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 mi^2.

SURFACE-WATER RECORDS

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

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

GAGE.--Water-stage and precipitation 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 good, except daily discharges below 1.0 ft^3/s, which are fair. 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. Channel significantly enlarged and modified in 1991, and modified again in 1997 when the right wall was replaced. Satellite telemetry at station.

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 ft^3/s (highest since 1896; from slope-area measurements of peak flow).

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 24	2000	711	12.95
Dec 9	0930	1,050	13.50
Dec 26	1900	414	12.33
Dec 27	0100	383	12.25
Jan 25	1200	594	12.73
Mar 13	2245	*1,960	*14.80
Mar 14	1100	363	12.26
Mar 23	0030	316	12.11
Mar 29	0515	488	12.60
Mar 30	1215	586	12.83

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.28	6.0	5.0	12	6.6	20	29	7.0	3.0	0.92	1.5	1.1
2	0.56	5.0	3.9	11	6.4	22	23	6.4	3.6	0.83	1.3	1.2
3	1.3	4.4	44	8.6	6.5	29	19	51	2.4	0.91	0.89	0.97
4	1.5	3.8	8.1	7.6	6.1	28	16	13	2.2	0.95	0.90	0.94
5	2.0	3.7	7.3	7.1	5.7	26	14	9.4	2.0	0.85	0.77	0.83
6	2.0	3.3	13	6.6	5.9	24	13	7.9	1.9	0.85	0.68	0.83
7	2.3	3.1	7.8	6.1	5.3	25	11	6.5	1.6	0.82	0.64	0.84
8	2.0	3.0	6.6	5.9	4.9	27	9.8	6.4	1.6	0.84	0.66	0.82
9	1.9	2.8	211	5.3	4.7	23	18	5.4	4.1	1.0	0.68	0.94
10	2.0	2.7	22	4.7	6.0	19	9.9	4.7	7.9	1.1	0.73	0.78
11	1.9	2.7	11	4.6	5.7	17	8.4	4.6	3.1	0.99	0.77	0.77
12	1.9	2.6	9.3	4.6	5.0	26	7.5	12	2.3	0.91	0.85	1.0
13	1.9	3.0	50	4.3	4.7	715	6.9	6.2	2.8	1.5	0.81	1.4
14	1.8	7.6	21	4.2	4.6	231	6.5	7.3	3.2	3.2	0.71	1.4
15	3.9	4.7	14	4.1	4.5	73	9.5	6.6	2.3	1.8	0.93	0.99
16	4.8	3.3	11	4.1	5.2	42	4.8	4.3	1.9	1.2	1.00	3.0
17	4.4	3.2	8.9	9.5	4.8	29	14	6.9	7.1	0.96	0.81	3.4
18	4.2	4.2	8.0	14	4.6	23	7.3	25	2.8	0.86	0.70	1.5
19	3.1	3.8	8.0	7.4	5.2	20	6.1	11	1.9	0.80	0.67	1.2
20	2.5	20	8.1	7.3	6.5	15	5.5	6.5	1.7	0.84	0.64	1.0
21	2.4	6.5	7.2	4.4	7.0	14	5.9	5.0	1.5	0.80	0.59	0.90
22	2.3	4.8	6.6	5.2	7.0	35	6.1	4.2	3.4	0.78	20	1.6
23	2.4	4.2	6.3	4.8	64	69	4.9	4.3	3.9	0.77	11	2.3
24	76	4.0	5.8	4.7	80	20	4.2	4.0	1.8	0.76	5.4	1.4
25	14	3.9	6.0	124	41	15	25	3.6	1.5	1.3	7.1	1.1
26	6.3	4.1	138	23	25	16	46	3.2	1.3	1.2	3.3	0.87
27	16	3.8	101	13	18	13	23	3.0	1.2	0.84	2.0	3.5
28	72	3.3	22	11	16	12	12	3.1	1.3	0.77	1.7	5.6
29	13	3.1	14	9.0	---	114	9.2	3.0	1.1	2.2	1.5	3.6
30	7.4	4.0	11	7.6	---	200	7.9	2.6	0.94	1.3	1.2	33
31	5.6	---	11	7.1	---	56	---	2.4	---	0.85	1.2	---
Total	263.64	134.6	806.9	352.8	366.9	1,998	383.4	246.5	77.34	33.70	71.63	78.78
Mean	8.50	4.49	26.0	11.4	13.1	64.5	12.8	7.95	2.58	1.09	2.31	2.63
Max	76	20	211	124	80	715	46	51	7.9	3.2	20	33
Min	0.28	2.6	3.9	4.1	4.5	12	4.2	2.4	0.94	0.76	0.59	0.77
Cfsm	1.54	0.81	4.72	2.07	2.38	11.7	2.32	1.44	0.47	0.20	0.42	0.48
In.	1.78	0.91	5.45	2.38	2.48	13.49	2.59	1.66	0.52	0.23	0.48	0.53

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2010, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	7.09	9.14	12.8	13.3	12.0	18.0	15.7	11.1	6.92	6.02	4.22	5.48
Max	33.3	25.6	37.1	37.5	24.8	64.5	45.4	37.8	29.1	32.1	18.4	30.8
(WY)	(2006)	(1996)	(1984)	(1979)	(2008)	(2010)	(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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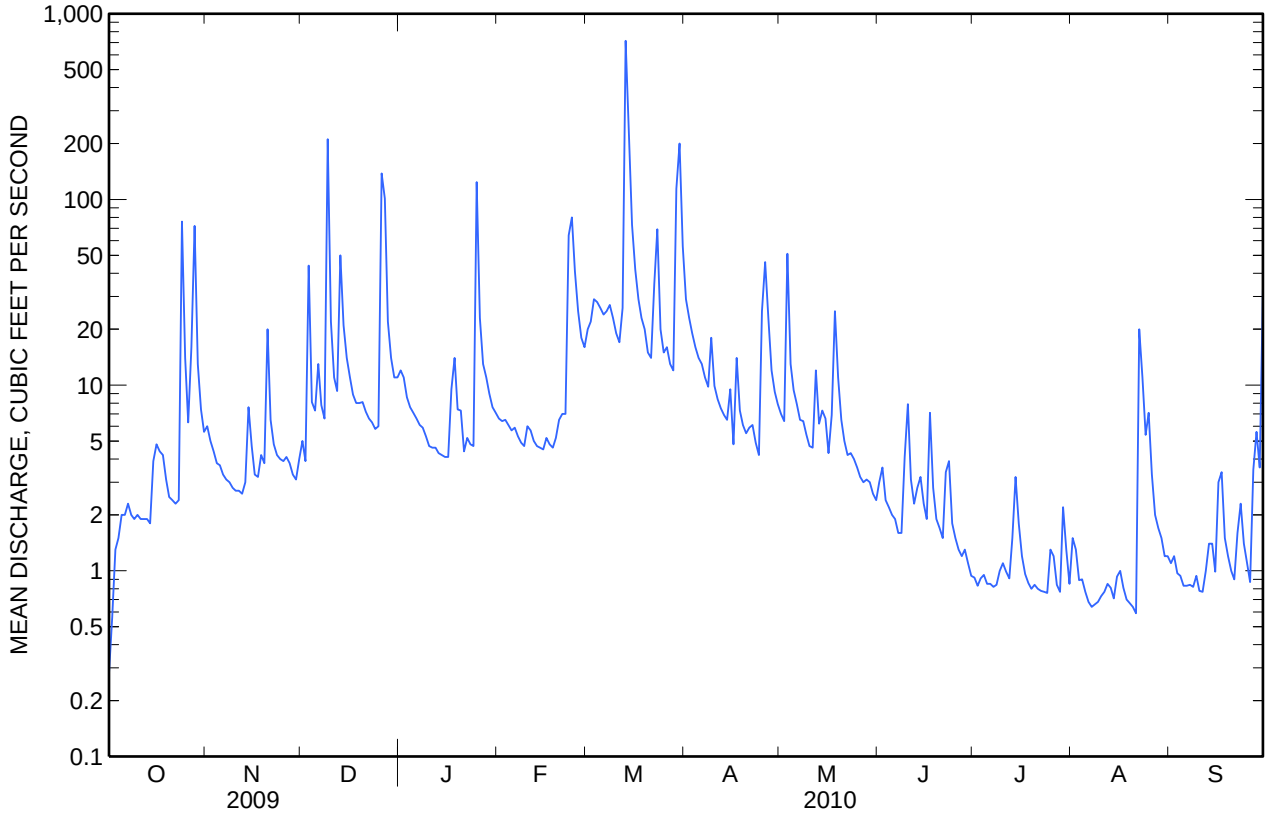
SUMMARY STATISTICS

	Calendar Year 2009		Water Year 2010		Water Years 1975 - 2010	
Annual total	3,528.40		4,814.19			
Annual mean	9.67		13.2		10.1	
Highest annual mean					16.0	1984
Lowest annual mean					3.96	2002
Highest daily mean	211	Dec 9	715	Mar 13	814	Sep 16, 1999
Lowest daily mean	0.26	Sep 30	0.28	Oct 1	0.00	Sep 18, 1982
Annual seven-day minimum	1.1	Sep 30	0.70	Aug 5	0.06	Sep 13, 1982
Maximum peak flow			[a]1,960	Mar 13	[a]5,380	Sep 16, 1999
Maximum peak stage			14.80	Mar 13	[b]20.40	Jul 14, 1975
Instantaneous low flow			0.13	May 17	0.00	Sep 13, 1982
Annual runoff (cfsm)	1.75		2.39		1.84	
Annual runoff (inches)	23.82		32.50		24.98	
10 percent exceeds	16		23		20	
50 percent exceeds	5.4		4.6		4.7	
90 percent exceeds	2.3		0.85		1.2	

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

[b] Adjusted to current datum.