



Water-Data Report 2010

01440000 FLAT BROOK NEAR FLATBROOKVILLE, NJ

DELAWARE RIVER BASIN

LOCATION.--Lat 41°06'22", long 74°57'09" referenced to North American Datum of 1983, Walpack Township, Sussex County, NJ, Hydrologic Unit 02040104, on right bank, 1.0 mi upstream from Flatbrookville, 1.5 mi upstream from mouth, and 5.3 mi southwest of Walpack Center.

DRAINAGE AREA.--64.0 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1923 to current year.

REVISED RECORDS.--WSP 1432: 1924(M), 1928(M), 1929, 1930(M), 1932, 1933(M), 1936, 1938(M), 1939-40, 1949(M), 1952-53(M). WDR NJ-80-2: 1970(M). WDR NJ-82-2: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Aug 19, 1929. Datum of gage is 347.73 ft above NGVD of 1929. Prior to Jan 6, 1926, non-recording gage at same site and datum.

REMARKS.--Records fair, except for estimated daily discharges, which are poor. Flow occasionally regulated by ponds above station. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 650 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 3	1915	955	4.29
Dec 27	1630	769	3.93
Jan 26	0345	1,080	4.52
Mar 14	1230	*2,120	*6.81
Mar 23	1400	1,570	5.38
Mar 31	0645	1,520	5.29

01440000 FLAT BROOK NEAR FLATBROOKVILLE, NJ—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	29	110	66	182	e137	110	645	142	48	23	14	13
2	28	93	61	170	e129	118	429	128	50	22	14	11
3	27	80	575	e132	124	124	339	172	46	21	13	10
4	27	72	473	e132	118	138	285	178	43	20	13	10
5	25	67	262	e126	108	140	249	143	41	19	13	10
6	24	62	224	124	104	143	224	124	40	18	12	9.7
7	24	59	185	118	e92	153	203	108	39	17	11	9.3
8	25	55	160	111	e82	186	184	99	36	17	11	9.0
9	24	52	236	e100	88	235	238	92	36	17	11	9.0
10	29	50	353	e89	90	279	215	86	50	21	10	8.4
11	33	48	237	e91	90	300	175	81	46	33	10	8.4
12	28	46	181	92	83	427	155	111	39	23	11	8.9
13	26	44	e181	87	80	676	142	117	66	22	14	10
14	25	45	398	83	79	1,720	134	95	84	43	13	14
15	25	46	336	80	75	1,120	127	89	54	40	12	15
16	31	46	316	82	75	653	122	78	44	27	12	12
17	34	42	248	88	73	431	135	71	66	22	12	11
18	32	40	198	131	75	335	136	79	54	20	11	11
19	30	39	184	141	73	279	121	167	44	18	11	9.7
20	28	171	173	120	69	235	110	114	40	21	11	8.9
21	30	148	159	106	71	209	105	88	36	20	10	8.1
22	31	99	147	96	70	214	100	76	34	18	13	8.0
23	30	83	129	85	75	1,150	96	72	35	17	22	8.1
24	45	78	126	82	99	725	90	70	33	17	30	7.7
25	142	74	121	341	126	420	165	66	30	22	36	7.5
26	77	73	150	814	116	375	287	62	29	25	77	7.1
27	59	69	578	364	121	309	360	58	27	21	37	7.4
28	165	64	456	254	115	258	245	60	26	18	23	11
29	283	59	e272	e186	---	586	190	58	26	17	19	17
30	154	59	e205	e159	---	688	160	55	24	16	15	23
31	116	---	192	e151	---	1,260	---	50	---	15	13	---
Total	1,686	2,073	7,582	4,917	2,637	13,996	6,166	2,989	1,266	670	534	313.2
Mean	54.4	69.1	245	159	94.2	451	206	96.4	42.2	21.6	17.2	10.4
Max	283	171	578	814	137	1,720	645	178	84	43	77	23
Min	24	39	61	80	69	110	90	50	24	15	10	7.1
Cfsm	0.85	1.08	3.82	2.48	1.47	7.05	3.21	1.51	0.66	0.34	0.27	0.16
In.	0.98	1.20	4.41	2.86	1.53	8.14	3.58	1.74	0.74	0.39	0.31	0.18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2010, BY WATER YEAR (WY)

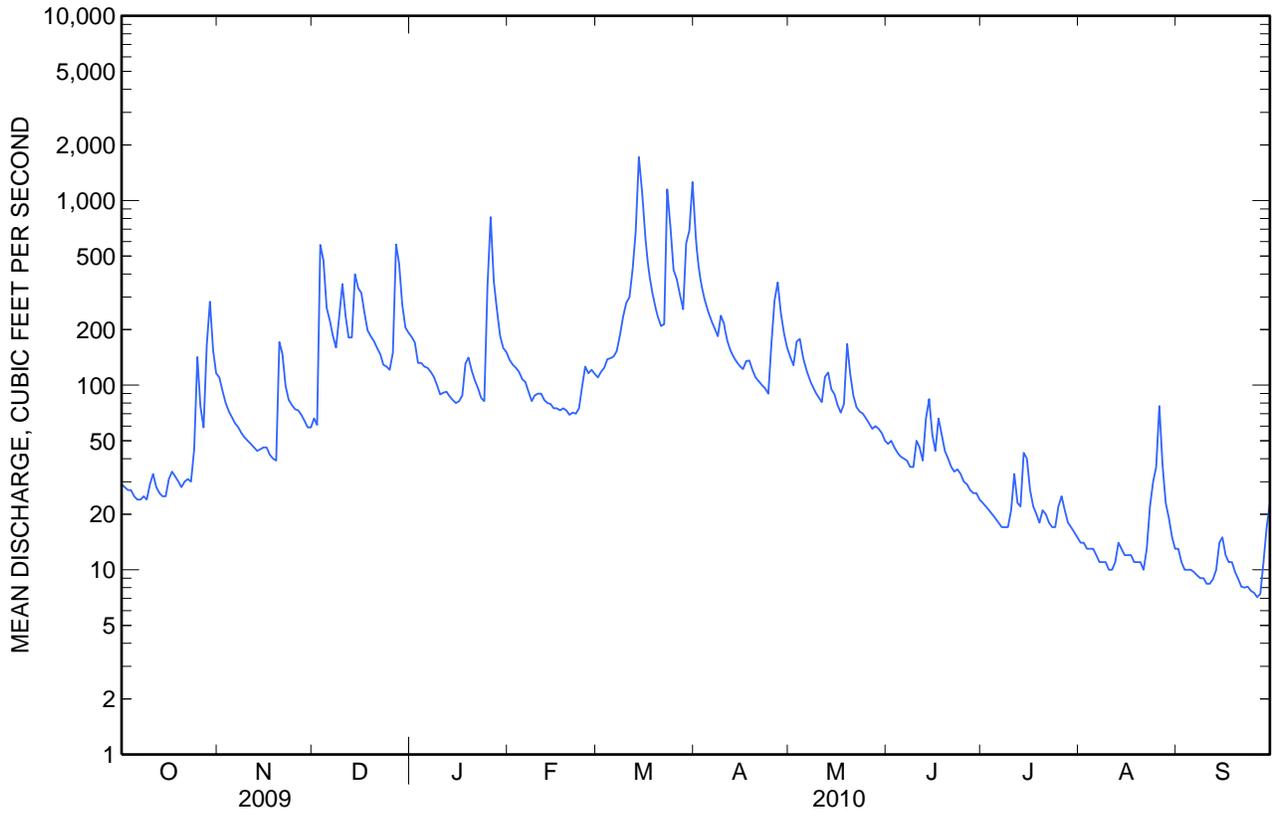
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	62.9	99.3	130	127	134	207	204	139	92.6	56.1	50.9	49.4
Max	372	292	412	367	364	513	570	372	384	333	386	268
(WY)	(2006)	(1928)	(1997)	(1979)	(2008)	(1936)	(1983)	(1989)	(2003)	(1928)	(1955)	(2004)
Min	9.57	11.0	16.7	23.5	32.3	62.0	65.9	44.0	23.7	11.1	8.96	7.01
(WY)	(1964)	(2002)	(1999)	(2002)	(2002)	(2002)	(1946)	(1941)	(1965)	(1999)	(1999)	(1964)

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SUMMARY STATISTICS

	Calendar Year 2009		Water Year 2010		Water Years 1924 - 2010	
Annual total	39,859		44,829.2			
Annual mean	109		123		113	
Highest annual mean					210	1928
Lowest annual mean					43.4	1965
Highest daily mean	578	Dec 27	1,720	Mar 14	6,310	Aug 19, 1955
Lowest daily mean	24	Sep 26	7.1	Sep 26	4.1	Sep 11, 1966
Annual seven-day minimum	25	Oct 3	7.7	Sep 21	5.3	Sep 6, 1995
Maximum peak flow			2,120	Mar 14	9,560	Aug 19, 1955
Maximum peak stage			6.81	Mar 14	^a 12.58	Aug 19, 1955
Instantaneous low flow			7.1	Sep 25-27	3.6	Sep 25, 1964
Annual runoff (cfsm)	1.71		1.92		1.76	
Annual runoff (inches)	23.17		26.06		23.89	
10 percent exceeds	195		275		238	
50 percent exceeds	84		73		73	
90 percent exceeds	33		12		17	

^a From high-water mark in gage house.



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1923-24, 1956-57, 1959-80, 1993, 1995, 1997 to current year.

REMARKS.--Cooperative Network Site Descriptor: Undeveloped Land Use Indicator, New Jersey Department of Environmental Protection Watershed Management Area 1.

COOPERATION.--Physical measurements and samples for laboratory analyses were provided by personnel of the NJ Department of Environmental Protection. Determinations of dissolved ammonia, dissolved orthophosphate, and suspended residue were performed by the NJ Department of Health and Senior Services, Environmental and Chemical Laboratory.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 1 of 5

[% , percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; μS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Sample start time	Barometric pressure, mm Hg (00025)	Temperature, air, °C (00020)	Absorbance, UV, 254 nm, 1 cm path length, water, filtered, units per centimeter (50624)	Absorbance, UV, organic constituents, 280 nm, 1 cm path length, water, filtered, units per centimeter (61726)	Discharge, instantaneous, ft ³ /s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)
12-03-2009	0850	738	13.0	.155	.120	458	10.4	88	7.6
02-18-2010	0930	742	4.5	.040	.032	75	12.3	89	8.1
05-26-2010	0845	753	30.5	.073	.056	62	8.3	89	7.9
09-08-2010	1030	749	34.0	.045	.036	9.0	7.7	84	8.0

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 2 of 5

[% , percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; μS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Specific conductance, water, unfiltered, μS/cm at 25 °C (00095)	Temperature, water, °C (00010)	Turbidity, water, unfiltered, broad band light source (400-680 nm), detectors at multiple angles including 90 +/- 30 degrees, ratiometric correction, NTRU (63676)	Dissolved solids dried at 180 °C, water, filtered, mg/L (70300)	Dissolved solids, water, filtered, sum of constituents, milligrams per liter (70301)	Hardness, water, mg/L as CaCO ₃ (00900)	Suspended solids, water, unfiltered, mg/L (00530)	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)
12-03-2009	104	7.9	29	77	58	36.8	50	10.8	2.38
02-18-2010	213	1.9	1.1	124	E 115	80.5	2	24.4	4.76
05-26-2010	213	18.5	1.2	129	E 114	82.2	1	24.9	4.86
09-08-2010	277	19.5	.5	165	153	117	5	33.5	8.10

01440000 FLAT BROOK NEAR FLATBROOKVILLE, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 3 of 5

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; μS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Potassium, water, filtered, mg/L (00935)	Sodium, water, filtered, mg/L (00930)	ANC, water, unfiltered, fixed endpoint (pH 4.5) titration, laboratory, mg/L as CaCO ₃ (90410)	Carbon (inorganic plus organic), suspended sediment, total, mg/L (00694)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)	Inorganic carbon, suspended sediment, total, mg/L (00688)	Silica, water, filtered, mg/L as SiO ₂ (00955)	Sulfate, water, filtered, mg/L (00945)	Ammonia plus organic nitrogen, water, filtered, mg/L as N (00623)
12-03-2009	.95	4.50	31	5.24	7.39	< .08	E .04	4.0	7.90	.20
02-18-2010	.54	9.64	67	.12	17.4	< .08	< .06	5.0	12.2	E .09
05-26-2010	.54	9.46	73	.32	15.7	E .07	< .06	3.4	11.0	E .08
09-08-2010	.83	10.5	102	.22	16.4	< .08	< .06	3.8	19.0	.11

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 4 of 5

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; μS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Orthophos- phate, water, filtered, mg/L as P (00671)	Particulate nitrogen, suspended in water, mg/L (49570)	Phosphorus, water, filtered, mg/L as P (00666)	Phosphorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, filtered, mg/L (00602)	Total nitrogen, water, unfiltered, mg/L (00600)	Organic carbon, suspended sediment, total, mg/L (00689)
12-03-2009	.018	.14	.014	.47	.018	.099	.35	.82	5.20
02-18-2010	.017	.20	E .006	< .03	E .005	E .006	E .29	< .32	.12
05-26-2010	< .010	.12	--	.06	E .005	.012	E .20	E .26	.29
09-08-2010	< .010	< .04	--	E .02	E .004	.009	< .15	< .17	.22

01440000 FLAT BROOK NEAR FLATBROOKVILLE, NJ—Continued**WATER-QUALITY DATA
WATER YEAR OCTOBER
2009 TO SEPTEMBER
2010**

Part 5 of 5

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; μS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Organic carbon, water, filtered, mg/L (00681)
12-03-2009	3.9
02-18-2010	1.2
05-26-2010	2.2
09-08-2010	1.4