

CHRISTINA RIVER BASIN

01480500 WEST BRANCH BRANDYWINE CREEK AT COATESVILLE, PA

LOCATION.--Lat 39°59'08", long 75°49'40", Chester County, Hydrologic Unit 02040205, on right bank at city limits of Coatesville, 1,200 ft upstream from bridge on old Lincoln Highway, and 0.6 mi downstream from Rock Run.

DRAINAGE AREA.--45.8 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1943 to December 1951, January 1970 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Datum of gage is 306.05 ft above sea level. Sept. 10, 1943, to Dec. 31, 1951, nonrecording gage at site 1,100 ft downstream at different datum. Satellite and landline telemetry at station.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diversion from Rock Run Reservoir (station 01480465) 2.6 mi upstream, capacity, 982 acre-ft, for municipal supply of city of Coatesville.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 9, 1942, reached a stage of 12.3 ft, site and datum then in use, discharge, 8,600 ft³/s, by slope-area measurement.

COOPERATION.--Records of diversion provided by city of Coatesville.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
Mar. 22	0400	*3,260	*7.65	June 19	0730	1,350	6.13

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	24	34	35	e34	68	72	53	45	44	27	28
2	33	48	32	35	e31	61	68	57	42	37	28	91
3	26	121	31	37	e30	54	67	53	40	38	27	34
4	37	45	30	47	e28	50	128	52	37	41	90	45
5	85	e33	29	100	e25	49	87	50	37	36	35	23
6	45	e32	127	49	e25	47	71	50	72	32	28	20
7	34	e28	81	42	e27	45	63	47	58	31	29	19
8	28	e27	47	39	e26	45	64	45	45	28	26	20
9	26	27	41	37	e24	46	138	44	40	27	26	24
10	166	27	50	54	e24	45	113	61	36	33	26	22
11	95	27	70	87	e23	50	73	78	33	30	22	22
12	47	25	44	50	e23	102	68	50	34	27	22	22
13	38	25	43	45	e23	60	61	53	95	26	22	72
14	34	25	158	37	e45	50	59	90	51	27	24	33
15	31	24	159	e32	e80	48	60	49	46	35	34	117
16	28	24	69	e28	e66	46	66	43	47	34	25	37
17	28	23	53	e26	e68	125	109	42	41	30	24	26
18	45	22	46	e25	e56	67	141	42	43	28	22	22
19	33	22	42	e24	e90	53	83	76	573	28	23	33
20	39	23	48	e31	143	50	69	122	71	32	20	53
21	48	24	75	e28	93	371	174	99	53	27	18	31
22	36	24	52	e27	72	1750	237	106	222	24	18	24
23	44	25	46	e25	123	234	110	201	68	22	18	22
24	36	29	e39	e25	166	148	81	173	49	23	20	23
25	29	28	36	e24	178	116	70	84	43	25	19	29
26	28	42	37	e26	154	100	66	59	41	47	18	288
27	27	208	37	e25	96	88	65	53	41	57	18	87
28	26	65	36	e24	256	239	62	56	79	36	25	45
29	25	45	36	e24	92	116	59	51	76	30	20	37
30	25	38	34	e23	---	91	55	47	62	27	19	31
31	24	---	35	e23	---	79	---	45	---	26	35	---
TOTAL	1297	1180	1697	1134	2121	4493	2639	2131	2220	988	808	1380
MEAN	41.8	39.3	54.7	36.6	73.1	145	88.0	68.7	74.0	31.9	26.1	46.0
MAX	166	208	159	100	256	1750	237	201	573	57	90	288
MIN	24	22	29	23	23	45	55	42	33	22	18	19
(†)	2.5	2.5	4.2	2.5	6.5	7.6	9.0	5.7	4.1	1.2	0.6	1.1

STATISTICS OF MONTHLY MEAN DATA FOR FOR PERIOD OF DAILY RECORD, BY WATER YEAR (WY)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
MEAN	38.0	56.0	69.4	79.2	86.0	97.9	88.0	72.9	60.0	49.2	32.0	38.0
MAX (WY)	149	114	227	262	179	275	197	159	236	176	82.9	136
MIN (WY)	1997	1973	1997	1979	1971	1994	1983	1989	1972	1984	1971	1979
MIN (WY)	11.8	14.9	16.8	15.5	30.1	33.3	28.9	29.6	17.5	9.80	9.31	10.1
(WY)	1987	1982	1999	1981	1992	1985	1985	1999	1999	1999	1995	1986

† Diversion for municipal supply, equivalent in cubic feet per second (includes change in contents from Rock Run Reservoir).
e Estimated.

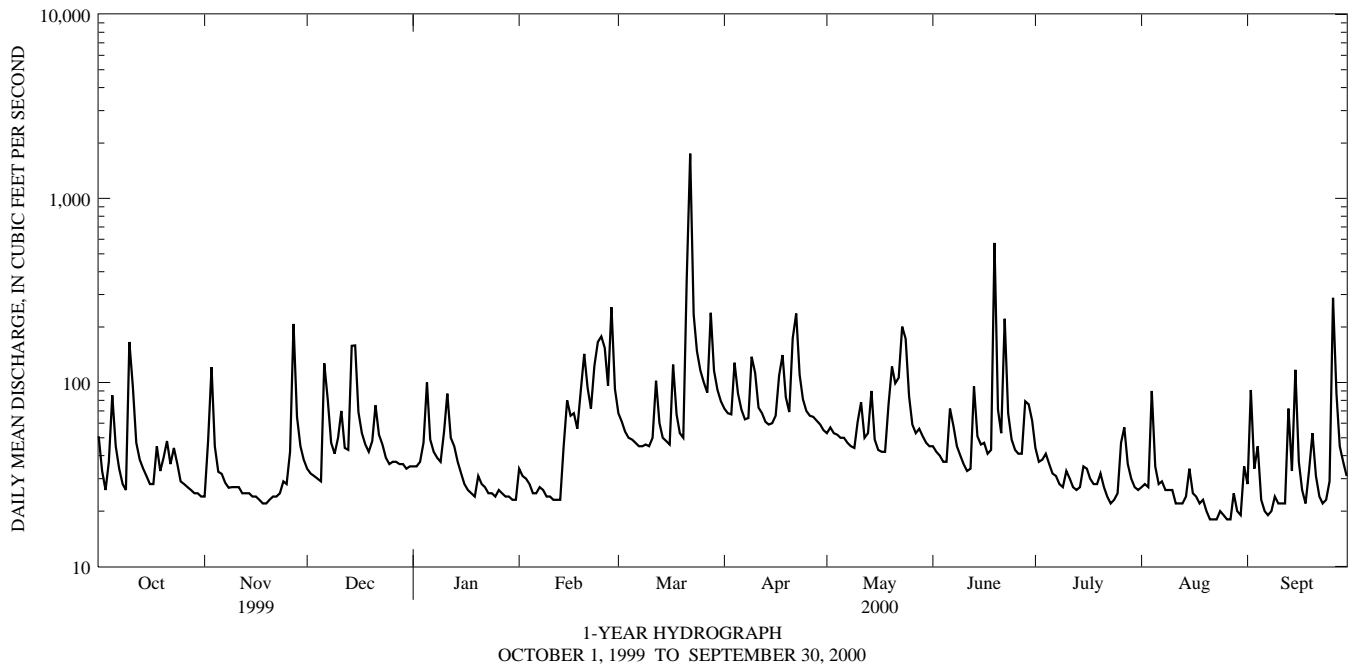
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SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR		FOR 2000 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	16785.4		22088			
ANNUAL MEAN	46.0		60.3		63.9	
HIGHEST ANNUAL MEAN					98.6	1979
LOWEST ANNUAL MEAN					28.1	1981
HIGHEST DAILY MEAN	1500	Sep 16	1750	Mar 22	3400	Jun 22 1972
LOWEST DAILY MEAN	5.6	Aug 3	18	Aug 21-23 ^a	4.6	Sep 10 1944
ANNUAL SEVEN-DAY MINIMUM	6.3	Jul 29	18	Aug 21	5.8	Sep 10 1995
INSTANTANEOUS PEAK FLOW			3260	Mar 22	b 8100	Jun 29 1973
INSTANTANEOUS PEAK STAGE			7.65	Mar 22	10.08	Jun 29 1973
10 PERCENT EXCEEDS	74		103		112	
50 PERCENT EXCEEDS	32		41		42	
90 PERCENT EXCEEDS	9.5		24		15	

^a Also Aug. 26, 27.

^b From rating curve extended above 7,800 ft³/s on basis of slope-area measurement at gage height 9.92 ft.



1-YEAR HYDROGRAPH
OCTOBER 1, 1999 TO SEPTEMBER 30, 2000

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01480500 WEST BRANCH BRANDYWINE CREEK AT COATESVILLE, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965, 1970-72, 1995 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: January 1995 to current year.

INSTRUMENTATION.--Temperature probe interfaced with a data collection platform.

REMARKS.--Water temperature records rated fair. Interruptions in the record were due to malfunctions of the equipment.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 29.0°C, July 6, 1999; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 25.0°C, Aug. 9, 10; minimum 0.0°C, many days during winter.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	16.5	13.5	15.0	13.5	11.5	12.5	3.5	2.0	2.5	3.5	1.5	2.5
2	16.5	13.5	15.0	14.5	12.0	13.0	3.5	1.0	2.5	6.5	3.0	4.5
3	17.0	14.5	16.0	14.0	9.5	12.0	5.0	2.0	3.5	7.5	6.0	6.5
4	16.5	15.0	16.0	9.5	8.0	8.5	8.0	4.5	6.0	10.0	7.5	8.5
5	15.5	13.0	14.0	---	---	---	8.5	6.0	7.5	8.5	4.0	6.5
6	14.0	11.0	12.5	---	---	---	10.0	7.5	8.5	4.0	2.5	3.5
7	13.0	11.0	12.0	---	---	---	9.5	7.0	8.5	4.5	2.0	3.0
8	12.0	9.0	10.5	---	---	---	7.0	5.0	5.5	3.5	1.5	2.5
9	14.0	11.5	12.5	9.5	5.5	7.5	6.0	4.0	5.0	5.0	3.0	4.0
10	15.5	14.0	14.5	11.5	8.5	10.0	7.5	4.5	6.0	---	---	---
11	17.0	15.0	16.0	11.5	9.0	10.5	6.5	5.0	5.5	---	---	---
12	15.0	12.5	14.0	9.0	6.5	8.0	5.0	3.5	4.5	---	---	---
13	14.5	11.5	13.0	10.5	8.5	9.5	5.5	3.0	4.0	---	---	---
14	15.0	12.0	13.5	10.0	7.5	9.0	6.0	5.5	5.5	2.5	.0	.5
15	12.0	9.5	11.0	9.0	7.0	8.0	6.5	5.5	6.0	.5	.0	.5
16	13.0	9.5	11.0	7.0	5.0	6.0	6.5	5.0	6.5	2.0	.5	1.0
17	14.0	12.0	13.0	5.0	3.5	4.5	5.0	4.0	4.5	1.0	.0	.5
18	14.0	12.0	13.5	5.0	3.0	4.0	5.5	4.0	4.5	.5	.0	.5
19	12.0	10.0	11.0	6.5	4.0	5.0	4.5	3.5	4.0	.5	.0	.5
20	11.5	11.0	11.5	9.0	5.0	6.5	6.0	4.0	5.0	.5	.0	.5
21	12.0	10.0	11.0	11.0	9.0	9.5	6.0	4.5	5.5	.5	.0	.5
22	11.5	9.0	10.5	11.5	9.5	10.5	4.5	3.0	4.0	.5	.0	.5
23	11.5	10.0	10.5	12.5	11.5	12.0	3.5	1.5	2.5	.5	.0	.5
24	10.5	9.0	10.0	13.5	12.5	13.0	2.5	.5	1.5	.5	.0	.5
25	10.5	8.5	9.5	13.0	11.5	12.5	.5	.0	.5	.5	.0	.5
26	11.0	8.0	9.5	13.5	11.0	12.0	1.0	.0	.5	.5	.0	.5
27	10.5	9.0	10.0	13.0	10.0	12.0	1.5	.5	1.0	.5	.0	.5
28	10.5	8.5	9.5	10.0	8.0	9.0	1.5	.5	1.0	.5	.0	.5
29	11.0	8.0	9.5	8.0	6.0	7.0	1.5	.5	1.0	.5	.0	.5
30	12.0	9.0	10.5	6.0	3.5	5.0	3.0	.5	1.5	.5	.0	.0
31	13.0	10.5	11.5	---	---	---	4.5	2.5	3.5	.5	.0	.5
MONTH	17.0	8.0	12.2	14.5	3.0	9.1	10.0	.0	4.1	10.0	.0	1.9

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CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM R BK) (72103)	SAM- PLING DEPTH (FEET) (00003)
SEP 2000					
14...	1436	--	--		--
14...	1437	28	19.2	4	.5
14...	1438	28	19.1	8	.5
14...	1439	28	19.1	12	.5
14...	1440	28	19.1	16	.5
14...	1441	28	19.0	20	.5
14...	1442	28	18.9	24	.5
14...	1443	28	18.9	28	.5
14...	1444	28	18.9	32	.5
14...	1445	28	18.9	36	.5
14...	1446	28	18.8	40	.5
14...	1447	28	18.8	44	.5
14...	1448	28	18.7	48	.5
14...	1449	28	18.7	52	.5
14...	1450	28	18.8	56	.5