



Water-Data Report 2010

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 fair, except for estimated daily discharges, which are poor. 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 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 25	0215	3,080	7.49
Oct 28	1015	1,870	5.65
Dec 9	1500	4,030	8.84
Dec 27	0215	3,260	7.75
Jan 25	1800	3,540	8.16
Mar 14	0100	*5,330	*10.45
Mar 23	0445	2,150	6.09
Mar 29	1000	2,900	7.23
Mar 30	1900	3,610	8.25

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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	23	111	46	100	46	150	197	31	48	0.95	0.15	0.19
2	19	85	35	110	41	226	138	28	21	0.87	0.16	0.18
3	18	66	419	57	42	291	111	41	16	0.68	0.14	0.14
4	18	55	119	54	39	302	92	53	13	0.50	0.11	0.10
5	14	47	89	49	36	263	77	31	11	0.47	0.11	0.08
6	12	41	138	45	31	228	68	25	8.5	0.37	0.11	0.05
7	11	36	97	40	41	208	61	22	7.1	0.27	0.11	0.11
8	10	33	83	37	34	201	54	20	5.9	0.27	0.11	0.10
9	9.1	31	1,470	30	30	173	92	17	7.8	3.0	0.11	0.03
10	9.0	30	262	26	26	135	66	15	20	2.1	0.09	0.02
11	8.3	29	117	28	45	112	48	14	15	1.4	0.05	0.02
12	7.3	28	83	27	40	111	43	31	9.8	0.79	0.03	0.07
13	6.9	30	272	25	32	e2,080	40	29	9.4	8.2	0.03	0.31
14	6.8	43	353	23	30	e2,250	38	31	17	26	0.03	0.80
15	9.5	44	131	23	28	566	36	102	14	13	0.03	0.54
16	26	34	98	25	31	277	34	28	9.2	6.7	2.6	0.44
17	37	29	76	46	29	156	36	20	7.5	4.6	4.4	4.7
18	61	26	61	188	30	121	33	50	7.7	3.2	0.89	1.2
19	30	24	51	92	33	97	30	89	6.2	2.6	0.67	0.86
20	19	139	55	63	44	80	27	39	5.0	2.0	0.48	1.2
21	15	82	62	46	46	68	26	27	4.3	2.8	0.40	0.78
22	13	48	51	42	53	132	30	22	3.7	2.3	0.38	0.66
23	11	39	42	36	140	934	26	19	3.4	2.1	1.3	0.56
24	217	36	42	33	646	176	23	21	3.1	1.8	2.4	0.48
25	730	35	43	e1,100	447	114	41	19	2.9	1.7	1.4	0.51
26	115	41	1,490	348	254	101	177	17	2.4	2.4	1.4	0.73
27	210	38	1,270	140	163	81	224	17	1.9	2.0	1.3	2.7
28	941	32	202	106	140	64	68	31	1.7	1.4	0.91	2.6
29	257	27	128	76	---	1,130	45	24	1.3	0.85	0.64	2.6
30	125	29	86	52	---	e1,540	36	18	1.1	0.49	0.42	9.1
31	99	---	85	55	---	683	---	28	---	0.28	0.33	---
Total	3,087.9	1,368	7,556	3,122	2,597	13,050	2,017	959	284.9	96.09	21.29	31.86
Mean	99.6	45.6	244	101	92.8	421	67.2	30.9	9.50	3.10	0.69	1.06
Max	941	139	1,490	1,100	646	2,250	224	102	48	26	4.4	9.1
Min	6.8	24	35	23	26	64	23	14	1.1	0.27	0.03	0.02
Cfsm	2.24	1.02	5.48	2.26	2.08	9.46	1.51	0.70	0.21	0.07	0.02	0.02
In.	2.58	1.14	6.32	2.61	2.17	10.91	1.69	0.80	0.24	0.08	0.02	0.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2010, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	34.5	55.8	97.2	96.5	104	135	107	61.9	39.1	31.2	30.9	29.5
Max	236	212	363	319	203	421	362	216	259	216	240	210
(WY)	(2006)	(1973)	(1997)	(1996)	(1971)	(2010)	(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	1.06
(WY)	(1958)	(1966)	(1999)	(1981)	(2002)	(2006)	(1985)	(1963)	(1957)	(1957)	(1966)	(2010)

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	Calendar Year 2009	Water Year 2010		Water Years 1954 - 2010	
Annual total	35,022.0		34,191.04		
Annual mean	96.0		93.7		68.4
Highest annual mean				118	1996
Lowest annual mean				28.5	1966
Highest daily mean	2,080	Aug 22	^a 2,250	Mar 14	3,730
Lowest daily mean	6.8	Jul 11	0.02	Sep 10	0.00
Annual seven-day minimum	8.1	Oct 9	0.05	Aug 9	0.00
Maximum peak flow			5,330	Mar 14	^b 8,960
Maximum peak stage			^c 10.45	Mar 14	14.26
Instantaneous low flow			0.02	Sep 9	0.00
Annual runoff (cfsm)	2.16		2.11		1.54
Annual runoff (inches)	29.28		28.58		20.90
10 percent exceeds	145		181		144
50 percent exceeds	39		30		23
90 percent exceeds	14		0.43		2.1

^a Estimated.^b From rating extended above 4,000 ft³/s on basis of contracted-opening measurement of peak flow.^c From peak obtained from crest-stage gage.