



Water-Data Report 2007

01403540 STONY BROOK AT WATCHUNG, NJ

RARITAN RIVER BASIN

LOCATION.--Lat 40°38'11", long 74°27'05" referenced to North American Datum of 1983, Watchung Borough, Somerset County, NJ, Hydrologic Unit 02030105, on right bank at Watchung Borough Administration Building in Watchung, 150 ft downstream from bridge on Mountain Boulevard, 400 ft downstream from East Branch Stony Brook, and 2.9 mi upstream from confluence with Green Brook.

DRAINAGE AREA.--5.51 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1974 to current year.

REVISED RECORDS.--WDR NJ-86-1: 1973 (P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 162.24 ft above NGVD of 1929. Prior to Oct. 1, 1996, at datum 10.00 ft higher.

REMARKS.--Records fair, except for estimated daily discharges, which are poor. Occasional regulation from Watchung and Best Lakes directly upstream from station and other small lakes. Several measurements of water temperature were made during the year. Satellite gage-height and rain gage telemetry at station. Channel significantly enlarged and modified in 1991, and modified again in 1997 when the right wall was replaced.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug 2, 1973 reached a stage of 24.5 ft (from floodmark; adjusted to current datum), discharge, 10,500 ft³/s (highest since 1896; from slope-area measurements of peak flow).

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 5	0030	311	12.05
Oct 11	2100	785	13.08
Oct 17	2100	459	12.44
Oct 28	0645	641	12.82
Nov 8	1245	891	13.26
Jan 1	0815	513	12.56
Jan 8	0200	332	12.11
Mar 2	0745	954	13.36
Apr 12	1045	414	12.33
Apr 15	2045	1,050	13.51
Apr 27	0400	*2,600	*15.24
Jul 5	0230	630	12.80
Aug 8	0545	560	12.66
Aug 10	0830	531	12.60

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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	e15	6.7	7.9	112	3.6	5.6	8.3	16	2.6	1.6	2.1	1.8
2	e4.0	11	8.0	19	3.7	249	13	46	2.6	1.4	1.8	1.6
3	3.2	8.0	6.3	13	3.9	19	9.3	16	4.4	1.3	1.7	1.6
4	4.9	6.7	5.6	10	3.3	11	49	13	37	1.4	1.9	1.5
5	35	6.1	5.1	9.9	3.0	8.7	18	11	6.7	47	1.6	1.5
6	4.6	5.8	4.8	12	2.9	7.0	12	10	3.8	8.7	1.6	1.5
7	3.5	5.4	4.8	9.5	2.8	6.6	11	8.9	3.0	4.2	1.5	1.7
8	3.1	210	4.4	126	2.8	6.4	9.3	8.2	2.6	2.9	53	1.6
9	2.8	29	4.2	22	3.0	5.8	8.6	7.8	2.4	2.4	4.3	1.4
10	2.7	13	4.2	15	3.1	5.7	8.1	7.2	2.3	2.2	71	1.6
11	73	11	4.2	12	3.0	11	7.5	7.7	2.1	7.8	7.8	9.5
12	25	13	4.0	11	2.8	7.1	76	6.8	1.9	5.7	4.4	3.4
13	5.6	22	4.4	11	2.6	6.6	17	7.4	2.0	2.7	3.1	1.9
14	4.1	19	4.5	11	2.9	6.5	12	5.7	1.9	2.2	2.4	1.7
15	3.4	12	3.9	10	2.6	6.5	363	5.1	1.8	1.9	2.2	1.7
16	3.0	34	3.8	9.1	2.5	17	155	10	1.8	1.9	2.1	1.6
17	68	24	3.5	7.5	2.4	11	41	9.0	1.8	1.8	7.9	1.4
18	27	14	3.5	7.0	2.5	9.6	26	5.8	1.6	2.5	5.6	1.4
19	11	11	3.4	7.2	2.4	8.6	21	5.2	1.8	2.6	3.0	1.4
20	33	9.7	3.3	6.5	2.4	27	16	6.5	6.6	2.0	3.6	1.4
21	13	8.6	3.4	5.6	5.1	19	14	6.4	3.6	1.7	21	1.3
22	9.8	8.2	4.3	5.4	15	49	12	4.8	4.7	1.5	8.8	3.1
23	10	31	54	5.3	7.1	59	13	4.5	2.2	50	5.0	2.3
24	7.9	22	10	5.1	3.7	26	9.2	3.8	1.8	8.3	3.9	1.5
25	6.7	12	14	4.8	3.3	18	8.8	3.5	1.7	4.0	3.4	1.4
26	6.1	10	27	4.2	3.7	16	8.4	3.3	1.6	3.0	3.1	1.3
27	5.9	9.1	9.5	4.0	5.3	14	345	3.1	1.8	2.7	2.7	1.3
28	214	8.1	7.2	4.1	7.6	12	32	3.2	5.2	2.7	2.4	1.2
29	18	7.7	6.3	4.2	---	10	21	3.0	2.7	2.6	2.2	1.1
30	11	7.3	5.7	3.7	---	9.5	18	2.8	2.0	2.7	2.0	1.1
31	11	---	5.3	3.7	---	8.9	---	2.6	---	2.4	2.0	---
Total	645.3	595.4	240.5	490.8	109.0	677.1	1,362.5	254.3	118.0	185.8	239.1	56.8
Mean	20.8	19.8	7.76	15.8	3.89	21.8	45.4	8.20	3.93	5.99	7.71	1.89
Max	214	210	54	126	15	249	363	46	37	50	71	9.5
Min	2.7	5.4	3.3	3.7	2.4	5.6	7.5	2.6	1.6	1.3	1.5	1.1
Cfsm	3.78	3.60	1.41	2.87	0.71	3.96	8.24	1.49	0.71	1.09	1.40	0.34
In.	4.36	4.02	1.62	3.31	0.74	4.57	9.20	1.72	0.80	1.25	1.61	0.38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	7.16	9.48	12.1	13.5	11.7	16.9	16.1	11.1	7.03	6.24	4.14	5.45
Max	33.3	25.6	37.1	37.5	20.1	45.0	45.4	37.8	29.1	32.1	18.4	30.8
(WY)	(2006)	(1996)	(1984)	(1979)	(1988)	(1994)	(2007)	(1989)	(2003)	(1975)	(2000)	(1999)
Min	0.81	1.48	1.21	1.08	1.86	4.03	3.89	2.83	1.80	0.55	0.75	0.87
(WY)	(1995)	(2002)	(1999)	(1981)	(2002)	(2006)	(1985)	(2005)	(1999)	(1999)	(1998)	(1983)

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	Calendar Year 2006	Water Year 2007	Water Years 1975 - 2007
Annual total	3,987.4	4,974.6	
Annual mean	10.9	13.6	10.1
Highest annual mean			16.0
Lowest annual mean			3.96
Highest daily mean	214	Oct 28	814
Lowest daily mean	1.1	Aug 23	0.00
Annual seven-day minimum	1.3	Aug 19	0.06
Maximum peak flow		363	^a 5,380
Maximum peak stage		Apr 15	^b 20.40
Instantaneous low flow		363	15.24
Annual runoff (cfsm)	1.98	Apr 27	Sep 16, 1999
Annual runoff (inches)	26.92	1.1	Sep 18, 1982
10 percent exceeds	23	Sep 28-30	Sep 13, 1982
50 percent exceeds	5.5	22	0.06
90 percent exceeds	2.5	5.4	Sep 16, 1999
		1.7	24.80
			20
			4.6
			1.2

^a From rating curve extended above 500 ft³/s on basis of step-backwater computation of peak flow.

^b Adjusted to current datum.

