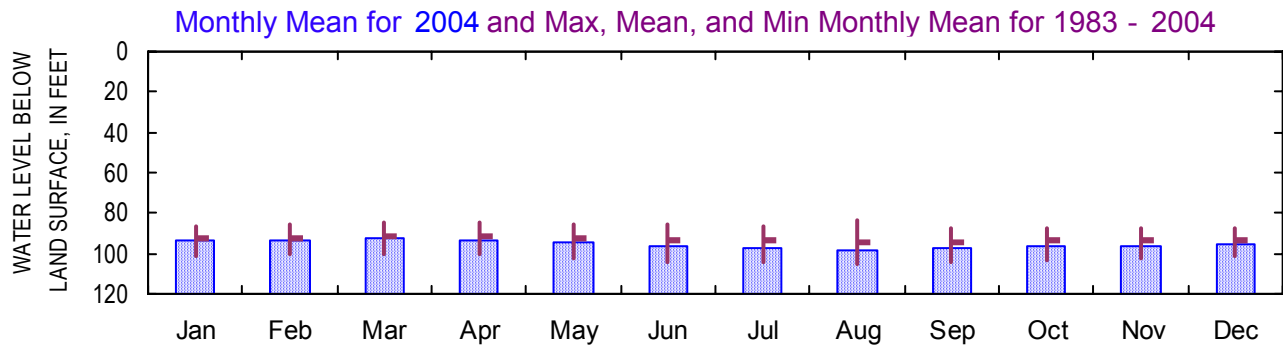
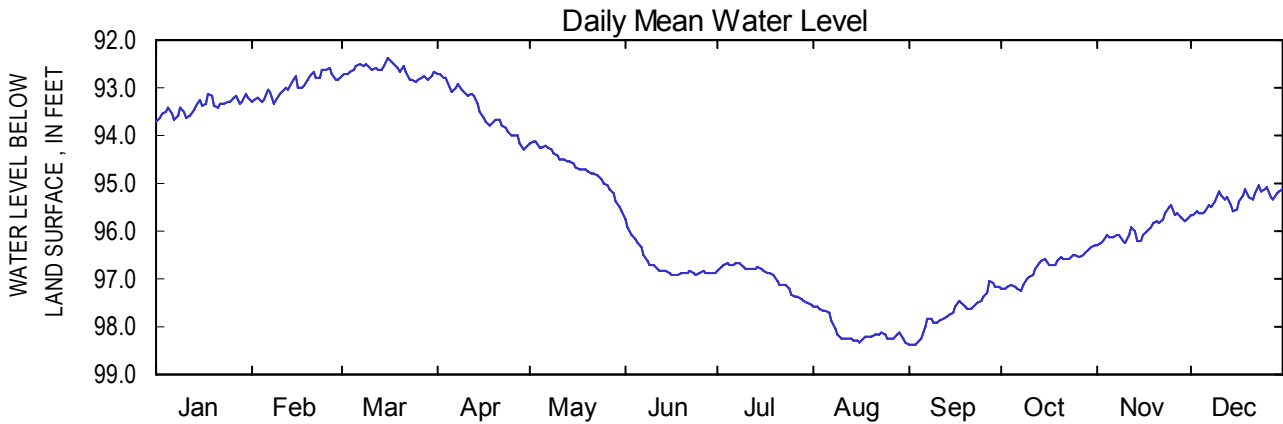


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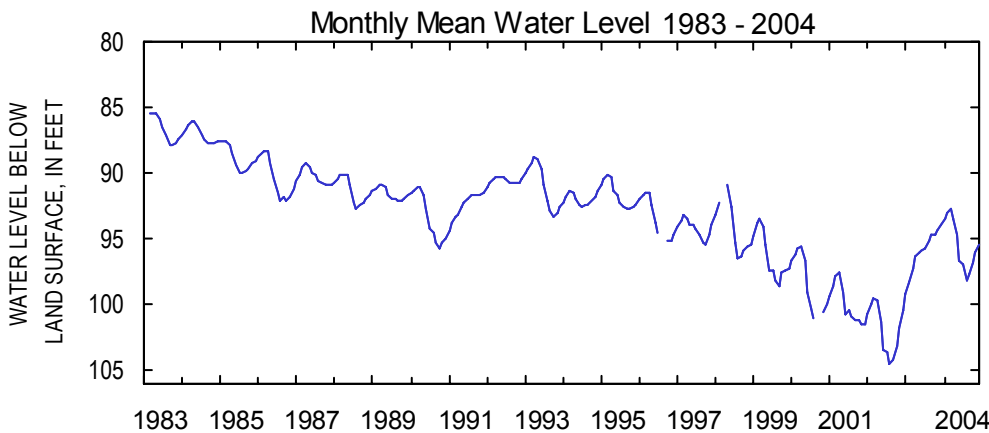
Site Name: 32R002

Latitude: 32° 12' 40" Longitude: 081° 41' 15" BULLOCH Period of Record: 1983 - 2004
Well Depth: 804 feet Datum: 120.00 feet Well Diameter 6.00 inches



Monthly Water-Level Statistics

2004												
Mean	93.39	92.96	92.65	93.46	94.67	96.68	96.98	98.10	97.70	96.76	95.95	95.35
Max	93.71	93.33	92.87	94.28	95.57	96.93	97.54	98.35	98.39	97.24	96.31	95.66
Min	93.11	92.60	92.36	92.69	94.12	95.73	96.66	97.57	97.04	96.31	95.46	95.04
1983 - 2004												
Mean	92.82	92.27	91.66	91.63	92.12	93.04	93.62	94.05	94.09	93.73	93.76	93.39
Max	101.28	100.37	99.94	100.03	102.24	104.06	103.80	105.01	104.75	103.72	102.52	101.69
Min	86.65	85.54	84.54	85.08	85.11	85.50	86.17	83.87	87.60	87.51	87.44	87.12



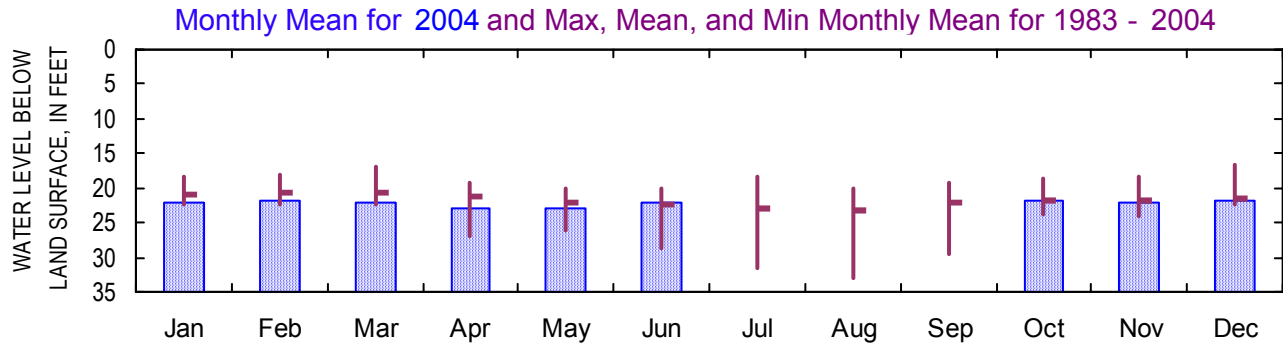
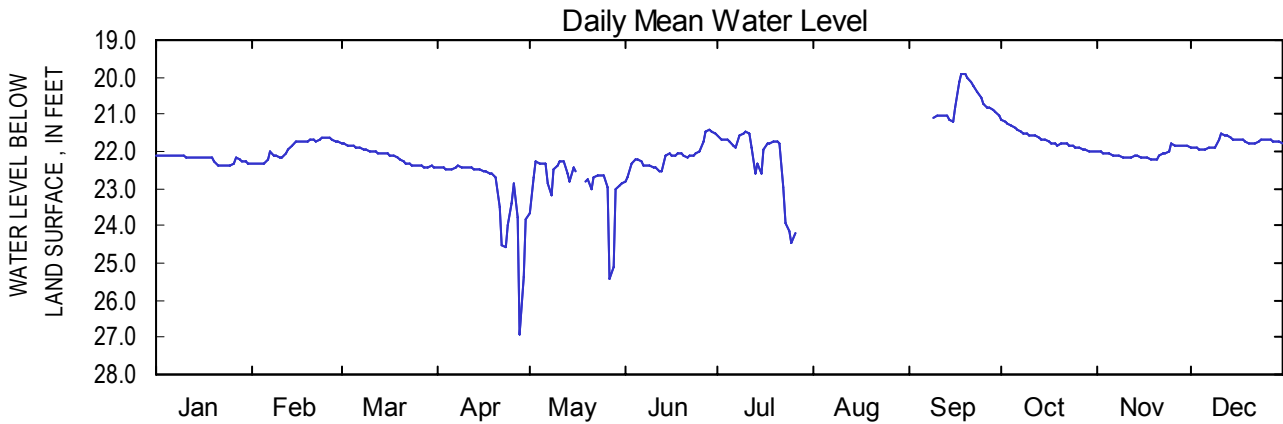


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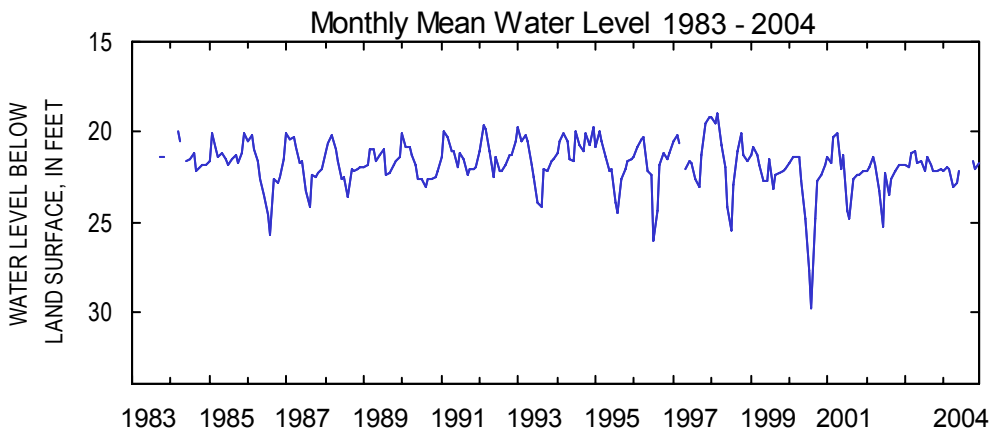
Site Name: 10K005

Latitude: 31° 28' 53" Longitude: 084° 27' 51" CALHOUN Period of Record: 1983 - 2004
 Well Depth: 138 feet Datum: 190 feet Well Diameter 4 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	22.20	21.92	22.11	23.08	22.86	22.14			21.67	22.06	21.75	
Max	22.38	22.32	22.41	26.92	25.41	22.79			22.01	22.22	21.94	
Min	22.11	21.64	21.77	22.39	22.27	21.43			21.12	21.78	21.54	
1983 - 2004												
Mean	21.00	20.72	20.61	21.15	22.03	22.40	22.96	23.37	22.20	21.85	21.74	21.37
Max	22.38	22.32	22.41	26.92	26.11	28.56	31.52	33.07	29.41	23.78	24.01	22.38
Min	18.28	18.00	16.99	19.22	19.99	20.00	18.47	19.98	19.35	18.62	18.43	16.75



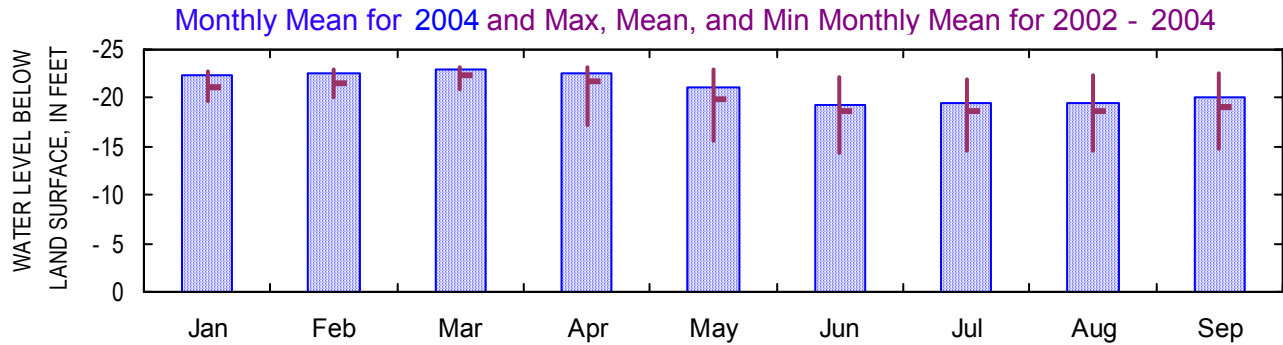
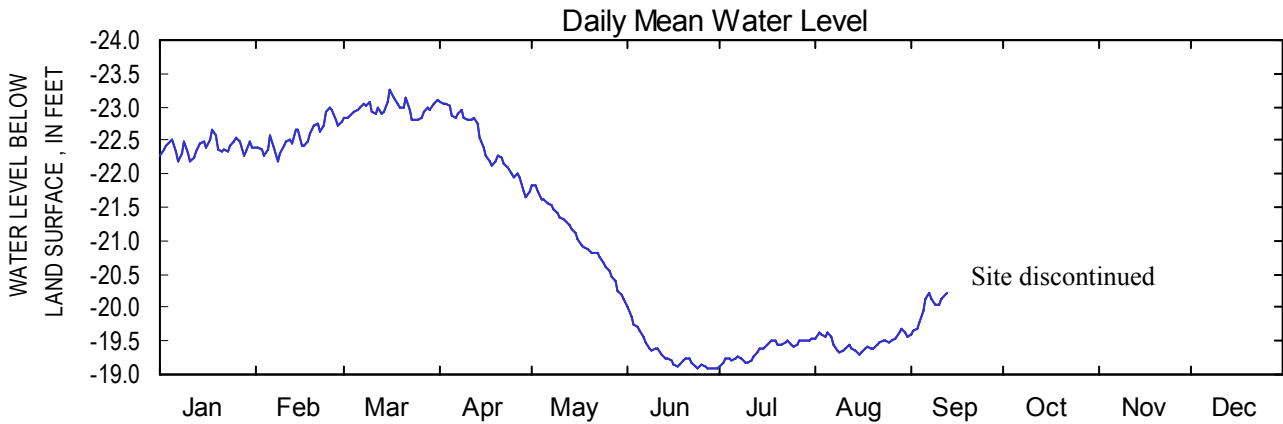


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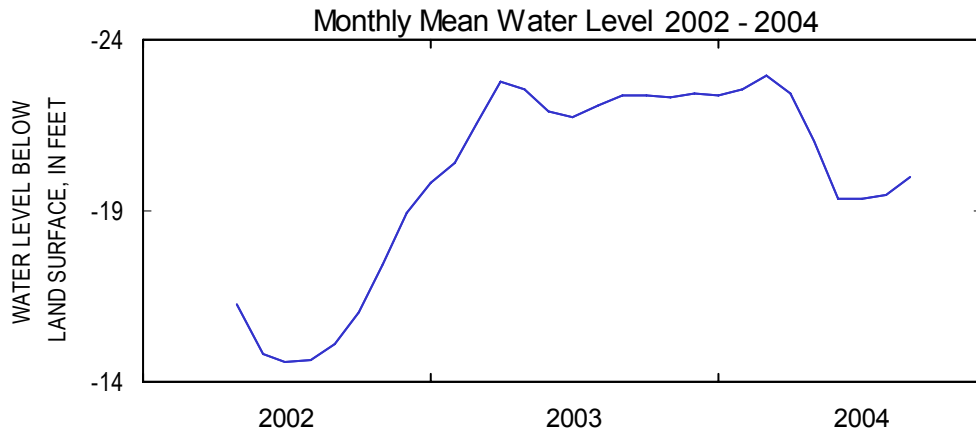
Site Name: 32G045

Latitude: 31° 06' 01" Longitude: 081° 43' 48" CAMDEN Period of Record: 2002 - 2004
Well Depth: 560 feet Datum: 16 feet Well Diameter 6 inches



Monthly Water-Level Statistics

2004												
Mean	-22.40	-22.56	-22.97	-22.44	-21.04	-19.32	-19.37	-19.47	-19.98	55.28	55.49	55.19
Max	-22.18	-22.18	-22.81	-21.65	-20.14	-19.09	-19.13	-19.31	-19.60	55.72	55.67	55.50
Min	-22.67	-22.97	-23.25	-23.07	-21.83	-20.01	-19.52	-19.68	-20.23	55.15	55.25	55.03
2002 - 2004												
Mean	-21.11	-21.51	-22.26	-21.76	-19.95	-18.69	-18.56	-18.74	-18.97	-19.21	-19.86	-20.68
Max	-19.57	-20.03	-20.90	-17.26	-15.57	-14.44	-14.53	-14.54	-14.78	-15.56	-16.46	-18.28
Min	-22.67	-22.97	-23.25	-23.16	-22.97	-22.18	-21.90	-22.26	-22.54	-22.59	-22.53	-22.68



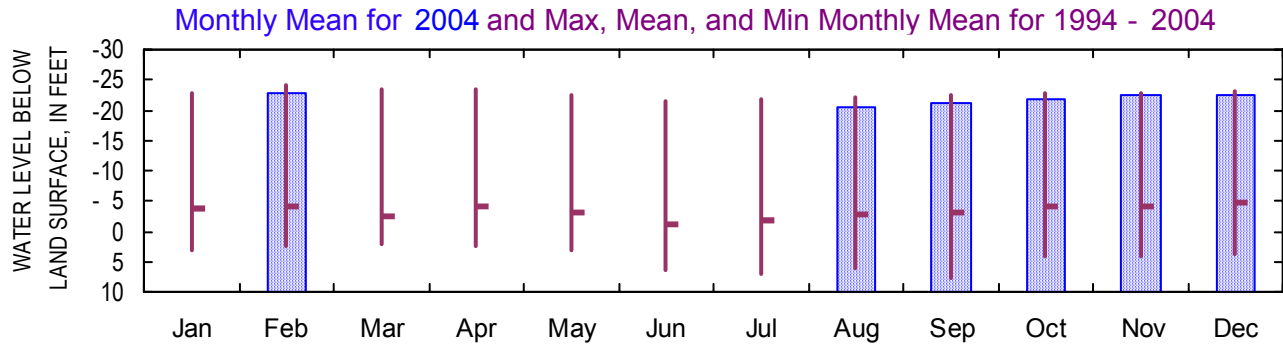
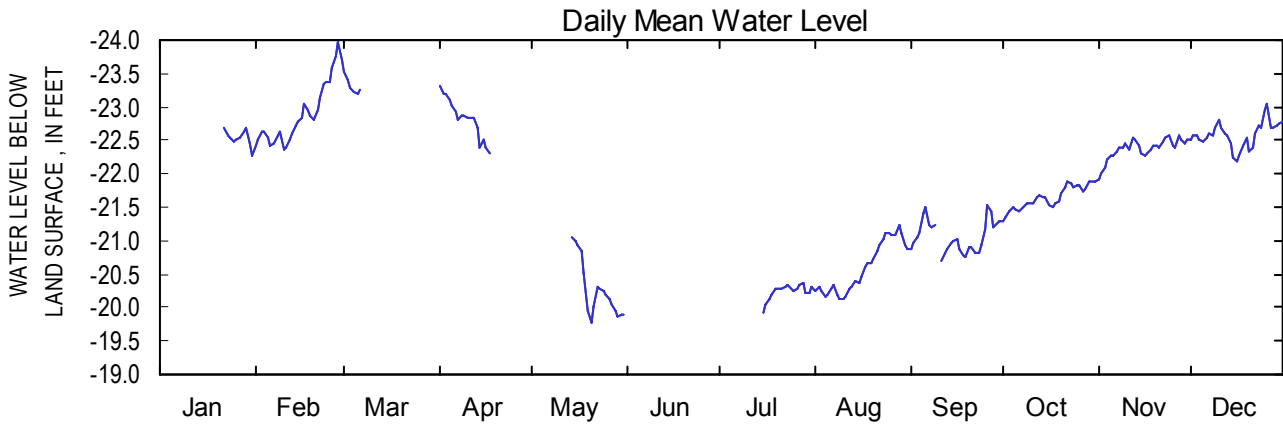


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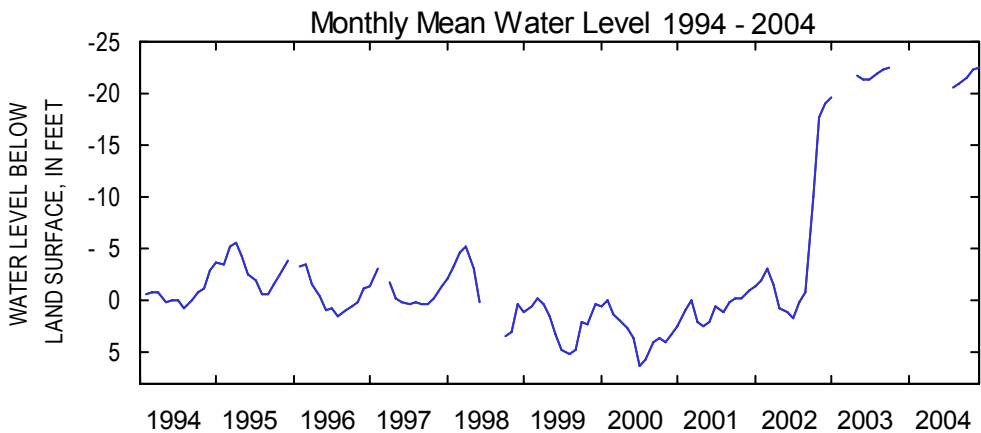
Site Name: 33D069

Latitude: 30° 43' 13" Longitude: 081° 32' 59" CAMDEN Period of Record: 1994 - 2004
 Well Depth: 575 feet Datum: 8 feet Well Diameter 4 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean		-22.89						-20.59	-21.06	-21.64	-22.37	-22.59
Max		-22.36						-20.12	-20.69	-21.28	-21.93	-22.18
Min		-23.97						-21.22	-21.53	-21.90	-22.58	-23.05
1994 - 2004												
Mean	-3.84	-3.97	-2.47	-3.99	-3.24	-1.29	-1.87	-2.92	-3.10	-4.25	-4.07	-4.84
Max	3.08	2.32	2.19	2.53	3.02	6.30	7.16	6.11	7.71	4.10	4.17	3.78
Min	-22.69	-23.97	-23.53	-23.31	-22.30	-21.54	-21.81	-22.16	-22.55	-22.77	-22.78	-23.05



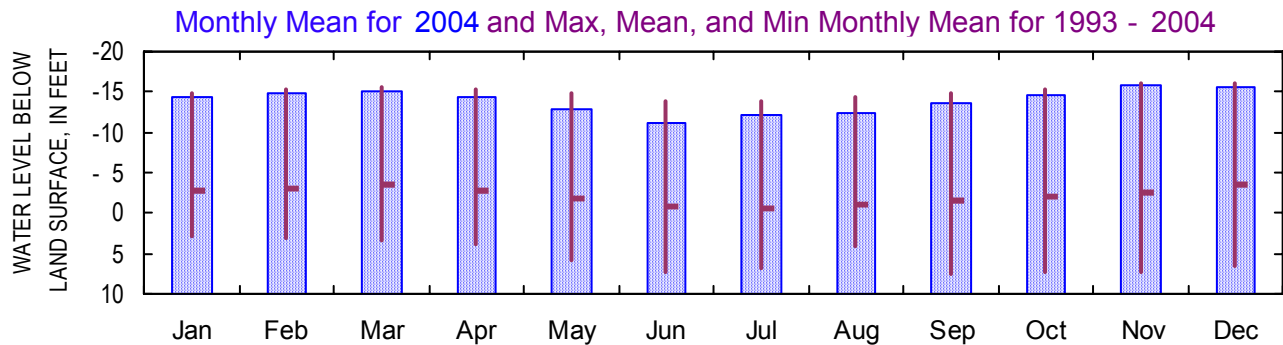
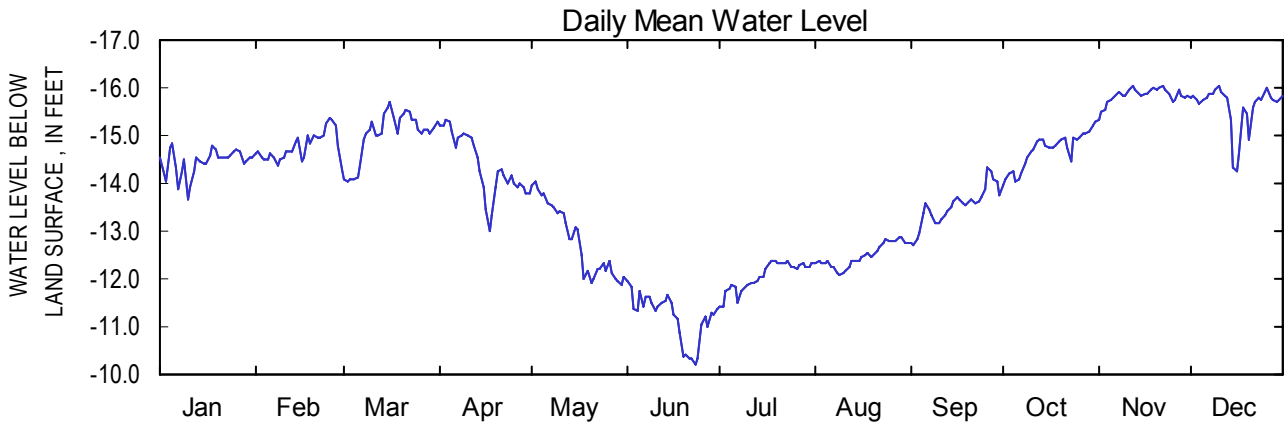


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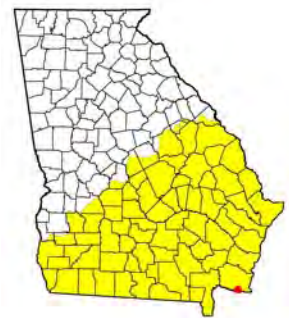
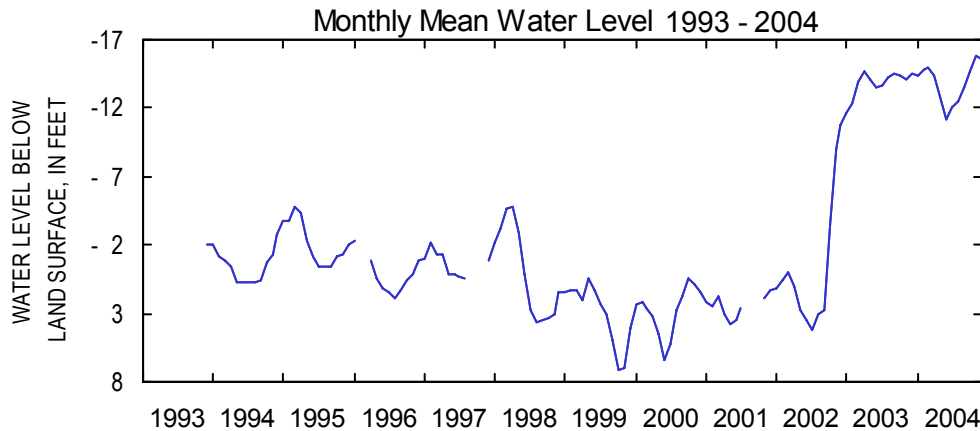
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Site Name: 33E007

Latitude: 30° 45 ' 11" Longitude: 081° 34 ' 36" CAMDEN Period of Record: 1993 - 2004
 Well Depth: 760 feet Datum: 18.00 feet Well Diameter 3.00 inches



Monthly Water-Level Statistics												
2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	-14.44	-14.76	-15.03	-14.38	-12.81	-11.19	-12.06	-12.49	-13.52	-14.69	-15.84	-15.61
Max	-13.66	-14.31	-14.03	-13.02	-11.86	-10.19	-11.41	-12.10	-12.72	-13.97	-15.33	-14.25
Min	-14.84	-15.38	-15.69	-15.32	-14.02	-11.95	-12.36	-12.89	-14.34	-15.28	-16.05	-16.04
1993 - 2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	-2.74	-3.09	-3.47	-2.87	-1.72	-0.84	-0.59	-1.04	-1.51	-1.93	-2.63	-3.44
Max	2.95	3.02	3.42	3.84	5.92	7.18	6.81	4.14	7.64	7.40	7.34	6.62
Min	-14.84	-15.38	-15.69	-15.32	-14.78	-13.79	-13.89	-14.33	-14.80	-15.28	-16.05	-16.04



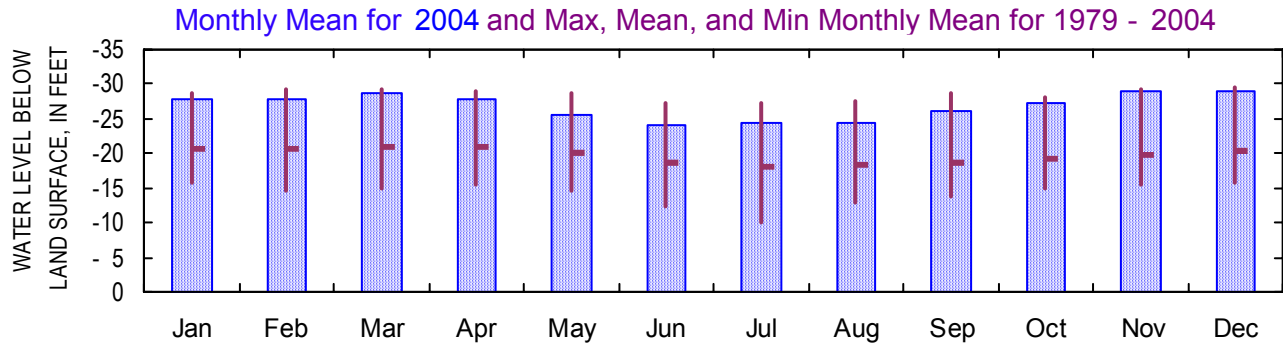
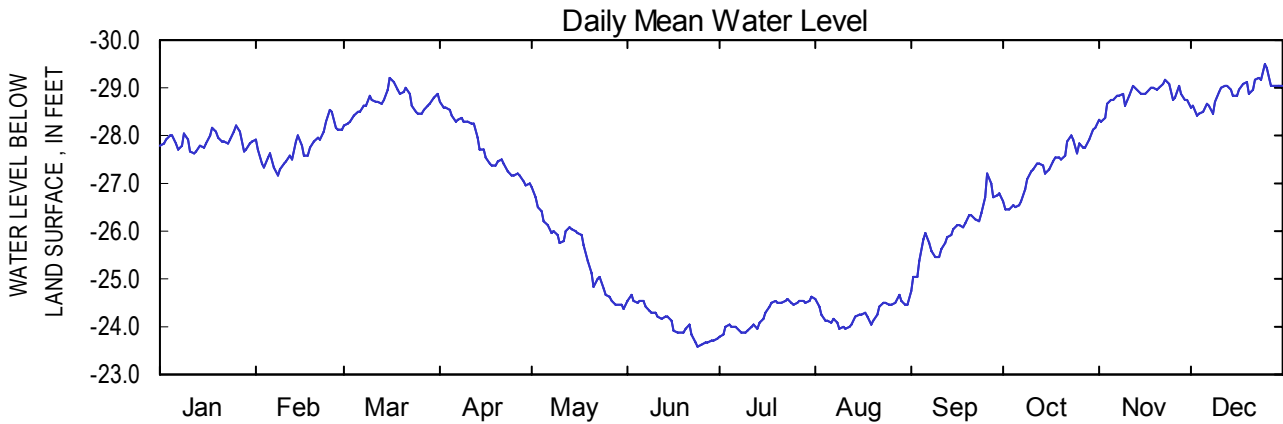


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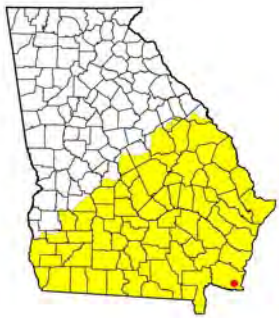
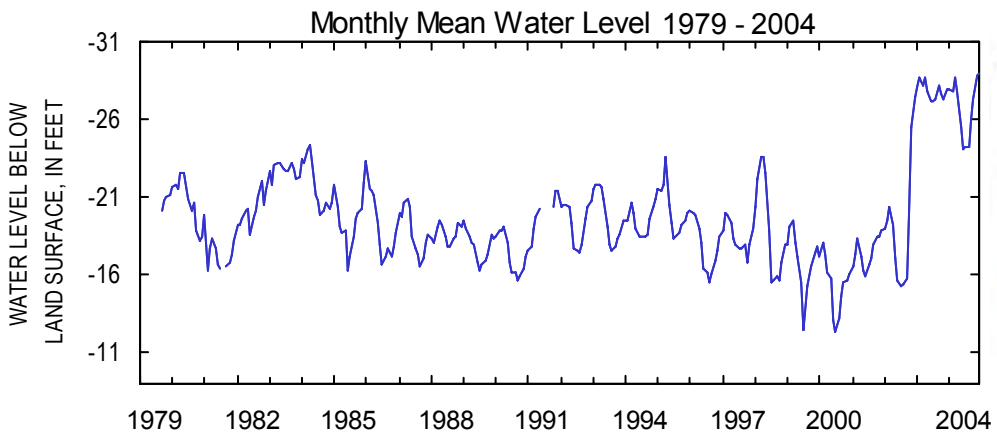
Site Name: 33E027

Latitude: 30° 47 ' 56" Longitude: 081° 31 ' 11" CAMDEN Period of Record: 1979 - 2004
 Well Depth: 990 feet Datum: 10.42 feet Well Diameter 8.00 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	-27.88	-27.78	-28.69	-27.77	-25.54	-24.08	-24.24	-24.27	-26.02	-27.34	-28.84	-28.92
Max	-27.63	-27.17	-28.20	-26.94	-24.36	-23.58	-23.77	-23.95	-24.75	-26.44	-28.30	-28.43
Min	-28.20	-28.53	-29.21	-28.72	-26.92	-24.67	-24.62	-24.67	-27.20	-28.17	-29.18	-29.50
1979 - 2004												
Mean	-20.59	-20.55	-20.90	-20.81	-19.99	-18.59	-18.01	-18.24	-18.72	-19.23	-19.84	-20.44
Max	-15.84	-14.75	-14.90	-15.61	-14.62	-12.35	-9.92	-12.85	-13.69	-14.85	-15.41	-15.76
Min	-28.57	-29.29	-29.21	-29.01	-28.60	-27.39	-27.34	-27.55	-28.56	-28.17	-29.18	-29.50



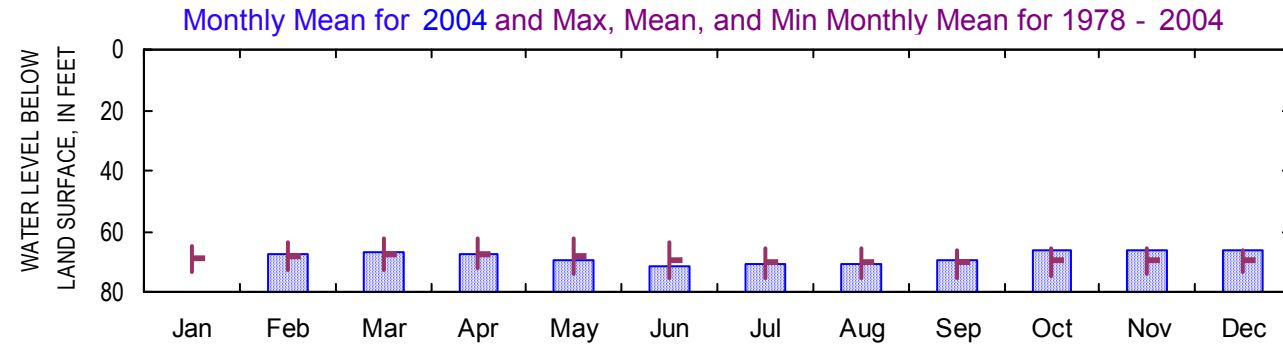
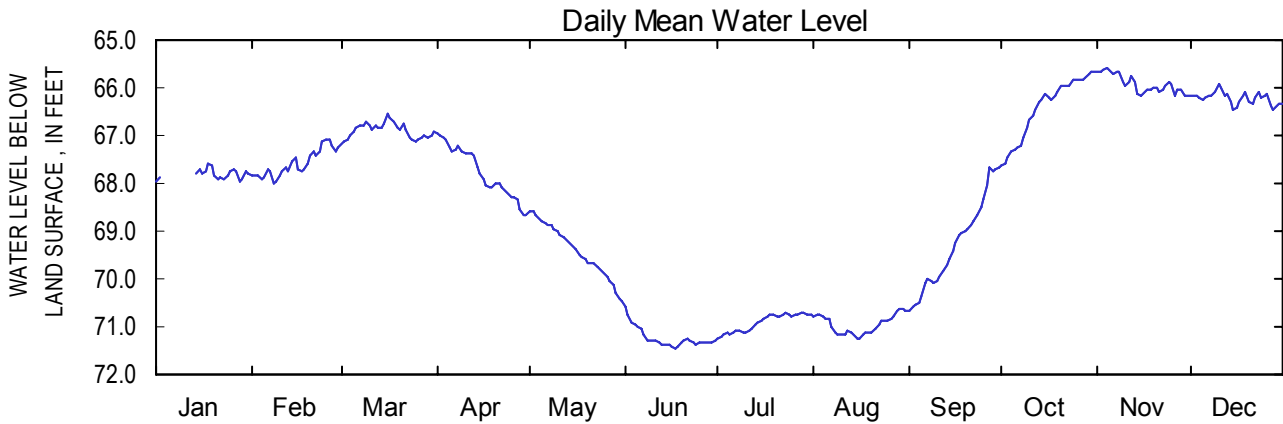


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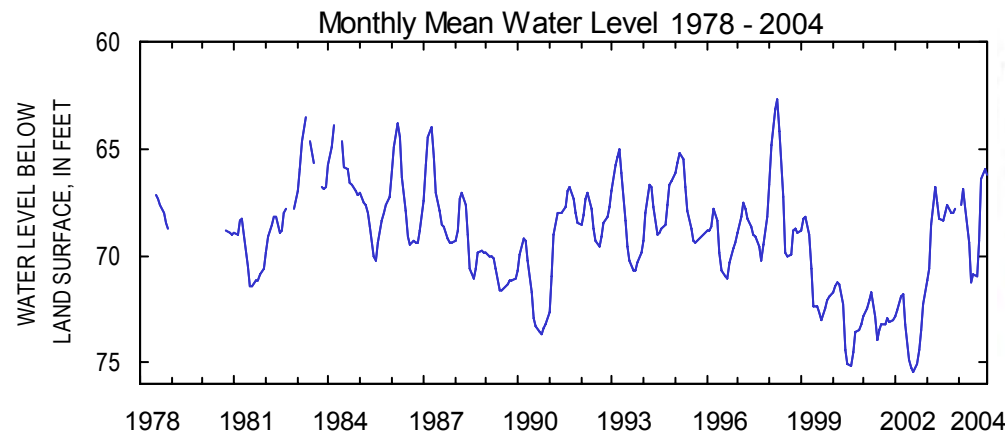
Site Name: 27E004

Latitude: 30° 49 '43" Longitude: 082° 21 '38" CHARLTON Period of Record: 1978 - 2004
Well Depth: 700 feet Datum: 116.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	67.59	66.90	67.77	69.41	71.24	70.92	70.96	69.29	66.41	65.91	66.22	
Max	68.01	67.16	68.67	70.48	71.44	71.26	71.24	70.65	67.64	66.18	66.46	
Min	67.07	66.55	66.97	68.59	70.60	70.71	70.61	67.67	65.68	65.57	65.92	
1978 - 2004												
Mean	68.92	68.30	67.49	67.42	68.25	69.42	69.92	70.11	70.01	69.68	69.55	69.32
Max	73.22	72.78	72.57	72.09	74.02	75.34	75.43	75.63	75.41	74.83	74.13	73.52
Min	65.23	63.91	62.39	62.13	62.30	63.78	65.35	65.78	66.15	65.68	65.57	65.92



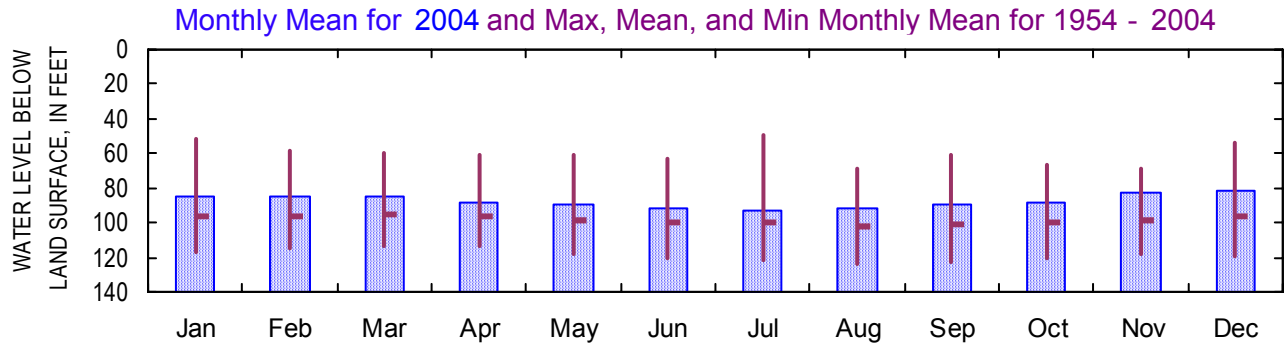
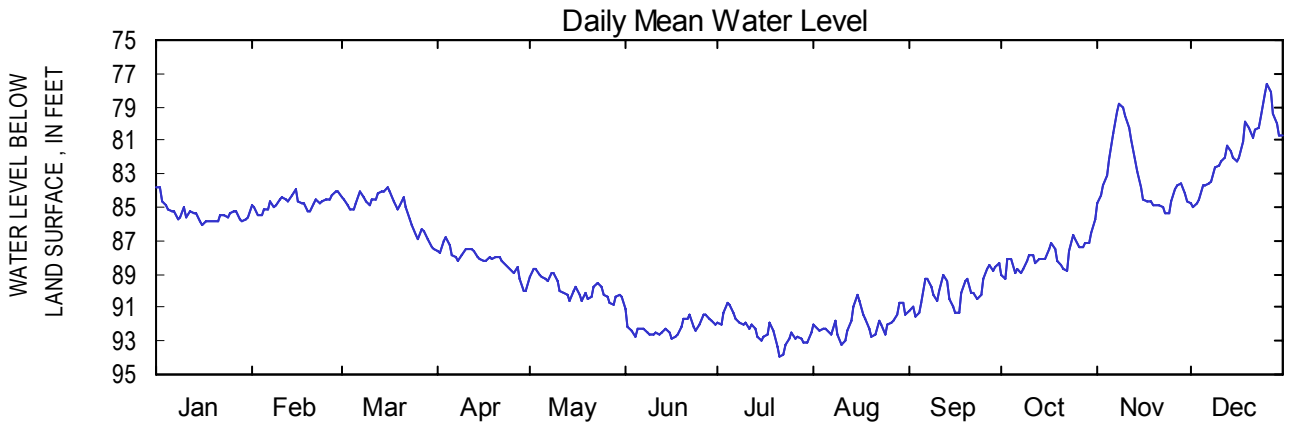


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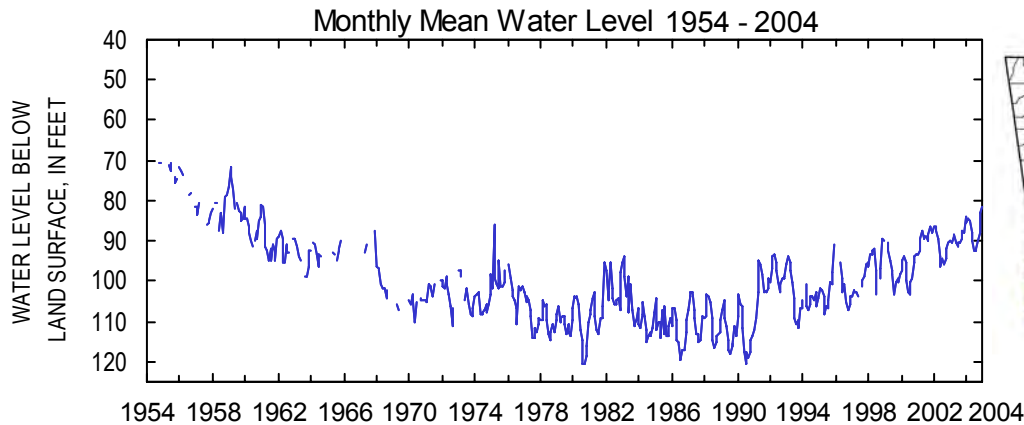
Site Name: 36Q008

Latitude: 32° 05' 30" Longitude: 081° 08' 50" CHATHAM Period of Record: 1954 - 2004
Well Depth: 406 feet Datum: 9.91 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	85.38	84.72	85.16	88.12	89.85	92.16	92.40	91.93	89.98	87.92	83.14	81.58
Max	86.12	85.47	87.54	90.05	90.88	92.90	93.91	93.16	91.54	89.24	85.32	84.98
Min	83.79	83.94	83.82	86.82	88.64	91.12	90.75	90.29	88.37	85.66	78.81	77.60
1954 - 2004												
Mean	96.79	96.27	95.44	96.63	98.46	100.14	100.38	102.10	100.85	100.22	98.87	96.92
Max	116.96	114.36	113.36	113.70	118.02	120.97	122.11	124.40	122.30	120.25	117.75	119.05
Min	51.25	58.88	59.72	60.42	60.56	63.09	49.17	69.05	60.33	66.57	69.23	54.21



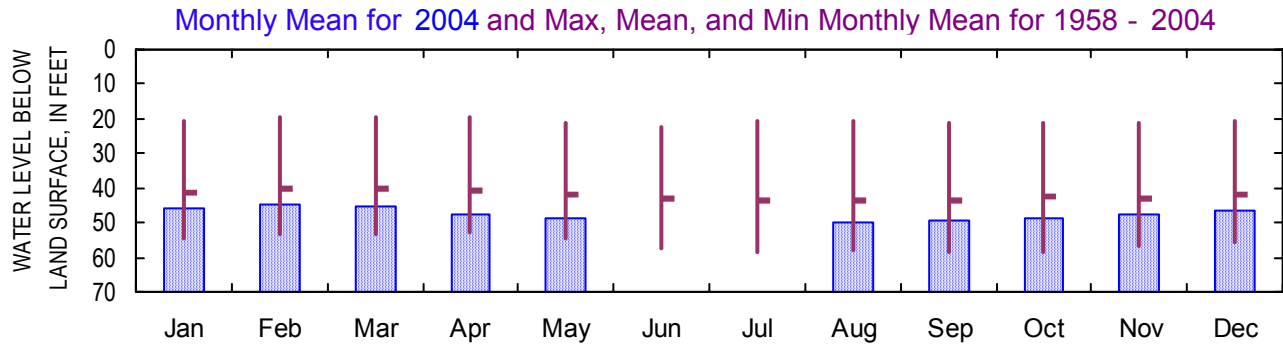
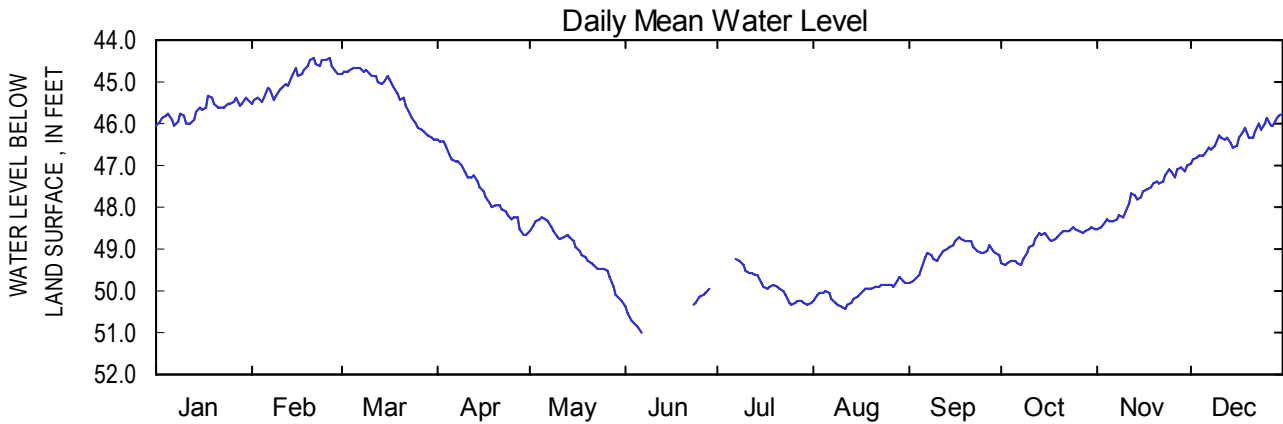


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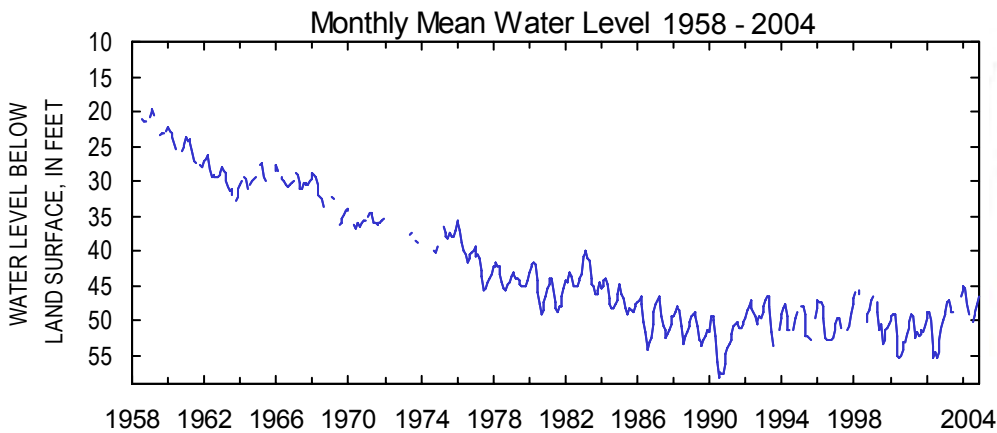
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Site Name: 36Q020

Latitude: 32° 00' 21" Longitude: 081° 12' 48" CHATHAM Period of Record: 1958 - 2004
 Well Depth: 336 feet Datum: 13 feet Well Diameter 3.0 inches



Monthly Water-Level Statistics												
2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	45.69	44.93	45.28	47.54	49.04			50.04	49.12	48.83	47.72	46.34
Max	46.04	45.52	46.37	48.67	50.26			50.43	49.82	49.37	48.53	46.94
Min	45.32	44.43	44.67	46.37	48.25			49.67	48.73	48.49	47.00	45.77
1958 - 2004												
Mean	41.10	40.42	40.18	40.77	42.13	43.24	43.70	43.71	43.57	42.67	43.16	41.93
Max	54.26	53.53	53.08	52.71	54.44	57.55	58.56	57.97	58.43	58.44	56.53	55.59
Min	20.47	19.60	19.48	19.77	21.02	22.48	20.72	20.88	21.22	21.13	21.13	20.74



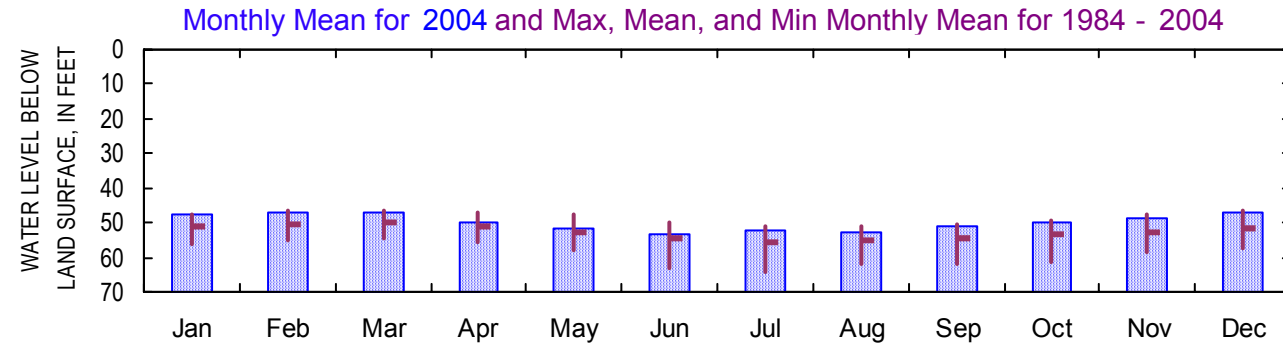
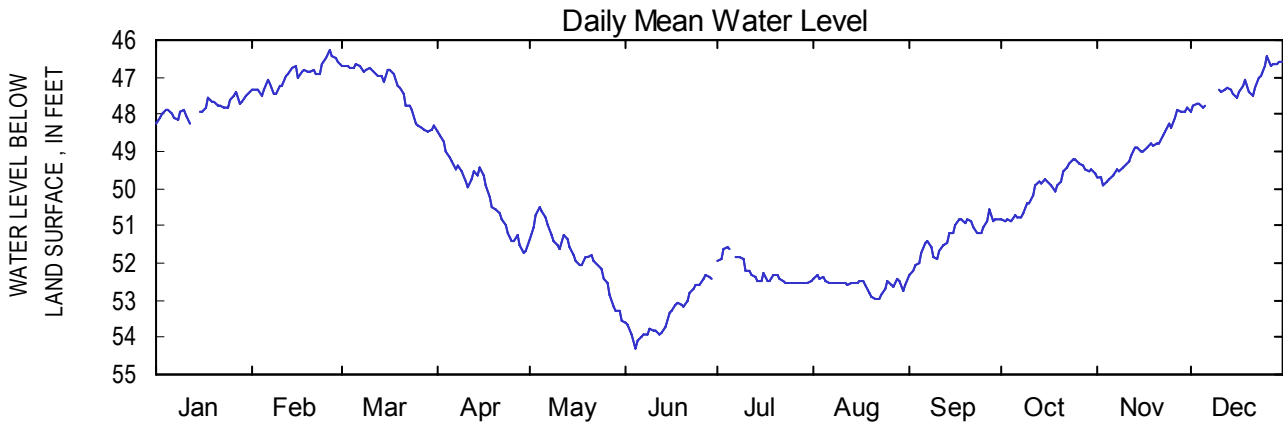


UPPER FLORIDAN AQUIFER 2004 Calendar Year

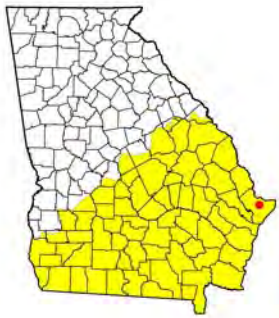
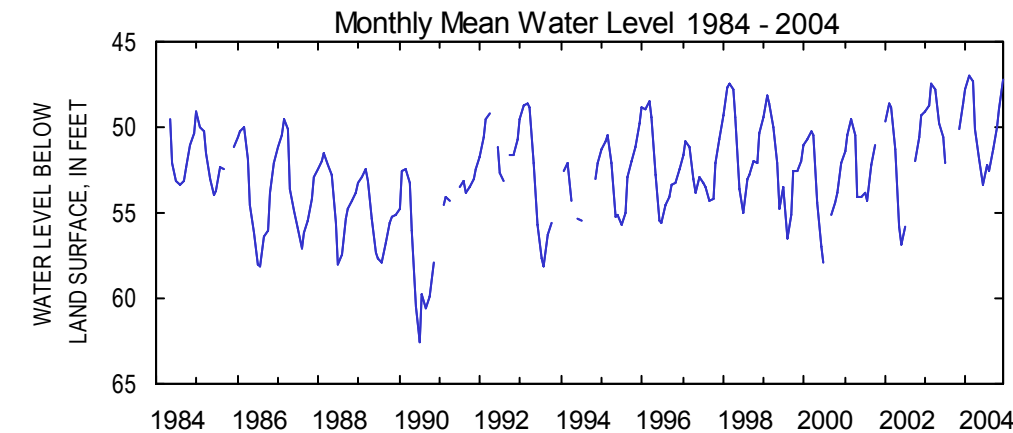
315906081011202

Site Name: 37P114

Latitude: 31° 59' 06" Longitude: 081° 01' 12" CHATHAM Period of Record: 1984 - 2004
 Well Depth: 400 feet Datum: 10.00 feet Well Diameter 6.0 inches



Monthly Water-Level Statistics												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	47.83	46.96	47.30	50.11	51.82	53.34	52.26	52.59	51.31	49.99	48.93	47.23
Max	48.26	47.48	48.47	51.72	53.53	54.32	52.54	52.99	52.32	50.89	49.91	47.91
Min	47.40	46.25	46.62	48.44	50.52	52.31	51.55	52.32	50.53	49.23	47.80	46.43
1984 - 2004												
Mean	50.90	50.31	49.94	50.95	53.06	54.79	55.39	55.24	54.38	53.64	52.71	51.45
Max	56.36	55.05	54.68	55.66	57.74	62.94	64.06	62.08	62.23	61.41	58.70	57.53
Min	47.40	46.25	46.62	47.18	47.80	49.75	51.21	51.01	50.53	49.23	47.80	46.43



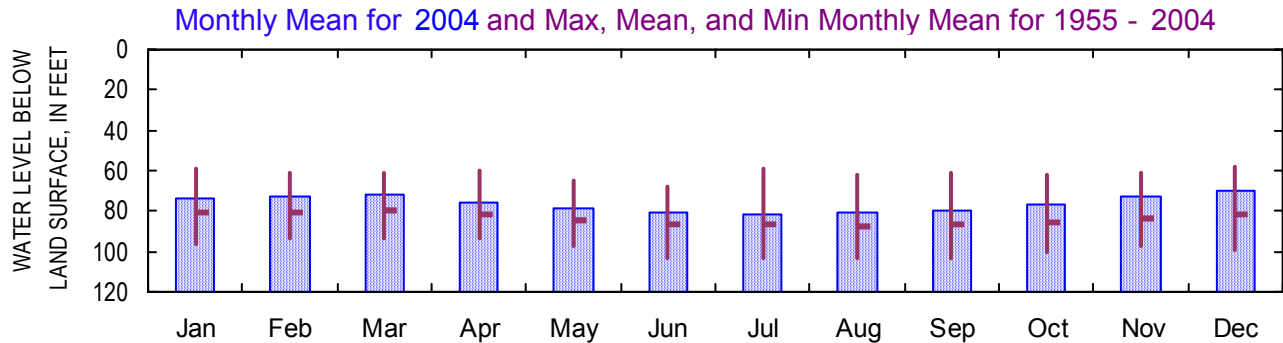
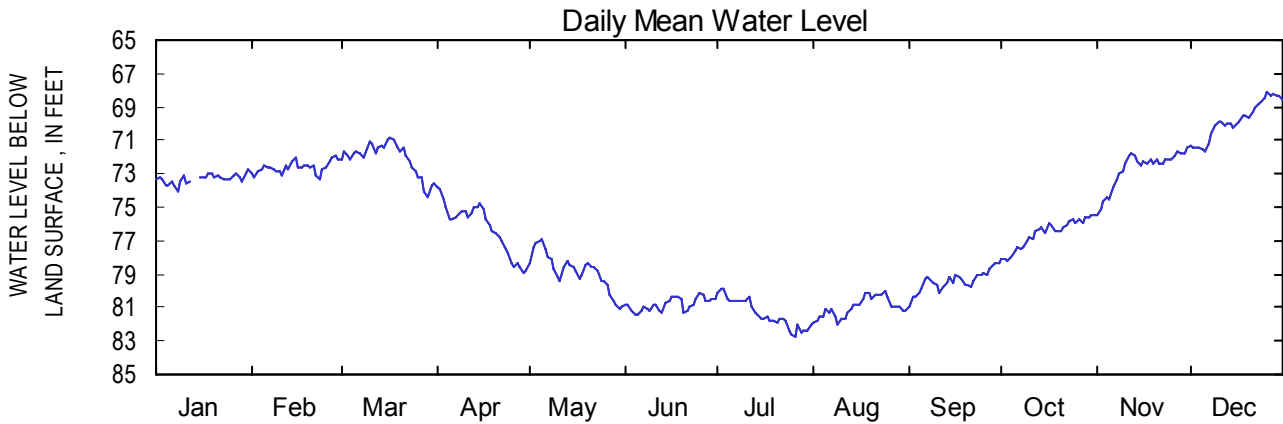


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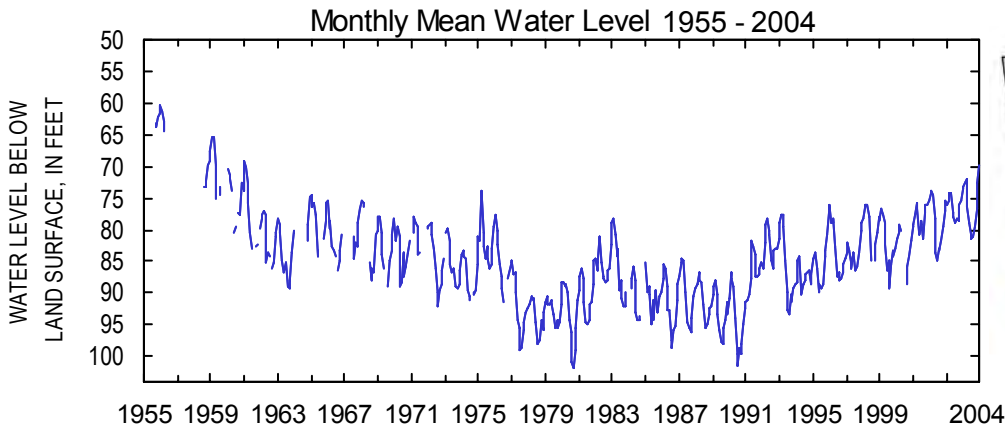
Site Name: 37Q016

Latitude: 32° 04' 33" Longitude: 081° 04' 27" CHATHAM Period of Record: 1955 - 2004
 Well Depth: 500 feet Datum: 4.70 feet Well Diameter 6.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	73.29	72.63	72.06	76.22	78.83	80.81	81.37	80.99	79.41	76.56	72.69	69.80
Max	74.03	73.30	74.39	78.91	81.13	81.45	82.76	81.98	80.98	78.20	75.50	71.72
Min	72.76	71.94	70.81	73.84	76.96	80.10	79.83	80.06	78.31	75.45	71.45	68.10
1955 - 2004												
Mean	80.53	80.48	79.89	81.71	84.90	86.38	87.03	88.02	86.56	85.57	83.66	81.74
Max	96.70	93.62	93.10	93.65	97.79	102.82	103.53	102.80	103.25	100.76	97.50	99.16
Min	58.70	60.71	60.77	59.71	64.60	67.53	59.40	62.13	60.62	62.01	61.37	57.61



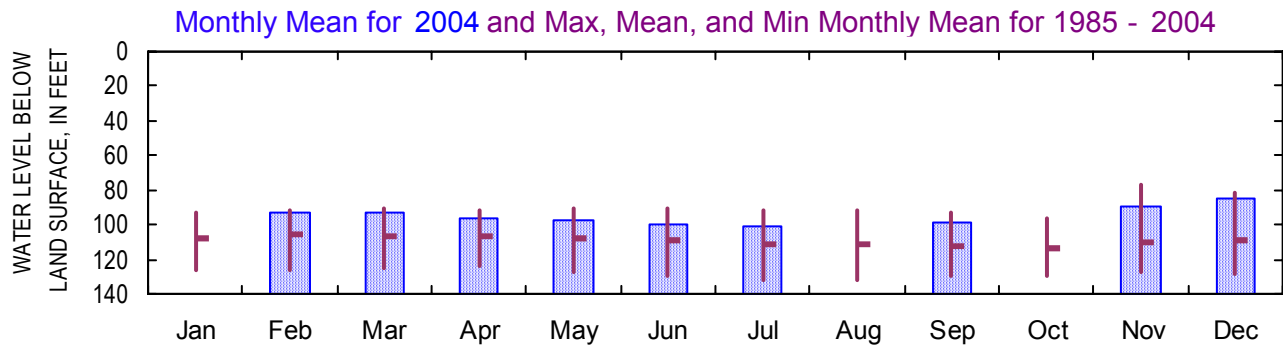
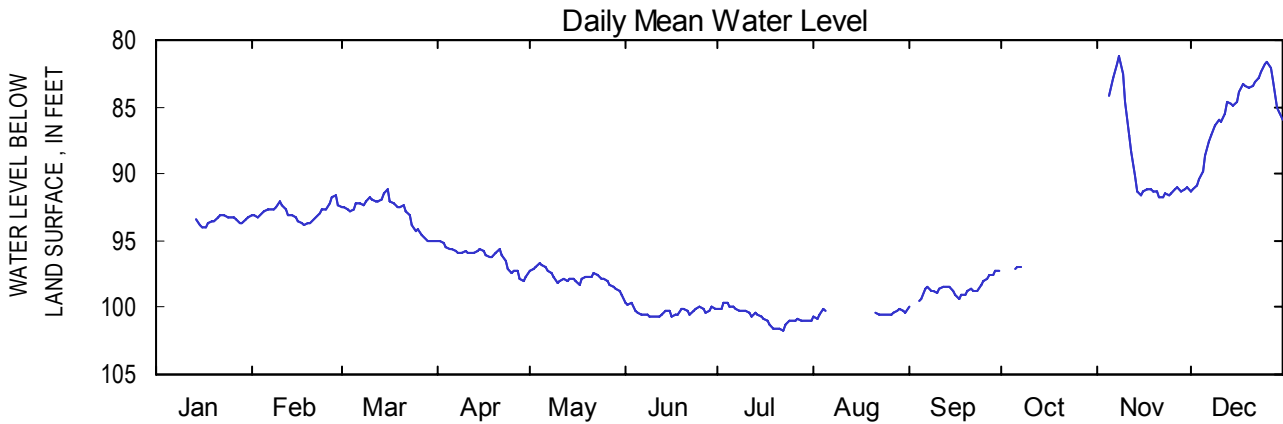


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2004 Calendar Year**

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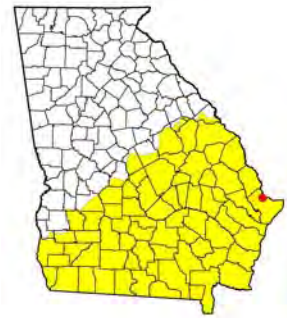
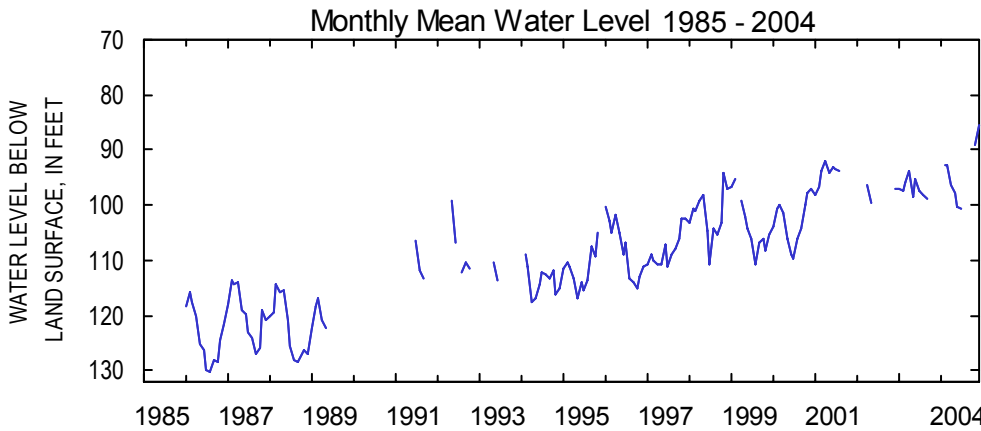
Site Name: 37Q185

Latitude: 32° 06' 22" Longitude: 081° 06' 37" CHATHAM Period of Record: 1985 - 2004
Well Depth: 344 feet Datum: 6.0 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	92.87	92.84	96.19	97.77	100.29	100.70			98.56		89.06	85.49
Max	93.78	94.98	98.04	99.09	100.76	101.80			99.98		91.75	91.29
Min	91.63	91.22	94.99	96.70	99.61	99.64			97.20		81.22	81.56
1985 - 2004												
Mean	107.92	106.12	106.94	106.40	108.03	109.30	111.06	111.57	111.93	113.74	109.66	108.57
Max	125.74	126.02	124.69	124.32	127.93	129.61	131.68	131.59	129.90	129.70	127.27	128.02
Min	92.76	91.63	91.22	91.28	91.20	90.62	91.41	91.73	93.25	96.48	77.40	81.56



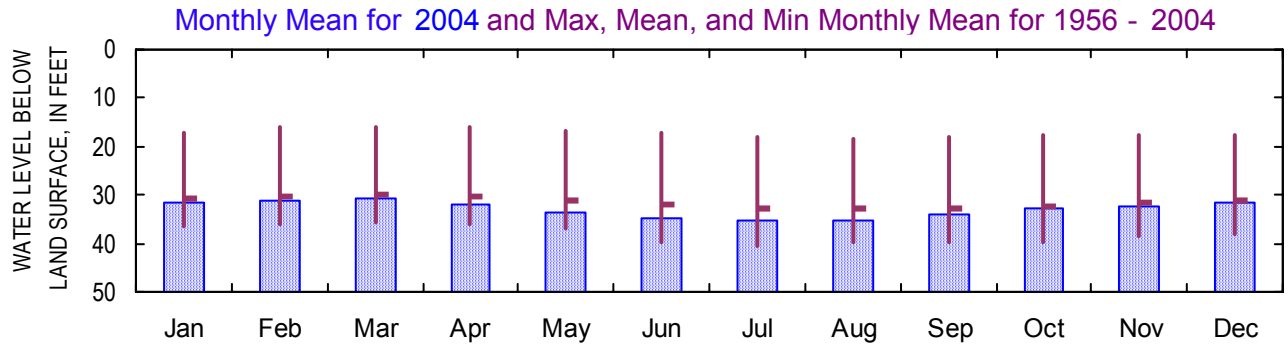
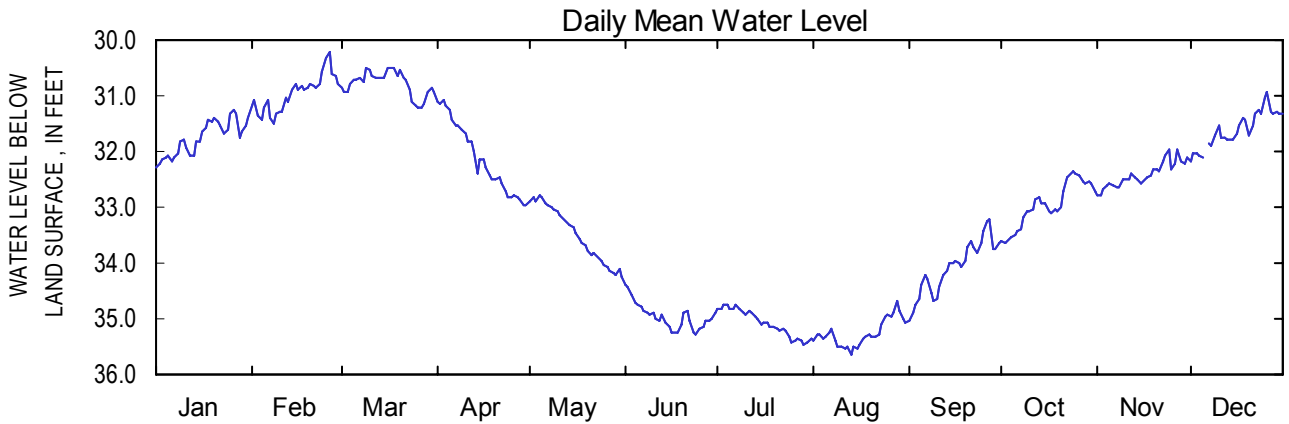


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2004 Calendar Year**

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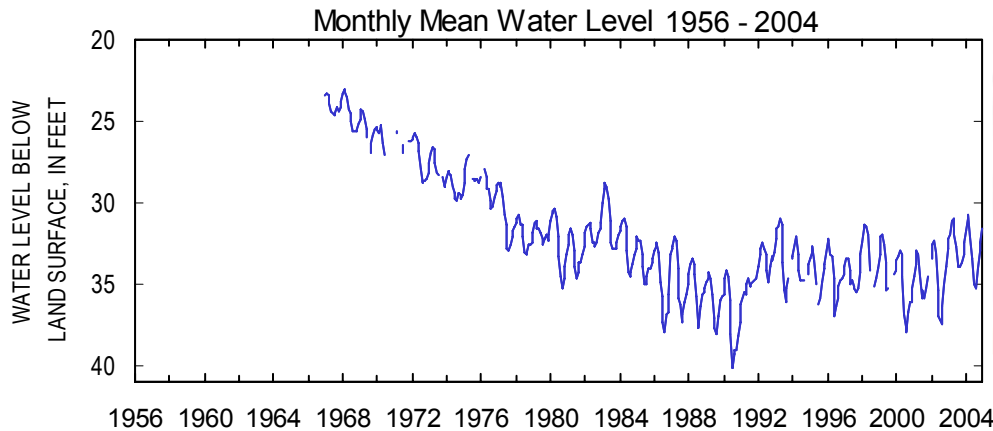
Site Name: 38Q002

Latitude: 32° 02' 02" Longitude: 080° 54' 12" CHATHAM Period of Record: 1956 - 2004
Well Depth: 348 feet Datum: 8 feet Well Diameter 8.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	31.76	30.96	30.78	32.11	33.49	34.96	35.08	35.26	34.08	32.95	32.41	31.60
Max	32.30	31.51	31.23	32.97	34.24	35.28	35.47	35.64	35.05	33.63	32.77	32.19
Min	31.25	30.22	30.49	31.06	32.79	34.39	34.75	34.67	33.20	32.37	31.96	30.94
1956 - 2004												
Mean	30.78	30.25	29.90	30.29	31.14	31.96	32.66	32.98	32.59	32.18	31.67	31.33
Max	36.46	36.22	35.76	36.01	36.92	39.64	40.69	39.82	39.68	39.71	38.40	38.09
Min	17.19	16.00	15.95	15.80	16.65	17.40	18.10	18.30	17.85	17.68	17.73	17.80



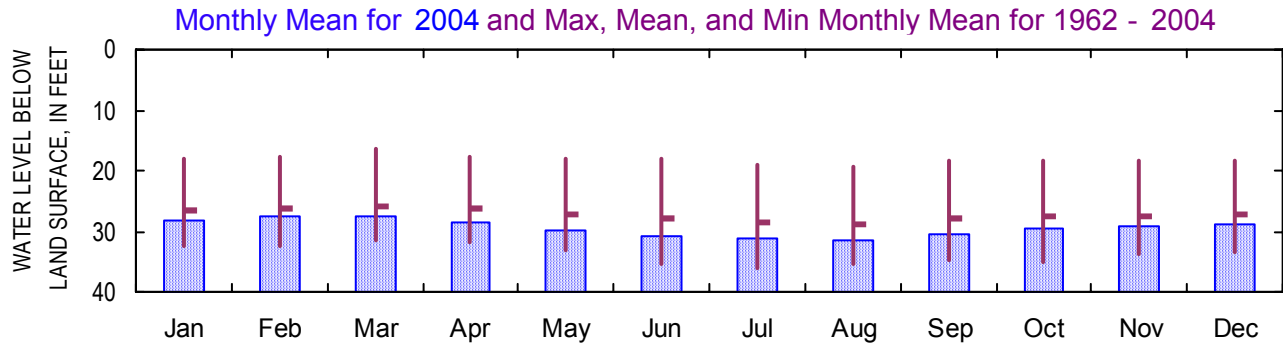
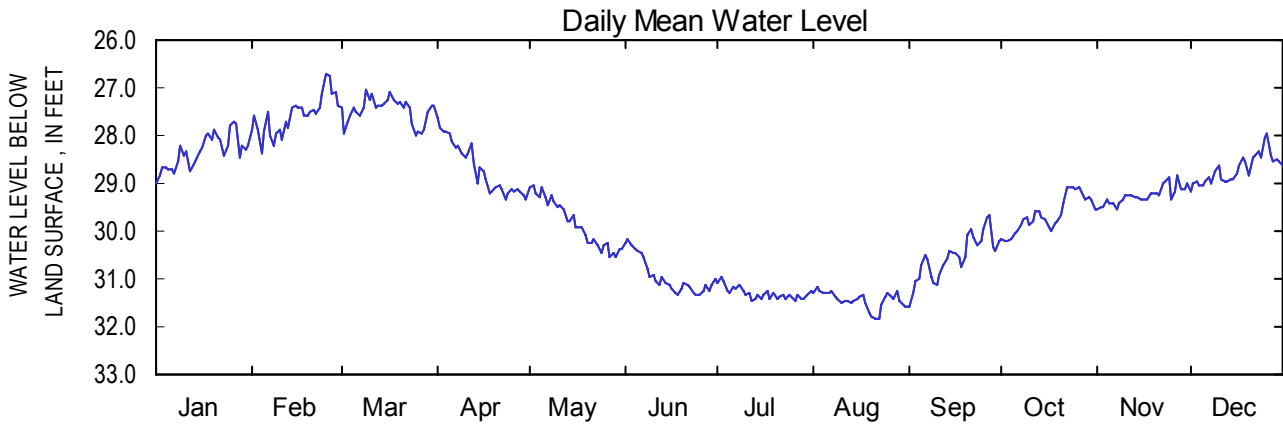


**UPPER FLORIDAN AQUIFER
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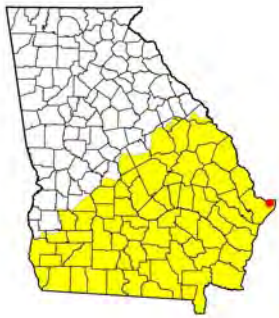
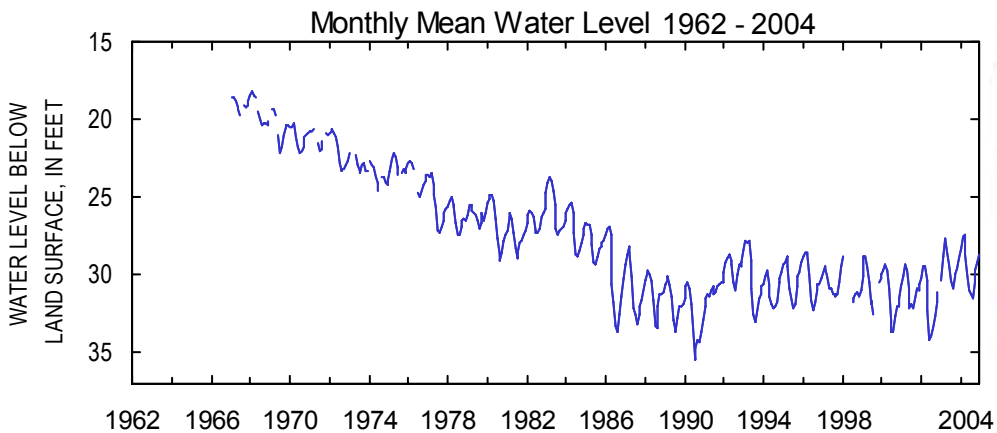
Site Name: 39Q003

Latitude: 32° 01' 22" Longitude: 080° 51' 02" CHATHAM Period of Record: 1962 - 2004
Well Depth: 600 feet Datum: 7.00 feet Well Diameter 10.0 inches



Monthly Water-Level Statistics

2004												
Mean	28.33	27.57	27.47	28.68	29.84	30.96	31.30	31.44	30.54	29.65	29.26	28.70
Max	28.99	28.36	27.98	29.33	30.56	31.35	31.45	31.85	31.59	30.20	29.55	29.16
Min	27.72	26.72	27.02	27.62	29.04	30.18	30.96	31.18	29.65	29.09	28.84	27.95
1962 - 2004												
Mean	26.72	26.08	25.83	26.22	27.10	27.88	28.61	28.89	27.98	27.69	27.51	27.11
Max	32.53	32.30	31.51	31.76	33.02	35.33	36.07	35.27	34.84	35.00	33.88	33.56
Min	17.95	17.80	16.50	17.70	17.95	18.15	19.05	19.25	18.50	18.35	18.23	18.23



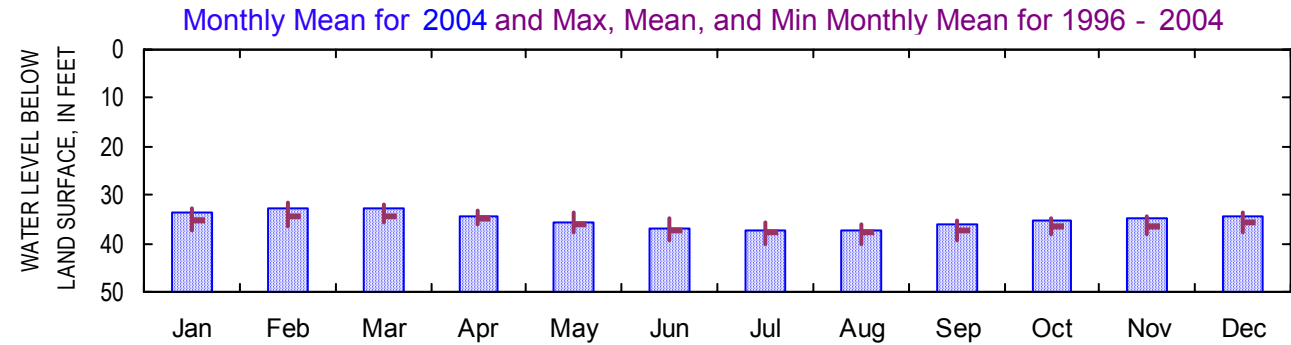
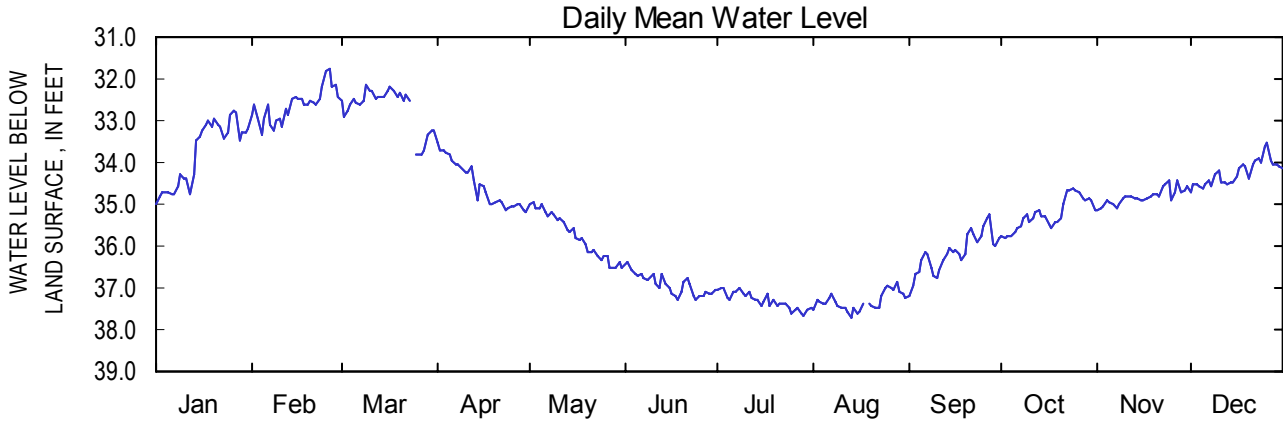


**UPPER FLORIDAN AQUIFER
2004 Calendar Year**

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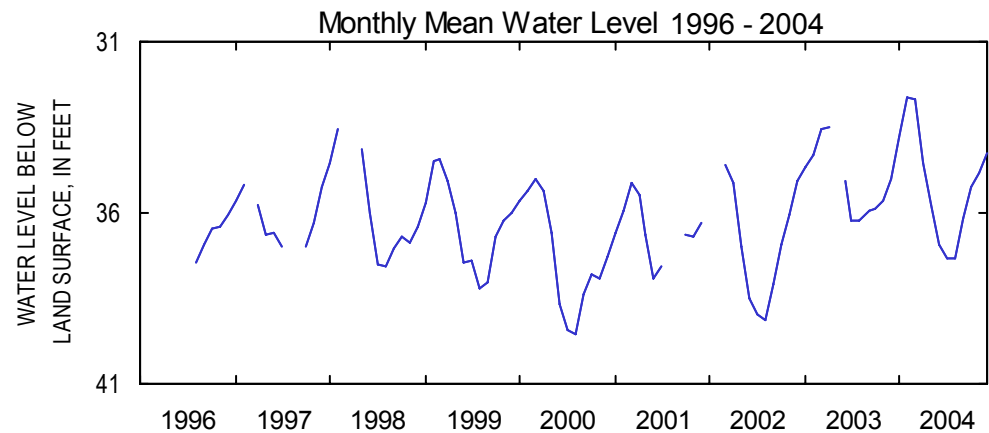
Site Name: 39Q025

Latitude: 32° 01' 27" Longitude: 080° 51' 12" CHATHAM Period of Record: 1996 - 2004
 Well Depth: 145 feet Datum: 10 feet Well Diameter 6 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	33.78	32.62	32.71	34.53	35.75	36.92	37.31	37.32	36.16	35.23	34.82	34.25
Max	34.98	33.31	33.82	35.19	36.54	37.30	37.65	37.70	37.21	35.81	35.16	34.72
Min	32.78	31.76	32.15	33.52	34.97	36.38	36.99	36.85	35.23	34.63	34.41	33.50
1996 - 2004												
Mean	35.25	34.51	34.32	34.90	36.04	37.14	37.70	37.87	37.23	36.60	36.32	35.73
Max	37.34	36.49	35.78	36.25	37.75	39.34	39.97	40.05	39.14	38.00	38.25	37.72
Min	32.78	31.76	32.15	33.12	33.56	34.78	35.56	36.03	35.23	34.63	34.41	33.50



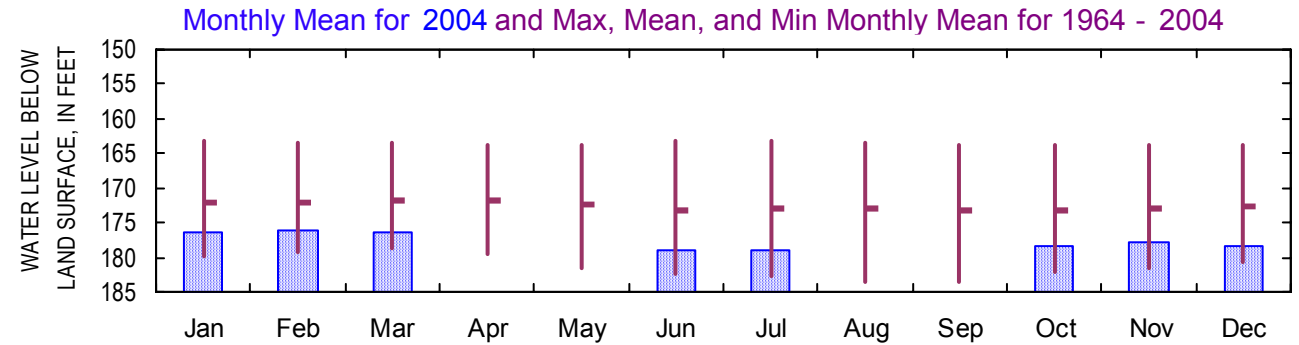
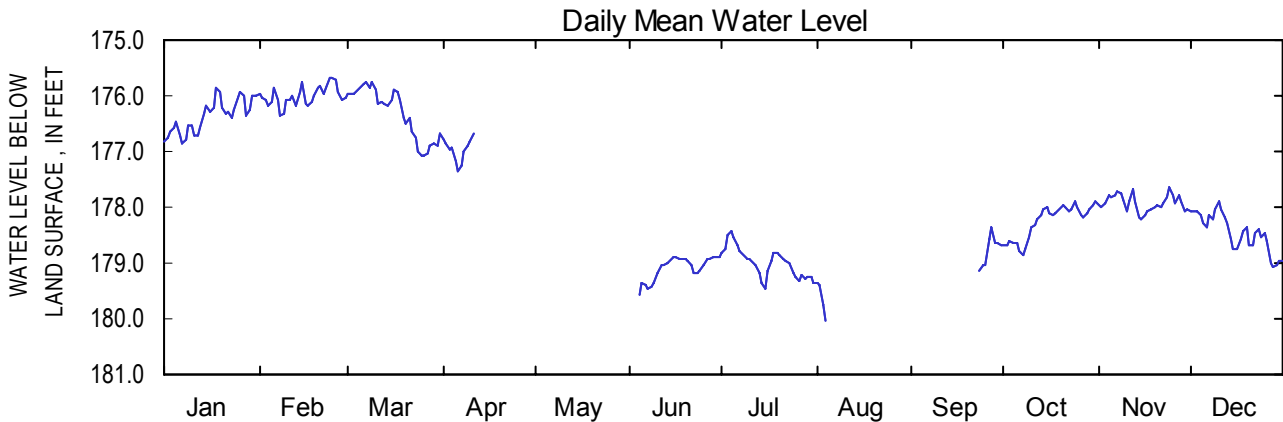


UPPER FLORIDAN AQUIFER 2004 Calendar Year

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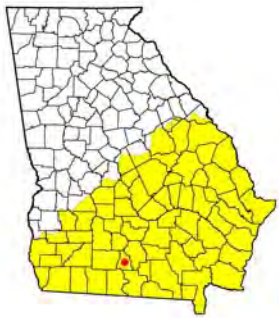
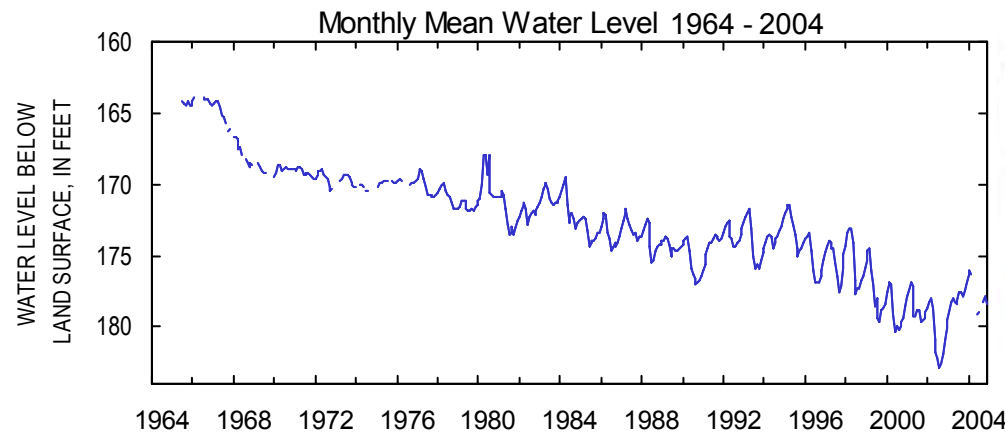
Site Name: 18H016

Latitude: 31° 08' 13" Longitude: 083° 26' 03" COOK Period of Record: 1964 - 2004
 Well Depth: 865 feet Datum: 241.00 feet Well Diameter 8.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	176.37	176.00	176.31			179.09	178.99			178.26	177.92	178.45
Max	176.85	176.34	177.07			179.59	179.48			178.85	178.21	179.06
Min	175.87	175.67	175.75			178.88	178.44			177.90	177.63	177.88
1964 - 2004												
Mean	172.23	172.09	171.77	171.71	172.39	173.10	172.96	172.88	173.25	173.25	173.04	172.75
Max	179.92	179.32	178.62	179.67	181.57	182.43	182.81	183.46	183.45	182.26	181.44	180.65
Min	163.26	163.50	163.37	163.75	163.85	163.19	163.34	163.45	163.77	163.78	163.87	163.82



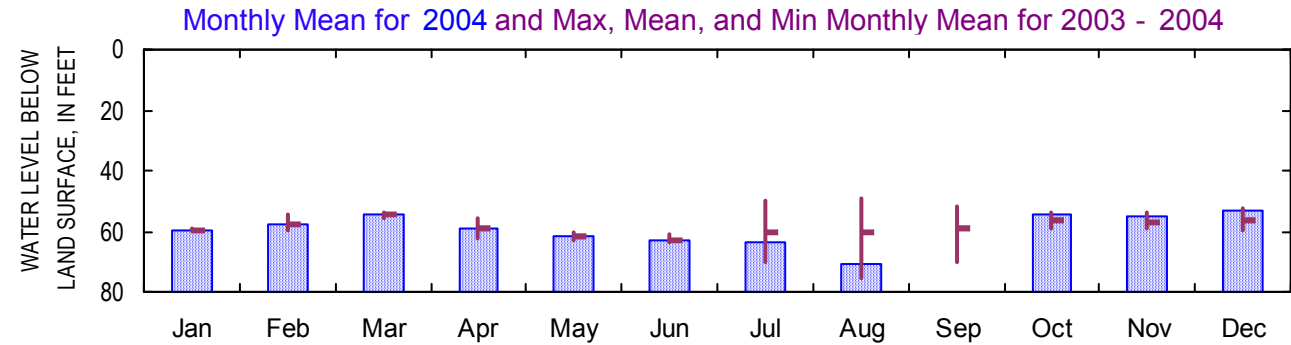
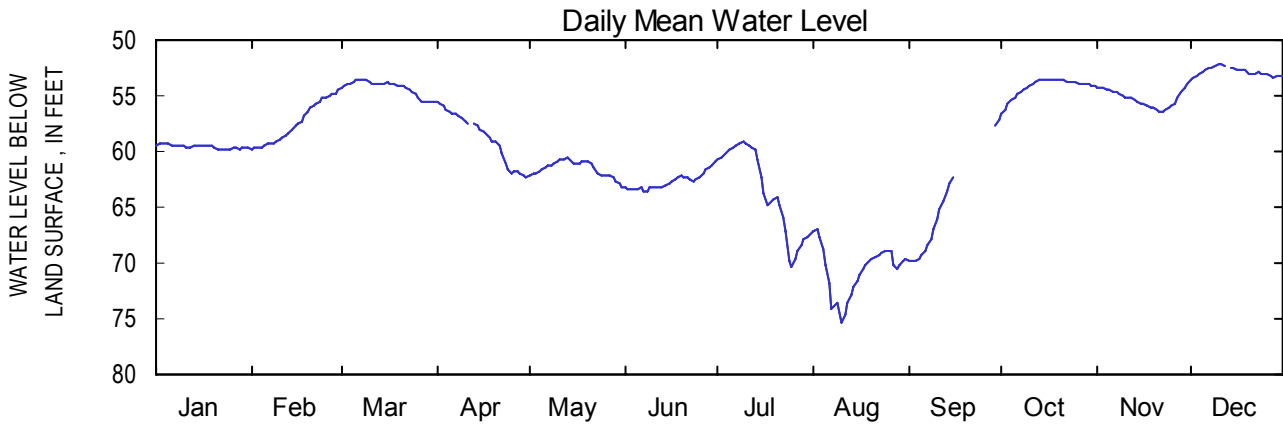


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2004 Calendar Year**

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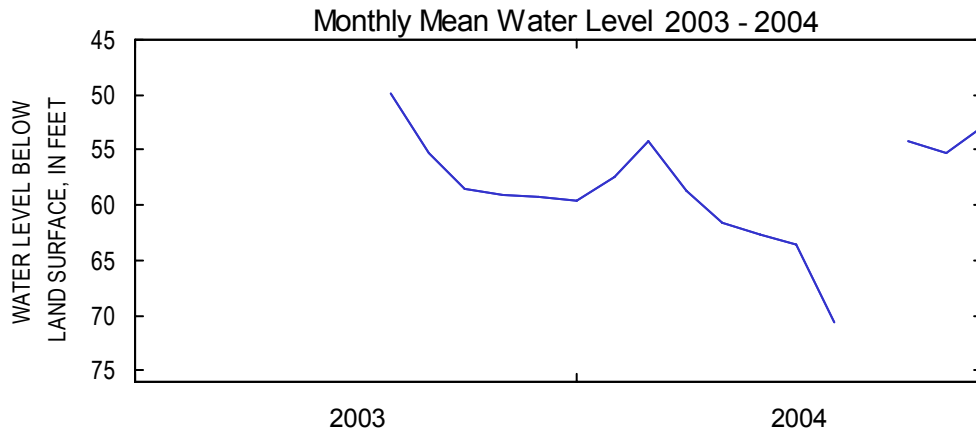
Site Name: 15Q016

Latitude: 32° 01' 48" Longitude: 083° 51' 08" CRISP Period of Record: 2003 - 2004
Well Depth: 170 feet Datum: 330 feet Well Diameter 6 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	59.56	57.47	54.28	58.73	61.55	62.70	63.52	70.66		54.20	55.26	52.85
Max	59.78	59.73	55.59	62.30	63.13	63.57	70.33	75.37		56.64	56.38	53.66
Min	59.29	54.53	53.49	55.60	60.62	60.94	59.19	66.99		53.54	53.97	52.18
2003 - 2004												
Mean	59.56	57.47	54.28	58.73	61.55	62.70	60.48	60.23	59.08	56.32	57.19	56.12
Max	59.78	59.73	55.59	62.30	63.13	63.57	70.33	75.37	69.89	59.10	59.23	59.49
Min	59.29	54.53	53.49	55.60	60.62	60.94	49.66	49.29	51.57	53.54	53.97	52.18



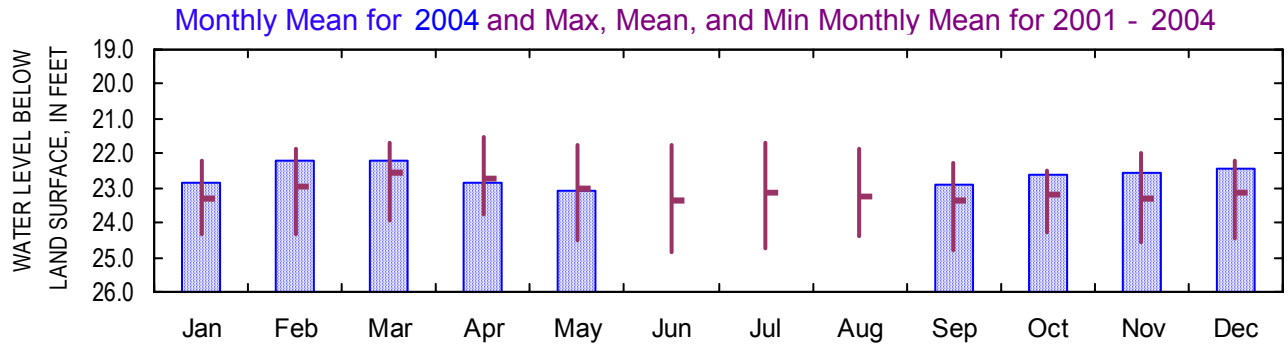
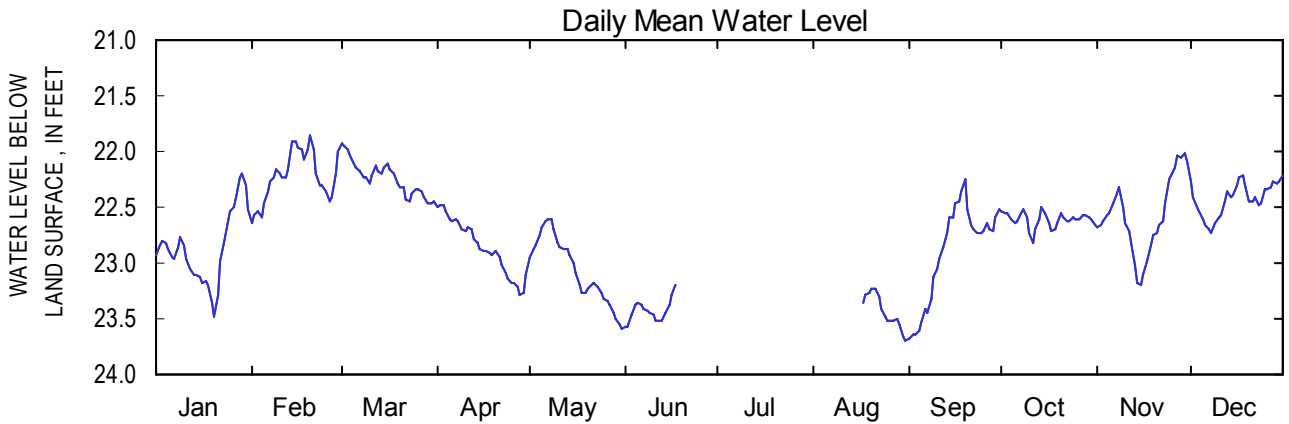


UPPER FLORIDAN AQUIFER 2004 Calendar Year

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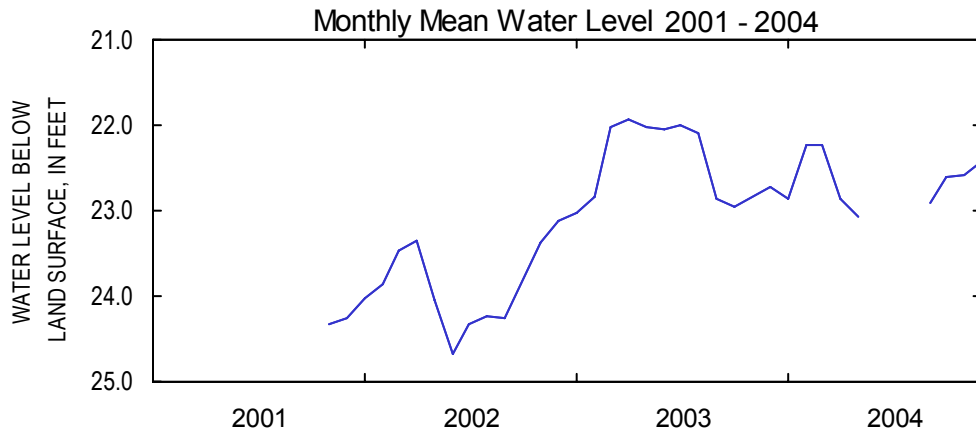
Site Name: 08E038

Latitude: 30° 47' 11" Longitude: 084° 39' 57" DECATUR Period of Record: 2001 - 2004
 Well Depth: 148 feet Datum: 99 feet Well Diameter 5.63 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	22.86	22.23	22.24	22.86	23.06				22.90	22.61	22.58	22.43
Max	23.49	22.65	22.47	23.28	23.58				23.68	22.81	23.19	22.74
Min	22.19	21.86	21.93	22.48	22.60				22.25	22.50	22.01	22.22
2001 - 2004												
Mean	23.31	22.97	22.58	22.71	23.04	23.38	23.15	23.22	23.33	23.16	23.28	23.13
Max	24.31	24.34	23.91	23.75	24.49	24.87	24.71	24.42	24.82	24.25	24.56	24.42
Min	22.19	21.86	21.71	21.54	21.77	21.74	21.72	21.87	22.25	22.50	22.01	22.22



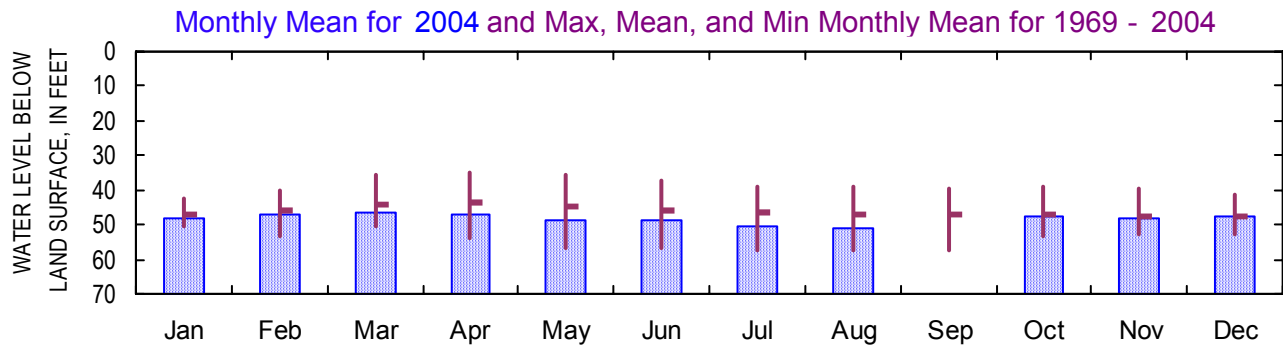
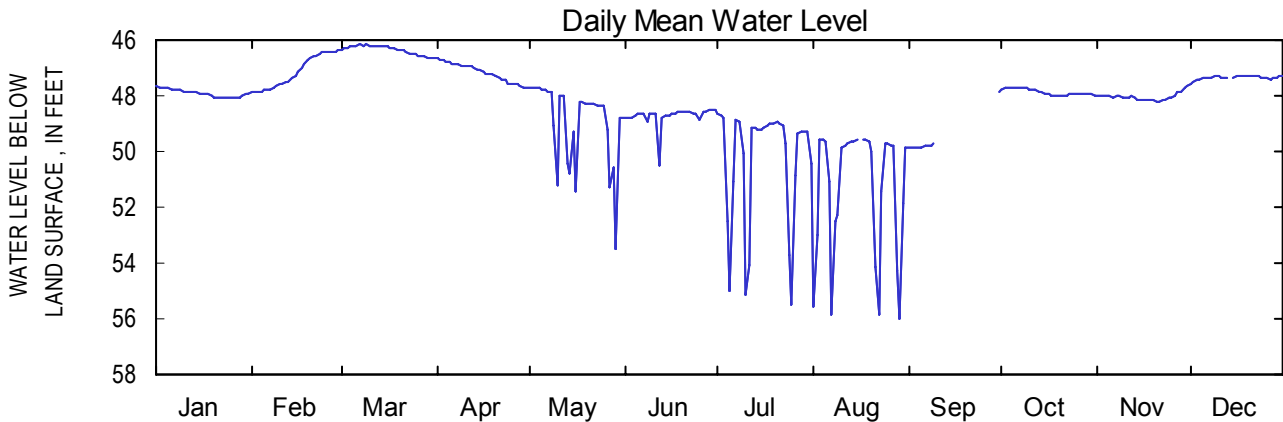


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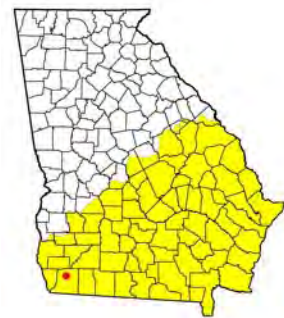
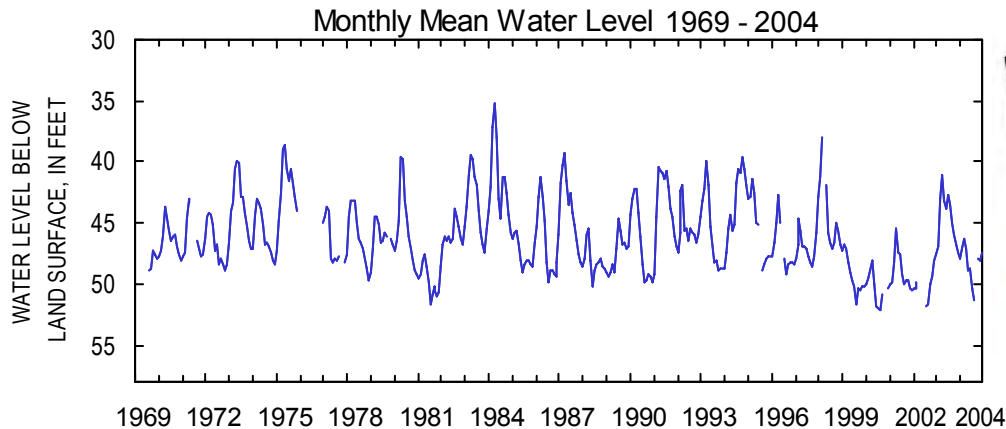
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Site Name: 09F520

Latitude: 30° 57' 42" Longitude: 084° 35' 46" DECATUR Period of Record: 1969 - 2004
 Well Depth: 251 feet Datum: 128.00 feet Well Diameter 16.0 inches



Monthly Water-Level Statistics												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	47.91	47.15	46.35	47.16	48.94	48.72	50.30	51.29		47.87	48.04	47.35
Max	48.11	47.88	46.64	47.70	53.47	50.52	55.49	56.01		48.01	48.19	47.60
Min	47.68	46.36	46.16	46.67	47.69	48.49	48.62	49.54		47.69	47.66	47.27
1969 - 2004												
Mean	47.10	45.74	44.11	43.36	44.80	46.09	46.54	46.88	46.97	47.14	47.66	47.75
Max	50.46	53.41	50.29	53.82	56.82	57.06	57.11	57.31	57.31	53.12	52.81	52.63
Min	42.24	40.37	35.67	34.86	35.84	37.13	38.91	39.20	39.68	39.25	39.76	41.59



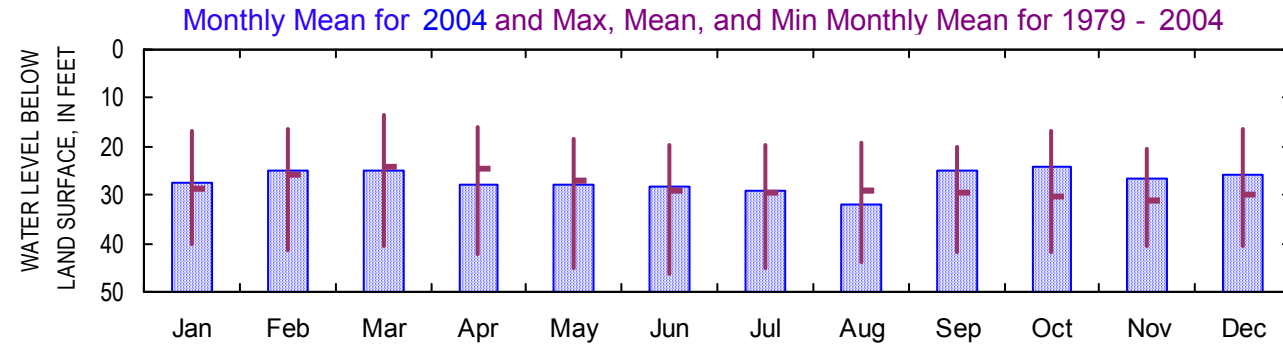
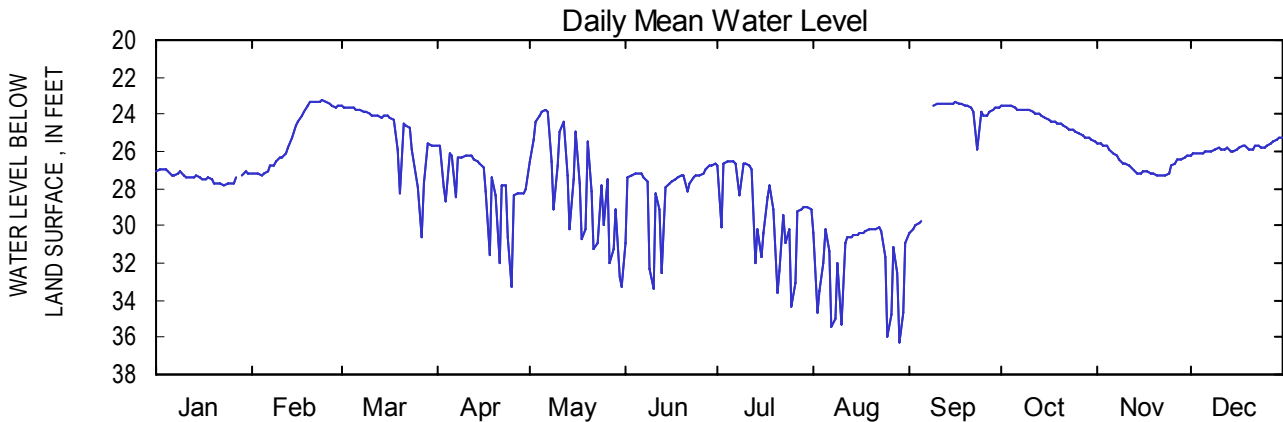


UPPER FLORIDAN AQUIFER 2004 Calendar Year

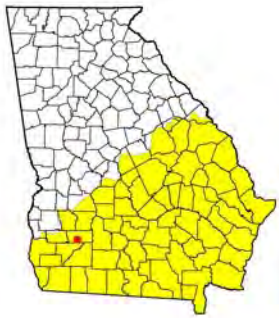
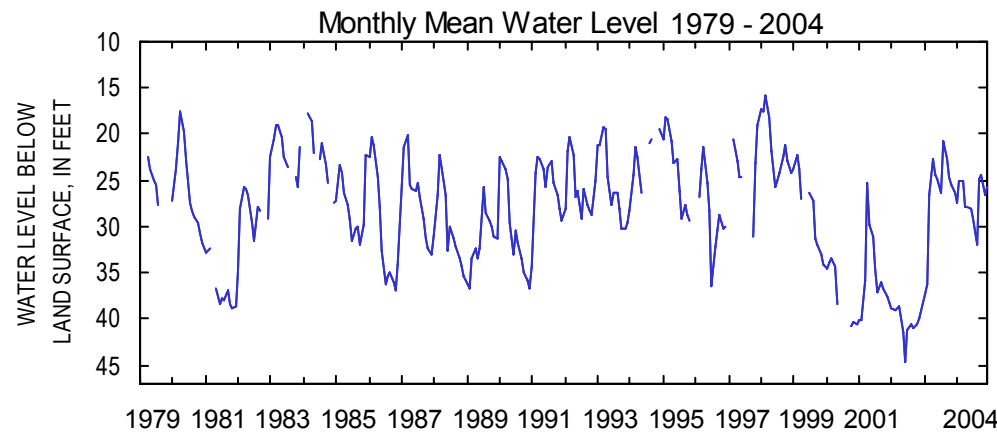
312919084153801

Site Name: 11K003

Latitude: 31° 29' 14" Longitude: 084° 15' 31" DOUGHERTY Period of Record: 1979 - 2004
 Well Depth: 150 feet Datum: 195 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics												
2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	27.38	25.08	24.98	27.82	27.79	28.08	29.18	32.03	24.87	24.33	26.62	25.81
Max	27.81	27.27	30.62	33.30	33.24	33.36	34.38	36.33	30.43	25.46	27.30	26.19
Min	26.99	23.24	23.57	25.68	23.80	26.66	26.52	30.12	23.33	23.55	25.52	25.20
1979 - 2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	28.73	25.97	24.20	24.47	27.14	29.14	29.39	29.21	29.50	30.37	31.17	30.05
Max	40.34	41.46	40.63	42.33	44.88	46.51	45.18	43.99	41.75	41.82	40.45	40.58
Min	16.94	16.19	13.61	16.17	18.26	19.86	19.73	19.08	20.17	16.74	20.54	16.52



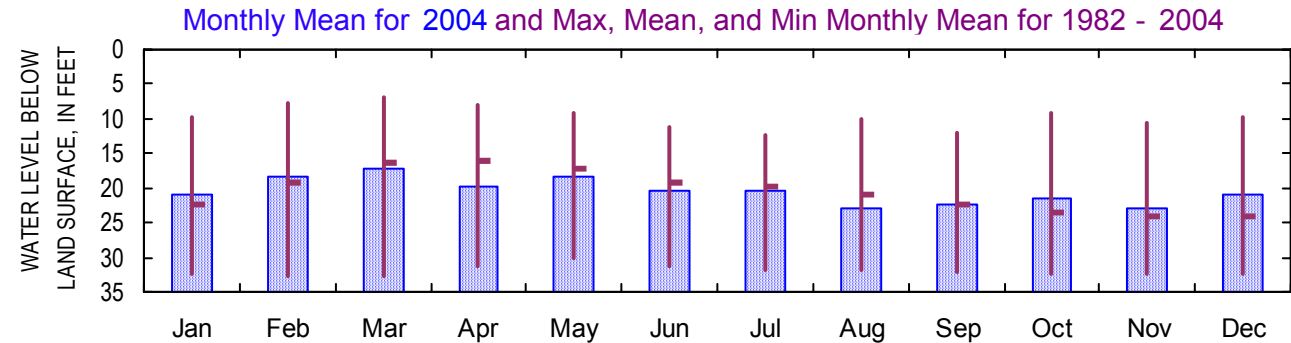
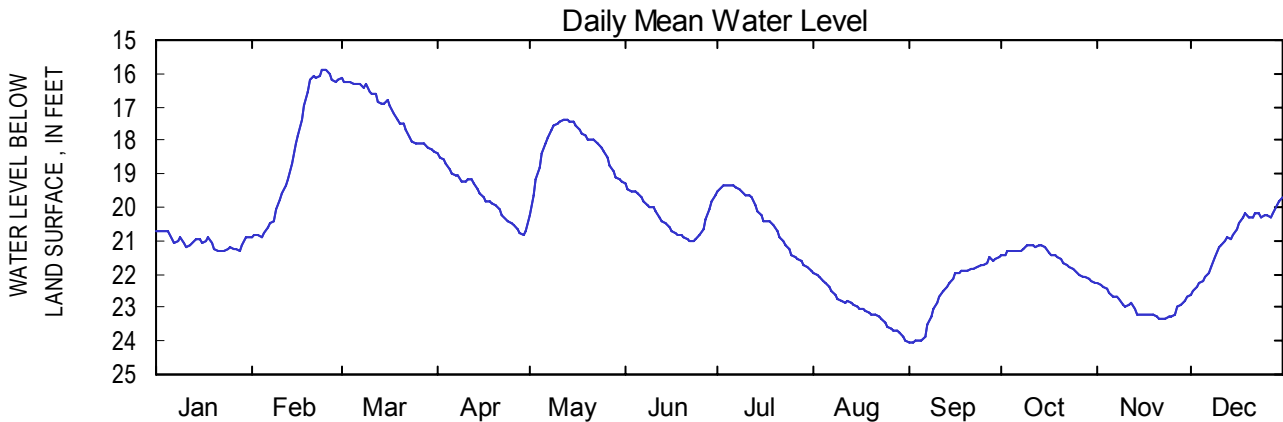


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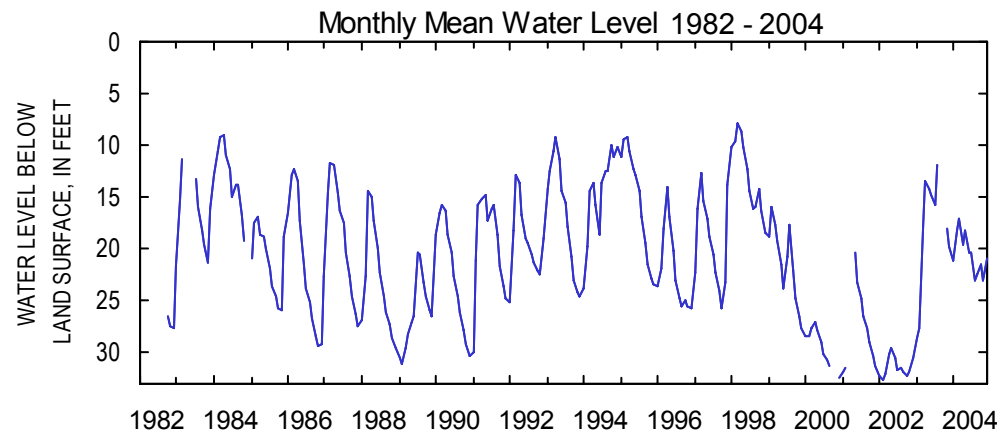
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Site Name: 11K015

Latitude: 31° 27' 09" Longitude: 084° 16' 17" DOUGHERTY Period of Record: 1982 - 2004
 Well Depth: 177 feet Datum: 183.39 feet Well Diameter 4 inches



Monthly Water-Level Statistics												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	21.04	18.28	17.14	19.65	18.23	20.27	20.40	23.00	22.50	21.54	22.95	20.92
Max	21.34	20.90	18.31	20.80	20.23	20.99	21.89	23.99	24.04	22.24	23.35	22.61
Min	20.69	15.90	16.14	18.42	17.39	19.30	19.32	21.96	21.49	21.11	22.28	19.68
1982 - 2004												
Mean	22.35	19.25	16.27	15.92	17.35	19.35	19.88	20.91	22.38	23.58	24.23	24.03
Max	32.48	32.70	32.72	31.27	30.01	31.20	31.90	31.78	32.08	32.43	32.43	32.51
Min	9.81	7.79	6.84	8.08	9.22	11.20	12.40	10.09	12.15	9.28	10.50	9.87



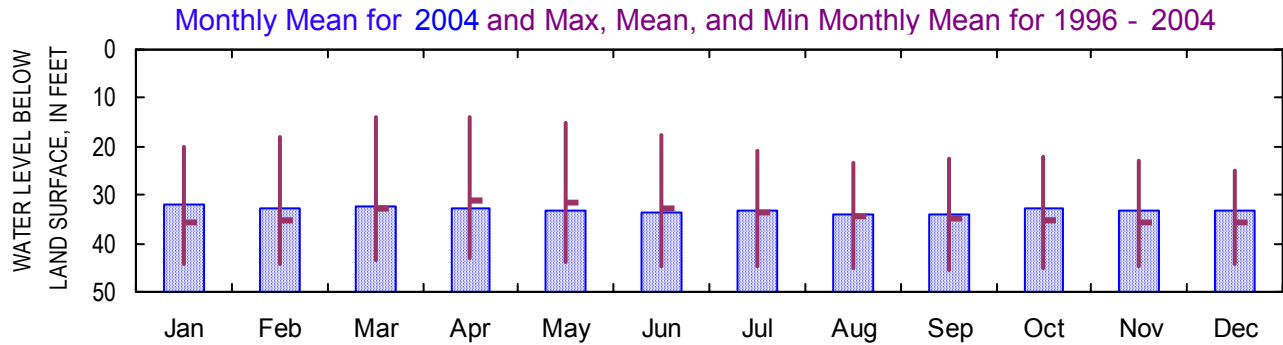
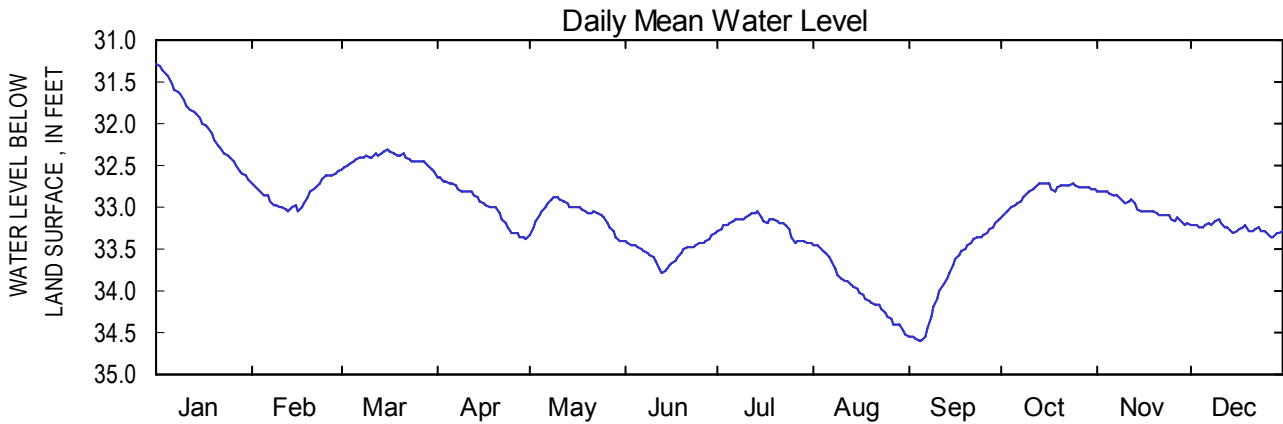


UPPER FLORIDAN AQUIFER 2004 Calendar Year

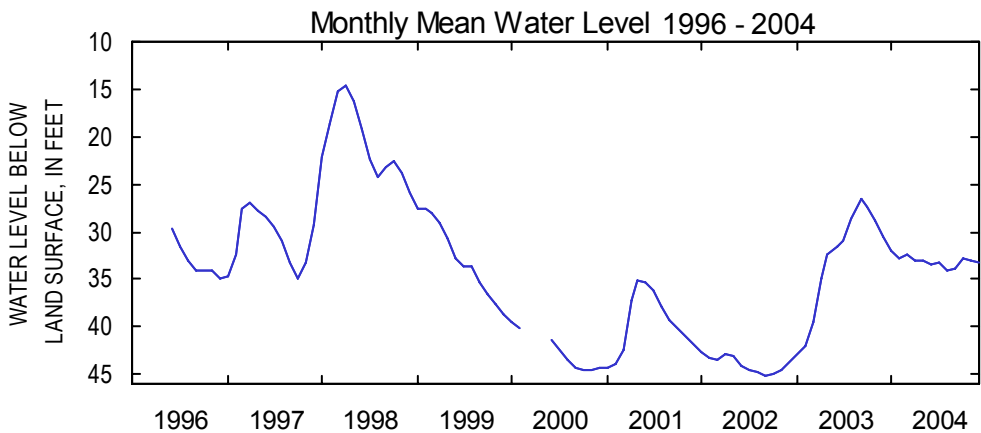
312950084131801

Site Name: 12K141

Latitude: 31° 29' 50" Longitude: 084° 13' 18" DOUGHERTY Period of Record: 1996 - 2004
 Well Depth: 200 feet Datum: 195.02 feet Well Diameter 4 inches



Monthly Water-Level Statistics												
2004												
Mean	31.99	32.84	32.42	32.97	33.09	33.53	33.22	33.99	33.81	32.82	33.00	33.25
Max	32.66	33.05	32.58	33.38	33.41	33.78	33.44	34.53	34.59	33.12	33.21	33.35
Min	31.28	32.57	32.31	32.63	32.88	33.31	33.06	33.44	33.15	32.70	32.80	33.14
1996 - 2004												
Mean	35.72	35.10	32.72	31.08	31.68	32.90	33.79	34.53	34.99	35.32	35.65	35.81
Max	44.40	44.17	43.57	43.19	43.72	44.59	44.63	45.04	45.41	45.13	44.87	44.40
Min	20.11	18.01	13.85	13.99	15.27	17.65	20.99	23.29	22.72	22.14	22.92	24.89



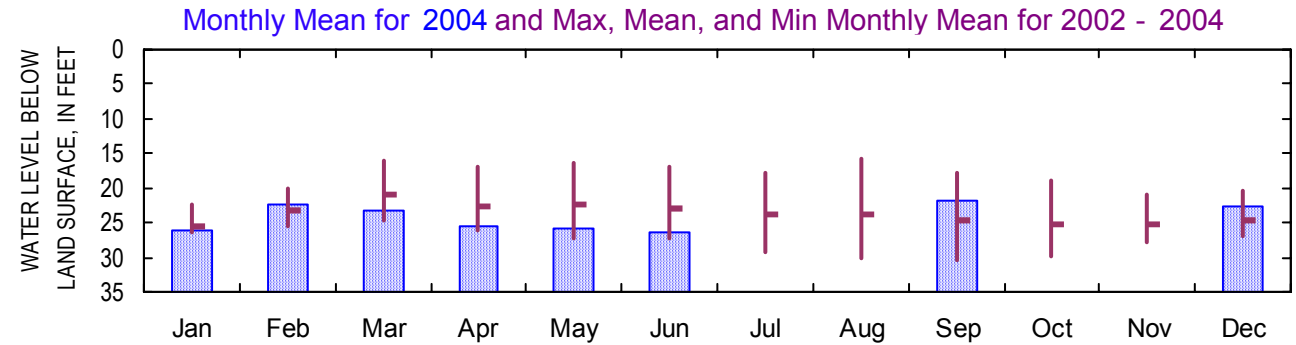
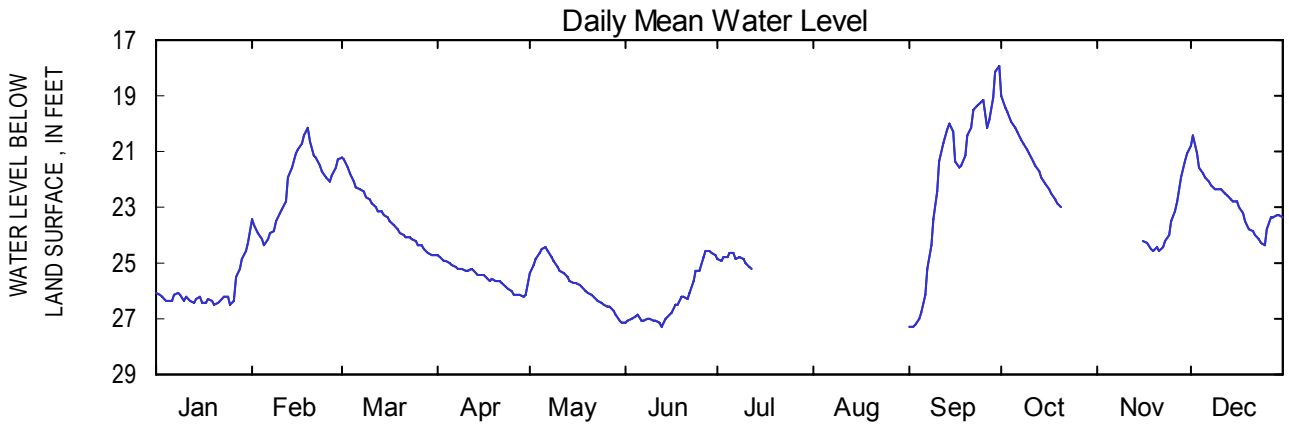


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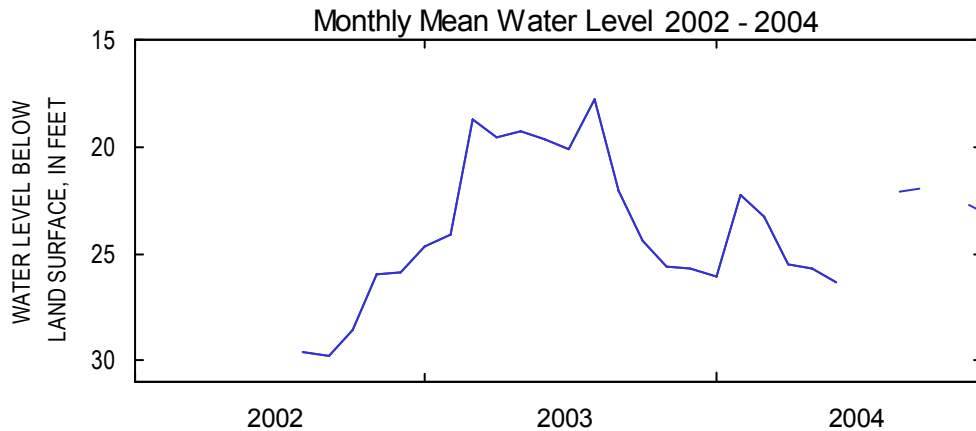
Site Name: 12K180

Latitude: 31° 29' 46" Longitude: 084° 09' 22" DOUGHERTY Period of Record: 2002 - 2004
 Well Depth: 170 feet Datum: 172 feet Well Diameter 4 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	26.07	22.27	23.28	25.49	25.74	26.32			21.95			22.80
Max	26.53	24.34	24.70	26.21	27.15	27.25			27.31			24.36
Min	24.29	20.15	21.23	24.72	24.45	24.54			17.93			20.42
2002 - 2004												
Mean	25.39	23.18	20.98	22.53	22.49	22.97	23.91	23.70	24.61	25.20	25.36	24.80
Max	26.53	25.62	24.70	26.21	27.15	27.25	29.26	30.04	30.31	29.78	27.85	27.05
Min	22.44	20.15	16.05	16.79	16.31	17.03	17.70	15.81	17.93	19.02	21.05	20.42



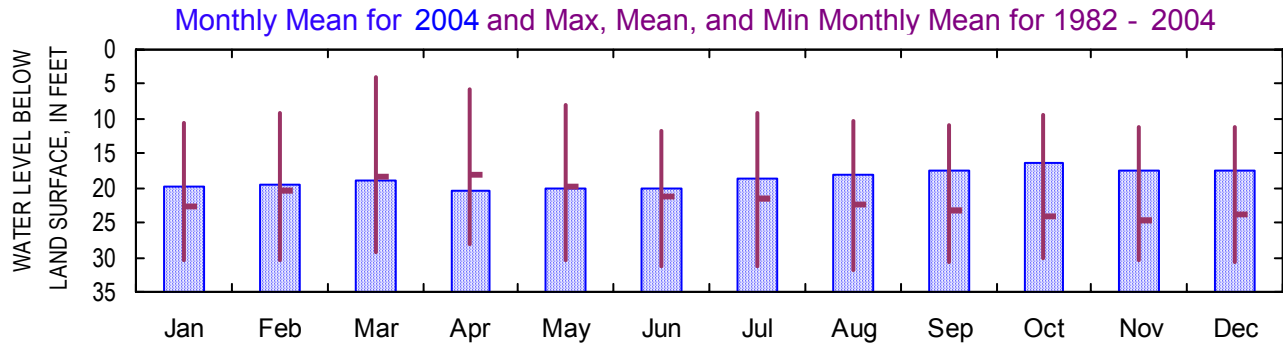
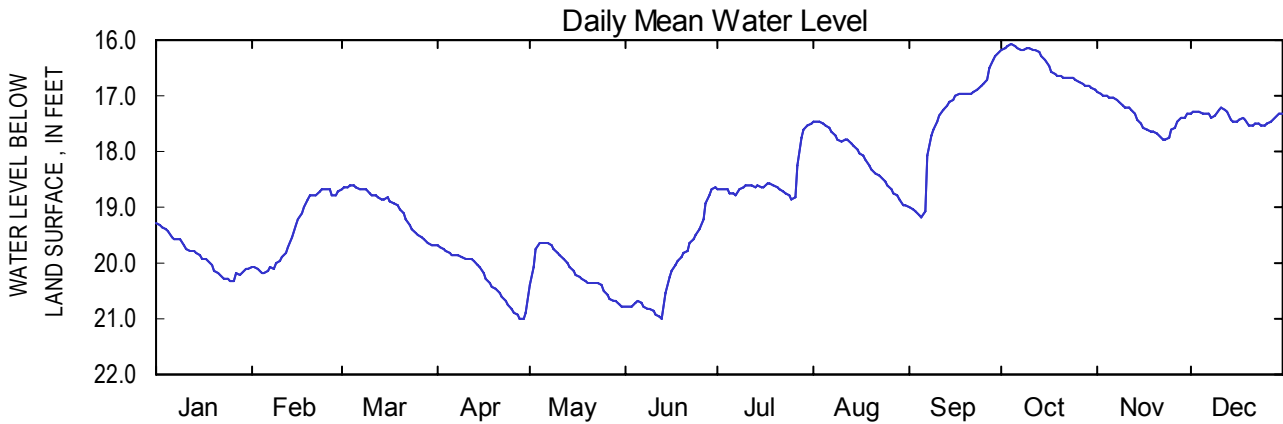


UPPER FLORIDAN AQUIFER 2004 Calendar Year

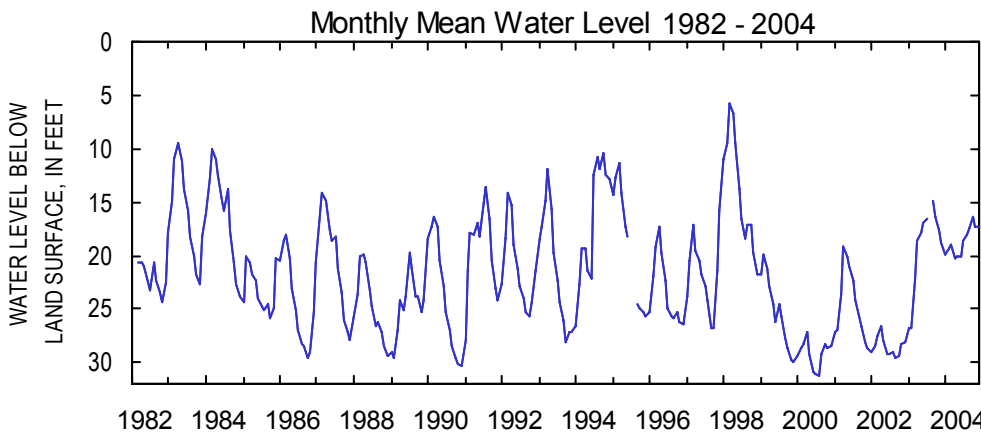
313302084120301

Site Name: 12L028

Latitude: 31° 33' 02" Longitude: 084° 12' 00" DOUGHERTY Period of Record: 1982 - 2004
 Well Depth: 100 feet Datum: 190.00 feet Well Diameter 10.50 inches



Monthly Water-Level Statistics												
2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	19.88	19.40	19.01	20.26	20.18	20.11	18.53	18.11	17.42	16.45	17.37	17.39
Max	20.32	20.17	19.68	21.01	20.78	21.01	18.86	18.98	19.17	16.89	17.80	17.55
Min	19.30	18.66	18.62	19.69	19.63	18.64	17.50	17.46	16.22	16.08	16.93	17.23
1982 - 2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	22.55	20.35	18.23	18.11	19.73	21.34	21.53	22.24	23.19	24.00	24.54	23.84
Max	30.30	30.30	29.20	28.10	30.38	31.31	31.40	31.94	30.83	30.05	30.38	30.80
Min	10.63	9.08	4.04	5.69	7.95	11.74	9.12	10.32	10.86	9.61	11.21	11.06



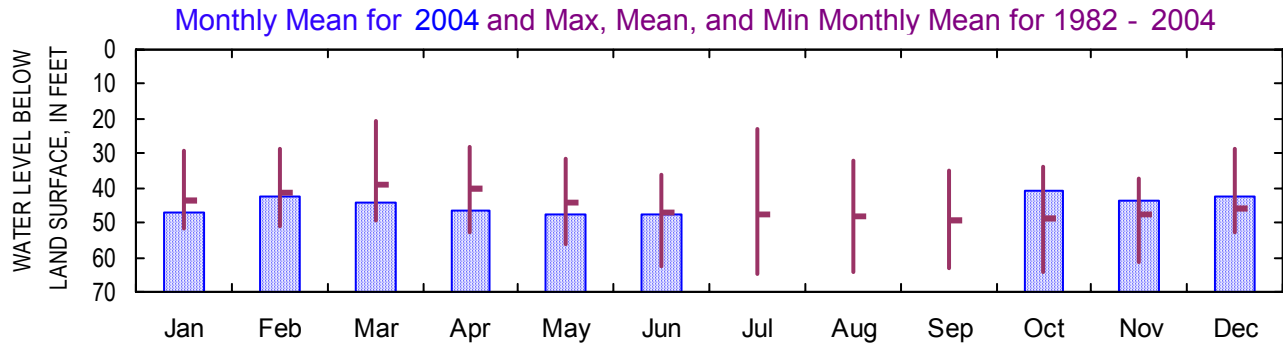
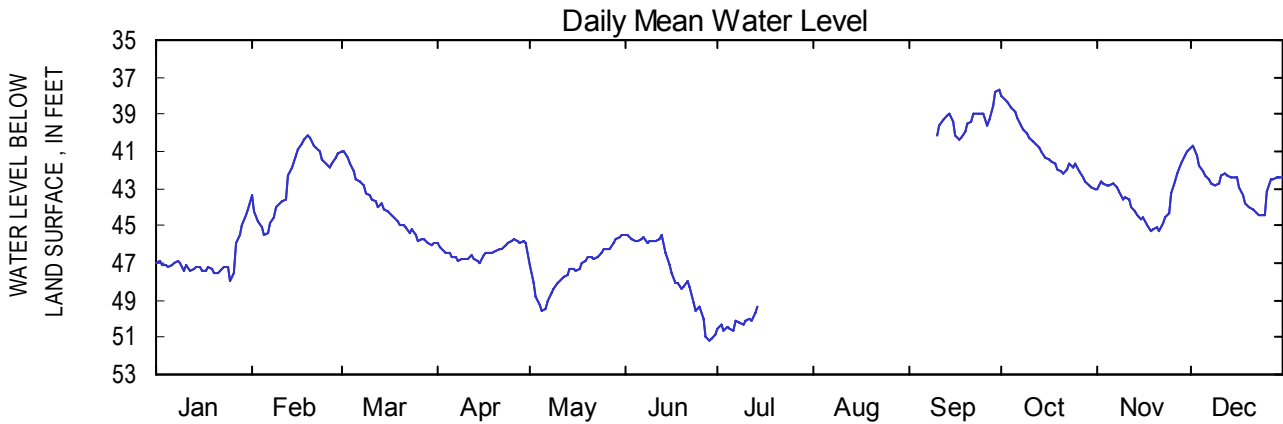


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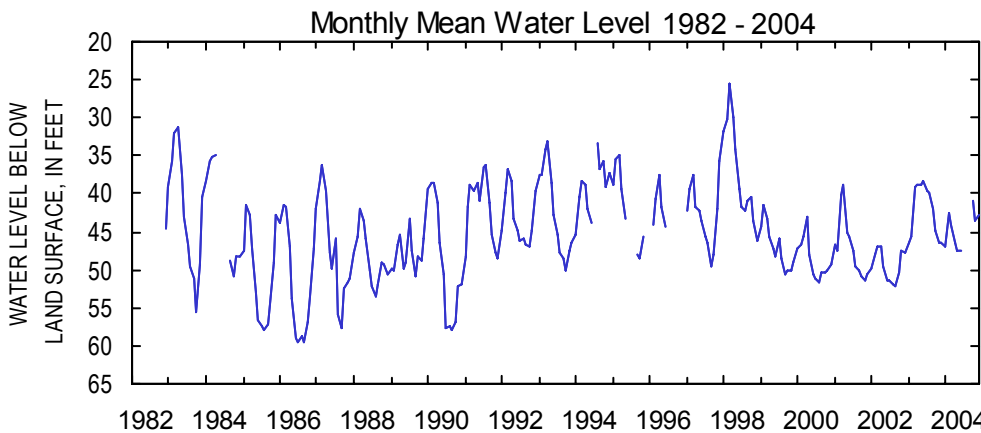
Site Name: 12L029

Latitude: 31° 34' 50" Longitude: 084° 09' 18" DOUGHERTY Period of Record: 1982 - 2004
 Well Depth: 178 feet Datum: 199 feet Well Diameter 6 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	46.90	42.48	44.03	46.37	47.35	47.54				40.93	43.54	42.73
Max	47.99	45.52	46.01	46.98	49.56	51.16				43.04	45.25	44.46
Min	44.09	40.11	40.98	45.69	45.50	45.47				37.99	40.97	40.63
1982 - 2004												
Mean	43.73	41.22	39.11	40.42	44.47	46.94	47.59	48.43	49.19	48.98	47.68	45.83
Max	51.48	51.35	49.52	52.77	56.47	62.72	64.66	63.99	63.07	63.98	61.44	52.59
Min	29.18	28.63	20.47	28.03	31.36	36.13	23.04	32.12	34.90	33.60	37.36	28.52



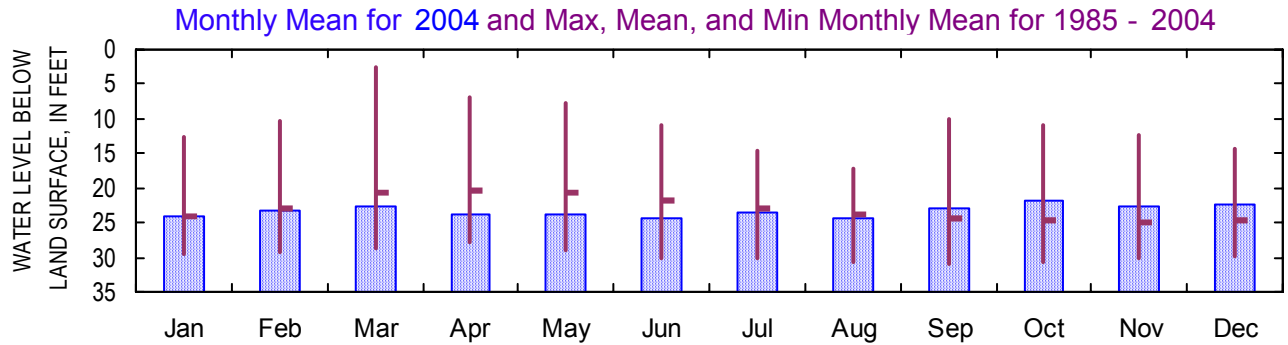
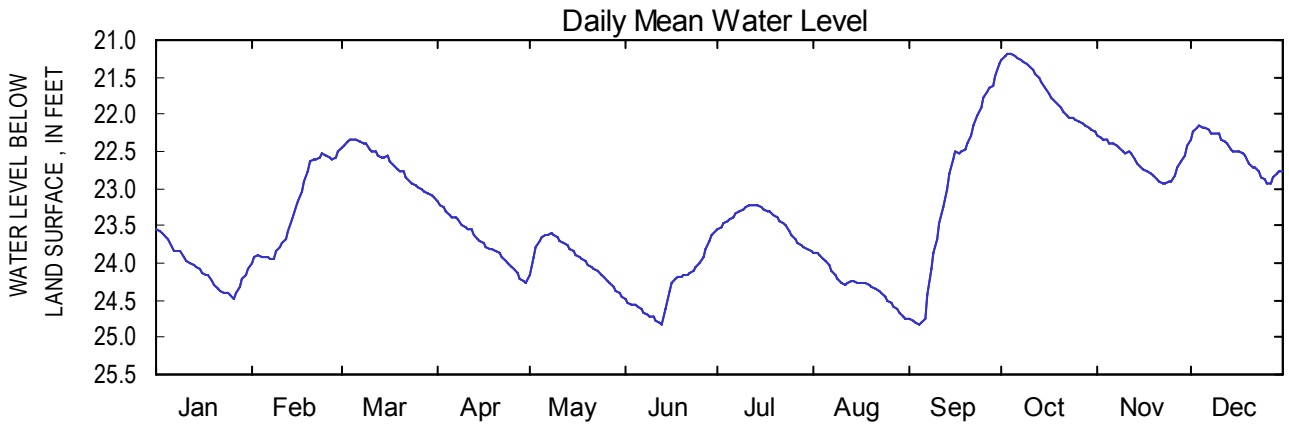


**UPPER FLORIDAN AQUIFER
2004 Calendar Year**

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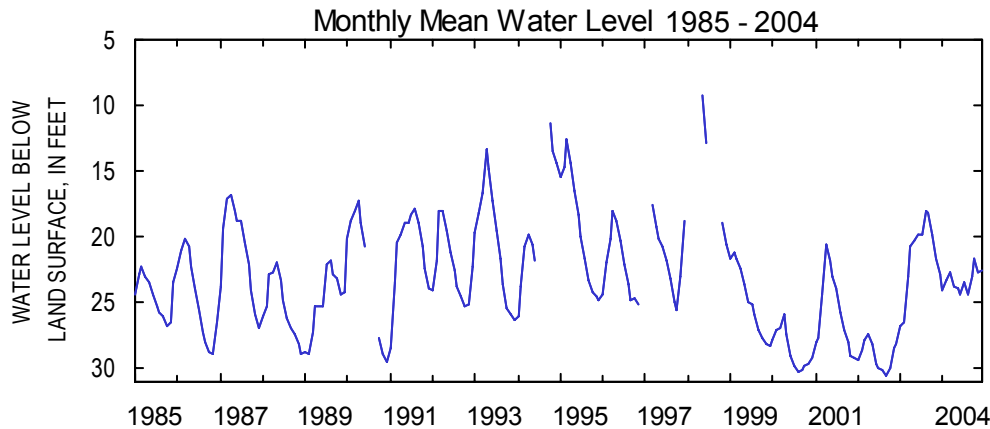
Site Name: 12L030

Latitude: 31° 31' 30" Longitude: 084° 10' 10" DOUGHERTY Period of Record: 1985 - 2004
 Well Depth: 180 feet Datum: 180 feet Well Diameter 4 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	24.06	23.25	22.67	23.71	23.95	24.32	23.45	24.29	23.01	21.69	22.62	22.52
Max	24.47	24.00	23.13	24.27	24.45	24.82	23.83	24.74	24.82	22.25	22.93	22.93
Min	23.54	22.51	22.34	23.17	23.61	23.58	23.21	23.86	21.32	21.19	22.28	22.16
1985 - 2004												
Mean	24.00	22.92	20.75	20.24	20.67	21.90	22.88	23.94	24.32	24.64	25.02	24.77
Max	29.47	29.27	28.69	27.77	28.94	30.09	30.23	30.62	30.91	30.62	30.21	29.78
Min	12.75	10.31	2.59	6.89	7.67	11.01	14.69	17.21	9.96	10.78	12.27	14.25



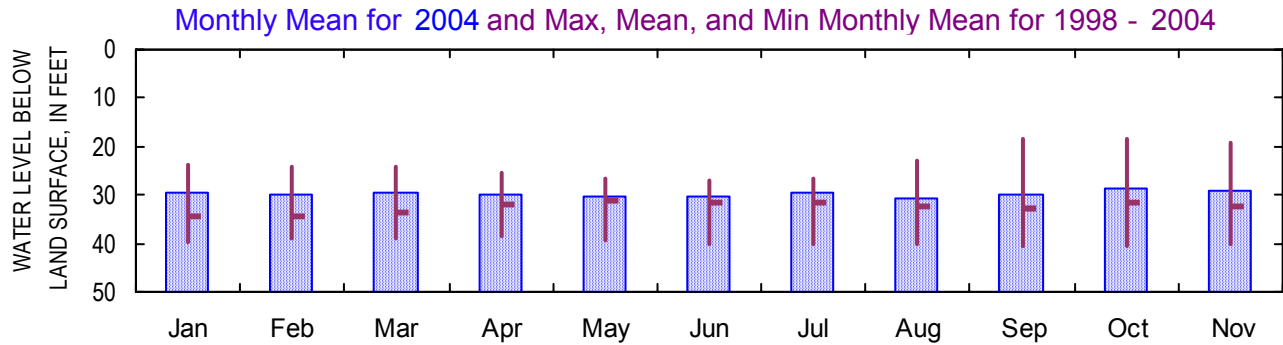
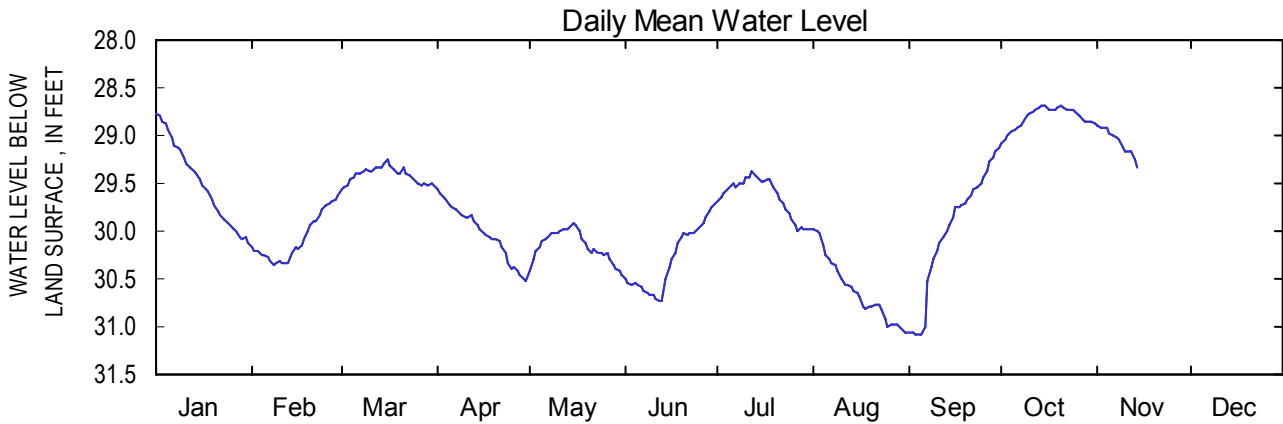


**UPPER FLORIDAN AQUIFER
2004 Calendar Year**

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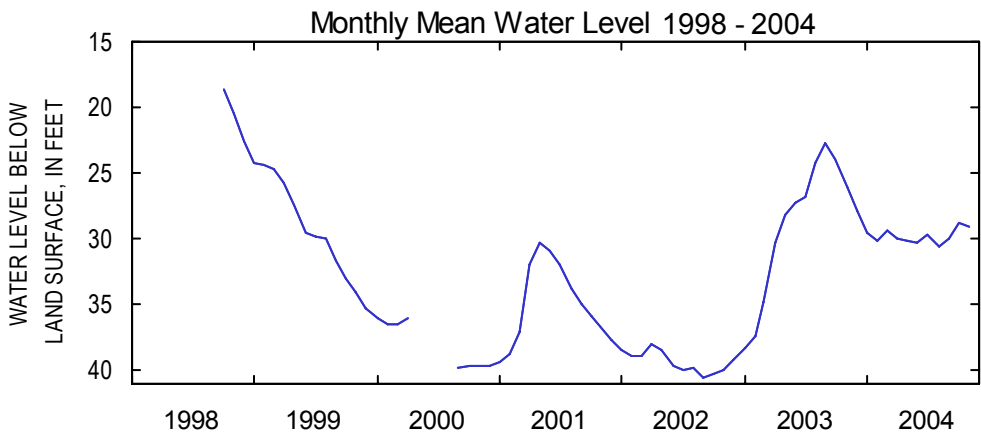
Site Name: 12L277

Latitude: 31 ° 30 ' 38" Longitude: 084° 12 ' 25" DOUGHERTY Period of Record: 1998 - 2004
Well Depth: 203 feet Datum: 186 feet Well Diameter 4 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	29.50	30.08	29.42	30.02	30.16	30.29	29.64	30.63	30.01	28.81	29.06	71.67
Max	30.13	30.35	29.56	30.51	30.45	30.74	29.99	31.06	31.09	29.08	29.33	71.94
Min	28.77	29.62	29.26	29.55	29.91	29.71	29.39	29.99	29.12	28.69	28.90	71.40
1998 - 2004												
Mean	34.33	34.31	33.57	32.01	31.19	31.52	31.56	32.40	32.84	31.45	32.44	33.71
Max	39.64	39.09	39.05	38.52	39.26	39.98	40.14	40.30	40.64	40.43	40.26	39.74
Min	23.69	24.22	24.32	25.21	26.61	26.92	26.67	22.77	18.63	18.24	19.36	21.60



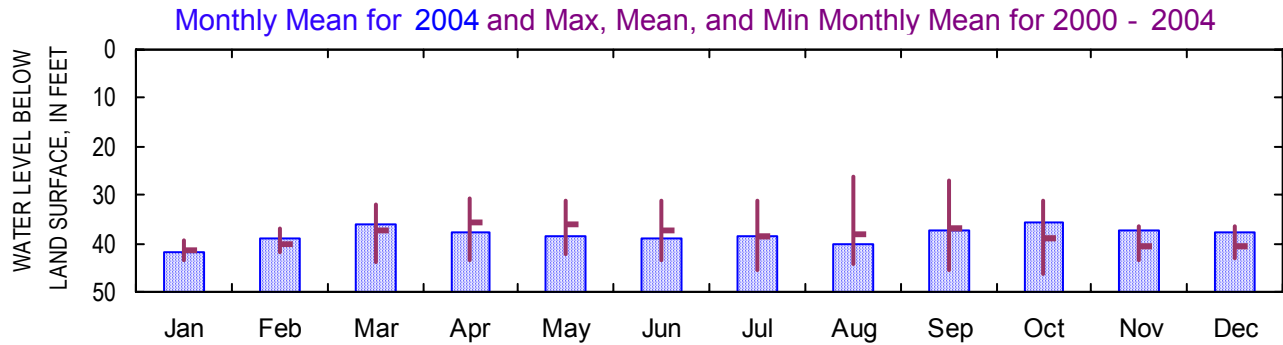
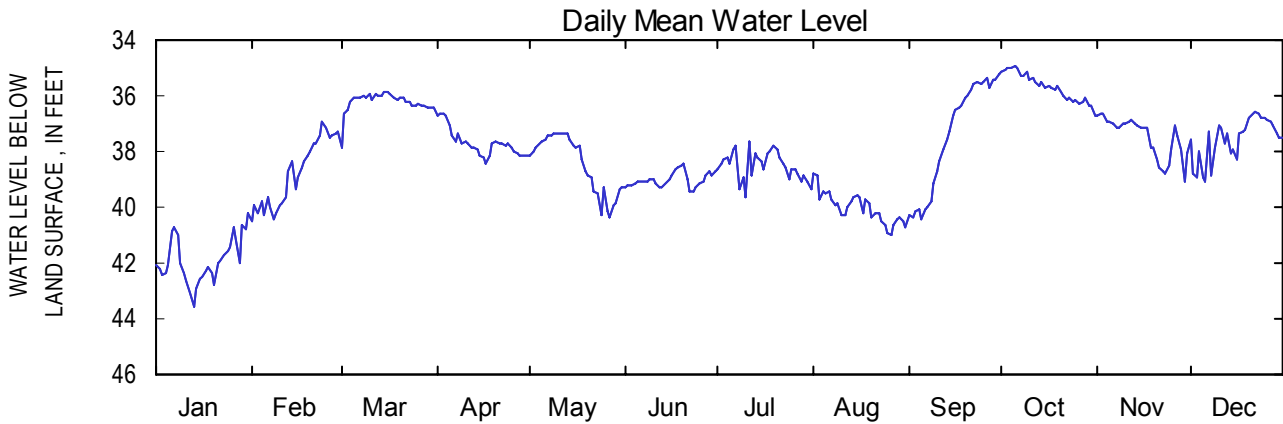


**UPPER FLORIDAN AQUIFER
2004 Calendar Year**

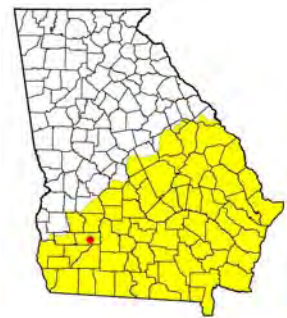
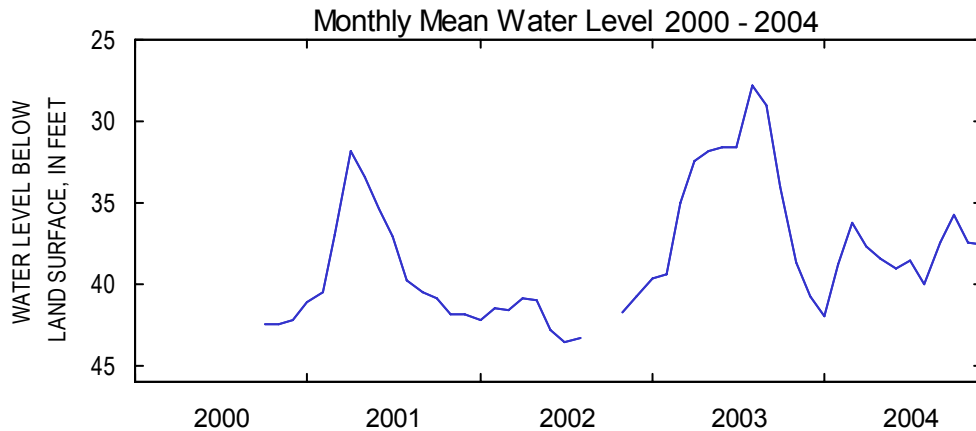
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Site Name: 12L370

Latitude: 31° 30' 19" Longitude: 084° 10' 46" DOUGHERTY Period of Record: 2000 - 2004
 Well Depth: 172 feet Datum: 191 feet Well Diameter 2 inches



Monthly Water-Level Statistics												
2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	41.91	38.80	36.22	37.68	38.45	39.01	38.51	40.01	37.44	35.69	37.49	37.55
Max	43.58	40.47	37.86	38.42	40.38	39.45	39.63	40.99	40.42	36.70	39.10	39.05
Min	40.23	36.96	35.86	36.61	37.35	38.41	37.62	38.78	35.19	34.94	36.62	36.57
2000 - 2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	41.19	40.03	37.46	35.69	36.19	37.12	38.36	38.28	36.82	38.75	40.42	40.63
Max	43.58	41.97	43.70	43.47	42.02	43.27	45.37	44.10	45.37	46.11	43.42	42.89
Min	39.38	36.96	31.84	30.59	31.08	31.06	31.28	26.35	26.91	31.33	36.62	36.57



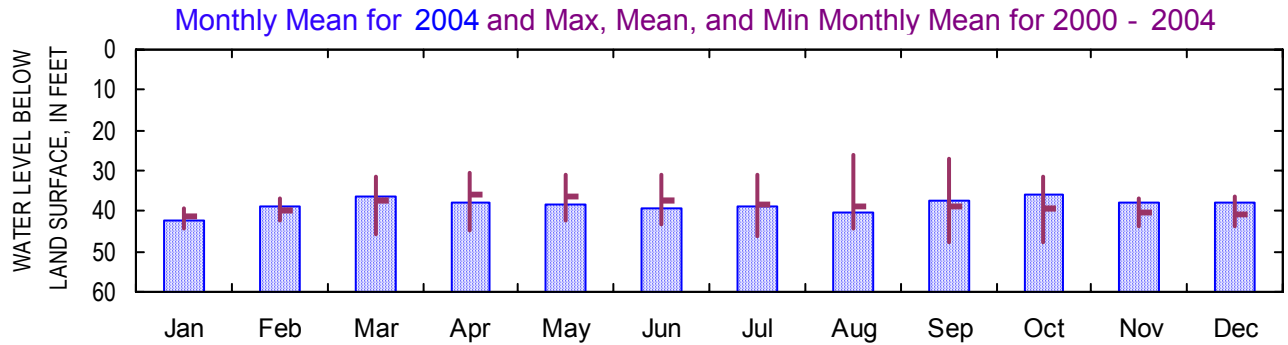
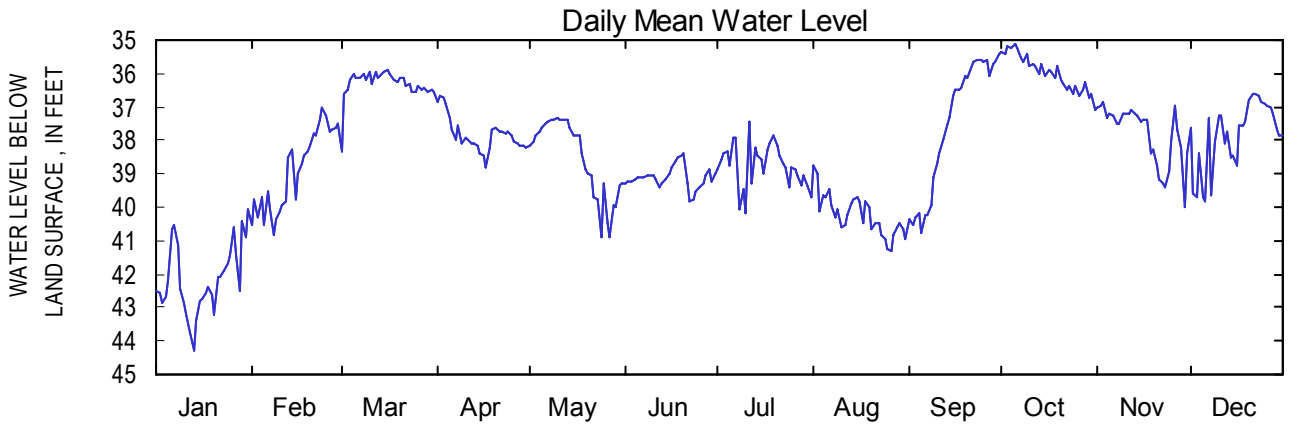


**UPPER FLORIDAN AQUIFER
2004 Calendar Year**

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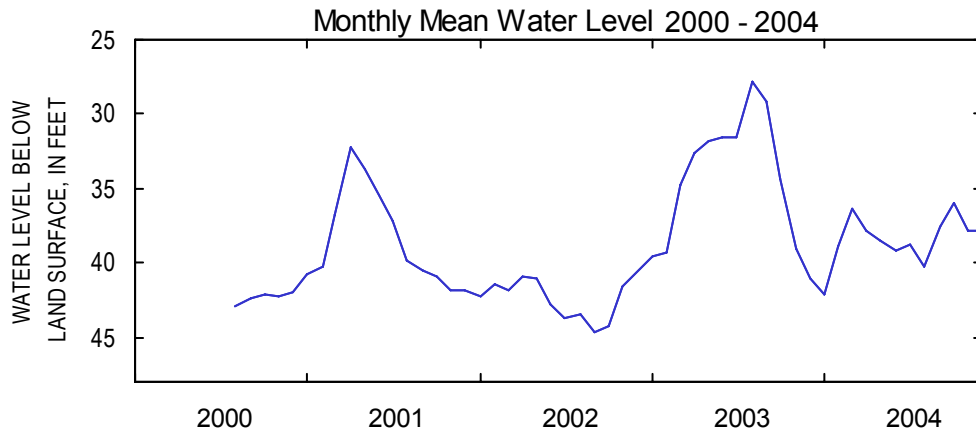
Site Name: 12L372

Latitude: 31° 30' 19" Longitude: 084° 10' 46" DOUGHERTY Period of Record: 2000 - 2004
 Well Depth: 58 feet Datum: 191 feet Well Diameter 2 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	42.14	38.92	36.31	37.83	38.54	39.11	38.75	40.24	37.55	35.97	37.82	37.86
Max	44.31	40.81	38.31	38.78	40.90	39.84	40.19	41.28	40.74	37.09	40.00	39.80
Min	40.08	37.00	35.92	36.69	37.35	38.40	37.45	38.78	35.41	35.13	36.86	36.61
2000 - 2004												
Mean	41.19	39.99	37.46	35.90	36.27	37.21	38.44	38.83	38.86	39.46	40.49	40.69
Max	44.31	42.25	45.82	44.87	42.11	43.44	46.01	44.29	47.85	47.72	43.77	43.66
Min	39.26	37.00	31.72	30.61	30.96	30.96	31.19	26.29	26.88	31.27	36.79	36.61



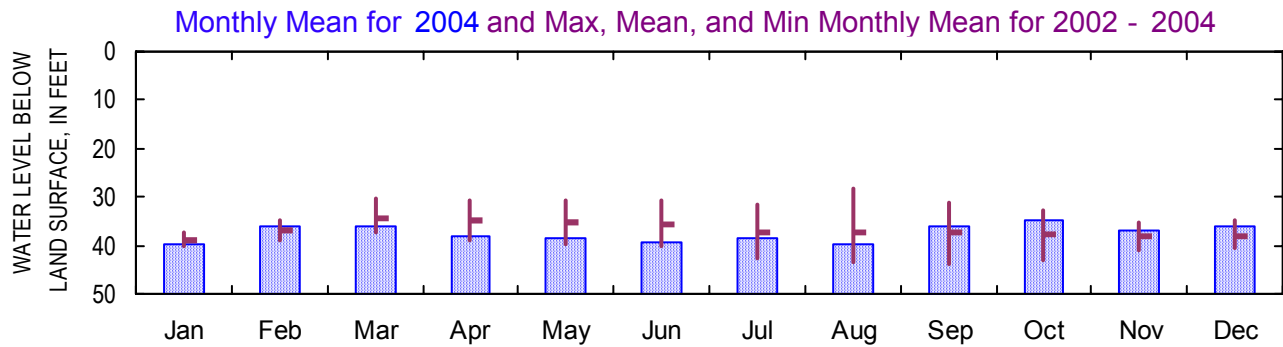
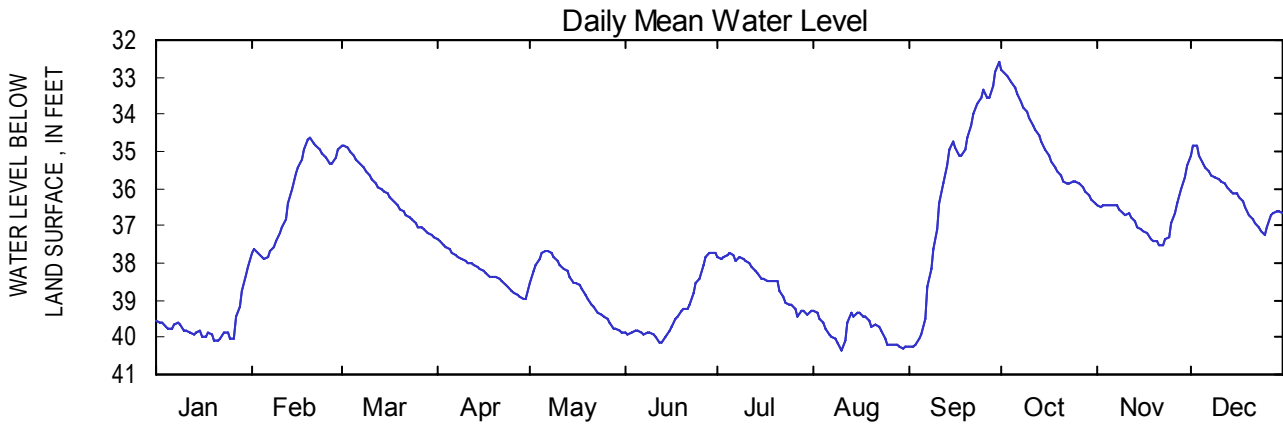


UPPER FLORIDAN AQUIFER 2004 Calendar Year

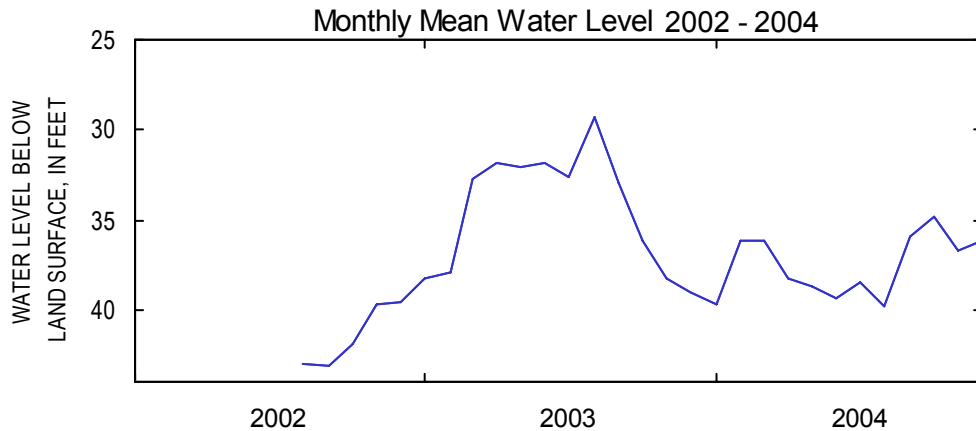
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Site Name: 12L373

Latitude: 31° 30' 00" Longitude: 084° 10' 02" DOUGHERTY Period of Record: 2002 - 2004
 Well Depth: 170 feet Datum: 185 feet Well Diameter 4 inches



Monthly Water-Level Statistics												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	39.67	36.16	36.13	38.21	38.68	39.31	38.48	39.81	35.94	34.84	36.76	36.15
Max	40.08	37.92	37.32	38.99	39.86	40.14	39.44	40.36	40.25	36.38	37.50	37.25
Min	38.11	34.65	34.81	37.37	37.65	37.72	37.73	39.27	32.57	32.79	35.37	34.83
2002 - 2004												
Mean	38.97	37.04	34.44	35.00	35.39	35.57	37.33	37.38	37.34	37.62	38.25	38.23
Max	40.08	39.10	37.32	38.99	39.86	40.14	42.74	43.54	43.71	43.02	41.12	40.38
Min	37.11	34.65	30.13	30.62	30.59	30.81	31.41	28.25	30.98	32.79	35.37	34.83



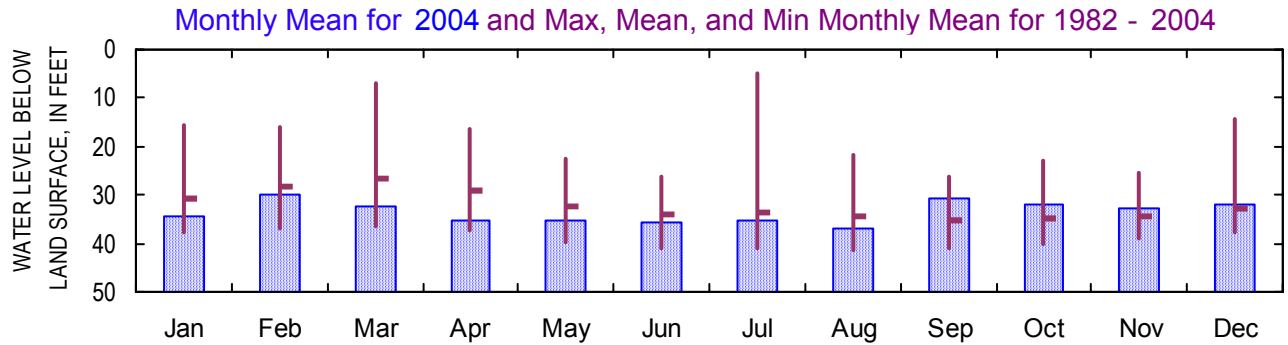
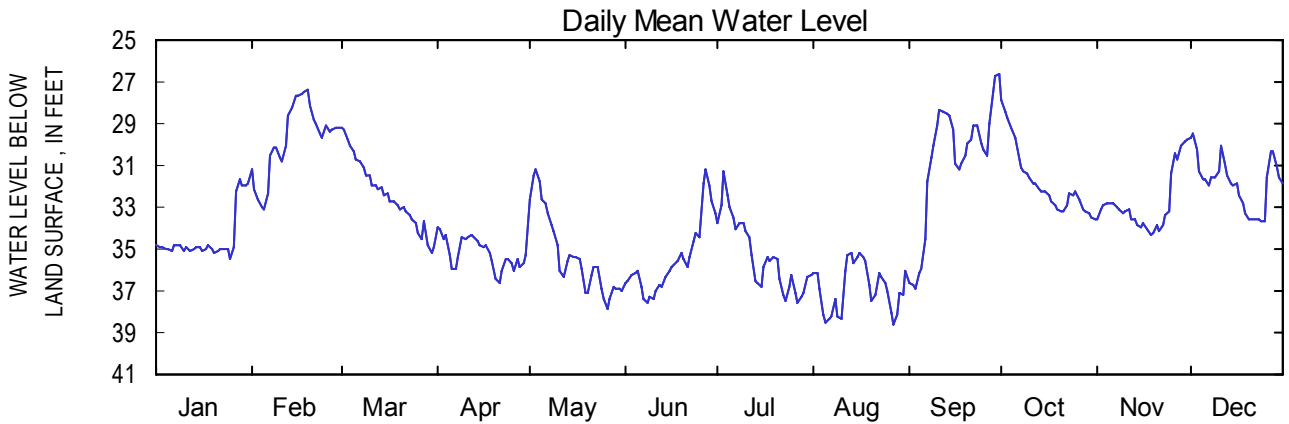


UPPER FLORIDAN AQUIFER 2004 Calendar Year

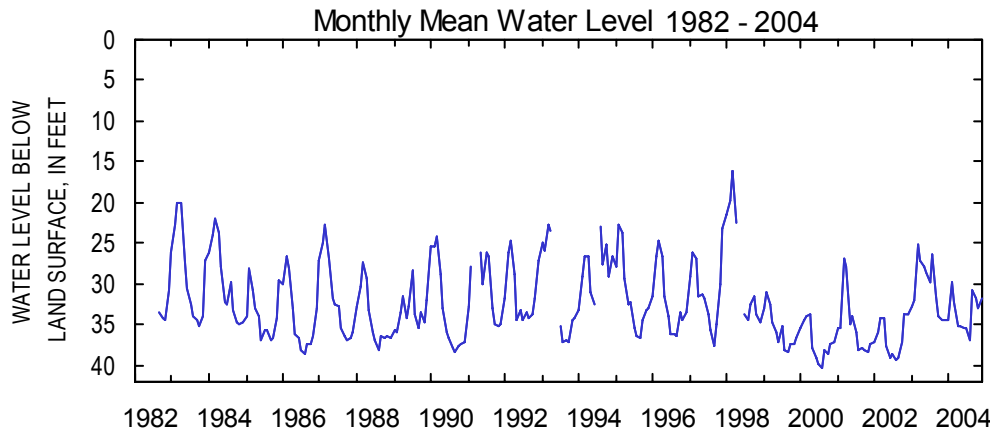
312704084071601

Site Name: 13K014

Latitude: 31° 27' 04" Longitude: 084° 07' 16" DOUGHERTY Period of Record: 1982 - 2004
 Well Depth: 131 feet Datum: 183.00 feet Well Diameter 4 inches



Monthly Water-Level Statistics												
2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	34.49	29.75	32.34	35.18	35.27	35.47	35.34	36.86	30.78	31.82	32.85	31.79
Max	35.44	33.13	35.17	36.61	37.86	37.57	37.61	38.63	36.87	33.59	34.32	33.69
Min	31.70	27.42	29.18	33.96	31.18	31.20	31.26	35.20	26.63	27.87	29.74	29.45
1982 - 2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	30.79	28.20	26.52	28.98	32.44	33.97	33.68	34.56	35.34	34.99	34.58	32.84
Max	37.66	37.07	36.62	37.28	39.80	40.79	41.17	41.40	40.87	40.04	39.02	37.89
Min	15.38	15.84	7.00	16.37	22.71	26.34	5.11	21.85	26.39	23.01	25.24	14.19



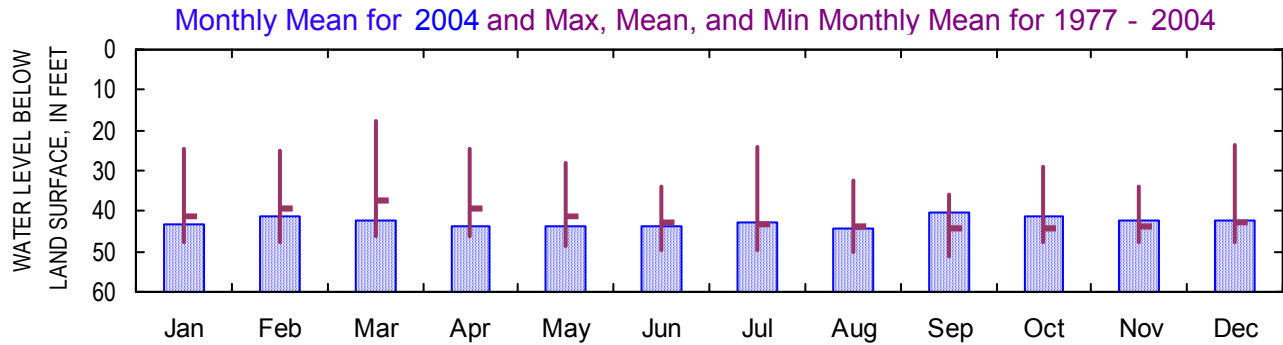
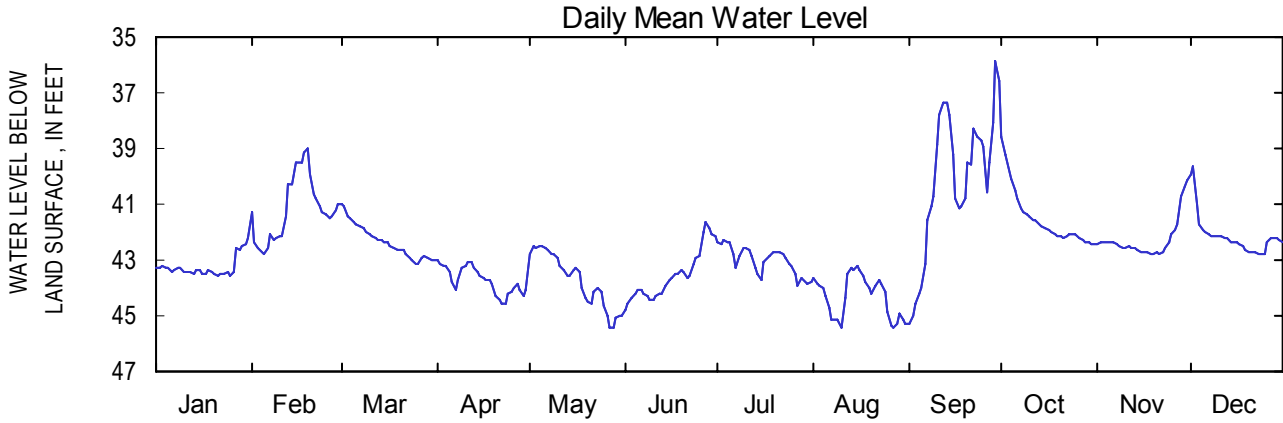


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2004 Calendar Year**

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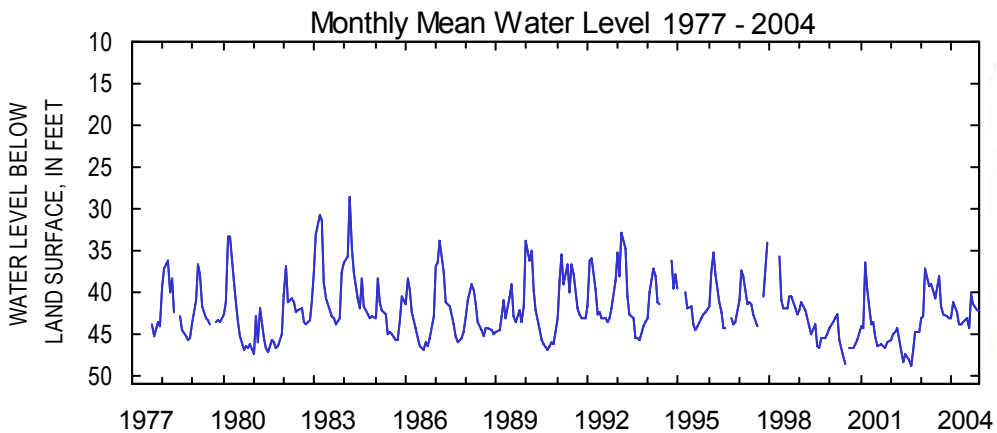
Site Name: 13L012

Latitude: 31° 31' 05" Longitude: 084° 06' 43" DOUGHERTY Period of Record: 1977 - 2004
Well Depth: 218 feet Datum: 195 feet Well Diameter 4 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	43.25	41.18	42.34	43.73	43.73	43.57	43.02	44.32	40.20	41.52	42.27	42.13
Max	43.60	42.78	43.15	44.56	45.46	44.80	43.93	45.45	45.31	42.44	42.77	42.79
Min	42.19	38.97	40.98	42.97	42.51	41.65	42.30	43.23	35.86	38.54	40.15	39.65
1977 - 2004												
Mean	41.44	39.39	37.46	39.27	41.53	42.93	43.43	43.92	44.32	44.19	43.95	42.90
Max	47.73	47.59	46.45	46.04	48.85	49.82	49.89	50.21	50.91	47.86	47.70	47.46
Min	24.48	25.00	17.60	24.80	28.20	33.89	23.95	32.43	35.86	29.25	33.84	23.76



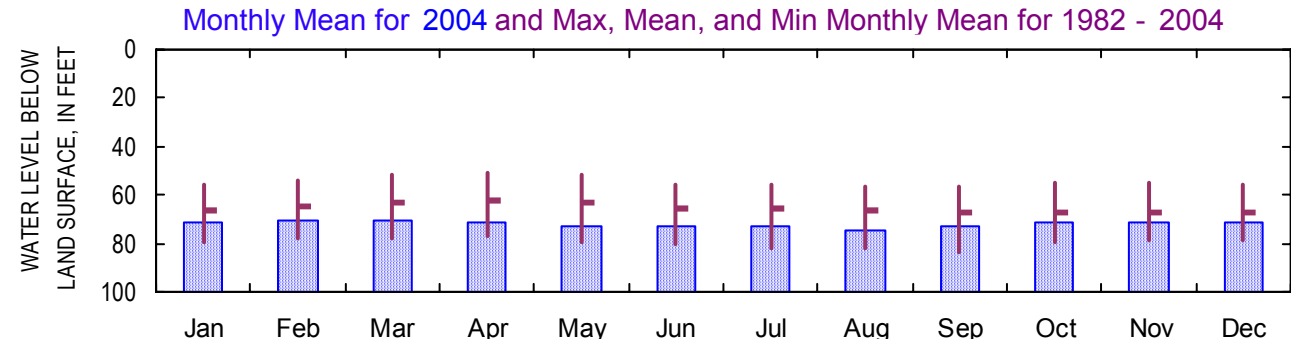
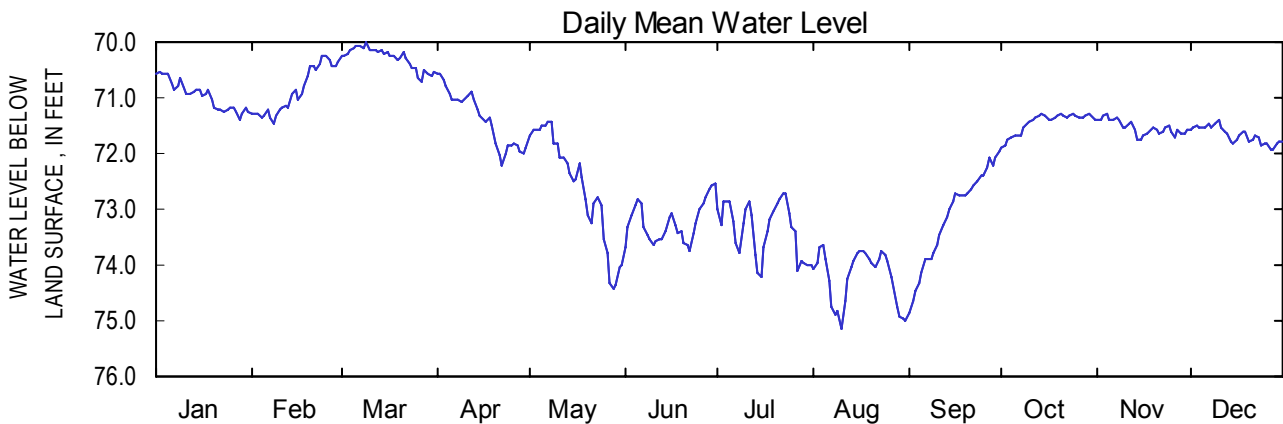


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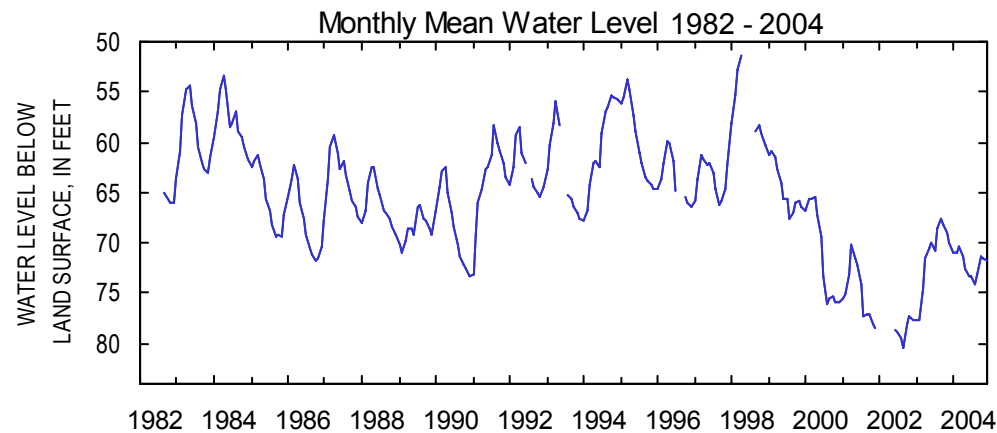
313031084005901

Site Name: 13L048

Latitude: 31° 30' 31" Longitude: 084° 00' 59" DOUGHERTY Period of Record: 1982 - 2004
 Well Depth: 345 feet Datum: 245.00 feet Well Diameter 4 inches



Monthly Water-Level Statistics												
2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	70.96	70.88	70.28	71.37	72.60	73.24	73.36	74.21	73.14	71.44	71.53	71.67
Max	71.40	71.48	70.72	72.21	74.42	73.76	74.21	75.13	74.87	71.91	71.75	71.94
Min	70.54	70.25	70.00	70.56	71.44	72.55	72.70	73.64	71.97	71.29	71.29	71.40
1982 - 2004												
Mean	66.55	64.66	62.96	62.02	63.48	65.37	65.90	66.44	66.97	66.92	67.31	67.42
Max	79.20	78.05	77.68	77.36	79.61	80.19	82.22	82.14	83.42	79.17	78.29	78.82
Min	55.79	53.97	51.50	51.10	51.36	55.54	56.04	56.21	56.39	54.85	54.92	55.40



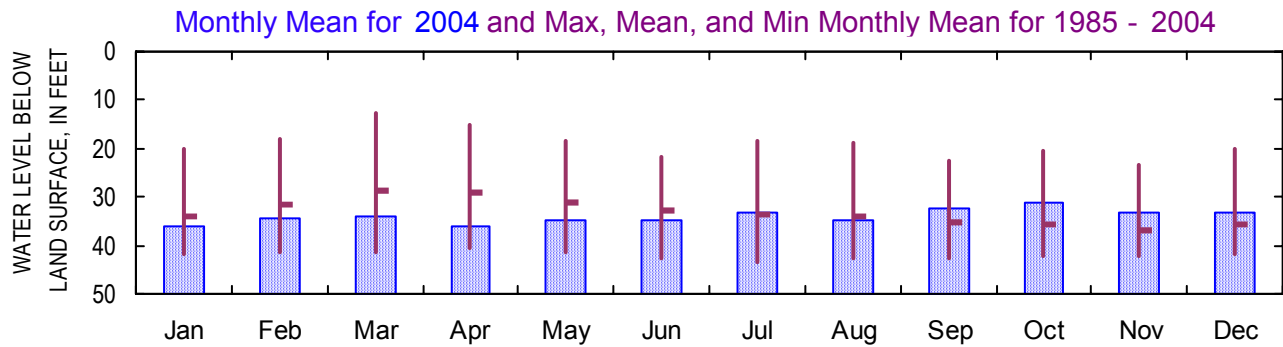
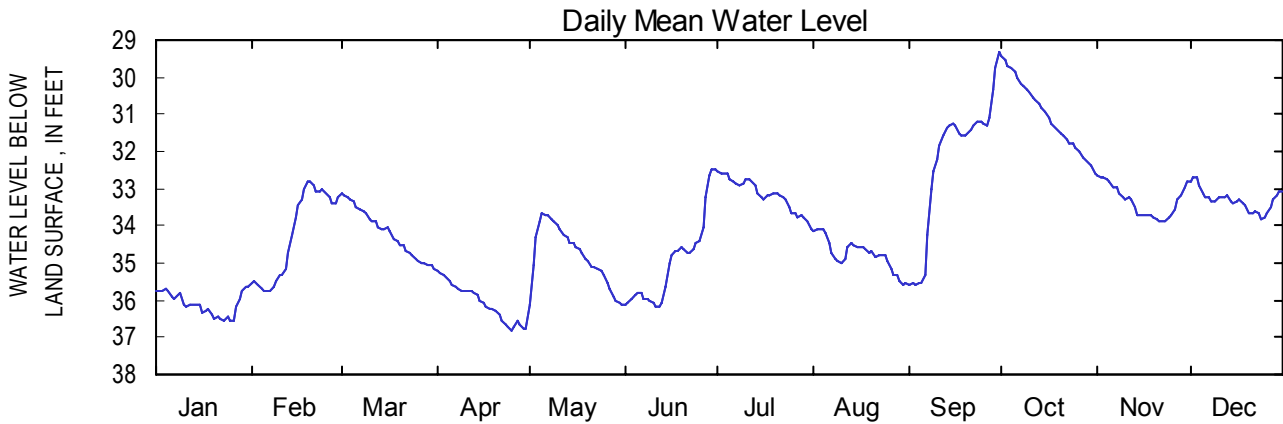


UPPER FLORIDAN AQUIFER 2004 Calendar Year

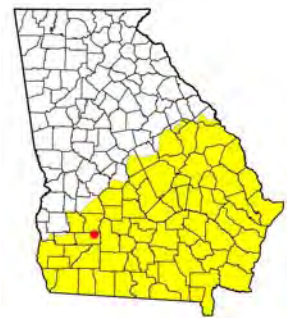
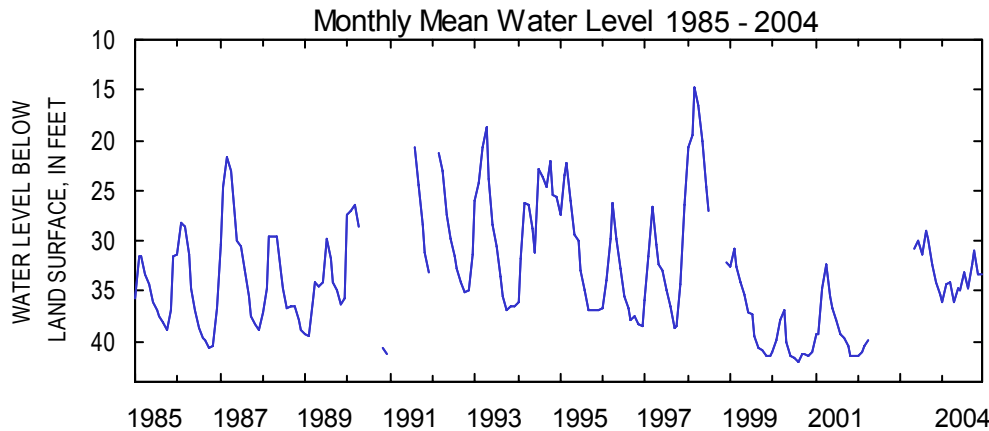
313521084051001

Site Name: 13L049

Latitude: 31° 35' 21" Longitude: 084° 05' 10" DOUGHERTY Period of Record: 1985 - 2004
 Well Depth: 170 feet Datum: 204.00 feet Well Diameter 4 inches



Monthly Water-Level Statistics												
2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	36.10	34.24	34.18	36.06	34.80	35.00	33.15	34.76	32.27	31.03	33.34	33.31
Max	36.56	35.75	35.15	36.82	36.15	36.16	34.07	35.61	35.59	32.56	33.88	33.82
Min	35.62	32.79	33.15	35.19	33.68	32.49	32.52	34.09	29.34	29.44	32.65	32.70
1985 - 2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	34.00	31.50	28.52	29.21	31.28	32.82	33.58	34.18	35.18	35.50	36.69	35.59
Max	41.75	41.59	41.59	40.41	41.48	42.66	43.35	42.78	42.74	42.11	42.05	41.67
Min	19.98	17.98	12.54	15.20	18.39	21.65	18.45	18.84	22.36	20.65	23.44	19.94



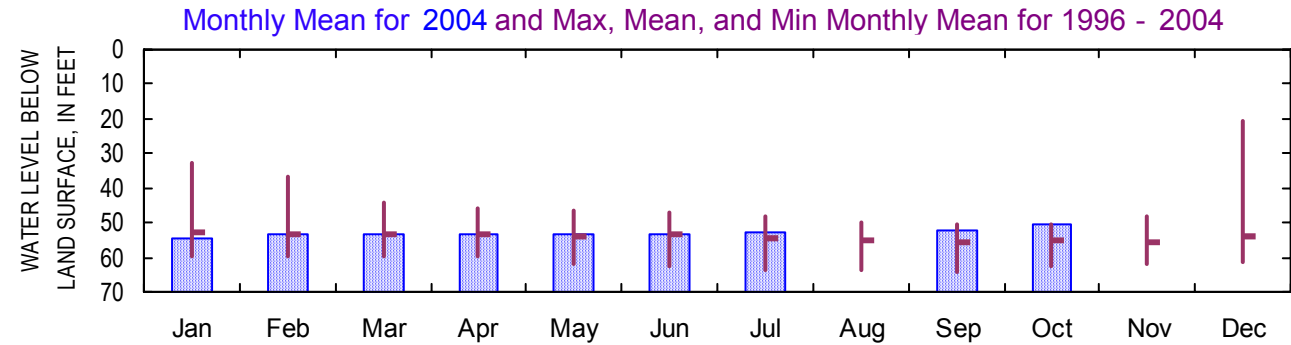
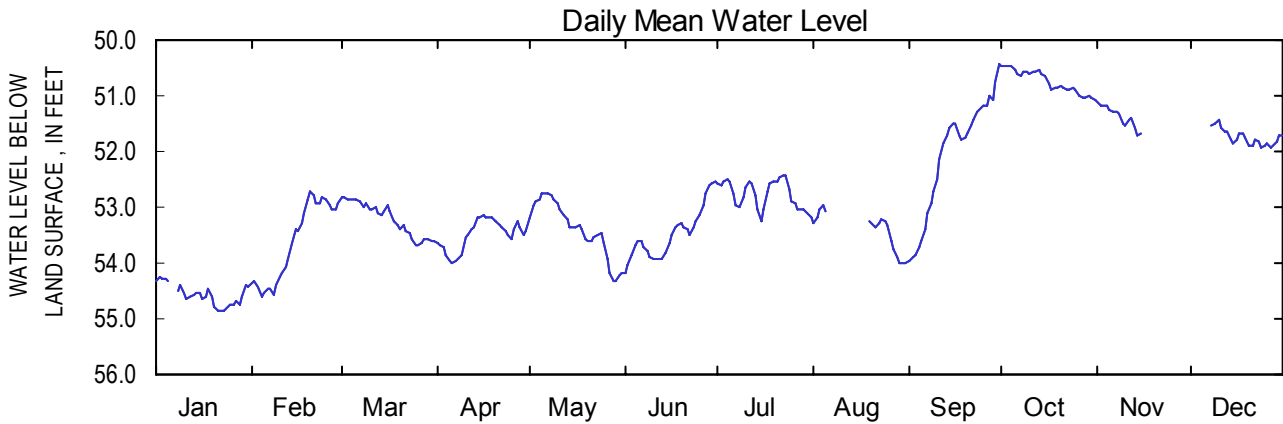


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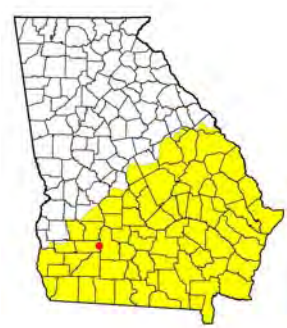
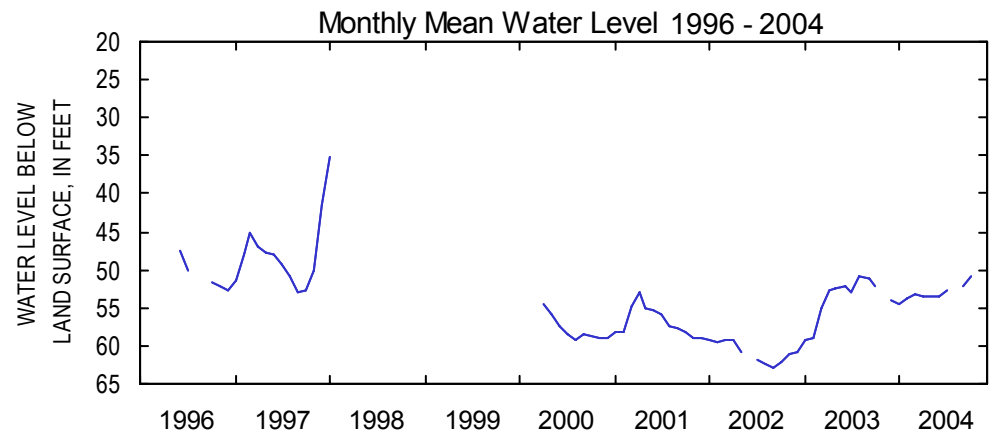
Site Name: 13L180

Latitude: 31° 32' 47" Longitude: 084° 00' 50" DOUGHERTY Period of Record: 1996 - 2004
 Well Depth: 310 feet Datum: 230.10 feet Well Diameter 6 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	54.58	53.63	53.21	53.49	53.39	53.48	52.77		52.06	50.75		
Max	54.87	54.59	53.69	54.01	54.33	54.19	53.25		53.96	51.07		
Min	54.26	52.70	52.82	53.14	52.74	52.52	52.42		50.42	50.46		
1996 - 2004												
Mean	52.95	53.46	53.58	53.31	53.87	53.41	54.47	55.23	55.41	55.16	55.60	54.13
Max	59.51	59.84	59.86	59.70	61.74	62.39	63.51	63.60	64.29	62.56	62.03	61.15
Min	32.89	36.57	44.38	46.16	46.52	46.79	48.29	49.64	50.42	50.46	48.19	20.85



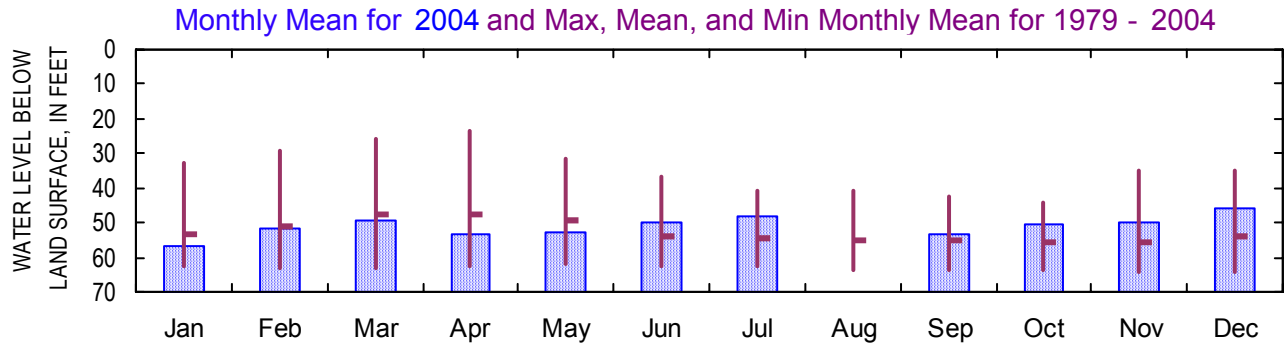
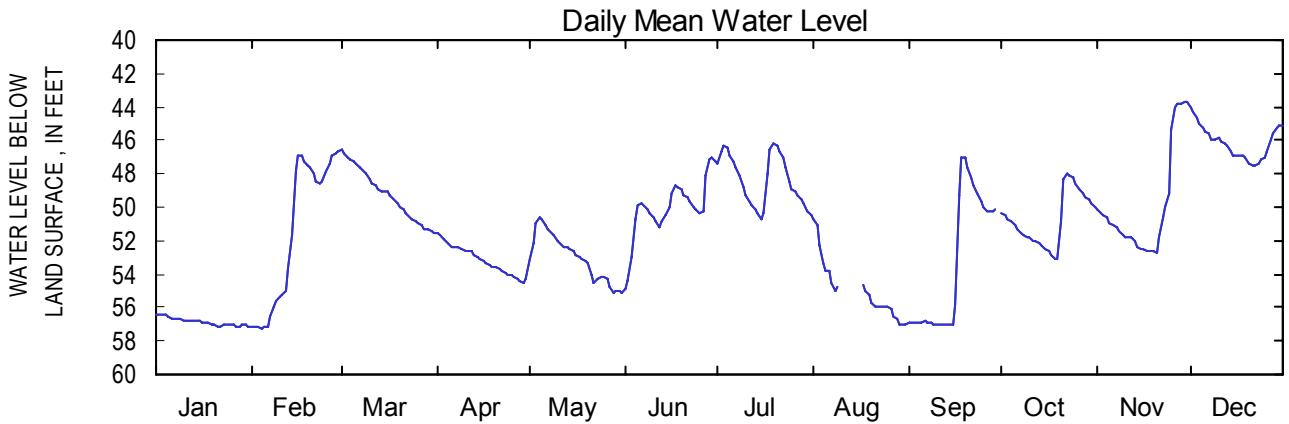


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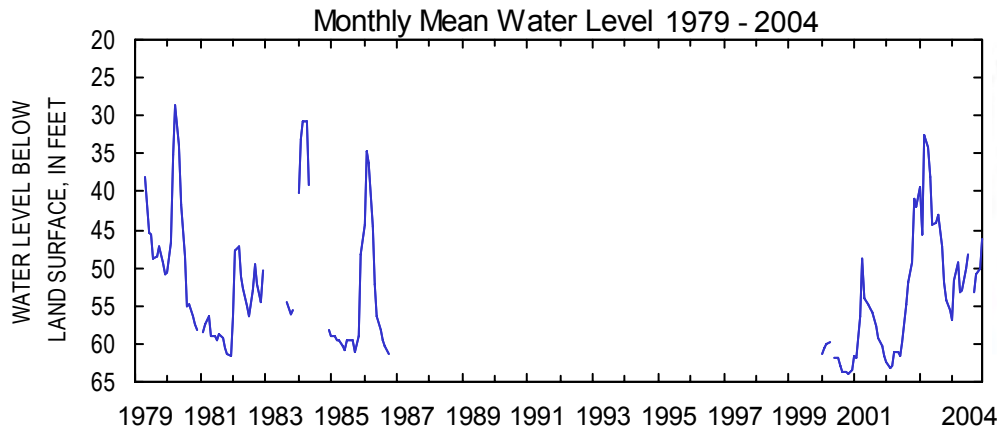
Site Name: 06G006

Latitude: 31° 04' 27" Longitude: 084° 59' 11" EARLY Period of Record: 1979 - 2004
 Well Depth: 123 feet Datum: 152 feet Well Diameter 4 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	56.84	51.55	49.23	53.14	53.00	50.04	48.39	53.35	50.75	49.98	46.11	
Max	57.11	57.21	51.49	54.55	55.13	54.87	50.72	57.00	53.15	52.78	47.50	
Min	56.42	46.64	46.60	51.60	50.59	47.07	46.20	47.01	47.93	43.71	44.03	
1979 - 2004												
Mean	53.35	51.07	47.89	47.79	49.46	53.70	54.26	55.05	55.05	55.80	55.62	53.78
Max	62.82	63.32	63.32	62.73	62.11	62.28	62.48	63.43	63.78	63.88	64.14	64.05
Min	32.43	29.36	25.91	23.43	31.30	36.45	40.89	40.80	42.61	44.00	35.21	35.08



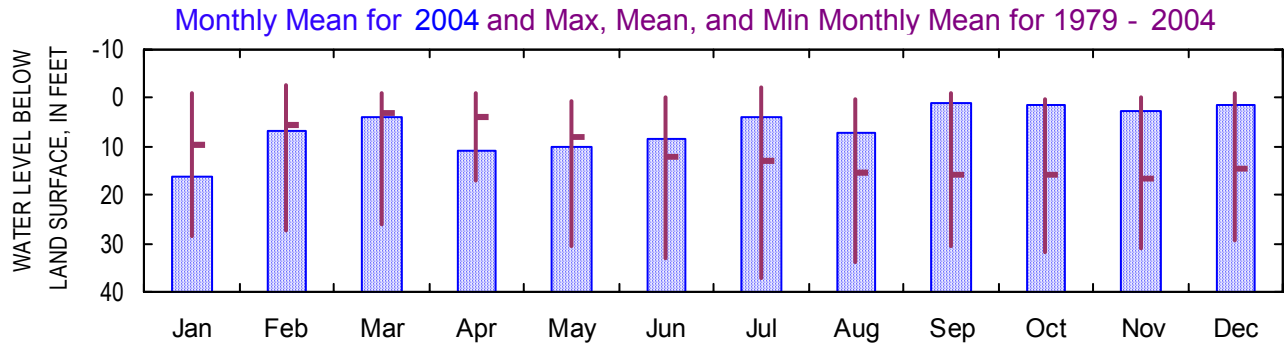
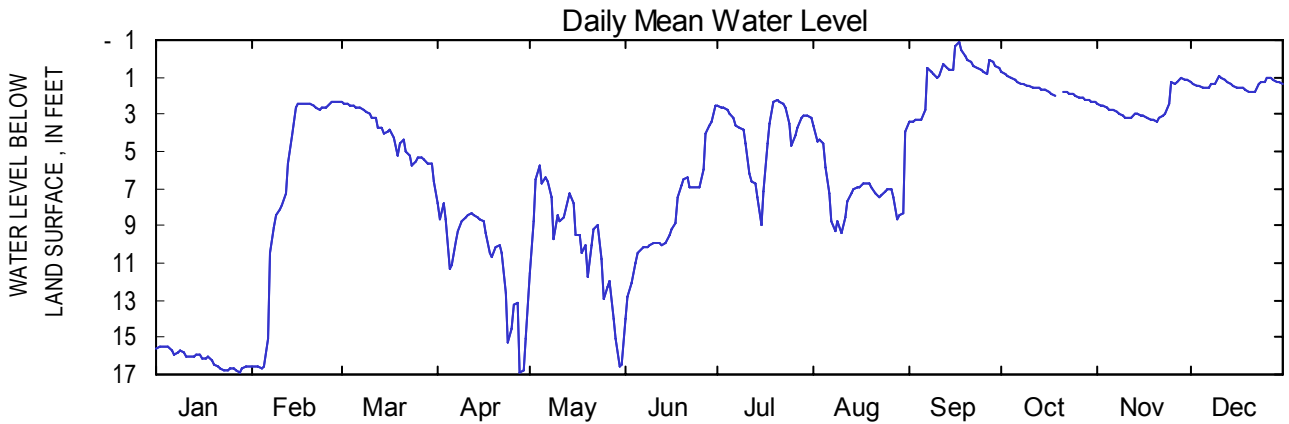


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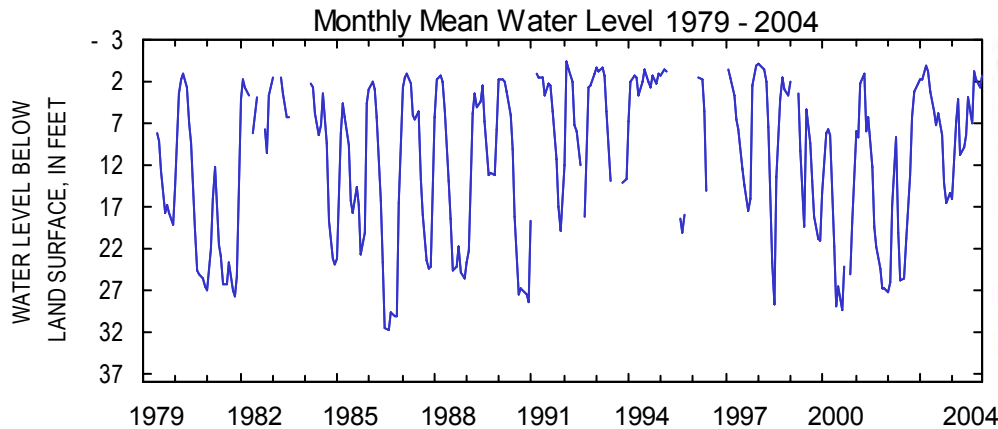
Site Name: 08K001

Latitude: 31° 22' 38" Longitude: 084° 39' 17" EARLY Period of Record: 1979 - 2004
Well Depth: 125 feet Datum: 230 feet Well Diameter 4 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	16.17	6.77	4.05	10.73	9.90	8.42	4.00	7.03	0.92	1.65	2.60	1.39
Max	16.85	16.65	6.59	16.88	16.52	13.95	9.01	9.39	3.41	2.37	3.35	1.82
Min	15.52	2.31	2.35	7.79	5.76	2.58	2.26	3.59	-0.84	0.69	1.01	0.97
1979 - 2004												
Mean	9.50	5.55	3.32	3.81	8.09	12.18	13.08	15.44	15.79	15.99	16.51	14.39
Max	28.69	27.34	26.02	16.88	30.74	32.85	37.10	34.00	30.54	31.93	30.79	29.35
Min	-0.97	-2.46	-1.16	-0.89	0.69	-0.14	-2.14	0.36	-0.84	0.07	-0.23	-0.92



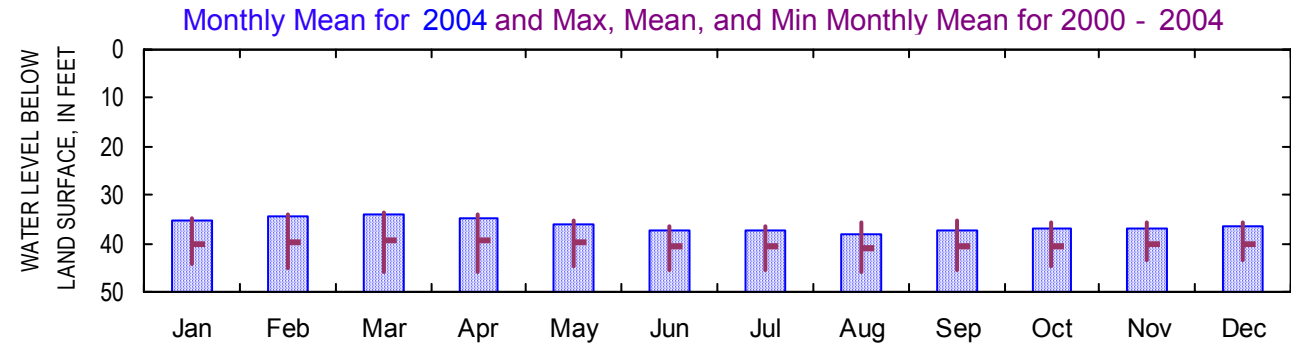
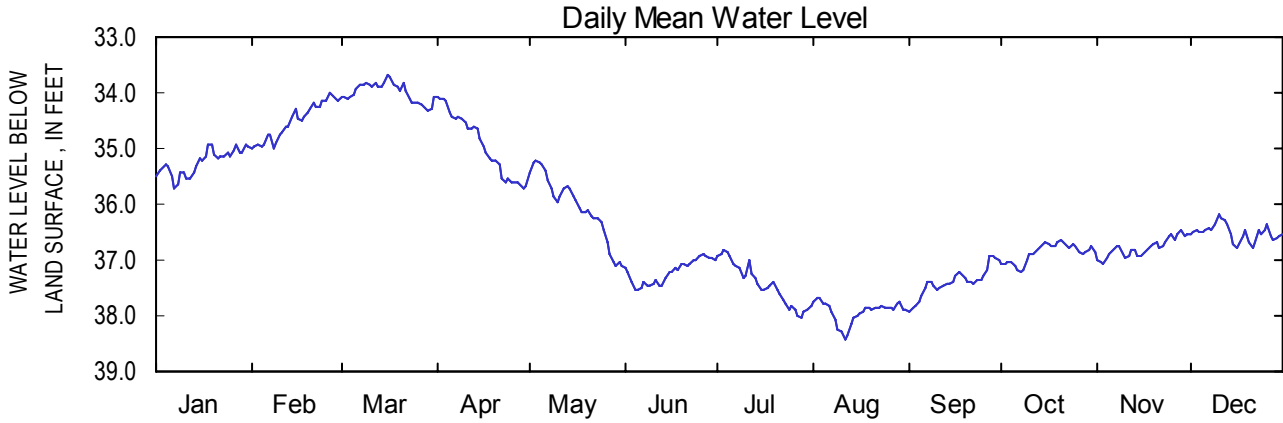


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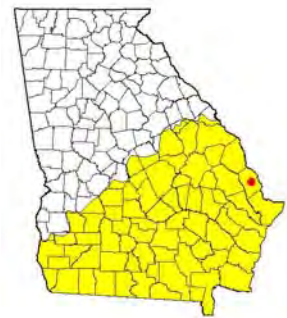
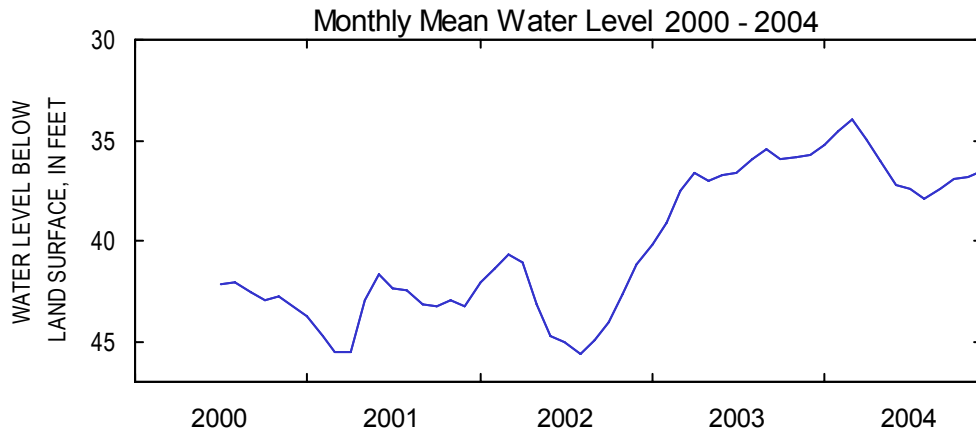
322236081191001

Site Name: 35T003

Latitude: 32° 22' 36" Longitude: 081° 19' 10" EFFINGHAM Period of Record: 2000 - 2004
 Well Depth: 429 feet Datum: 40 feet Well Diameter 8.0 inches



Monthly Water-Level Statistics												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	35.24	34.51	33.99	34.93	36.05	37.21	37.44	37.93	37.39	36.87	36.78	36.52
Max	35.71	35.00	34.31	35.70	37.11	37.53	38.03	38.41	37.93	37.23	37.06	36.80
Min	34.91	34.00	33.67	34.08	35.20	36.89	36.82	37.69	36.92	36.64	36.45	36.19
2000 - 2004												
Mean	40.30	39.87	39.42	39.52	39.80	40.43	40.72	40.78	40.70	40.61	40.20	39.99
Max	44.43	45.07	46.10	46.10	44.86	45.39	45.46	46.01	45.38	44.76	43.50	43.58
Min	34.91	34.00	33.67	34.08	35.20	36.29	36.36	35.62	35.26	35.69	35.71	35.50



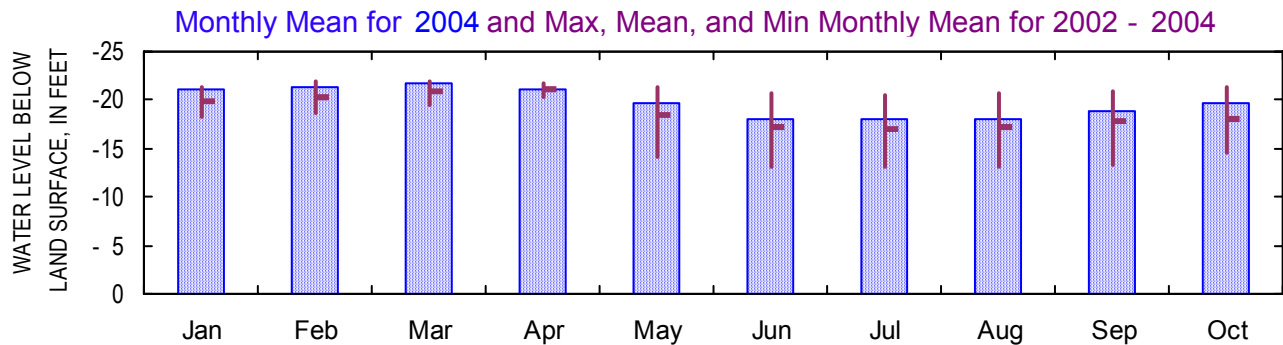
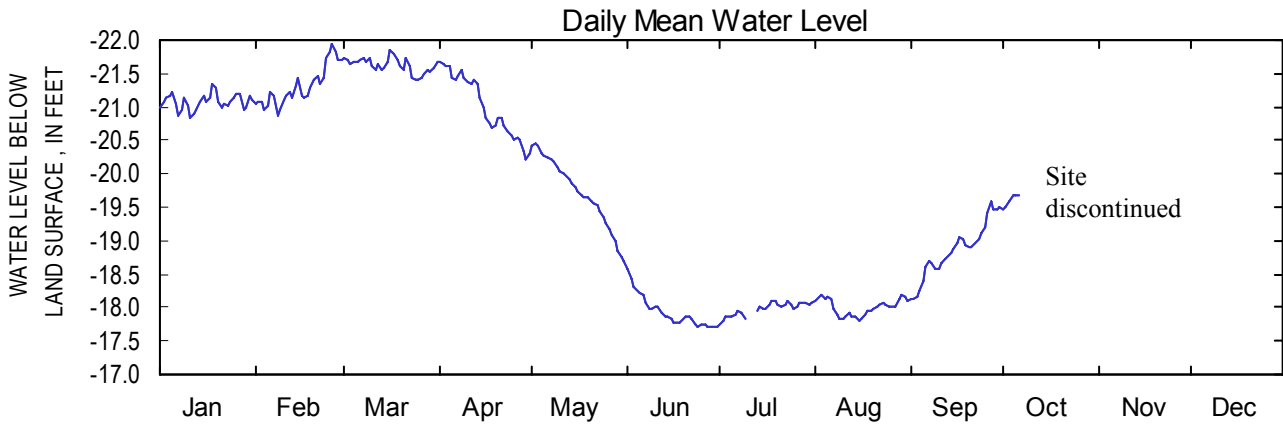


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2004 Calendar Year**

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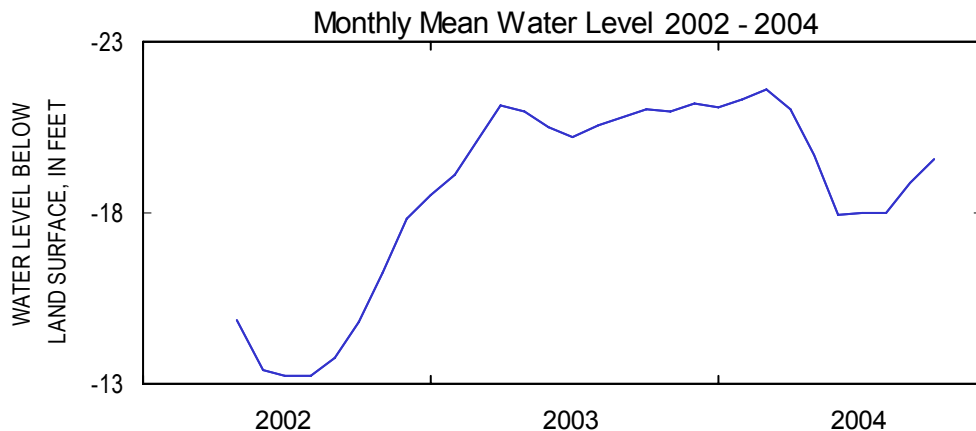
Site Name: 32H048

Latitude: 31° 12' 24" Longitude: 081° 40' 38" GLYNN Period of Record: 2002 - 2004
 Well Depth: 720 feet Datum: 9 feet Well Diameter 4 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	-21.08	-21.31	-21.62	-21.02	-19.71	-17.94	-17.98	-18.00	-18.85	-19.60	2.70	2.78
Max	-20.85	-20.86	-21.41	-20.22	-18.71	-17.70	-17.74	-17.80	-18.12	-19.48	3.04	3.11
Min	-21.35	-21.93	-21.87	-21.66	-20.45	-18.58	-18.10	-18.20	-19.59	-19.68	2.32	2.39
2002 - 2004												
Mean	-19.79	-20.23	-20.85	-21.08	-18.51	-17.28	-17.11	-17.25	-17.80	-18.06	-18.62	-19.51
Max	-18.33	-18.60	-19.50	-20.22	-14.21	-13.04	-13.10	-13.09	-13.34	-14.45	-15.10	-17.31
Min	-21.35	-21.93	-21.87	-21.66	-21.27	-20.77	-20.42	-20.74	-20.99	-21.27	-21.19	-21.46



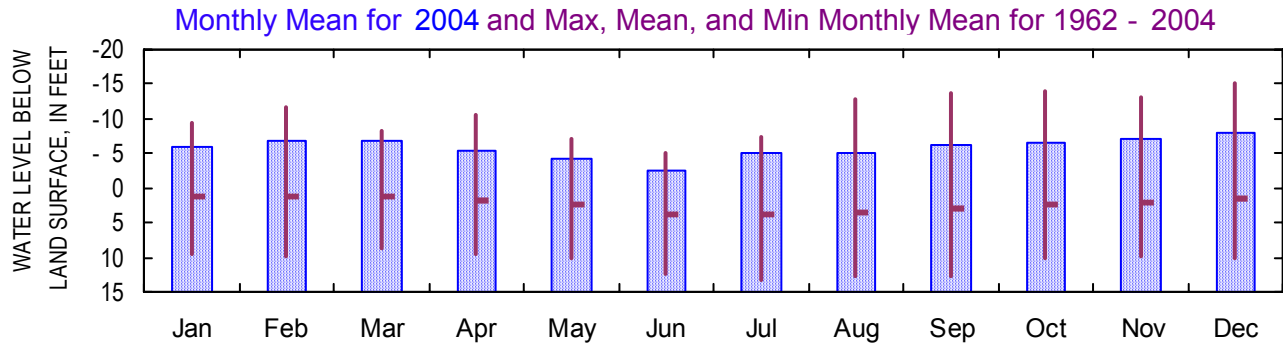
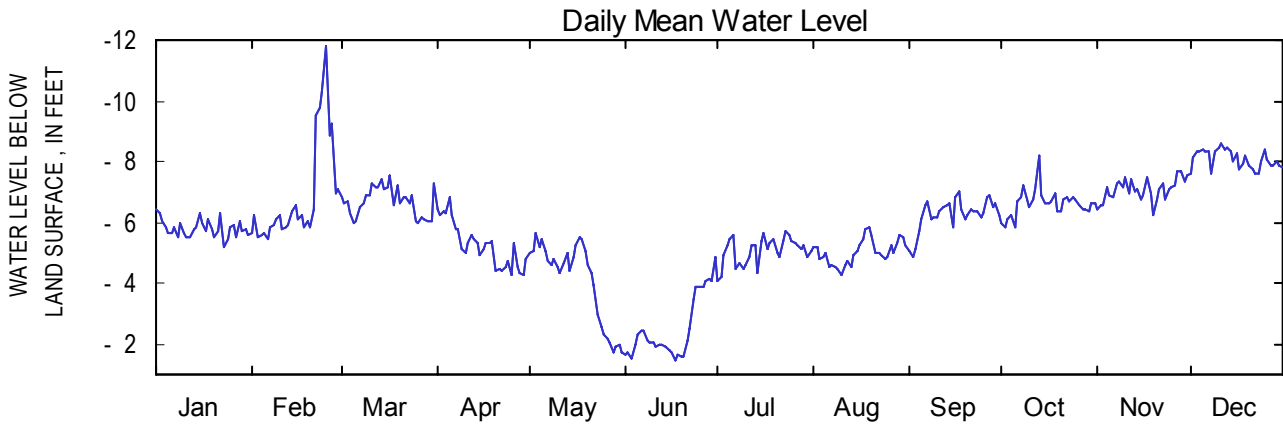


UPPER FLORIDAN AQUIFER 2004 Calendar Year

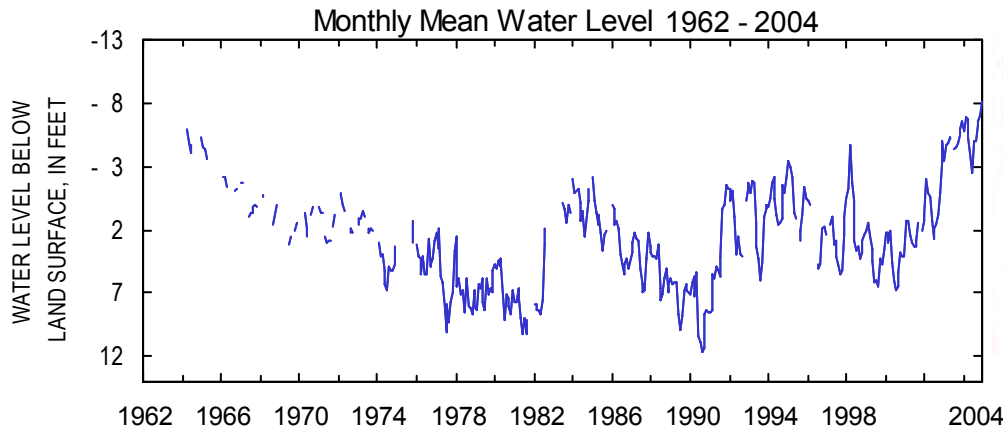
311007081301701

Site Name: 33H127

Latitude: 31° 10' 06" Longitude: 081° 30' 16" GLYNN Period of Record: 1962 - 2004
 Well Depth: 952 feet Datum: 6.15 feet Well Diameter 7.0 inches



Monthly Water-Level Statistics												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	-5.81	-6.86	-6.69	-5.26	-4.10	-2.49	-5.07	-5.03	-6.26	-6.63	-7.07	-8.08
Max	-5.19	-5.47	-5.97	-4.28	-1.73	-1.43	-4.06	-4.30	-4.87	-5.83	-6.26	-7.58
Min	-6.45	-11.80	-7.54	-6.82	-5.66	-4.88	-5.73	-5.82	-7.05	-8.23	-7.70	-8.58
1962 - 2004												
Mean	1.27	1.36	1.23	1.67	2.39	3.88	3.94	3.48	3.05	2.39	2.00	1.53
Max	9.58	9.88	8.78	9.46	10.00	12.38	13.22	12.74	12.64	10.10	9.80	10.03
Min	-9.50	-11.80	-8.36	-10.50	-7.00	-4.95	-7.30	-12.70	-13.60	-14.00	-13.00	-15.00



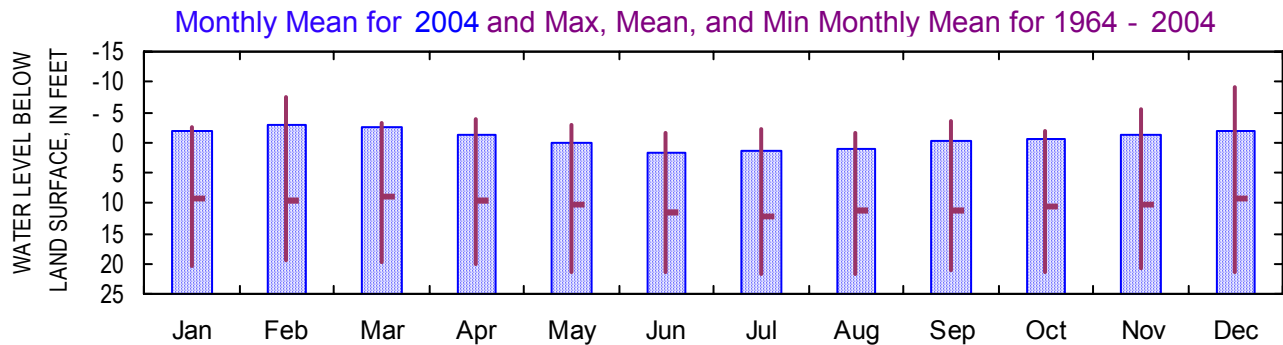
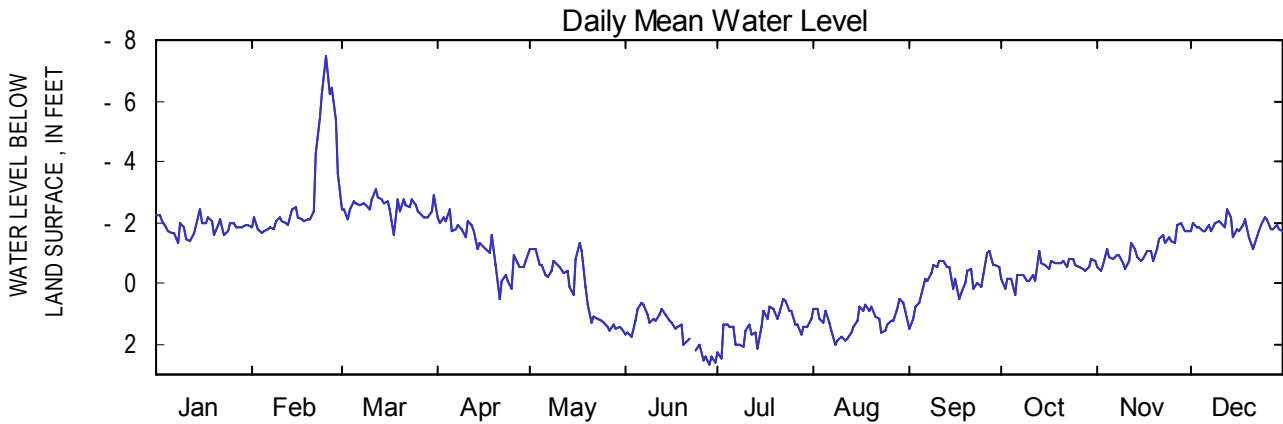


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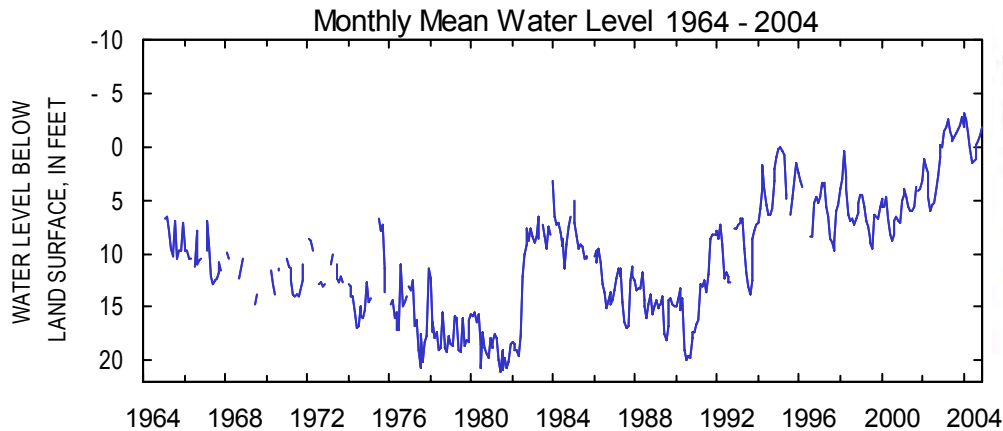
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Site Name: 33H133

Latitude: 31° 10' 06" Longitude: 081° 30' 16" GLYNN Period of Record: 1964 - 2004
 Well Depth: 790 feet Datum: 6.71 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	-1.86	-3.02	-2.53	-1.21	0.16	1.57	1.40	1.22	-0.12	-0.44	-1.09	-1.83
Max	-1.35	-1.64	-1.57	0.50	1.53	2.67	2.46	2.03	1.50	0.39	-0.39	-1.15
Min	-2.44	-7.45	-3.12	-2.44	-1.30	0.67	0.53	0.49	-1.07	-1.05	-1.96	-2.41
1964 - 2004												
Mean	9.32	9.47	9.03	9.54	10.31	11.68	12.06	11.19	11.16	10.55	10.20	9.11
Max	20.37	19.40	19.79	20.20	21.25	21.50	21.87	21.63	20.97	21.28	20.71	21.30
Min	-2.44	-7.45	-3.25	-3.96	-2.71	-1.43	-2.10	-1.56	-3.44	-1.95	-5.61	-9.07



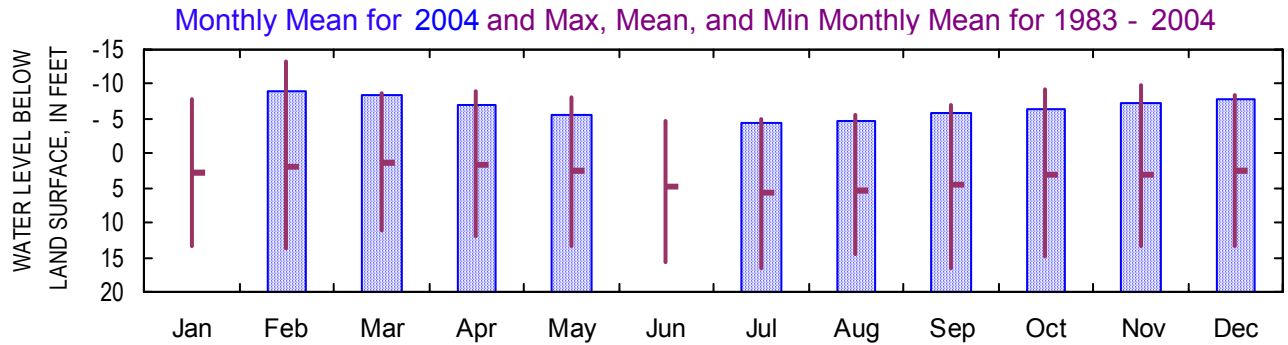
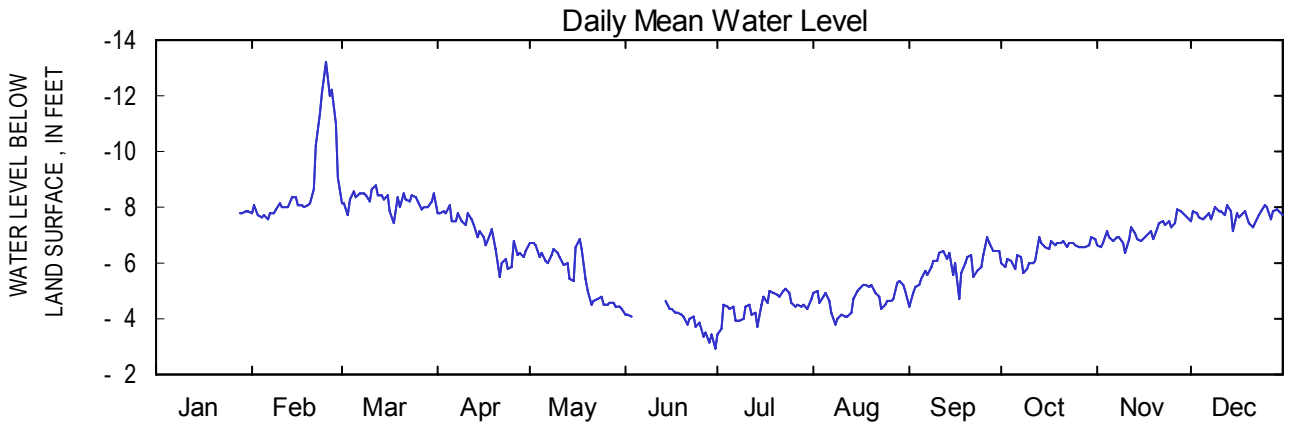


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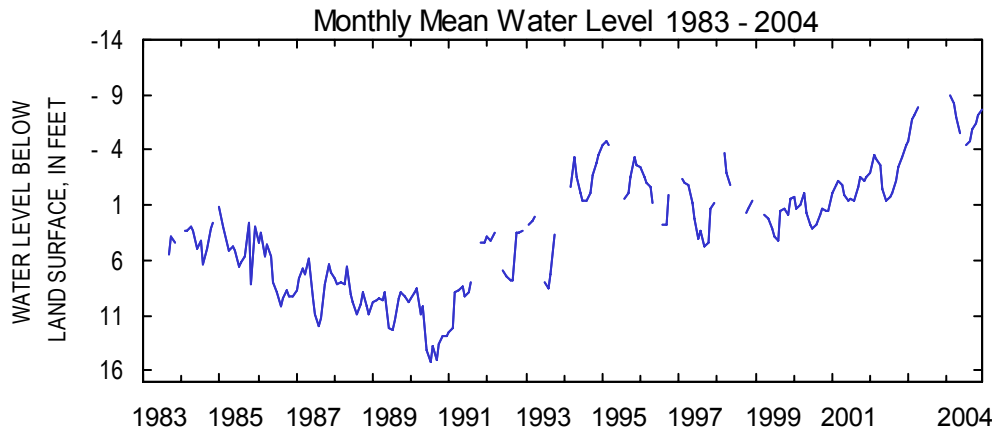
Site Name: 33H207

Latitude: 31° 09' 25" Longitude: 081° 31' 22" GLYNN Period of Record: 1983 - 2004
 Well Depth: 720 feet Datum: 7.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	-8.93	-8.26	-6.98	-5.58	-4.44	-4.72	-5.88	-6.42	-7.11	-7.73		
Max	-7.54	-7.43	-5.53	-4.35	-3.42	-3.80	-4.40	-5.66	-6.37	-7.13		
Min	-13.19	-8.81	-8.07	-6.84	-5.08	-5.39	-6.90	-6.93	-7.93	-8.10		
1983 - 2004												
Mean	2.73	1.92	1.49	1.78	2.62	4.92	5.64	5.47	4.60	3.05	2.94	2.57
Max	13.30	13.78	11.14	11.90	13.27	15.68	16.42	14.67	16.57	14.79	13.49	13.47
Min	-7.85	-13.19	-8.81	-8.95	-8.16	-4.62	-5.08	-5.39	-6.90	-9.22	-9.86	-8.34



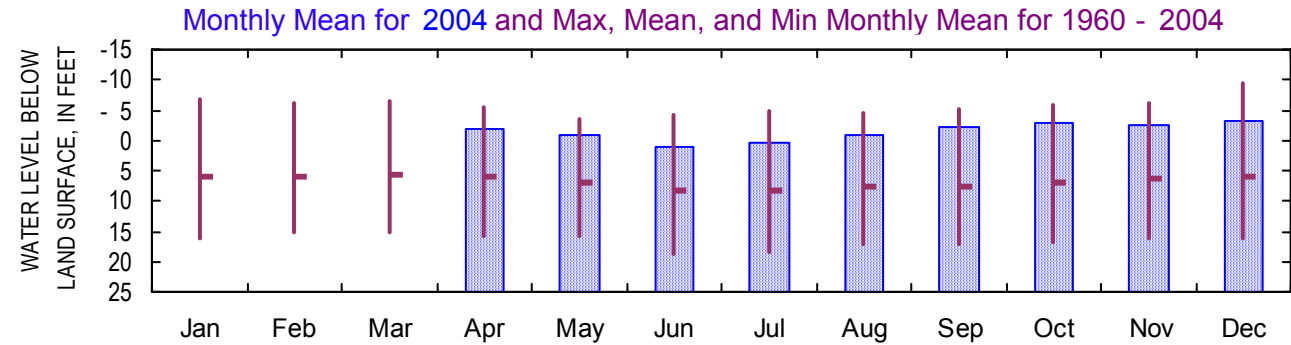
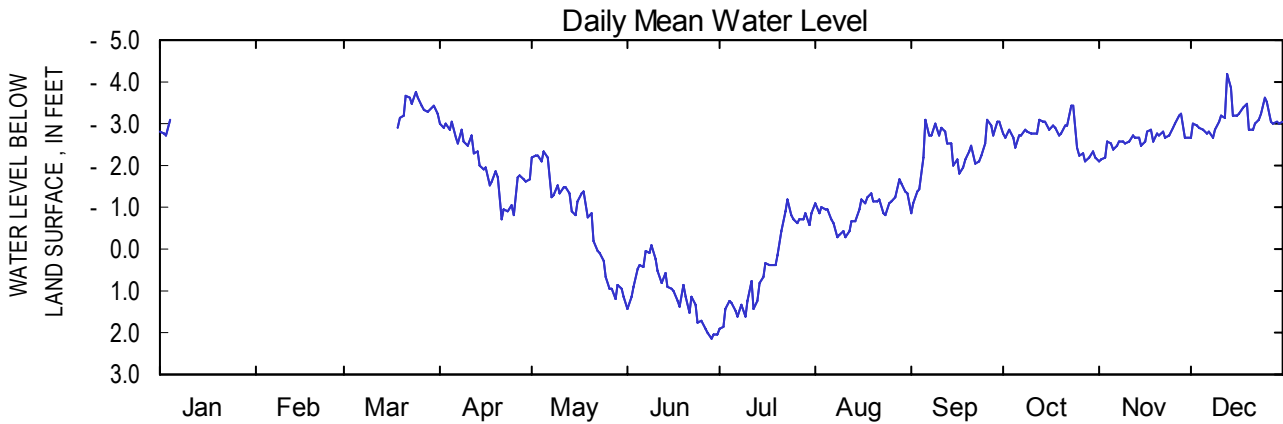


UPPER FLORIDAN AQUIFER 2004 Calendar Year

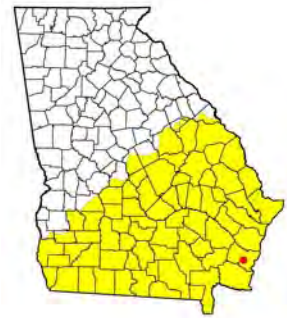
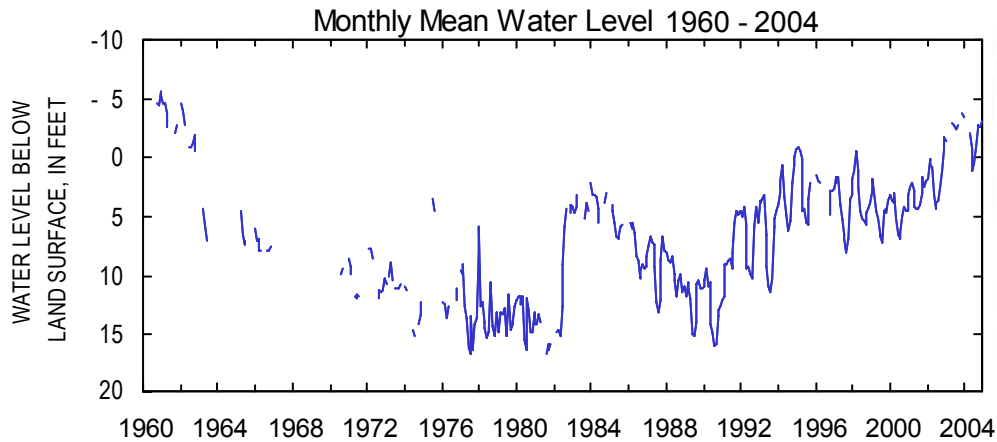
310906081293201

Site Name: 34H125

Latitude: 31° 09' 06" Longitude: 081° 29' 31" GLYNN Period of Record: 1960 - 2004
 Well Depth: 604 feet Datum: 11.57 feet Well Diameter 3.0 inches



Monthly Water-Level Statistics												
2004												
Mean	-2.02	-0.75	1.07	0.42	-0.96	-2.36	-2.73	-2.64	-3.12			
Max	-0.73	1.18	2.15	1.90	-0.28	-0.88	-2.09	-2.10	-2.68			
Min	-3.03	-2.33	-0.09	-1.17	-1.67	-3.09	-3.44	-3.22	-4.17			
1960 - 2004												
Mean	5.88	5.99	5.59	5.93	7.06	8.42	8.25	7.75	7.77	6.92	6.46	5.97
Max	16.15	15.20	15.25	15.85	15.89	18.68	18.50	17.10	17.20	16.77	16.30	16.02
Min	-6.80	-6.00	-6.40	-5.52	-3.62	-4.30	-5.00	-4.60	-5.10	-5.70	-6.25	-9.50



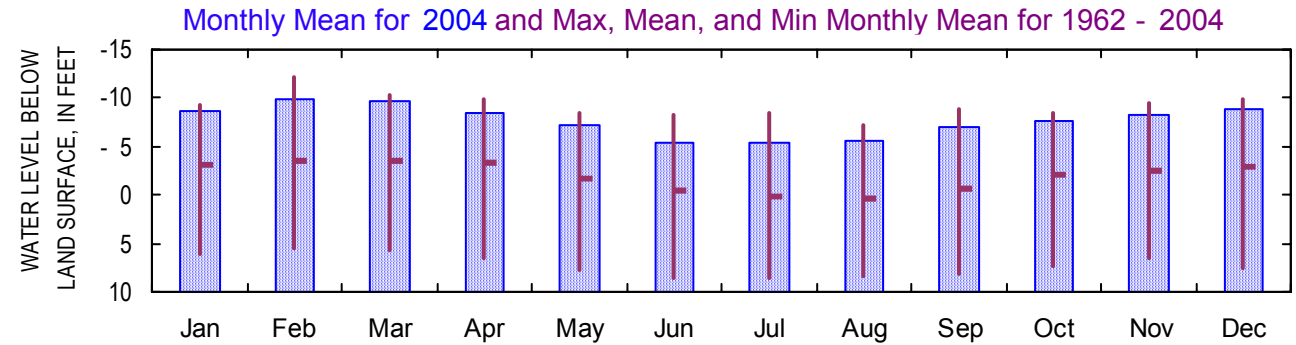
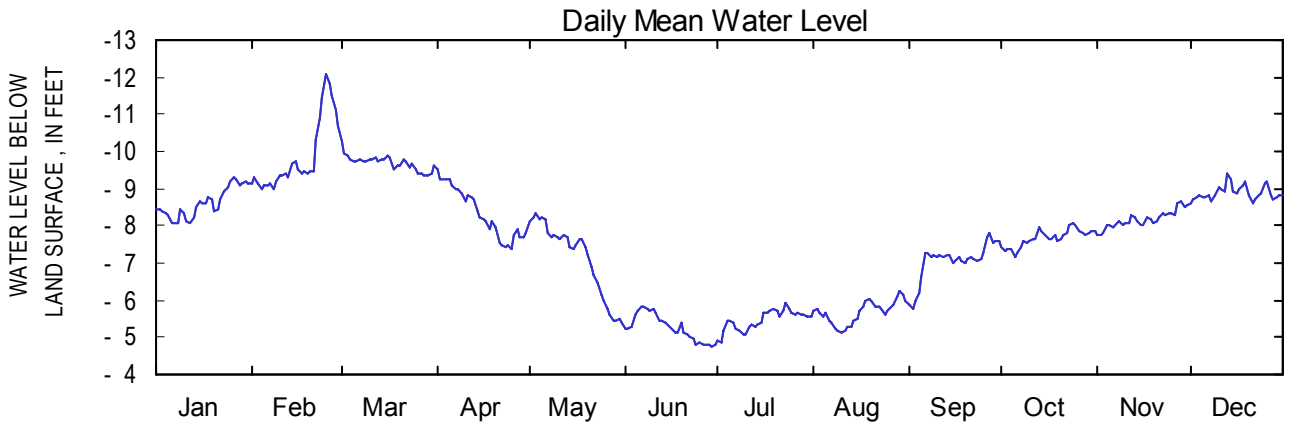


**UPPER FLORIDAN AQUIFER
2004 Calendar Year**

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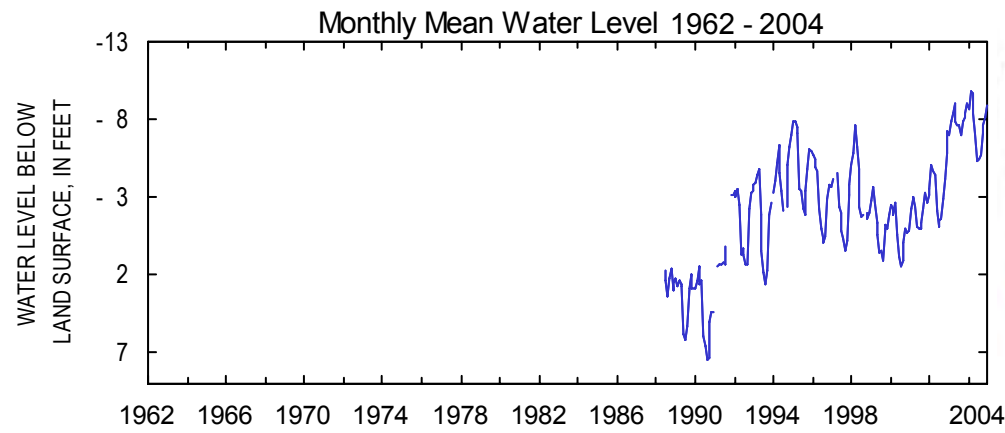
Site Name: 34H334

Latitude: 31° 09' 38" Longitude: 081° 28' 53" GLYNN Period of Record: 1962 - 2004
 Well Depth: 980 feet Datum: 8.33 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	-8.61	-9.84	-9.70	-8.35	-7.12	-5.27	-5.46	-5.67	-7.05	-7.67	-8.17	-8.89
Max	-8.05	-8.98	-9.36	-7.39	-5.40	-4.77	-4.88	-5.12	-5.78	-7.16	-7.74	-8.60
Min	-9.31	-12.10	-10.27	-9.50	-8.35	-5.84	-5.92	-6.26	-7.78	-8.08	-8.65	-9.39
1962 - 2004												
Mean	-3.13	-3.59	-3.59	-3.27	-1.66	-0.37	0.09	0.29	-0.65	-2.14	-2.52	-2.93
Max	6.17	5.50	5.74	6.58	7.70	8.65	8.62	8.44	8.19	7.25	6.59	7.51
Min	-9.31	-12.10	-10.27	-9.92	-8.48	-8.29	-8.49	-7.17	-8.85	-8.40	-9.38	-9.81



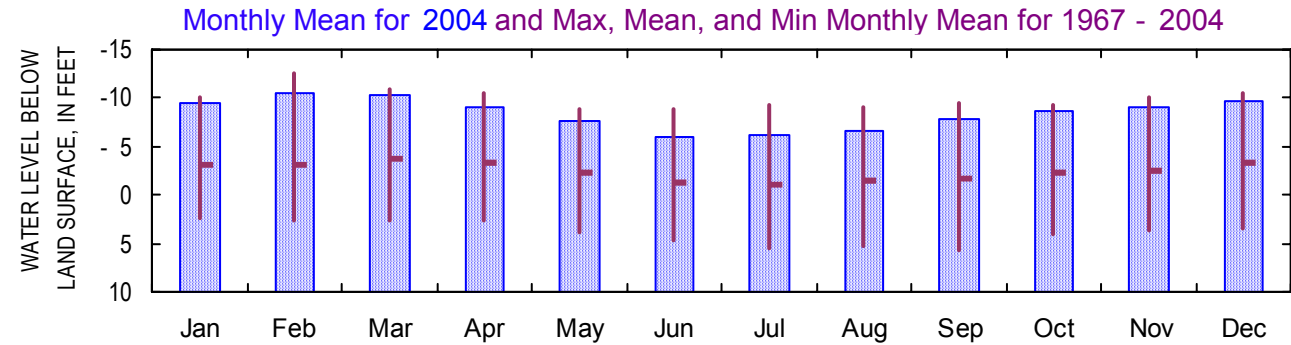
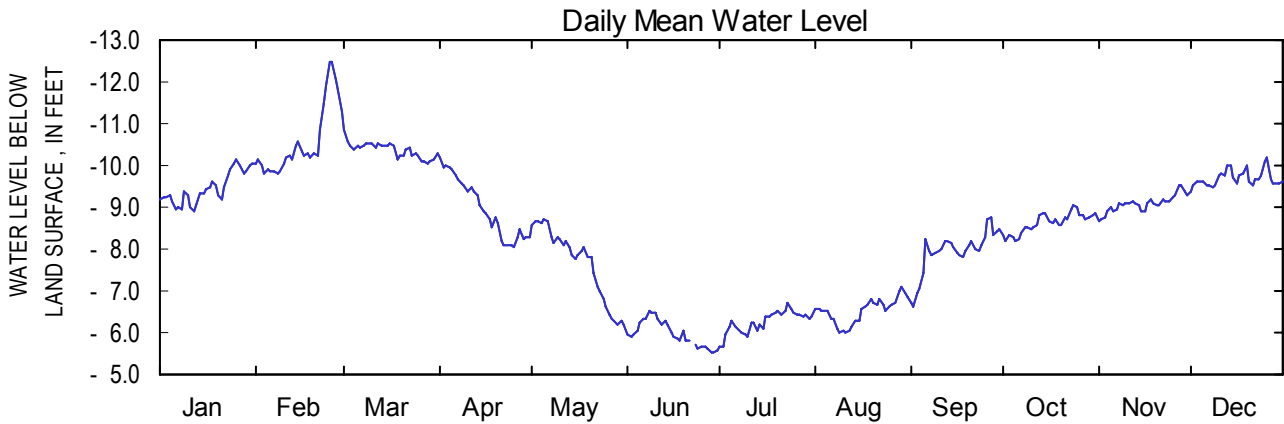


**UPPER FLORIDAN AQUIFER
2004 Calendar Year**

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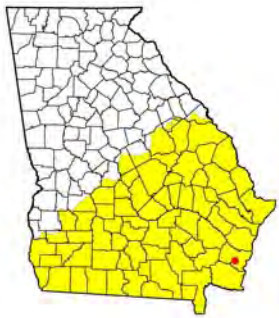
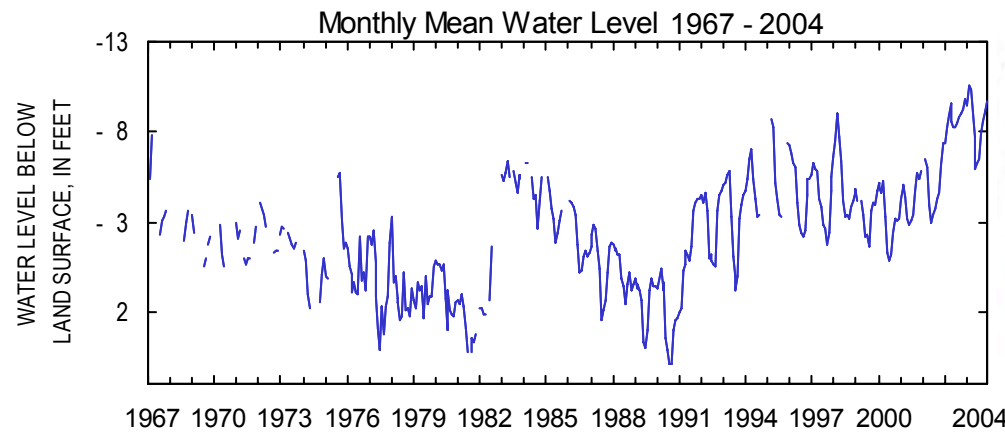
Site Name: 34H371

Latitude: 31° 08' 18" Longitude: 081° 29' 36" GLYNN Period of Record: 1967 - 2004
 Well Depth: 700 feet Datum: 9.49 feet Well Diameter 2.0 inches



Monthly Water-Level Statistics

2004												
Mean	-9.44	-10.58	-10.38	-8.98	-7.65	-5.98	-6.25	-6.53	-7.93	-8.63	-9.09	-9.69
Max	-8.91	-9.79	-10.04	-8.04	-6.17	-5.53	-5.66	-6.00	-6.61	-8.18	-8.68	-9.36
Min	-10.16	-12.49	-10.86	-10.18	-8.73	-6.53	-6.71	-7.10	-8.77	-9.06	-9.53	-10.18
1967 - 2004												
Mean	-3.11	-3.21	-3.73	-3.23	-2.36	-1.27	-1.05	-1.42	-1.67	-2.33	-2.56	-3.25
Max	2.47	2.58	2.54	2.71	3.90	4.64	5.40	5.36	5.64	4.09	3.62	3.49
Min	-10.16	-12.49	-10.86	-10.49	-8.95	-8.82	-9.21	-8.97	-9.56	-9.27	-10.09	-10.44



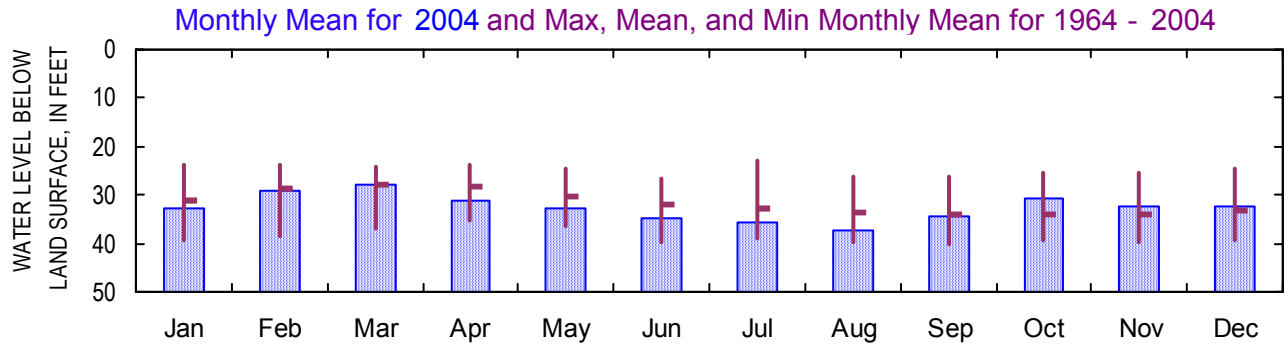
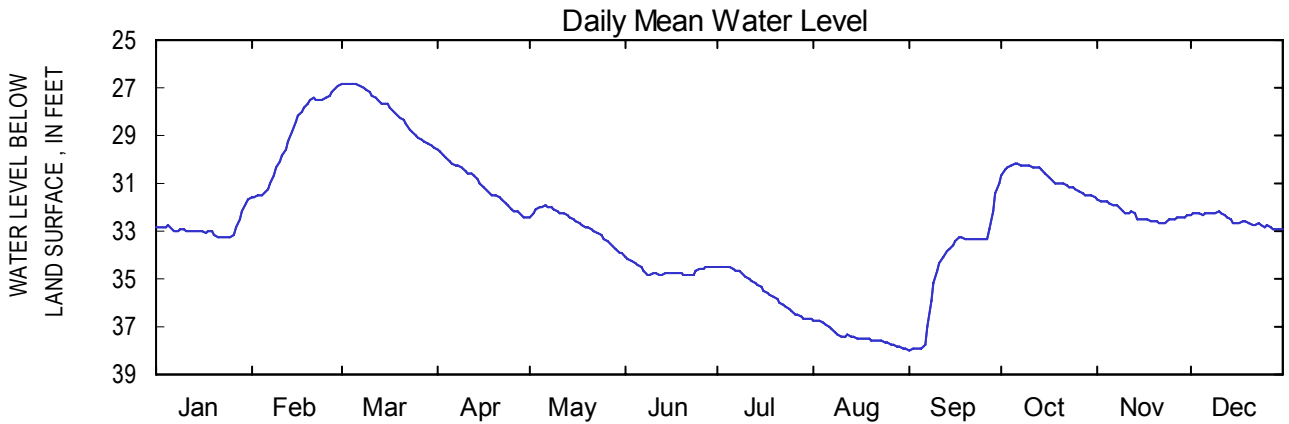


UPPER FLORIDAN AQUIFER 2004 Calendar Year

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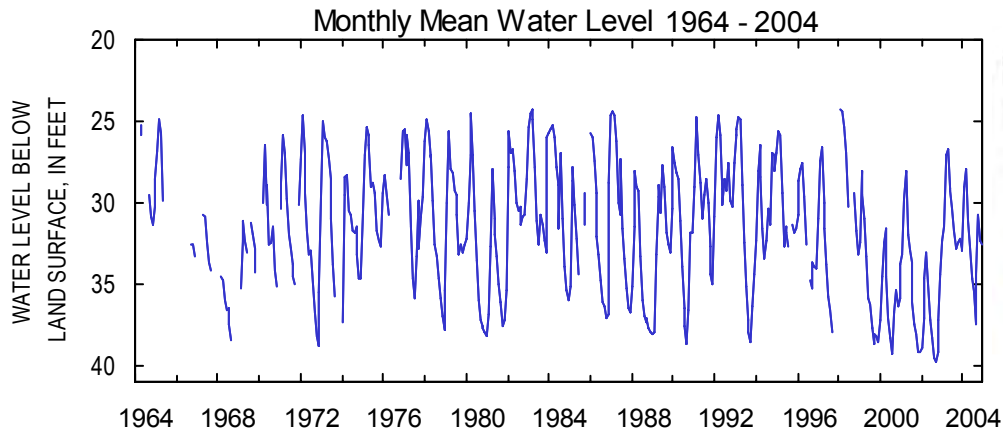
Site Name: 21T001

Latitude: 32 °27 '06" Longitude: 083° 03 '28" LAURENS Period of Record: 1964 - 2004
 Well Depth: 123 feet Datum: 259.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	32.89	29.03	27.93	31.05	32.71	34.63	35.50	37.41	34.46	30.78	32.29	32.55
Max	33.29	31.62	29.47	32.44	33.96	34.85	36.68	37.95	37.99	31.60	32.67	32.92
Min	31.70	26.94	26.82	29.58	31.96	34.05	34.46	36.71	30.96	30.18	31.67	32.19
1964 - 2004												
Mean	30.95	28.71	27.71	28.11	30.22	31.95	32.84	33.58	33.95	34.06	34.14	33.28
Max	39.32	38.39	36.96	35.41	36.34	39.90	39.08	39.92	40.13	39.46	39.58	39.28
Min	23.62	23.84	23.99	23.94	24.60	26.75	23.00	26.18	26.40	25.22	25.55	24.49



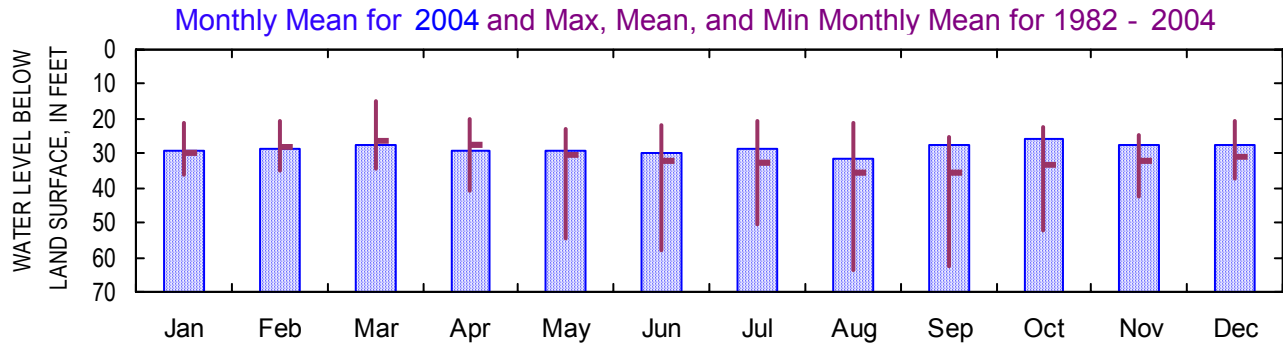
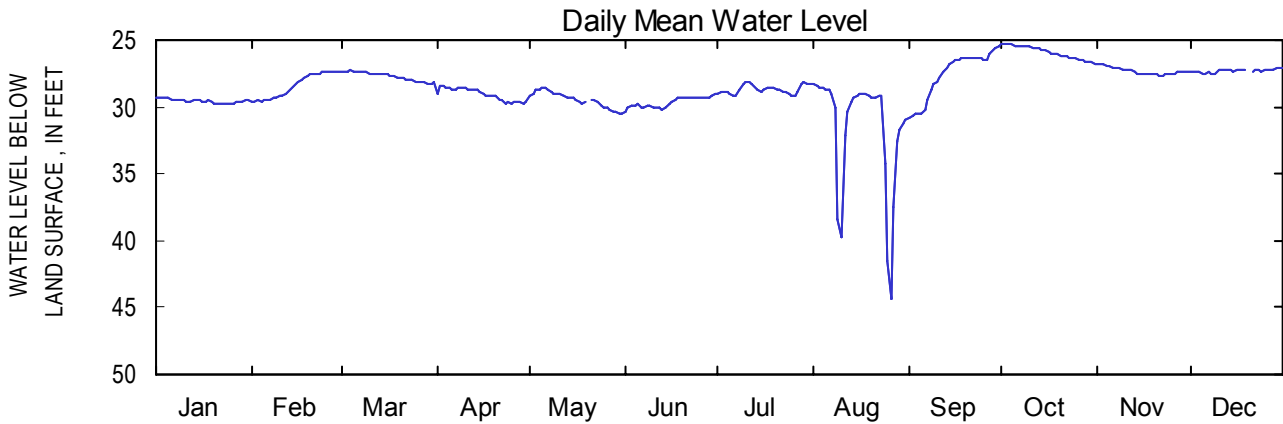


UPPER FLORIDAN AQUIFER 2004 Calendar Year

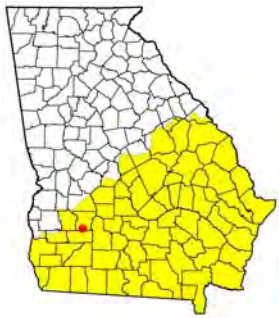
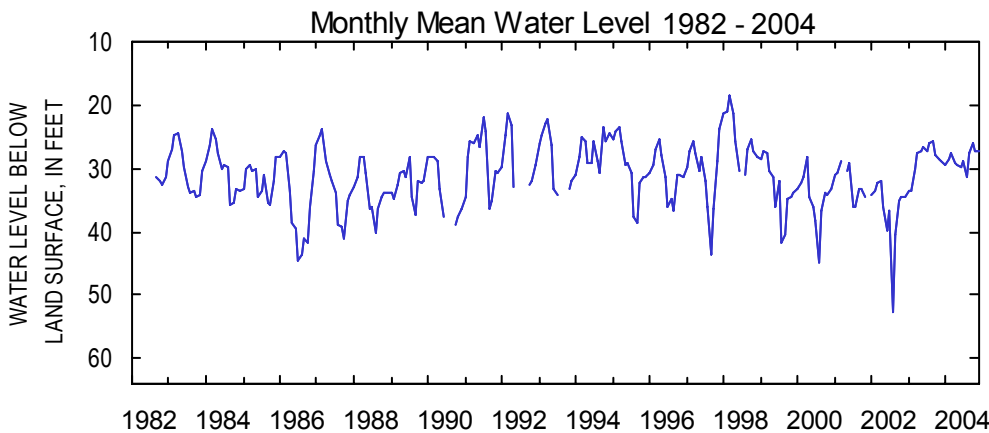
313808084093601

Site Name: 12M017

Latitude: 31° 38' 08" Longitude: 084° 09' 36" LEE Period of Record: 1982 - 2004
 Well Depth: 181 feet Datum: 225 feet Well Diameter 4 inches



Monthly Water-Level Statistics												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	29.53	28.42	27.71	29.05	29.45	29.67	28.70	31.49	27.56	25.91	27.31	27.30
Max	29.73	29.55	28.30	29.80	30.50	30.35	29.18	44.34	30.81	26.72	27.64	27.51
Min	29.25	27.38	27.29	28.45	28.59	29.02	28.18	28.33	25.40	25.29	26.77	27.11
1982 - 2004												
Mean	29.96	28.33	26.67	27.34	30.20	32.07	32.43	35.84	35.73	33.33	32.19	31.03
Max	36.12	35.18	34.25	40.91	54.74	58.04	50.56	63.76	62.38	52.01	42.47	37.05
Min	21.06	20.67	15.15	19.89	22.67	22.08	20.45	21.17	25.14	22.30	24.52	20.80



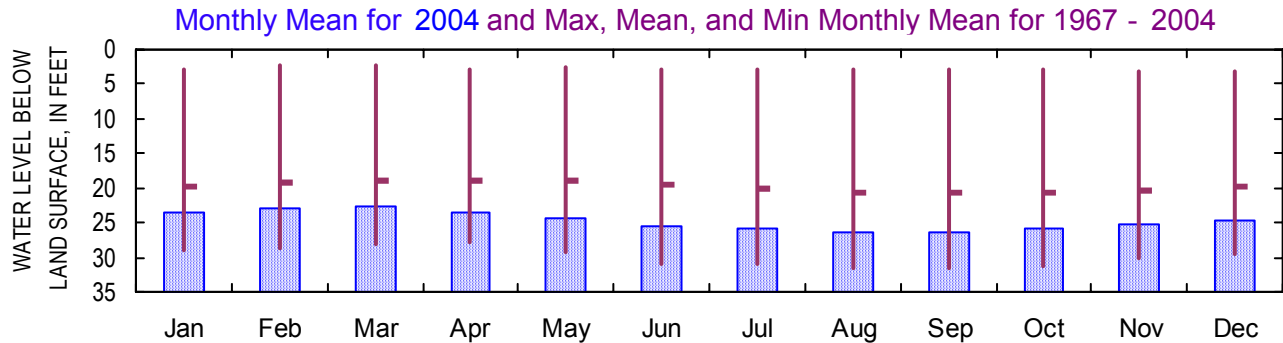
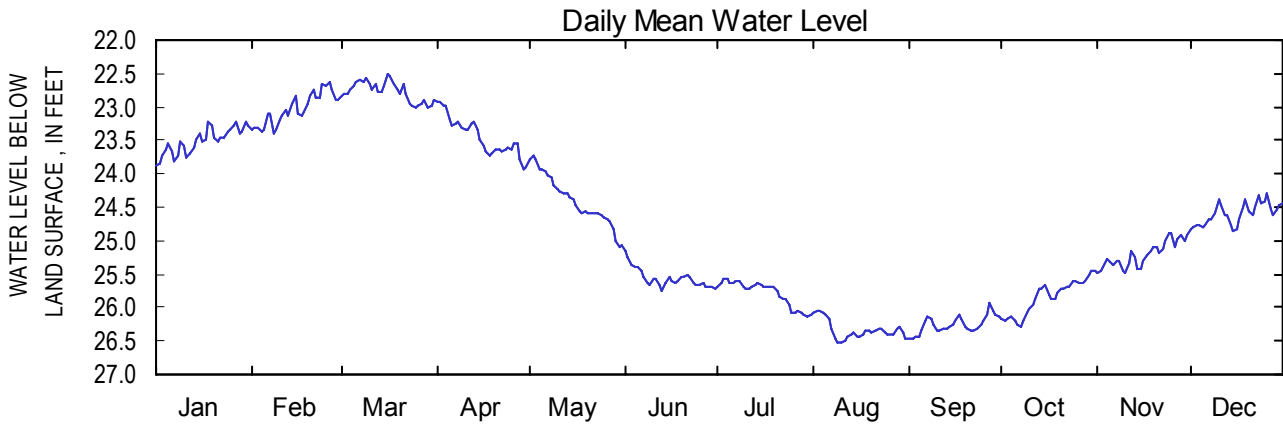


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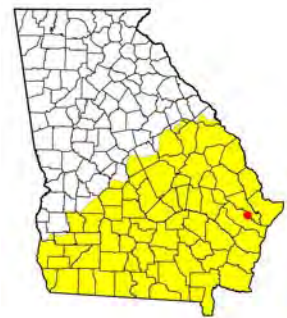
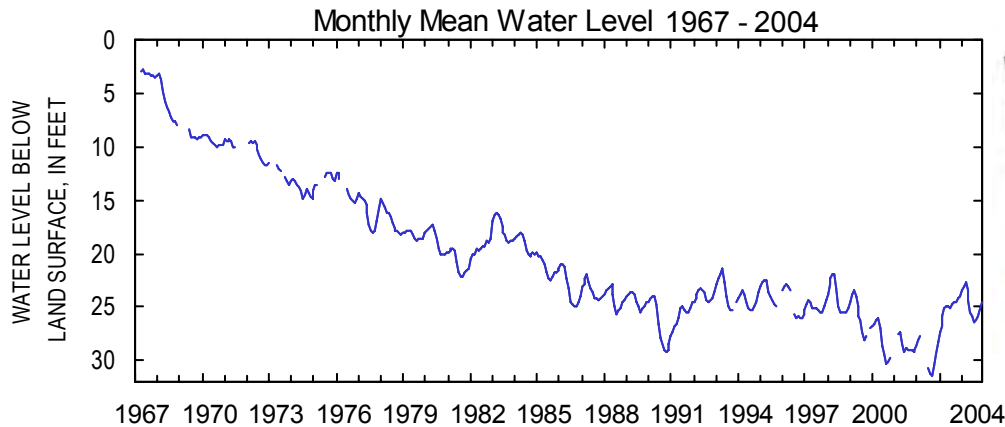
315214081235301

Site Name: 34N089

Latitude: 31° 52' 14" Longitude: 081° 23' 53" LIBERTY Period of Record: 1967 - 2004
 Well Depth: 789 feet Datum: 17.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics												
2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	23.51	23.03	22.77	23.44	24.40	25.56	25.79	26.34	26.25	25.85	25.21	24.60
Max	23.88	23.40	23.01	23.92	25.09	25.76	26.13	26.52	26.47	26.28	25.48	24.86
Min	23.22	22.62	22.49	22.91	23.73	25.15	25.57	26.04	25.92	25.46	24.89	24.30
1967 - 2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	19.68	19.24	19.01	18.94	18.87	19.65	20.13	20.67	20.73	20.74	20.40	19.93
Max	29.03	28.70	27.99	27.71	29.16	30.98	30.91	31.48	31.48	31.22	30.04	29.62
Min	2.90	2.37	2.34	2.80	2.50	3.00	2.97	2.97	2.95	3.00	3.15	3.20



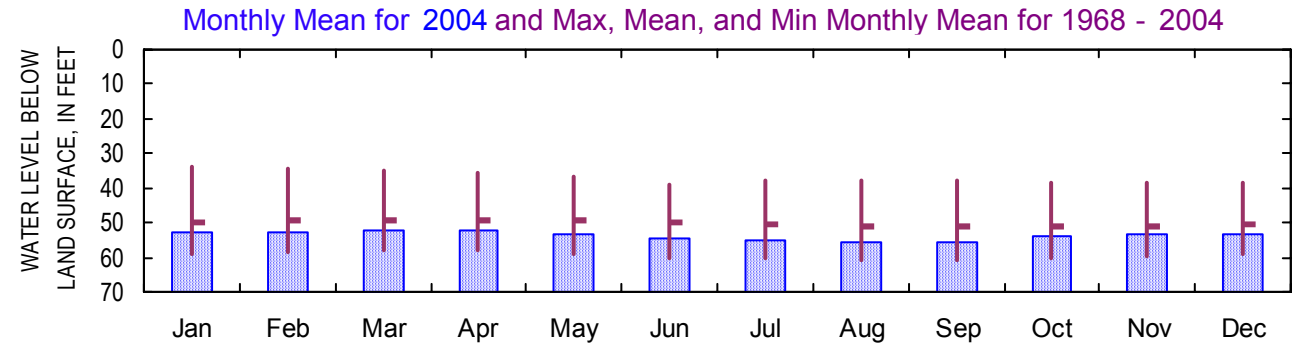
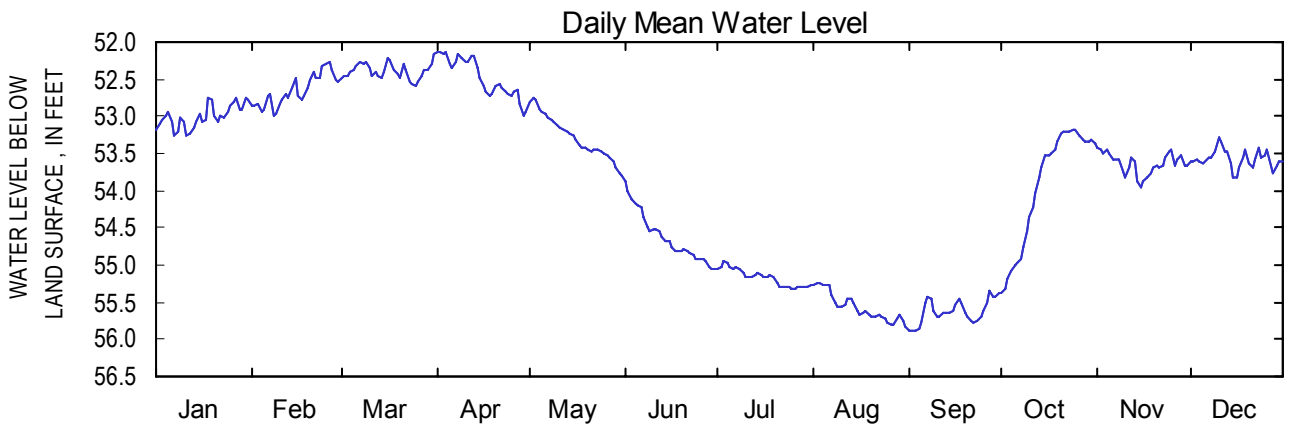


UPPER FLORIDAN AQUIFER 2004 Calendar Year

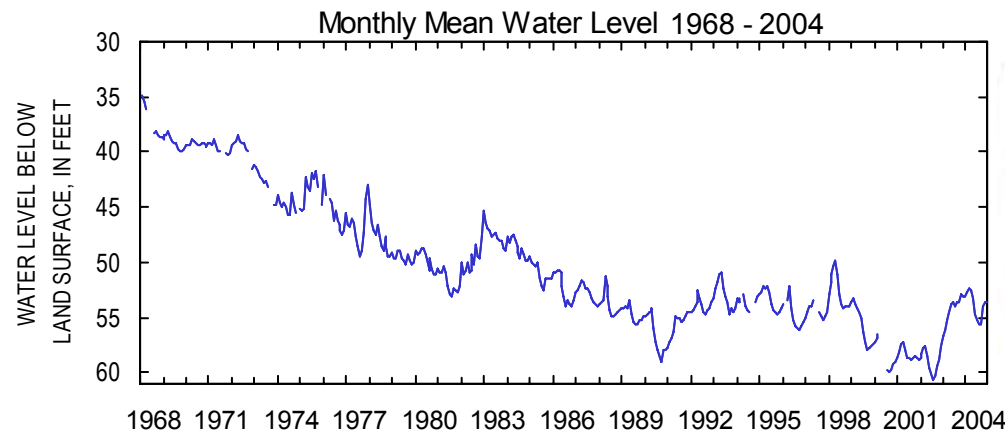
313845081361701

Site Name: 33M004

Latitude: 31° 38' 54" Longitude: 081° 36' 04" LONG Period of Record: 1968 - 2004
 Well Depth: 870 feet Datum: 61.24 feet Well Diameter 3.0 inches



Monthly Water-Level Statistics												
2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	53.00	52.65	52.39	52.47	53.28	54.63	55.17	55.57	55.62	53.93	53.63	53.58
Max	53.26	53.00	52.58	52.98	53.80	55.06	55.33	55.84	55.88	55.36	53.94	53.83
Min	52.74	52.27	52.16	52.13	52.76	53.88	54.96	55.23	55.36	53.17	53.42	53.27
1968 - 2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	49.69	49.60	49.53	49.06	49.30	50.11	50.52	51.07	51.14	50.97	51.03	50.68
Max	59.04	58.67	58.22	57.77	58.99	60.00	60.33	60.92	60.90	59.99	59.55	59.28
Min	34.04	34.60	35.07	35.73	36.56	38.75	37.78	38.12	37.82	38.34	38.38	38.47



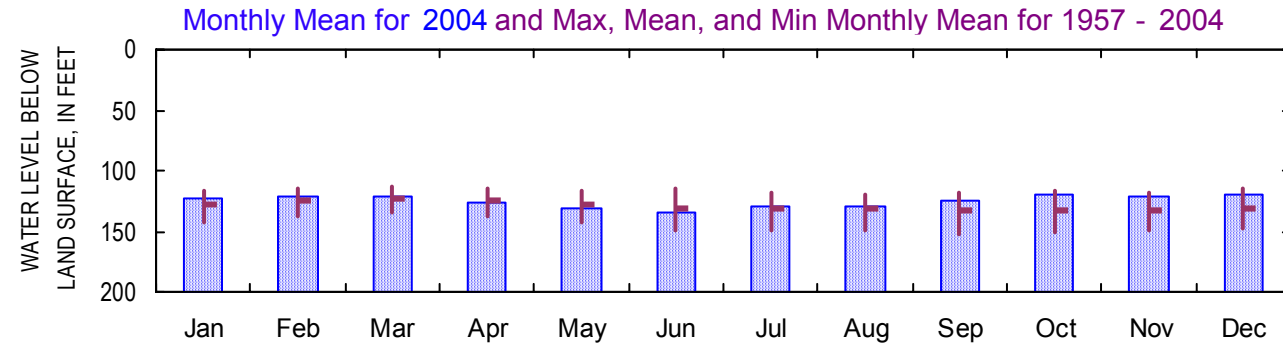
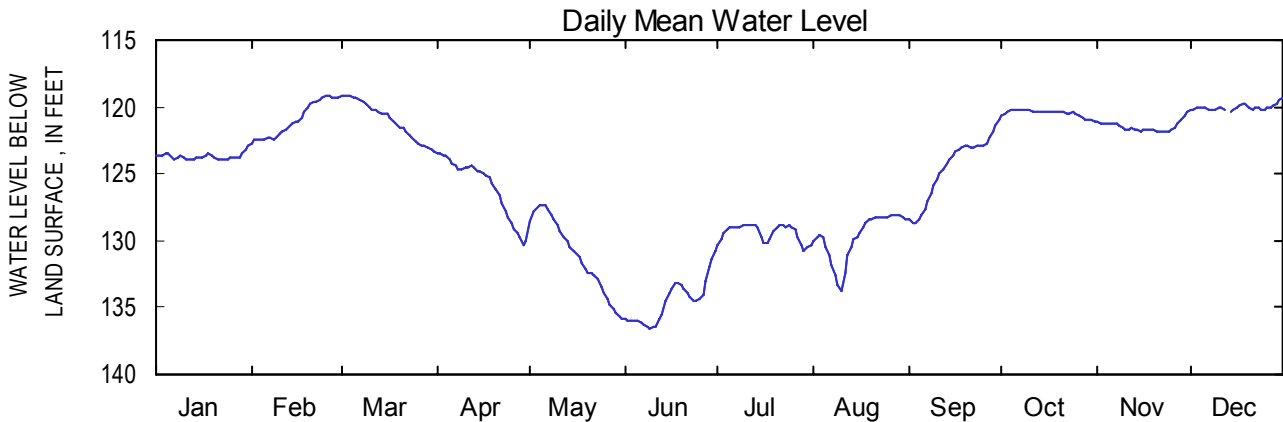


UPPER FLORIDAN AQUIFER 2004 Calendar Year

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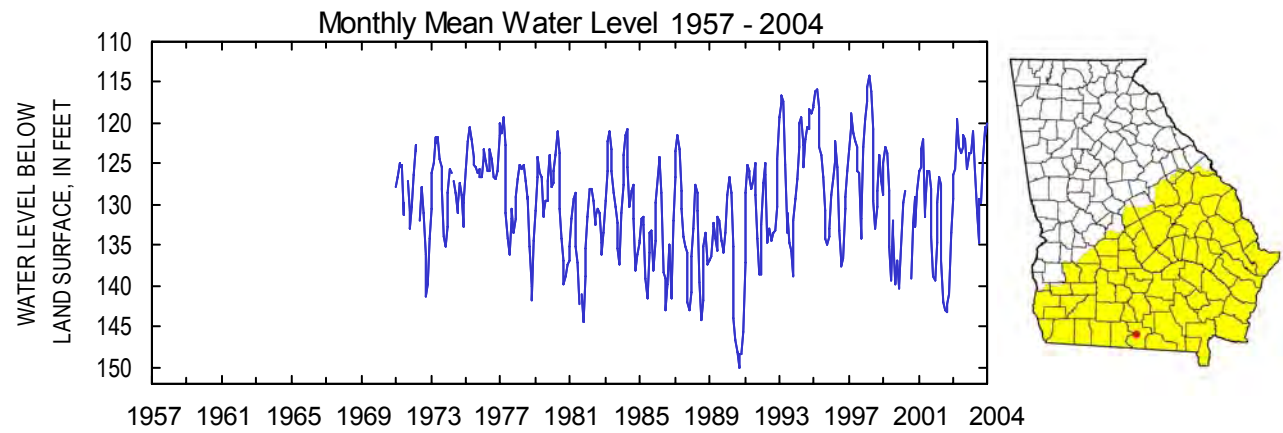
Site Name: 19E009

Latitude: 30° 49 ' 51" Longitude: 083° 16 ' 58" LOWNDES Period of Record: 1957 - 2004
Well Depth: 342 feet Datum: 213.00 feet Well Diameter 20.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	123.70	120.95	120.97	125.94	131.09	134.57	129.40	129.66	124.52	120.46	121.47	120.03
Max	123.96	122.68	123.28	130.28	135.82	136.54	130.74	133.74	128.75	121.04	121.84	120.30
Min	122.95	119.19	119.16	123.43	127.30	130.78	128.77	128.08	121.00	120.19	120.41	119.31
1957 - 2004												
Mean	127.90	125.18	123.62	124.09	128.11	131.24	131.47	131.59	132.23	133.54	133.20	130.82
Max	142.56	137.93	134.00	137.98	142.61	148.50	149.74	149.96	151.79	150.53	149.33	148.23
Min	115.60	114.84	113.27	114.45	116.46	115.51	117.34	118.94	118.39	116.58	117.99	114.78



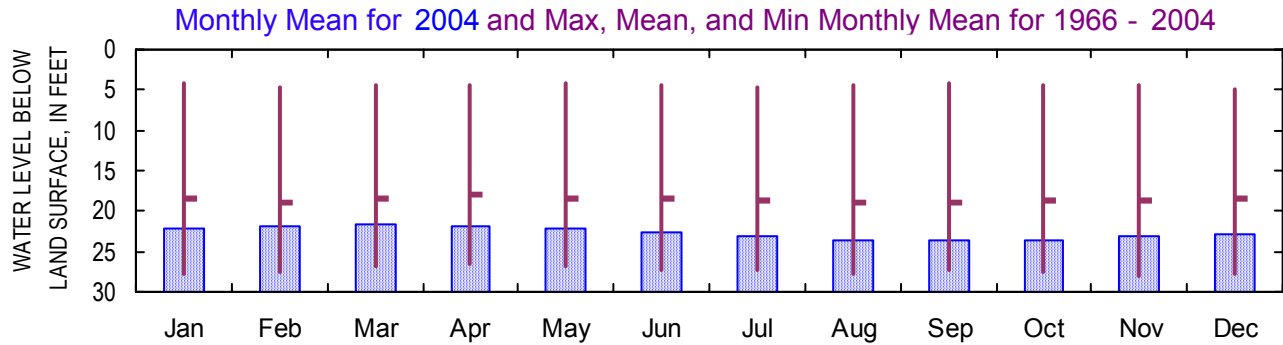
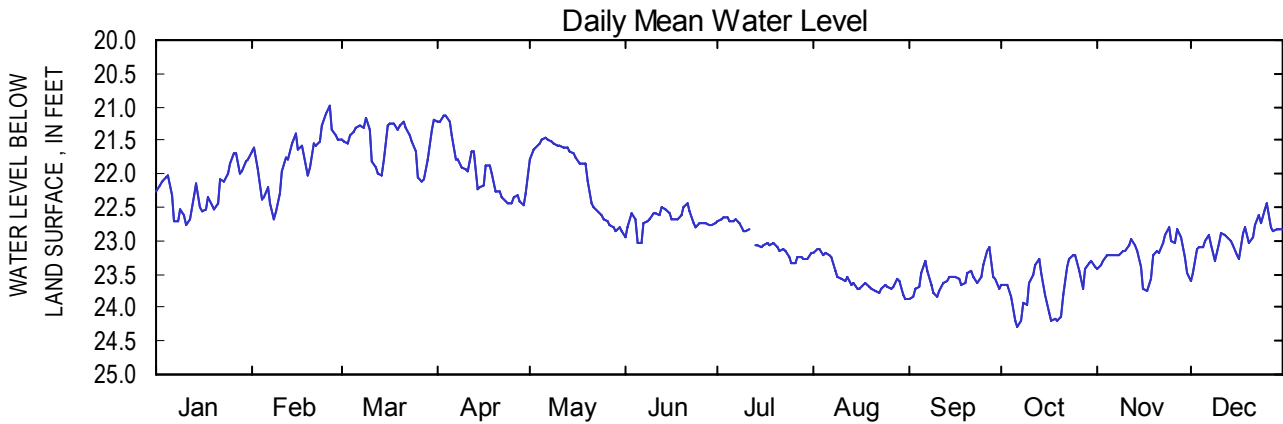


**UPPER FLORIDAN AQUIFER
2004 Calendar Year**

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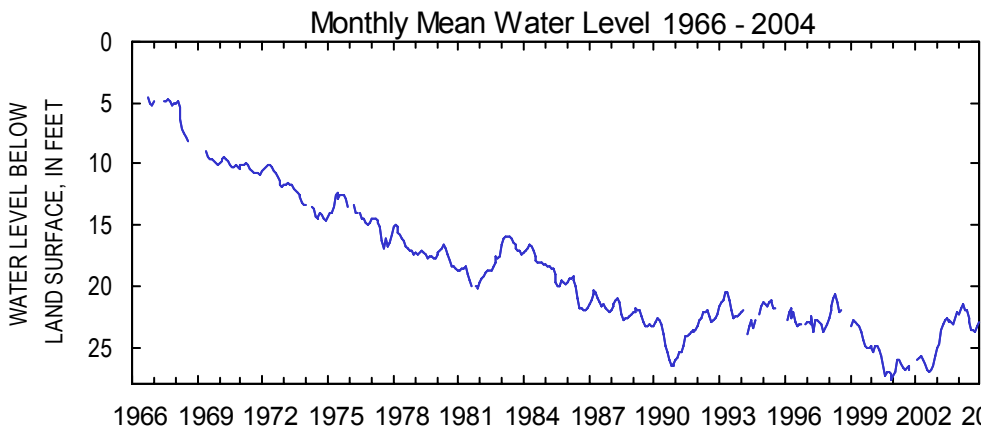
Site Name: 35M013

Latitude: 31° 38' 23" Longitude: 081° 15' 42" MCINTOSH Period of Record: 1966 - 2004
Well Depth: 553 feet Datum: 16.30 feet Well Diameter 10.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	22.25	21.78	21.53	21.95	22.03	22.69	23.01	23.56	23.57	23.70	23.20	22.96
Max	22.78	22.69	22.10	22.46	22.86	23.04	23.34	23.87	23.88	24.29	23.75	23.61
Min	21.70	20.98	21.17	21.12	21.45	22.45	22.64	23.12	23.10	23.20	22.81	22.43
1966 - 2004												
Mean	18.35	18.85	18.41	18.06	18.36	18.40	18.68	18.94	18.97	18.81	18.62	18.39
Max	27.75	27.53	26.80	26.48	26.85	27.27	27.25	27.84	27.32	27.44	27.91	27.87
Min	4.19	4.65	4.48	4.44	4.13	4.38	4.64	4.40	4.15	4.35	4.38	4.85



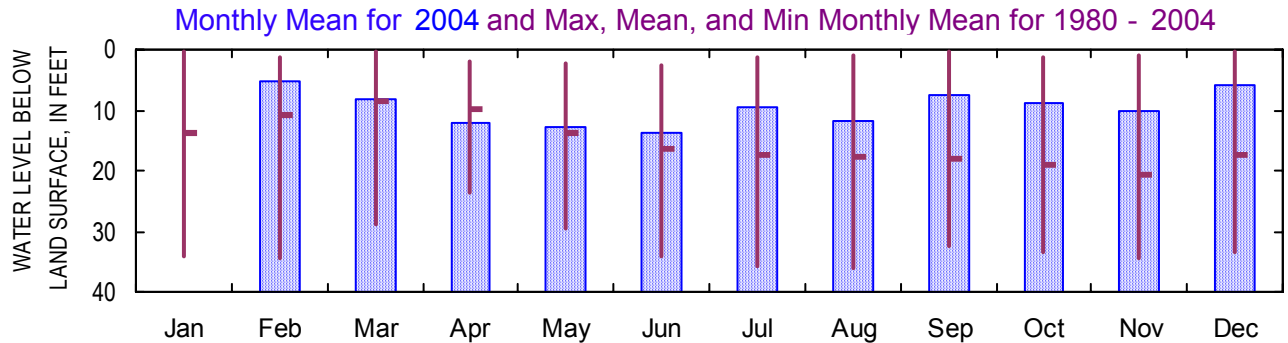
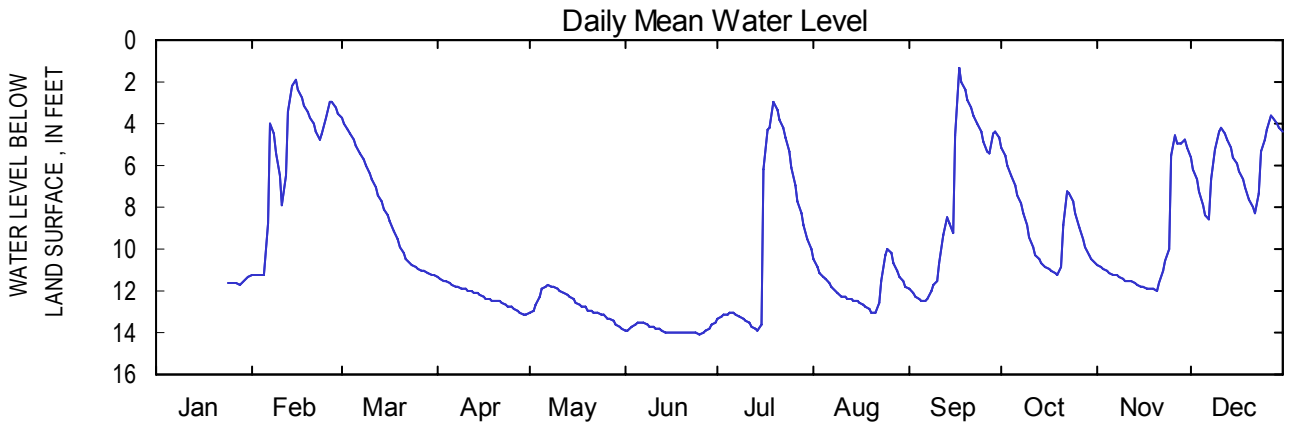


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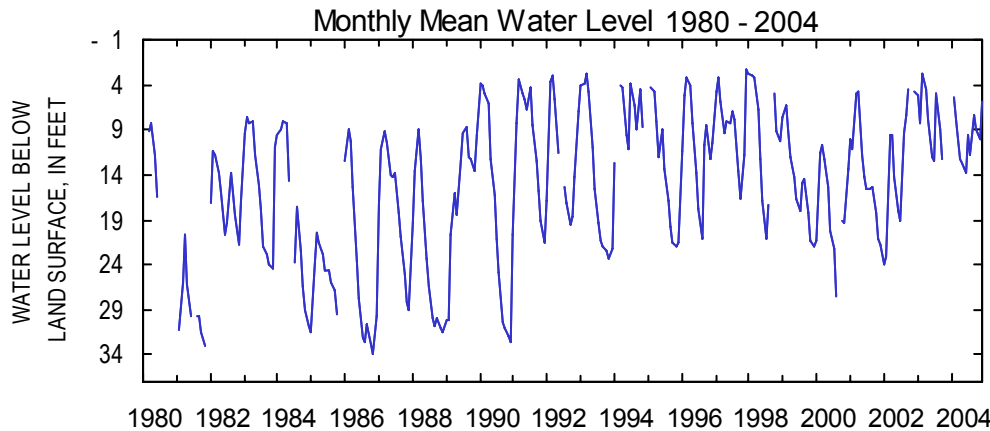
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Site Name: 07H002

Latitude: 31° 10' 08" Longitude: 084° 49' 54" MILLER Period of Record: 1980 - 2004
 Well Depth: 75 feet Datum: 167.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics											
2004											
Mean	5.39	8.14	12.24	12.68	13.83	9.59	11.78	7.50	8.99	10.09	5.89
Max	11.23	11.28	13.11	13.84	14.05	13.95	13.05	12.48	11.25	11.96	8.60
Min	1.86	3.76	11.34	11.75	13.49	2.99	9.97	1.31	5.10	4.61	3.62
1980 - 2004											
Mean	13.93	10.85	8.54	9.76	13.72	16.40	17.42	17.66	18.16	19.01	20.70
Max	34.23	34.28	28.74	23.72	29.53	34.20	35.89	36.00	32.45	33.47	34.35
Min	0.46	1.24	0.22	1.88	2.36	2.75	1.42	1.10	0.39	1.43	1.09



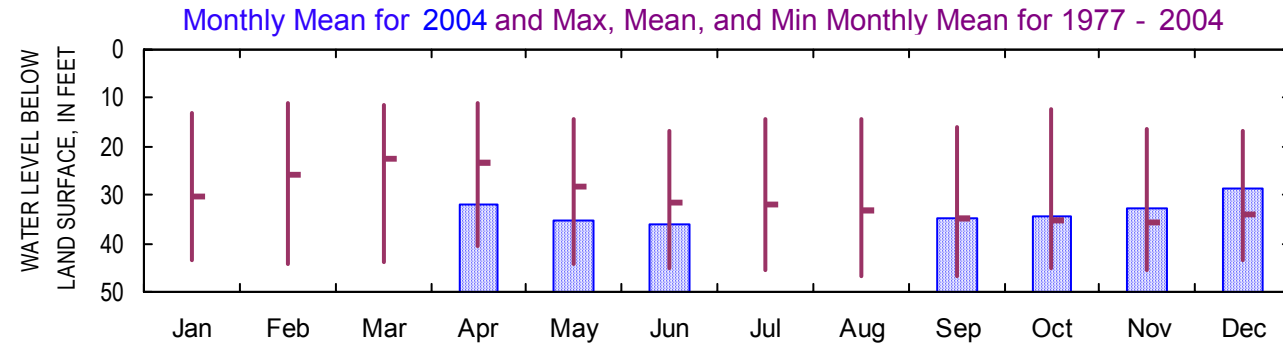
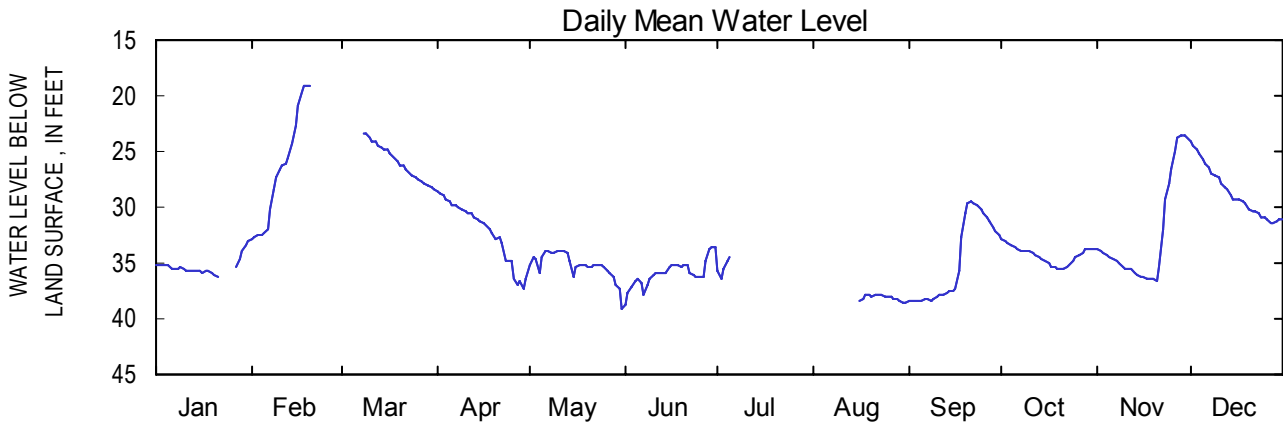


UPPER FLORIDAN AQUIFER 2004 Calendar Year

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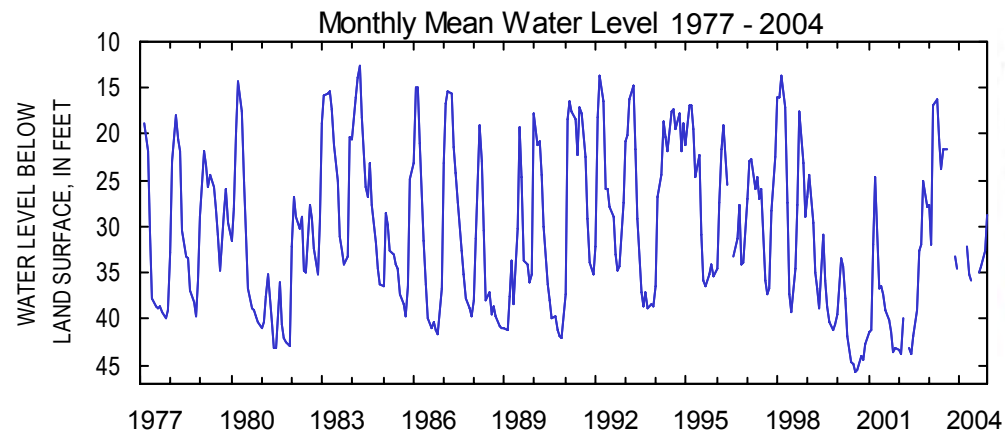
Site Name: 08G001

Latitude: 31° 06' 51" Longitude: 084° 40' 44" MILLER Period of Record: 1977 - 2004
 Well Depth: 225 feet Datum: 152.00 feet Well Diameter 12.00 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	32.14	35.19	35.90	34.86	34.28	32.61	28.67					
Max	37.32	39.03	38.75	38.46	35.51	36.66	31.39					
Min	28.57	33.90	33.49	29.44	32.82	23.52	24.09					
1977 - 2004												
Mean	30.51	25.67	22.73	23.29	28.08	31.46	31.90	33.26	34.70	35.13	35.52	33.98
Max	43.51	44.18	43.81	40.43	44.40	45.05	45.44	46.70	46.78	45.01	45.30	43.42
Min	13.15	11.24	11.50	11.18	14.48	16.90	14.47	14.27	16.00	12.35	16.55	16.73



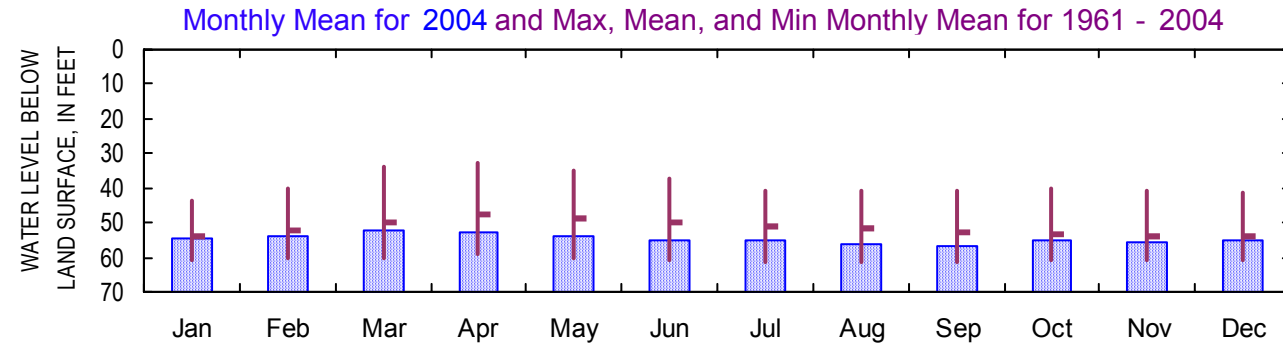
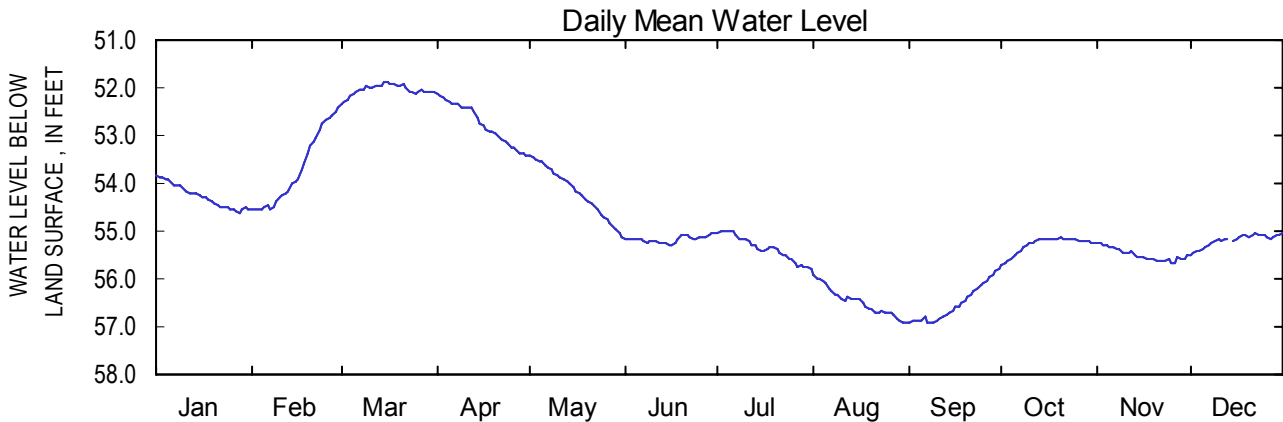


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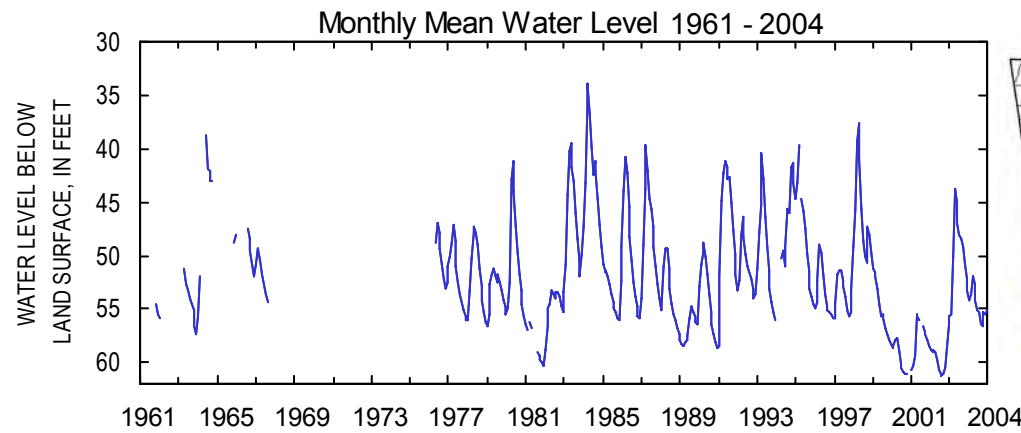
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Site Name: 10G313

Latitude: 31° 05' 07" Longitude: 084° 26' 22" MITCHELL Period of Record: 1961 - 2004
 Well Depth: 206 feet Datum: 145 feet Well Diameter 12 inches



Monthly Water-Level Statistics												
2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	54.27	53.72	52.04	52.75	54.18	55.17	55.36	56.48	56.52	55.28	55.49	55.19
Max	54.62	54.56	52.33	53.42	55.13	55.29	55.81	56.91	56.91	55.72	55.67	55.50
Min	53.84	52.40	51.86	52.13	53.43	55.04	54.98	55.91	55.78	55.15	55.25	55.03
1961 - 2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	54.00	52.33	49.82	47.87	48.95	49.78	51.02	51.91	52.83	53.27	53.98	54.13
Max	60.85	60.50	60.33	59.22	60.27	60.84	61.38	61.48	61.53	61.06	61.09	60.93
Min	43.89	40.28	33.84	32.98	34.86	37.08	40.63	40.95	41.02	40.38	40.46	41.54



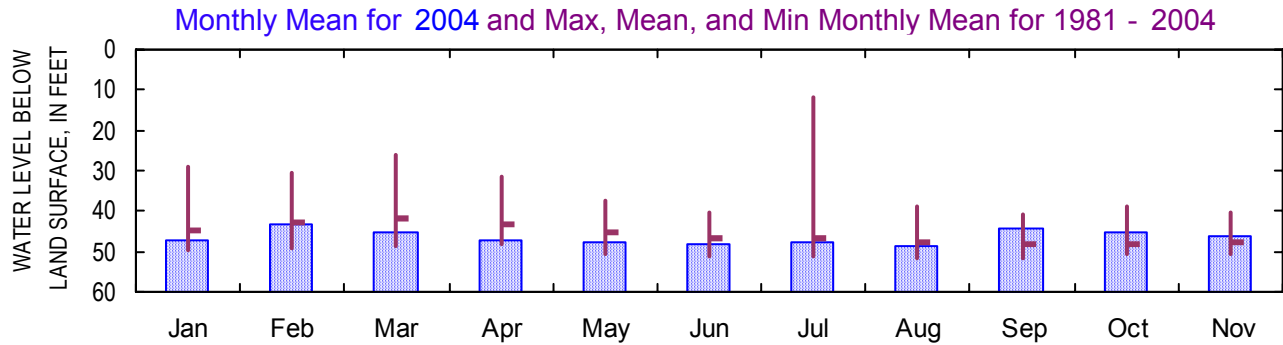
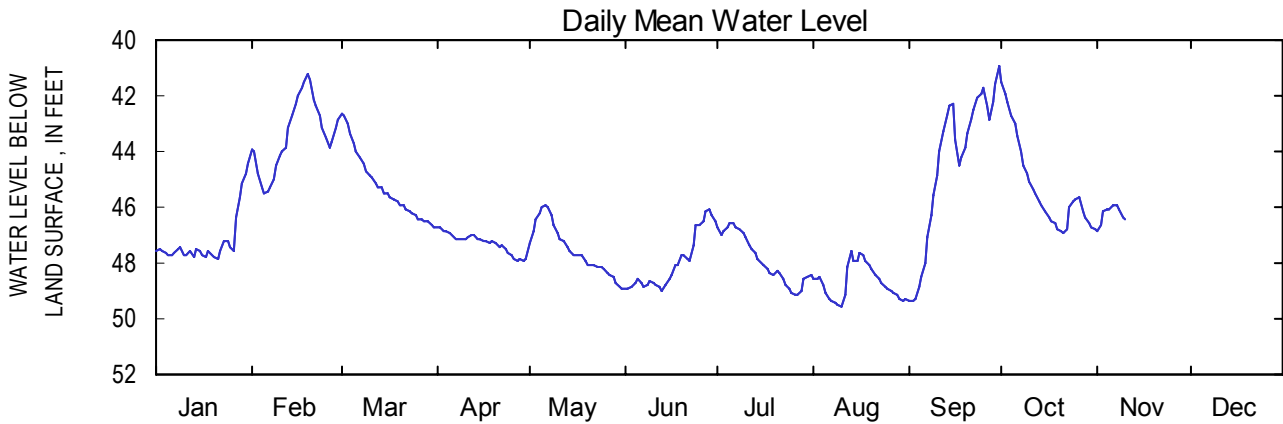


**UPPER FLORIDAN AQUIFER
2004 Calendar Year**

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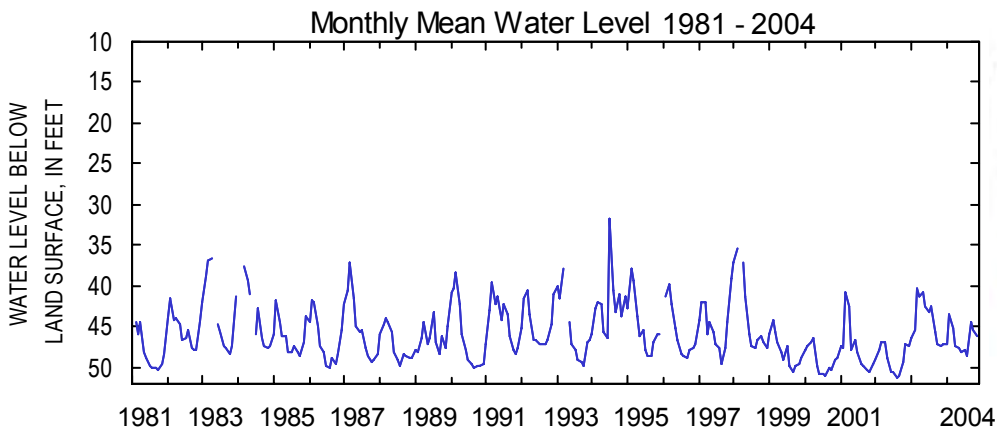
Site Name: 11J012

Latitude: 31° 18' 02" Longitude: 084° 19' 23" MITCHELL Period of Record: 1981 - 2004
 Well Depth: 225 feet Datum: 165 feet Well Diameter 6 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	
2004												
Mean	47.22	43.42	45.23	47.27	47.52	47.99	47.88	48.69	44.41	45.30	46.26	41.65
Max	47.82	45.52	46.74	47.90	48.90	49.00	49.16	49.56	49.35	46.93	46.87	41.80
Min	44.44	41.18	42.67	46.70	45.93	46.06	46.57	47.60	40.96	41.50	45.90	41.52
1981 - 2004												
Mean	44.66	42.73	41.62	43.19	45.48	46.86	46.66	47.58	48.09	47.97	47.59	46.09
Max	49.84	48.98	48.55	48.31	50.75	51.13	51.19	51.85	51.62	50.80	50.86	50.15
Min	28.87	30.68	26.26	31.39	37.44	40.15	12.01	38.88	40.96	38.71	40.41	29.22



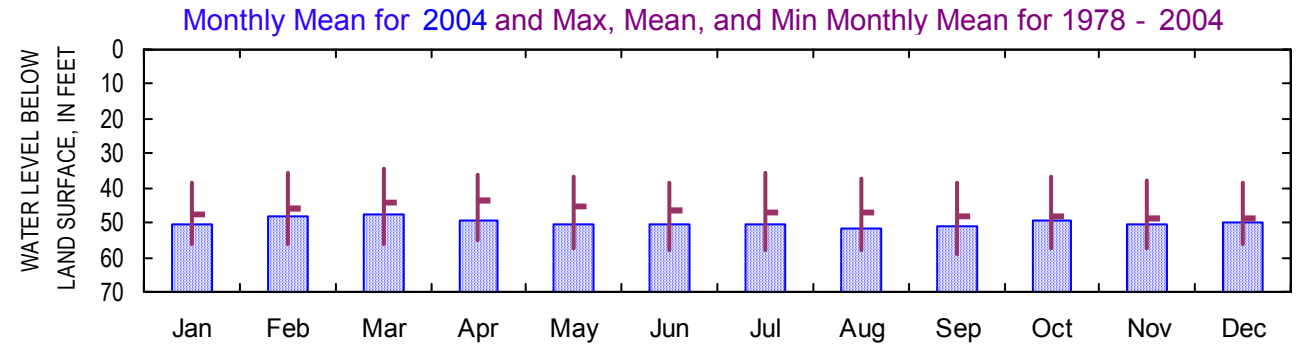
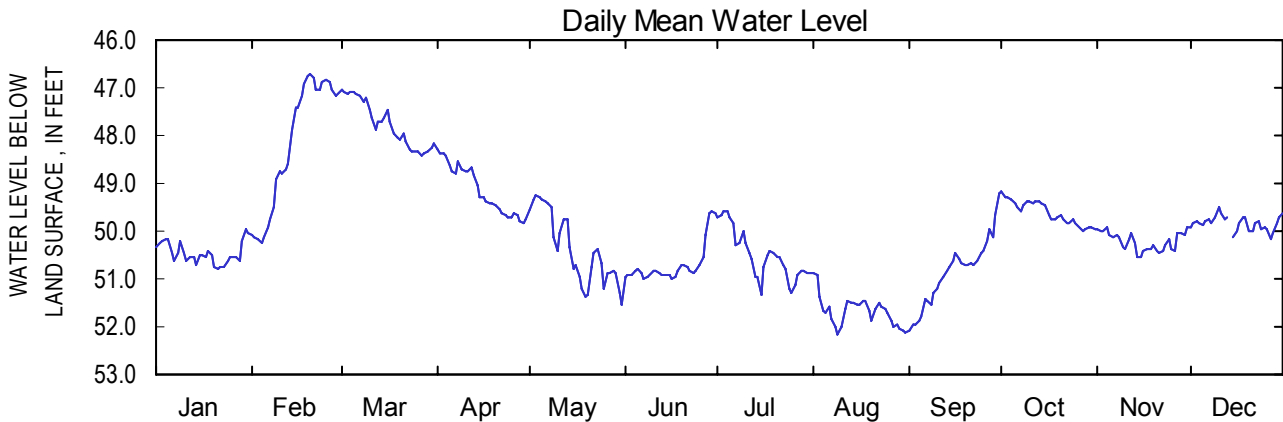


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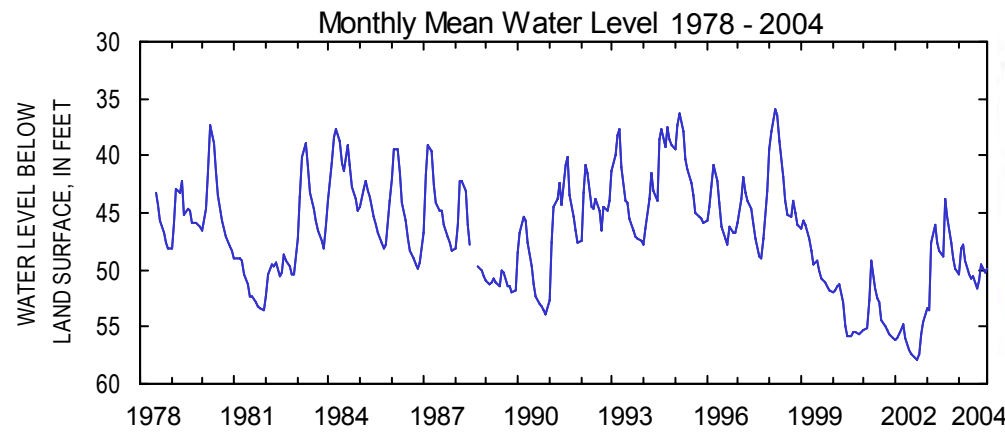
Site Name: 13J004

Latitude: 31 °21 '29" Longitude: 084° 06 '57" MITCHELL Period of Record: 1978 - 2004
Well Depth: 208 feet Datum: 194.00 feet Well Diameter 12 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	50.46	48.16	47.75	49.14	50.37	50.70	50.51	51.67	50.87	49.61	50.22	49.84
Max	50.77	50.25	48.41	49.84	51.55	50.99	51.34	52.16	52.07	49.98	50.56	50.15
Min	49.95	46.71	47.05	48.28	49.24	49.58	49.56	50.87	49.20	49.16	49.92	49.48
1978 - 2004												
Mean	47.74	45.88	44.06	43.82	45.22	46.69	46.94	47.23	48.19	48.40	48.78	48.61
Max	56.26	56.22	56.08	55.02	57.38	57.96	57.72	58.01	59.13	57.49	57.31	56.16
Min	38.44	35.73	34.64	36.07	36.96	38.63	35.80	37.11	38.43	36.77	37.65	38.67



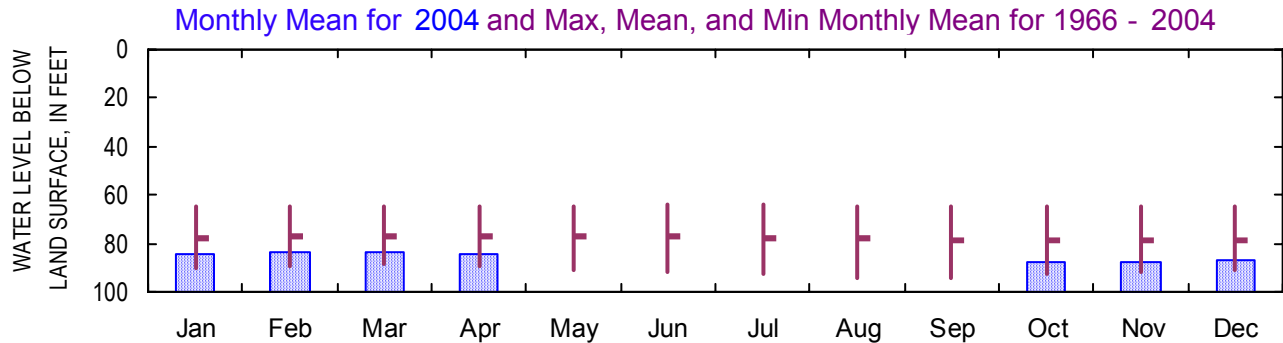
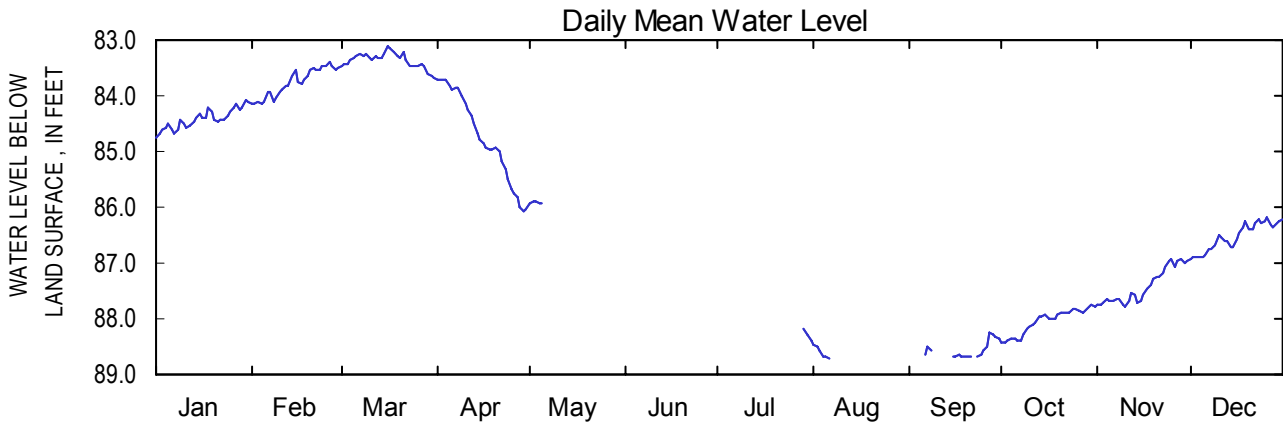


UPPER FLORIDAN AQUIFER 2004 Calendar Year

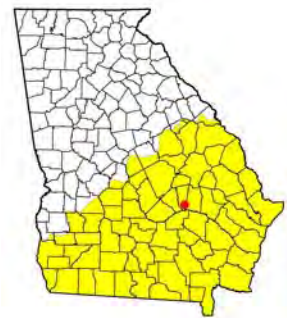
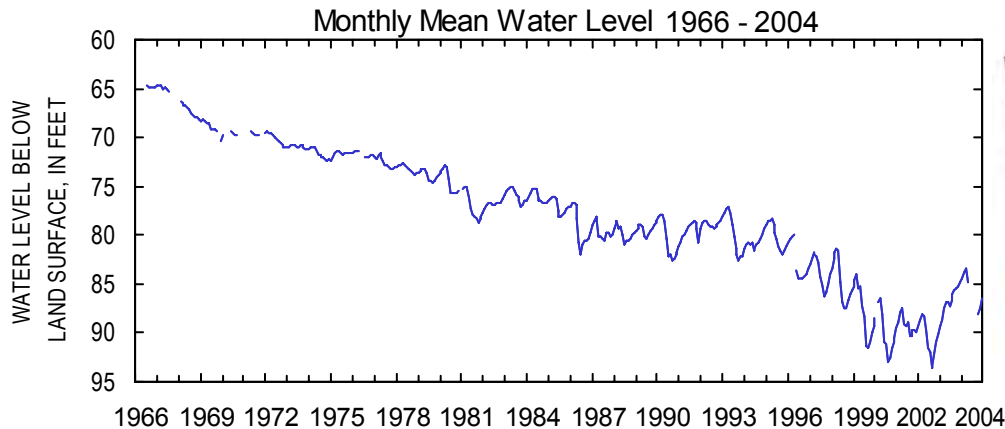
320226082301101

Site Name: 25Q001

Latitude: 32° 02' 25" Longitude: 082° 30' 05" MONTGOMERY Period of Record: 1966 - 2004
 Well Depth: 536 feet Datum: 190.00 feet Well Diameter 6.0 inches



Monthly Water-Level Statistics												
2004												
Mean	84.41	83.76	83.36	84.74					88.04	87.42	86.52	
Max	84.74	84.16	83.67	86.09					88.42	87.78	86.93	
Min	84.07	83.39	83.10	83.70					87.76	86.94	86.18	
1966 - 2004												
Mean	77.50	77.08	76.79	76.99	76.81	77.40	77.82	77.99	78.47	78.80	78.53	78.35
Max	90.02	89.02	88.53	89.08	90.85	92.13	92.41	94.41	93.88	92.68	91.59	90.97
Min	64.44	64.58	64.61	64.84	64.97	64.13	64.32	64.50	64.70	64.73	64.70	64.77



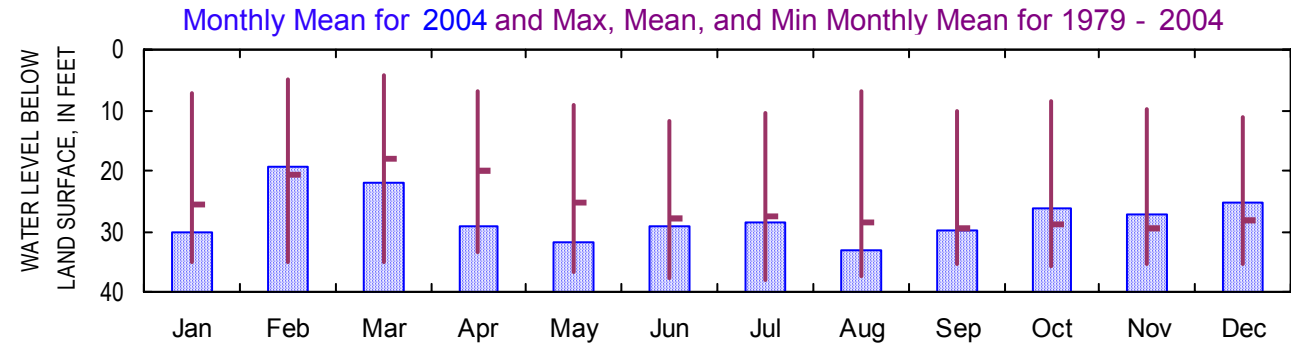
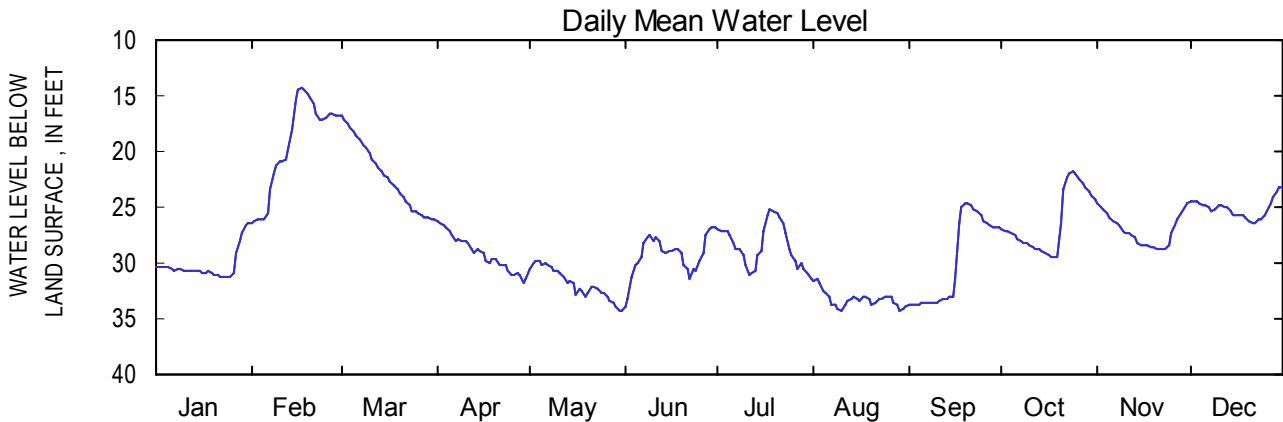


UPPER FLORIDAN AQUIFER 2004 Calendar Year

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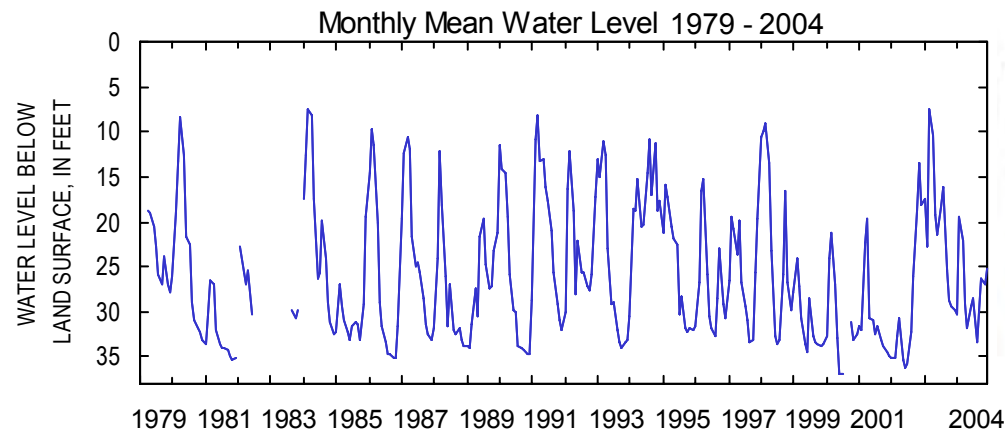
Site Name: 06F001

Latitude: 30° 53' 49" Longitude: 084° 53' 55" SEMINOLE Period of Record: 1979 - 2004
 Well Depth: 98.5 feet Datum: 110 feet Well Diameter 4 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	30.25	19.39	22.13	29.10	31.86	29.28	28.45	33.26	29.84	26.34	27.05	25.09
Max	31.25	26.38	26.12	31.75	34.29	33.84	31.50	34.26	33.83	29.50	28.80	26.38
Min	26.45	14.31	16.86	26.31	29.83	26.83	25.24	31.41	24.68	21.80	24.60	23.16
1979 - 2004												
Mean	25.62	20.67	17.88	19.90	25.25	27.79	27.68	28.48	29.35	28.93	29.48	28.35
Max	35.23	35.22	35.11	33.55	36.60	37.61	37.88	37.25	35.39	35.65	35.48	35.53
Min	7.09	4.92	4.13	6.86	9.33	11.67	10.34	6.88	10.24	8.67	9.67	11.13



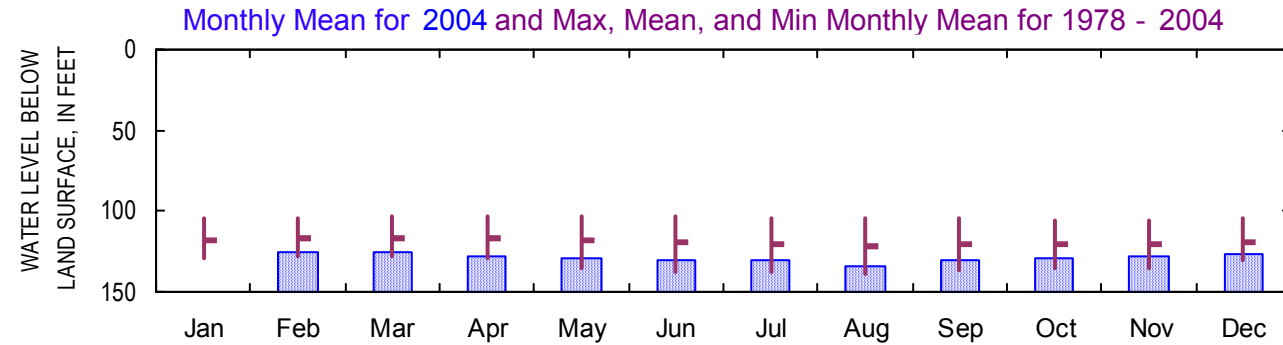
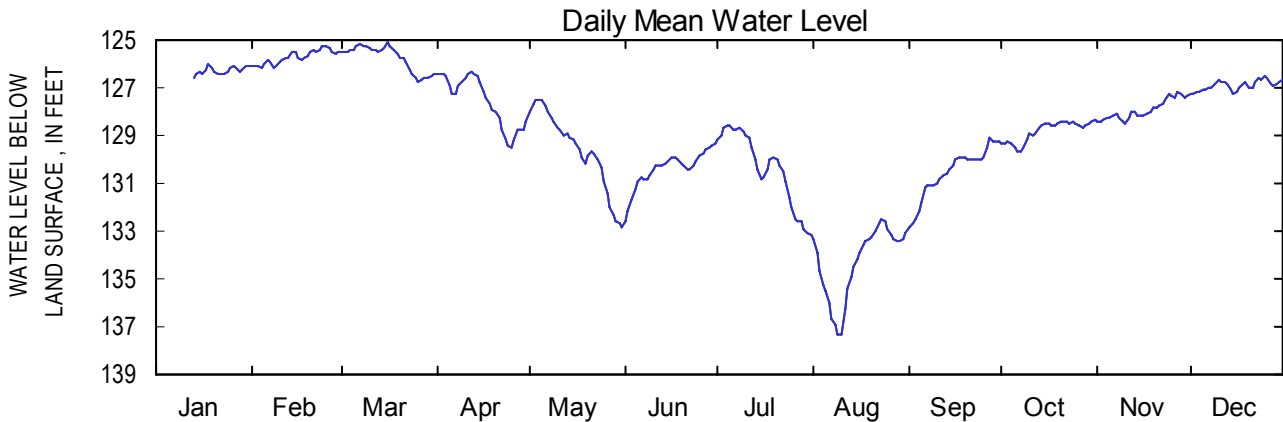


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2004 Calendar Year**

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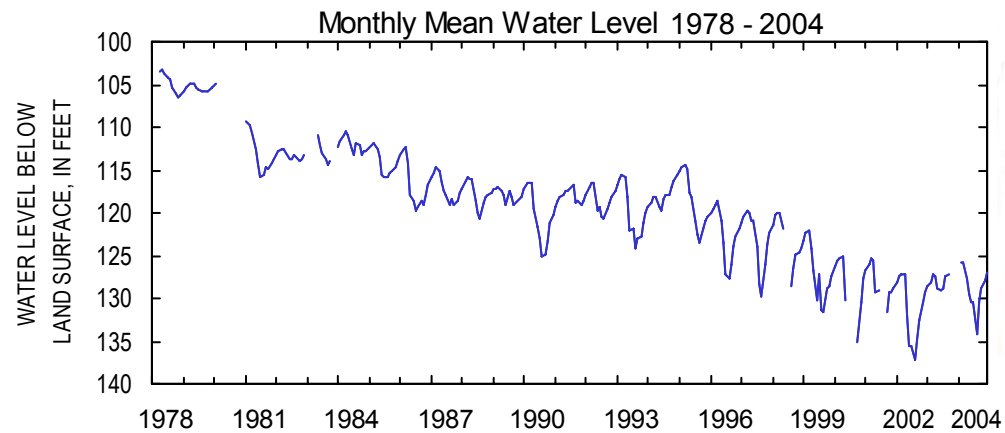
Site Name: 18K049

Latitude: 31 °27 '12" Longitude: 083° 29 '33" TIFT Period of Record: 1978 - 2004
Well Depth: 620 feet Datum: 330.00 feet Well Diameter 6.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	125.72	125.75	127.56	129.60	130.39	130.36	134.30	130.54	128.82	127.92	126.90	
Max	126.14	126.72	129.54	132.87	132.54	133.19	137.37	132.82	129.64	128.48	127.29	
Min	125.23	125.11	126.37	127.48	129.32	128.57	132.54	129.08	128.37	127.20	126.52	
1978 - 2004												
Mean	117.74	117.40	117.10	116.85	118.43	119.68	120.13	121.44	120.91	120.22	119.89	118.87
Max	129.01	128.38	127.65	129.54	135.54	137.20	138.12	139.11	136.71	135.70	135.63	130.00
Min	104.83	104.45	103.24	103.22	102.70	103.25	103.90	104.03	104.55	105.43	105.27	104.87



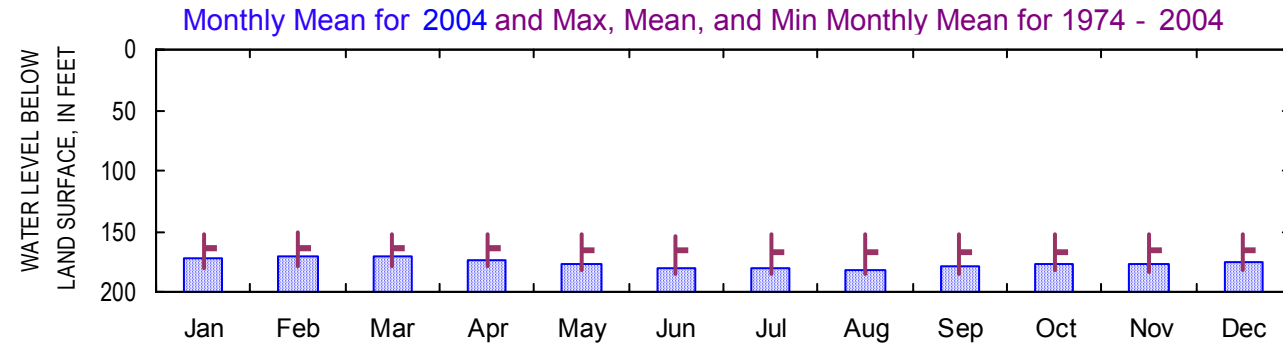
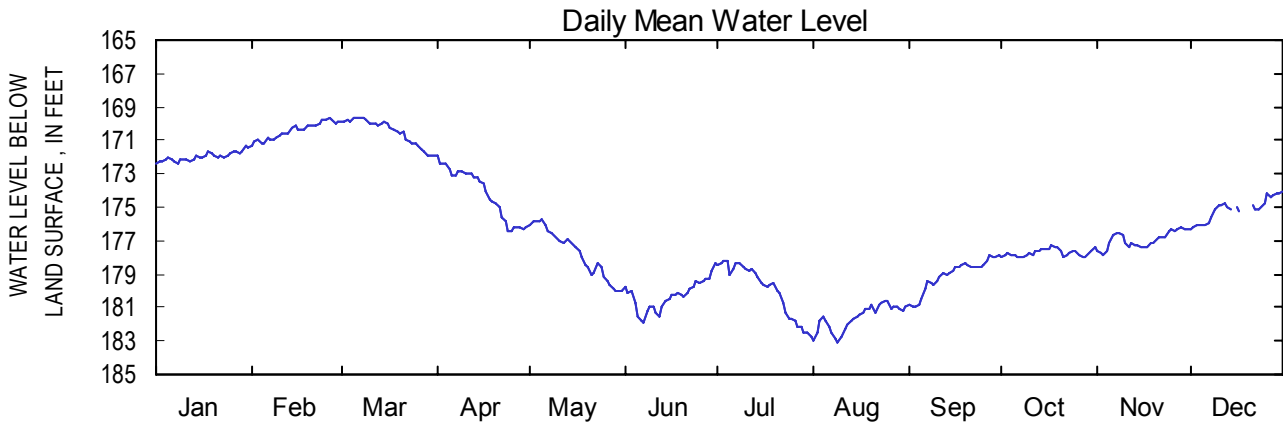


UPPER FLORIDAN AQUIFER 2004 Calendar Year

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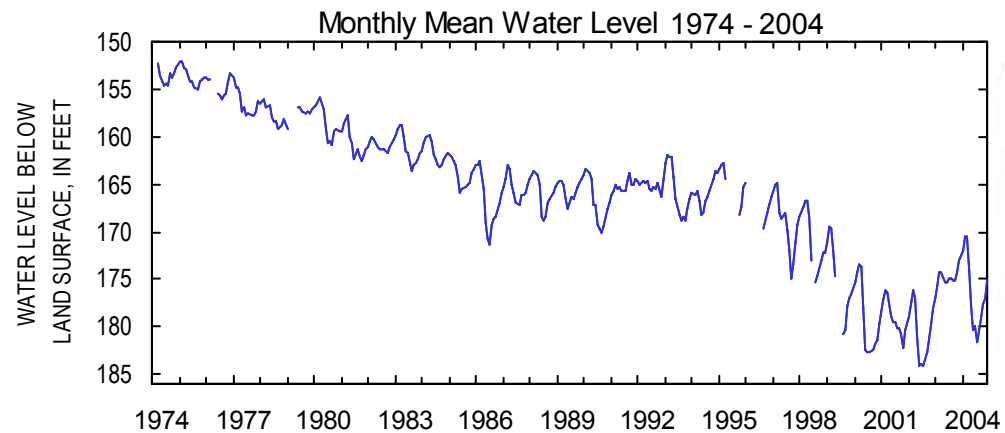
Site Name: 26R001

Latitude: 32° 13 '02" Longitude: 082° 24 '36" TOOMBS Period of Record: 1974 - 2004
 Well Depth: 1,000 feet Datum: 287.00 feet Well Diameter 12.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	171.97	170.44	170.47	174.15	177.75	180.29	179.93	181.58	179.07	177.72	176.95	175.16
Max	172.33	171.29	171.95	176.46	180.01	181.88	182.70	183.09	180.97	178.03	177.85	176.31
Min	171.34	169.67	169.63	171.93	175.75	178.36	178.19	180.57	177.86	177.29	176.22	174.09
1974 - 2004												
Mean	164.40	164.06	163.69	164.16	165.64	166.32	167.01	167.47	167.19	166.71	166.10	165.22
Max	180.13	178.37	177.99	178.27	182.75	185.52	184.83	184.95	184.59	182.51	182.80	181.81
Min	151.72	151.35	151.67	151.64	152.43	153.67	152.92	153.10	153.13	153.26	152.28	152.25



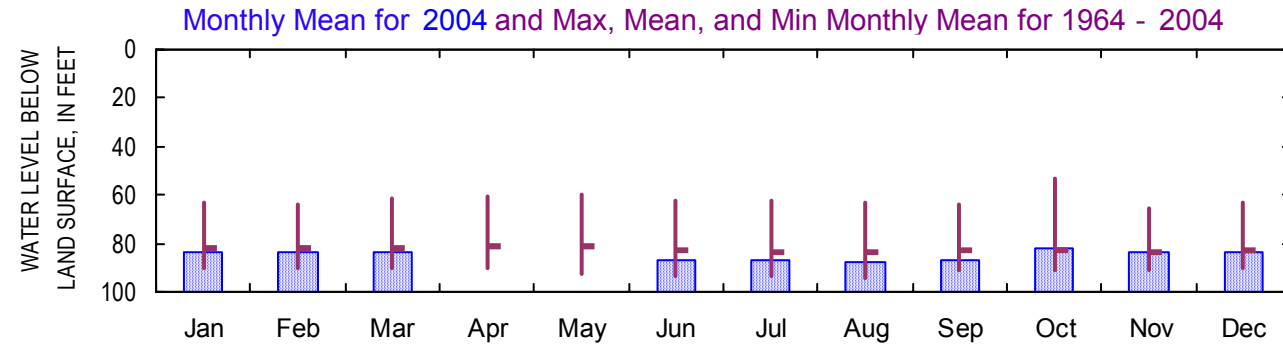
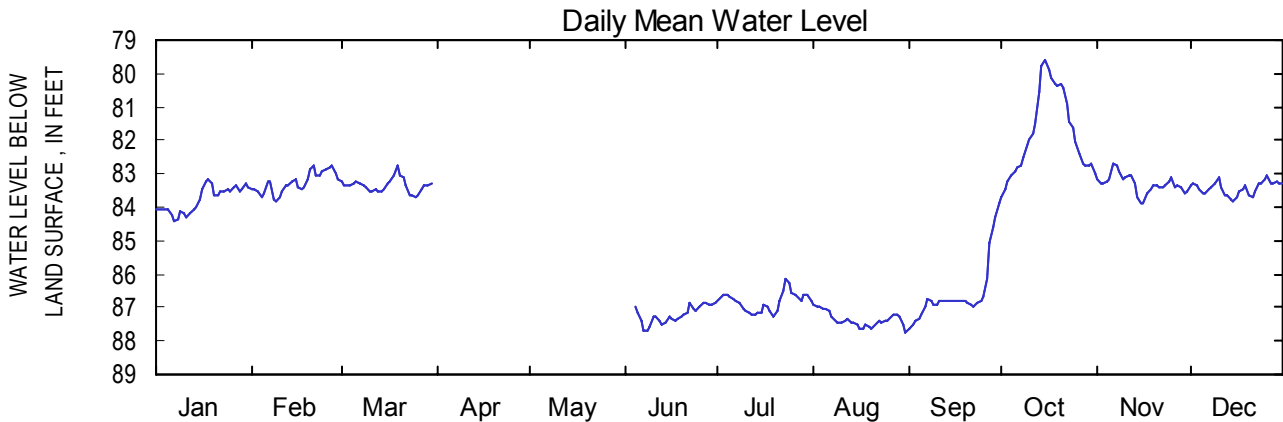


UPPER FLORIDAN AQUIFER 2004 Calendar Year

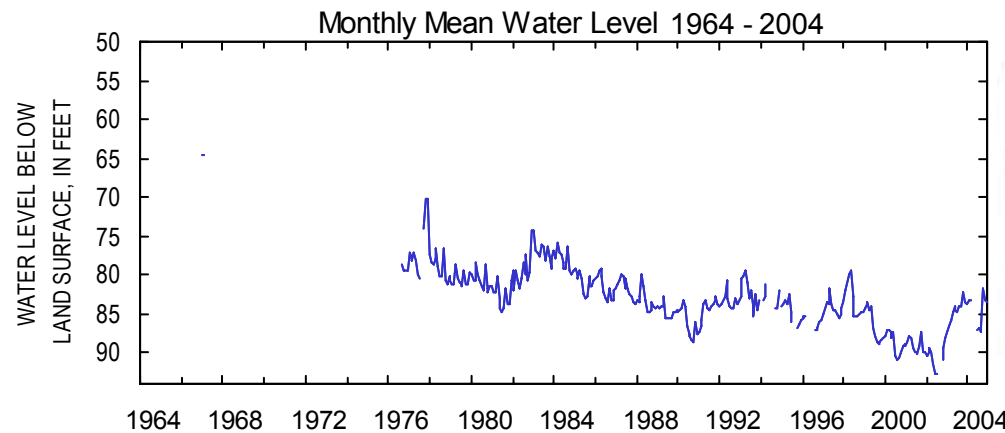
313701081543501

Site Name: 30L003

Latitude: 31° 37' 01" Longitude: 081° 54' 34" WAYNE Period of Record: 1964 - 2004
 Well Depth: 594 feet Datum: 105.77 feet Well Diameter: 4.0 inches



Monthly Water-Level Statistics												
2004												
Mean	83.77	83.26	83.36			87.21	86.83	87.36	86.59	81.79	83.31	83.43
Max	84.44	83.79	83.72			87.72	87.26	87.73	87.65	83.70	83.90	83.81
Min	83.15	82.76	82.74			86.84	86.13	86.91	83.90	79.57	82.71	83.05
1964 - 2004												
Mean	82.05	82.08	81.94	81.32	81.46	83.19	83.66	83.98	83.10	83.19	83.27	82.67
Max	90.46	90.38	89.89	90.28	92.37	93.34	93.07	94.00	90.96	91.10	91.23	90.36
Min	63.05	64.17	61.56	60.88	59.77	62.45	62.05	63.49	63.86	53.06	65.32	63.42



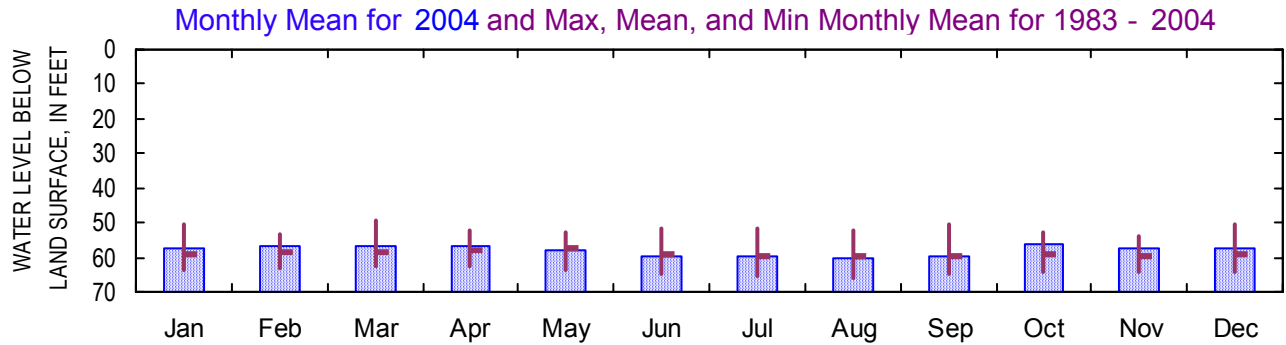
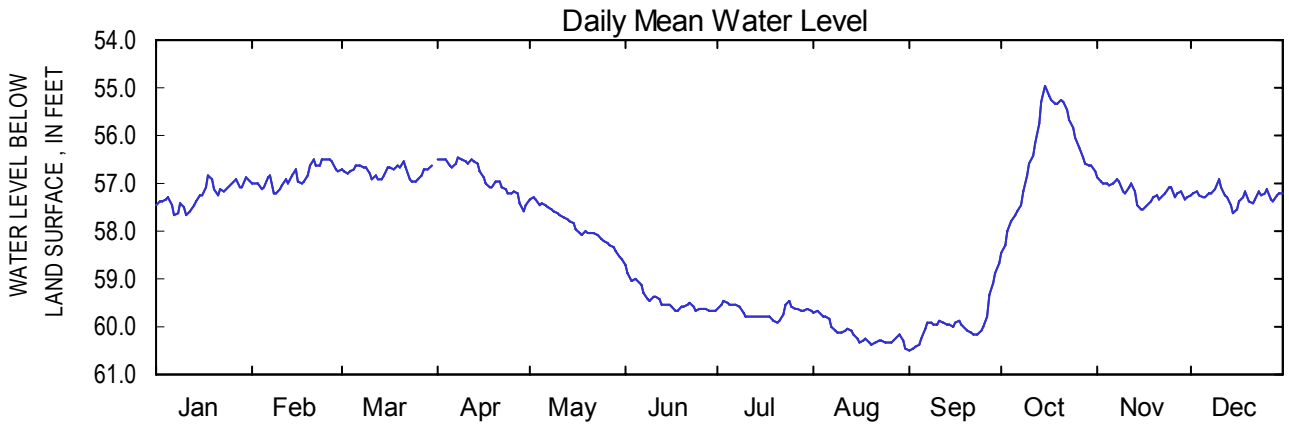


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2004 Calendar Year**

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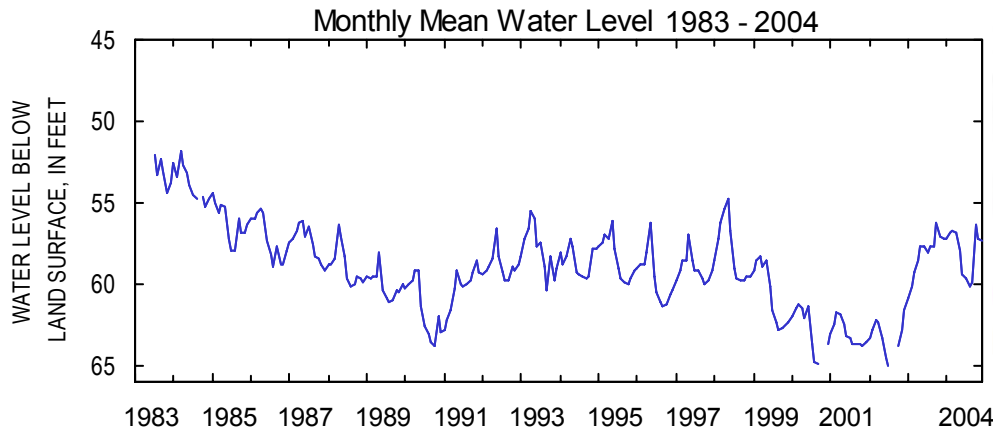
Site Name: 32L015

Latitude: 31° 32' 52" Longitude: 081° 43' 36" WAYNE Period of Record: 1983 - 2004
 Well Depth: 750 feet Datum: 74.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	57.24	56.84	56.76	56.86	57.89	59.44	59.68	60.14	59.92	56.40	57.18	57.27
Max	57.67	57.22	56.96	57.57	58.60	59.67	59.93	60.47	60.50	58.47	57.54	57.61
Min	56.84	56.49	56.52	56.44	57.31	58.72	59.47	59.69	58.65	54.96	56.87	56.93
1983 - 2004												
Mean	59.00	58.70	58.25	57.85	57.62	58.89	59.45	59.83	59.69	59.28	59.39	59.28
Max	63.67	63.30	62.68	62.57	63.87	64.92	65.47	65.77	64.97	64.12	64.14	64.03
Min	50.62	53.15	49.12	52.12	52.71	51.75	51.81	52.46	50.33	52.60	53.99	50.57



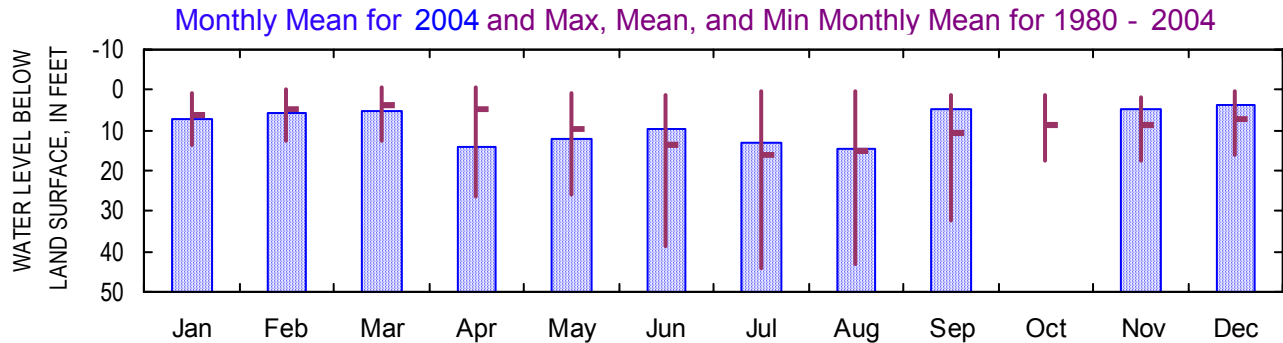
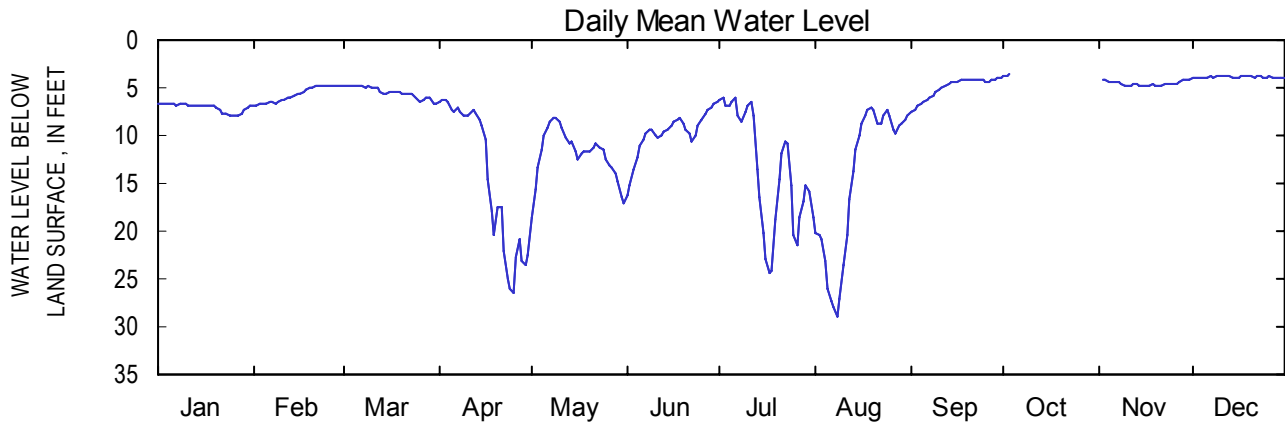


UPPER FLORIDAN AQUIFER 2004 Calendar Year

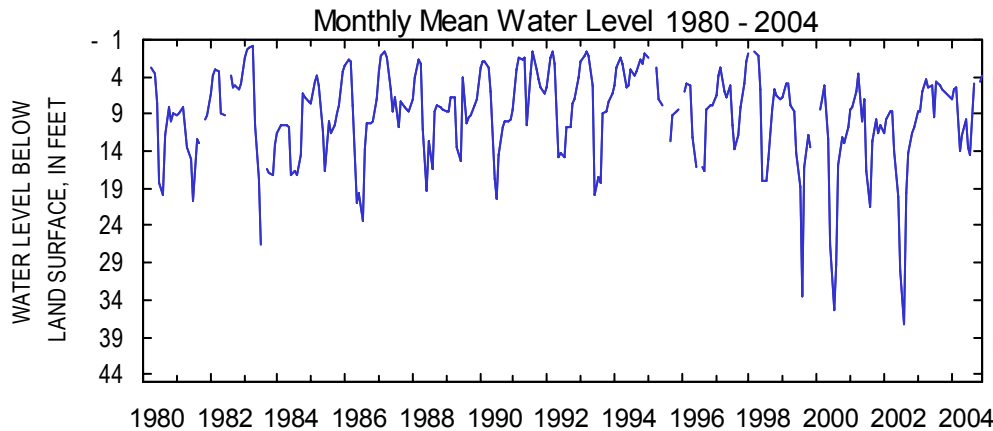
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Site Name: 13M006

Latitude: 31° 43' 30" Longitude: 084° 00' 51" WORTH Period of Record: 1980 - 2004
 Well Depth: 123 feet Datum: 238.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	7.05	5.69	5.49	14.03	11.90	9.72	13.35	14.53	4.97		4.55	3.88
Max	7.90	6.84	6.72	26.36	18.52	16.33	24.31	28.94	7.60		4.84	4.02
Min	6.60	4.73	4.80	6.17	8.11	6.36	6.06	7.07	3.94		4.10	3.72
1980 - 2004												
Mean	6.17	4.77	3.79	4.78	9.48	13.77	16.05	15.31	10.69	8.61	8.45	7.19
Max	13.39	12.63	12.51	26.36	26.01	38.46	44.18	43.32	32.48	17.62	17.47	15.94
Min	0.61	-0.10	-0.47	-0.49	0.70	1.10	0.27	0.25	1.53	1.16	1.56	0.56



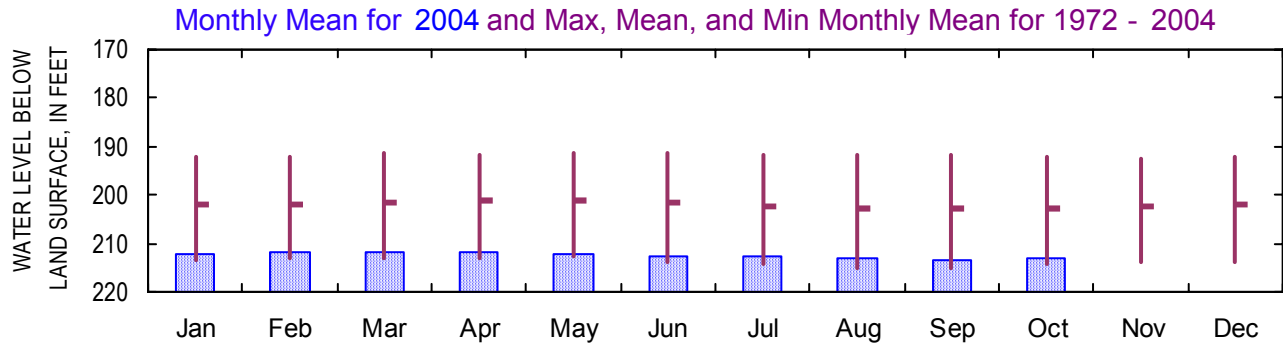
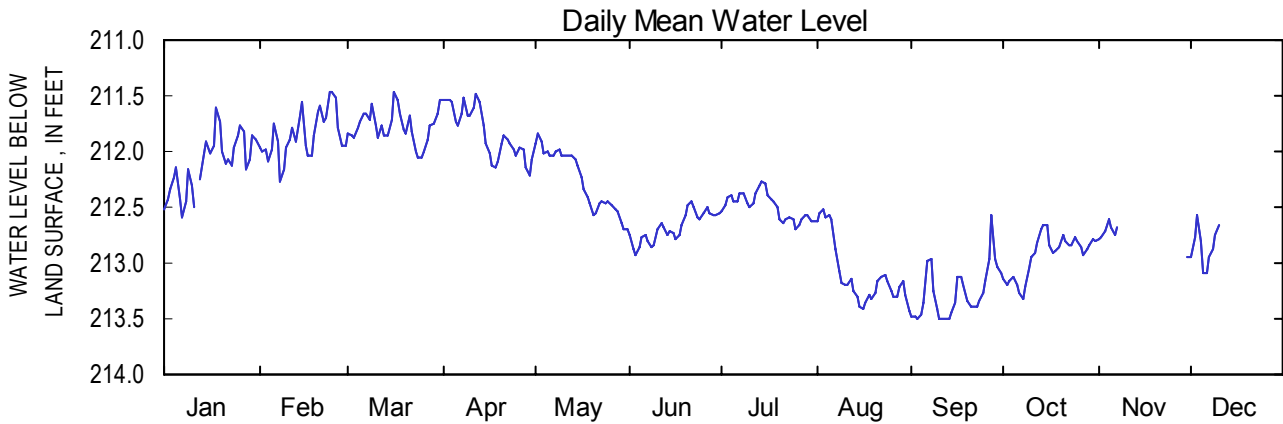


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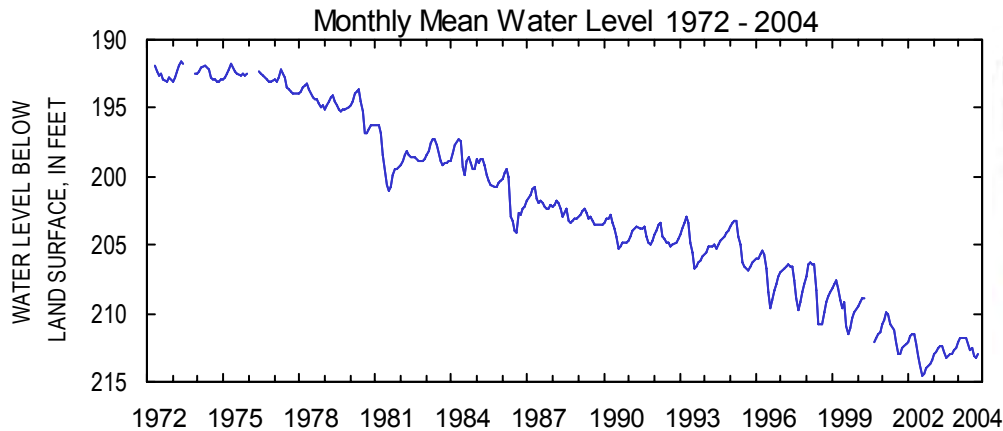
Site Name: 15L020

Latitude: 31° 31' 46" Longitude: 083° 49' 16" WORTH Period of Record: 1972 - 2004
Well Depth: 450 feet Datum: 420.00 feet Well Diameter 18.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	212.11	211.85	211.78	211.83	212.26	212.68	212.49	213.10	213.27	212.93		
Max	212.60	212.26	212.05	212.21	212.70	212.93	212.69	213.42	213.50	213.33		
Min	211.61	211.46	211.47	211.48	211.83	212.44	212.26	212.52	212.57	212.66		
1972 - 2004												
Mean	202.01	201.88	201.55	201.35	201.15	201.63	202.34	202.65	202.96	202.95	202.36	202.13
Max	213.25	213.17	212.86	212.88	212.73	213.80	214.25	214.94	214.90	214.26	213.96	213.77
Min	192.26	191.98	191.50	191.61	191.50	191.38	191.70	191.70	191.90	192.24	192.38	192.11



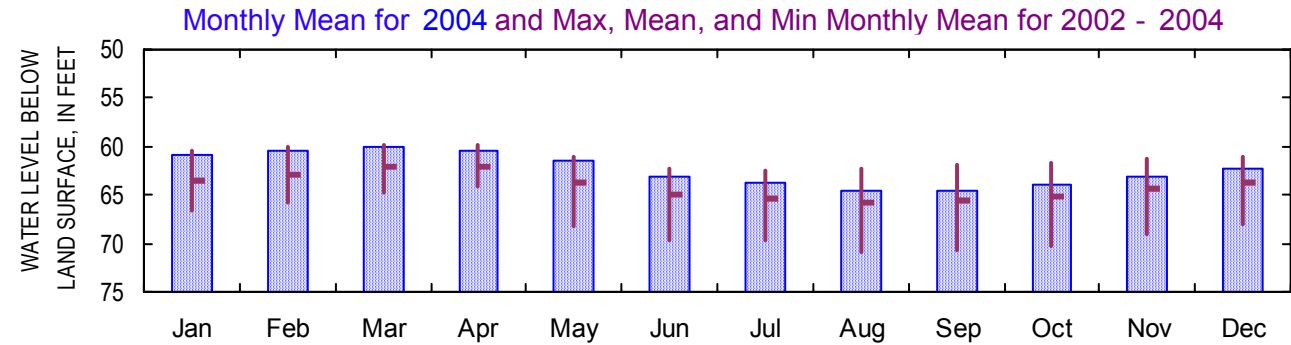
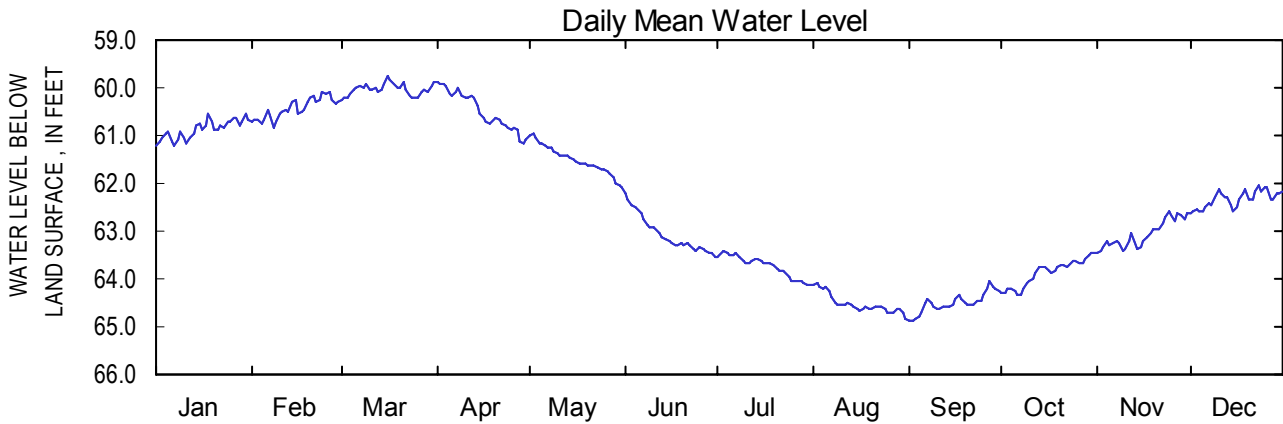


LOWER FLORIDAN AQUIFER 2004 Calendar Year

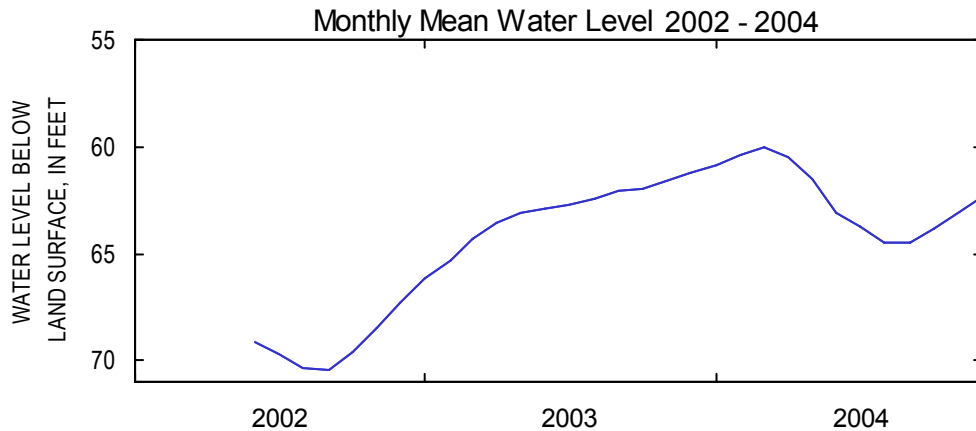
320754081364301

Site Name: 33R045

Latitude: 32° 07' 54" Longitude: 081° 36' 43" BRYAN Period of Record: 2002 - 2004
 Well Depth: 994 feet Datum: 85 feet Well Diameter 8 inches



Monthly Water-Level Statistics												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	60.87	60.43	60.04	60.47	61.51	63.06	63.73	64.52	64.50	63.87	63.06	62.32
Max	61.22	60.82	60.23	61.17	62.08	63.54	64.12	64.83	64.87	64.33	63.44	62.61
Min	60.55	60.08	59.75	59.89	60.96	62.20	63.44	64.10	64.03	63.45	62.57	62.04
2002 - 2004												
Mean	63.53	62.85	62.16	61.99	63.71	65.03	65.38	65.79	65.67	65.15	64.40	63.64
Max	66.55	65.70	64.82	64.06	68.16	69.73	69.75	70.82	70.78	70.19	69.13	67.96
Min	60.55	60.08	59.75	59.89	60.96	62.20	62.57	62.28	61.87	61.65	61.33	61.03



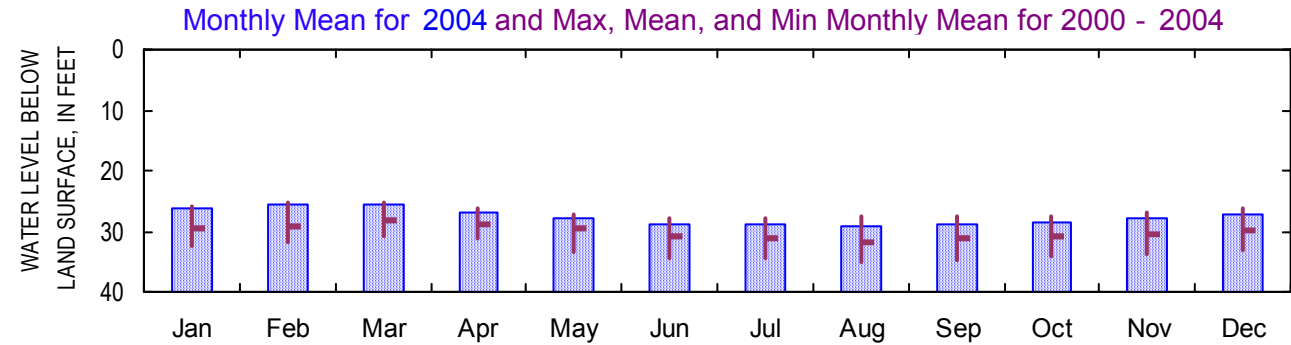
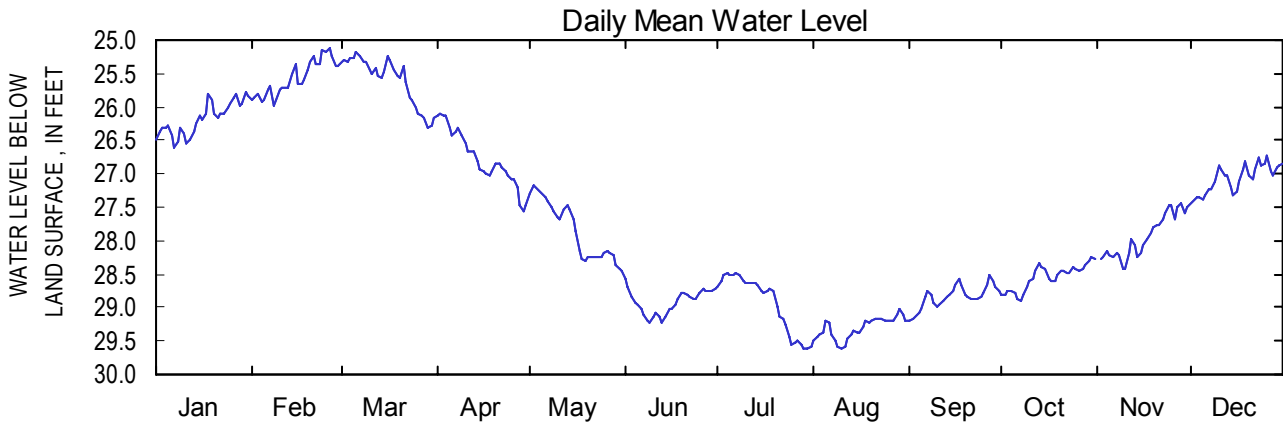


**LOWER FLORIDAN AQUIFER
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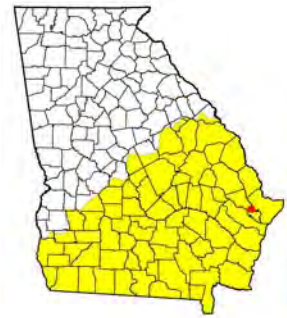
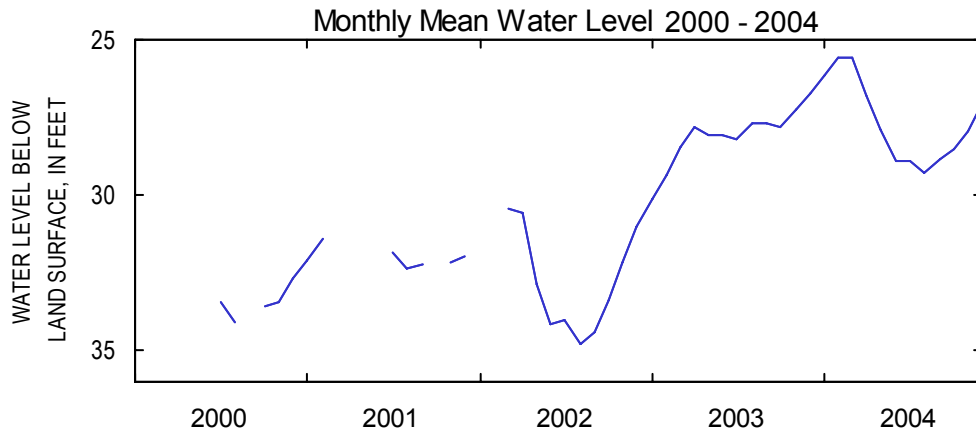
Site Name: 35P109

Latitude: 31° 54' 43" Longitude: 081° 18' 59" BRYAN Period of Record: 2000 - 2004
Well Depth: 1,275 feet Datum: 9.98 feet Well Diameter 8 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	26.18	25.57	25.60	26.77	27.85	28.92	28.93	29.30	28.84	28.55	27.93	27.07
Max	26.60	25.98	26.31	27.55	28.46	29.23	29.62	29.61	29.19	28.90	28.42	27.43
Min	25.76	25.12	25.19	26.11	27.17	28.58	28.49	29.02	28.51	28.24	27.44	26.73
2000 - 2004												
Mean	29.62	29.11	28.25	28.90	29.65	30.83	31.29	31.64	31.24	30.85	30.60	29.89
Max	32.59	31.72	30.79	31.21	33.54	34.59	34.46	35.06	34.82	33.99	33.68	33.10
Min	25.76	25.12	25.19	26.11	27.17	27.79	27.89	27.51	27.51	27.54	26.86	26.29



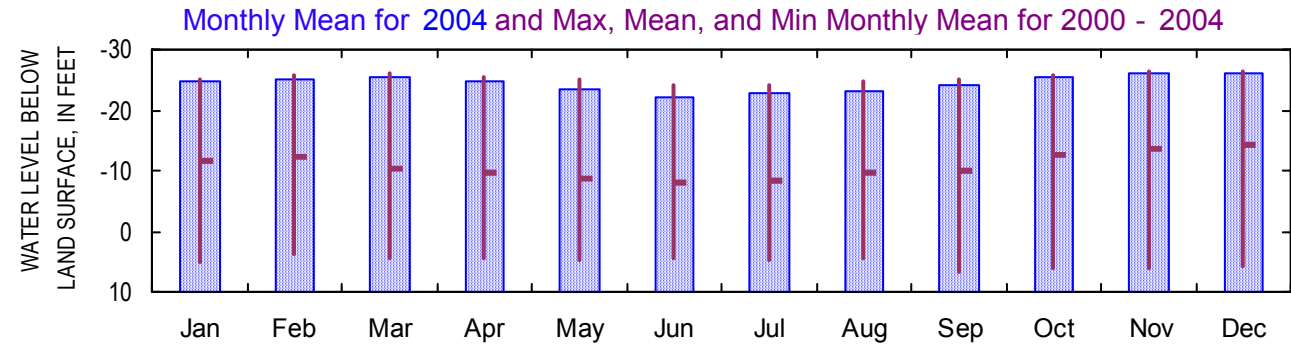
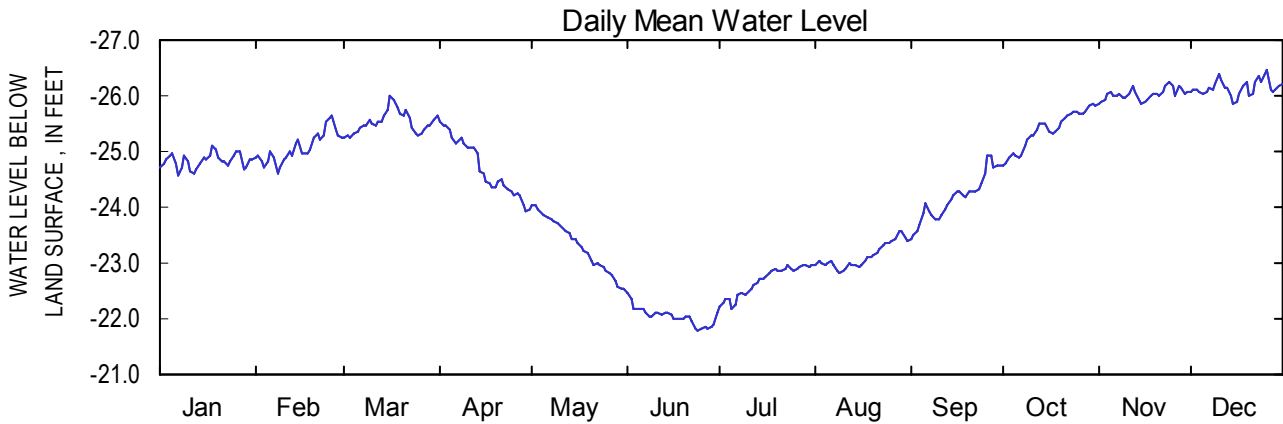


**LOWER FLORIDAN AQUIFER
2004 Calendar Year**

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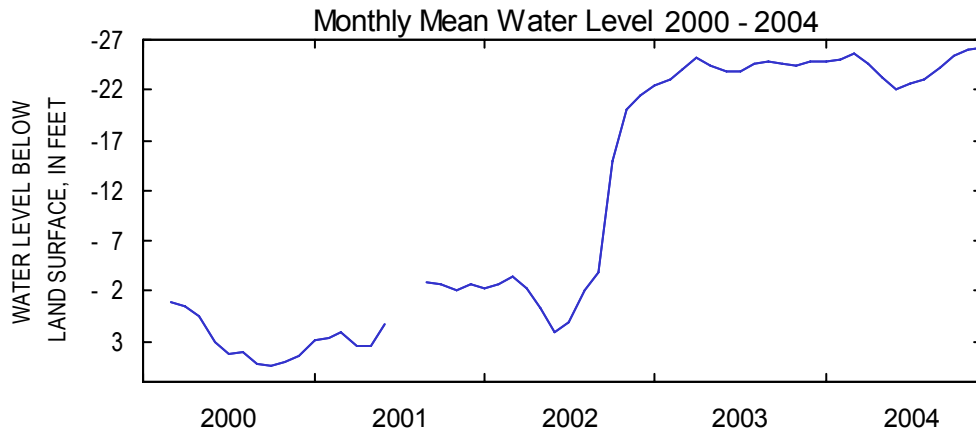
Site Name: 33D073

Latitude: 30° 44 '06" Longitude: 081° 33 '05" CAMDEN Period of Record: 2000 - 2004
Well Depth: 1,500 feet Datum: 10.00 feet Well Diameter 8 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	-24.83	-25.08	-25.52	-24.72	-23.32	-22.04	-22.67	-23.13	-24.16	-25.38	-26.02	-26.15
Max	-24.59	-24.61	-25.24	-23.94	-22.54	-21.77	-22.18	-22.82	-23.42	-24.76	-25.84	-25.85
Min	-25.12	-25.65	-25.98	-25.53	-24.04	-22.46	-22.97	-23.58	-24.93	-25.85	-26.25	-26.46
2000 - 2004												
Mean	-11.64	-12.16	-10.48	-9.81	-8.72	-7.93	-8.50	-9.70	-10.08	-12.46	-13.52	-14.13
Max	5.24	3.69	4.36	4.54	4.69	4.32	4.80	4.55	6.87	5.97	6.08	5.63
Min	-25.12	-25.65	-25.98	-25.53	-25.06	-24.05	-24.17	-24.71	-24.96	-25.85	-26.25	-26.46



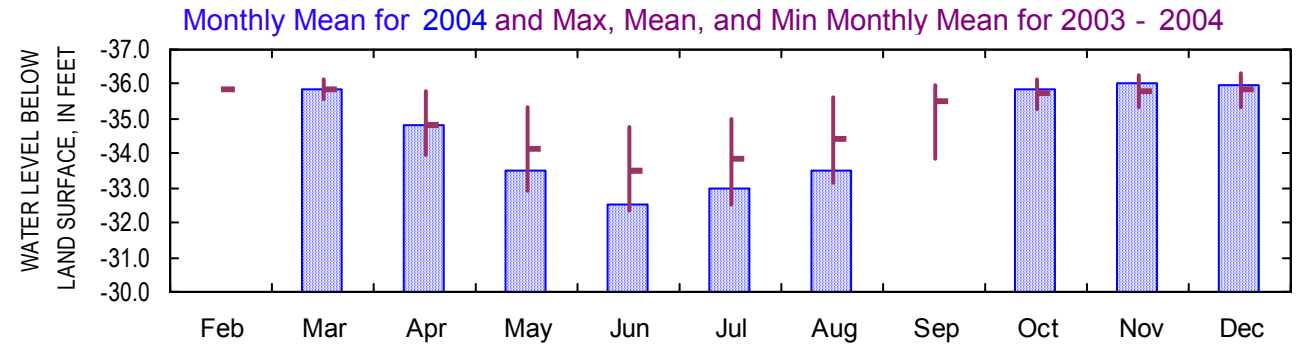
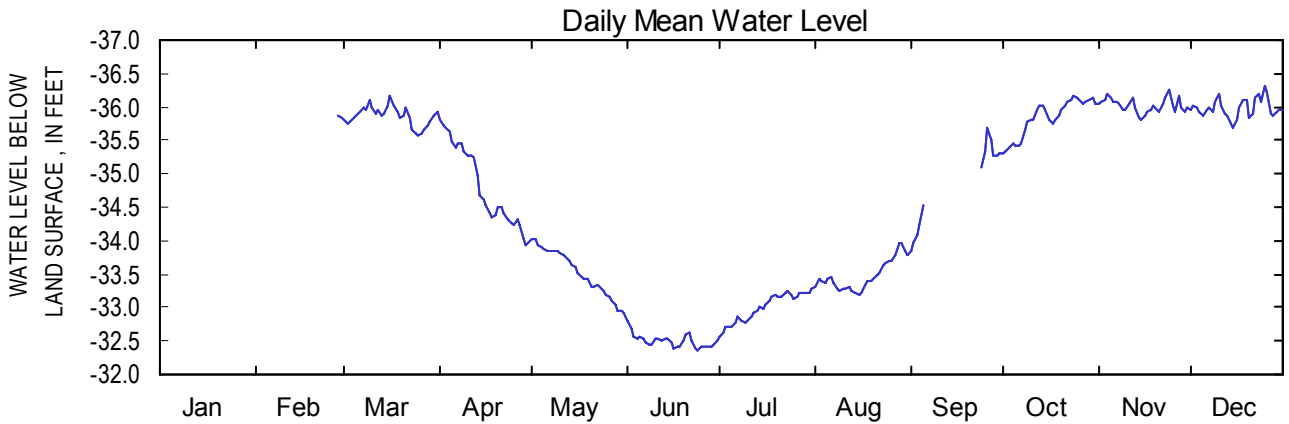


**LOWER FLORIDAN AQUIFER
2004 Calendar Year**

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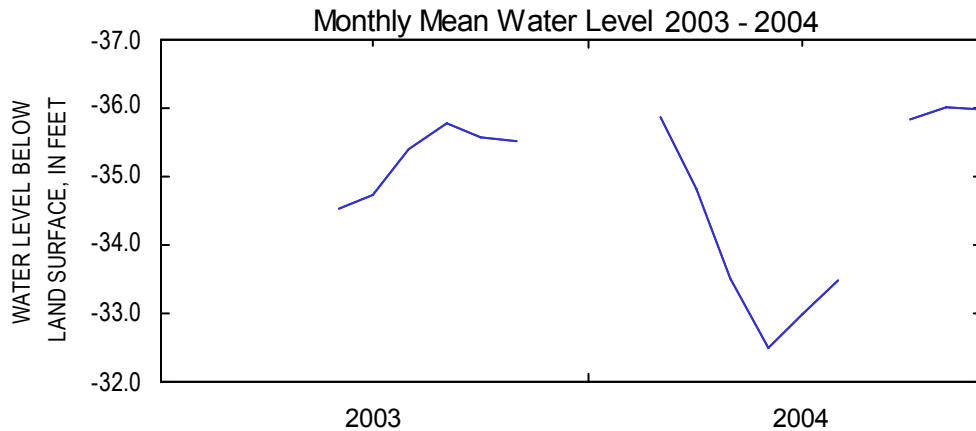
Site Name: 33D074

Latitude: 30° 44 '06" Longitude: 081° 33 '05" CAMDEN Period of Record: 2003 - 2004
Well Depth: 2004 feet Datum: 10.0 feet Well Diameter 12 inches



Monthly Water-Level Statistics

2004											
Mean	-35.86	-34.82	-33.52	-32.50	-33.00	-33.47		-35.84	-36.02	-35.98	
Max	-35.58	-33.94	-32.93	-32.37	-32.55	-33.18		-35.30	-35.81	-35.69	
Min	-36.16	-35.80	-34.04	-32.81	-33.28	-33.97		-36.16	-36.26	-36.31	
2003 - 2004											
Mean	-35.84	-35.86	-34.82	-34.11	-33.52	-33.87	-34.44	-35.51	-35.71	-35.77	-35.86
Max	-35.83	-35.58	-33.94	-32.93	-32.37	-32.55	-33.18	-33.84	-35.30	-35.35	-35.36
Min	-35.86	-36.16	-35.80	-35.34	-34.74	-35.00	-35.65	-35.94	-36.16	-36.26	-36.31



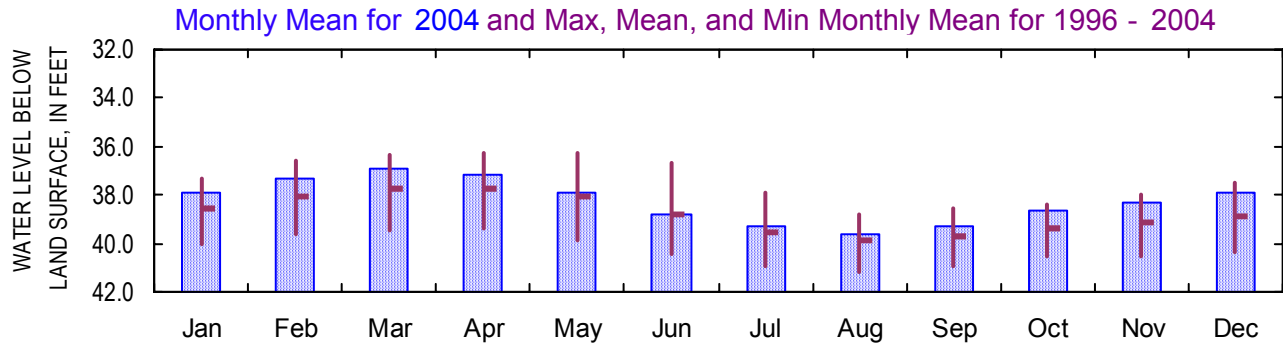
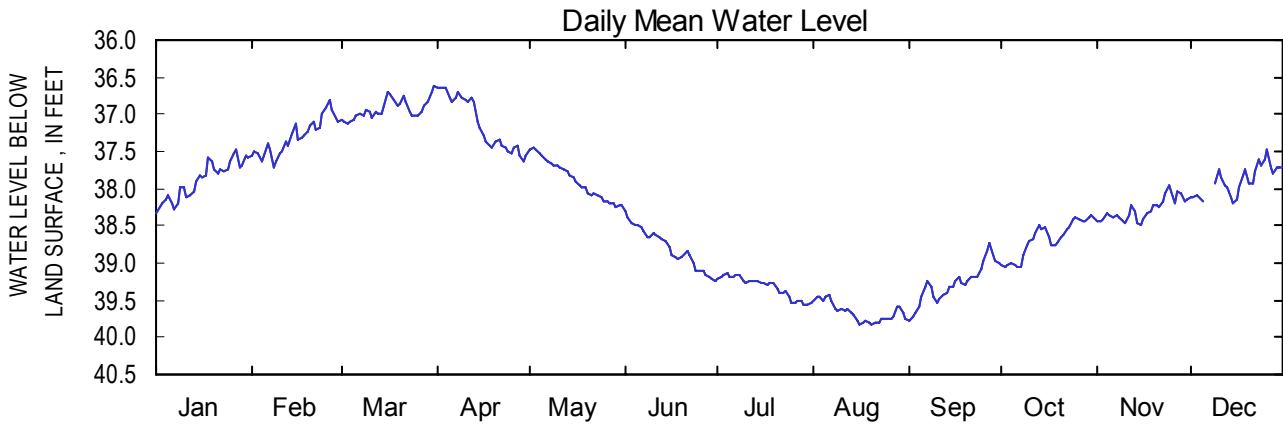


**LOWER FLORIDAN AQUIFER
2004 Calendar Year**

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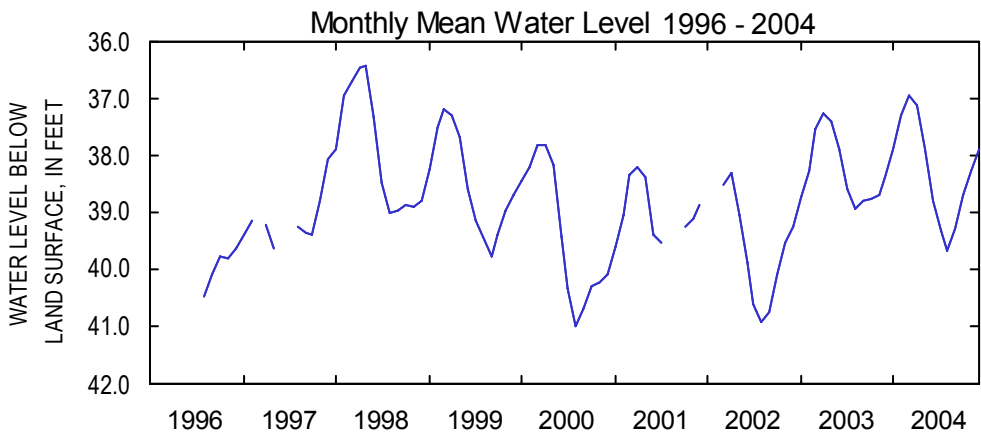
Site Name: 39Q024

Latitude: 32° 01' 27" Longitude: 080° 51' 12" CHATHAM Period of Record: 1996 - 2004
Well Depth: 888 feet Datum: 10 feet Well Diameter 4 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	37.89	37.30	36.93	37.12	37.88	38.80	39.32	39.66	39.28	38.68	38.28	37.88
Max	38.32	37.72	37.14	37.63	38.25	39.23	39.57	39.83	39.78	39.05	38.48	38.20
Min	37.48	36.80	36.60	36.64	37.44	38.31	39.14	39.42	38.72	38.35	37.96	37.48
1996 - 2004												
Mean	38.60	38.10	37.75	37.70	38.07	38.84	39.54	39.84	39.71	39.38	39.14	38.86
Max	40.05	39.59	39.44	39.39	39.89	40.43	40.93	41.17	40.97	40.51	40.51	40.36
Min	37.33	36.60	36.36	36.25	36.24	36.68	37.89	38.81	38.56	38.35	37.96	37.48



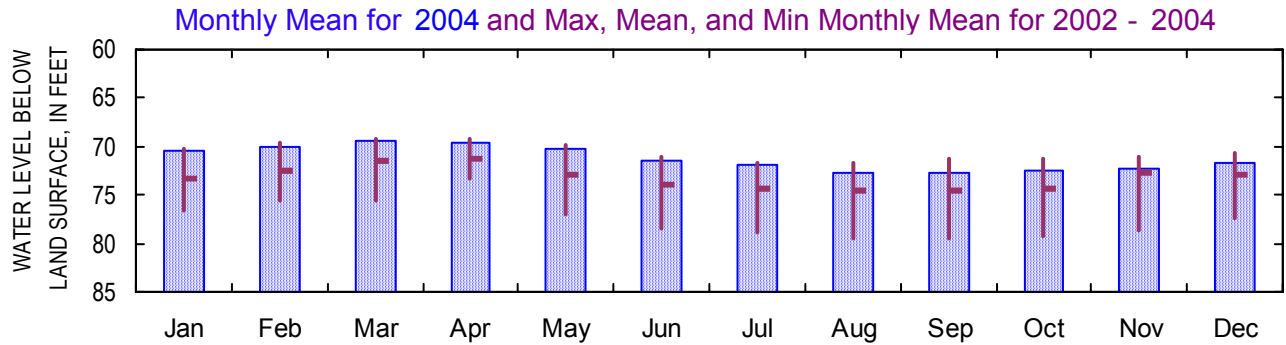
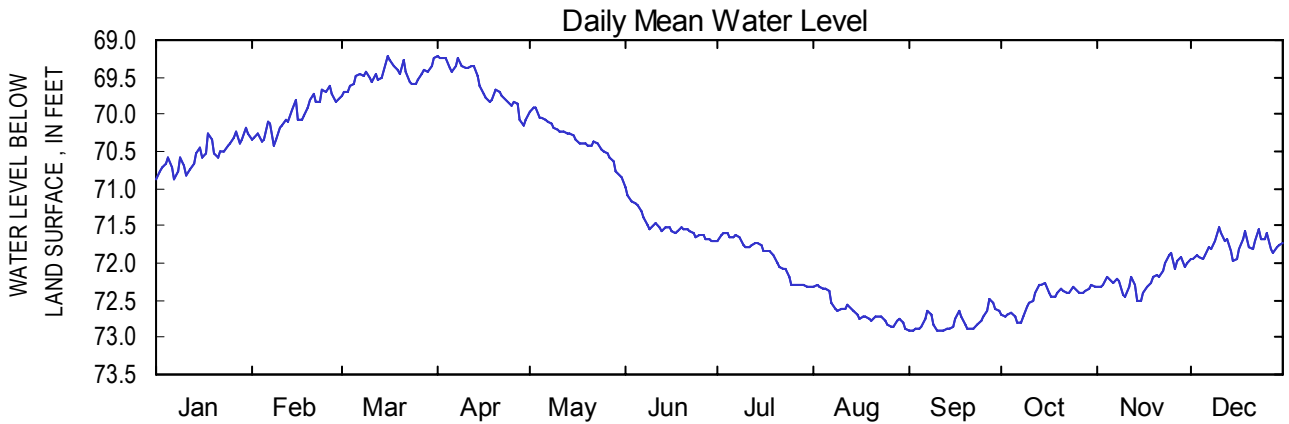


LOWER FLORIDAN AQUIFER 2004 Calendar Year

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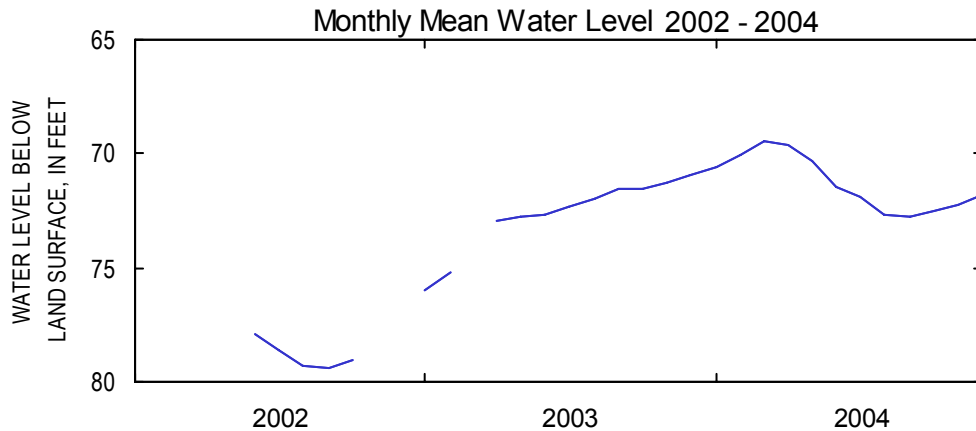
Site Name: 34S011

Latitude: 32° 17' 42" Longitude: 081° 23' 49" EFFINGHAM Period of Record: 2002 - 2004
 Well Depth: 870 feet Datum: 80 feet Well Diameter 8 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	70.54	70.02	69.47	69.60	70.32	71.49	71.91	72.64	72.79	72.47	72.21	71.77
Max	70.87	70.41	69.74	70.15	70.85	71.72	72.32	72.89	72.92	72.81	72.51	71.97
Min	70.19	69.63	69.21	69.23	69.91	70.97	71.59	72.29	72.48	72.27	71.86	71.51
2002 - 2004												
Mean	73.24	72.56	71.48	71.29	72.84	74.00	74.27	74.62	74.55	74.33	72.78	72.99
Max	76.59	75.55	75.61	73.30	76.93	78.39	78.85	79.53	79.51	79.32	78.72	77.35
Min	70.19	69.63	69.21	69.23	69.91	70.97	71.59	71.73	71.33	71.32	70.97	70.64



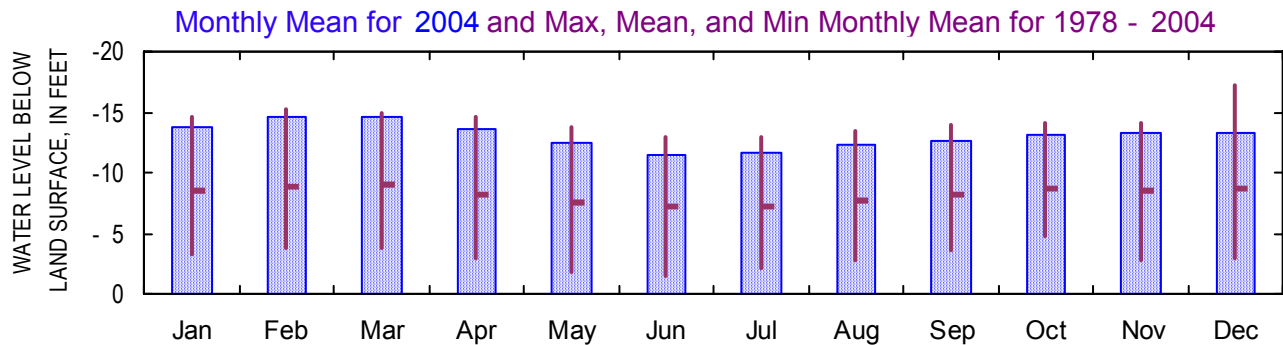
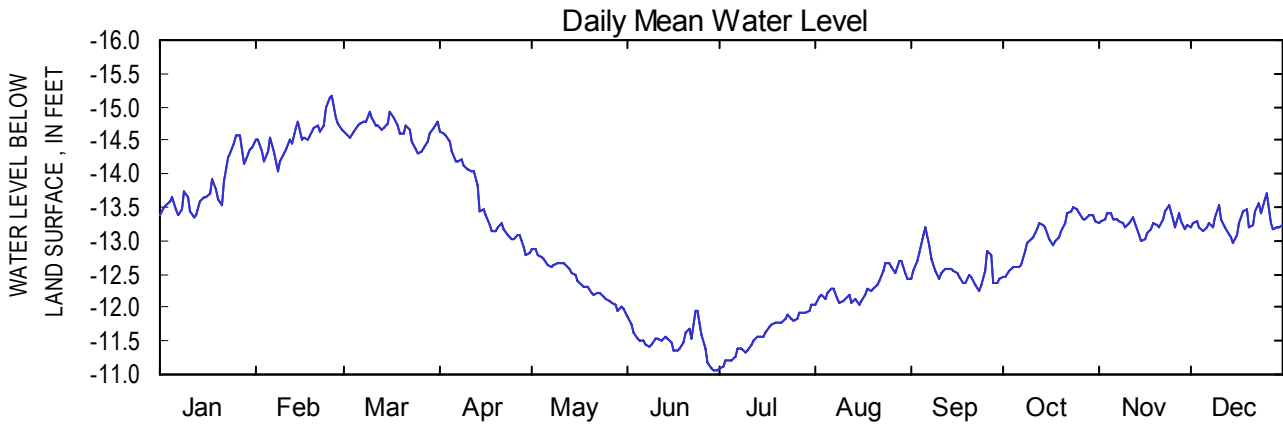


LOWER FLORIDAN AQUIFER 2004 Calendar Year

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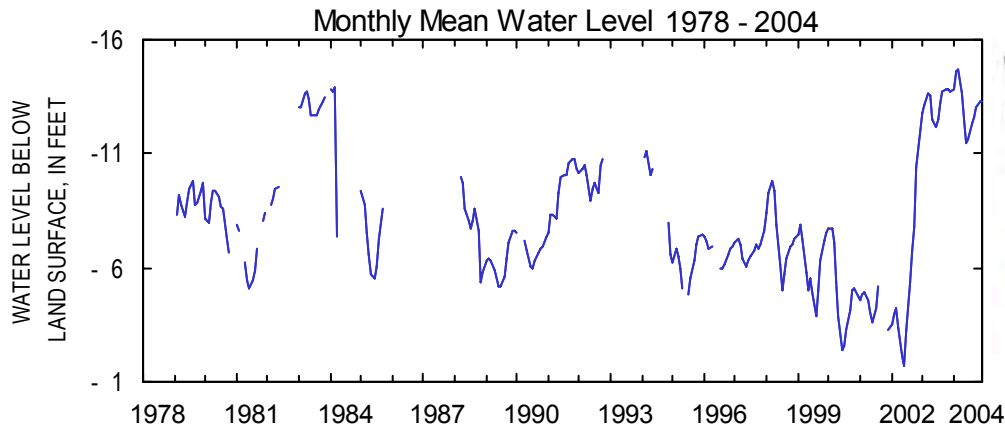
Site Name: 33H188

Latitude: 31° 08' 09" Longitude: 081° 32' 35" GLYNN Period of Record: 1978 - 2004
 Well Depth: 2,720 feet Datum: 9.37 feet Well Diameter 10.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	-13.81	-14.57	-14.65	-13.62	-12.42	-11.50	-11.60	-12.30	-12.57	-13.06	-13.27	-13.28
Max	-13.35	-14.04	-14.32	-12.78	-11.96	-11.05	-11.09	-12.03	-12.26	-12.46	-13.01	-12.98
Min	-14.57	-15.18	-14.93	-14.64	-12.89	-11.95	-12.04	-12.70	-13.21	-13.49	-13.53	-13.70
1978 - 2004												
Mean	-8.60	-8.90	-8.97	-8.13	-7.60	-7.20	-7.21	-7.68	-8.17	-8.76	-8.57	-8.71
Max	-3.30	-3.73	-3.74	-2.99	-1.74	-1.46	-2.12	-2.73	-3.61	-4.75	-2.80	-2.92
Min	-14.57	-15.18	-14.93	-14.64	-13.70	-13.00	-13.00	-13.49	-13.94	-14.11	-14.03	-17.20



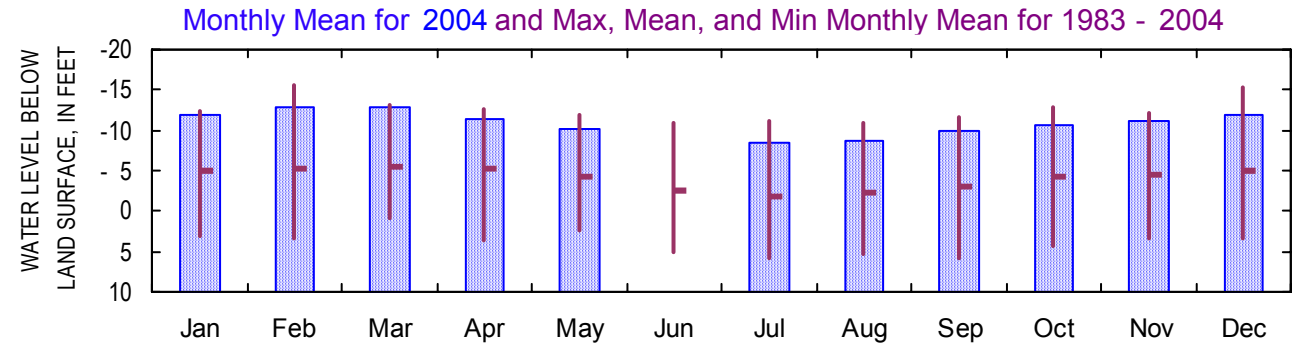
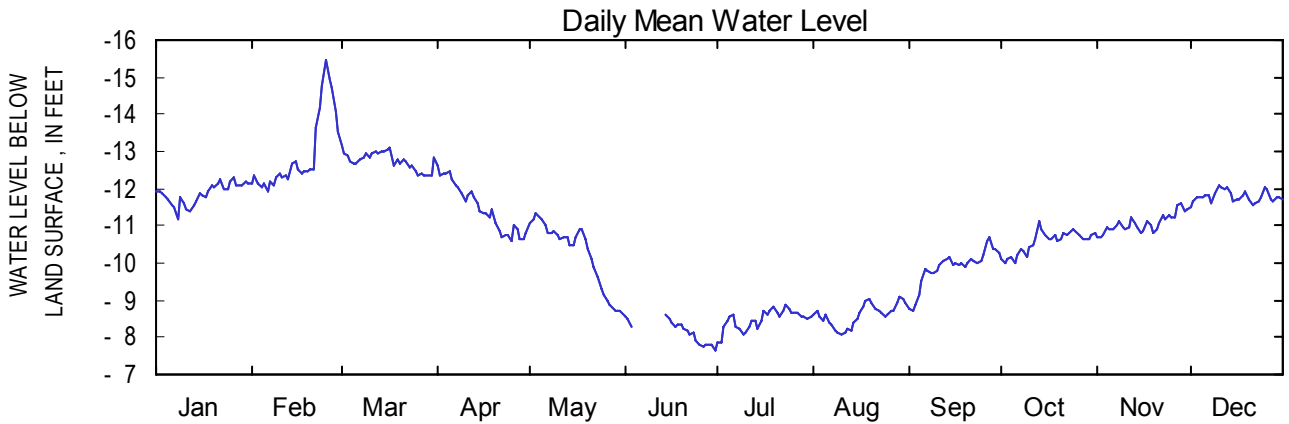


**LOWER FLORIDAN AQUIFER
2004 Calendar Year**

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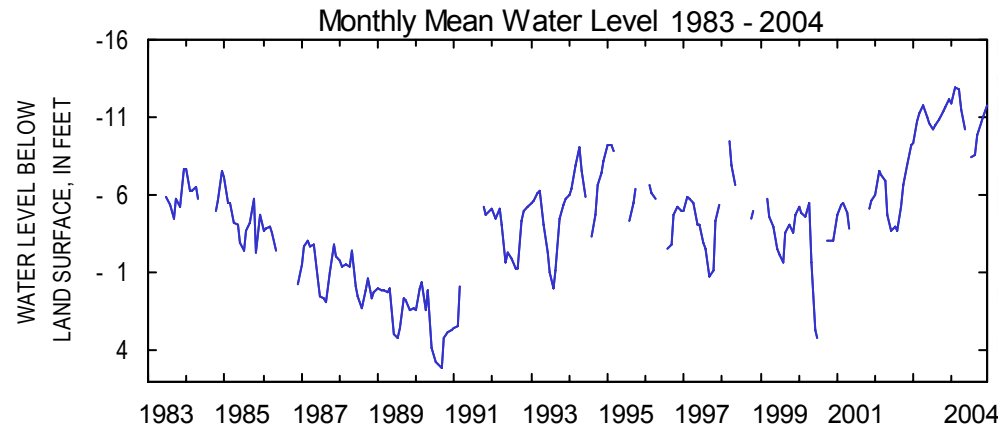
Site Name: 33H206

Latitude: 31° 09' 25" Longitude: 081° 31' 22" GLYNN Period of Record: 1983 - 2004
 Well Depth: 1,100 feet Datum: 7.00 feet Well Diameter 10.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	-11.87	-12.90	-12.76	-11.50	-10.24	-8.48	-8.60	-9.89	-10.57	-11.07	-11.79	
Max	-11.20	-11.93	-12.33	-10.59	-8.65	-7.87	-8.07	-8.71	-9.98	-10.67	-11.49	
Min	-12.29	-15.45	-13.17	-12.64	-11.35	-8.88	-9.11	-10.69	-11.15	-11.60	-12.09	
1983 - 2004												
Mean	-4.94	-5.24	-5.59	-5.23	-4.34	-2.58	-1.88	-2.30	-2.92	-4.30	-4.54	-4.96
Max	3.17	3.37	0.99	3.68	2.30	5.04	5.93	5.36	5.89	4.27	3.31	3.27
Min	-12.29	-15.45	-13.17	-12.64	-11.84	-10.88	-11.05	-10.98	-11.71	-12.80	-12.24	-15.23



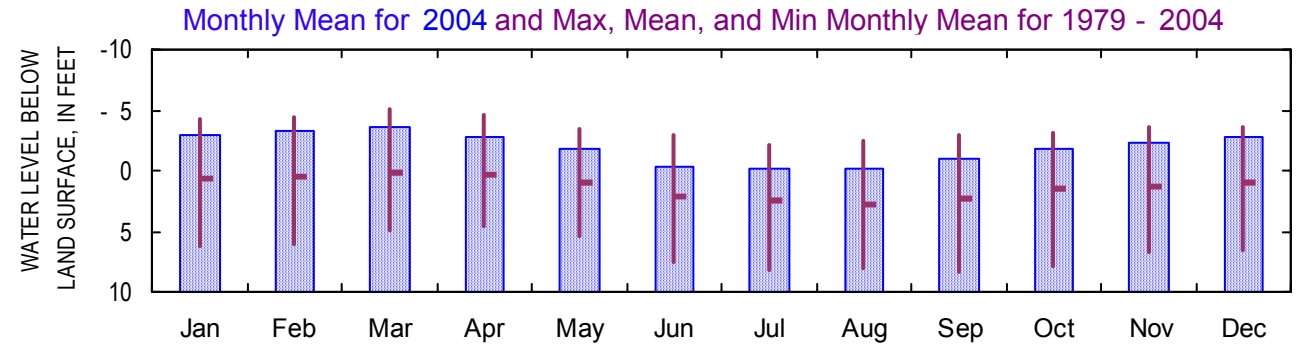
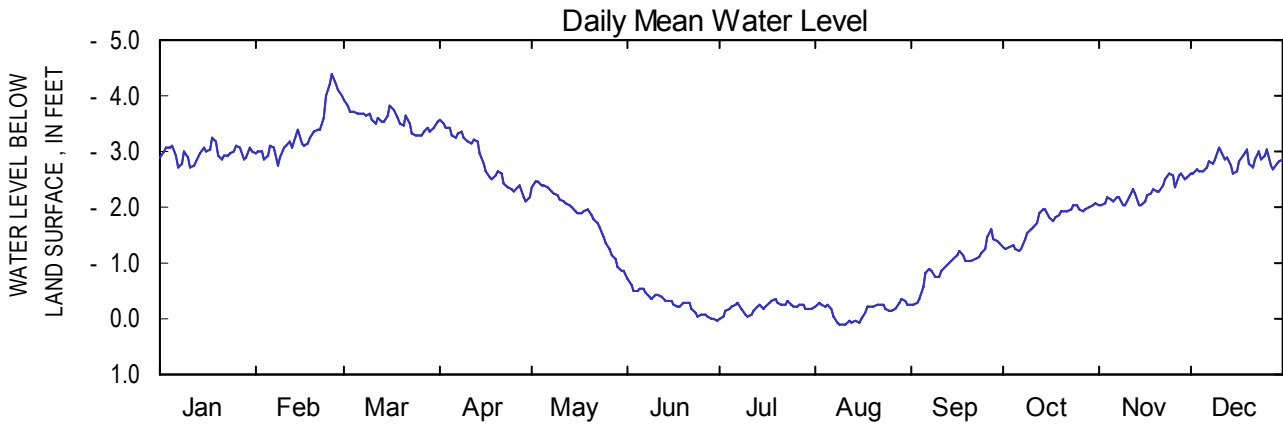


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2004 Calendar Year**

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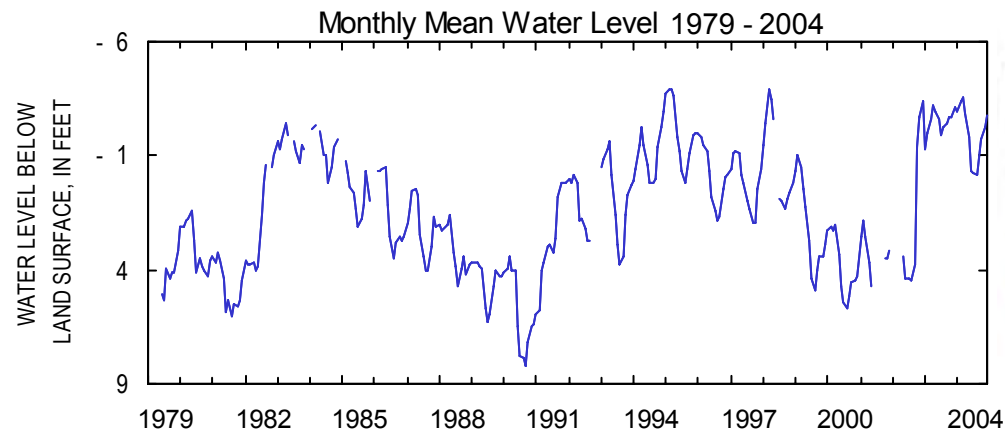
Site Name: 33J044

Latitude: 31° 16' 33" Longitude: 081° 32' 40" GLYNN Period of Record: 1979 - 2004
 Well Depth: 1,910 feet Datum: 20.00 feet Well Diameter 9.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	-2.96	-3.35	-3.56	-2.83	-1.84	-0.29	-0.20	-0.14	-0.97	-1.73	-2.27	-2.81
Max	-2.71	-2.76	-3.29	-2.09	-0.85	0.03	-0.01	0.12	-0.25	-1.20	-2.03	-2.59
Min	-3.25	-4.41	-3.92	-3.57	-2.47	-0.73	-0.35	-0.38	-1.62	-2.06	-2.61	-3.09
1979 - 2004												
Mean	0.65	0.44	0.18	0.28	0.97	2.06	2.53	2.74	2.35	1.54	1.28	0.96
Max	6.31	6.14	4.87	4.63	5.39	7.52	8.23	8.09	8.44	7.82	6.79	6.53
Min	-4.24	-4.41	-5.09	-4.56	-3.44	-2.92	-2.12	-2.40	-2.98	-3.15	-3.53	-3.65



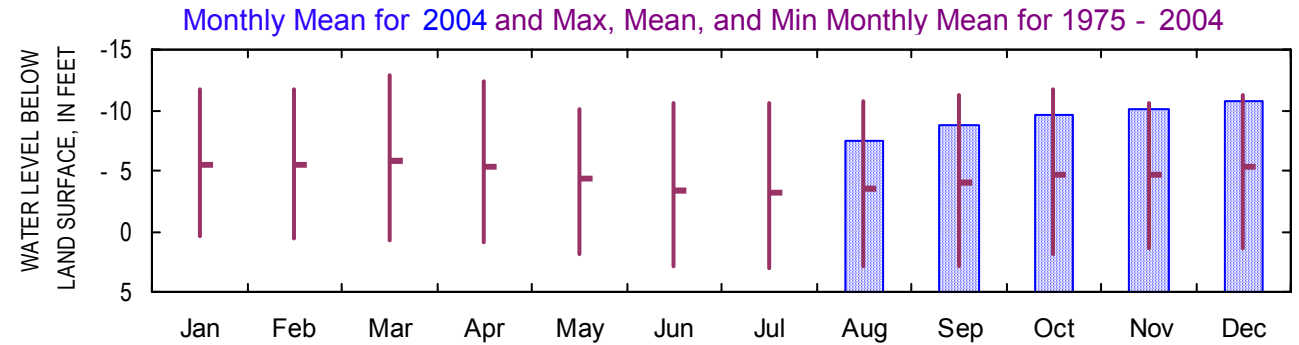
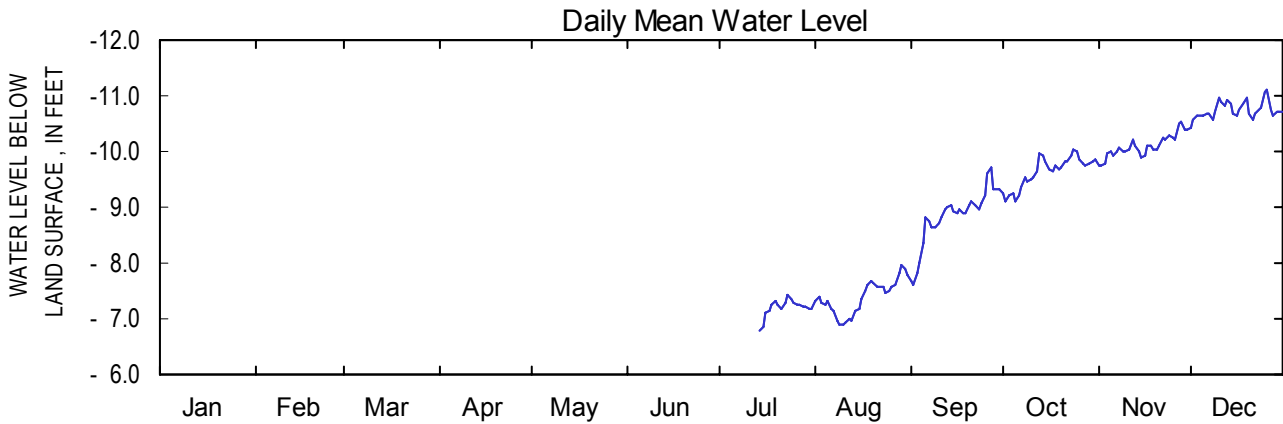


**LOWER FLORIDAN AQUIFER
2004 Calendar Year**

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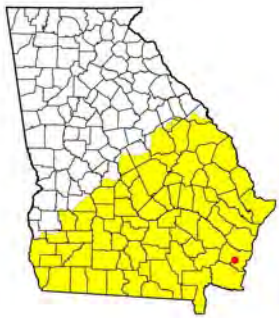
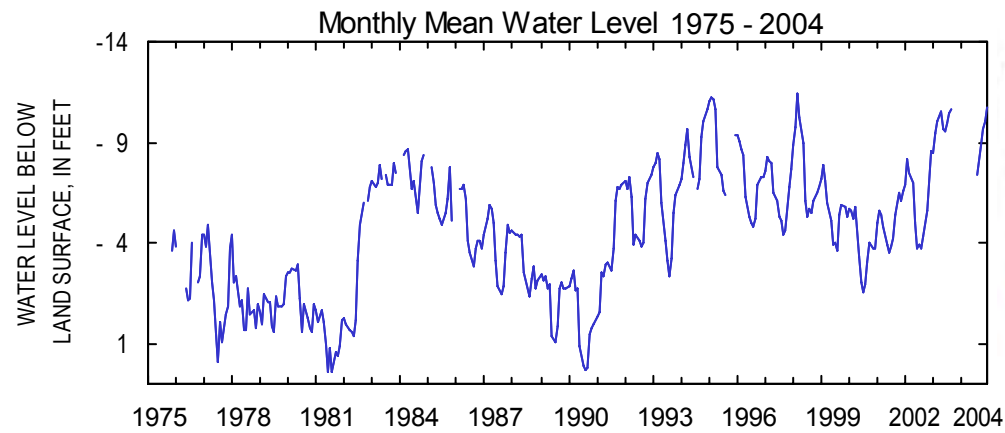
Site Name: 34H391

Latitude: 31° 08' 18" Longitude: 081° 29' 42" GLYNN Period of Record: 1975 - 2004
 Well Depth: 1158 feet Datum: 7.13 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics

2004												
Mean							-7.38	-8.84	-9.64	-10.09	-10.74	
Max							-6.89	-7.60	-9.10	-9.75	-10.44	
Min							-7.97	-9.73	-10.03	-10.53	-11.11	
1975 - 2004												
Mean	-5.42	-5.55	-5.74	-5.33	-4.42	-3.31	-3.12	-3.55	-4.00	-4.67	-4.67	-5.32
Max	0.33	0.55	0.72	0.86	1.93	2.83	2.96	2.83	2.90	1.96	1.44	1.45
Min	-11.72	-11.71	-12.85	-12.34	-10.14	-10.62	-10.64	-10.79	-11.26	-11.65	-10.62	-11.17



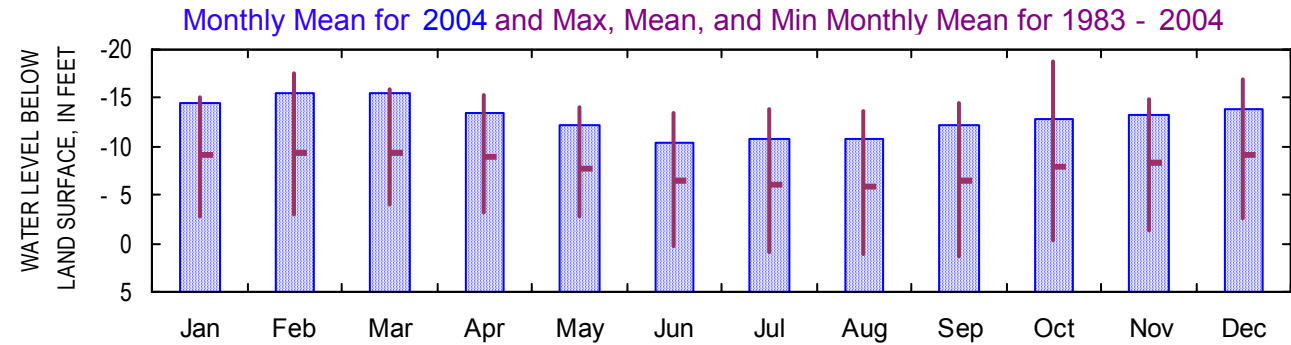
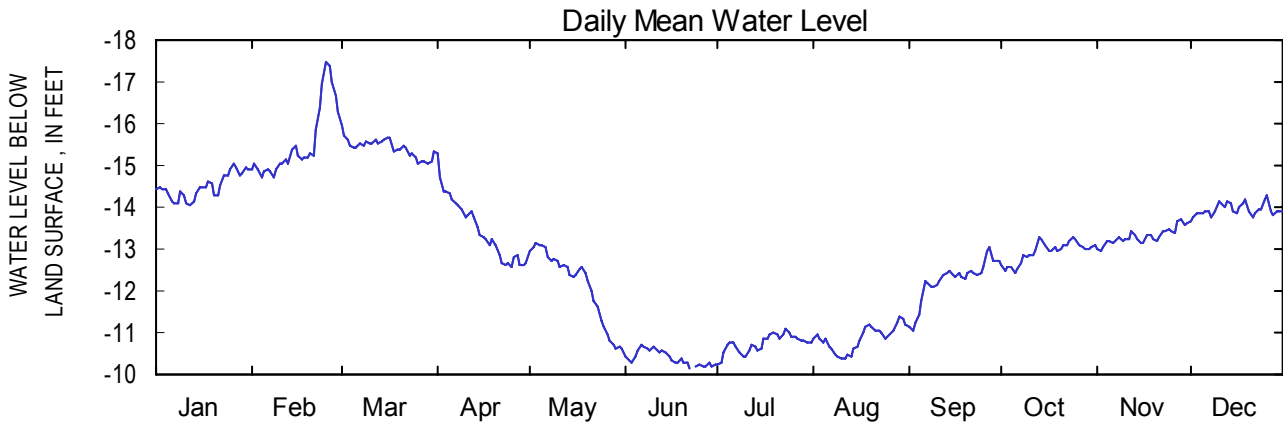


LOWER FLORIDAN AQUIFER 2004 Calendar Year

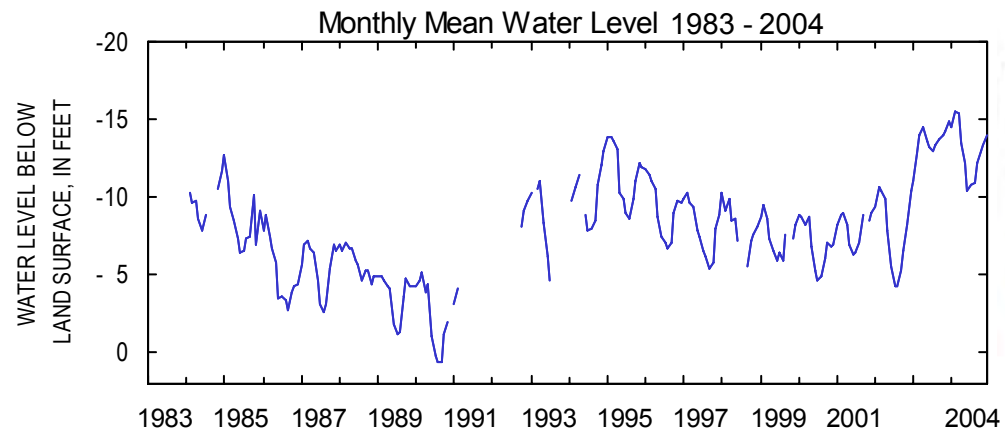
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Site Name: 34H436

Latitude: 31° 09' 01" Longitude: 081° 28' 44" GLYNN Period of Record: 1983 - 2004
 Well Depth: 1,103 feet Datum: 6.62 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics												
2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	-14.49	-15.53	-15.43	-13.48	-12.14	-10.40	-10.74	-10.87	-12.25	-12.93	-13.30	-13.95
Max	-14.05	-14.72	-15.05	-12.57	-10.61	-10.15	-10.25	-10.38	-11.04	-12.45	-12.97	-13.66
Min	-15.04	-17.48	-15.97	-15.28	-13.15	-10.70	-11.10	-11.40	-13.07	-13.28	-13.71	-14.28
1983 - 2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	-9.10	-9.42	-9.44	-8.90	-7.78	-6.51	-6.08	-5.88	-6.49	-7.82	-8.28	-9.06
Max	-2.70	-2.90	-4.10	-3.10	-2.70	0.30	0.90	1.10	1.30	-0.40	-1.30	-2.50
Min	-15.04	-17.48	-15.97	-15.28	-14.07	-13.50	-13.79	-13.72	-14.42	-18.79	-14.95	-17.00



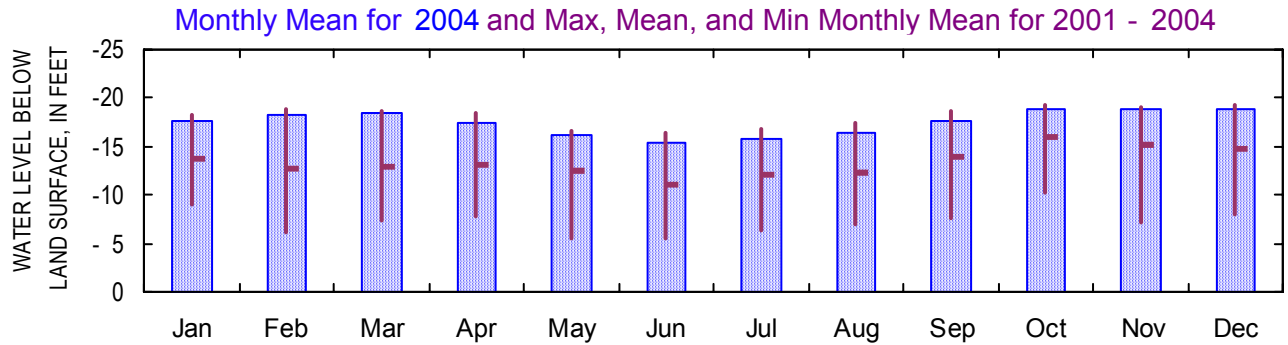
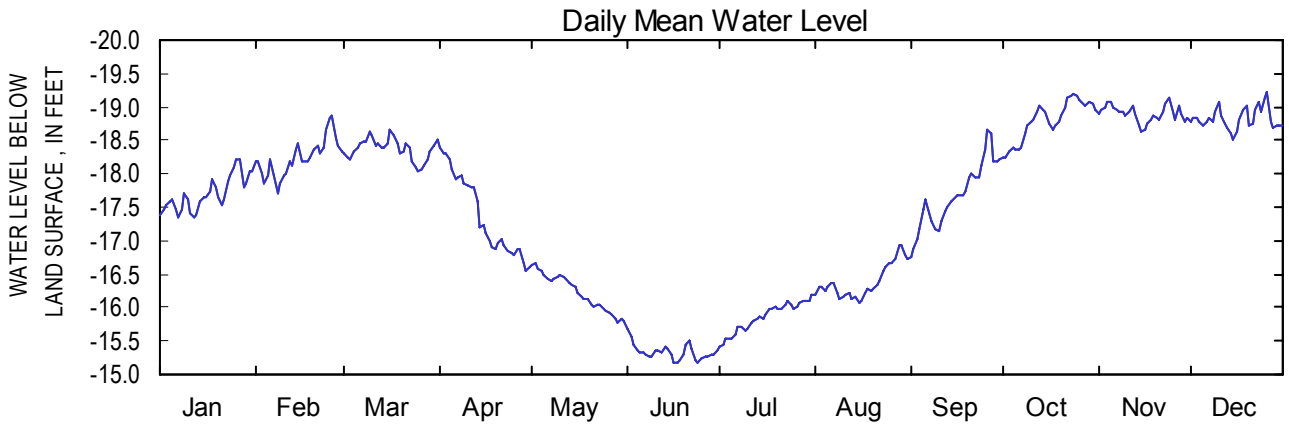


LOWER FLORIDAN AQUIFER 2004 Calendar Year

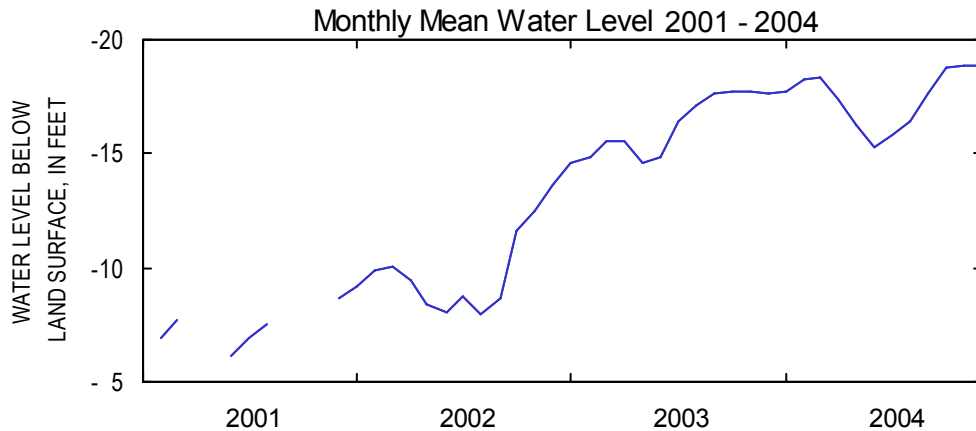
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Site Name: 34H495

Latitude: 31° 08' 35" Longitude: 081° 29' 45" GLYNN Period of Record: 2001 - 2004
 Well Depth: 2,720 feet Datum: 10 feet Well Diameter 8 inches



Monthly Water-Level Statistics												
2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	-17.70	-18.24	-18.37	-17.38	-16.22	-15.33	-15.86	-16.38	-17.68	-18.80	-18.90	-18.83
Max	-17.35	-17.70	-18.05	-16.56	-15.78	-15.17	-15.40	-16.06	-16.75	-18.25	-18.64	-18.53
Min	-18.23	-18.86	-18.65	-18.41	-16.67	-15.67	-16.19	-16.94	-18.66	-19.20	-19.14	-19.22
2001 - 2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	-13.82	-12.63	-12.90	-13.17	-12.42	-11.09	-11.99	-12.24	-13.96	-16.06	-15.12	-14.69
Max	-8.92	-6.16	-7.42	-7.74	-5.44	-5.61	-6.26	-6.87	-7.54	-10.33	-7.26	-8.08
Min	-18.23	-18.86	-18.65	-18.41	-16.67	-16.35	-16.71	-17.45	-18.66	-19.20	-19.14	-19.22



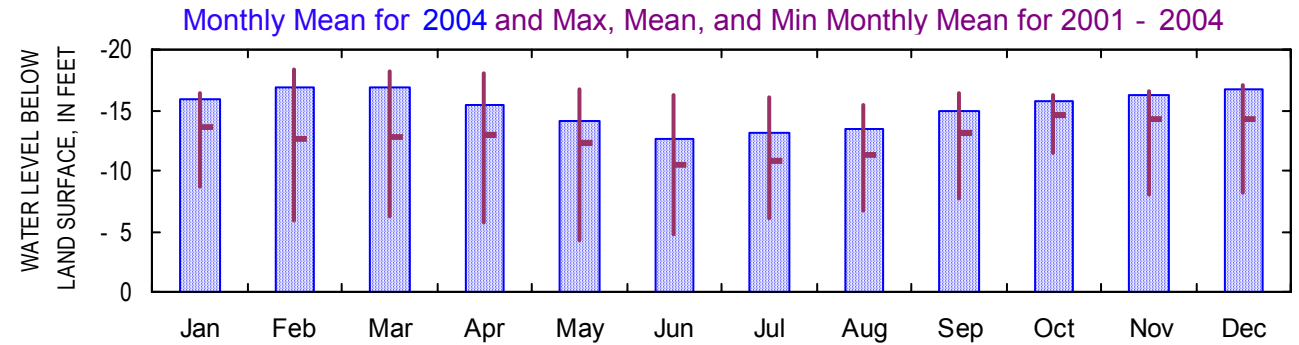
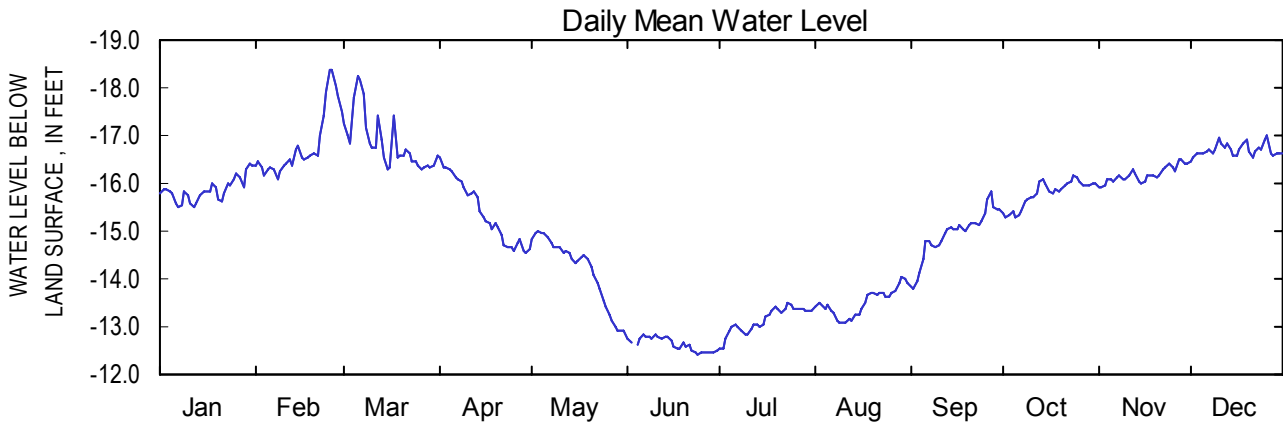


**LOWER FLORIDAN AQUIFER
2004 Calendar Year**

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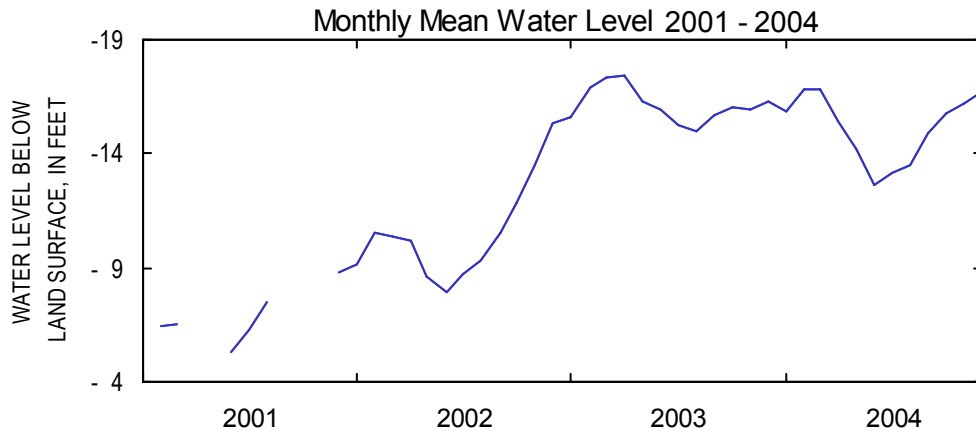
Site Name: 34H500

Latitude: 31° 08' 35" Longitude: 081° 29' 45" GLYNN Period of Record: 2001 - 2004
 Well Depth: 1,400 feet Datum: 10 feet Well Diameter 8.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	-15.85	-16.82	-16.84	-15.41	-14.18	-12.63	-13.13	-13.50	-14.93	-15.79	-16.19	-16.70
Max	-15.51	-16.08	-16.28	-14.56	-12.90	-12.40	-12.53	-13.07	-13.80	-15.27	-15.91	-16.46
Min	-16.40	-18.37	-18.26	-16.55	-14.99	-12.82	-13.50	-14.06	-15.83	-16.15	-16.52	-16.99
2001 - 2004												
Mean	-13.56	-12.70	-12.77	-13.00	-12.32	-10.42	-10.83	-11.34	-13.13	-14.55	-14.22	-14.26
Max	-8.73	-5.93	-6.20	-5.75	-4.33	-4.71	-6.02	-6.72	-7.68	-11.41	-8.07	-8.27
Min	-16.40	-18.37	-18.26	-17.95	-16.76	-16.18	-16.08	-15.33	-16.45	-16.23	-16.52	-16.99



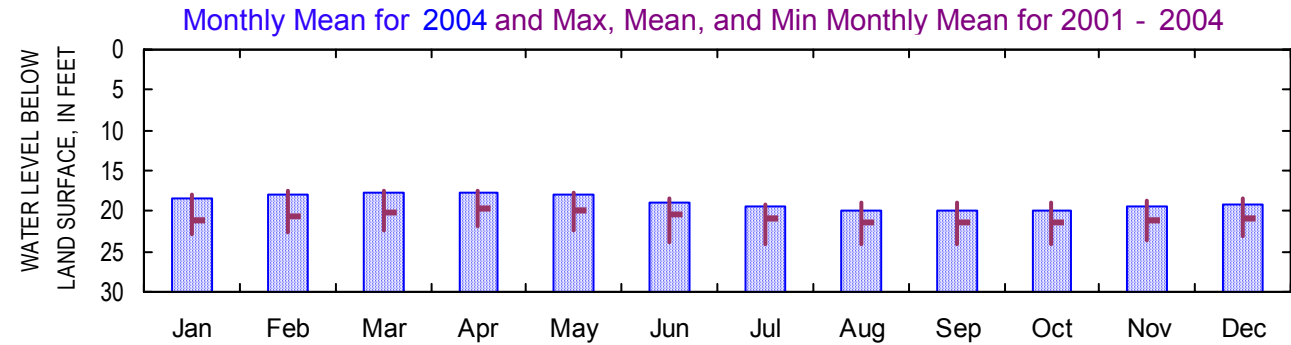
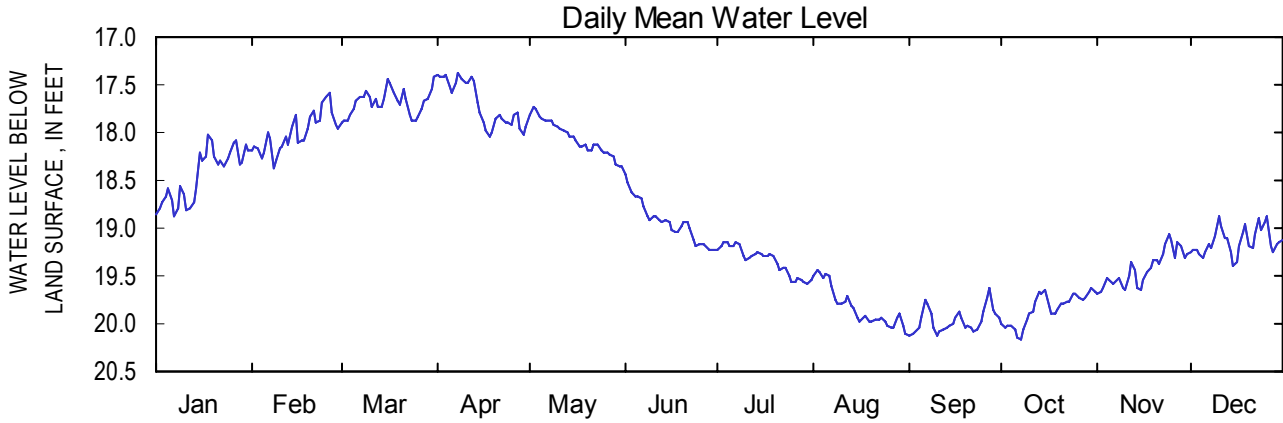


**LOWER FLORIDAN AQUIFER
2004 Calendar Year**

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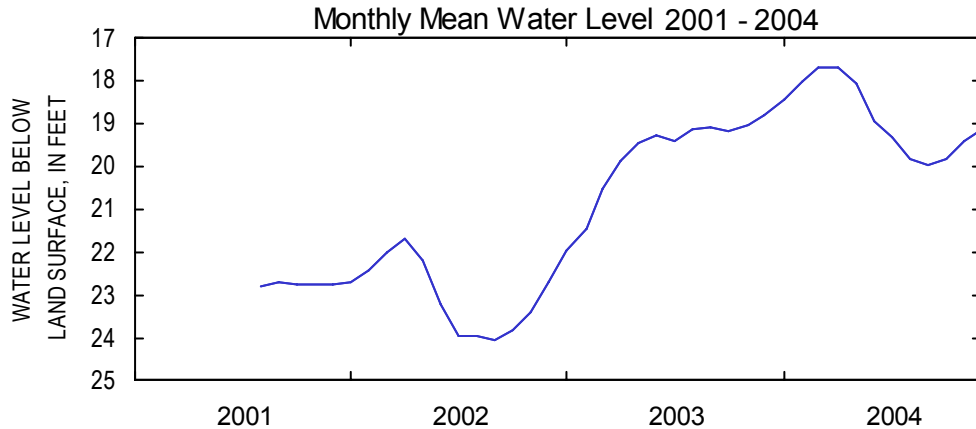
Site Name: 35L085

Latitude: 31° 36' 73" Longitude: 081° 18' 98" MCINTOSH Period of Record: 2001 - 2004
 Well Depth: 1,422 feet Datum: 10 feet Well Diameter 8 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	18.45	18.00	17.69	17.70	18.06	18.94	19.34	19.83	19.97	19.85	19.43	19.14
Max	18.87	18.37	17.90	18.03	18.34	19.24	19.58	20.10	20.12	20.18	19.69	19.40
Min	18.01	17.58	17.42	17.36	17.74	18.43	19.14	19.44	19.63	19.63	19.06	18.87
2001 - 2004												
Mean	21.05	20.60	20.08	19.75	19.91	20.47	20.92	21.44	21.46	21.40	21.17	20.86
Max	22.91	22.72	22.44	21.87	22.44	23.90	24.21	24.16	24.18	24.14	23.65	23.15
Min	18.01	17.58	17.42	17.36	17.74	18.43	19.14	19.00	18.82	18.90	18.79	18.50



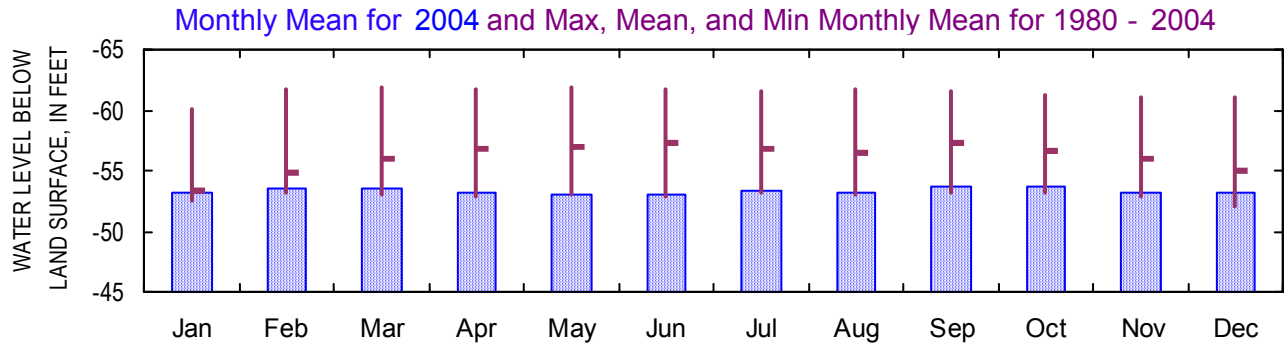
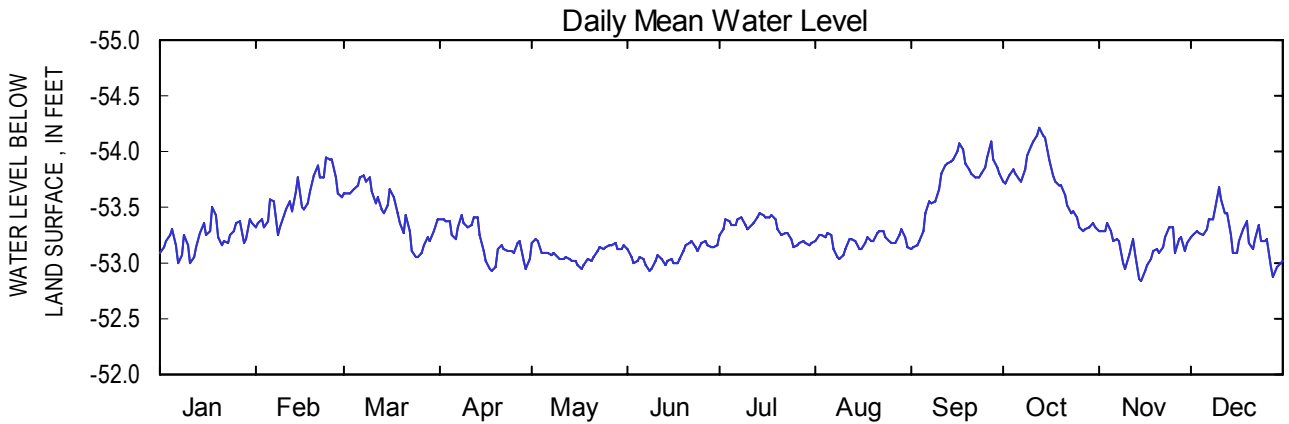


LOWER FLORIDAN AQUIFER 2004 Calendar Year

313253081433501

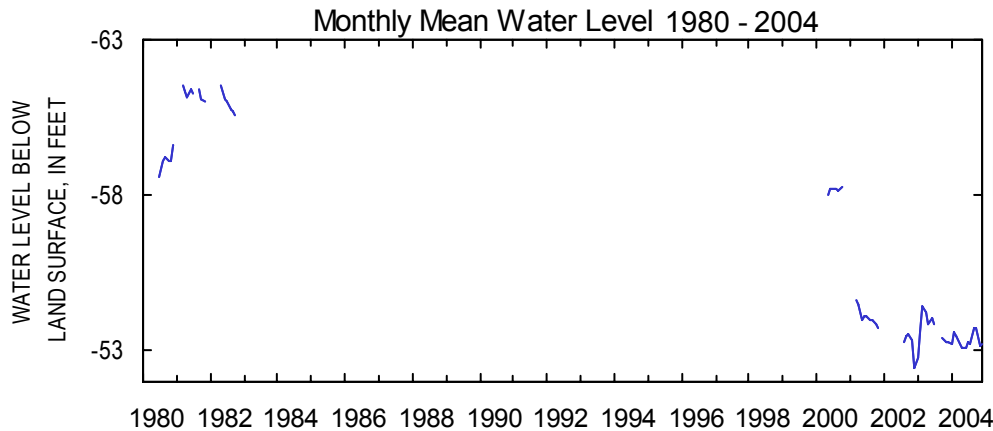
Site Name: 32L005

Latitude: 31° 32' 52" Longitude: 081° 43' 36" WAYNE Period of Record: 1980 - 2004
 Well Depth: 2,070 feet Datum: 74.00 feet Well Diameter 9.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	-53.23	-53.58	-53.45	-53.19	-53.09	-53.08	-53.31	-53.20	-53.72	-53.71	-53.14	-53.24
Max	-52.99	-53.26	-53.05	-52.92	-52.96	-52.93	-53.14	-53.03	-53.12	-53.28	-52.84	-52.88
Min	-53.51	-53.95	-53.78	-53.42	-53.22	-53.20	-53.45	-53.30	-54.08	-54.22	-53.36	-53.67
1980 - 2004												
Mean	-53.44	-54.78	-55.99	-56.81	-56.95	-57.24	-56.88	-56.40	-57.23	-56.70	-55.91	-55.02
Max	-52.57	-53.14	-53.05	-52.92	-52.96	-52.93	-53.14	-53.03	-53.12	-53.17	-52.84	-52.06
Min	-60.08	-61.64	-61.82	-61.70	-61.90	-61.65	-61.50	-61.66	-61.58	-61.30	-61.10	-61.10



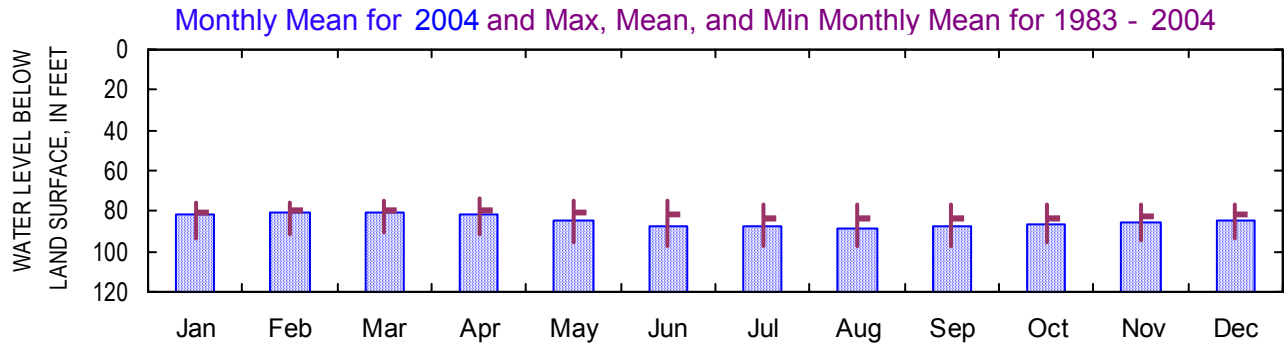
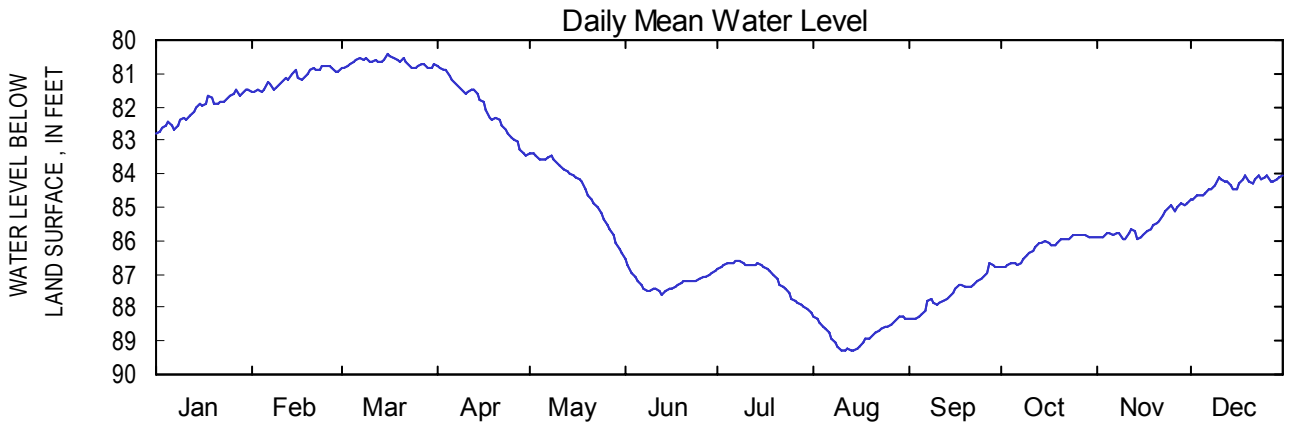


FLORIDAN AQUIFER SYSTEM 2004 Calendar Year

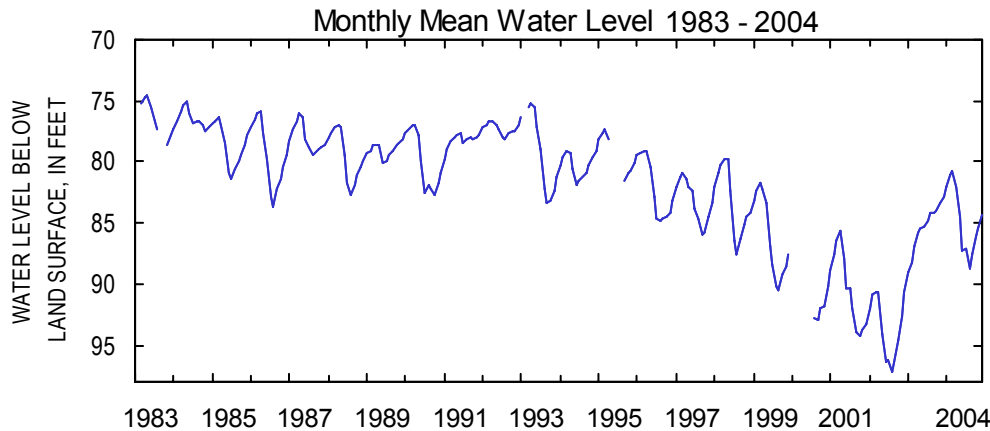
323123081511601

Site Name: 31U008

Latitude: 32° 31' 23" Longitude: 081° 51' 16" BULLOCH Period of Record: 1983 - 2004
 Well Depth: 860 feet Datum: 205.00 feet Well Diameter 6.00 inches



Monthly Water-Level Statistics												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	82.06	81.13	80.67	81.99	84.43	87.23	87.11	88.78	87.55	86.20	85.54	84.31
Max	82.80	81.57	80.86	83.42	86.35	87.59	88.17	89.28	88.36	86.78	85.96	84.77
Min	81.46	80.75	80.41	80.77	83.40	86.54	86.61	88.25	86.69	85.82	84.87	84.03
1983 - 2004												
Mean	80.95	80.07	79.37	79.30	80.22	81.85	83.23	83.94	83.89	83.42	82.79	82.02
Max	92.99	91.41	90.82	91.96	95.46	97.36	97.05	97.84	97.43	95.41	94.11	93.81
Min	75.99	75.54	74.93	74.26	74.37	74.71	76.29	76.52	76.58	76.82	77.14	76.71



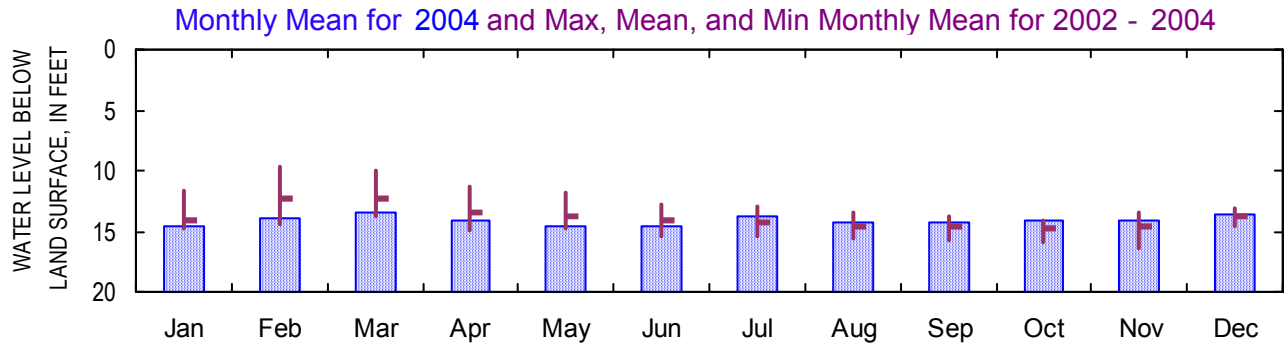
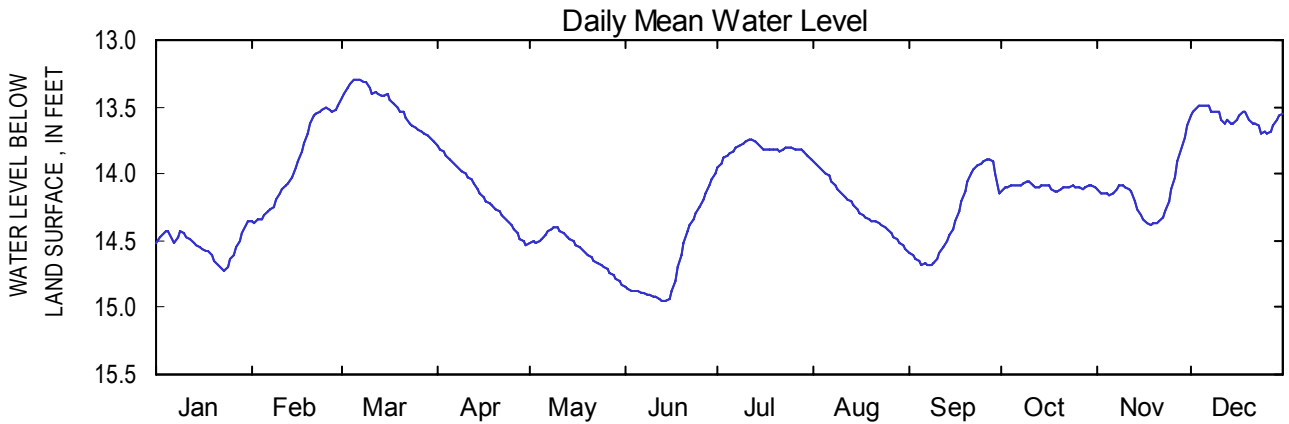


**FLORIDAN AQUIFER SYSTEM
2004 Calendar Year**

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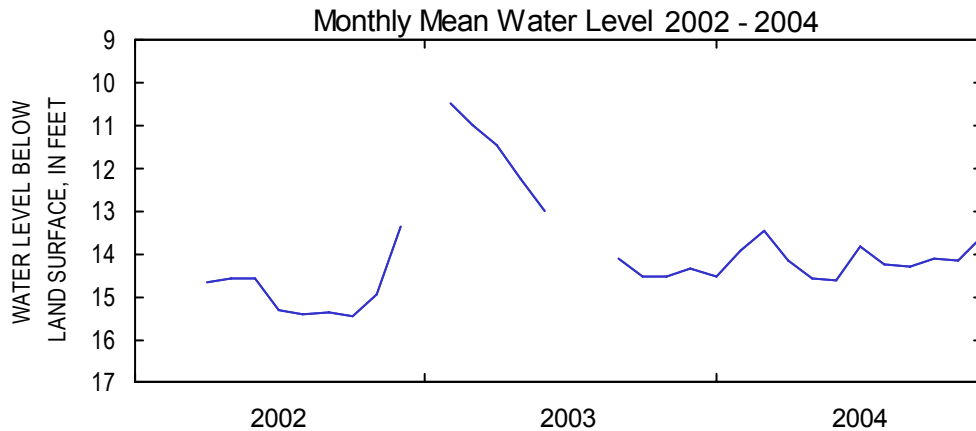
Site Name: 08E039

Latitude: 30° 48 '06" Longitude: 084° 40 '41" DECATUR Period of Record: 2002 - 2004
Well Depth: 64.5 feet Datum: 91 feet Well Diameter 6 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	14.53	13.92	13.49	14.15	14.57	14.64	13.82	14.25	14.32	14.10	14.15	13.58
Max	14.72	14.36	13.76	14.53	14.83	14.94	13.95	14.56	14.69	14.13	14.38	13.70
Min	14.36	13.48	13.29	13.79	14.39	14.00	13.74	13.91	13.89	14.05	13.63	13.49
2002 - 2004												
Mean	14.09	12.22	12.25	13.42	13.80	14.08	14.27	14.61	14.59	14.70	14.55	13.77
Max	14.72	14.36	13.76	14.85	14.83	15.40	15.45	15.52	15.67	15.84	16.46	14.53
Min	11.61	9.74	9.99	11.30	11.75	12.82	12.96	13.52	13.70	14.05	13.52	13.17



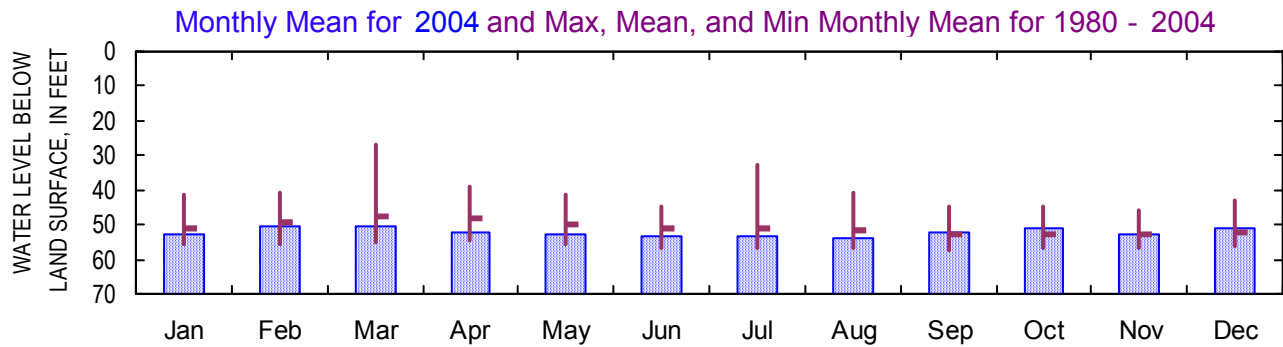
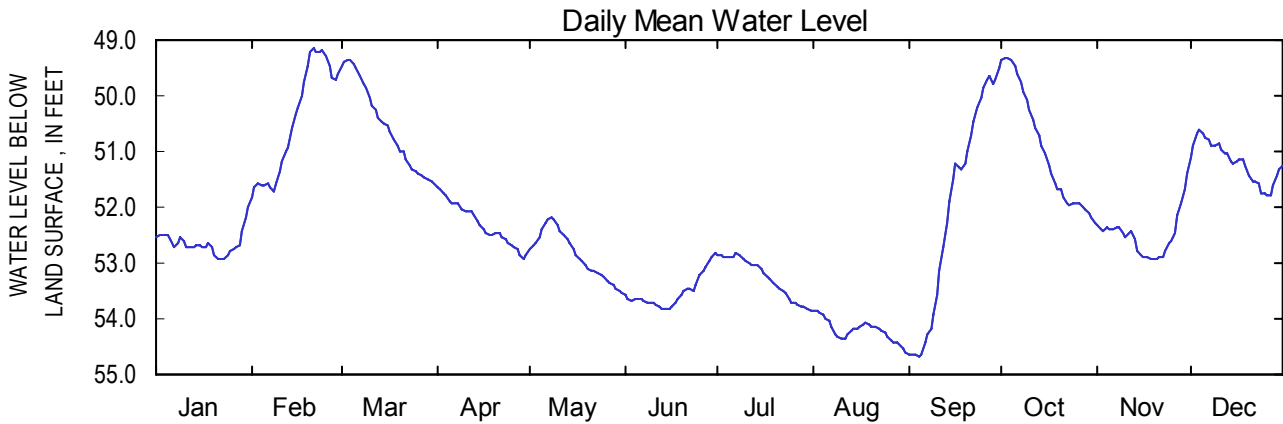


FLORIDAN AQUIFER SYSTEM 2004 Calendar Year

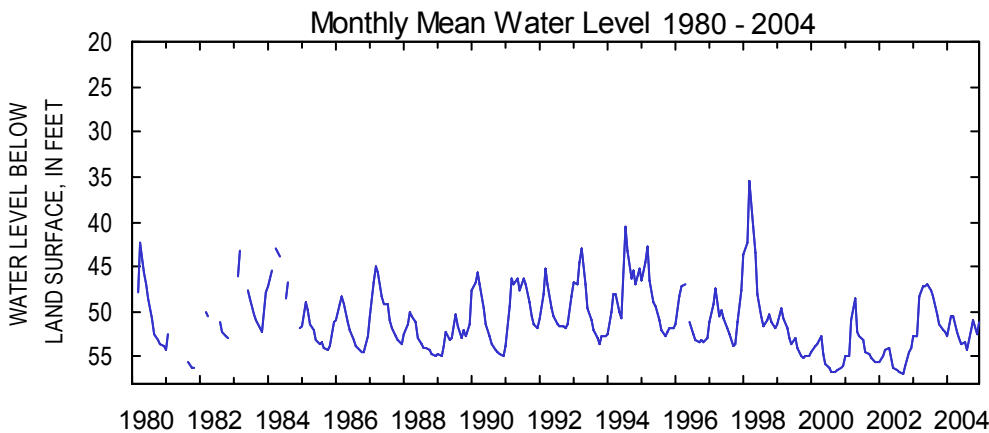
310428084310501

Site Name: 09G001

Latitude: 31° 04' 28" Longitude: 084° 31' 05" DECATUR Period of Record: 1980 - 2004
Well Depth: 455 feet Datum: 145.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	52.64	50.46	50.53	52.30	52.85	53.53	53.26	54.21	52.03	50.96	52.50	51.20
Max	52.93	51.82	51.57	52.92	53.53	53.84	53.85	54.61	54.66	52.27	52.94	51.79
Min	52.00	49.15	49.35	51.65	52.16	52.84	52.84	53.87	49.50	49.31	51.38	50.61
1980 - 2004												
Mean	51.24	49.47	47.63	48.23	49.86	51.00	51.17	51.91	52.86	52.99	53.07	52.20
Max	55.65	55.37	55.08	54.55	55.79	56.59	56.58	56.96	57.20	56.66	56.68	56.24
Min	41.03	40.76	27.12	39.06	41.29	44.53	32.71	40.89	44.86	44.80	45.81	42.75



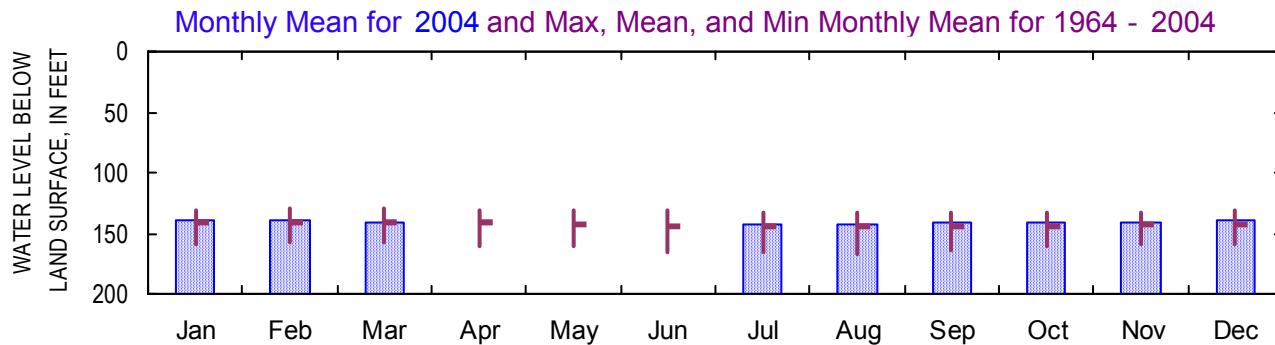
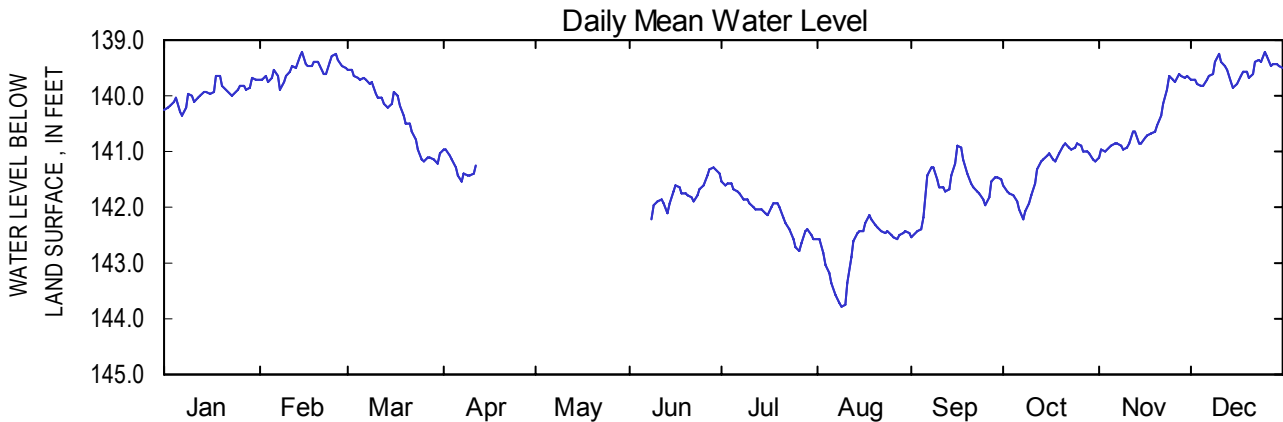


FLORIDAN AQUIFER SYSTEM 2004 Calendar Year

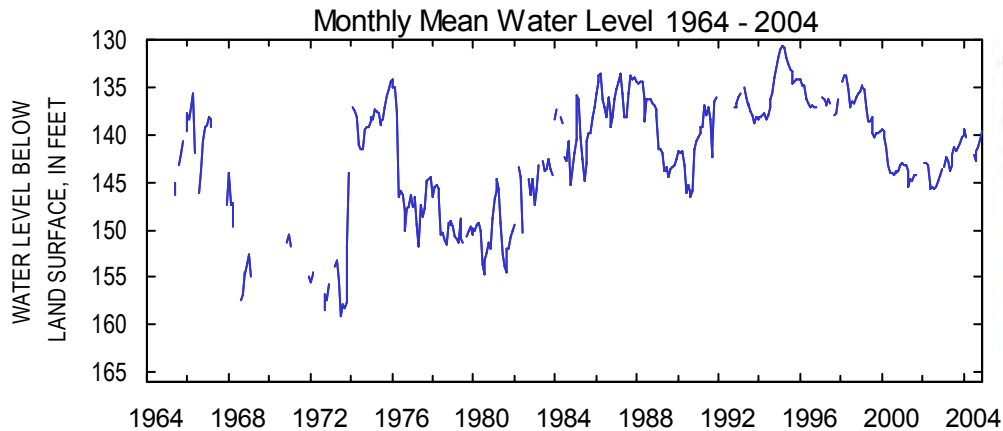
305235084125101

Site Name: 12F036

Latitude: 30° 52' 35" Longitude: 084° 12' 52" GRADY Period of Record: 1964 - 2004
 Well Depth: 467 feet Datum: 204.55 feet Well Diameter 6.0 inches



Monthly Water-Level Statistics												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	139.97	139.52	140.30				142.09	142.73	141.65	141.33	140.49	139.55
Max	140.36	139.88	141.21				142.77	143.80	142.53	142.22	141.09	139.84
Min	139.66	139.20	139.52				141.55	142.14	140.91	140.86	139.59	139.23
1964 - 2004												
Mean	141.59	141.24	141.07	141.33	142.95	143.78	144.08	144.20	143.82	143.46	142.96	142.17
Max	159.20	157.80	157.60	161.00	161.00	165.21	165.19	166.55	163.60	161.39	158.91	158.20
Min	130.49	130.14	130.32	130.52	131.26	131.88	132.77	132.77	133.24	133.20	132.54	131.46



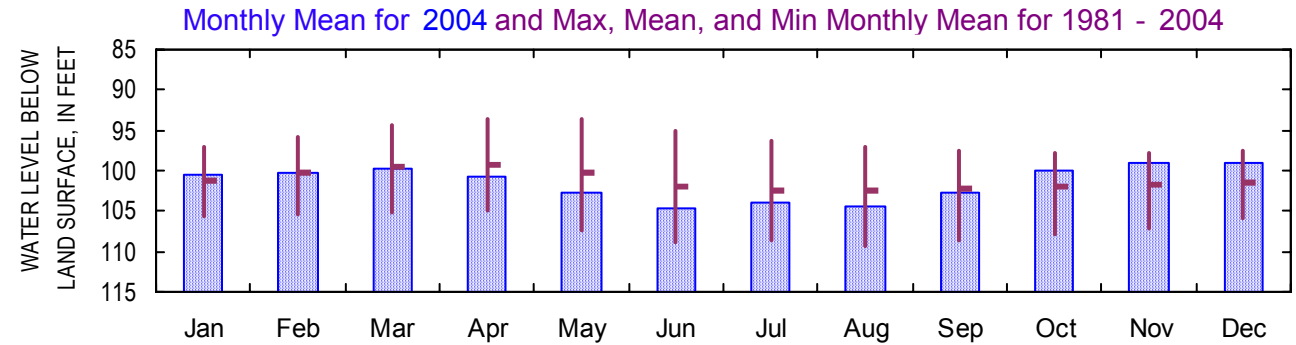
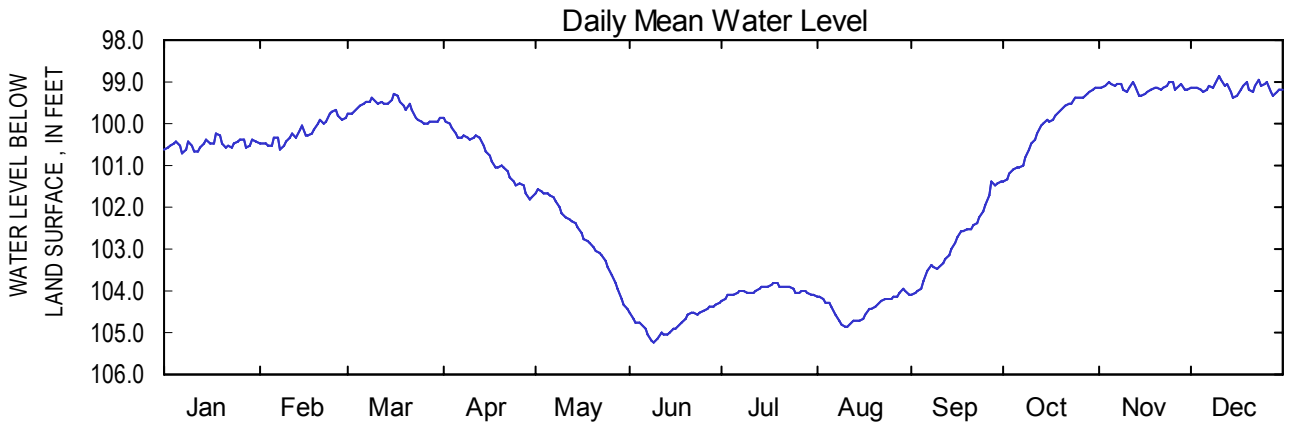


**FLORIDAN AQUIFER SYSTEM
2004 Calendar Year**

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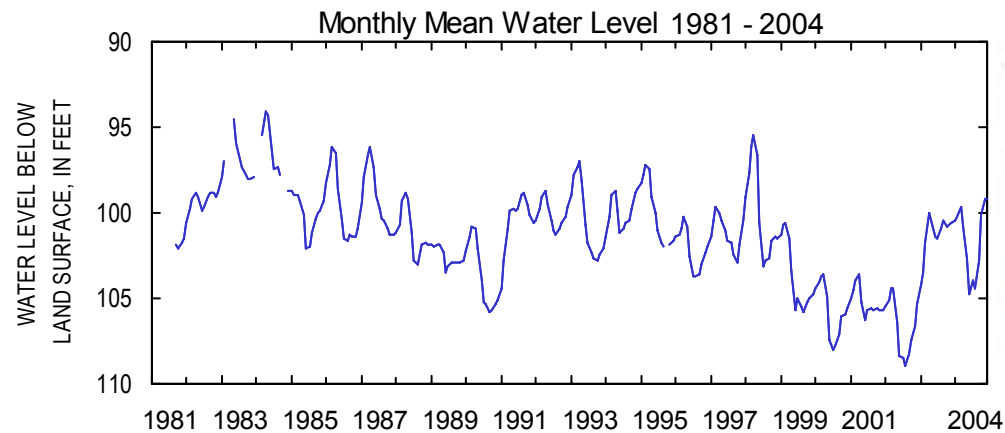
Site Name: 27G003

Latitude: 31° 07' 06" Longitude: 082° 15' 56" WARE Period of Record: 1981 - 2004
Well Depth: 1,856 feet Datum: 150.00 feet Well Diameter 14.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	100.50	100.18	99.65	100.77	102.70	104.74	104.00	104.39	102.80	100.09	99.14	99.14
Max	100.71	100.61	100.00	101.80	104.42	105.24	104.23	104.84	104.09	101.36	99.35	99.36
Min	100.24	99.68	99.28	99.88	101.59	104.31	103.83	103.97	101.39	99.16	99.00	98.88
1981 - 2004												
Mean	101.16	100.37	99.62	99.31	100.23	101.85	102.35	102.37	102.21	102.07	101.82	101.49
Max	105.74	105.34	105.10	104.93	107.43	108.87	108.71	109.31	108.67	107.84	107.19	105.97
Min	96.96	95.87	94.30	93.67	93.63	95.14	96.38	97.08	97.53	97.78	97.85	97.46



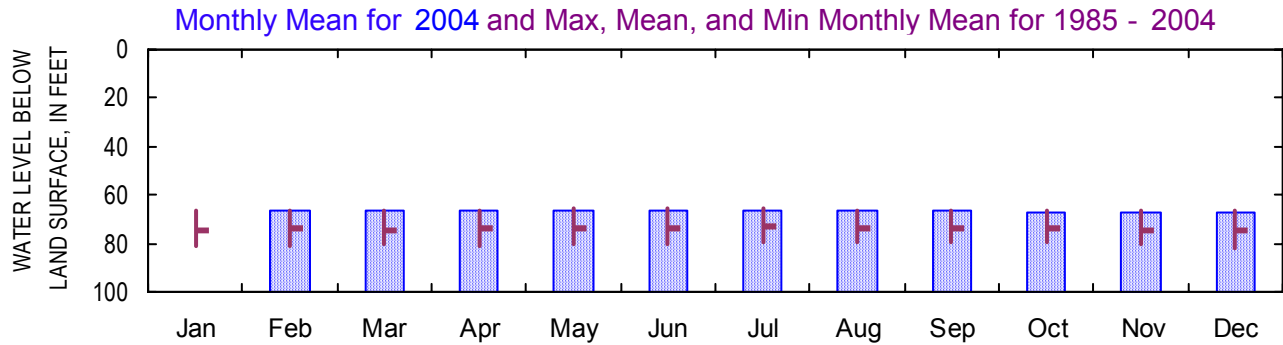
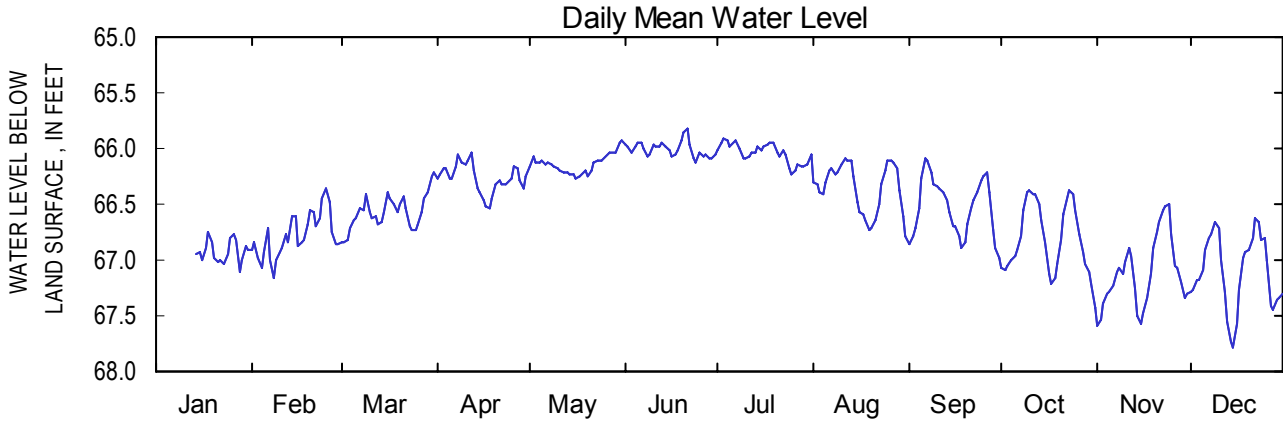


**PALEOCENE AQUIFER
2004 Calendar Year**

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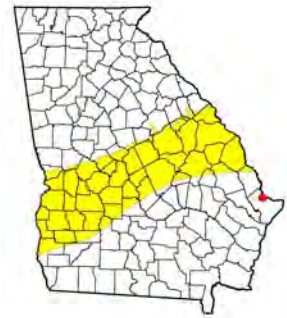
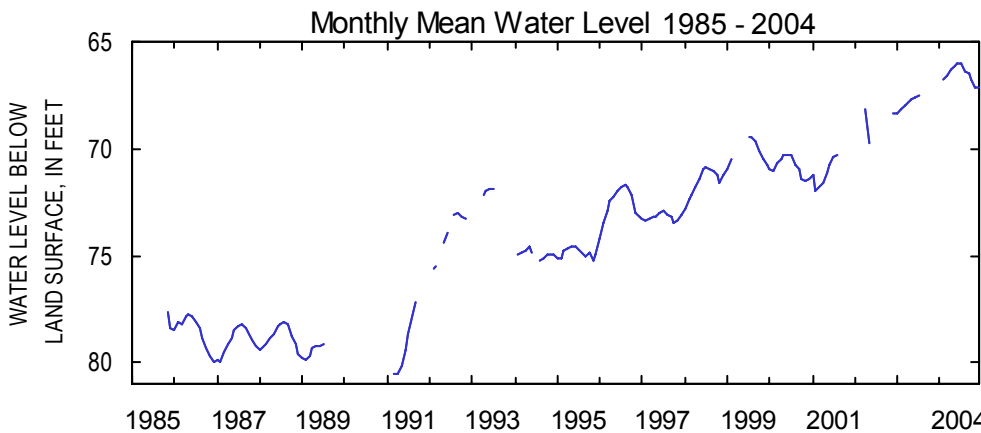
Site Name: 37Q186

Latitude: 32° 06' 22" Longitude: 081° 06' 37" CHATHAM Period of Record: 1985 - 2004
Well Depth: 1520 feet Datum: 6.0 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	66.78	66.57	66.27	66.14	66.01	66.04	66.35	66.52	66.81	67.11	67.11	
Max	67.17	66.84	66.54	66.26	66.12	66.23	66.78	66.97	67.43	67.59	67.78	
Min	66.36	66.21	66.04	65.93	65.83	65.91	66.09	66.10	66.37	66.51	66.63	
1985 - 2004												
Mean	74.33	74.09	74.38	73.72	73.63	73.48	73.35	73.53	73.73	73.91	74.31	74.34
Max	81.23	80.90	80.73	80.81	80.51	80.07	79.51	79.37	79.21	79.89	79.93	81.88
Min	66.74	66.36	66.21	66.04	65.93	65.83	65.91	66.09	66.10	66.37	66.51	66.63



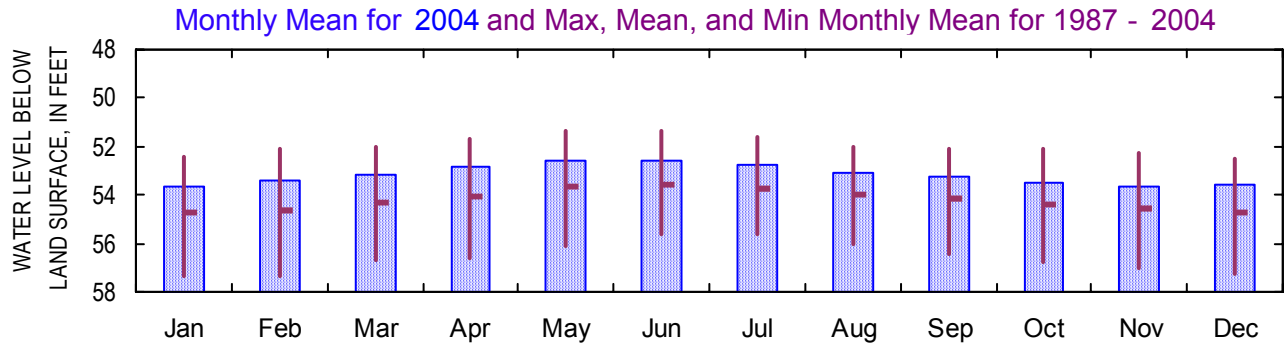
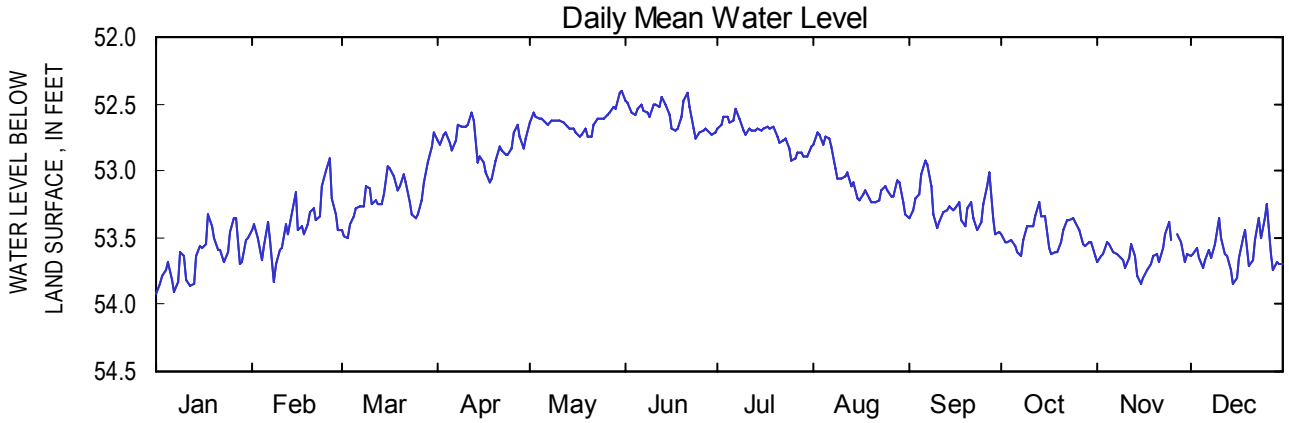


**PALEOCENE AQUIFER
2004 Calendar Year**

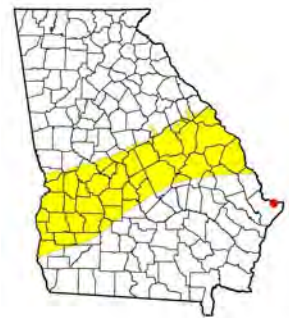
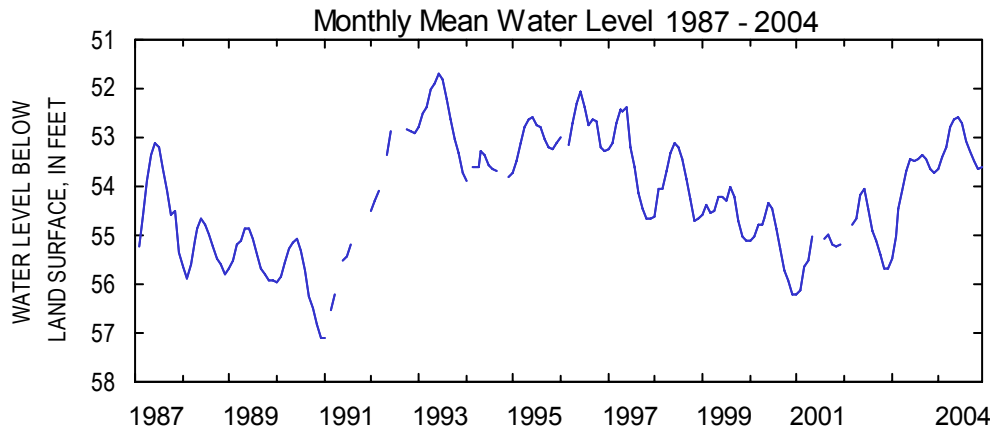
320150080540601

Site Name: 38Q201

Latitude: 32° 01' 50" Longitude: 080° 54' 06" CHATHAM Period of Record: 1987 - 2004
Well Depth: 1,546 feet Datum: 7.0 feet Well Diameter 4 inches



Monthly Water-Level Statistics												
2004												
Mean	53.64	53.40	53.19	52.80	52.62	52.59	52.73	53.06	53.27	53.48	53.63	53.60
Max	53.92	53.82	53.50	53.08	52.74	52.76	52.92	53.33	53.47	53.63	53.85	53.84
Min	53.33	52.91	52.71	52.57	52.41	52.42	52.54	52.72	52.93	53.24	53.38	53.26
1987 - 2004												
Mean	54.72	54.63	54.35	54.06	53.66	53.54	53.74	54.02	54.16	54.40	54.60	54.70
Max	57.38	57.32	56.72	56.58	56.10	55.63	55.62	56.00	56.44	56.74	57.02	57.28
Min	52.46	52.12	51.98	51.71	51.40	51.40	51.60	51.98	52.11	52.10	52.23	52.52



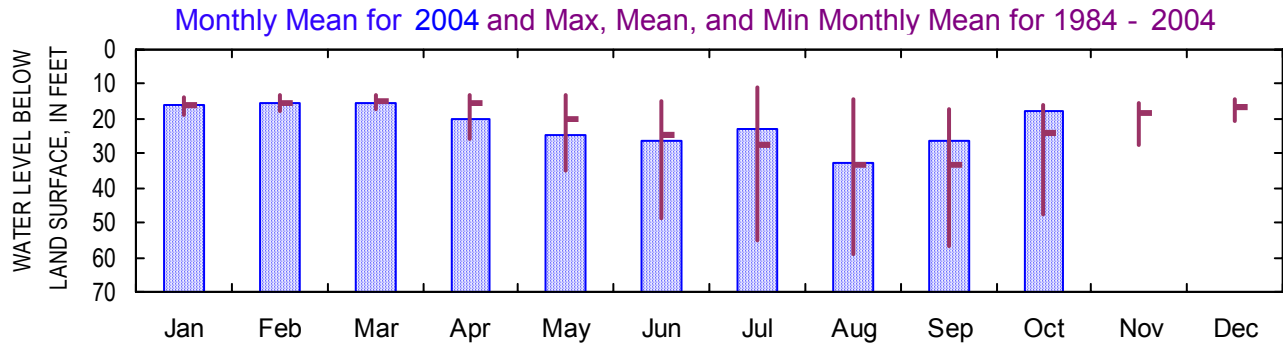
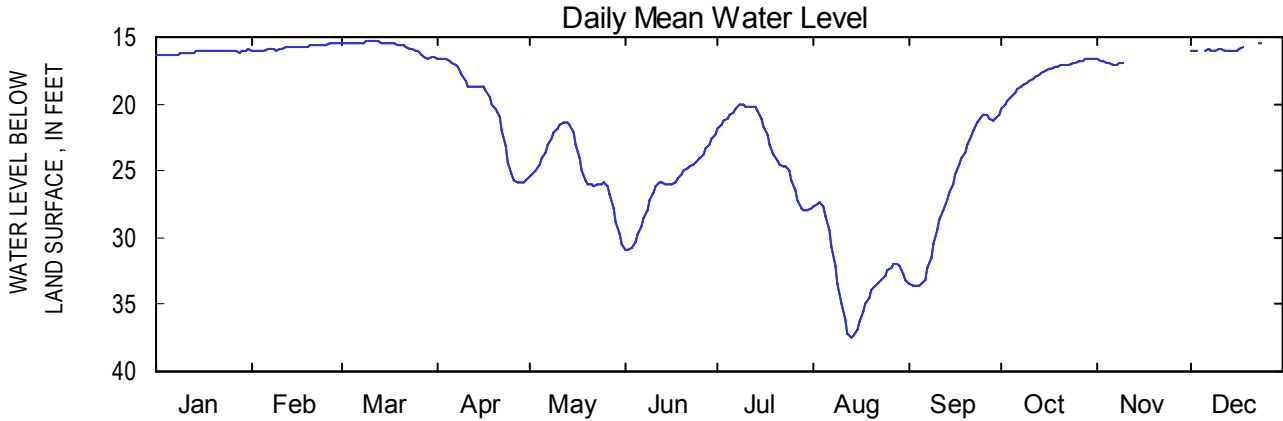


**CLAIBORNE AQUIFER
2004 Calendar Year**

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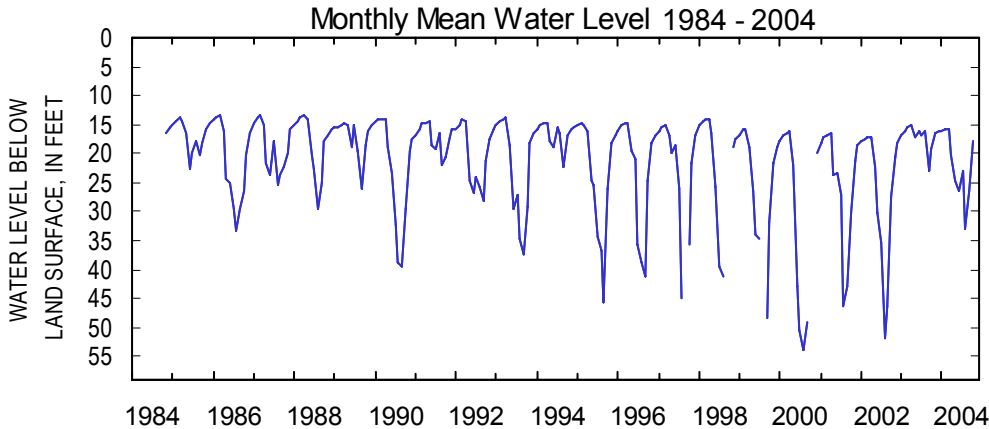
Site Name: 14P015

Latitude: 31° 57' 31" Longitude: 083° 54' 23" CRISP Period of Record: 1984 - 2004
 Well Depth: 340 feet Datum: 252.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	16.15	15.75	15.67	20.21	24.79	26.25	23.06	32.86	26.46	17.82		
Max	16.41	16.01	16.61	25.87	30.51	30.98	27.95	37.50	33.65	20.41		
Min	15.94	15.43	15.28	16.58	21.33	22.25	20.11	27.33	20.76	16.65		
1984 - 2004												
Mean	15.87	15.25	14.84	15.54	20.18	24.54	27.30	33.02	33.06	24.31	18.58	16.64
Max	18.84	17.68	17.26	25.87	34.80	48.64	54.90	58.90	56.63	47.66	27.42	20.81
Min	13.73	13.23	12.97	13.21	13.28	14.75	11.13	14.33	17.12	16.07	15.22	14.33



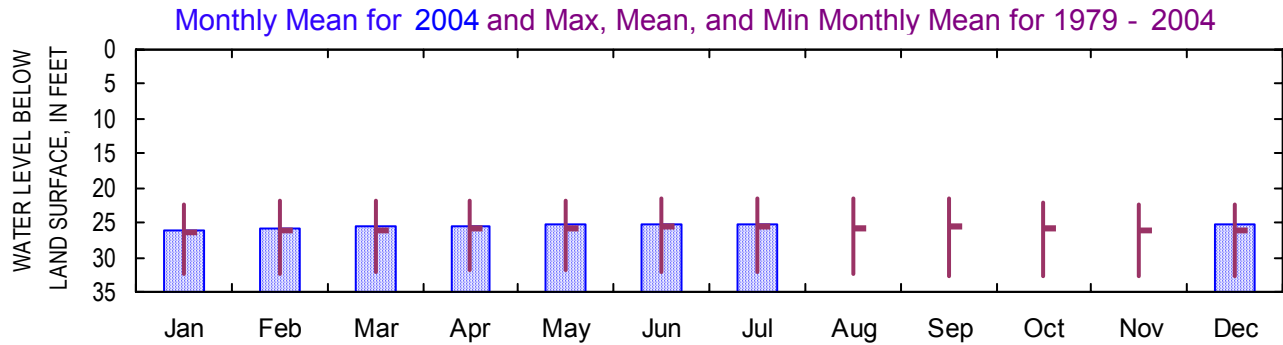
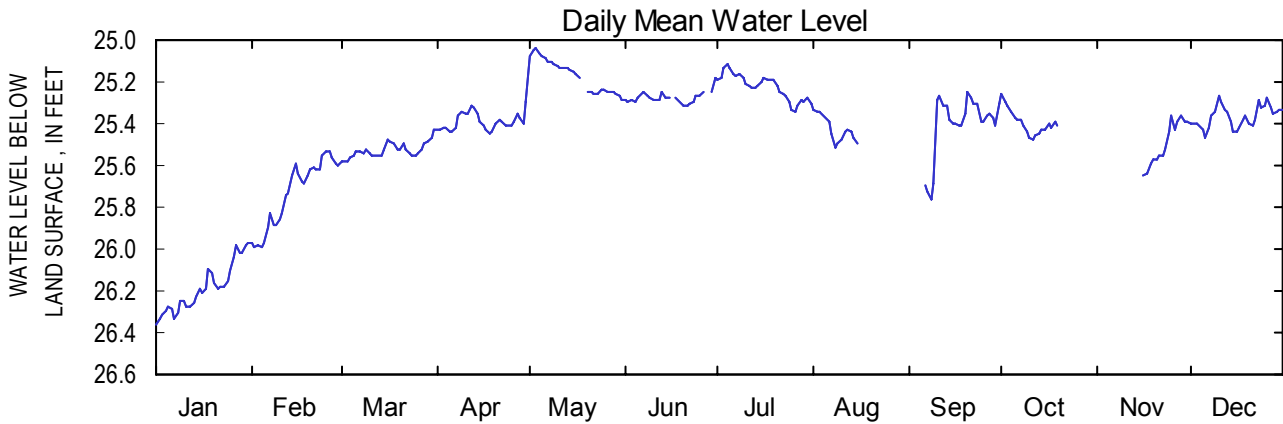


**CLAIBORNE AQUIFER
2004 Calendar Year**

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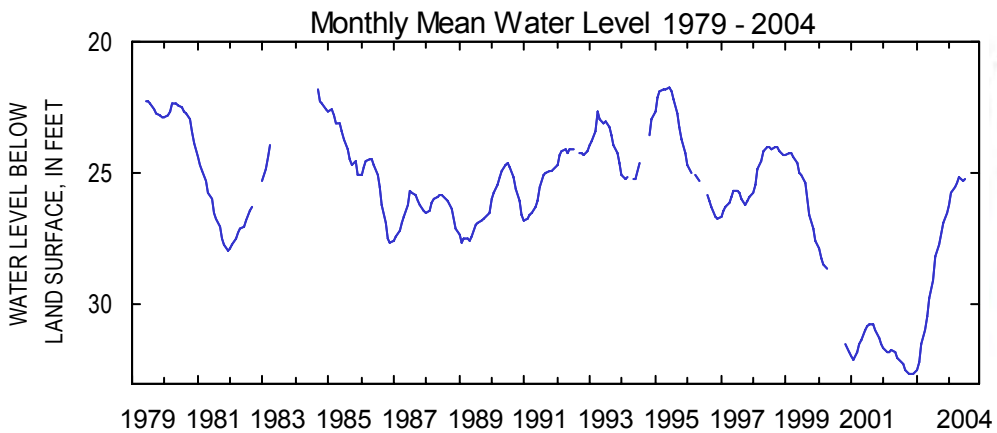
Site Name: 11K002

Latitude: 31° 26' 54" Longitude: 084° 21' 01" DOUGHERTY Period of Record: 1979 - 2004
 Well Depth: 320 feet Datum: 183.50 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	26.19	25.73	25.53	25.39	25.17	25.28	25.22					25.37
Max	26.36	25.99	25.58	25.44	25.29	25.31	25.34					25.47
Min	25.97	25.53	25.43	25.30	25.04	25.18	25.12					25.27
1979 - 2004												
Mean	26.26	26.15	25.97	25.82	25.71	25.56	25.59	25.69	25.67	25.90	26.11	26.15
Max	32.48	32.40	32.16	31.77	31.84	32.16	32.19	32.46	32.65	32.68	32.67	32.70
Min	22.41	21.90	21.82	21.77	21.75	21.57	21.60	21.48	21.62	22.05	22.26	22.40



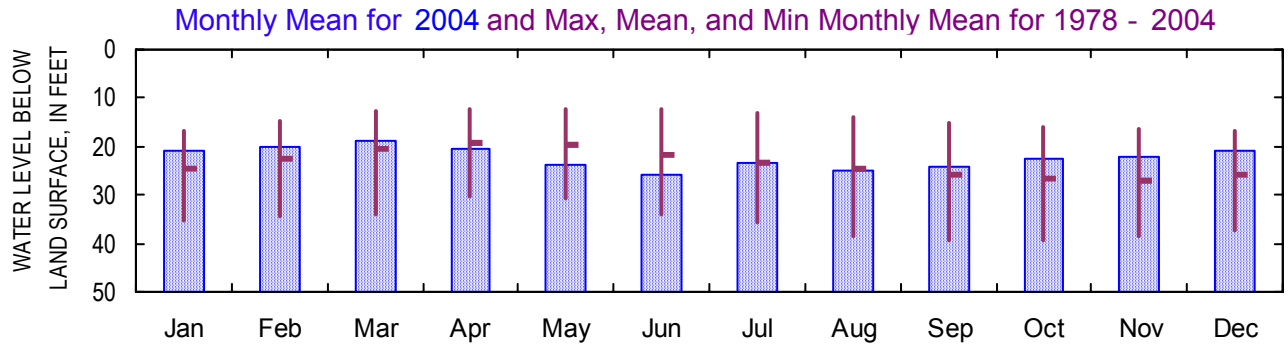
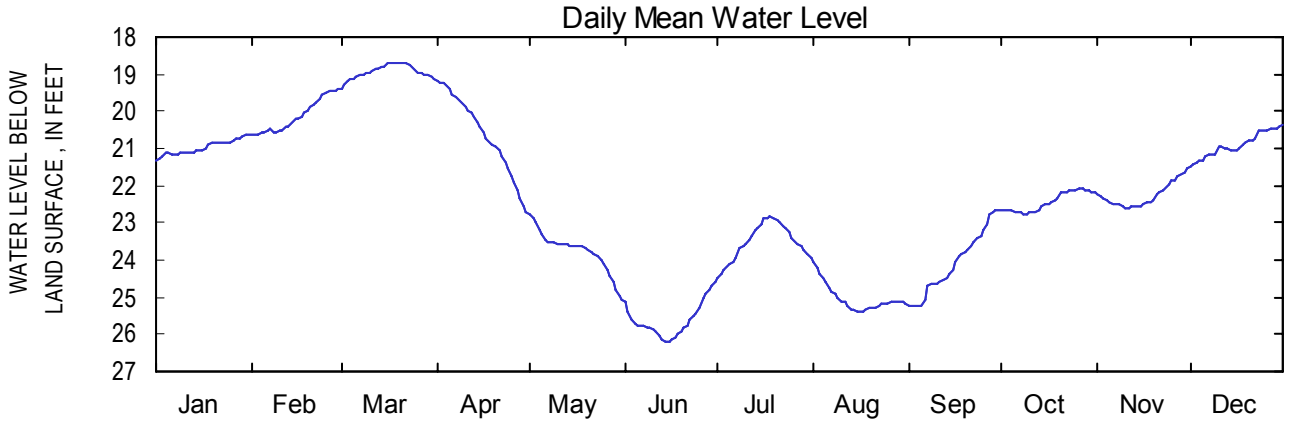


**CLAIBORNE AQUIFER
2004 Calendar Year**

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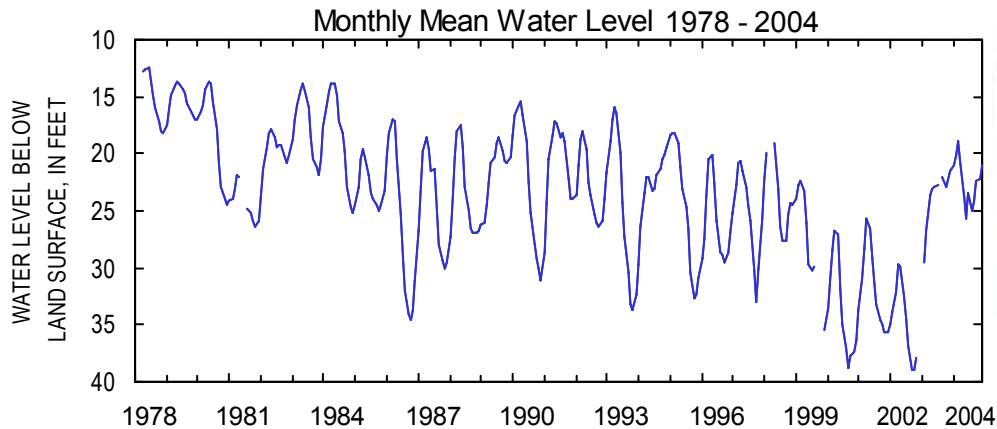
Site Name: 11L001

Latitude: 31° 35' 30" Longitude: 084° 20' 34" DOUGHERTY Period of Record: 1978 - 2004
 Well Depth: 251 feet Datum: 220.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	20.98	20.13	18.93	20.60	23.77	25.63	23.51	25.04	24.08	22.44	22.26	20.90
Max	21.32	20.61	19.38	22.69	25.09	26.18	24.50	25.39	25.23	22.75	22.62	21.49
Min	20.63	19.40	18.69	19.16	22.74	24.58	22.84	24.07	22.65	22.09	21.55	20.33
1978 - 2004												
Mean	24.52	22.63	20.61	19.39	19.85	21.62	23.20	24.63	25.94	26.64	26.86	25.83
Max	35.43	34.41	33.87	30.50	30.66	33.94	35.80	38.42	39.32	39.27	38.35	37.38
Min	16.62	14.92	12.80	12.39	12.20	12.11	12.98	14.03	15.04	16.00	16.48	16.81



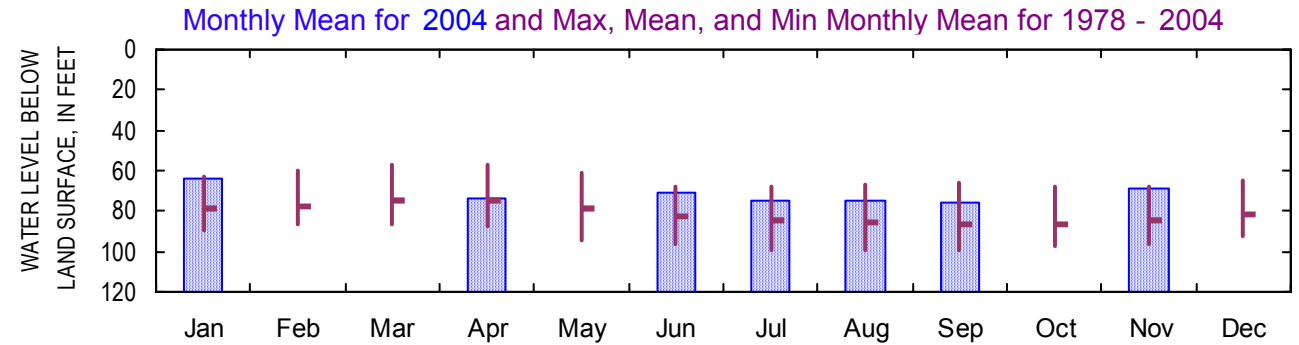
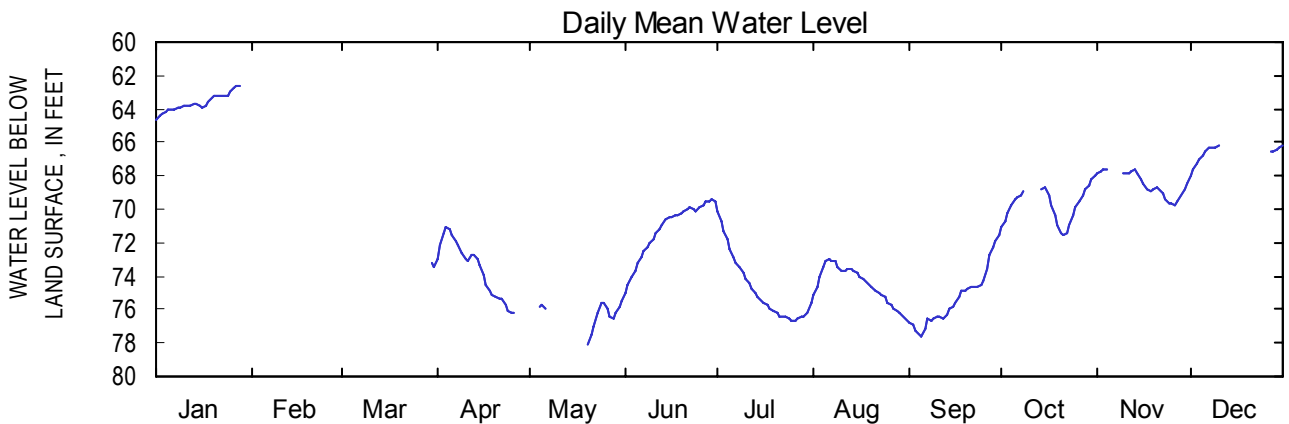


CLAIBORNE AQUIFER 2004 Calendar Year

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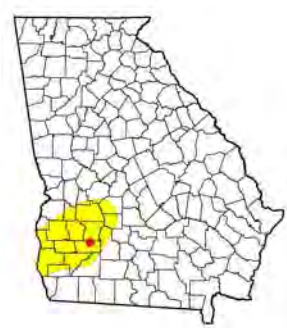
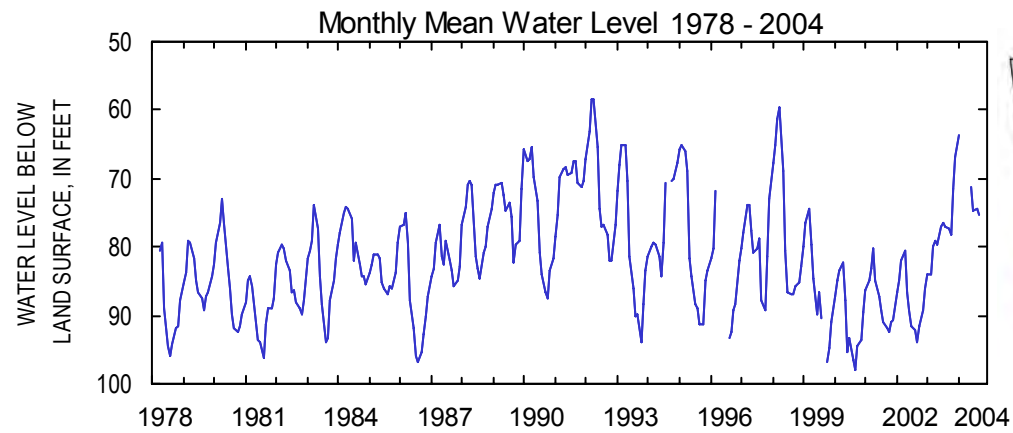
Site Name: 12L019

Latitude: 31° 35' 36" Longitude: 084° 10' 30" DOUGHERTY Period of Record: 1978 - 2004
 Well Depth: 257 feet Datum: 195 feet Well Diameter 6.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	63.64			73.60		71.18	74.79	74.50	75.36			68.54
Max	64.62			76.19		74.95	76.68	76.56	77.64			69.72
Min	62.60			71.10		69.39	70.10	72.97	71.53			67.64
1978 - 2004												
Mean	78.55	77.26	74.65	74.51	78.51	82.73	84.53	85.58	86.63	86.37	84.38	81.45
Max	89.50	86.55	86.29	87.93	94.14	96.77	99.53	99.53	99.57	97.55	96.74	92.69
Min	62.60	60.05	57.54	57.31	61.16	67.70	67.58	66.40	66.11	68.00	67.64	64.69



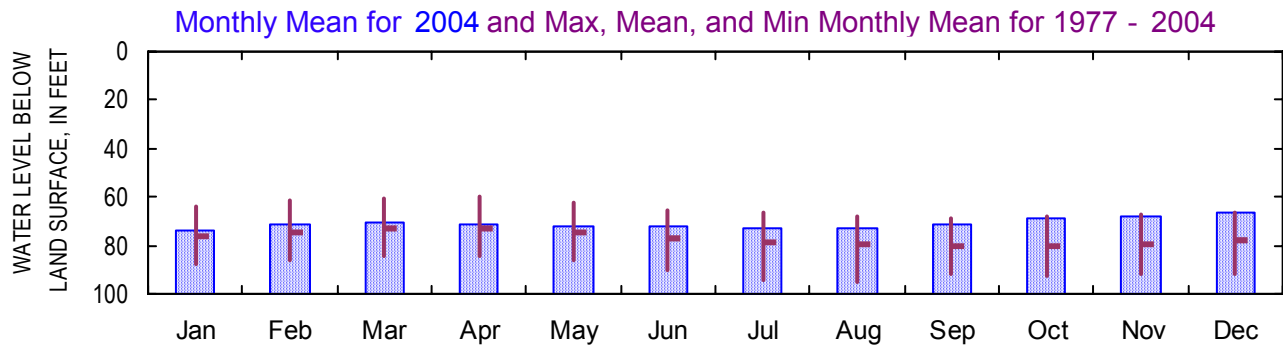
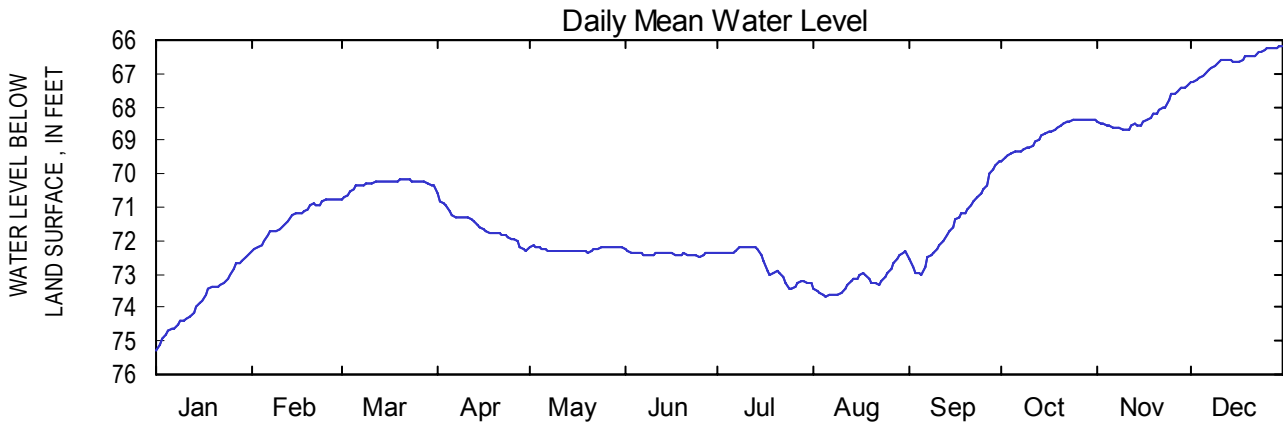


CLAIBORNE AQUIFER 2004 Calendar Year

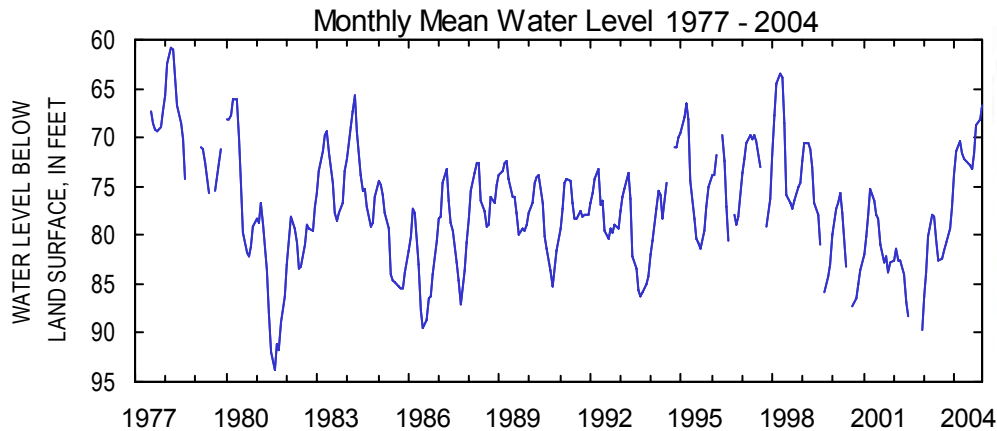
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Site Name: 13L011

Latitude: 31° 31' 05" Longitude: 084° 06' 43" DOUGHERTY Period of Record: 1977 - 2004
 Well Depth: 418 feet Datum: 195.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics												
2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	73.79	71.35	70.30	71.56	72.26	72.40	72.73	73.17	71.50	68.85	68.24	66.62
Max	75.28	72.33	70.74	72.28	72.35	72.47	73.45	73.65	72.99	69.61	68.69	67.27
Min	72.40	70.76	70.15	70.58	72.15	72.25	72.18	72.31	69.65	68.35	67.34	66.15
1977 - 2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	76.44	74.78	73.14	72.68	74.38	77.23	78.56	79.65	80.25	80.09	79.51	78.11
Max	87.42	86.47	84.32	84.55	86.16	90.02	94.38	94.97	91.79	92.48	91.91	92.10
Min	63.92	61.75	60.25	60.01	62.23	65.47	66.41	68.30	68.84	68.35	67.34	66.15



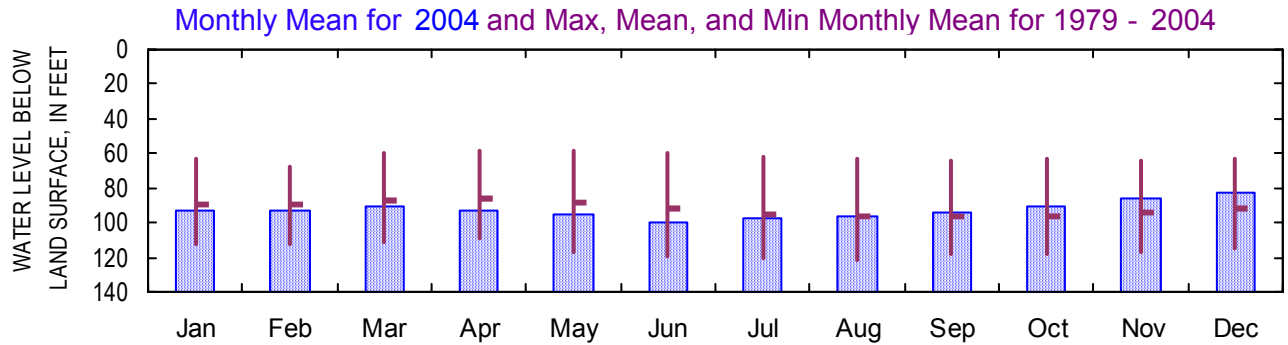
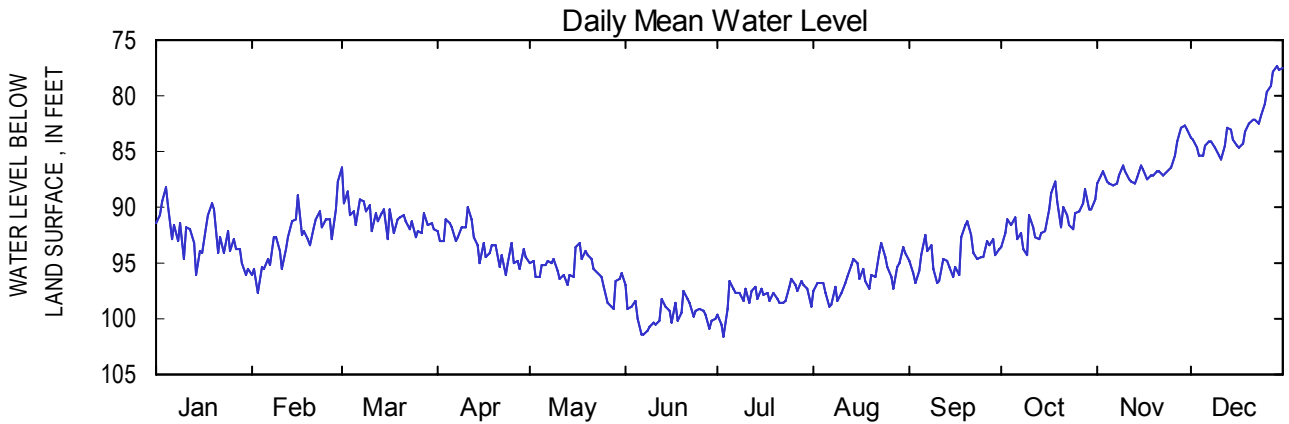


**CLAIBORNE AQUIFER
2004 Calendar Year**

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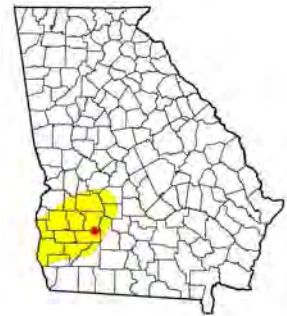
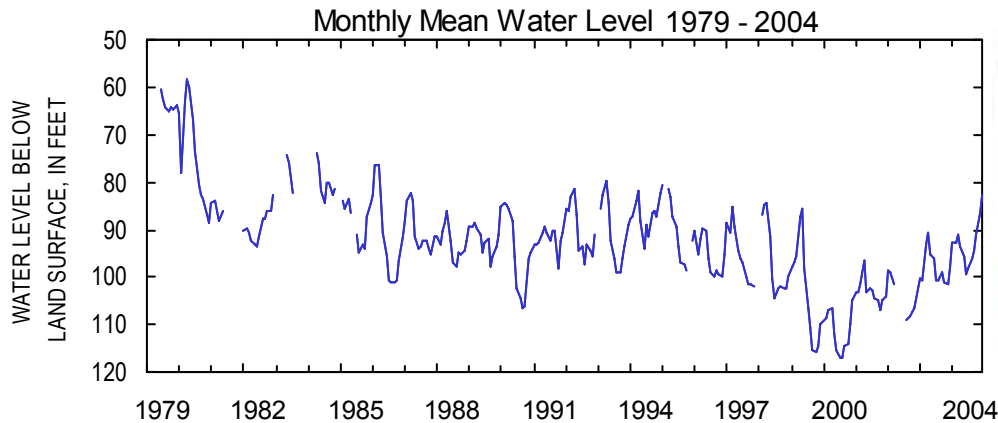
Site Name: 13L015

Latitude: 31° 36' 21" Longitude: 084° 04' 09" DOUGHERTY Period of Record: 1979 - 2004
Well Depth: 351 feet Datum: 200.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	92.59	92.80	90.86	93.35	95.78	99.55	97.99	96.15	94.40	91.15	86.57	82.69
Max	96.16	97.67	92.88	96.04	99.06	101.50	101.53	98.89	96.82	94.26	88.06	85.76
Min	88.24	87.77	86.42	90.07	93.23	97.02	96.40	93.29	91.30	87.67	82.69	77.40
1979 - 2004												
Mean	89.09	89.82	87.18	86.12	87.98	92.06	94.77	96.01	96.00	96.34	94.42	91.70
Max	112.82	112.02	111.64	109.25	116.71	118.78	120.22	121.31	117.65	118.53	117.59	114.47
Min	62.65	67.84	59.58	58.05	58.02	59.57	61.46	63.02	64.59	62.57	63.82	63.17



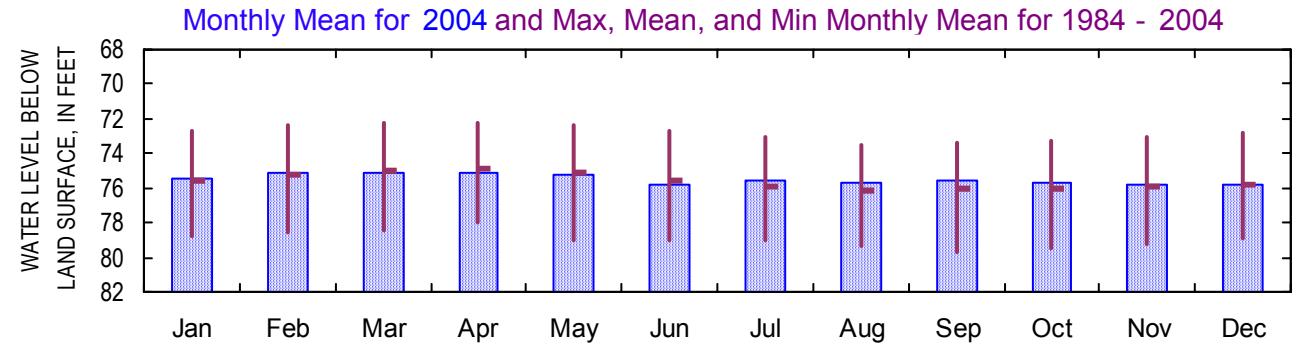
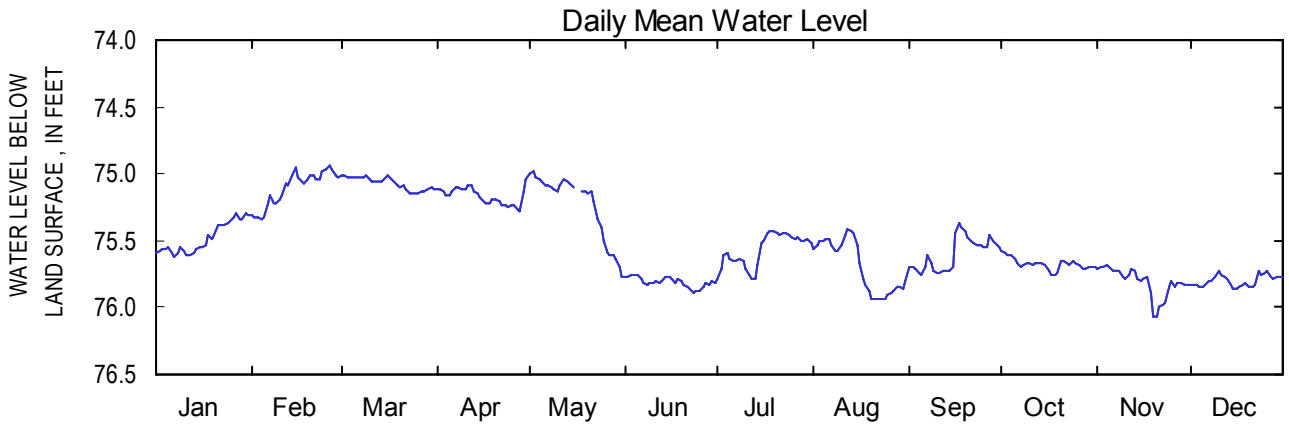


**CLAIBORNE AQUIFER
2004 Calendar Year**

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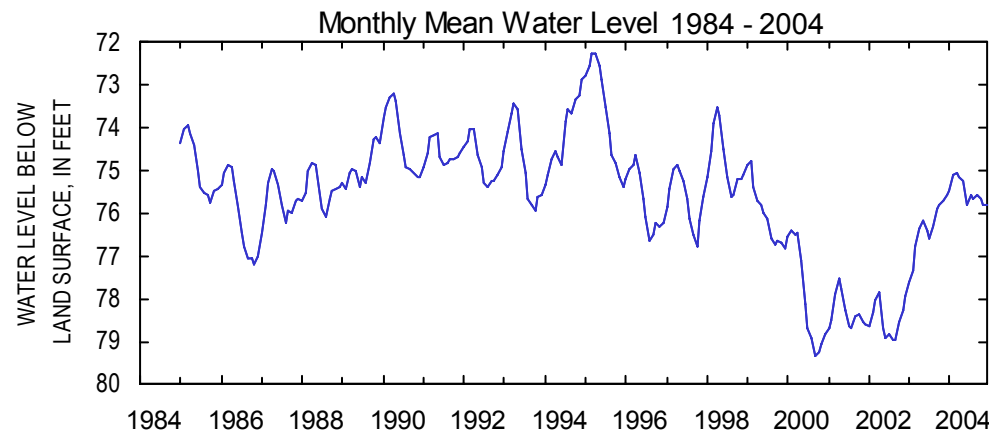
Site Name: 06K010

Latitude: 31° 28' 24" Longitude: 084° 55' 15" EARLY Period of Record: 1984 - 2004
Well Depth: 140 feet Datum: 310.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics

2004												
Mean	75.48	75.11	75.07	75.17	75.24	75.81	75.57	75.69	75.60	75.67	75.81	75.80
Max	75.63	75.34	75.15	75.27	75.77	75.89	75.79	75.94	75.76	75.76	76.07	75.86
Min	75.29	74.94	75.01	75.04	74.99	75.75	75.43	75.41	75.37	75.58	75.69	75.72
1984 - 2004												
Mean	75.56	75.28	75.00	74.88	75.11	75.61	75.87	76.10	75.98	76.01	75.95	75.86
Max	78.81	78.56	78.45	78.02	79.07	79.02	79.01	79.33	79.66	79.47	79.30	78.91
Min	72.66	72.37	72.22	72.23	72.33	72.70	73.08	73.51	73.43	73.23	73.04	72.82



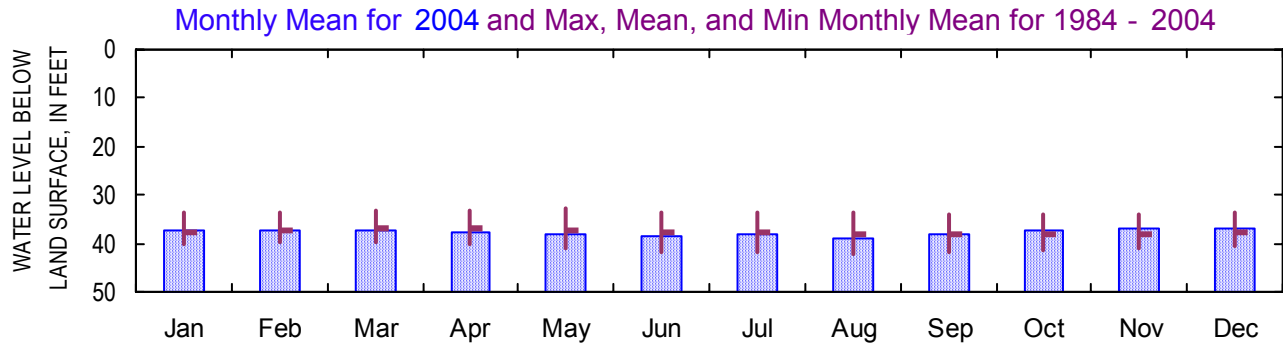
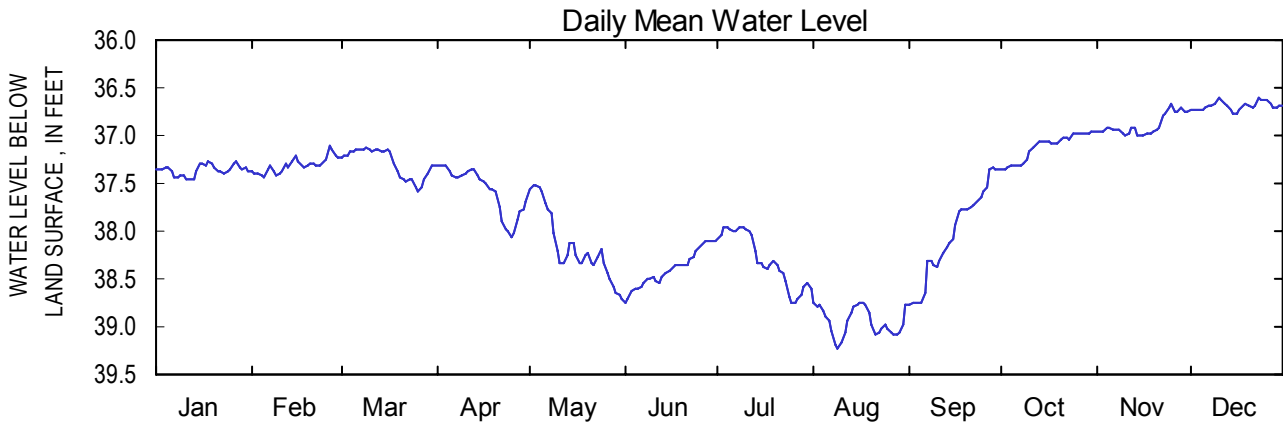


**CLAIBORNE AQUIFER
2004 Calendar Year**

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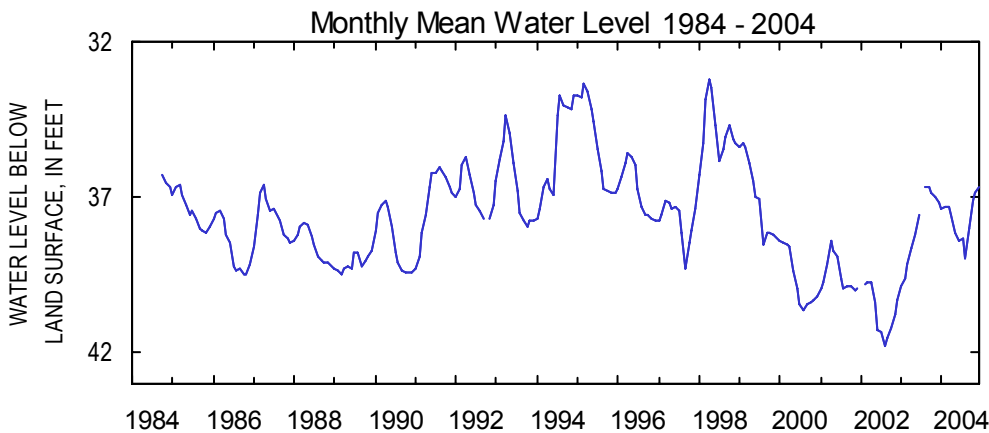
Site Name: 11P015

Latitude: 31° 53' 50" Longitude: 084° 19' 21" LEE Period of Record: 1984 - 2004
 Well Depth: 151 feet Datum: 338.00 feet Well Diameter 6 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	37.36	37.31	37.29	37.57	38.16	38.40	38.30	38.95	38.03	37.12	36.89	36.69
Max	37.46	37.43	37.59	38.06	38.71	38.74	38.76	39.23	38.77	37.35	37.01	36.77
Min	37.27	37.11	37.13	37.30	37.51	38.09	37.95	38.74	37.33	36.96	36.67	36.59
1984 - 2004												
Mean	37.68	37.43	37.05	36.90	37.18	37.53	37.71	37.99	38.02	37.95	37.96	37.86
Max	40.02	39.93	39.87	40.09	41.01	41.67	41.74	42.10	41.97	41.30	41.08	40.58
Min	33.59	33.50	33.22	33.01	32.98	33.81	33.58	33.60	33.89	33.98	34.04	33.53



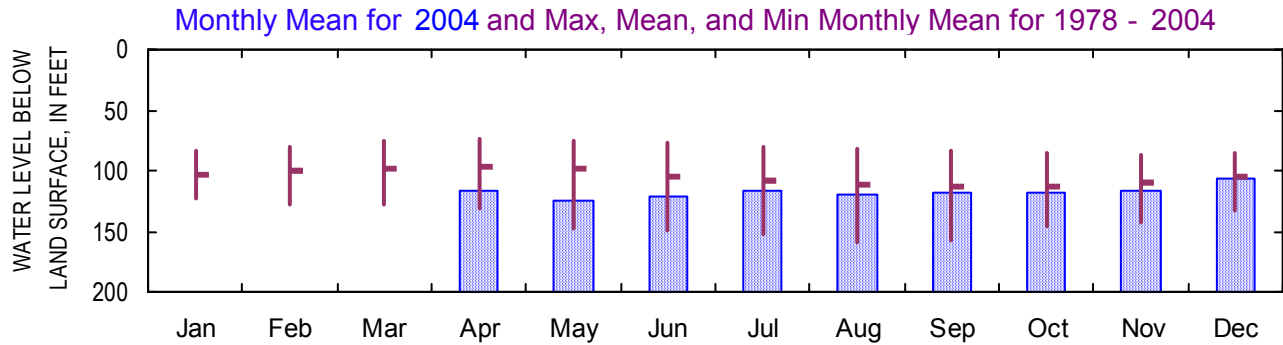
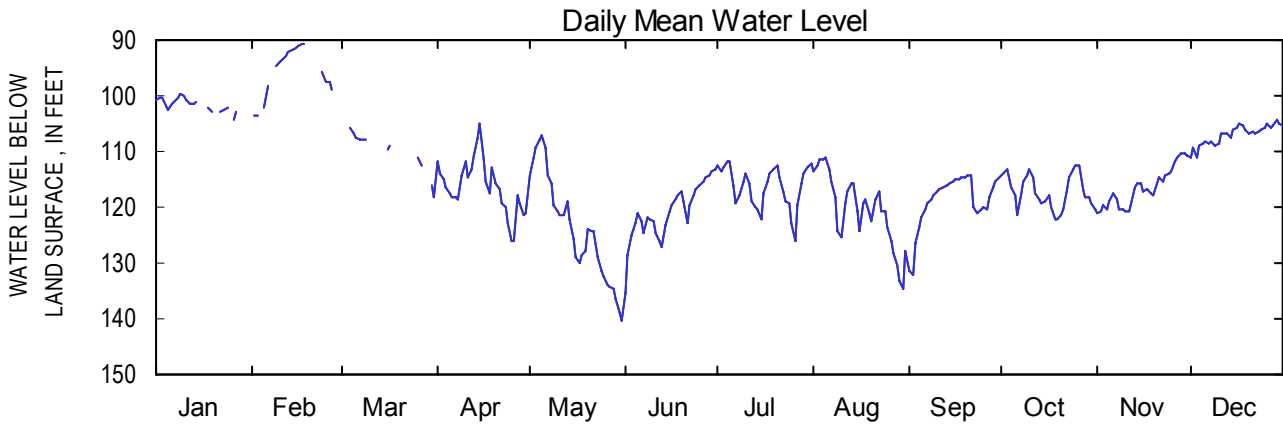


CLAIBORNE AQUIFER 2004 Calendar Year

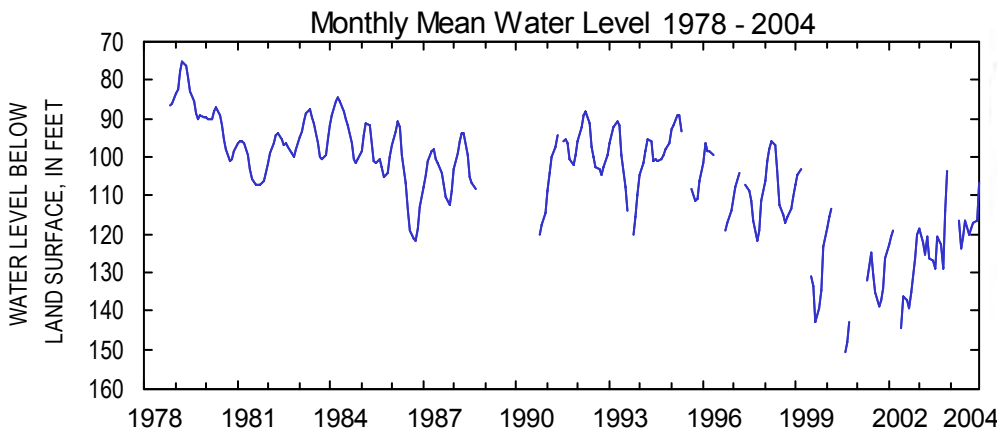
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Site Name: 12M001

Latitude: 31° 38' 11" Longitude: 084° 12' 49" LEE Period of Record: 1978 - 2004
 Well Depth: 385 feet Datum: 238.00 feet Well Diameter 6.0 inches



Monthly Water-Level Statistics											
2004											
Mean	116.34	123.84	120.83	116.34	120.35	118.82	117.22	116.58	106.98		
Max	126.25	140.29	135.50	126.22	134.46	132.28	122.27	121.00	111.16		
Min	105.17	107.04	113.14	111.68	111.10	114.37	112.43	110.35	104.44		
1978 - 2004											
Mean	102.62	100.32	98.23	96.59	99.16	104.39	108.40	110.66	113.15	113.82	110.55
Max	123.55	127.65	127.13	131.21	147.15	148.75	152.89	158.47	157.57	145.41	142.90
Min	83.27	80.07	76.20	74.47	74.71	77.48	80.98	81.28	83.78	84.89	86.23



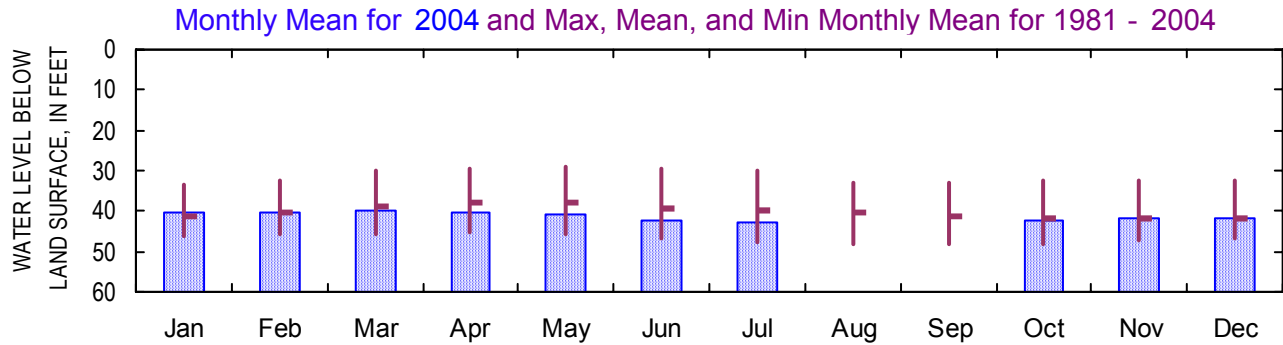
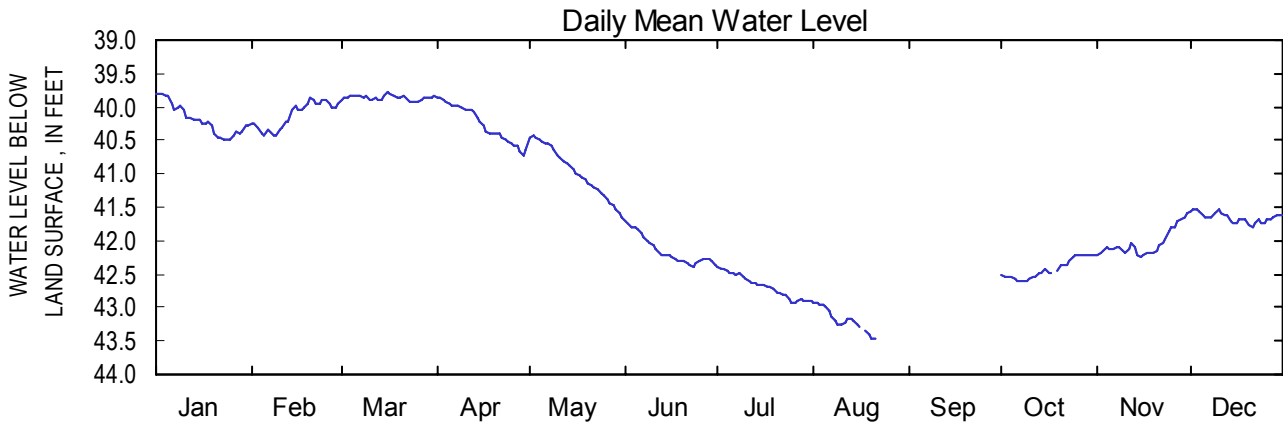


CLAIBORNE AQUIFER 2004 Calendar Year

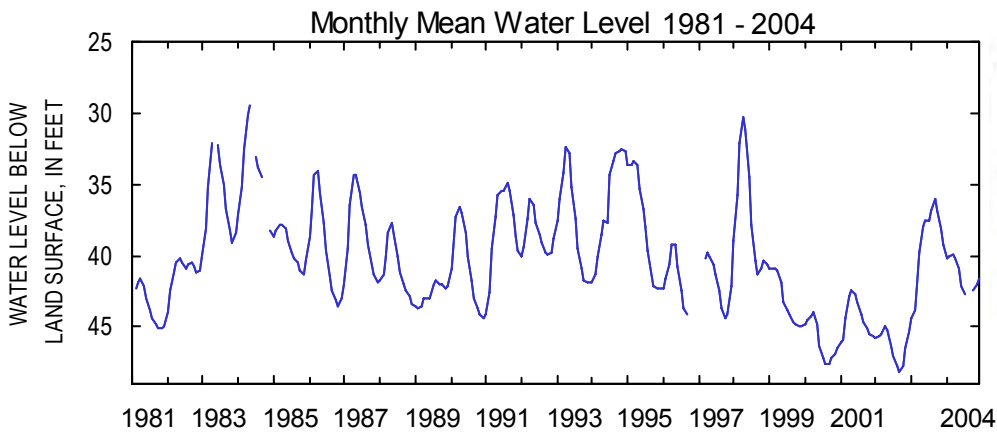
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Site Name: 11J011

Latitude: 31° 18' 02" Longitude: 084° 19' 23" MITCHELL Period of Record: 1981 - 2004
 Well Depth: 417 feet Datum: 165.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	40.19	40.13	39.86	40.25	40.98	42.15	42.68			42.42	42.04	41.65
Max	40.50	40.44	39.92	40.71	41.64	42.39	42.94			42.61	42.23	41.80
Min	39.79	39.87	39.77	39.85	40.43	41.69	42.40			42.20	41.60	41.52
1981 - 2004												
Mean	41.30	40.39	38.96	37.87	38.07	39.17	39.87	40.57	41.12	41.64	41.89	41.77
Max	46.26	45.95	45.88	45.20	45.64	46.87	47.47	48.10	48.36	48.09	47.20	46.66
Min	33.22	32.59	29.78	29.54	29.13	29.67	29.86	32.72	32.72	32.33	32.30	32.34



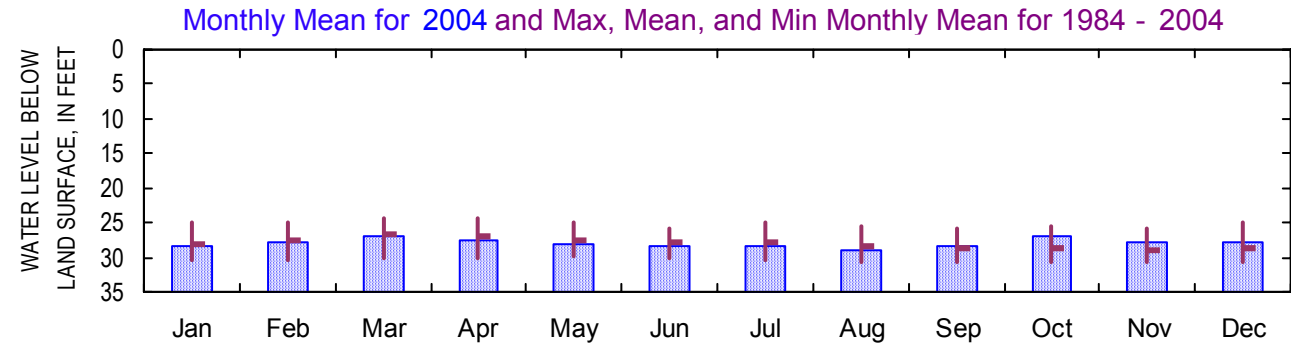
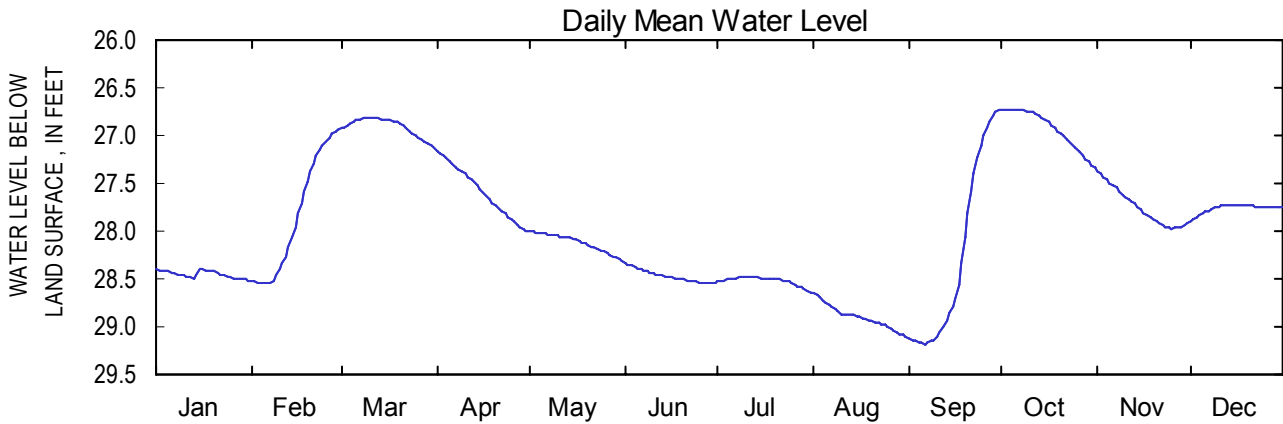


CLAIBORNE AQUIFER 2004 Calendar Year

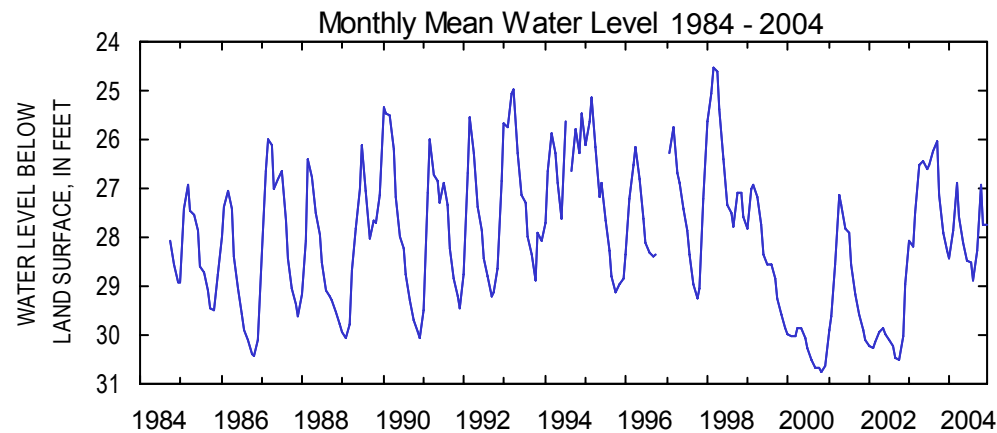
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Site Name: 09M009

Latitude: 31° 39' 52" Longitude: 084° 36' 15" RANDOLPH Period of Record: 1984 - 2004
 Well Depth: 94.00 feet Datum: 320.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	28.45	27.85	26.91	27.58	28.12	28.47	28.52	28.90	28.27	26.92	27.75	27.76
Max	28.51	28.55	27.13	28.00	28.32	28.54	28.64	29.10	29.19	27.34	27.97	27.90
Min	28.39	26.94	26.82	27.16	28.00	28.33	28.48	28.66	26.74	26.72	27.37	27.72
1984 - 2004												
Mean	28.16	27.42	26.81	26.93	27.42	27.81	27.93	28.35	28.67	28.77	28.89	28.66
Max	30.45	30.29	30.25	30.01	29.96	30.16	30.40	30.63	30.71	30.71	30.76	30.72
Min	24.98	24.90	24.25	24.28	24.97	25.92	25.06	25.39	25.76	25.57	25.83	25.10



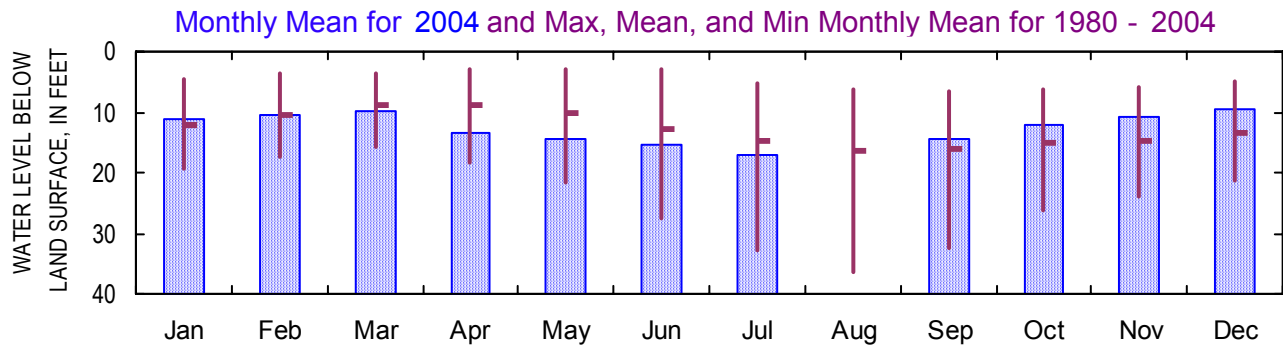
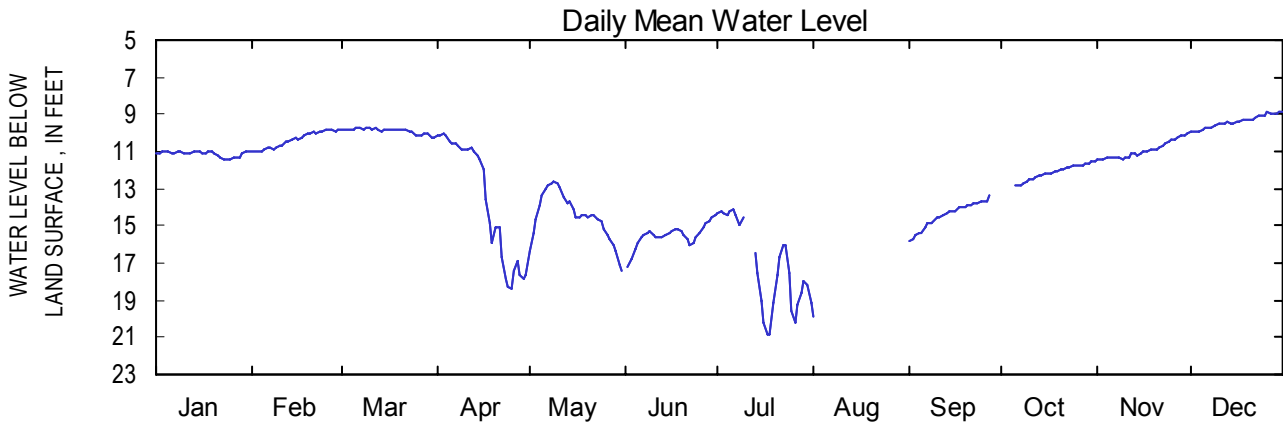


CLAIBORNE AQUIFER 2004 Calendar Year

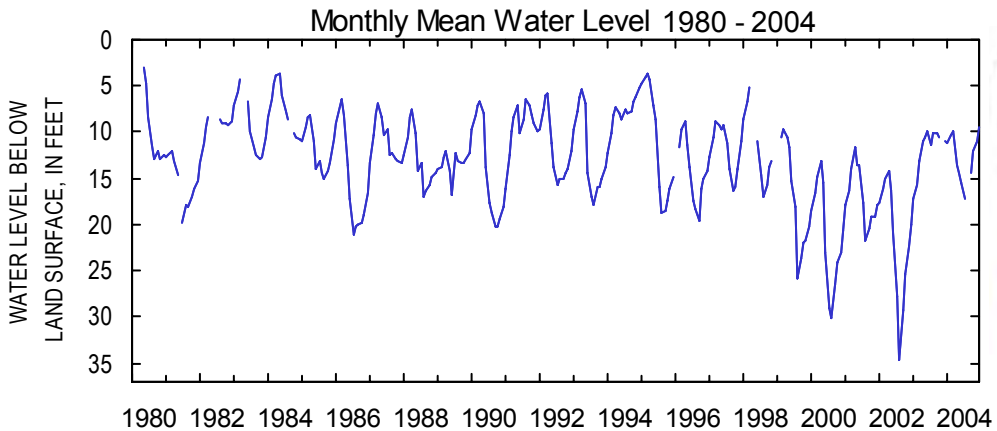
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Site Name: 13M005

Latitude: 31° 43' 30" Longitude: 084° 00' 51" WORTH Period of Record: 1980 - 2004
 Well Depth: 345 feet Datum: 238.00 feet Well Diameter 3.0 inches



Monthly Water-Level Statistics												
2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	11.13	10.38	9.89	13.50	14.51	15.50	17.17	14.43	12.13	10.93	9.38	
Max	11.44	11.01	10.22	18.39	17.46	17.17	20.88	15.84	12.86	11.47	9.96	
Min	10.97	9.83	9.69	10.08	12.64	14.45	14.13	13.35	11.53	10.02	8.85	
1980 - 2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	12.16	10.49	9.02	8.70	10.27	12.70	14.89	16.34	16.16	15.18	14.72	13.47
Max	19.40	17.43	15.86	18.39	21.57	27.55	32.72	36.35	32.61	26.21	23.98	21.39
Min	4.57	3.47	3.53	3.02	2.89	3.08	5.09	6.31	6.48	6.27	5.96	4.89



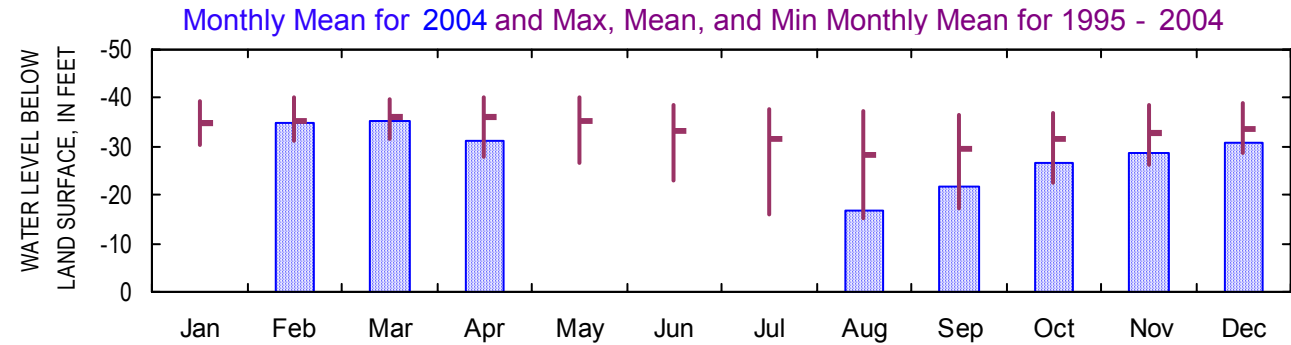
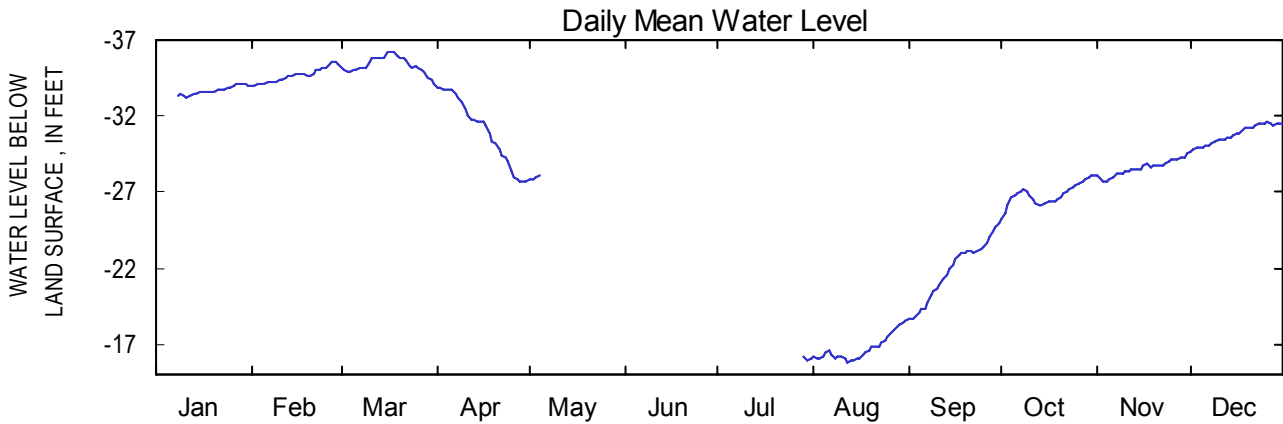


**GORDON AQUIFER
2004 Calendar Year**

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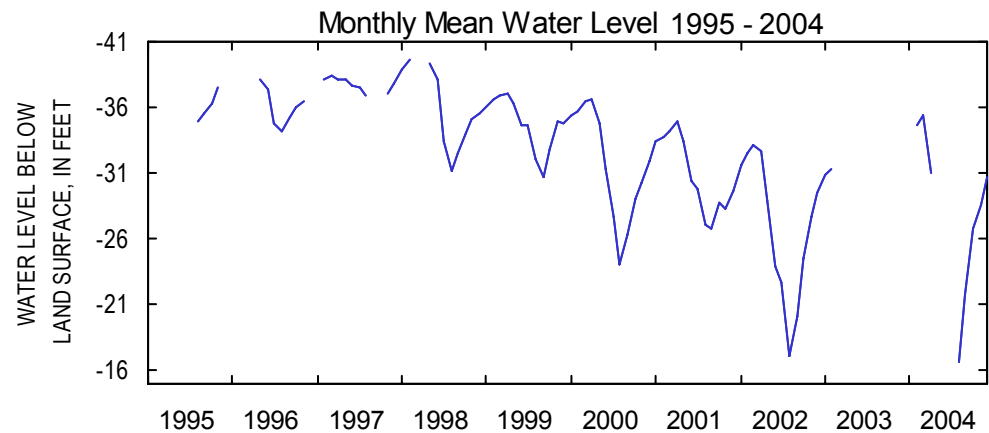
Site Name: 32Y033

Latitude: 33 ° 05 ' 48" Longitude: 081 ° 39 ' 11" BURKE Period of Record: 1995 - 2004
Well Depth: 210 feet Datum: 85 feet Well Diameter 4 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	-34.67	-35.36	-31.08					-16.72	-21.83	-26.83	-28.58	-30.78
Max	-34.02	-34.09	-27.69					-15.84	-18.60	-25.21	-27.72	-29.67
Min	-35.53	-36.19	-33.89					-18.58	-24.94	-28.15	-29.53	-31.60
1995 - 2004												
Mean	-34.64	-35.32	-36.00	-35.93	-35.45	-33.35	-31.68	-28.27	-29.35	-31.53	-32.90	-33.54
Max	-30.43	-31.11	-31.74	-27.69	-26.53	-22.87	-15.96	-15.26	-17.11	-22.58	-26.28	-28.84
Min	-39.43	-40.15	-39.74	-40.20	-40.19	-38.44	-37.77	-37.37	-36.59	-37.09	-38.50	-38.91



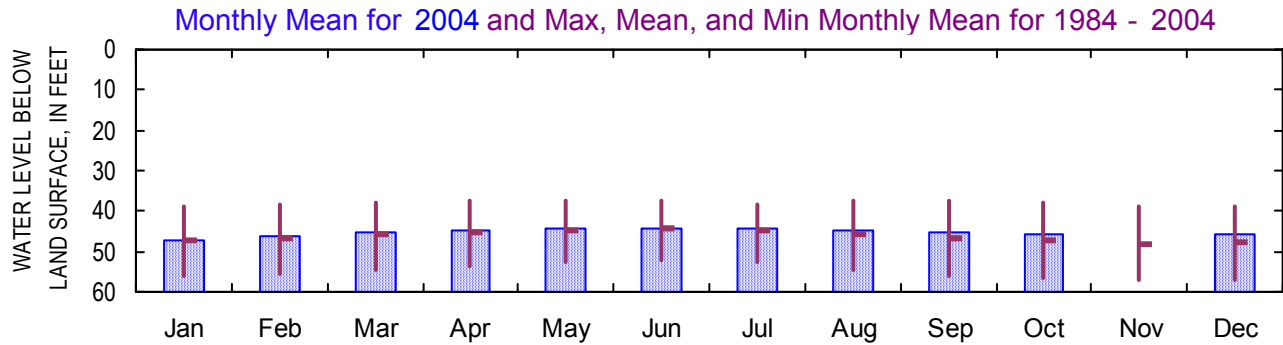
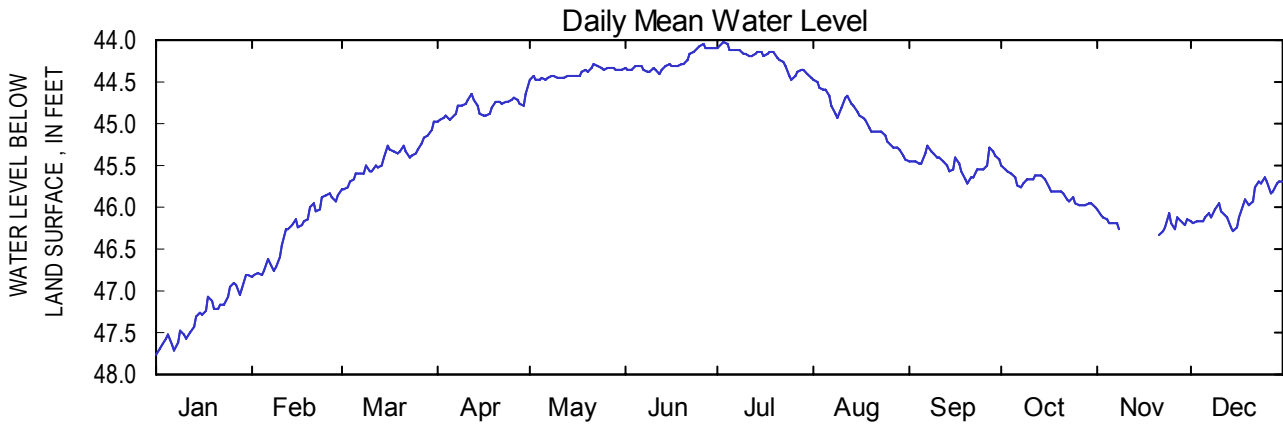


CLAYTON AQUIFER 2004 Calendar Year

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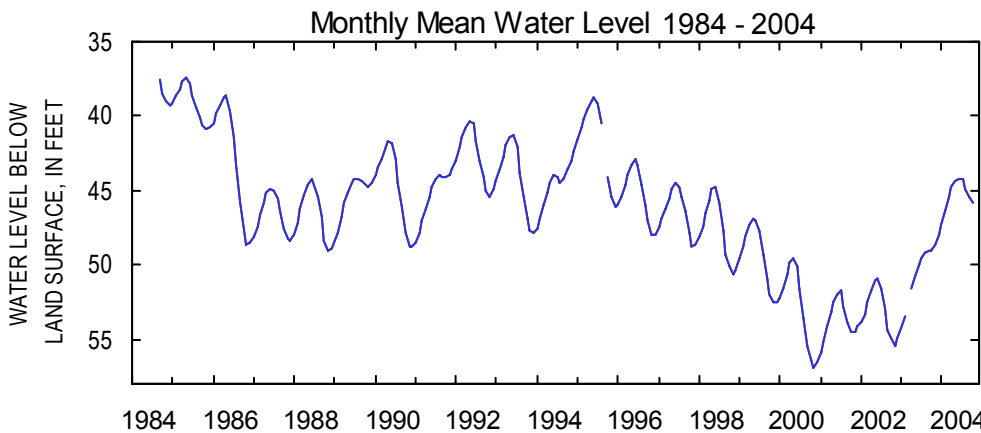
Site Name: 14P014

Latitude: 31° 57' 31" Longitude: 083° 54' 23" CRISP Period of Record: 1984 - 2004
 Well Depth: 550 feet Datum: 252.00 feet Well Diameter 6.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	47.30	46.30	45.43	44.80	44.40	44.26	44.22	44.94	45.47	45.77		45.98
Max	47.77	46.82	45.78	44.98	44.49	44.40	44.47	45.43	45.70	45.99		46.29
Min	46.80	45.82	44.98	44.64	44.30	44.06	44.02	44.47	45.25	45.50		45.63
1984 - 2004												
Mean	47.38	46.70	45.67	45.12	44.60	44.43	44.91	45.91	46.61	47.44	47.96	47.75
Max	56.29	55.52	54.73	53.59	52.82	52.28	52.61	54.74	55.92	56.65	57.02	56.92
Min	38.93	38.40	37.88	37.52	37.26	37.50	38.18	37.17	37.16	37.88	38.66	39.01



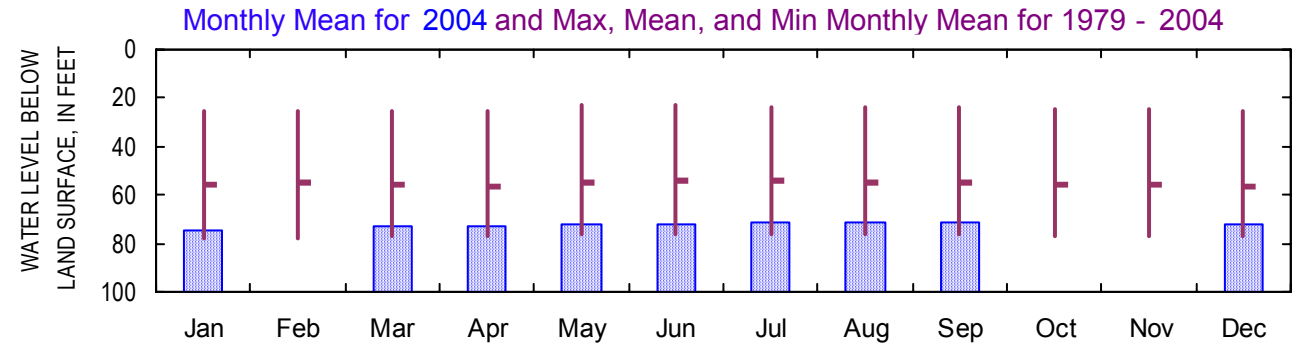
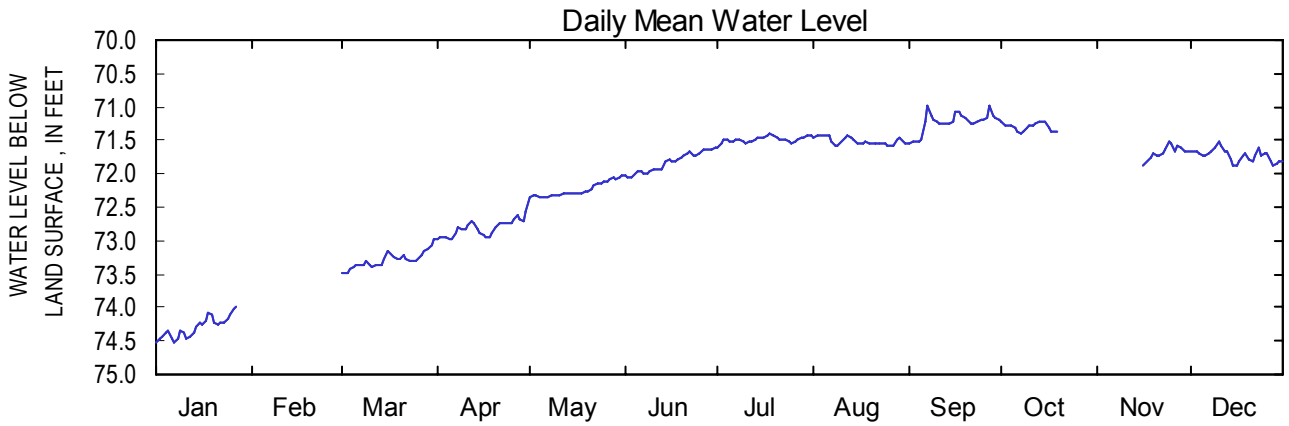


**CLAYTON AQUIFER
2004 Calendar Year**

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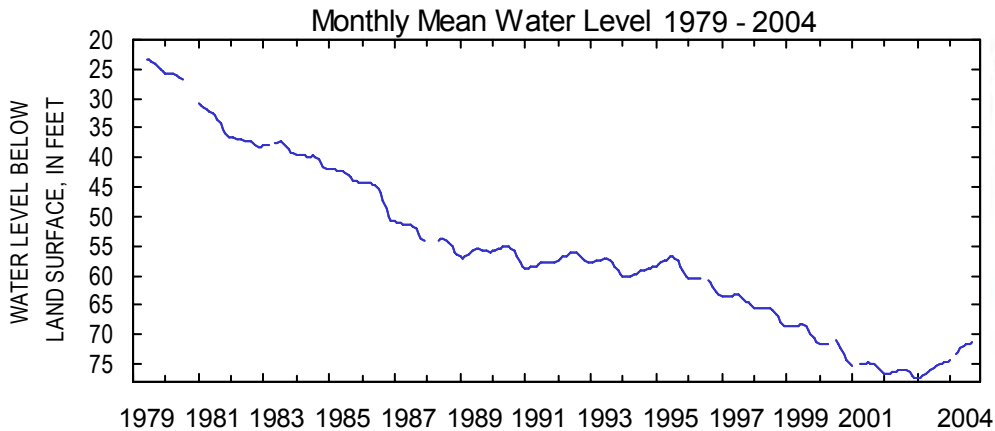
Site Name: 11K005

Latitude: 31° 26' 54" Longitude: 084° 21' 01" DOUGHERTY Period of Record: 1979 - 2004
Well Depth: 646 feet Datum: 181.00 feet Well Diameter 4 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	74.30	73.30	72.81	72.24	71.83	71.49	71.51	71.23				71.73
Max	74.52	73.49	72.98	72.36	72.05	71.60	71.59	71.54				71.89
Min	73.99	72.99	72.57	72.03	71.60	71.40	71.42	70.98				71.51
1979 - 2004												
Mean	55.94	54.93	55.67	56.37	54.67	53.72	54.28	54.86	55.24	55.63	56.13	56.84
Max	77.58	77.51	77.12	77.01	76.48	76.15	75.97	75.98	76.20	76.67	77.20	77.44
Min	25.38	25.62	25.60	25.75	23.03	23.07	23.39	23.53	23.90	24.23	24.70	25.00



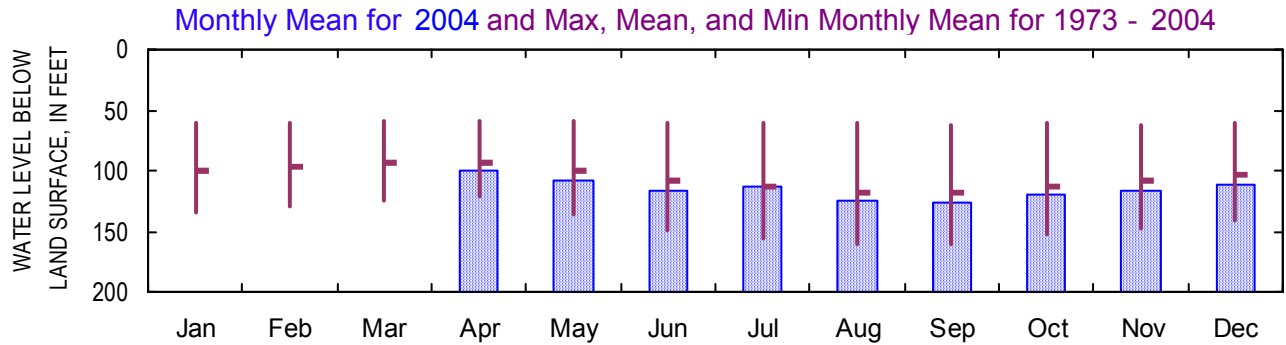
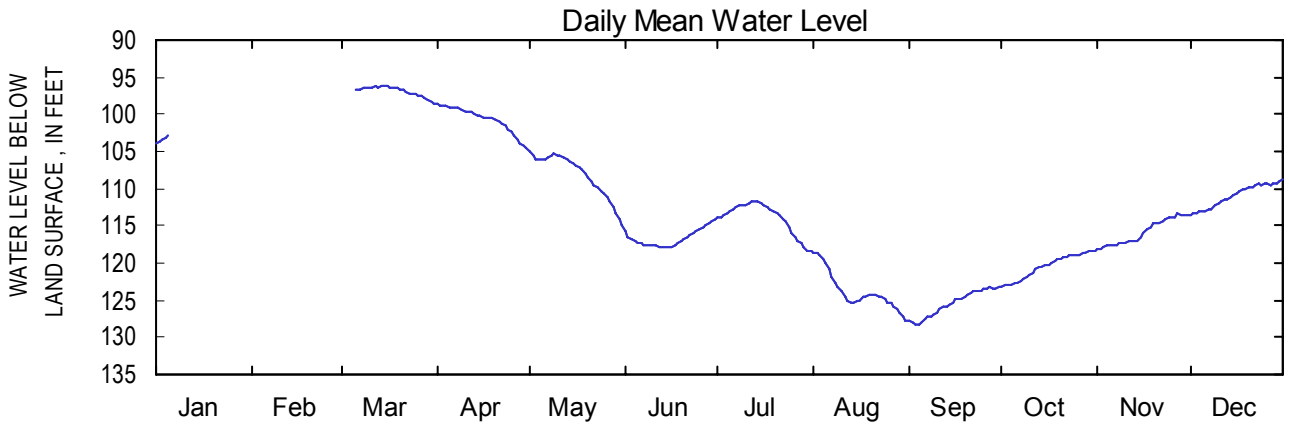


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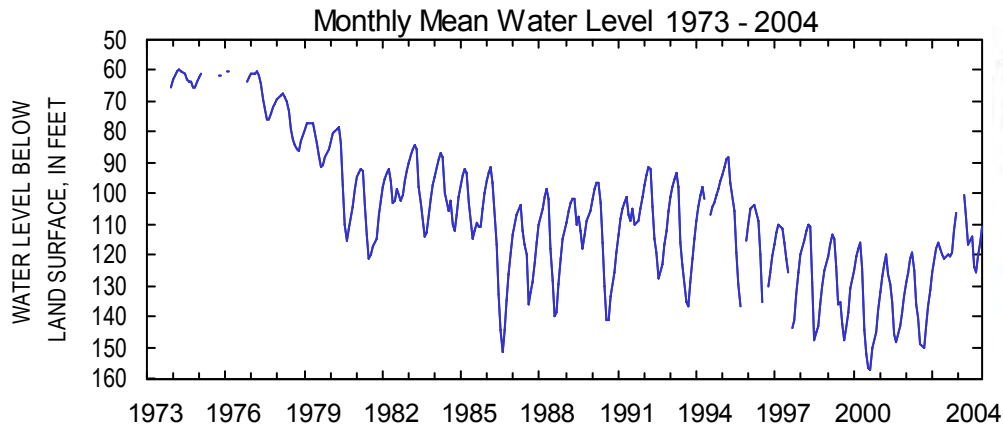
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Site Name: 11L002

Latitude: 31° 35' 32" Longitude: 084° 20' 32" DOUGHERTY Period of Record: 1973 - 2004
 Well Depth: 656 feet Datum: 222.00 feet Well Diameter 3.0 inches



Monthly Water-Level Statistics												
2004												
Mean	100.63	108.13	116.63	113.90	123.86	125.46	120.47	115.85	110.96			
Max	104.54	114.84	117.99	118.47	127.66	128.23	123.15	118.17	113.48			
Min	98.63	105.10	114.14	111.59	118.59	123.24	118.29	113.39	108.87			
1973 - 2004												
Mean	99.43	96.02	94.17	93.61	99.35	107.64	112.95	117.94	118.84	113.77	108.51	103.99
Max	134.49	128.77	124.64	120.85	135.53	148.58	156.18	160.82	160.71	152.52	147.77	141.07
Min	60.35	60.00	59.30	58.90	59.13	60.17	60.85	61.00	61.68	61.34	61.53	60.93



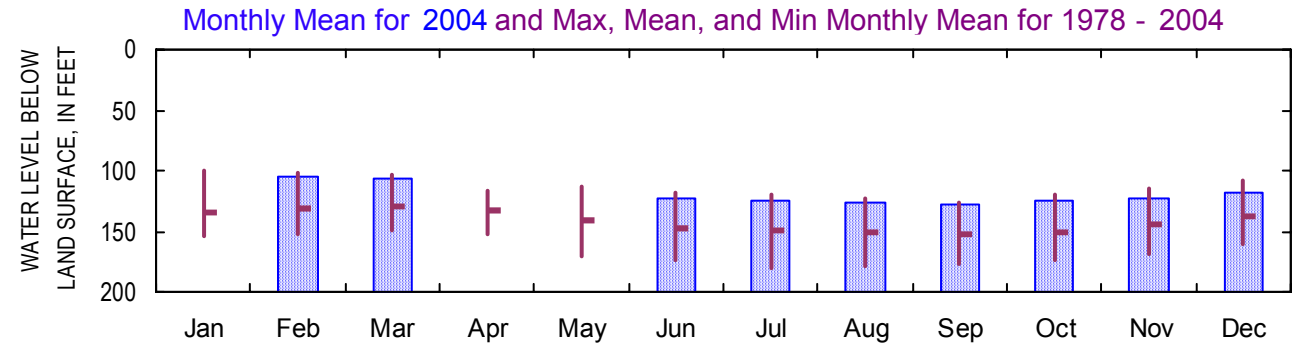
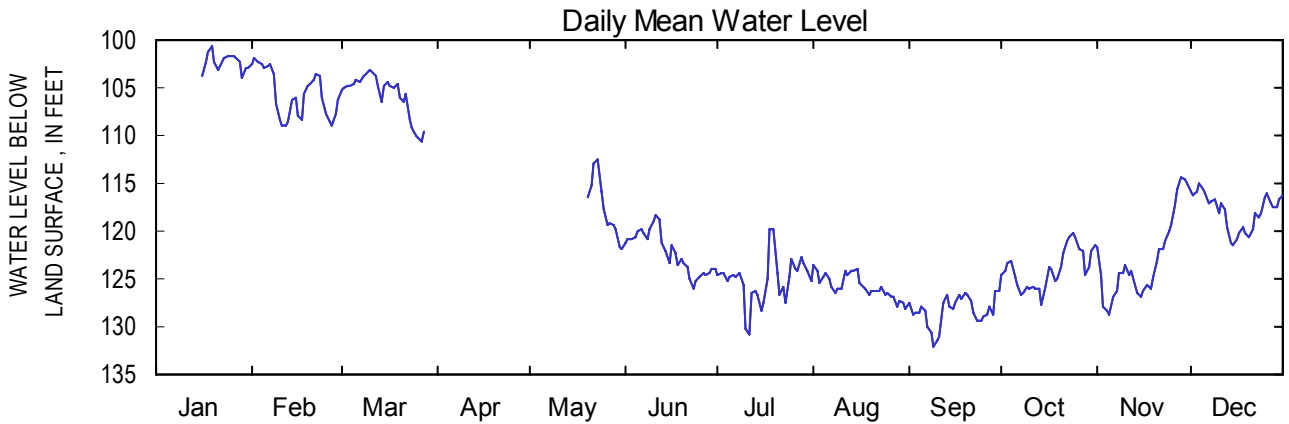


CLAYTON AQUIFER 2004 Calendar Year

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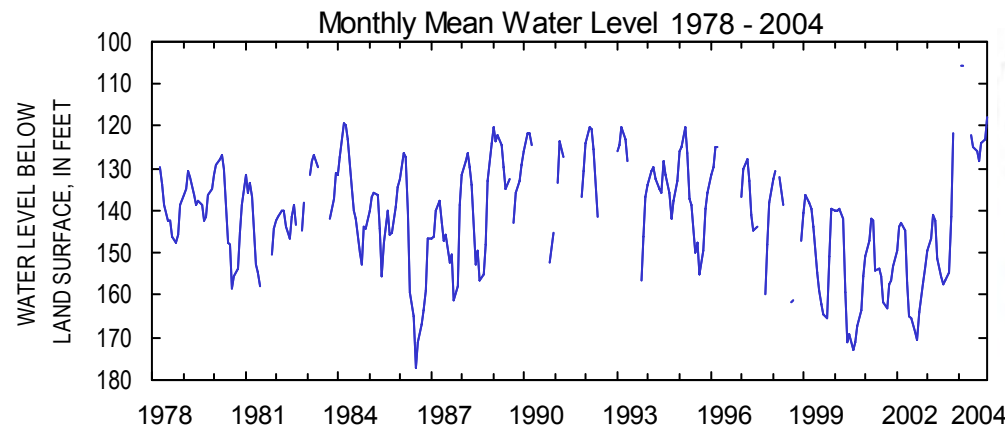
Site Name: 12L020

Latitude: 31° 35' 35" Longitude: 084° 10' 30" DOUGHERTY Period of Record: 1978 - 2004
 Well Depth: 690 feet Datum: 195.00 feet Well Diameter 3.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	105.62	105.75				122.22	125.12	125.78	128.36	124.02	123.05	117.87
Max	109.01	110.57				126.11	130.83	128.18	132.18	127.78	128.75	121.47
Min	101.95	103.22				118.30	119.69	123.58	126.25	120.30	114.48	115.04
1978 - 2004												
Mean	134.59	131.76	129.27	132.35	140.49	146.91	148.86	150.75	152.98	150.55	144.17	137.94
Max	153.57	152.86	149.42	152.75	170.41	173.74	180.74	178.15	177.64	173.42	169.63	161.15
Min	100.59	101.95	103.22	116.45	112.56	118.30	119.69	123.58	126.25	120.30	114.48	108.14



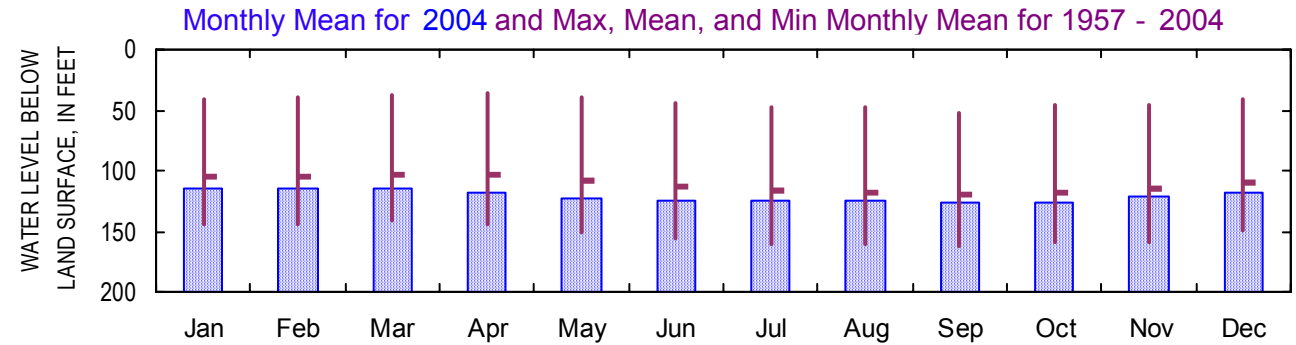
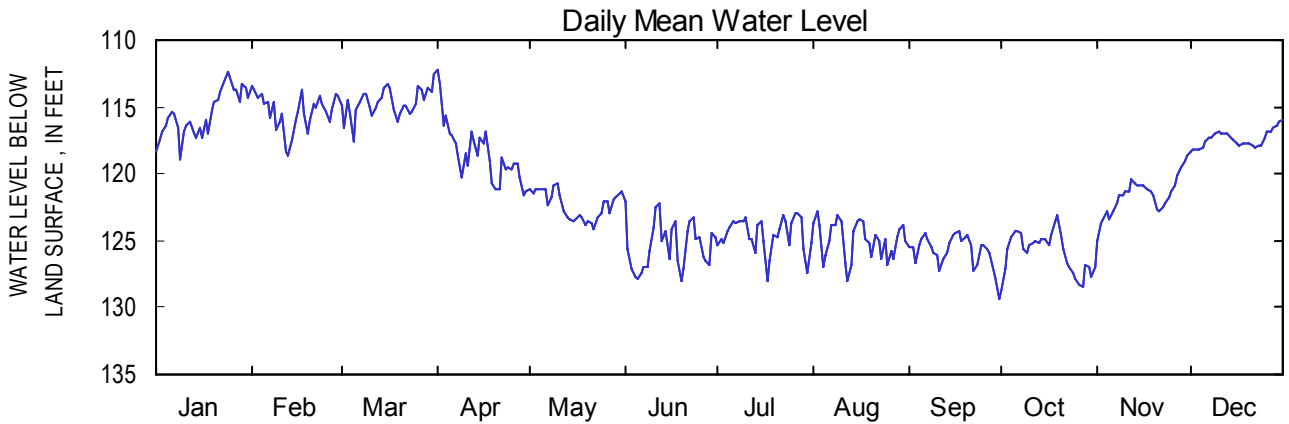


**CLAYTON AQUIFER
2004 Calendar Year**

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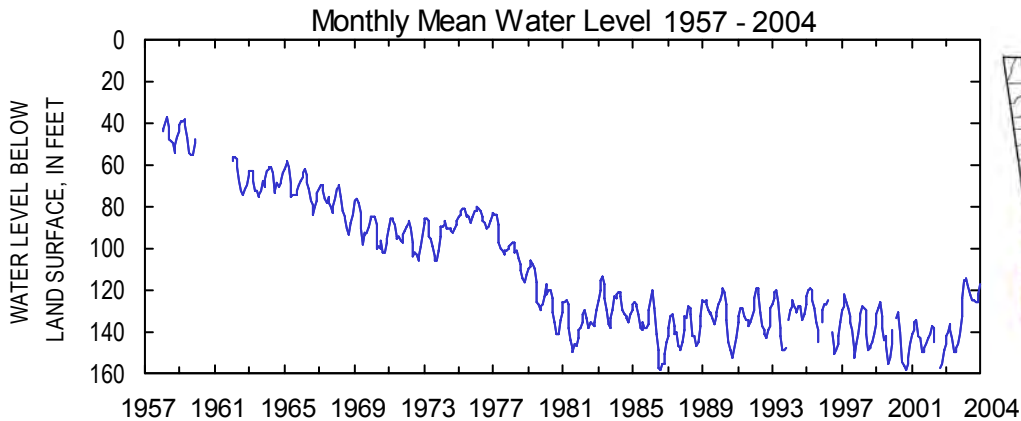
Site Name: 13L002

Latitude: 31° 35' 51" Longitude: 084° 06' 24" DOUGHERTY Period of Record: 1957 - 2004
Well Depth: 760 feet Datum: 212.84 feet Well Diameter 12.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	115.53	115.35	114.71	118.42	122.31	125.35	124.53	124.93	125.77	125.87	121.63	117.40
Max	118.91	118.60	117.61	121.59	124.11	128.04	127.98	127.97	129.36	128.69	125.09	118.40
Min	112.40	113.38	112.46	112.20	120.65	122.07	122.96	122.81	124.24	123.06	118.69	115.97
1957 - 2004												
Mean	105.36	104.21	102.54	103.83	108.76	113.37	116.16	117.62	119.85	118.60	114.64	110.04
Max	144.50	144.01	141.39	144.86	150.83	156.34	160.88	161.36	163.08	158.86	158.23	149.93
Min	40.51	38.92	37.50	36.15	38.78	44.17	47.03	47.62	52.45	46.70	45.87	41.20



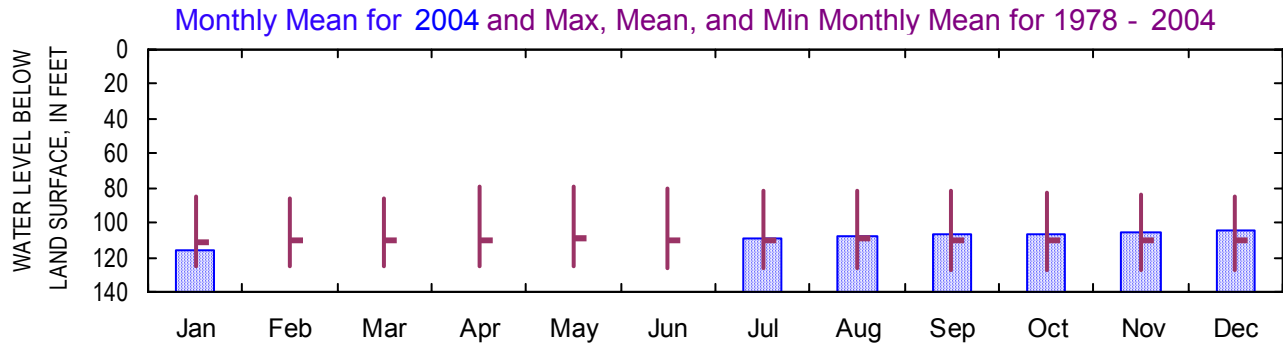
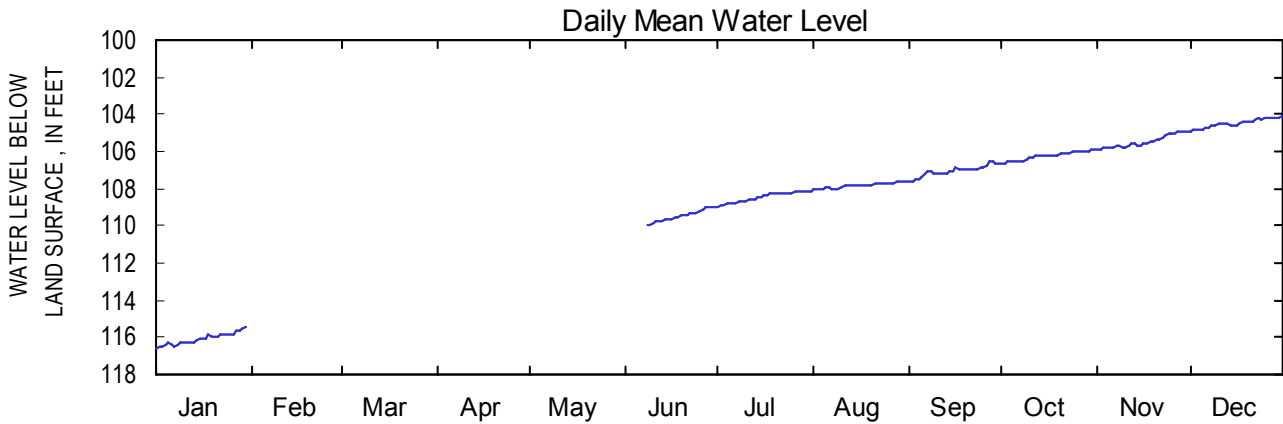


**CLAYTON AQUIFER
2004 Calendar Year**

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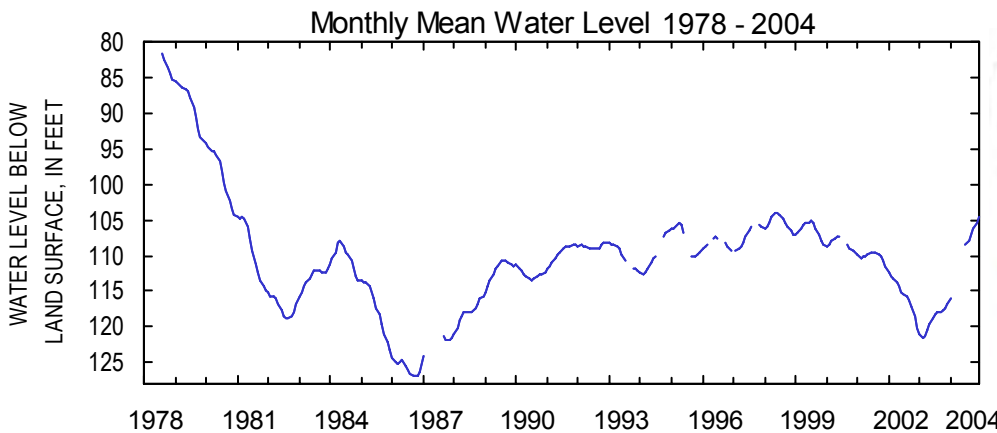
Site Name: 13L013

Latitude: 31° 31' 05" Longitude: 084° 06' 43" DOUGHERTY Period of Record: 1978 - 2004
Well Depth: 882 feet Datum: 195.00 feet Well Diameter 4.00 inches



Monthly Water-Level Statistics

2004												
Mean	116.09		108.45	107.82	107.04	106.25	105.46	104.47				
Max	116.56		108.95	108.07	107.59	106.60	105.87	104.88				
Min	115.40		108.09	107.60	106.50	105.89	104.88	104.09				
1978 - 2004												
Mean	110.95	110.52	109.88	109.69	109.30	109.60	109.63	109.44	110.06	110.36	110.58	110.72
Max	125.12	124.97	125.20	125.03	125.07	125.78	126.33	126.72	127.24	127.17	127.23	126.91
Min	85.43	85.74	85.93	79.09	79.01	80.73	80.92	81.27	82.03	83.13	84.10	84.75



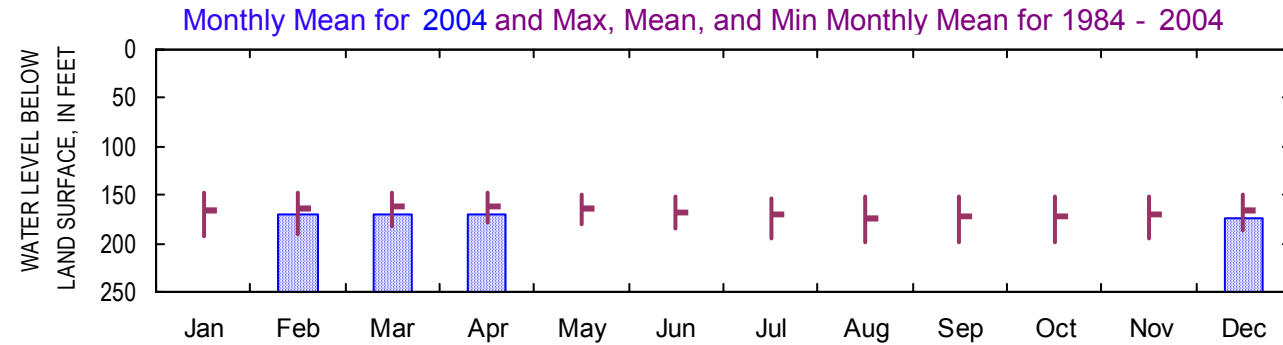
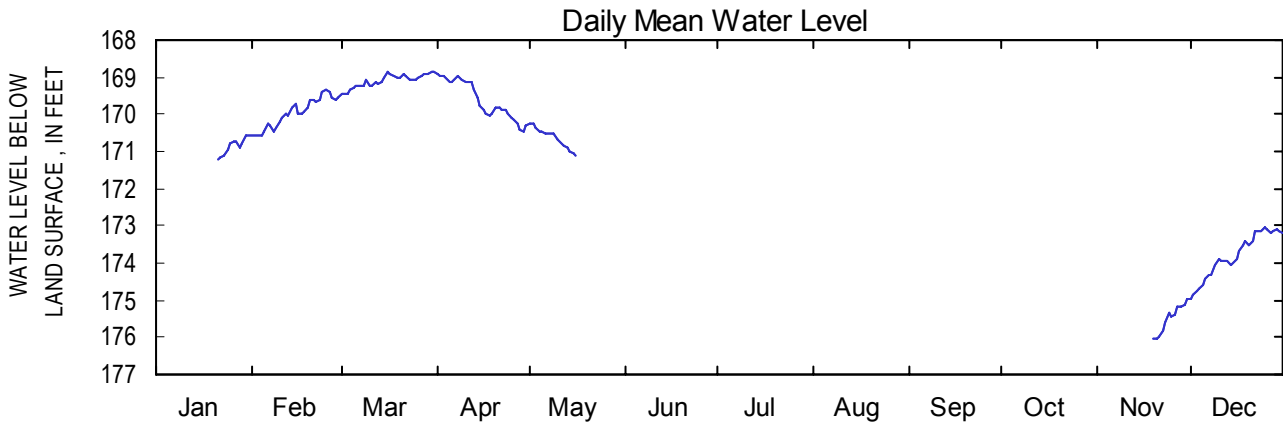


CLAYTON AQUIFER 2004 Calendar Year

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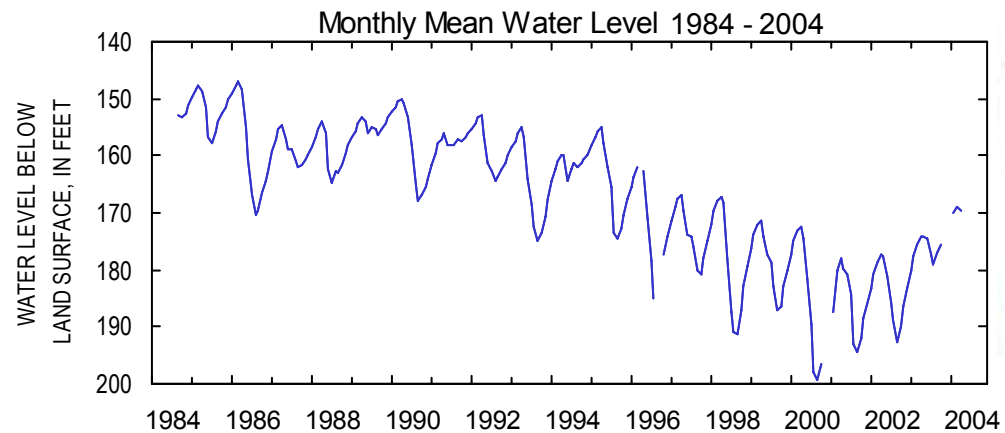
Site Name: 06K009

Latitude: 31° 28' 24" Longitude: 084° 55' 16" EARLY Period of Record: 1984 - 2004
 Well Depth: 612 feet Datum: 310.00 feet Well Diameter 6.0 inches



Monthly Water-Level Statistics

2004												
Mean	169.97	169.09	169.60								173.79	
Max	170.58	169.46	170.44								174.96	
Min	169.36	168.85	168.92								173.02	
1984 - 2004												
Mean	165.06	163.74	162.06	161.38	162.97	167.12	170.21	173.33	173.01	171.28	169.45	166.42
Max	193.02	190.60	183.07	178.53	181.05	184.86	194.37	198.91	199.60	199.19	193.79	187.31
Min	148.46	147.22	146.76	146.62	149.88	152.37	154.47	152.25	152.30	151.67	150.77	149.57



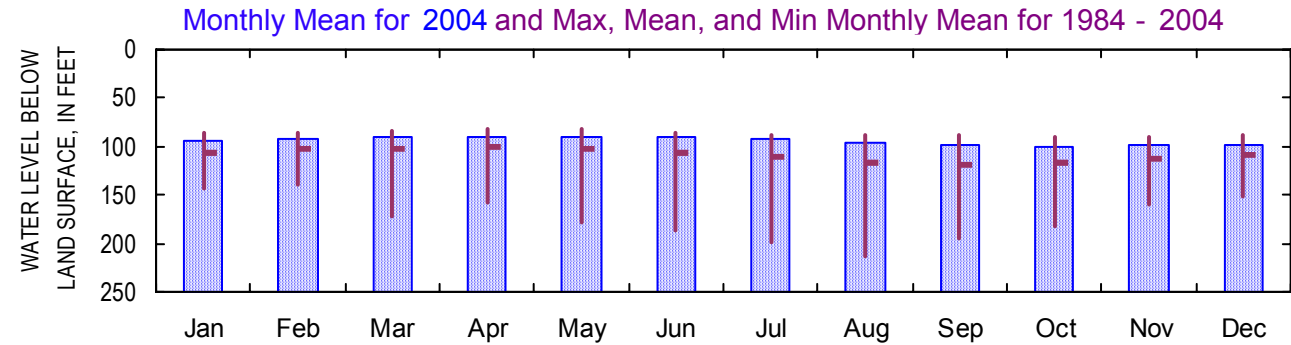
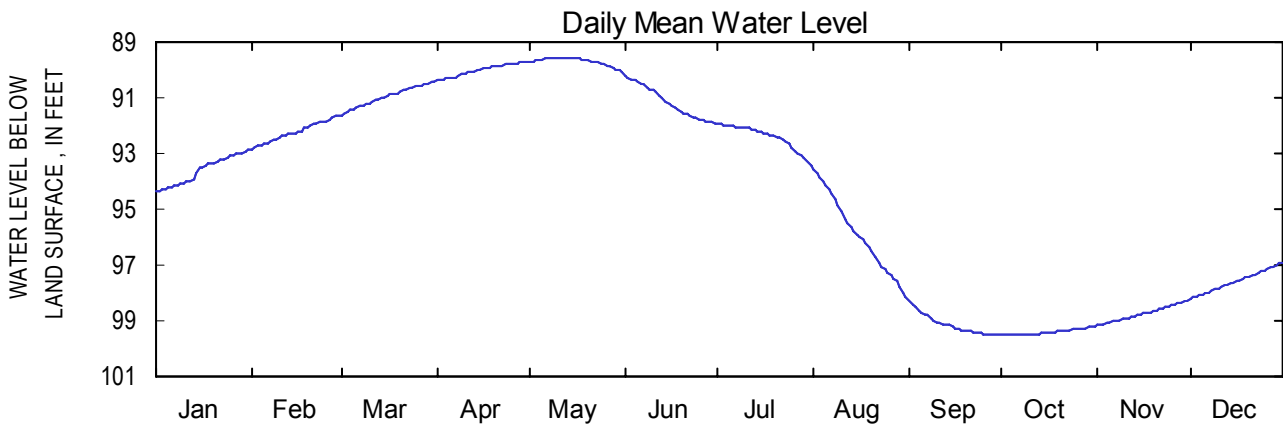


CLAYTON AQUIFER 2004 Calendar Year

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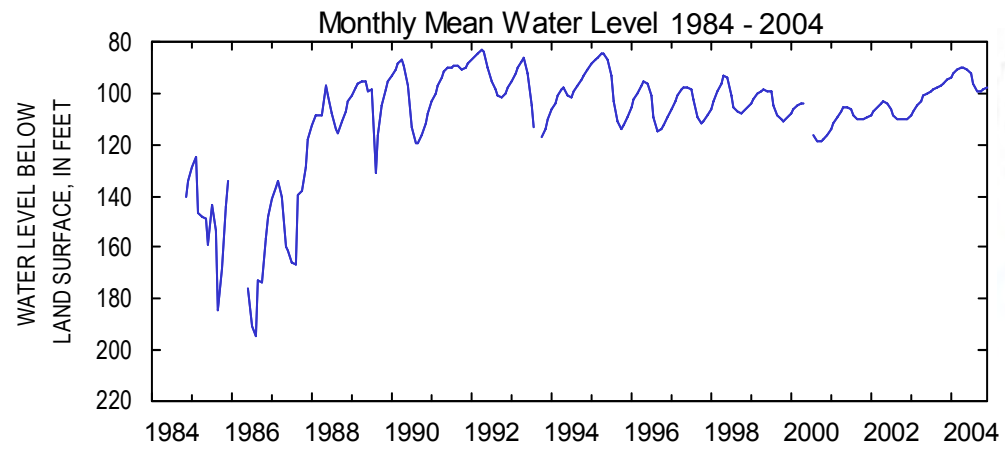
Site Name: 11P014

Latitude: 31° 53' 51" Longitude: 084° 19' 25" LEE Period of Record: 1984 - 2004
Well Depth: 384 feet Datum: 338.00 feet Well Diameter 4 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	93.62	92.23	90.96	90.01	89.70	91.15	92.40	95.92	99.13	99.40	98.74	97.58
Max	94.36	92.85	91.63	90.39	90.09	91.91	93.42	98.18	99.49	99.49	99.16	98.21
Min	92.89	91.66	90.43	89.70	89.57	90.18	91.93	93.60	98.32	99.18	98.26	96.92
1984 - 2004												
Mean	106.24	103.36	102.57	101.29	101.74	107.50	111.05	116.75	119.31	116.49	112.78	109.46
Max	143.71	138.50	171.58	157.90	179.28	187.08	198.84	212.89	193.90	181.75	160.74	151.59
Min	86.49	85.06	83.47	82.42	82.38	86.29	88.81	88.72	88.42	89.91	89.49	88.00



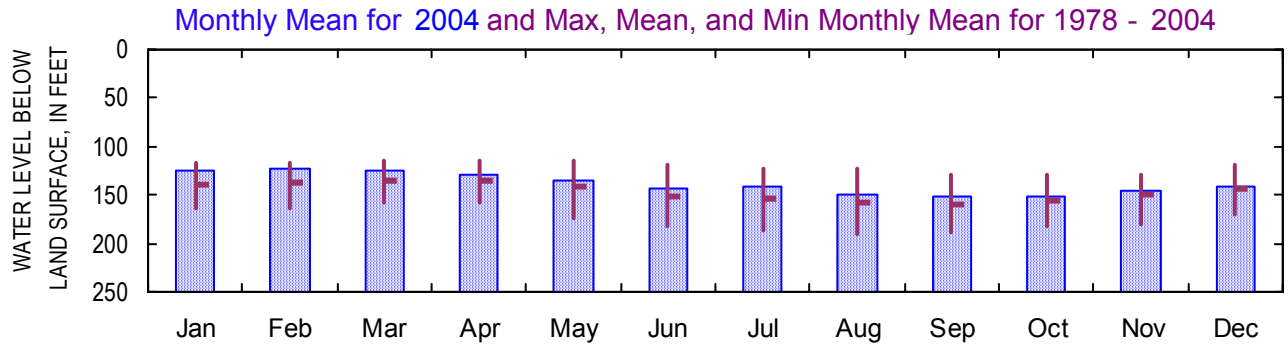
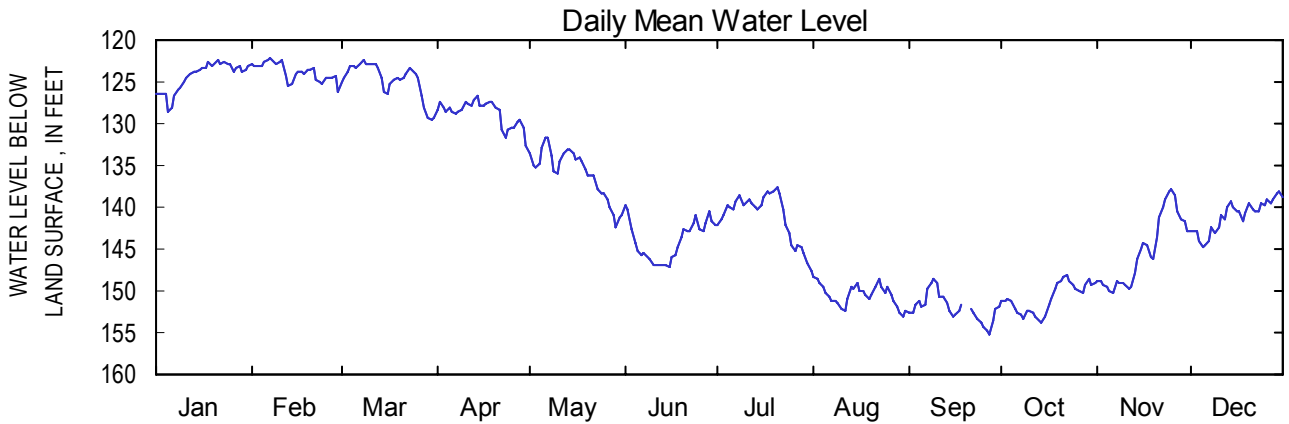


CLAYTON AQUIFER 2004 Calendar Year

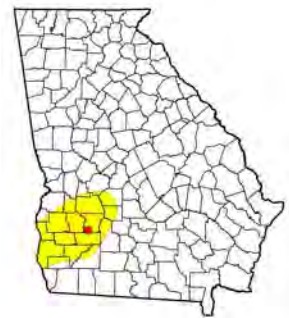
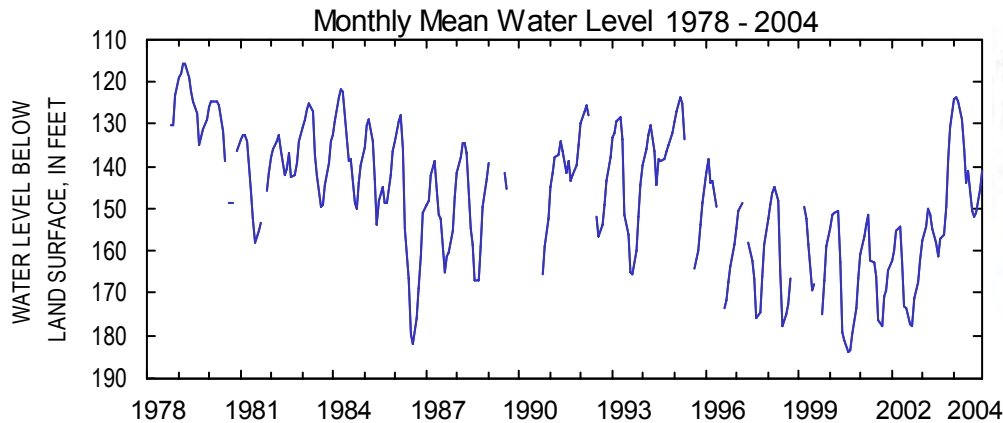
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Site Name: 12M002

Latitude: 31° 38' 10" Longitude: 084° 12' 49" LEE Period of Record: 1978 - 2004
 Well Depth: 650 feet Datum: 238.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics												
2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	124.35	123.78	124.71	128.74	135.93	144.00	141.11	150.47	152.04	150.87	145.25	141.04
Max	128.54	126.08	129.44	132.52	142.40	147.03	147.66	153.07	155.34	153.70	150.26	144.80
Min	122.50	122.25	122.43	126.59	131.56	139.77	137.57	148.25	148.66	148.18	137.86	138.15
1978 - 2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	140.21	137.60	135.87	135.88	142.33	151.30	154.29	157.70	159.03	156.00	150.13	144.29
Max	164.56	163.99	157.49	158.78	174.12	182.09	186.62	190.54	189.46	182.00	179.32	169.54
Min	117.78	116.22	114.79	115.53	115.75	119.06	123.31	123.61	128.41	129.50	128.77	118.98



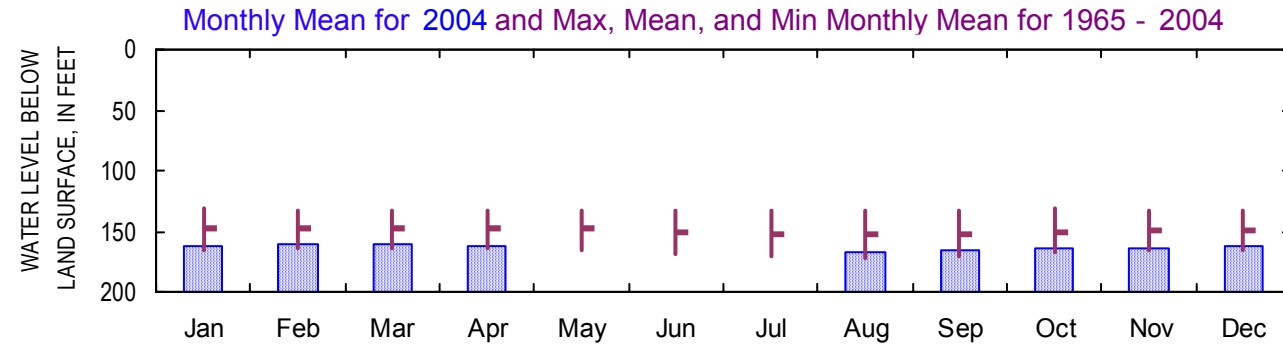
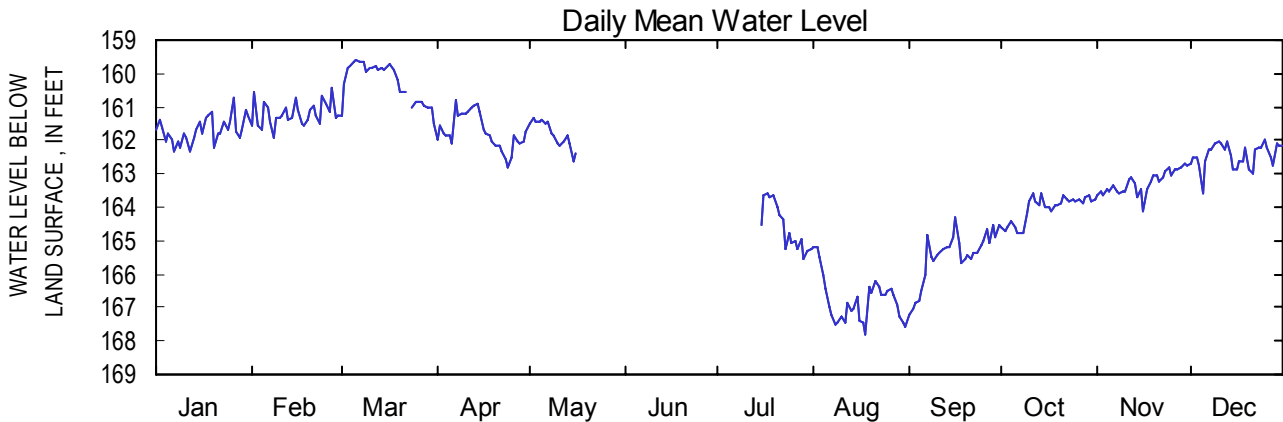


CLAYTON AQUIFER 2004 Calendar Year

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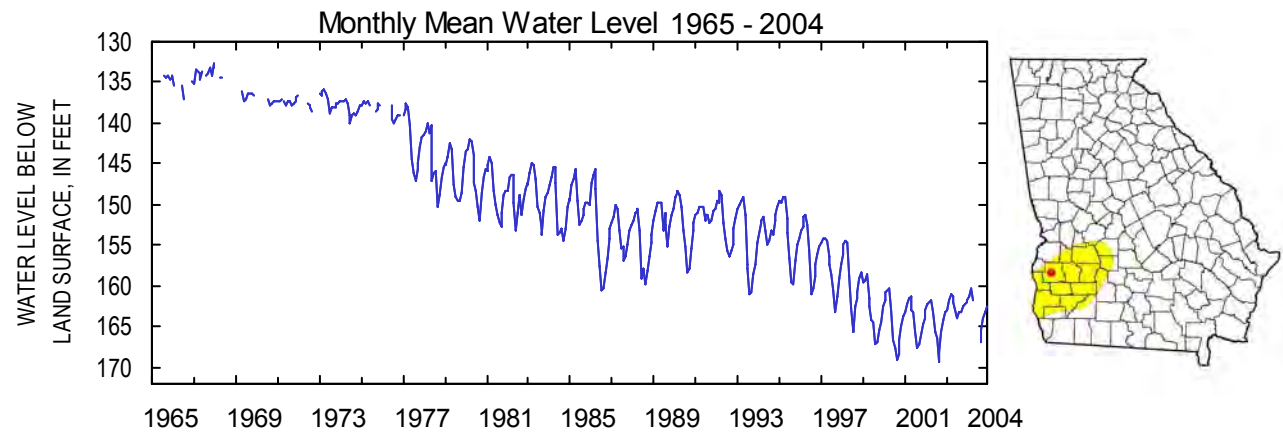
Site Name: 07N001

Latitude: 31° 46' 09" Longitude: 084° 47' 43" RANDOLPH Period of Record: 1965 - 2004
Well Depth: 372 feet Datum: 445.00 feet Well Diameter 8 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	161.70	161.21	160.27	161.75				166.77	165.46	164.04	163.27	162.45
Max	162.35	161.90	161.49	162.78				167.83	167.24	164.80	164.10	163.57
Min	160.75	160.46	159.58	160.79				165.18	164.30	163.59	162.68	161.99
1965 - 2004												
Mean	147.66	147.39	146.98	147.41	148.23	150.48	151.64	151.91	152.03	150.78	149.39	149.01
Max	165.83	163.49	164.24	164.05	166.15	169.62	169.79	171.90	170.55	167.44	166.37	165.21
Min	130.90	132.66	132.99	133.20	133.32	132.98	133.12	132.59	132.20	131.44	133.20	132.00



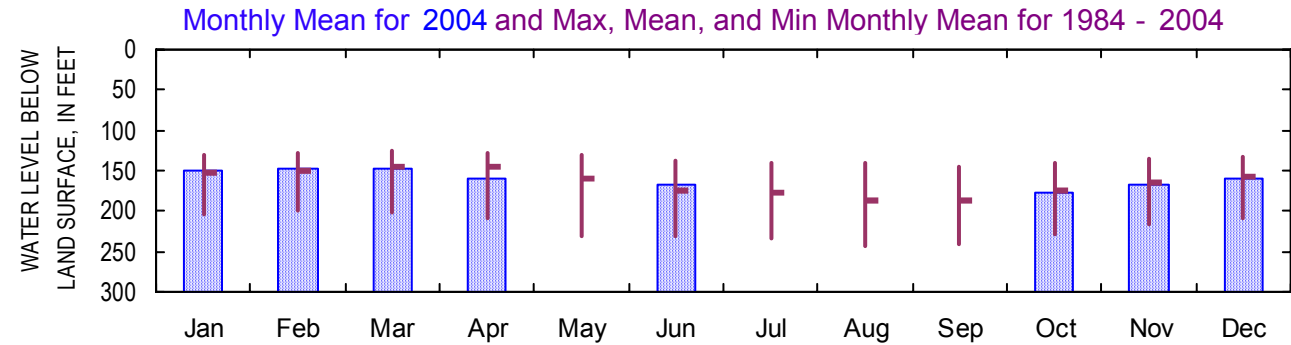
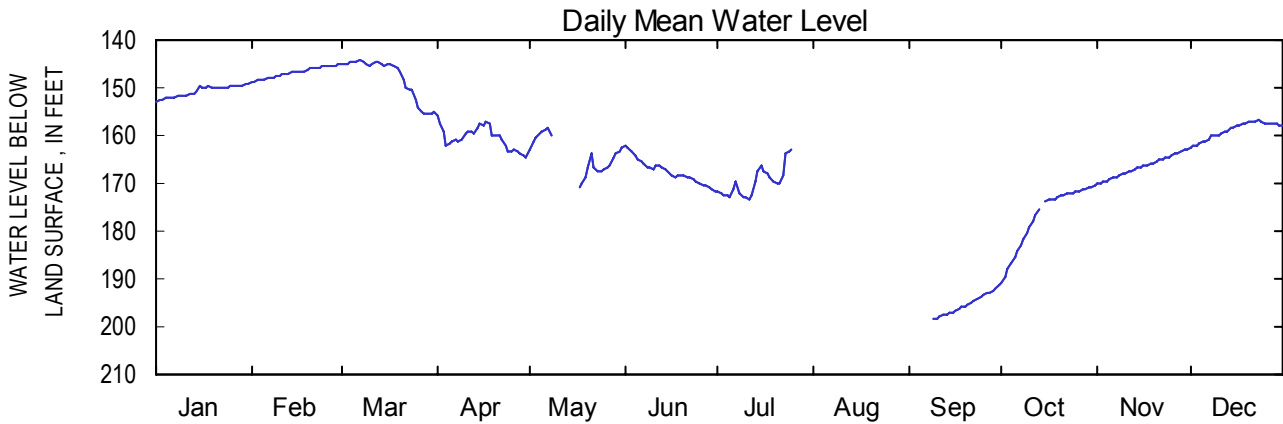


CLAYTON AQUIFER 2004 Calendar Year

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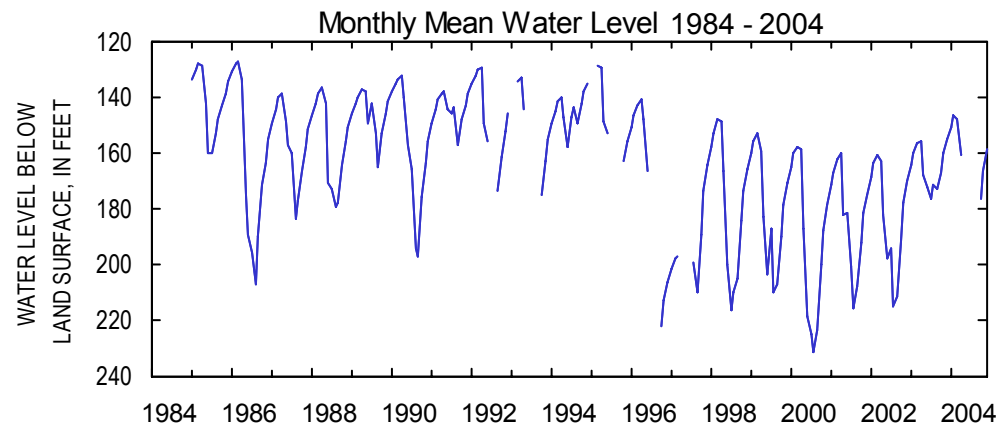
Site Name: 09M007

Latitude: 31° 39' 52" Longitude: 084° 36' 16" RANDOLPH Period of Record: 1984 - 2004
Well Depth: 430 feet Datum: 320.00 feet Well Diameter 6.0 inches



Monthly Water-Level Statistics

2004												
Mean	150.68	146.81	147.79	160.46	167.52	176.79	166.47	158.88				
Max	152.74	148.96	155.59	164.71	171.53	190.66	170.19	162.48				
Min	149.06	145.17	144.30	155.82	161.97	170.41	162.77	156.85				
1984 - 2004												
Mean	152.89	149.13	145.33	145.37	160.39	174.11	177.62	187.83	186.37	174.02	164.66	157.49
Max	203.67	199.59	202.52	208.10	232.32	230.04	233.26	242.37	239.95	228.37	216.92	208.93
Min	129.58	126.99	126.55	126.96	129.58	138.52	139.73	140.72	145.11	139.80	136.15	132.36



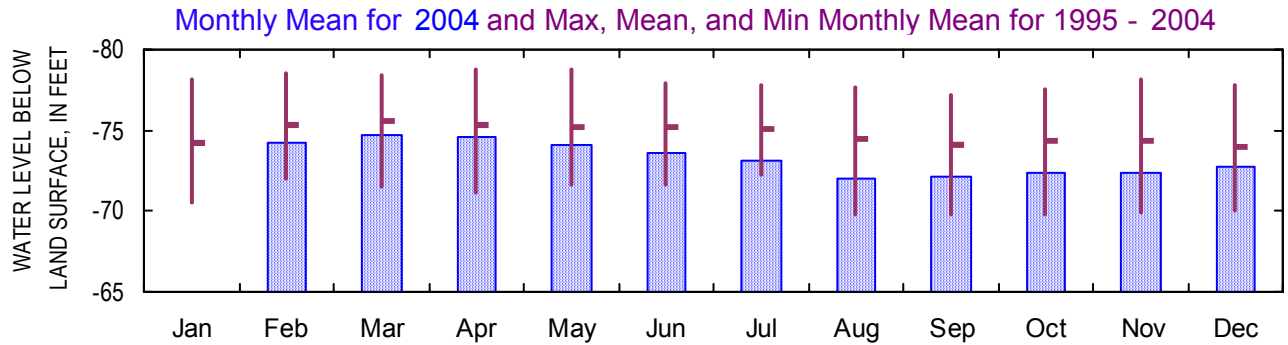
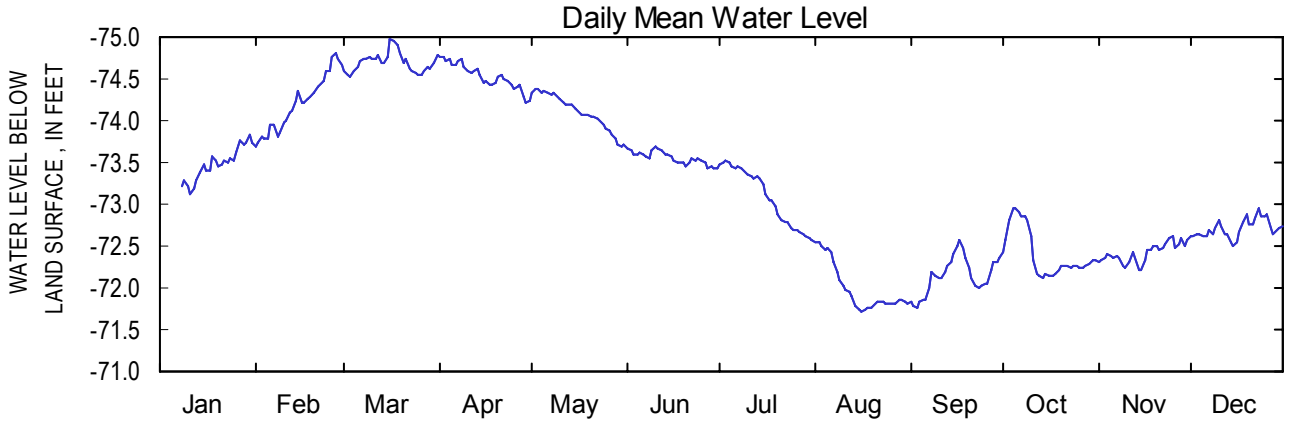


LOWER DUBLIN AQUIFER
2004 Calendar Year

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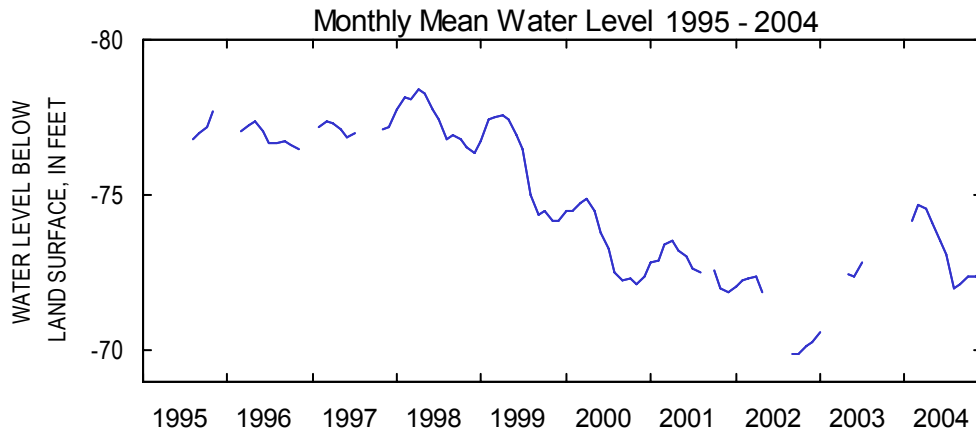
Site Name: 32Y031

Latitude: 33 ° 05 ' 49" Longitude: 081 ° 39 ' 11" BURKE Period of Record: 1995 - 2004
 Well Depth: 562 feet Datum: 85 feet Well Diameter 4 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	-74.21	-74.69	-74.53	-74.10	-73.55	-73.09	-72.00	-72.14	-72.41	-72.41	-72.71	
Max	-73.70	-74.53	-74.21	-73.70	-73.43	-72.58	-71.72	-71.77	-72.12	-72.22	-72.50	
Min	-74.80	-74.97	-74.77	-74.38	-73.68	-73.52	-72.56	-72.57	-72.96	-72.61	-72.96	
1995 - 2004												
Mean	-74.23	-75.29	-75.59	-75.38	-75.15	-75.15	-75.04	-74.44	-74.13	-74.30	-74.30	-73.96
Max	-70.51	-72.06	-71.47	-71.13	-71.62	-71.67	-72.21	-69.78	-69.75	-69.77	-69.95	-70.02
Min	-78.13	-78.47	-78.40	-78.77	-78.81	-77.91	-77.76	-77.70	-77.21	-77.48	-78.21	-77.84



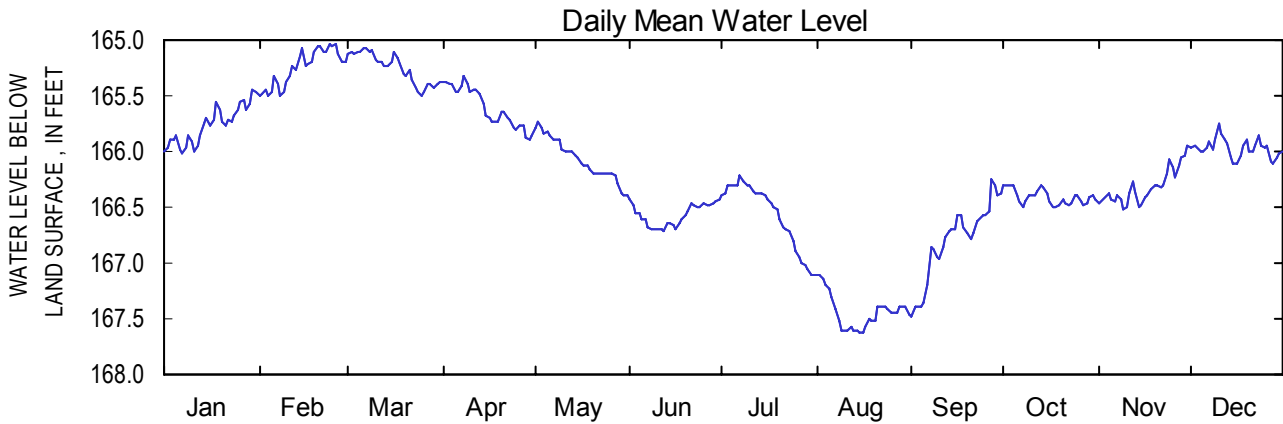


DUBLIN AQUIFER SYSTEM 2004 Calendar Year

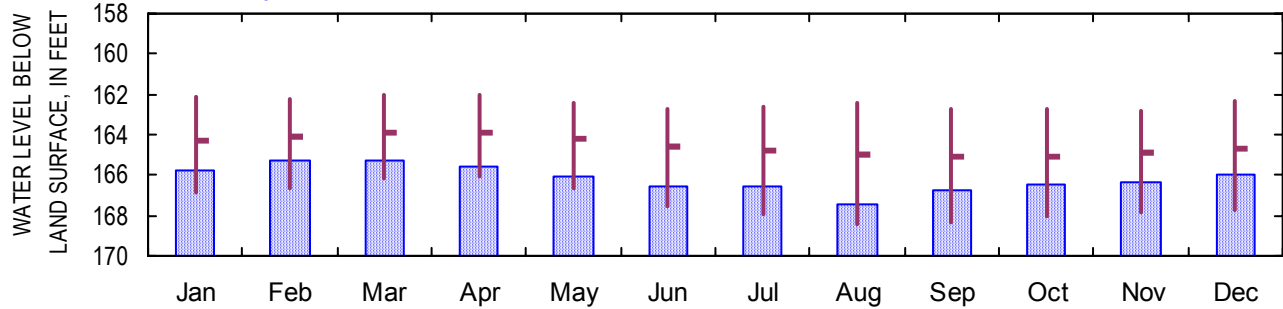
323302083263401

Site Name: 18U001

Latitude: 32° 33' 02" Longitude: 083° 26' 34" TWIGGS Period of Record: 1975 - 2004
 Well Depth: 616 feet Datum: 444.00 feet Well Diameter 3.0 inches

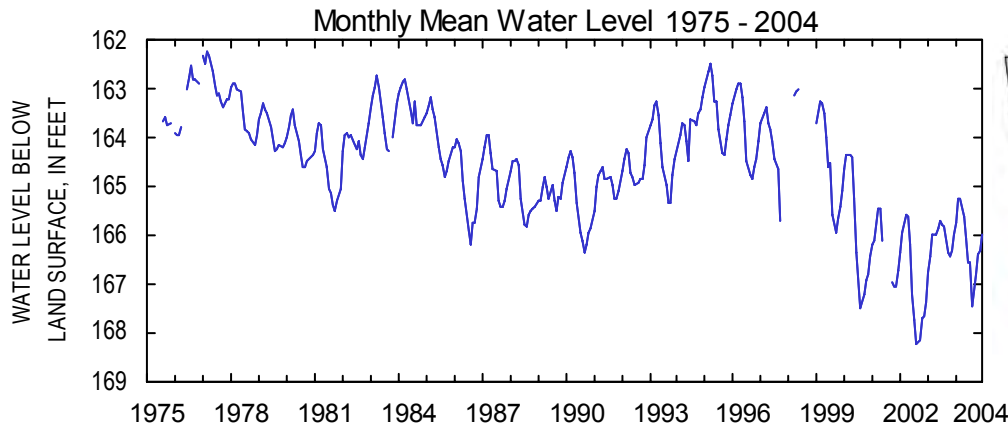


Monthly Mean for 2004 and Max, Mean, and Min Monthly Mean for 1975 - 2004



Monthly Water-Level Statistics

2004												
Mean	165.76	165.25	165.25	165.60	166.07	166.57	166.56	167.44	166.80	166.41	166.32	165.97
Max	166.02	165.50	165.50	165.90	166.40	166.72	167.10	167.62	167.48	166.50	166.51	166.11
Min	165.45	165.03	165.08	165.33	165.74	166.42	166.21	167.10	166.25	166.30	165.94	165.75
1975 - 2004												
Mean	164.29	164.06	163.87	163.92	164.20	164.56	164.77	164.98	165.11	165.05	164.89	164.65
Max	166.88	166.70	166.20	166.08	166.70	167.50	167.97	168.40	168.36	168.00	167.82	167.75
Min	162.17	162.25	162.06	162.00	162.46	162.76	162.60	162.40	162.70	162.70	162.78	162.34



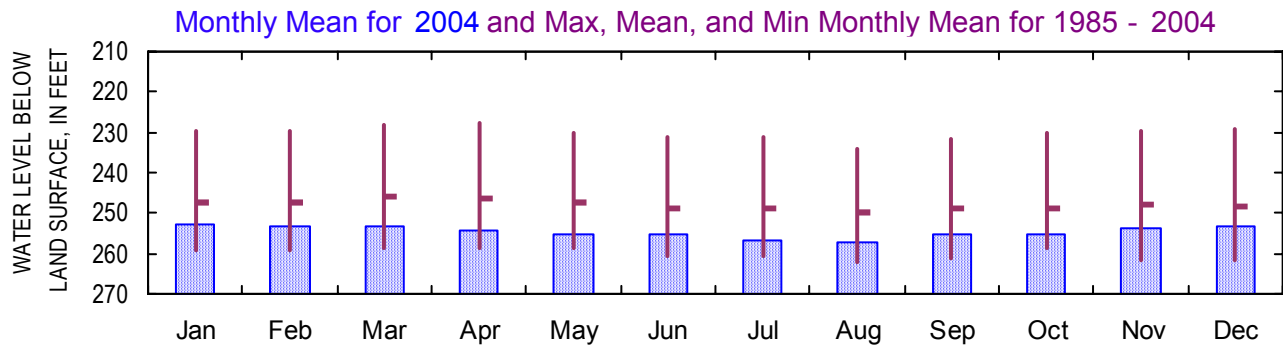
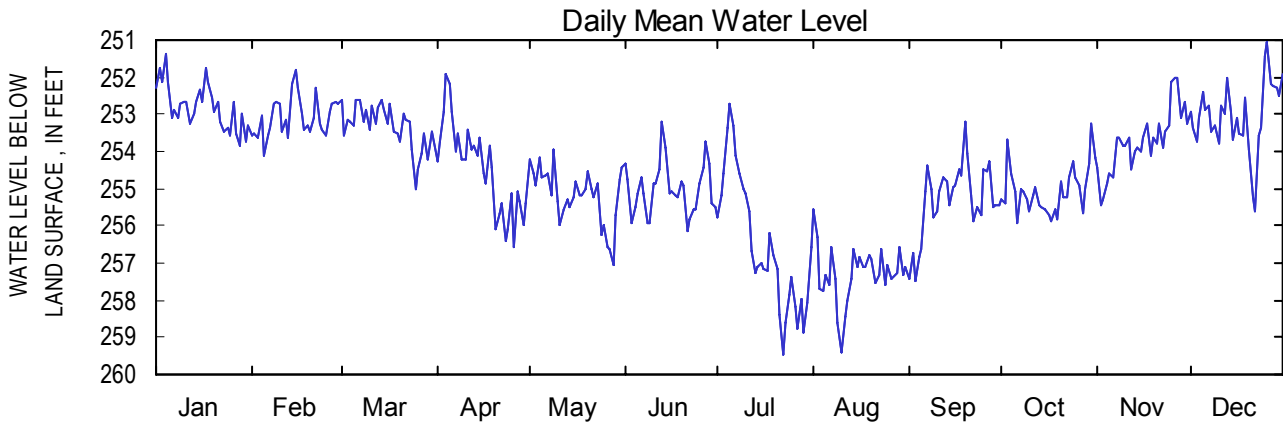


DUBLIN-MIDVILLE AQUIFER SYSTEM 2004 Calendar Year

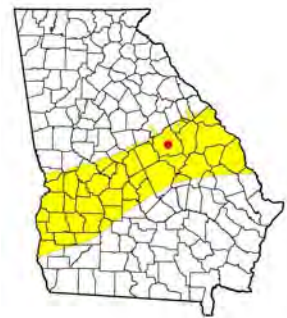
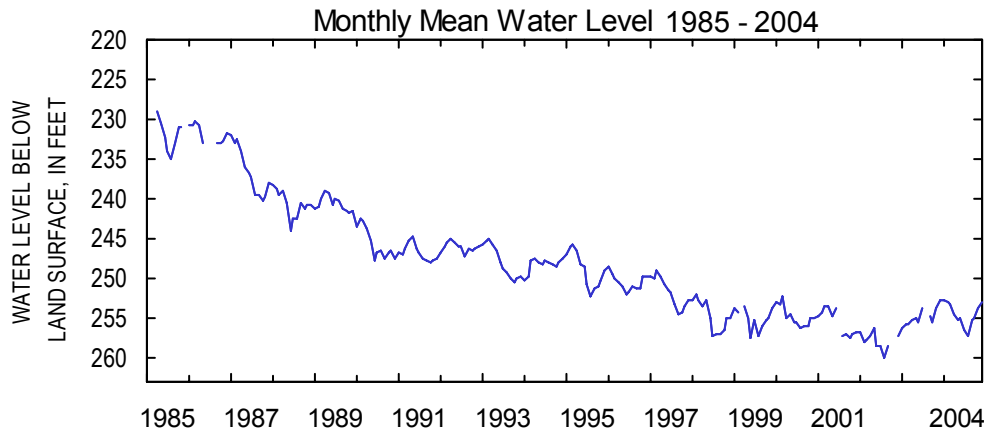
325848082480901

Site Name: 23X027

Latitude: 32° 58' 48" Longitude: 082° 48' 08" WASHINGTON Period of Record: 1985 - 2004
 Well Depth: 750 feet Datum: 450.00 feet Well Diameter 8 inches



Monthly Water-Level Statistics												
2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	252.78	253.07	253.33	254.46	255.20	255.01	256.52	257.28	255.30	255.06	253.72	253.04
Max	253.84	254.09	255.01	256.59	257.05	256.12	259.49	259.40	257.47	255.90	255.44	255.60
Min	251.39	251.81	252.59	251.91	253.96	253.21	252.70	255.57	253.21	253.27	252.02	251.07
1985 - 2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	247.41	247.34	246.11	246.43	247.15	248.61	249.06	249.99	249.05	248.71	247.90	248.29
Max	258.99	258.96	258.73	258.87	258.48	260.83	260.45	262.13	261.02	258.85	261.74	261.80
Min	229.72	229.75	228.21	227.68	229.99	231.14	231.09	233.94	231.40	230.24	229.76	229.40



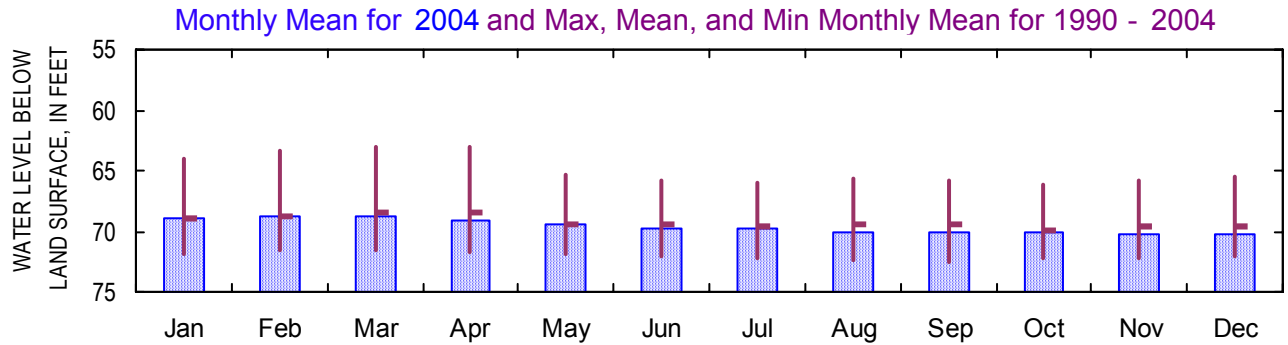
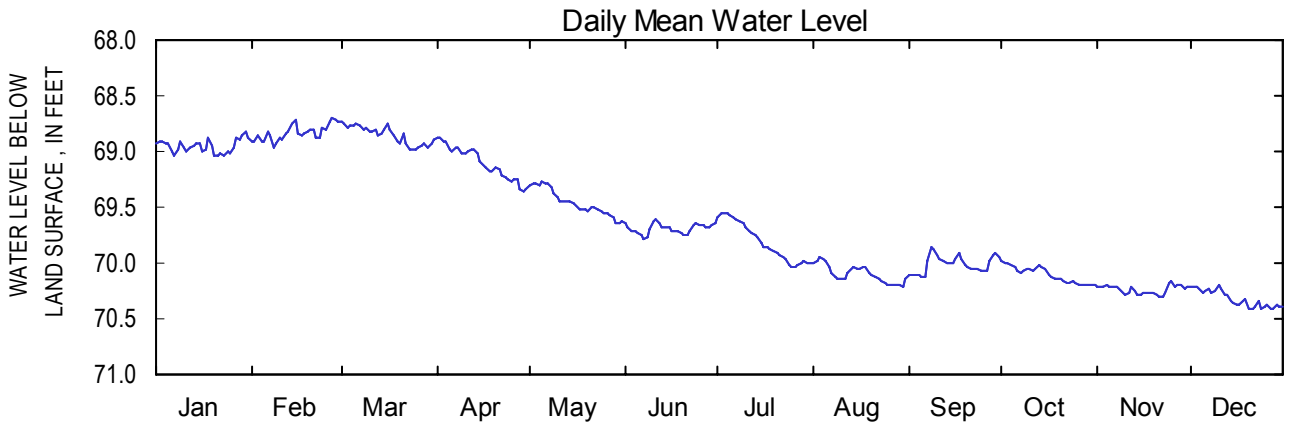


UPPER MIDVILLE AQUIFER 2004 Calendar Year

332131082013401

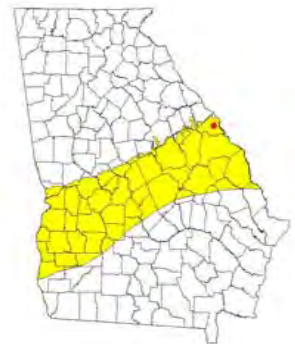
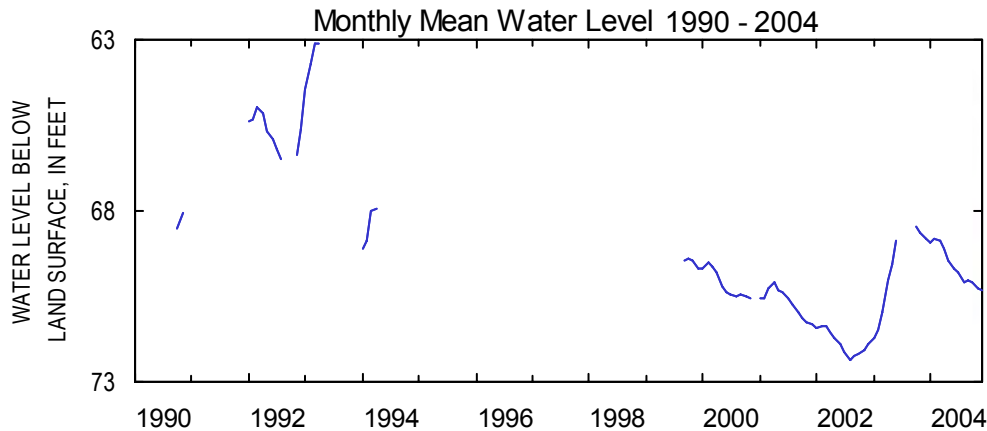
Site Name: 29AA09

Latitude: 33 °21 '31" Longitude: 082° 01 '34" RICHMOND Period of Record: 1990 - 2004
Well Depth: 213 feet Datum: 242 feet Well Diameter 3 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	68.95	68.83	68.85	69.10	69.46	69.69	69.81	70.10	70.01	70.11	70.24	70.32
Max	69.03	68.96	68.98	69.35	69.64	69.78	70.04	70.21	70.12	70.20	70.31	70.42
Min	68.81	68.69	68.73	68.87	69.28	69.60	69.55	69.95	69.85	69.99	70.16	70.19
1990 - 2004												
Mean	68.93	68.70	68.40	68.42	69.48	69.41	69.62	69.39	69.39	69.99	69.64	69.55
Max	71.83	71.63	71.52	71.72	71.87	72.01	72.25	72.42	72.52	72.25	72.28	72.07
Min	64.03	63.43	63.10	63.08	65.31	65.80	65.93	65.71	65.78	66.14	65.81	65.43



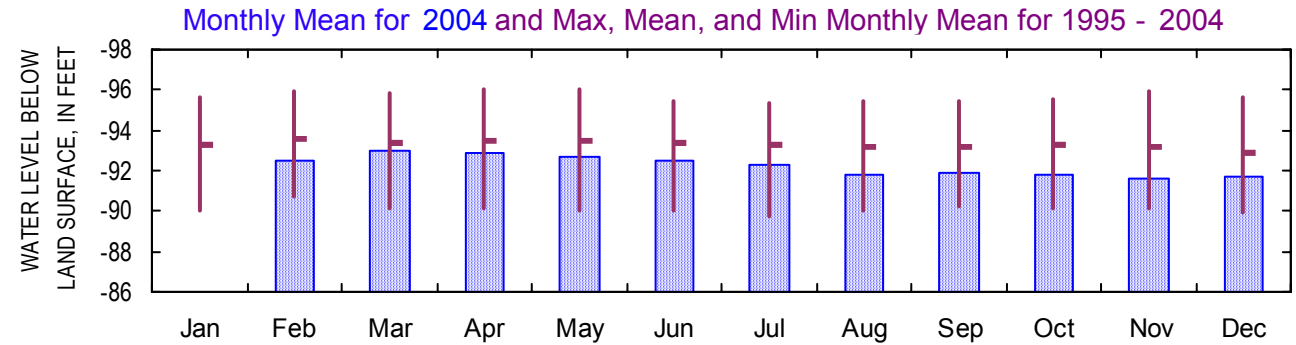
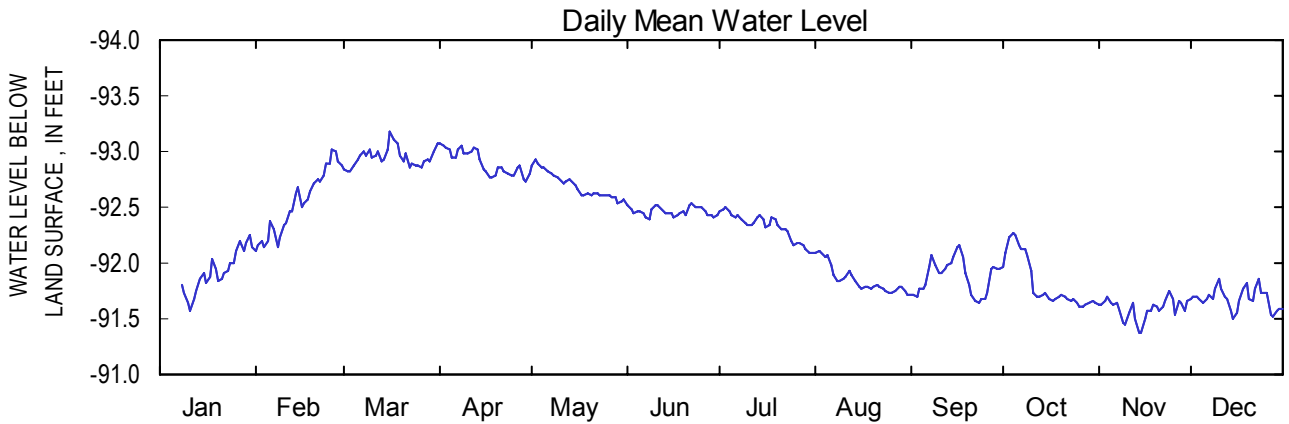


**LOWER MIDVILLE AQUIFER
2004 Calendar Year**

330548081391101

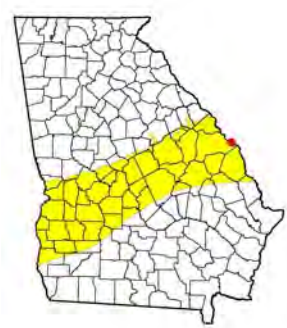
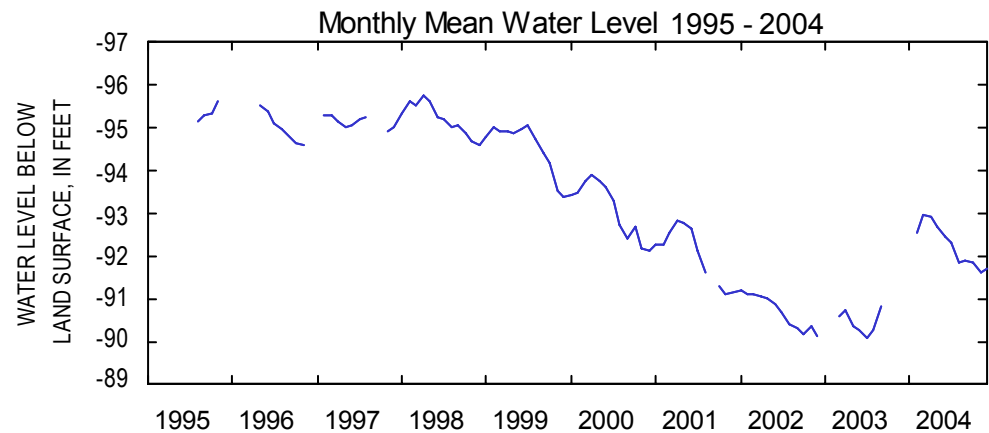
Site Name: 32Y030

Latitude: 33 ° 05 ' 48" Longitude: 081 ° 39 ' 11" BURKE Period of Record: 1995 - 2004
Well Depth: 982 feet Datum: 85 feet Well Diameter 4 inches



Monthly Water-Level Statistics

2004												
Mean	-92.54	-92.95	-92.90	-92.70	-92.46	-92.33	-91.85	-91.88	-91.82	-91.59	-91.68	
Max	-92.10	-92.82	-92.73	-92.54	-92.40	-92.09	-91.72	-91.65	-91.61	-91.37	-91.51	
Min	-93.02	-93.17	-93.07	-92.93	-92.53	-92.49	-92.11	-92.17	-92.27	-91.76	-91.85	
1995 - 2004												
Mean	-93.26	-93.60	-93.41	-93.51	-93.51	-93.38	-93.33	-93.18	-93.21	-93.27	-93.16	-92.86
Max	-90.00	-90.71	-90.17	-90.18	-90.01	-89.98	-89.70	-90.08	-90.18	-90.09	-90.14	-89.93
Min	-95.65	-95.89	-95.86	-96.00	-96.01	-95.47	-95.38	-95.48	-95.45	-95.50	-95.91	-95.60



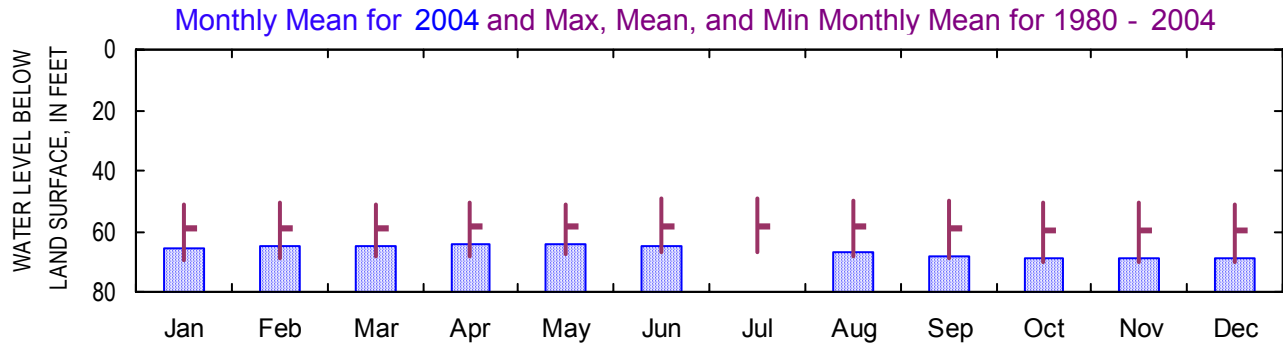
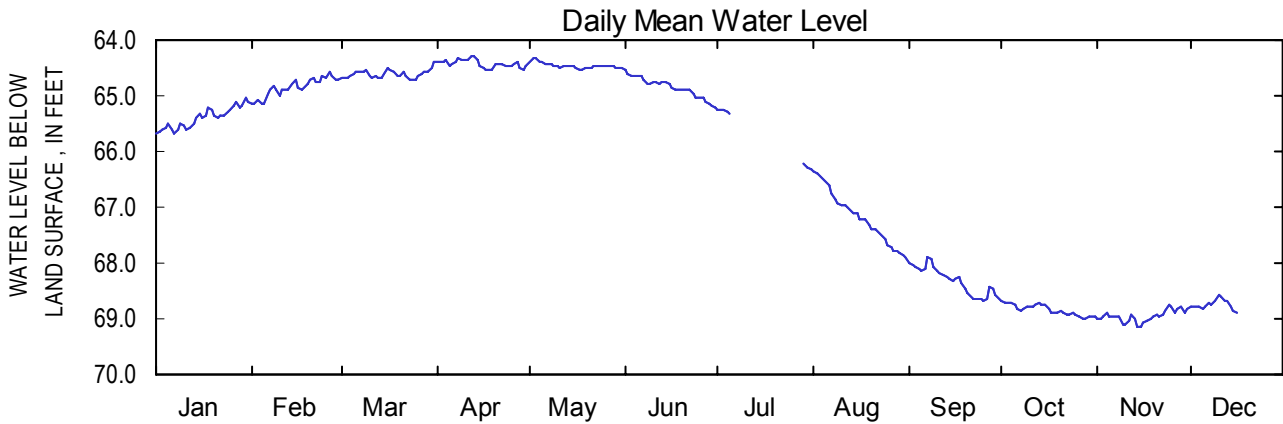


MIDVILLE AQUIFER SYSTEM 2004 Calendar Year

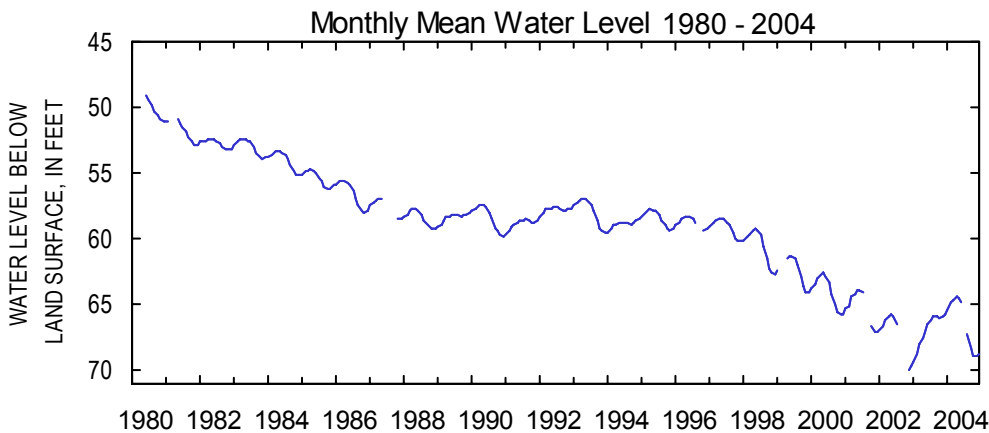
325232082131501

Site Name: 28X001

Latitude: 32° 52' 32" Longitude: 082° 13' 15" BURKE Period of Record: 1980 - 2004
 Well Depth: 1,045 feet Datum: 269.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics												
2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	65.40	64.85	64.61	64.42	64.46	64.84	67.17	68.32	68.84	68.96	68.75	
Max	65.68	65.15	64.71	64.55	64.52	65.21	67.91	68.66	69.00	69.14	68.89	
Min	65.05	64.58	64.41	64.27	64.33	64.54	66.36	67.89	68.68	68.77	68.56	
1980 - 2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	59.08	58.78	58.78	58.49	58.37	58.10	58.10	58.23	58.78	59.55	59.72	59.49
Max	69.43	68.99	68.41	67.94	67.31	66.76	66.79	67.91	68.66	69.86	70.05	69.90
Min	50.99	50.78	50.87	50.75	50.83	49.07	49.17	49.67	50.14	50.26	50.70	50.92



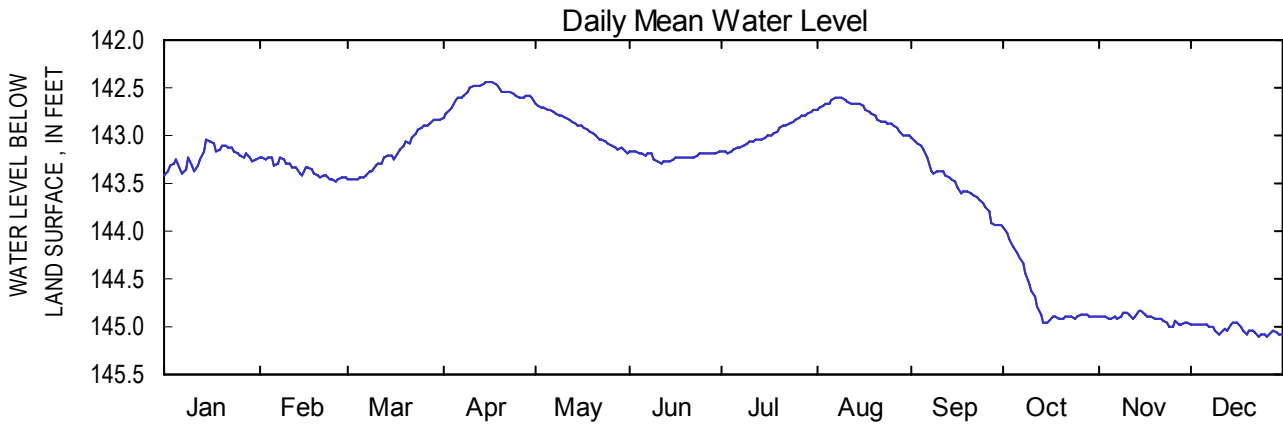


MIDVILLE AQUIFER SYSTEM 2004 Calendar Year

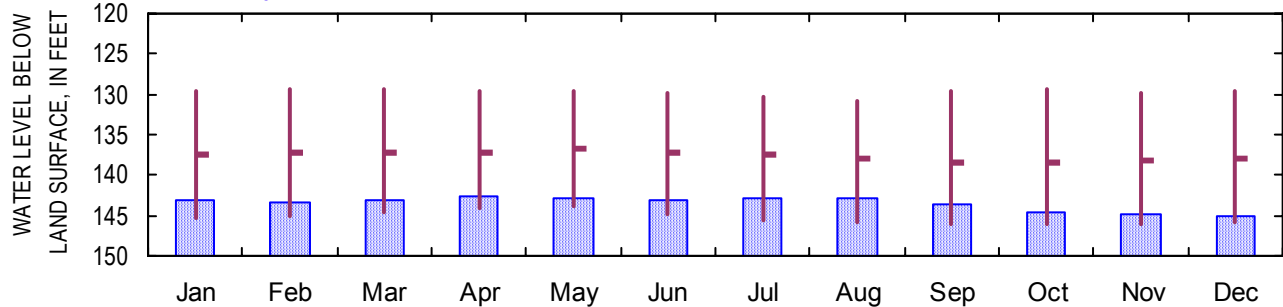
324209082430201

Site Name: 24V001

Latitude: 32° 42' 09" Longitude: 082° 43' 02" JOHNSON Period of Record: 1980 - 2004
 Well Depth: 1,780 feet Datum: 355.00 feet Well Diameter 2.0 inches

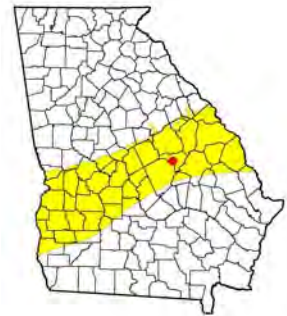
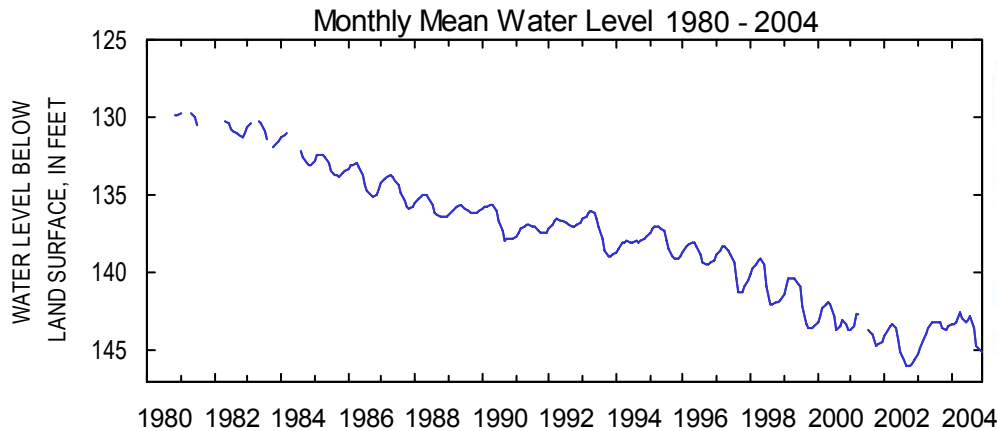


Monthly Mean for 2004 and Max, Mean, and Min Monthly Mean for 1980 - 2004



Monthly Water-Level Statistics

2004												
Mean	143.23	143.35	143.17	142.56	142.91	143.21	142.98	142.76	143.50	144.69	144.91	145.03
Max	143.41	143.49	143.46	142.81	143.18	143.28	143.18	143.00	143.95	144.97	145.00	145.11
Min	143.04	143.22	142.83	142.44	142.66	143.16	142.73	142.60	143.03	143.96	144.83	144.95
1980 - 2004												
Mean	137.49	137.14	137.25	137.20	136.64	137.17	137.52	137.97	138.35	138.32	138.16	138.03
Max	145.29	144.97	144.48	144.16	143.77	144.78	145.50	145.88	146.06	146.11	146.09	145.81
Min	129.66	129.46	129.27	129.49	129.56	129.82	130.30	130.88	129.63	129.43	129.73	129.67



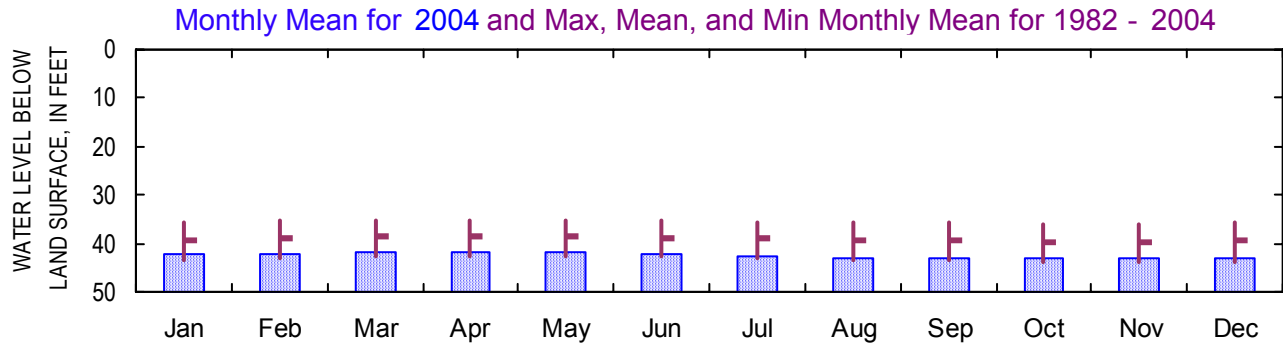
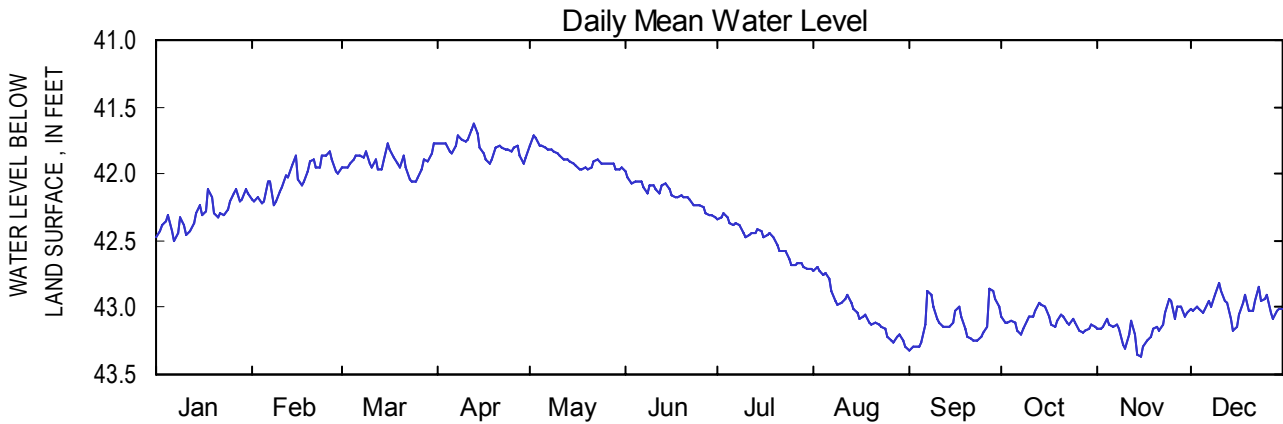


MIDVILLE AQUIFER SYSTEM 2004 Calendar Year

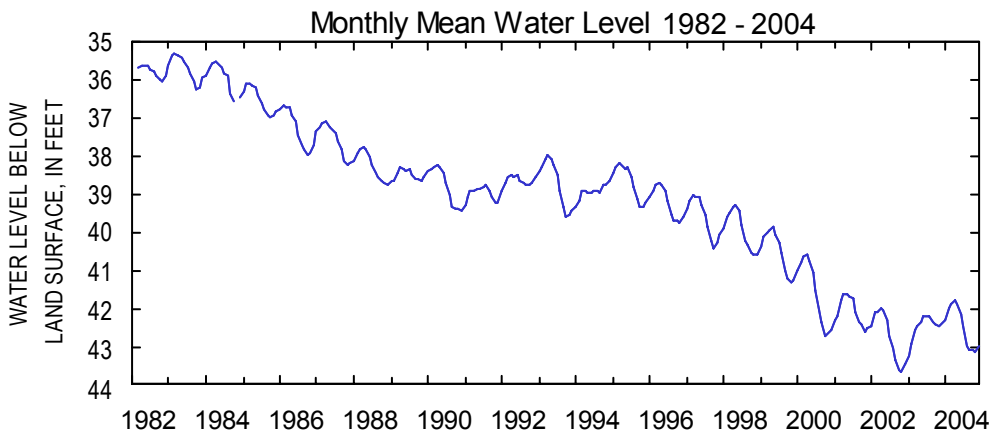
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Site Name: 21U004

Latitude: 32° 30' 27" Longitude: 083° 02' 44" LAURENS Period of Record: 1982 - 2004
 Well Depth: 1,685 feet Datum: 282.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	42.30	42.03	41.92	41.80	41.89	42.15	42.50	43.02	43.12	43.10	43.15	42.99
Max	42.51	42.23	42.05	41.92	41.97	42.33	42.71	43.29	43.32	43.20	43.36	43.17
Min	42.11	41.83	41.78	41.62	41.72	41.98	42.30	42.70	42.86	42.97	42.94	42.81
1982 - 2004												
Mean	39.16	38.95	38.71	38.65	38.70	38.81	39.01	39.24	39.46	39.60	39.63	39.50
Max	43.40	43.13	42.78	42.65	42.46	42.53	42.93	43.30	43.54	43.86	43.91	43.68
Min	35.53	35.19	35.15	35.11	35.30	35.40	35.56	35.68	35.81	35.87	35.93	35.72



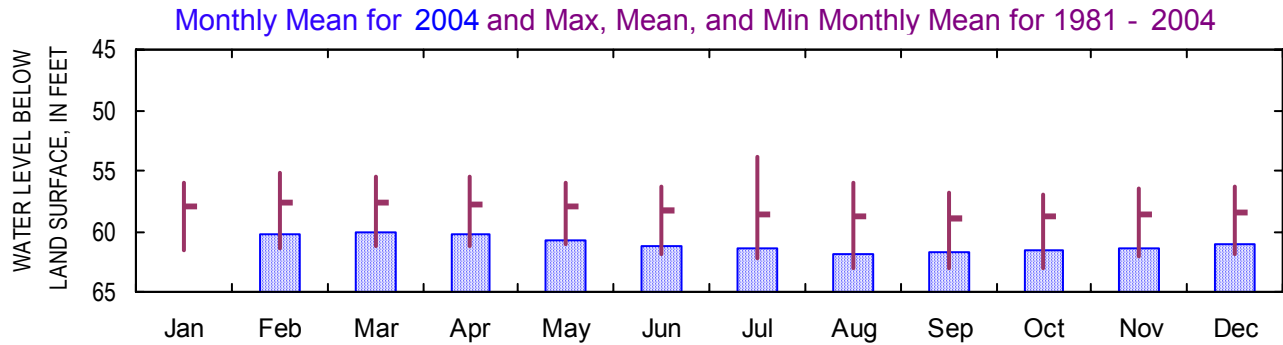
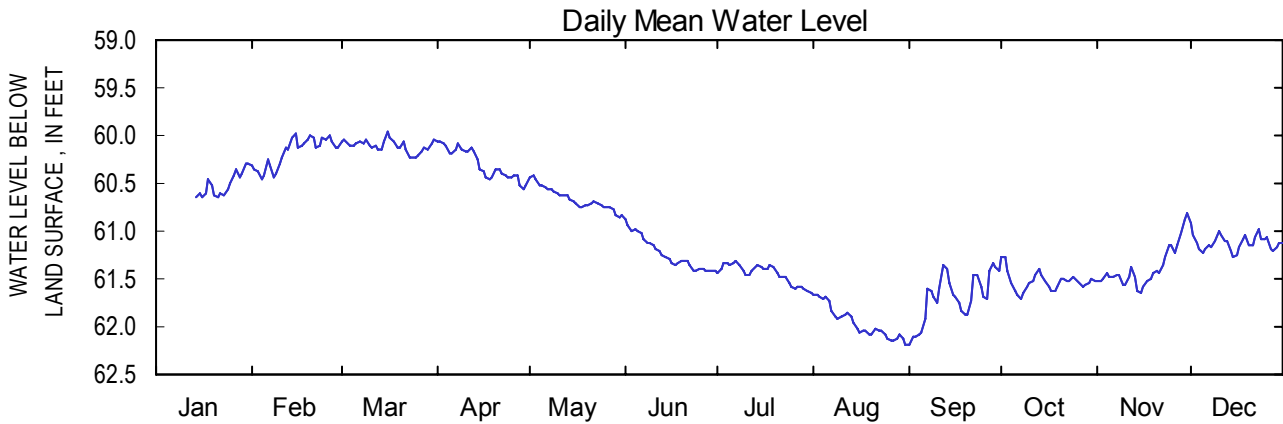


MIDVILLE AQUIFER SYSTEM 2004 Calendar Year

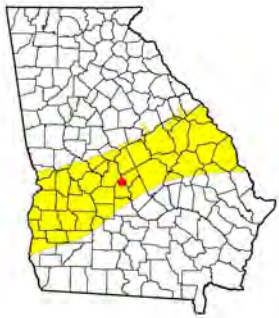
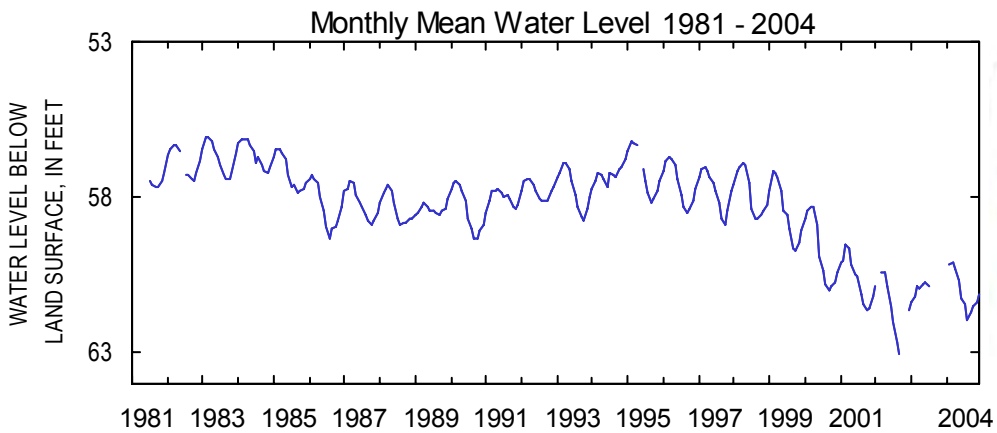
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Site Name: 18T001

Latitude: 32° 22' 45" Longitude: 083° 29' 01" PULASKI Period of Record: 1981 - 2004
 Well Depth: 1555 feet Datum: 334.00 feet Well Diameter 4.0 inches



Monthly Water-Level Statistics												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	60.18	60.11	60.29	60.66	61.24	61.45	61.96	61.70	61.53	61.38	61.12	
Max	60.45	60.24	60.57	60.85	61.43	61.65	62.18	62.18	61.70	61.64	61.28	
Min	59.98	59.96	60.06	60.41	60.88	61.32	61.66	61.34	61.26	60.82	60.92	
1981 - 2004												
Mean	58.00	57.66	57.66	57.71	57.99	58.34	58.58	58.76	58.90	58.85	58.57	58.39
Max	61.55	61.37	61.22	61.21	61.08	61.86	62.29	63.03	63.10	63.09	62.03	61.96
Min	55.95	55.16	55.51	55.48	55.94	56.33	53.90	56.00	56.83	56.96	56.40	56.25



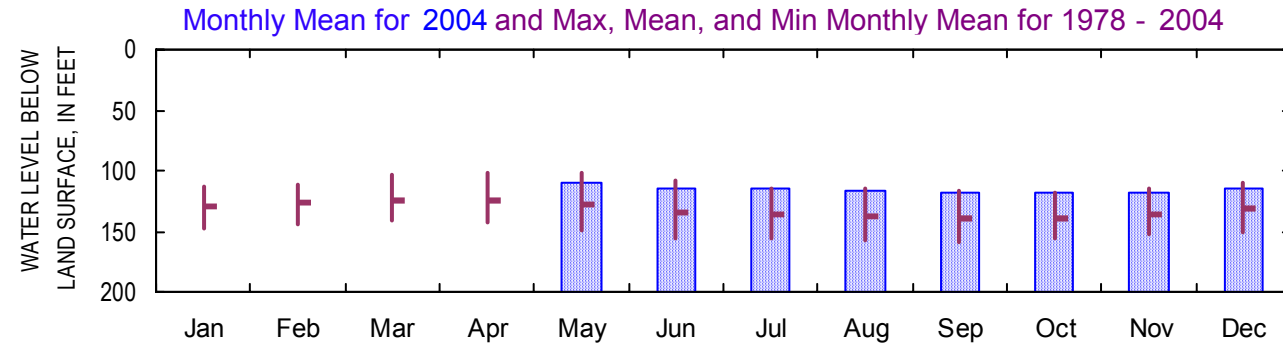
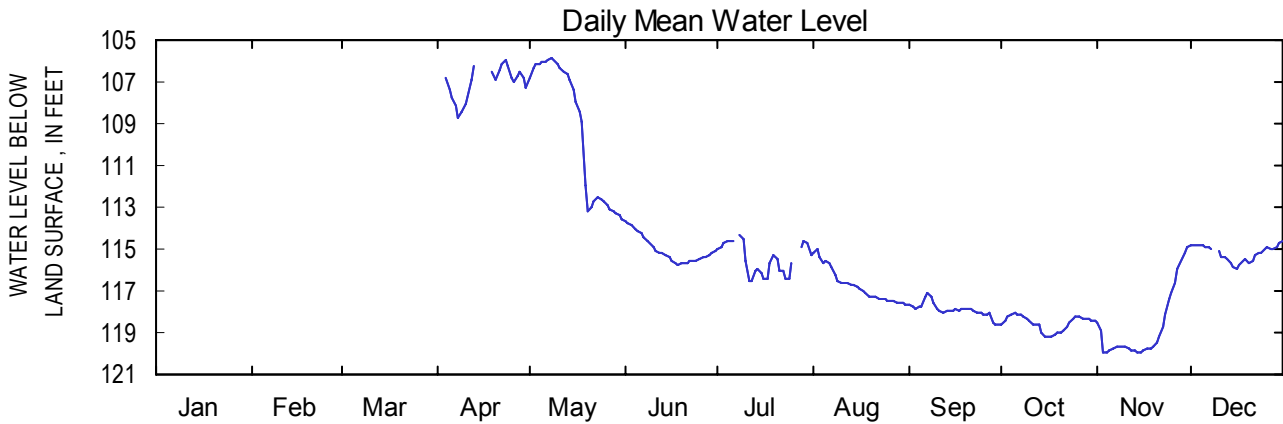


**PROVIDENCE AQUIFER
2004 Calendar Year**

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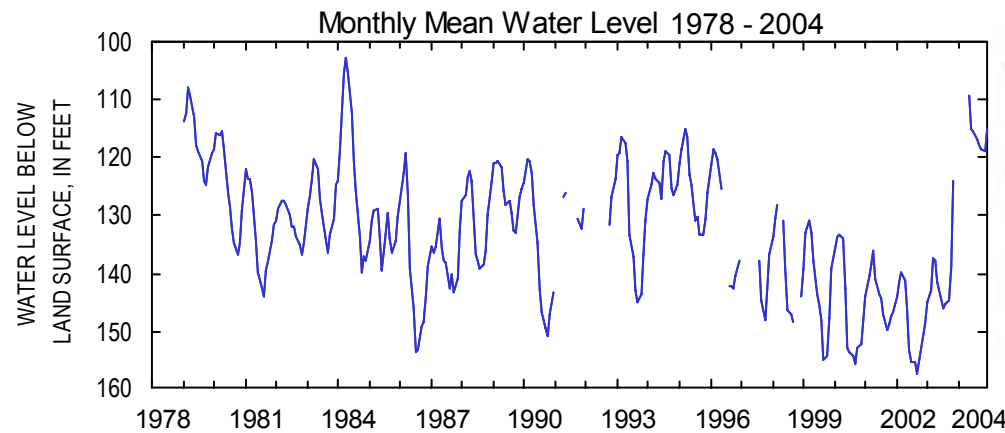
Site Name: 12L021

Latitude: 31° 35' 37" Longitude: 084° 10' 29" DOUGHERTY Period of Record: 1978 - 2004
Well Depth: 846 feet Datum: 195.00 feet Well Diameter 6.0 inches



Monthly Water-Level Statistics

2004												
Mean		109.32	115.03	115.49	116.74	117.91	118.55	118.75	115.18			
Max		113.58	115.75	116.54	117.69	118.65	119.20	119.99	115.95			
Min		105.90	113.67	114.35	115.05	117.14	118.06	114.90	114.58			
1978 - 2004												
Mean	129.07	126.52	124.25	124.19	128.14	134.22	136.43	138.00	139.72	139.24	136.12	131.92
Max	146.90	145.00	141.13	142.78	149.71	155.60	156.36	156.76	158.22	156.54	153.07	150.97
Min	113.17	110.67	103.05	101.59	102.44	107.65	114.35	115.05	117.14	118.06	114.90	109.66



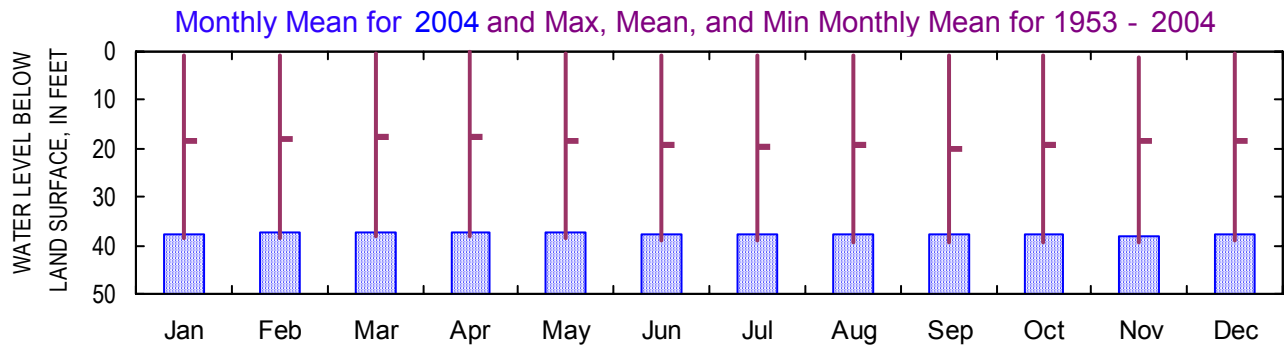
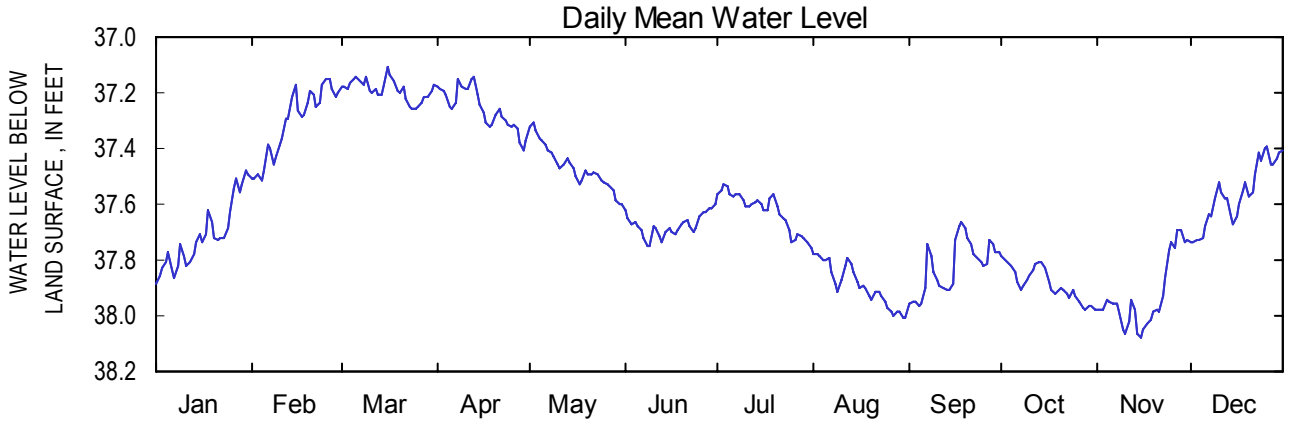


**CRETACEOUS AQUIFER SYSTEM
2004 Calendar Year**

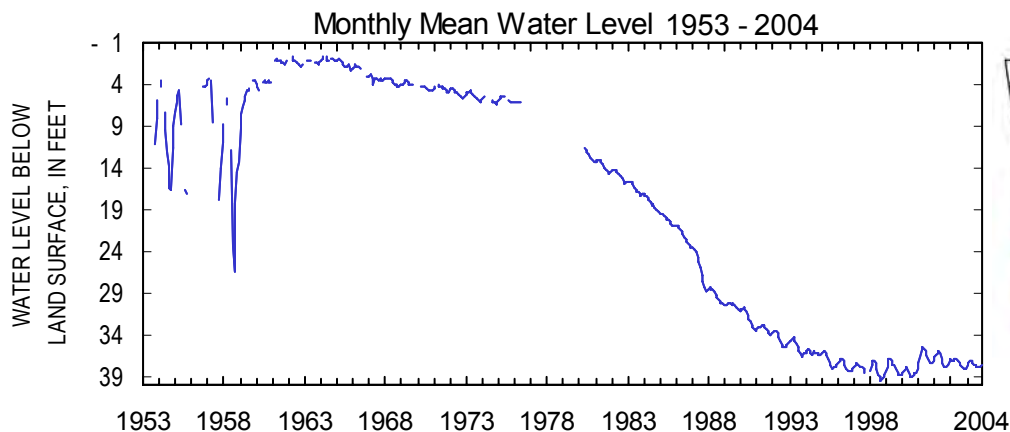
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Site Name: 06S001

Latitude: 32° 20' 31" Longitude: 084° 59' 10" CHATTAHOOCHEE Period of Record: 1953 - 2004
 Well Depth: 550 feet Datum: 255.00 feet Well Diameter: 10.00 inches



		Monthly Water-Level Statistics											
2004		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean		37.71	37.31	37.19	37.26	37.47	37.68	37.62	37.89	37.82	37.89	37.93	37.56
Max		37.89	37.51	37.26	37.40	37.60	37.75	37.76	38.01	37.96	37.98	38.08	37.74
Min		37.48	37.15	37.11	37.14	37.30	37.60	37.53	37.78	37.66	37.79	37.69	37.39
1953 - 2004		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean		18.54	18.17	17.70	17.68	18.39	19.06	19.57	19.43	19.96	19.35	18.48	18.40
Max		38.65	38.38	38.27	37.95	38.60	38.97	39.06	39.27	39.51	39.27	39.14	38.97
Min		0.85	0.77	0.46	0.12	0.29	0.95	0.98	0.78	0.85	0.74	1.04	0.60



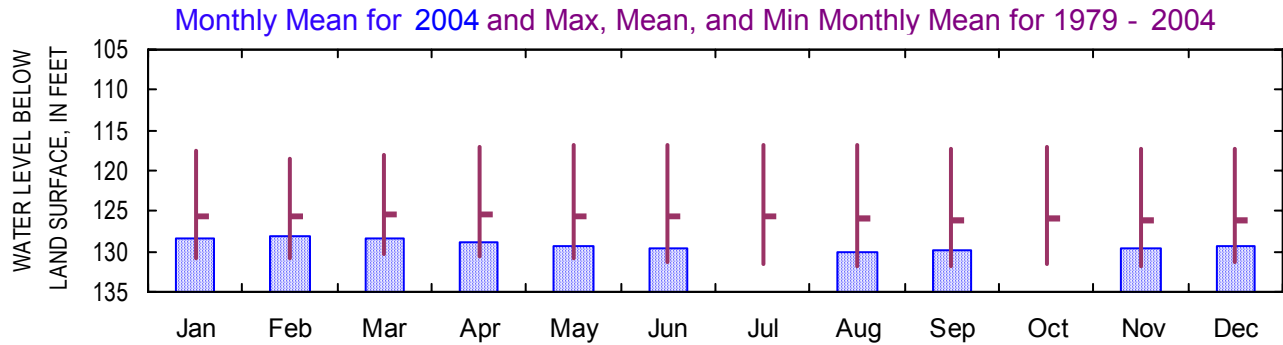
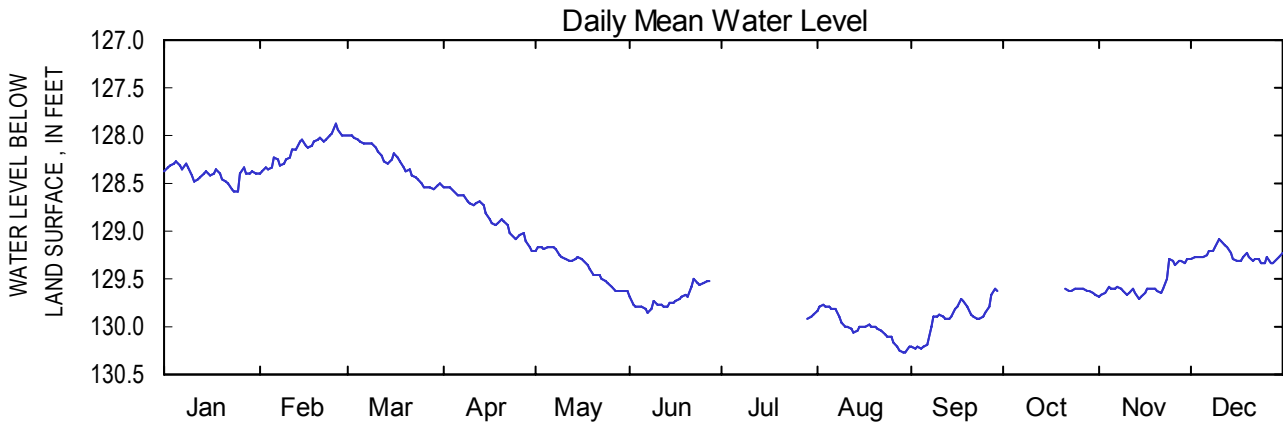


CRETACEOUS AQUIFER SYSTEM 2004 Calendar Year

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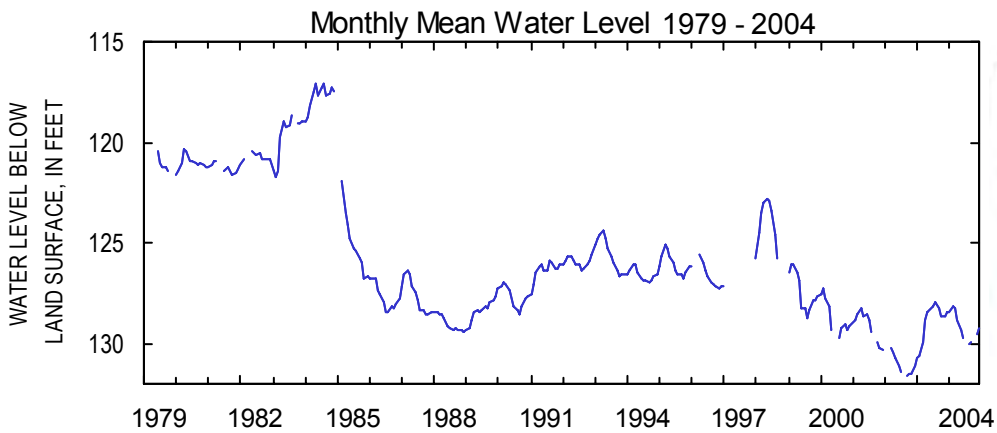
Site Name: 30AA04

Latitude: 33° 15' 25" Longitude: 081° 57' 47" RICHMOND Period of Record: 1979 - 2004
 Well Depth: 455 feet Datum: 293.00 feet Well Diameter 6.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	128.40	128.14	128.28	128.82	129.37	129.70		130.01	129.91		129.55	129.25
Max	128.59	128.40	128.56	129.21	129.63	129.85		130.28	130.23		129.71	129.34
Min	128.27	127.88	127.99	128.53	129.17	129.51		129.78	129.60		129.29	129.08
1979 - 2004												
Mean	125.75	125.63	125.41	125.37	125.58	125.54	125.61	125.90	126.12	125.97	126.21	126.06
Max	130.80	130.75	130.44	130.60	130.90	131.24	131.48	131.83	131.82	131.51	131.80	131.30
Min	117.47	118.47	117.94	117.13	116.70	116.74	116.86	116.74	117.20	117.09	117.21	117.31



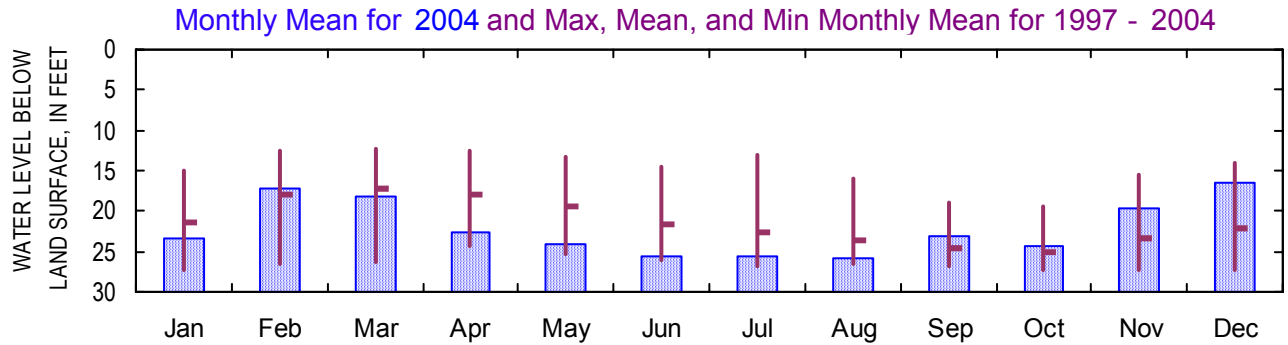
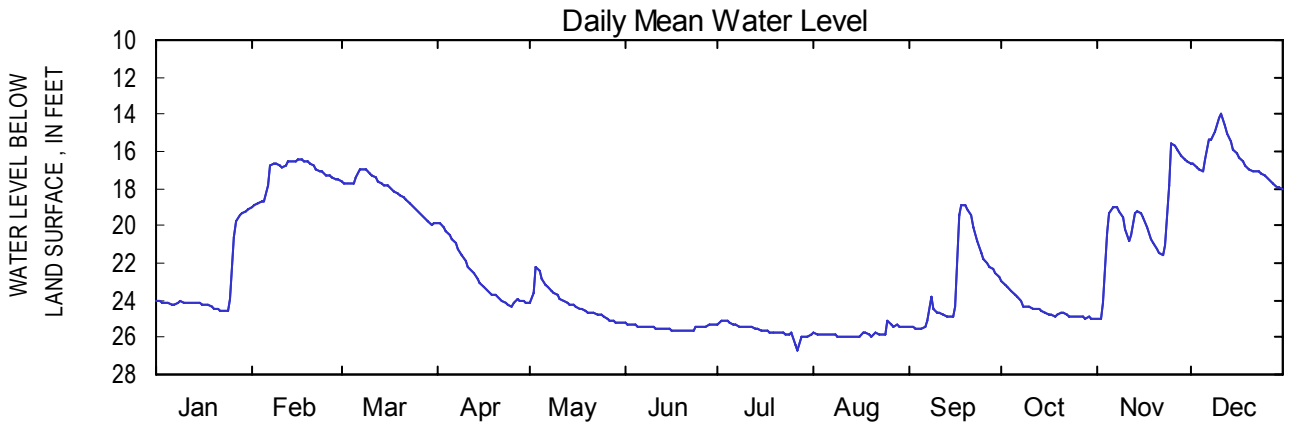


**PALEOZOIC-ROCK AQUIFER
2004 Calendar Year**

342922084511601

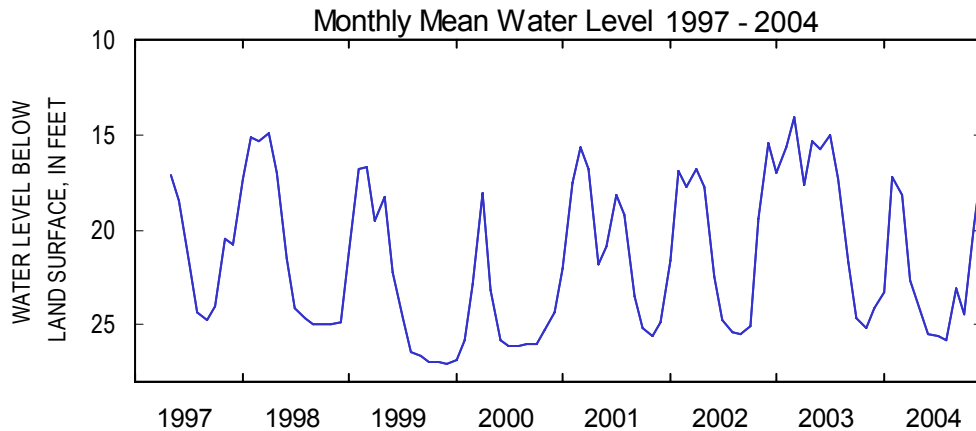
Site Name: 07KK64

Latitude: 34° 29' 22" Longitude: 084° 51' 16" GORDON Period of Record: 1997 - 2004
Well Depth: 300 feet Datum: 695 feet Well Diameter 6.63 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	23.33	17.21	18.19	22.62	24.20	25.47	25.64	25.77	23.05	24.45	19.69	16.46
Max	24.61	18.96	19.98	24.35	25.20	25.66	26.69	26.00	25.49	25.00	25.03	17.98
Min	19.07	16.46	16.93	19.82	22.25	25.23	25.14	25.07	18.88	22.97	15.60	13.96
1997 - 2004												
Mean	21.33	17.92	17.23	18.03	19.31	21.57	22.52	23.65	24.51	25.17	23.45	22.24
Max	27.20	26.57	26.20	24.35	25.31	26.09	26.69	26.65	26.79	27.28	27.23	27.25
Min	14.90	12.53	12.29	12.54	13.27	14.41	12.91	15.98	18.85	19.42	15.60	13.96



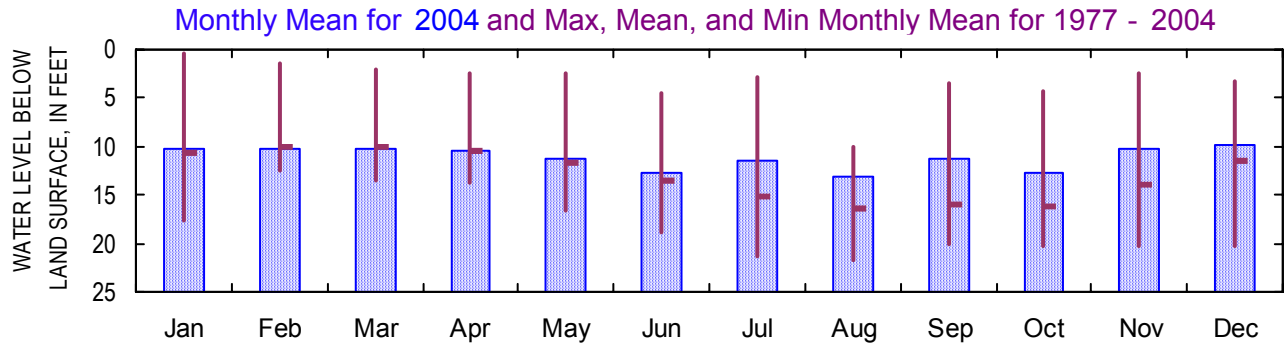
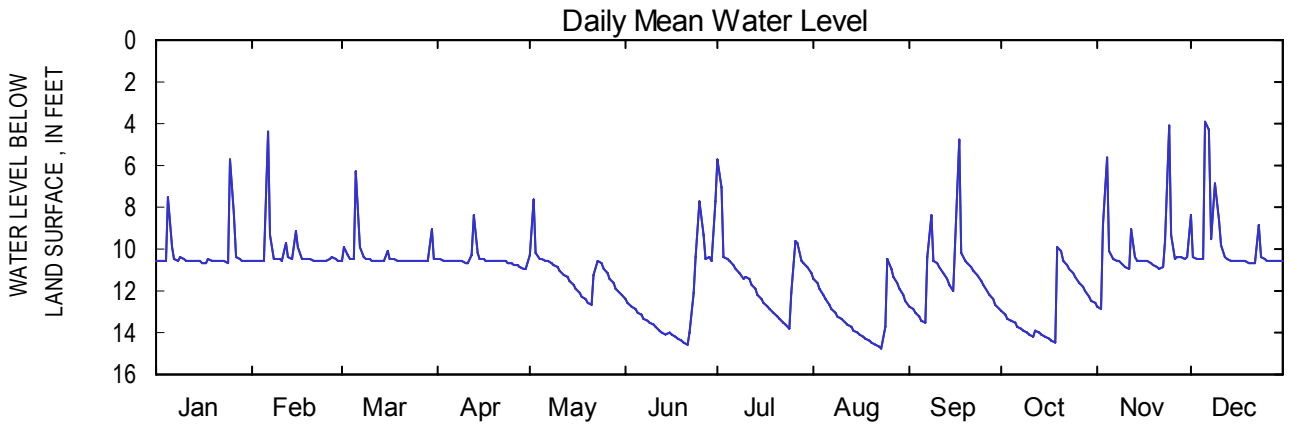


**PALEOZOIC-ROCK AQUIFER
2004 Calendar Year**

345403085160001

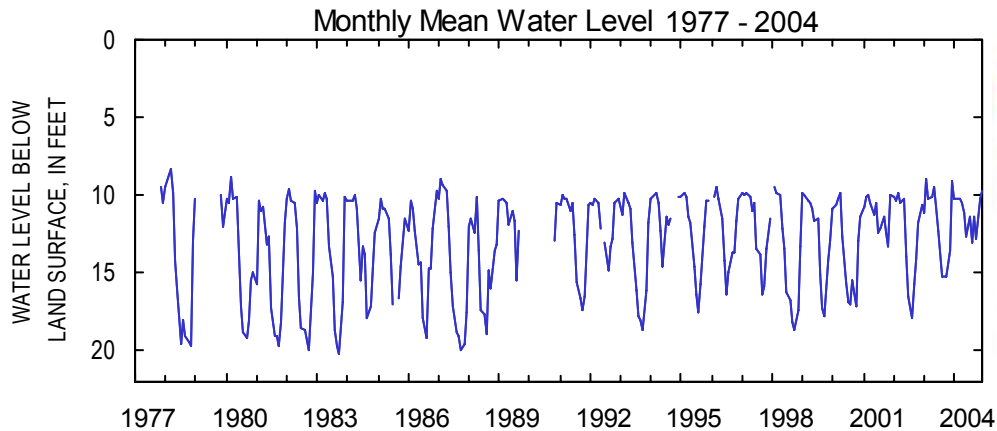
Site Name: 03PP01

Latitude: 34° 54 '03" Longitude: 085° 16 '00" WALKER Period of Record: 1977 - 2004
Well Depth: 72 feet Datum: 730.00 feet Well Diameter 8.0 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	10.20	10.17	10.28	10.52	11.19	12.63	11.39	13.02	11.35	12.80	10.18	9.76
Max	10.69	10.62	10.59	10.99	12.67	14.55	13.80	14.75	13.51	14.48	12.90	10.64
Min	5.71	4.40	6.25	8.39	7.65	7.69	5.70	10.52	4.77	9.93	4.08	3.93
1977 - 2004												
Mean	10.69	10.13	10.13	10.38	11.70	13.50	15.14	16.39	15.94	16.17	13.91	11.44
Max	17.55	12.57	13.52	13.66	16.65	18.83	21.40	21.70	20.17	20.33	20.32	20.21
Min	0.32	1.44	1.97	2.55	2.36	4.52	2.96	10.03	3.54	4.29	2.36	3.27



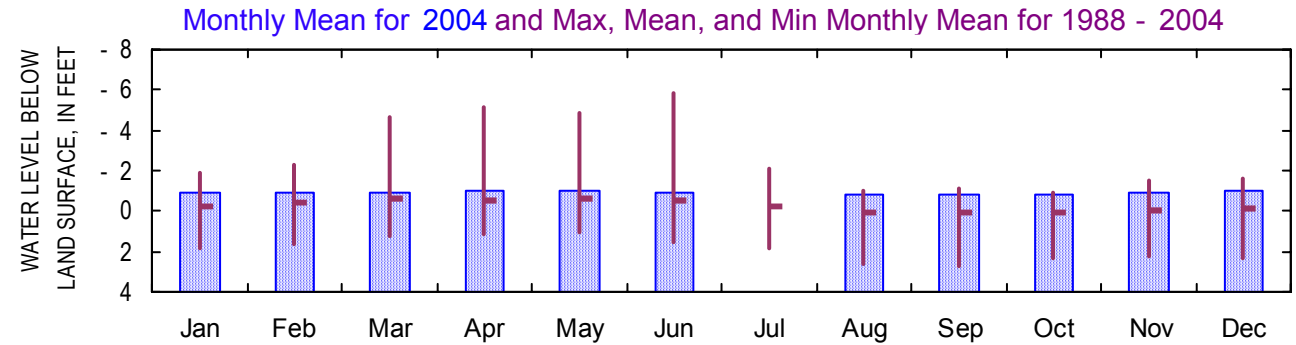
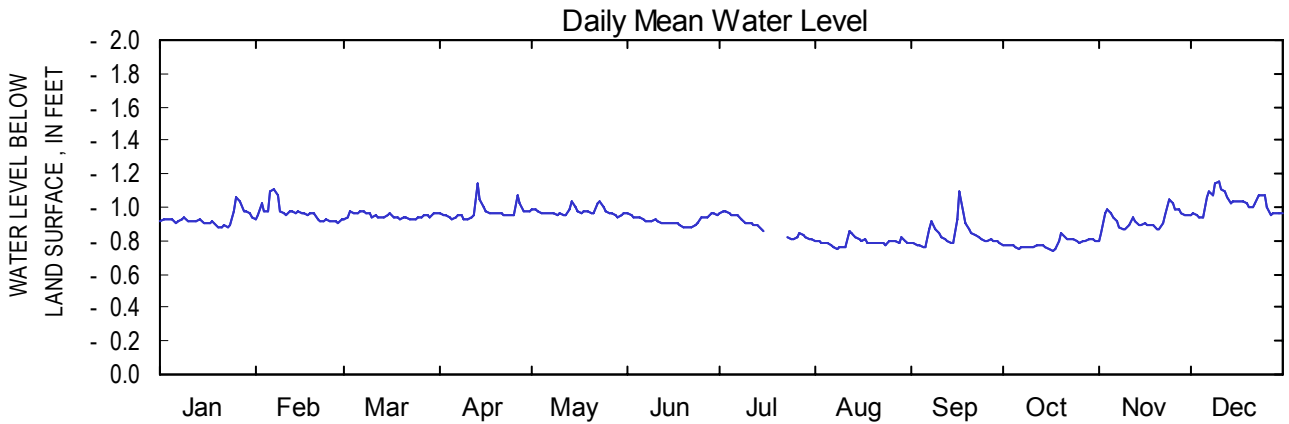


**CRYSTALLINE-ROCK AQUIFER
2004 Calendar Year**

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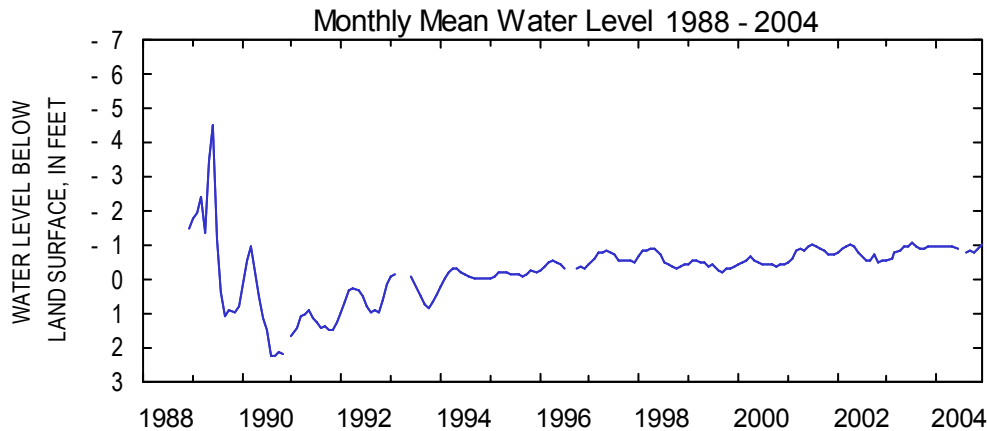
Site Name: 09JJ02

Latitude: 34° 19' 13" Longitude: 084° 32' 53" CHEROKEE Period of Record: 1988 - 2004
Well Depth: 370 feet Datum: 1060.00 feet Well Diameter 8.00 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	-0.93	-0.97	-0.95	-0.97	-0.98	-0.92	-0.79	-0.83	-0.78	-0.92	-1.02	
Max	-0.88	-0.91	-0.93	-0.93	-0.94	-0.88	-0.75	-0.76	-0.74	-0.80	-0.94	
Min	-1.06	-1.11	-0.98	-1.14	-1.04	-0.97	-0.86	-1.09	-0.85	-1.05	-1.16	
1988 - 2004												
Mean	-0.24	-0.40	-0.59	-0.51	-0.60	-0.55	-0.22	0.02	0.08	0.07	-0.03	-0.17
Max	1.80	1.66	1.25	1.15	1.06	1.56	1.82	2.62	2.77	2.32	2.25	2.37
Min	-1.92	-2.25	-4.65	-5.15	-4.83	-5.79	-2.11	-1.05	-1.09	-0.96	-1.48	-1.62



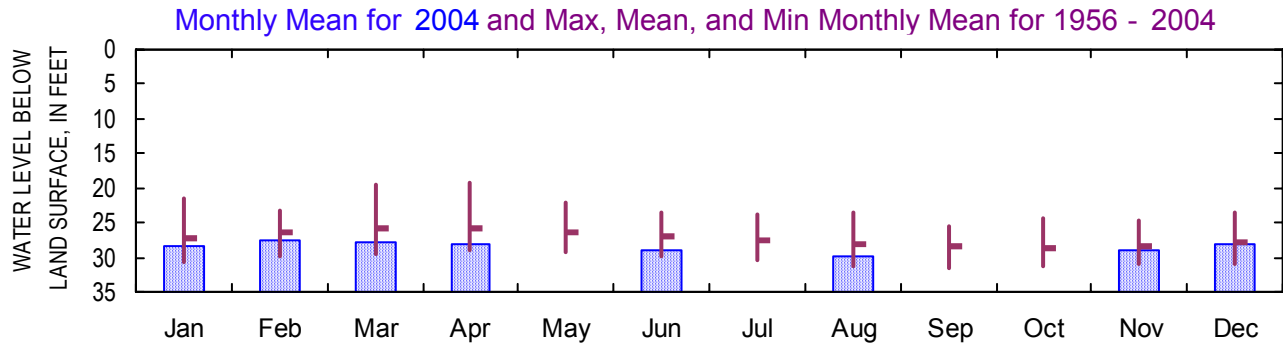
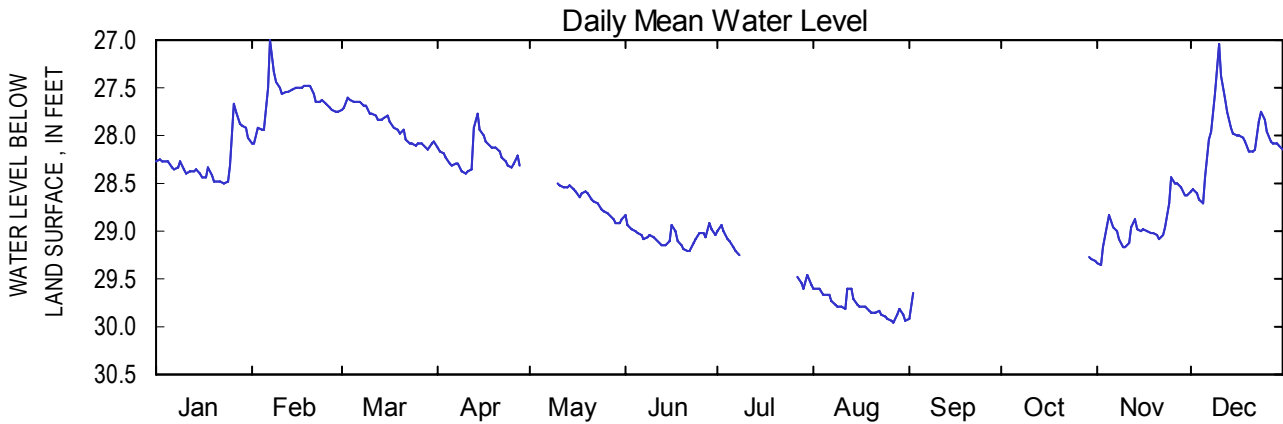


CRYSTALLINE-ROCK AQUIFER 2004 Calendar Year

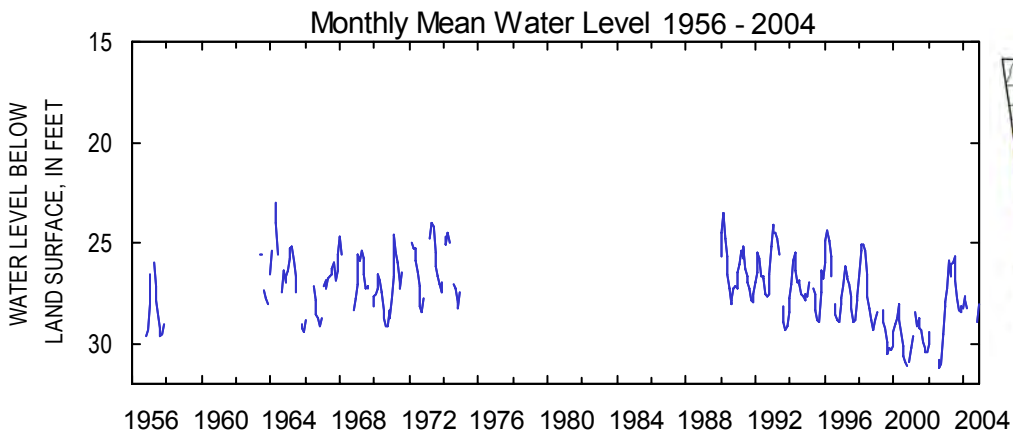
342125084083301

Site Name: 12JJ04

Latitude: 34° 21' 27" Longitude: 084° 08' 34" DAWSON Period of Record: 1956 - 2004
 Well Depth: 399 feet Datum: 1,040.00 feet Well Diameter 6.0 inches



Monthly Water-Level Statistics												
2004												
Mean	28.27	27.62	27.87	28.20		29.06		29.78		28.93	28.04	
Max	28.49	28.09	28.14	28.39		29.22		29.95		29.35	28.70	
Min	27.67	27.00	27.61	27.78		28.84		29.60		28.43	27.03	
1956 - 2004												
Mean	27.33	26.53	25.83	25.79	26.25	26.88	27.46	27.99	28.46	28.59	28.35	27.91
Max	30.82	29.86	29.68	28.86	29.26	29.74	30.46	31.26	31.58	31.32	30.98	31.10
Min	21.57	23.10	19.51	19.29	22.05	23.42	23.94	23.40	25.40	24.25	24.61	23.51



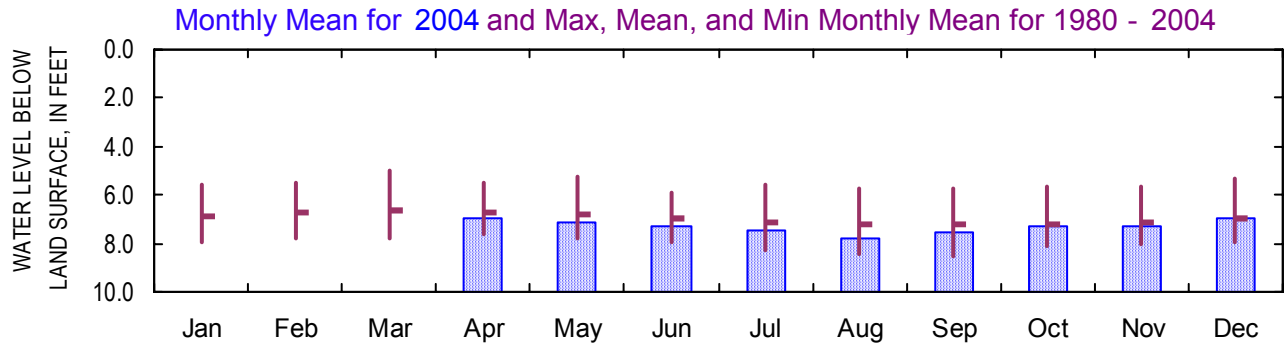
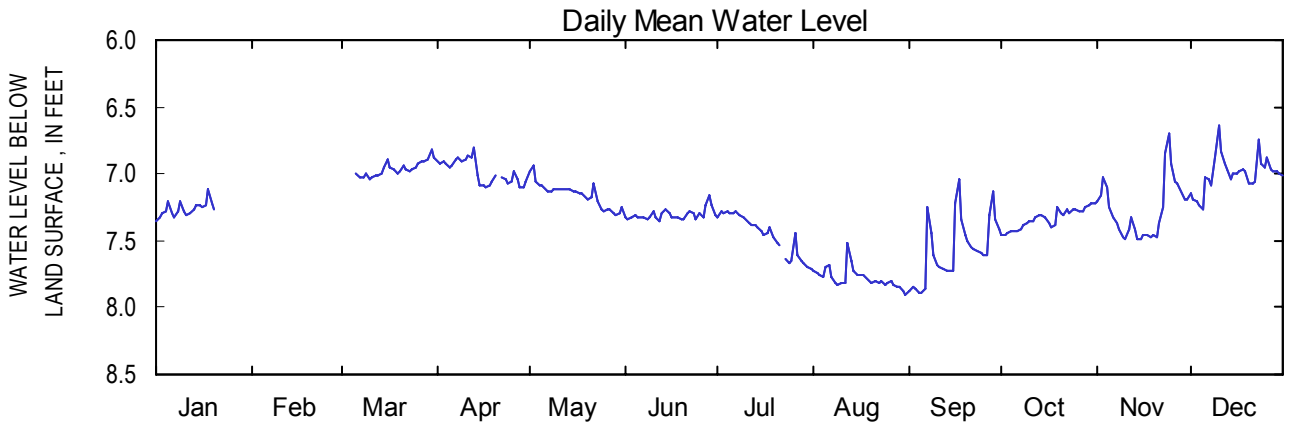


**CRYSTALLINE-ROCK AQUIFER
2004 Calendar Year**

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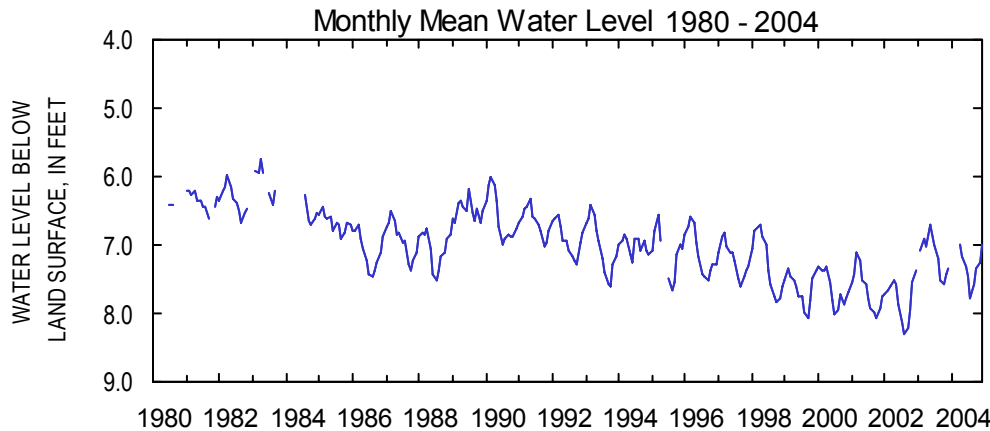
Site Name: 11FF04

Latitude: 33° 55' 17" Longitude: 084° 16' 40" DE KALB Period of Record: 1980 - 2004
 Well Depth: 620 feet Datum: 963.05 feet Well Diameter 6.00 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean				6.99	7.16	7.30	7.45	7.78	7.57	7.33	7.27	7.00
Max				7.11	7.31	7.35	7.72	7.91	7.89	7.46	7.49	7.26
Min				6.81	6.93	7.16	7.28	7.52	7.04	7.22	6.70	6.64
1980 - 2004												
Mean	6.86	6.74	6.66	6.71	6.81	7.00	7.10	7.18	7.24	7.21	7.11	6.97
Max	7.93	7.80	7.81	7.65	7.78	7.99	8.26	8.44	8.51	8.11	8.03	7.93
Min	5.60	5.46	4.98	5.48	5.28	5.90	5.59	5.74	5.75	5.67	5.69	5.33



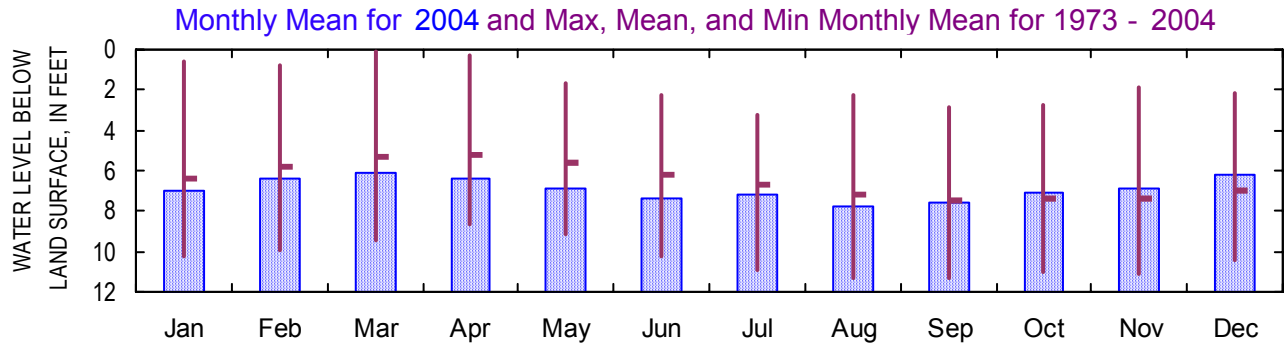
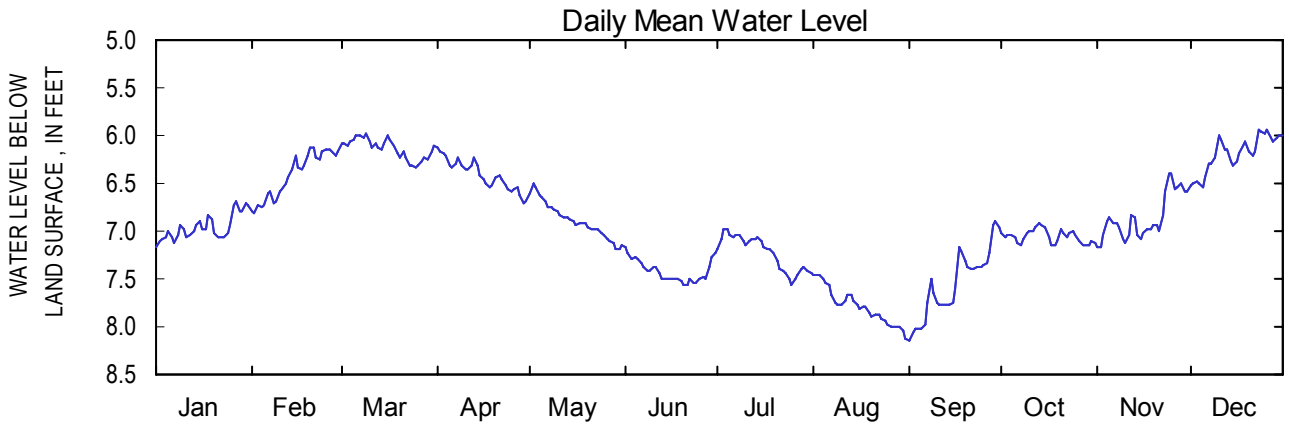


CRYSTALLINE-ROCK AQUIFER 2004 Calendar Year

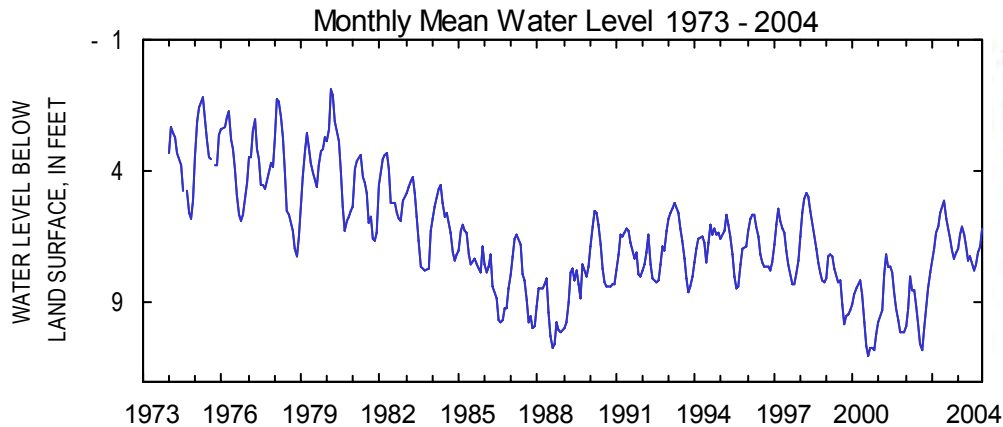
334207084254801

Site Name: 10DD02

Latitude: 33 ° 42 ' 07" Longitude: 084° 25 ' 48" FULTON Period of Record: 1973 - 2004
 Well Depth: 338 feet Datum: 1,013.00 feet Well Diameter 12.0 inches



Monthly Water-Level Statistics												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	6.96	6.41	6.14	6.41	6.89	7.42	7.23	7.79	7.56	7.06	6.86	6.19
Max	7.16	6.82	6.33	6.71	7.19	7.55	7.57	8.12	8.15	7.15	7.16	6.55
Min	6.69	6.13	5.99	6.13	6.51	7.17	6.98	7.46	6.90	6.92	6.39	5.94
1973 - 2004												
Mean	6.41	5.79	5.32	5.19	5.64	6.24	6.74	7.18	7.48	7.38	7.37	6.94
Max	10.21	9.94	9.40	8.66	9.10	10.26	10.91	11.30	11.28	11.05	11.11	10.46
Min	0.60	0.80	0.10	0.33	1.67	2.27	3.21	2.26	2.87	2.75	1.87	2.13



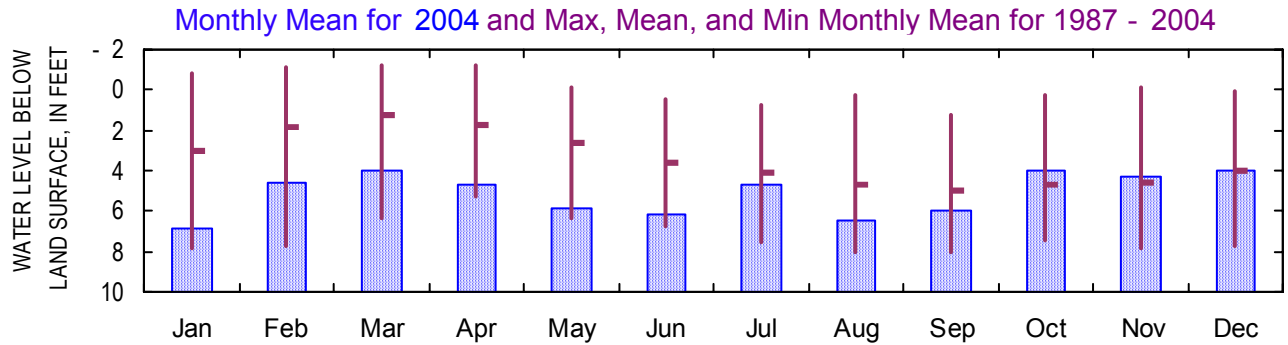
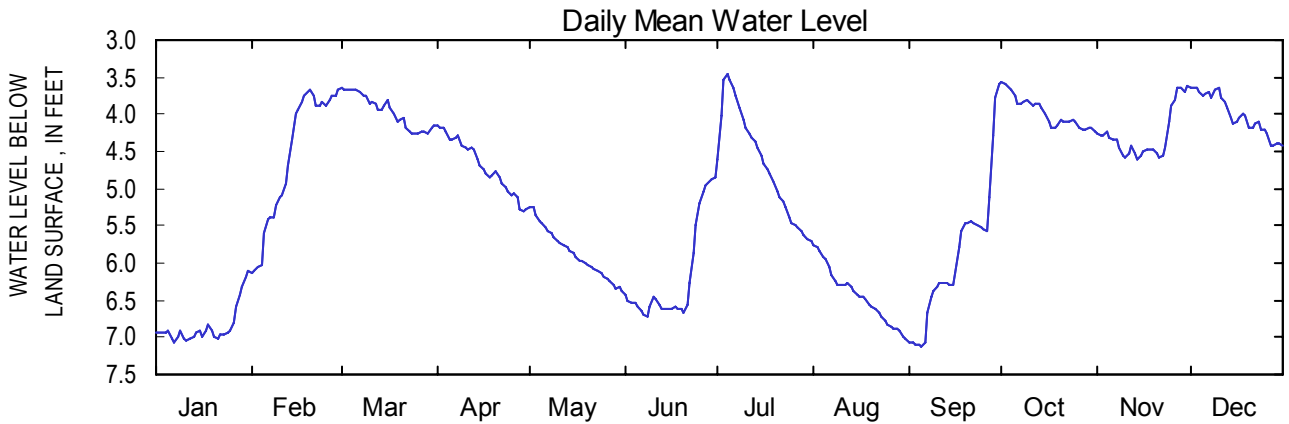


**CRYSTALLINE-ROCK AQUIFER
2004 Calendar Year**

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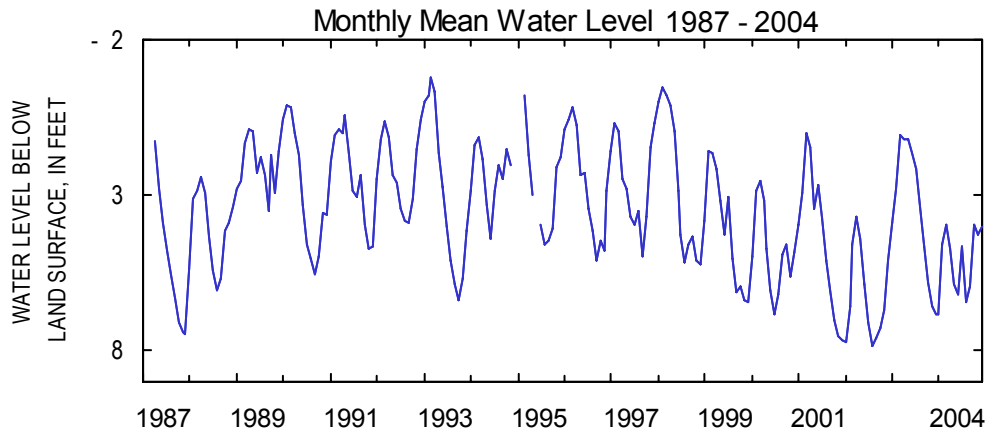
Site Name: 21BB04

Latitude: 33 °28 '08" Longitude: 083° 01 '02" GREENE Period of Record: 1987 - 2004
Well Depth: 497 feet Datum: 675 feet Well Diameter 6 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	6.85	4.57	3.95	4.68	5.87	6.19	4.67	6.44	5.93	3.97	4.29	4.00
Max	7.06	6.13	4.26	5.31	6.37	6.73	5.72	7.03	7.12	4.22	4.61	4.43
Min	6.10	3.67	3.64	4.15	5.25	4.84	3.45	5.77	3.59	3.57	3.63	3.63
1987 - 2004												
Mean	2.98	1.87	1.27	1.70	2.66	3.56	4.05	4.69	5.00	4.68	4.58	4.00
Max	7.85	7.73	6.39	5.31	6.37	6.73	7.58	8.00	8.07	7.46	7.87	7.77
Min	-0.78	-1.12	-1.25	-1.20	-0.18	0.42	0.72	0.22	1.28	0.30	-0.18	0.03



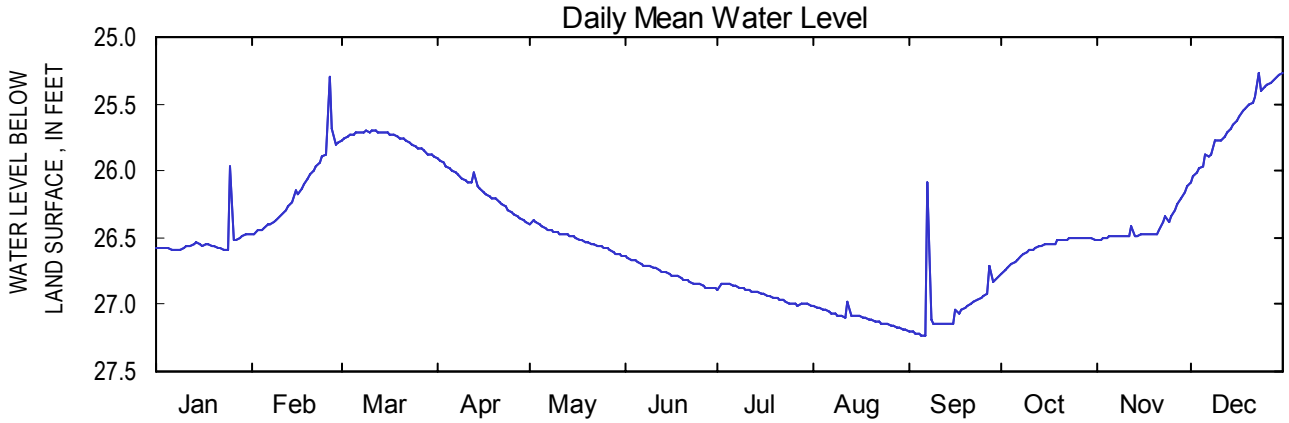


**CRYSTALLINE-ROCK AQUIFER
2004 Calendar Year**

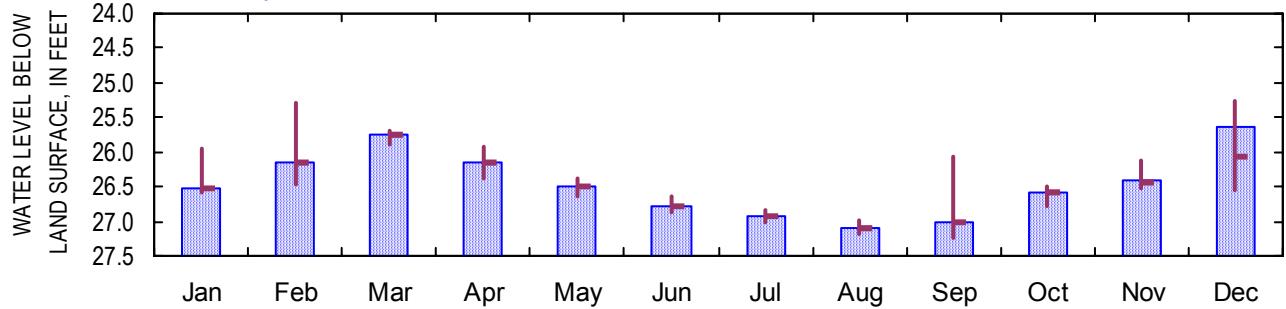
335614084010701

Site Name: 13FF30

Latitude: 33 ° 56 ' 14" Longitude: 084° 01 ' 07" GWINNETT Period of Record: 2003 - 2004
Well Depth: 345 feet Datum: 1,000 feet Well Diameter 6 inches

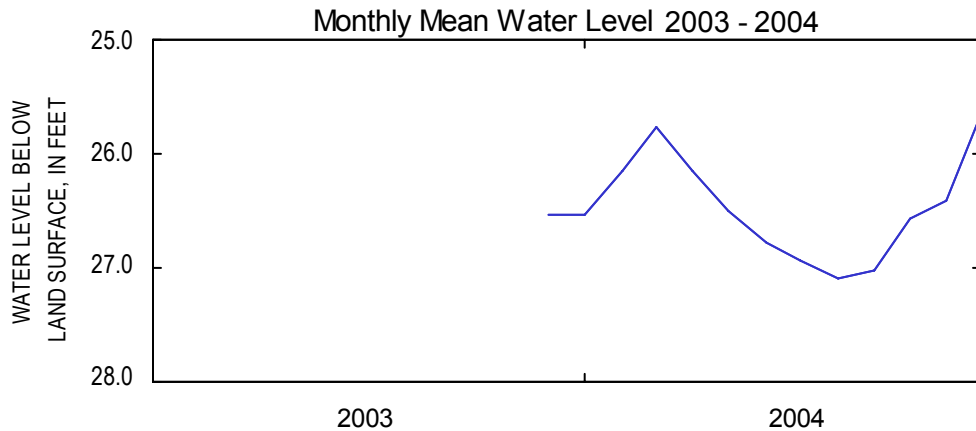


Monthly Mean for 2004 and Max, Mean, and Min Monthly Mean for 2003 - 2004



Monthly Water-Level Statistics

2004												
Mean	26.54	26.14	25.76	26.15	26.51	26.77	26.93	27.10	27.02	26.58	26.42	25.63
Max	26.59	26.48	25.89	26.38	26.63	26.88	27.01	27.19	27.24	26.77	26.52	26.08
Min	25.96	25.30	25.70	25.91	26.37	26.64	26.84	26.99	26.08	26.50	26.11	25.26
2003 - 2004												
Mean	26.54	26.14	25.76	26.15	26.51	26.77	26.93	27.10	27.02	26.58	26.43	26.08
Max	26.59	26.48	25.89	26.38	26.63	26.88	27.01	27.19	27.24	26.77	26.52	26.56
Min	25.96	25.30	25.70	25.91	26.37	26.64	26.84	26.99	26.08	26.50	26.11	25.26



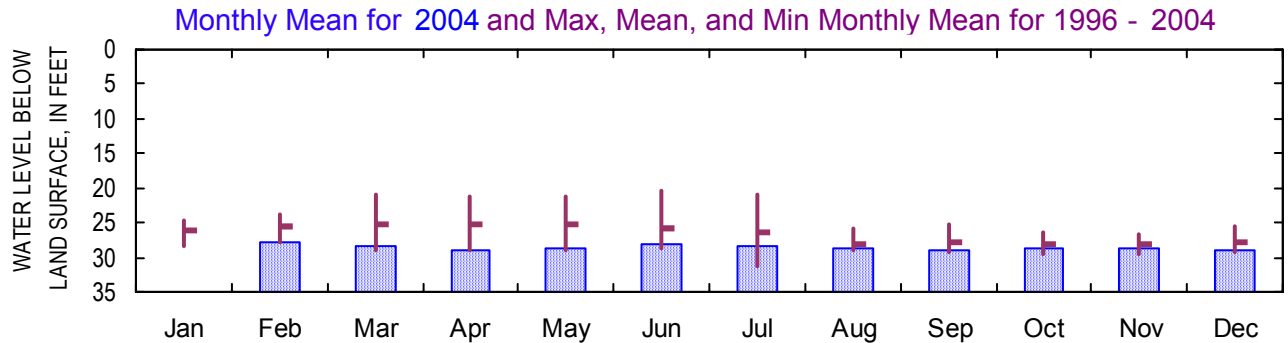
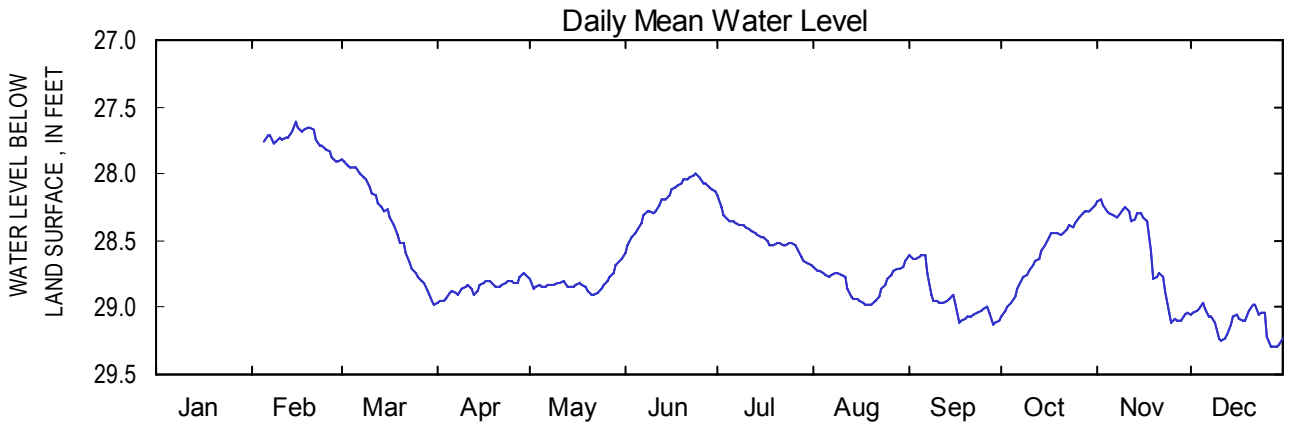


CRYSTALLINE-ROCK AQUIFER 2004 Calendar Year

335839083572301

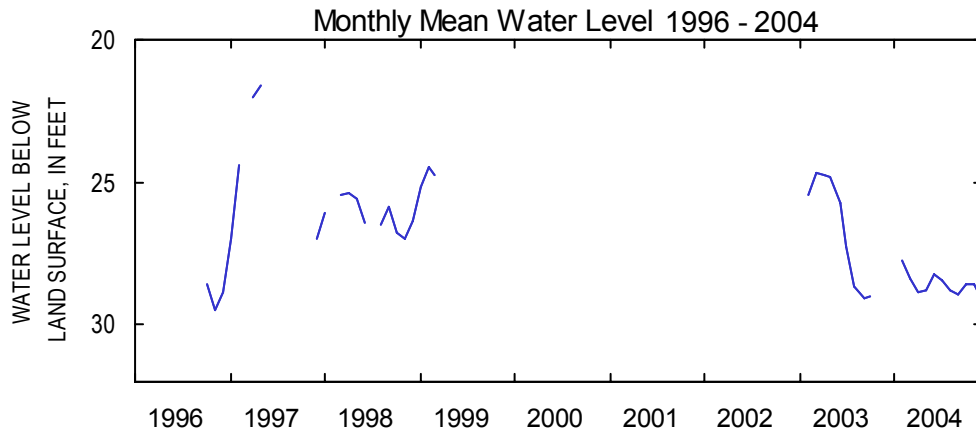
Site Name: 14FF42

Latitude: 33 ° 58 ' 39" Longitude: 083 ° 57 ' 23" GWINNETT Period of Record: 1996 - 2004
 Well Depth: 599 feet Datum: 1,029.29 feet Well Diameter 8 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	27.74	28.36	28.85	28.82	28.20	28.46	28.81	28.93	28.58	28.57	29.11	
Max	27.91	28.98	28.97	28.91	28.59	28.69	28.98	29.13	29.07	29.12	29.29	
Min	27.62	27.89	28.74	28.63	28.00	28.16	28.65	28.60	28.24	28.19	28.97	
1996 - 2004												
Mean	26.06	25.48	25.23	25.26	25.22	25.76	26.42	27.99	27.88	28.23	28.21	27.82
Max	28.33	27.91	28.98	28.97	28.91	28.59	31.15	29.02	29.24	29.43	29.54	29.29
Min	24.66	23.72	21.08	21.23	21.09	20.32	21.05	25.77	25.27	26.35	26.66	25.55



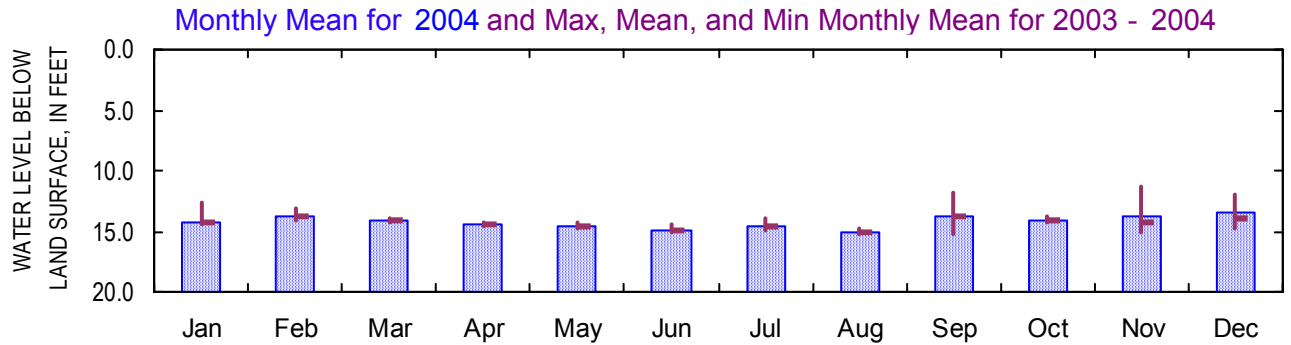
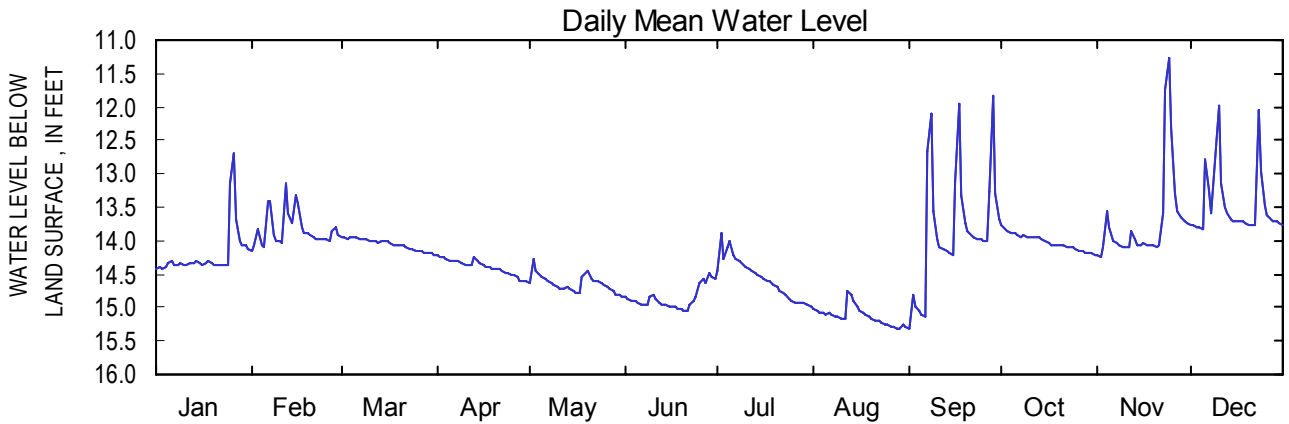


CRYSTALLINE-ROCK AQUIFER 2004 Calendar Year

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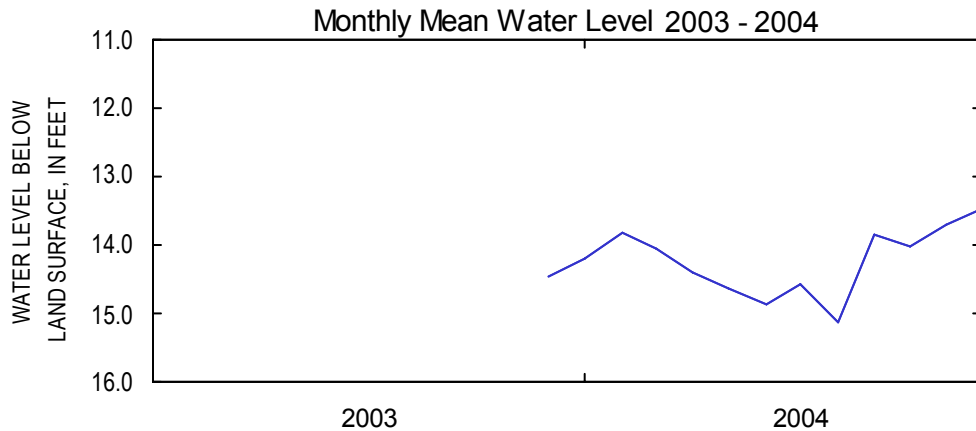
Site Name: 14FF65

Latitude: 33 ° 59 ' 05" Longitude: 083 ° 56 ' 51" GWINNETT Period of Record: 2003 - 2004
 Well Depth: 465 feet Datum: 985 feet Well Diameter 6 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	14.20	13.83	14.05	14.39	14.64	14.86	14.57	15.13	13.84	14.02	13.72	13.48
Max	14.41	14.15	14.20	14.61	14.83	15.05	14.99	15.31	15.31	14.21	14.23	13.82
Min	12.70	13.15	13.94	14.22	14.28	14.48	13.89	14.76	11.83	13.78	11.27	11.99
2003 - 2004												
Mean	14.20	13.83	14.05	14.39	14.64	14.86	14.57	15.13	13.84	14.02	14.24	13.98
Max	14.41	14.15	14.20	14.61	14.83	15.05	14.99	15.31	15.31	14.21	15.14	14.75
Min	12.70	13.15	13.94	14.22	14.28	14.48	13.89	14.76	11.83	13.78	11.27	11.99



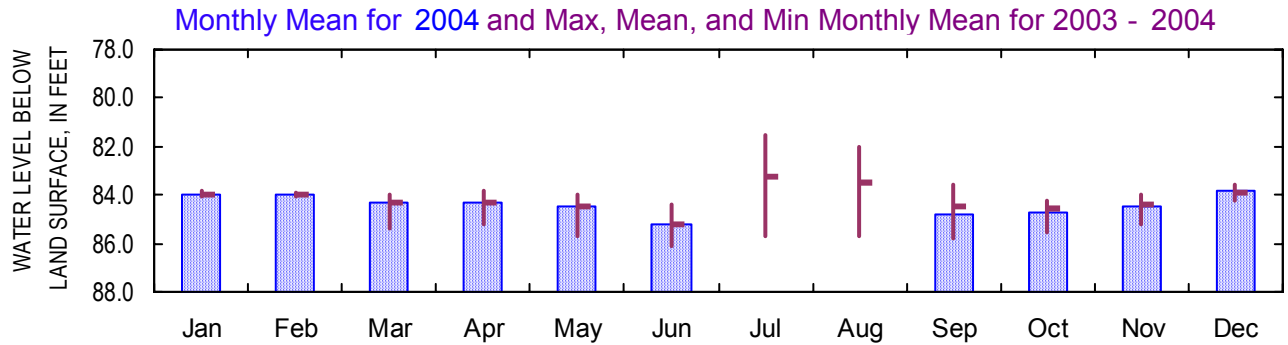
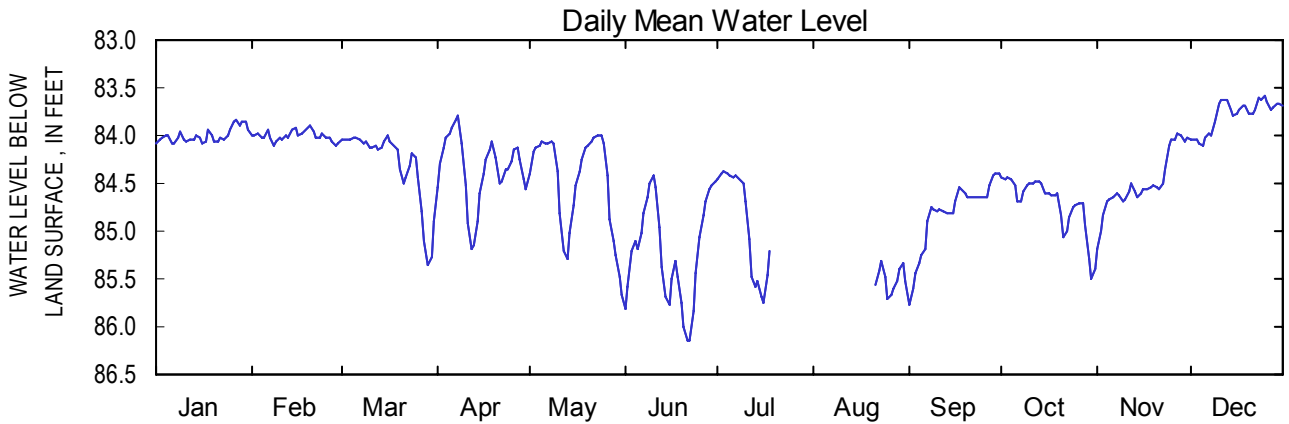


**CRYSTALLINE-ROCK AQUIFER
2004 Calendar Year**

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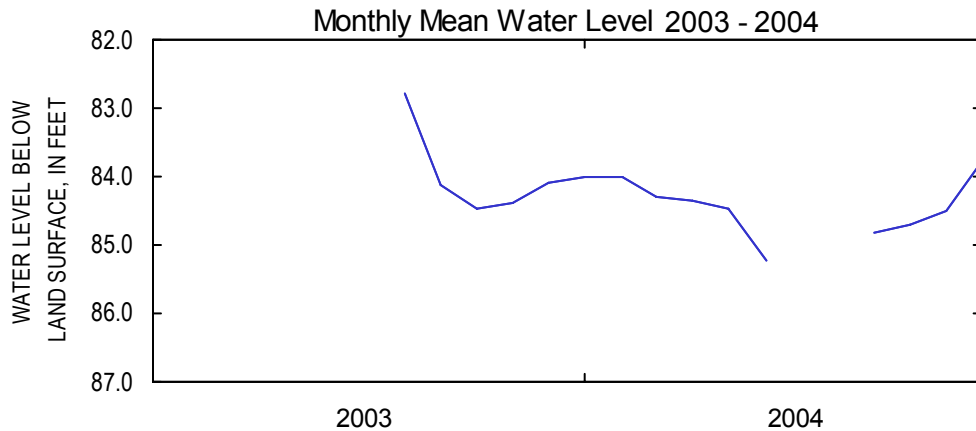
Site Name: 14GG02

Latitude: 34° 00' 49" Longitude: 083° 55' 11" GWINNETT Period of Record: 2003 - 2004
 Well Depth: 304 feet Datum: 1120 feet Well Diameter 6 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	84.00	84.00	84.30	84.35	84.48	85.21			84.81	84.71	84.50	83.78
Max	84.09	84.10	85.35	85.18	85.67	86.14			85.76	85.50	85.18	84.10
Min	83.82	83.90	84.01	83.80	83.99	84.41			84.40	84.44	83.98	83.59
2003 - 2004												
Mean	84.00	84.00	84.30	84.35	84.48	85.21	83.21	83.50	84.47	84.60	84.43	83.94
Max	84.09	84.10	85.35	85.18	85.67	86.14	85.75	85.71	85.76	85.50	85.18	84.19
Min	83.82	83.90	84.01	83.80	83.99	84.41	81.55	82.02	83.56	84.21	83.98	83.59



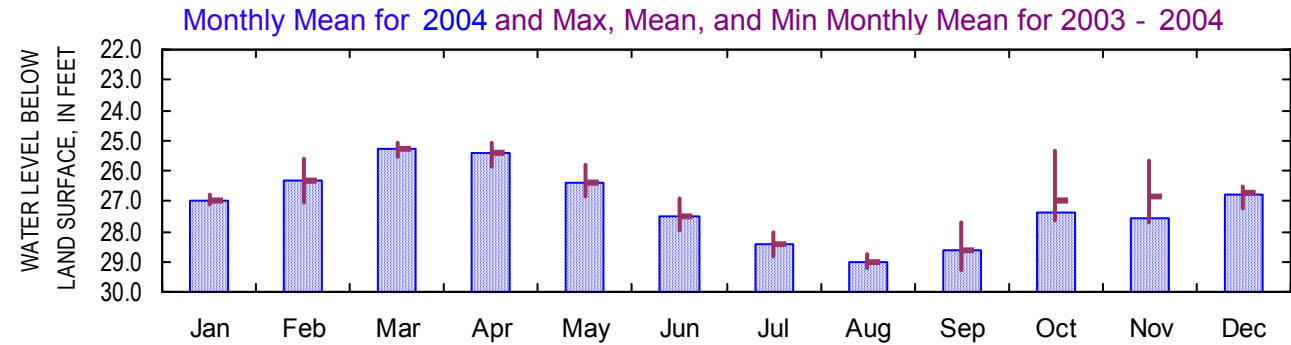
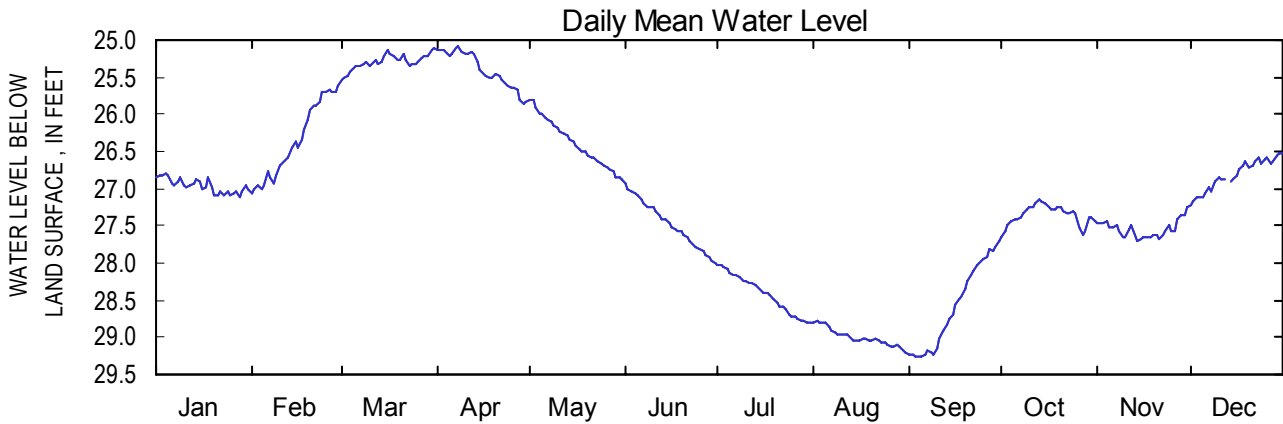


**CRYSTALLINE-ROCK AQUIFER
2004 Calendar Year**

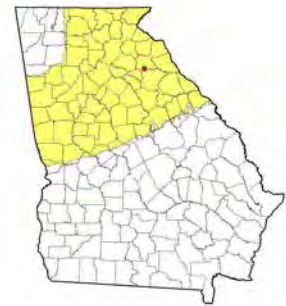
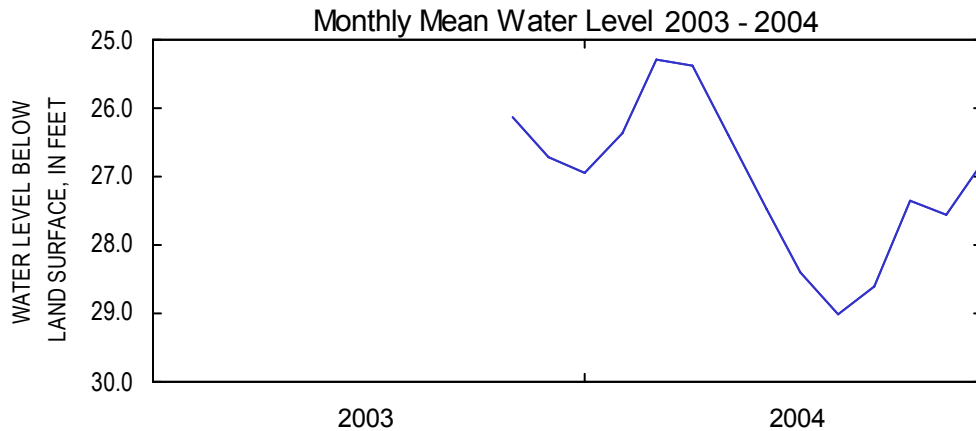
340224083125101

Site Name: 20GG22

Latitude: 34 °02 '24" Longitude: 083° 12 '51" MADISON Period of Record: 2003 - 2004
Well Depth: 185 feet Datum: 755.00 feet Well Diameter 6 inches



Monthly Water-Level Statistics												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	26.96	26.36	25.30	25.39	26.38	27.48	28.42	29.00	28.59	27.35	27.55	26.81
Max	27.13	27.05	25.55	25.85	26.87	28.00	28.80	29.21	29.25	27.65	27.72	27.22
Min	26.81	25.63	25.11	25.07	25.80	26.94	28.02	28.78	27.70	27.15	27.25	26.52
2003 - 2004												
Mean	26.96	26.36	25.30	25.39	26.38	27.48	28.42	29.00	28.59	27.01	26.85	26.75
Max	27.13	27.05	25.55	25.85	26.87	28.00	28.80	29.21	29.25	27.65	27.72	27.22
Min	26.81	25.63	25.11	25.07	25.80	26.94	28.02	28.78	27.70	25.34	25.67	26.52



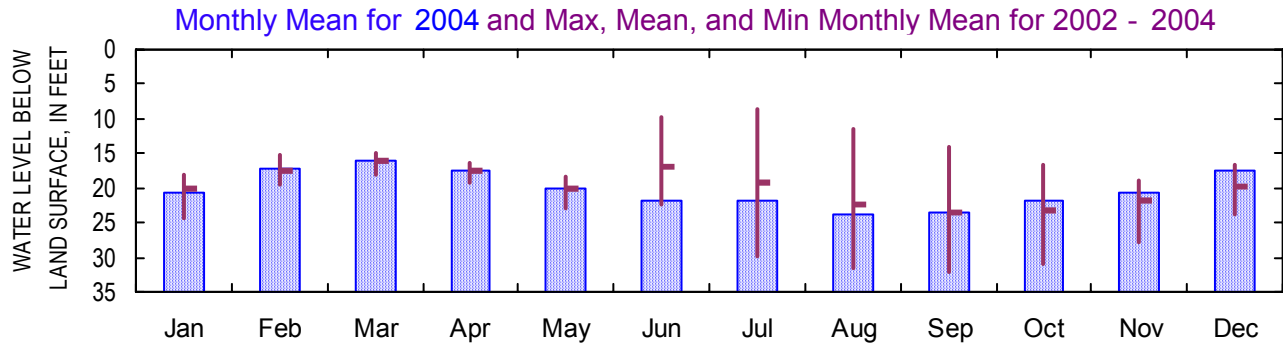
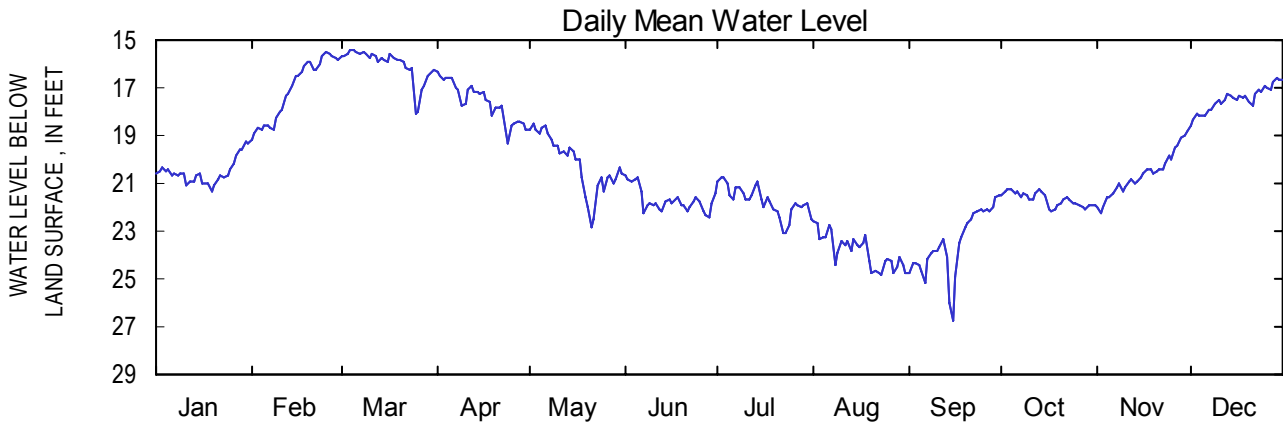


**CRYSTALLINE-ROCK AQUIFER
2004 Calendar Year**

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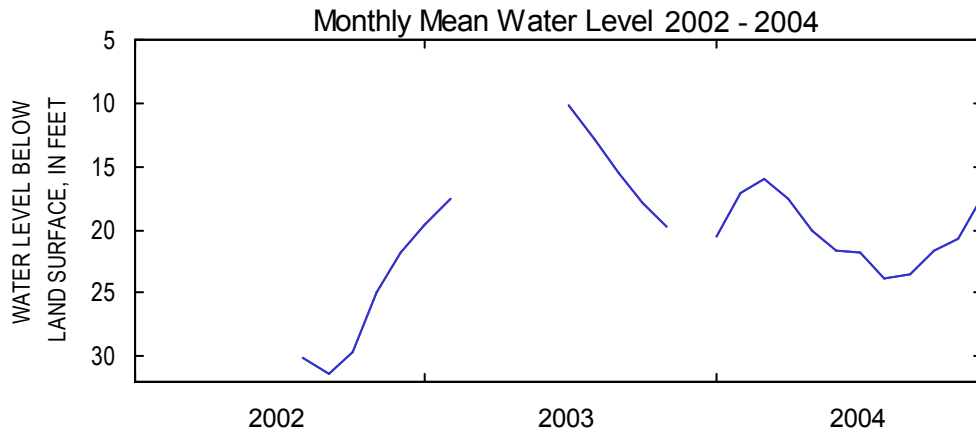
Site Name: 12CC35

Latitude: 33 ° 35 ' 37" Longitude: 084° 08 ' 17" ROCKDALE Period of Record: 2002 - 2004
Well Depth: 284 feet Datum: 855 feet Well Diameter 6 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	20.52	17.09	16.03	17.58	20.15	21.70	21.73	23.83	23.50	21.67	20.64	17.48
Max	21.33	19.20	18.08	19.31	22.87	22.40	23.10	24.80	26.75	22.17	22.21	18.55
Min	19.25	15.47	15.38	16.36	18.49	20.64	20.71	22.57	21.53	21.23	18.84	16.58
2002 - 2004												
Mean	20.03	17.36	15.94	17.58	20.15	17.02	19.10	22.28	23.44	23.10	21.77	19.84
Max	24.32	19.50	18.08	19.31	22.87	22.40	29.70	31.65	32.00	31.10	27.77	23.71
Min	18.19	15.30	14.97	16.36	18.49	9.74	8.67	11.53	14.06	16.66	18.84	16.58



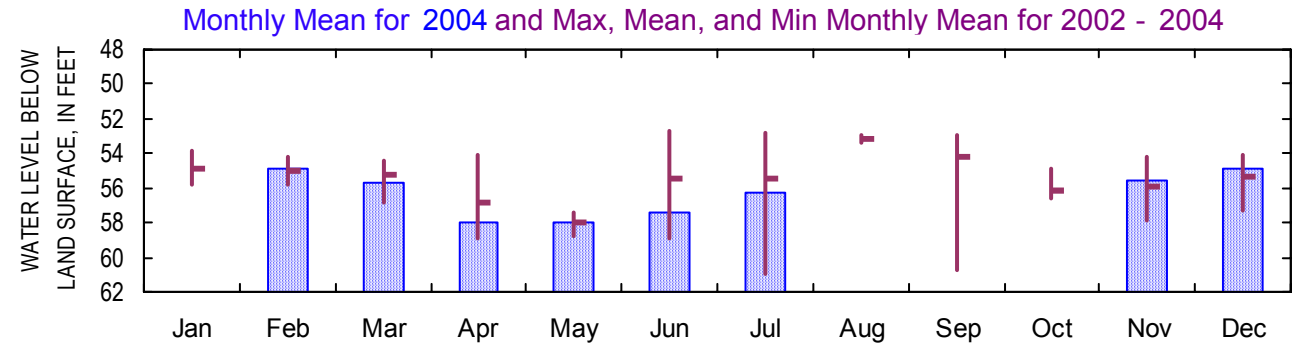
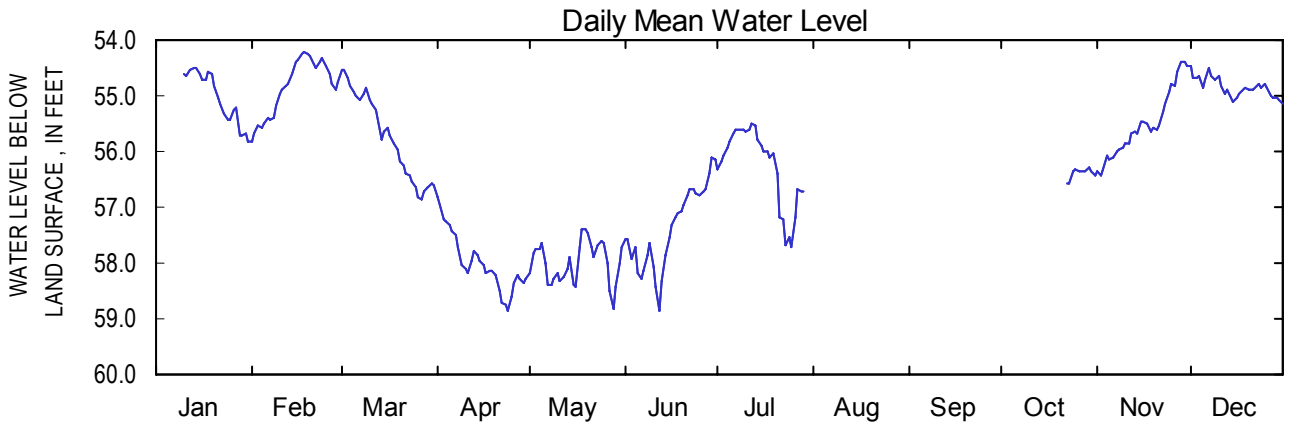


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2004 Calendar Year**

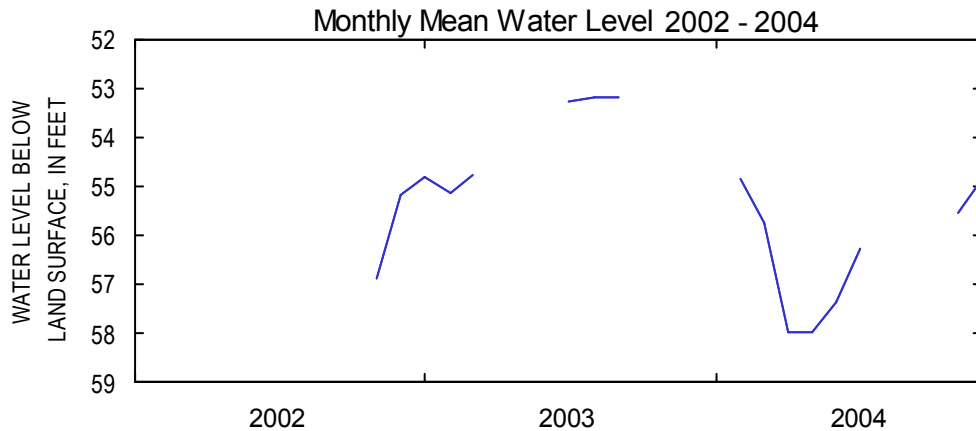
333954084003301

Site Name: 13DD56

Latitude: 33 ° 39 ' 24" Longitude: 084° 00 ' 33" ROCKDALE Period of Record: 2002 - 2004
Well Depth: 410 feet Datum: 889.00 feet Well Diameter 10.0 inches



Monthly Water-Level Statistics												
2004												
Mean	54.84	55.72	57.99	57.99	57.37	56.27					55.52	54.85
Max	55.81	56.85	58.85	58.82	58.85	57.71					56.44	55.16
Min	54.22	54.55	56.81	57.38	56.10	55.50					54.39	54.47
2002 - 2004												
Mean	54.89	54.98	55.25	56.78	57.99	55.40	55.45	53.19	54.23	56.15	55.90	55.40
Max	55.81	55.81	56.85	58.85	58.82	58.85	60.95	53.40	60.73	56.56	57.83	57.30
Min	53.85	54.22	54.37	54.11	57.38	52.66	52.82	52.91	52.88	54.86	54.17	54.05



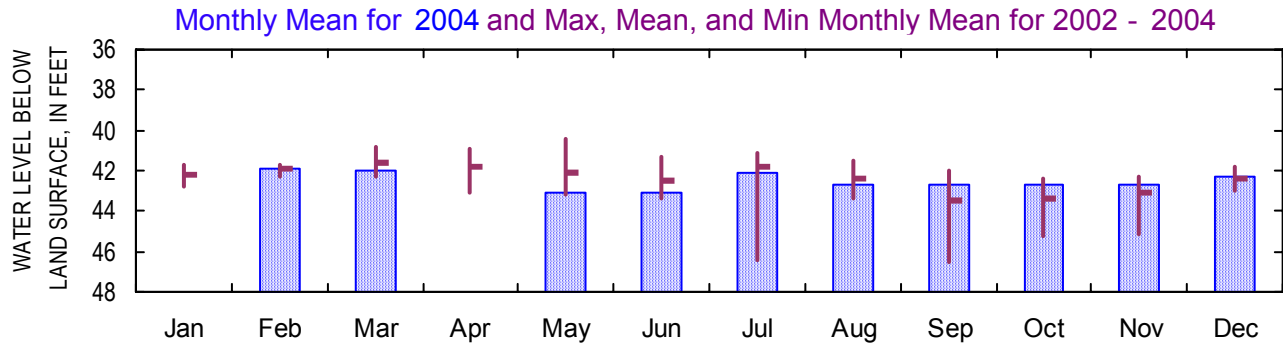
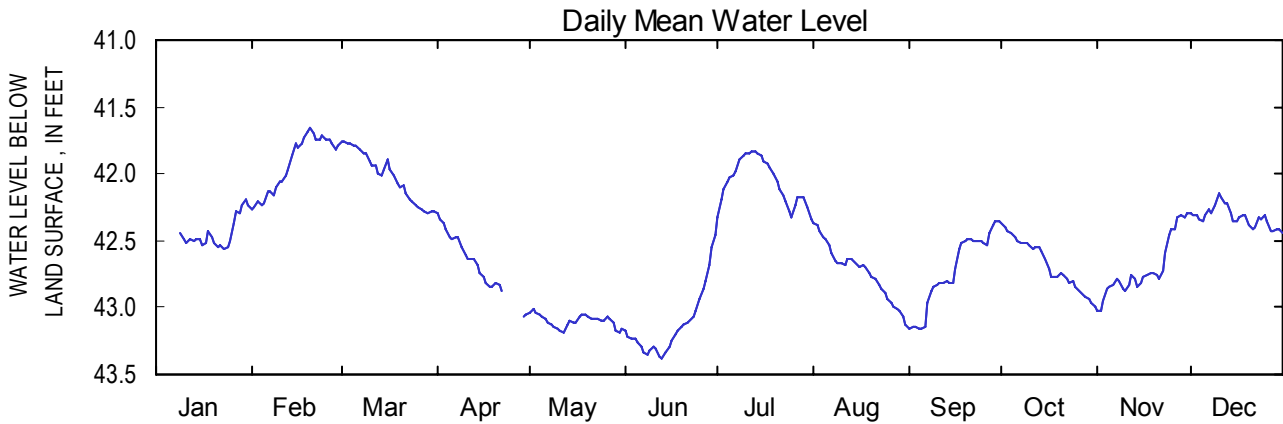


CRYSTALLINE-ROCK AQUIFER 2004 Calendar Year

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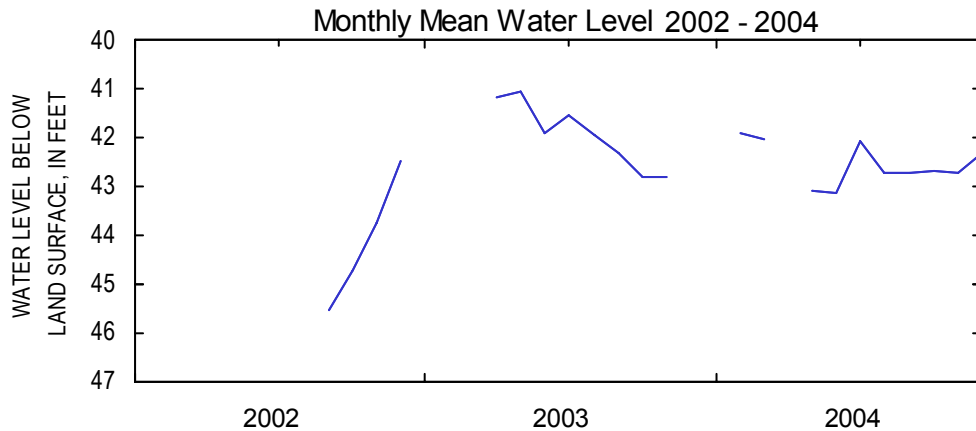
Site Name: 13DD69

Latitude: 33° 40' 24" Longitude: 084° 02' 32" ROCKDALE Period of Record: 2002 - 2004
 Well Depth: 435 feet Datum: 920.00 feet Well Diameter 6 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	41.93	42.02			43.10	43.13	42.06	42.73	42.73	42.68	42.71	42.32
Max	42.26	42.30			43.18	43.37	42.34	43.13	43.16	43.00	43.03	42.44
Min	41.66	41.75			43.01	42.45	41.84	42.37	42.35	42.36	42.30	42.14
2002 - 2004												
Mean	42.23	41.93	41.59	41.84	42.09	42.52	41.81	42.34	43.43	43.40	43.10	42.44
Max	42.77	42.26	42.30	43.08	43.18	43.37	46.39	43.41	46.57	45.27	45.11	42.97
Min	41.71	41.66	40.84	40.95	40.47	41.27	41.15	41.51	41.97	42.36	42.30	41.77



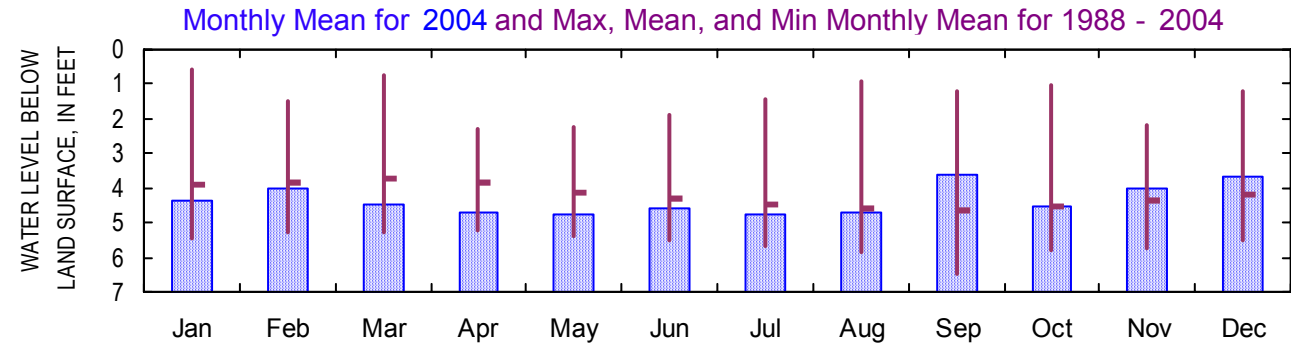
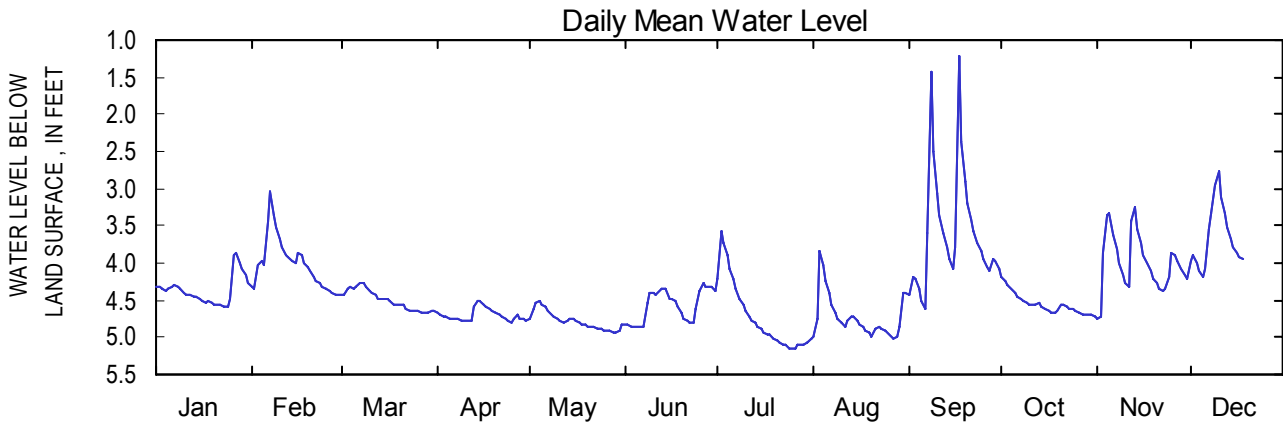


**CRYSTALLINE-ROCK AQUIFER
2004 Calendar Year**

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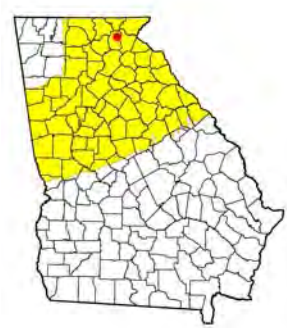
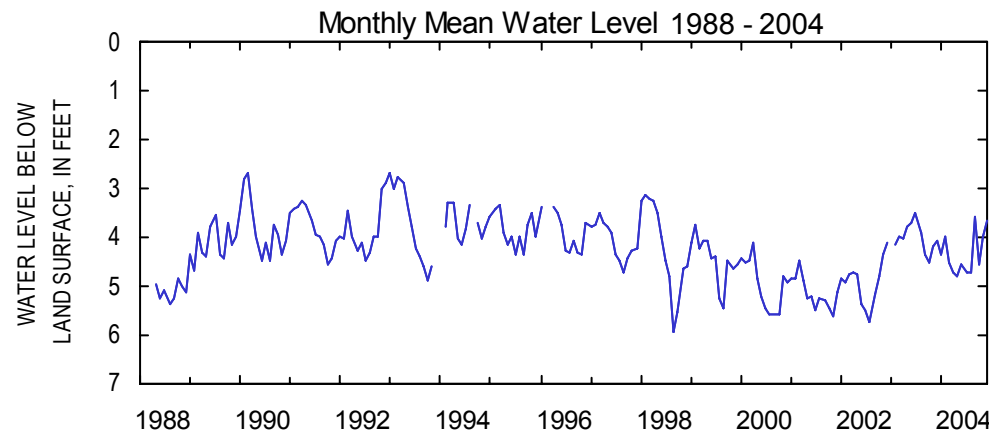
Site Name: 16MM03

Latitude: 34° 43 ' 14" Longitude: 083° 43 ' 32" WHITE Period of Record: 1988 - 2004
Well Depth: 400 feet Datum: 1550 feet Well Diameter 6.25 inches



Monthly Water-Level Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004												
Mean	4.36	4.01	4.50	4.70	4.78	4.58	4.73	4.73	3.59	4.56	4.00	3.67
Max	4.59	4.43	4.68	4.80	4.94	4.87	5.14	5.01	4.61	4.73	4.74	4.18
Min	3.86	3.03	4.28	4.50	4.52	4.28	3.57	3.84	1.21	4.18	3.24	2.76
1988 - 2004												
Mean	3.90	3.85	3.72	3.87	4.16	4.32	4.45	4.60	4.64	4.54	4.35	4.19
Max	5.44	5.27	5.29	5.20	5.39	5.51	5.70	5.85	6.49	5.80	5.72	5.52
Min	0.58	1.51	0.74	2.30	2.25	1.90	1.45	0.94	1.21	1.01	2.16	1.19



Chloride Concentration in Water from the Floridan Aquifer System

Chloride concentration in water from the Floridan aquifer system has been monitored by the U.S. Geological Survey in Coastal Georgia since the 1950s. During 2004, 67 wells completed in the Upper and Lower Floridan aquifers in the Brunswick, Glynn County area and 7 wells in Camden County were pumped and sampled. Water supply in the Brunswick area primarily is obtained from wells completed in the Upper Floridan aquifer. Intense pumping has reduced pressure in the aquifer and resulted in saltwater intrusion locally at Brunswick. Saltwater was first detected in the southernmost part of Brunswick during the late 1950s (Wait, 1965). Saltwater was migrating upward from deep saline zones through breaches in confining units as a result of reduced pressure in the aquifer. By the 1960s, a plume had migrated northward toward two major industrial pumping centers. Currently (2004), chloride concentration in water from the Upper Floridan aquifer is above State and Federal secondary drinking-water standards (Georgia Environmental protection Division, 1997; U.S. Environmental Protection Agency, 2000) in a 2-square-mile area in downtown Brunswick, and exceeds 2,250 milligrams per liter in part of the area (Leeth and others, 2004). More information on the Brunswick area monitoring can be accessed at URL: <http://ga2.er.usgs.gov/Brunswick>. In Camden County, 7 wells were sampled during 2004 and currently chloride concentration in water from the Upper Floridan aquifer is below State and Federal secondary drinking-water standards (Georgia Environmental protection Division, 1997; U.S. Environmental Protection Agency, 2000).

References Cited

- Georgia Environmental Protection Division, 1997, Secondary maximum contaminant levels for drinking water: Environmental Rule 391-3-5-19, revised October 1997: Official Code of Georgia Annotated Statutes, Statute 12-5-170 (Georgia Safe Drinking Water Act), variously paginated.
- Leeth, D.C., Clarke, J.S., Wipperfurth, C.J., and Craigg, S.D., 2004, Ground-water conditions and studies in Georgia, 2002-03: U.S. Geological Survey Scientific Investigations Report 2005-5065, p. 124.
- U.S. Environmental Protection Agency, 2000, Maximum contaminant levels (Part 143, National Secondary Drinking Water Regulations): U.S. Code of Federal Regulations, Title 40, Parts 100-149, revised as of July 1, 2000, p. 612-614.
- Wait, R.L., 1965, Geology and occurrence of fresh and brackish ground water in Glynn County, Georgia: U.S. Geological Survey Water Supply Paper 1613-E, 94 p.

Conversion Factors

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

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:

$$^{\circ}\text{F} = (1.8 \times ^{\circ}\text{C}) + 32$$