



Water-Data Report 2007

01401000 STONY BROOK AT PRINCETON, NJ

RARITAN RIVER BASIN

LOCATION.--Lat 40°19'59", long 74°40'55" referenced to North American Datum of 1983, Princeton Township, Mercer County, NJ, Hydrologic Unit 02030105, on right bank, 10 ft downstream from bridge on U.S. Highway 206, 1.6 mi southwest of Princeton, and 4.0 mi upstream from Carnegie Lake.

DRAINAGE AREA.--44.5 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1953 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 62.23 ft above NGVD of 1929 (levels from New Jersey Geological Survey benchmark).

REMARKS.--Records good, except for estimated daily discharges, which are fair. Since July 1959 some regulation by several small reservoirs, combined capacity, 49,800,000 gal. Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 28	1515	2,330	6.19
Nov 8	---	4,750	^a 9.38
Jan 1	1330	2,750	6.77
Mar 2	1045	3,440	7.70
Apr 12	1445	1,980	5.69
Apr 15	2000	*5,760	*10.55
Apr 27	1430	2,650	6.63

^a Peak obtained from crest-stage gage.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES
[*e*, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	14	49	47	929	22	49	43	72	11	12	10	2.4
2	16	60	92	251	24	1,440	51	85	31	8.2	7.4	1.9
3	10	59	50	113	e25	215	46	66	16	6.3	5.9	1.6
4	7.9	41	40	90	e20	111	245	50	115	5.6	5.1	1.4
5	109	33	35	81	e17	76	173	42	37	11	4.5	1.3
6	35	30	31	91	e16	e51	80	35	17	70	3.9	1.2
7	22	28	31	74	e14	e39	60	30	12	25	3.8	1.1
8	17	e2,140	27	909	e13	36	52	27	9.7	11	3.9	1.1
9	13	525	22	222	e12	32	46	26	8.5	7.6	3.5	0.99
10	11	155	22	116	13	28	39	24	6.6	5.8	4.0	0.93
11	57	98	21	85	12	50	35	23	5.7	14	4.6	4.1
12	391	85	20	75	12	48	608	20	7.2	12	4.2	5.5
13	63	157	26	71	13	42	199	34	17	6.2	3.3	4.5
14	35	300	37	81	13	44	98	22	11	4.6	2.8	2.7
15	25	118	33	78	15	50	2,950	17	7.6	3.9	2.3	2.4
16	21	136	29	71	11	188	3,330	23	5.9	3.2	2.3	1.7
17	111	527	25	53	11	121	358	49	5.1	2.8	3.2	1.4
18	445	117	23	44	12	102	177	25	4.5	12	4.0	1.3
19	85	85	22	49	10	99	124	18	4.1	96	5.1	1.2
20	173	69	20	47	11	357	101	16	54	16	10	1.2
21	124	57	19	36	18	315	83	15	22	8.5	47	1.3
22	60	50	23	36	40	379	69	12	12	5.3	34	1.3
23	45	170	551	35	54	464	60	11	7.6	28	16	1.5
24	36	383	119	33	23	286	53	9.8	5.4	31	9.7	1.3
25	30	108	100	32	19	155	45	8.9	4.7	12	7.1	1.2
26	26	79	444	22	29	107	49	8.1	4.4	7.8	5.3	1.2
27	22	67	119	28	71	90	1,210	7.1	4.2	5.8	4.2	1.0
28	938	59	76	27	96	75	266	9.0	212	8.3	3.8	0.79
29	192	52	62	e27	---	59	123	9.4	65	100	2.9	0.74
30	82	47	54	e25	---	51	92	6.7	21	68	2.5	0.66
31	61	---	47	24	---	47	---	6.1	---	17	2.5	---
Total	3,276.9	5,884	2,267	3,855	646	5,206	10,865	807.1	744.2	624.9	228.8	50.91
Mean	106	196	73.1	124	23.1	168	362	26.0	24.8	20.2	7.38	1.70
Max	938	2,140	551	929	96	1,440	3,330	85	212	100	47	5.5
Min	7.9	28	19	22	10	28	35	6.1	4.1	2.8	2.3	0.66
Cfsm	2.38	4.41	1.64	2.79	0.52	3.77	8.14	0.59	0.56	0.45	0.17	0.04
In.	2.74	4.92	1.90	3.22	0.54	4.35	9.08	0.67	0.62	0.52	0.19	0.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	33.8	57.1	92.9	97.7	104	132	109	61.5	38.6	31.7	28.4	29.9
Max	236	212	363	319	203	337	362	216	259	216	240	210
(WY)	(2006)	(1973)	(1997)	(1996)	(1971)	(1994)	(2007)	(1989)	(2003)	(1975)	(1955)	(1999)
Min	1.00	1.50	1.94	3.22	15.8	25.7	20.9	8.95	2.67	0.56	0.14	1.31
(WY)	(1958)	(1966)	(1999)	(1981)	(2002)	(2006)	(1985)	(1963)	(1957)	(1957)	(1966)	(1970)

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	Calendar Year 2006	Water Year 2007	Water Years 1954 - 2007
Annual total	29,900.6	34,455.81	
Annual mean	81.9	94.4	67.9
Highest annual mean			118
Lowest annual mean			28.5
Highest daily mean	2,140	Nov 8	3,330
Lowest daily mean	1.4	Aug 22	0.66
Annual seven-day minimum	2.4	Aug 13	0.98
Maximum peak flow			5,760
Maximum peak stage			Apr 15
Instantaneous low flow			10.55
Annual runoff (cfsm)	1.84	2.12	14.26
Annual runoff (inches)	25.00	28.80	0.00
10 percent exceeds	154	162	Aug 5, 1966
50 percent exceeds	31	28	0.00
90 percent exceeds	8.6	3.3	Aug 5, 1966
			^a Aug 28, 1971
			1.53
			20.72
			144
			22
			2.1

^a From rating extended above 4,000 ft³/s on basis of contracted-opening measurement of peak flow.

