



Water-Data Report 2009

**01381500 WHIPPANY RIVER AT MORRISTOWN, NJ**

PASSAIC RIVER BASIN

LOCATION.--Lat 40°48'26", long 74°27'25" referenced to North American Datum of 1983, Hanover Township, Morris County, NJ, Hydrologic Unit 02030103, on left bank at Morristown sewage-treatment plant, 0.8 mi northeast of Morristown, and 9.0 mi upstream from mouth.

DRAINAGE AREA.--29.4 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--August 1921 to current year.

REVISED RECORDS.--WSP 781: Drainage area. WSP 1552: 1922-23(M), 1924, 1925-27(M) 1928-29, 1930-32(M), 1933-34. WDR NJ-1974: 1965. WDR NJ-84-1: 1971(M).

GAGE.--Water-stage recorder and crest-stage gage. Concrete control since July 1, 1936. Datum of gage is 260.01 ft above NGVD of 1929 (levels from New Jersey Geological Survey benchmark). Prior to July 16, 1930, nonrecording gage at same site and datum.

REMARKS.--Records good, except for estimated daily discharges, which are fair. Flow occasionally regulated by operation of gates in Pocahontas Dam, 2.5 miles upstream of gage and Speedwell Lake 3.4 mi upstream of gage. Storm sewers entering the river in Morristown can cause sharp rises in stage. Diurnal fluctuations at low flow possibly due to upstream sewage-treatment plants effluent patterns. 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 600 ft<sup>3</sup>/s and (or) maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 12	0500	1,170	5.76
May 7	0345	615	4.51
Jun 9	0815	748	4.85
Jul 17	2215	615	4.51
Aug 2	1330	*1,240	*5.89

## 01381500 WHIPPANY RIVER AT MORRISTOWN, NJ—Continued

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**  
**DAILY MEAN VALUES**  
[*e*, estimated]

<b>Day</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>
<b>1</b>	26	23	85	59	39	35	41	33	28	47	67	26
<b>2</b>	23	21	46	56	43	38	66	40	28	215	352	24
<b>3</b>	22	21	36	54	48	35	155	35	60	113	209	24
<b>4</b>	21	21	32	51	41	33	148	45	177	53	47	24
<b>5</b>	27	22	31	51	e38	33	54	57	88	45	39	23
<b>6</b>	24	34	29	54	35	36	58	94	92	42	34	22
<b>7</b>	21	30	29	141	35	43	56	355	45	41	32	22
<b>8</b>	20	25	27	110	69	42	44	103	36	43	29	23
<b>9</b>	21	25	27	59	61	51	41	100	345	37	31	23
<b>10</b>	21	25	62	51	47	45	39	63	100	36	33	22
<b>11</b>	20	21	167	53	57	39	47	50	84	34	31	31
<b>12</b>	20	20	739	48	72	35	44	46	102	48	33	56
<b>13</b>	20	33	128	46	53	33	38	43	78	34	82	39
<b>14</b>	20	57	71	45	43	32	39	44	112	32	45	27
<b>15</b>	20	132	63	42	41	32	53	48	109	30	32	24
<b>16</b>	20	134	62	e49	39	32	42	43	67	30	28	23
<b>17</b>	20	48	87	e42	37	31	38	70	56	53	27	23
<b>18</b>	21	36	80	48	39	31	37	50	238	80	28	23
<b>19</b>	21	32	63	44	54	34	35	42	225	33	32	21
<b>20</b>	21	30	61	37	45	34	45	37	135	30	26	21
<b>21</b>	23	28	57	35	38	30	69	36	162	65	36	21
<b>22</b>	22	27	51	35	38	30	61	34	99	46	148	21
<b>23</b>	22	26	44	37	37	29	46	32	77	35	79	22
<b>24</b>	23	27	96	40	34	28	41	39	69	34	39	22
<b>25</b>	50	65	240	36	34	28	39	33	65	31	30	21
<b>26</b>	91	42	93	35	35	33	38	30	62	38	28	20
<b>27</b>	28	32	75	35	36	44	37	31	59	38	27	58
<b>28</b>	193	29	118	62	40	33	35	32	51	31	35	33
<b>29</b>	150	28	111	77	---	47	32	63	47	74	44	25
<b>30</b>	41	46	74	44	---	52	31	37	47	64	34	22
<b>31</b>	27	---	67	38	---	33	---	31	---	87	28	---
<b>Total</b>	1,099	1,140	2,951	1,614	1,228	1,111	1,549	1,796	2,943	1,619	1,765	786
<b>Mean</b>	35.5	38.0	95.2	52.1	43.9	35.8	51.6	57.9	98.1	52.2	56.9	26.2
<b>Max</b>	193	134	739	141	72	52	155	355	345	215	352	58
<b>Min</b>	20	20	27	35	34	28	31	30	28	30	26	20
<b>Cfsm</b>	1.21	1.29	3.24	1.77	1.49	1.22	1.76	1.97	3.34	1.78	1.94	0.89
<b>In.</b>	1.39	1.44	3.73	2.04	1.55	1.41	1.96	2.27	3.72	2.05	2.23	0.99

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2009, BY WATER YEAR (WY)**

	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>
<b>Mean</b>	34.7	46.3	56.4	60.1	64.7	86.4	87.0	65.8	49.4	39.0	35.6	35.3
<b>Max</b>	133	132	185	211	147	215	231	237	214	186	158	123
(WY)	(1997)	(1933)	(1997)	(1979)	(1973)	(1936)	(1983)	(1989)	(1972)	(1975)	(1942)	(1971)
<b>Min</b>	8.72	13.4	14.2	16.9	20.3	28.1	30.2	24.4	14.6	10.3	8.02	7.25
(WY)	(1931)	(1937)	(1940)	(1922)	(2002)	(1981)	(1985)	(1941)	(1965)	(1965)	(1932)	(1932)

**01381500 WHIPPANY RIVER AT MORRISTOWN, NJ—Continued****SUMMARY STATISTICS**

	<b>Calendar Year 2008</b>	<b>Water Year 2009</b>		<b>Water Years 1922 - 2009</b>	
<b>Annual total</b>	23,741	19,601			
<b>Annual mean</b>	64.9	53.7		55.0	
<b>Highest annual mean</b>				98.5	1984
<b>Lowest annual mean</b>				23.3	1965
<b>Highest daily mean</b>	739	Dec 12	739	Dec 12	1,510 Aug 28, 1971
<b>Lowest daily mean</b>	13	Aug 27	20	Many days	4.2 Sep 10, 1932
<b>Annual seven-day minimum</b>	14	Aug 23	20	Oct 11	4.7 Sep 9, 1932
<b>Maximum peak flow</b>			1,240	Aug 2	2,800 Aug 28, 1971
<b>Maximum peak stage</b>			5.89	Aug 2	8.60 Aug 28, 1971
<b>Instantaneous low flow</b>			19	Many days	2.8 Aug 27, 1932
<b>Annual runoff (cfsm)</b>	2.21	1.83			1.87
<b>Annual runoff (inches)</b>	30.04	24.80			25.42
<b>10 percent exceeds</b>	125	92			105
<b>50 percent exceeds</b>	44	38			37
<b>90 percent exceeds</b>	19	23			16

