



Water-Data Report 2009

**01387500 RAMAPO RIVER NEAR MAHWAH, NJ**

PASSAIC RIVER BASIN

LOCATION.--Lat 41°05'53", long 74°09'46" referenced to North American Datum of 1983, Mahwah Township, Bergen County, NJ, Hydrologic Unit 02030103, on left bank 350 ft downstream from State Highway 17, 0.6 mi downstream from Mahwah River, 1.0 mi west of Mahwah, and 1.2 mi downstream of New York-New Jersey State line.

DRAINAGE AREA.--120 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--October 1902 to December 1906, September 1922 to current year. October 1902 to February 1905 monthly discharge only, published in WSP 1302. Figures of daily discharge Feb 10, 1903 to Dec 31, 1904, published in WSP 97 and 125, are unreliable and should not be used. Gage-height records for 1903-14 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 781: 1904(M). WSP 1031: 1938, 1940. WSP 1552: 1923(M), 1924, 1925-26(M), 1927-28, 1933, 1937. WRD-NJ 1971: 1968(M). WDR NJ-82-1: Drainage area. WDR-NJ-87-1: 1986.

GAGE.--Water-stage recorder. Datum of gage is 253.10 ft above NGVD of 1929. Prior to Dec 31, 1906, non-recording gage on former bridge at site 250 ft downstream at different datum. Sep 1, 1922 to Dec 23, 1936, water-stage recorder just below former bridge at present datum.

REMARKS.--Records good, except for estimated daily discharges, which are fair. Flow affected by diversion from United Water-New York well field upstream from station (see 01387420). Occasional regulation from lakes and ponds upstream from the station. 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 1,400 ft<sup>3</sup>/s and (or) maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 12	2200	*3,090	*8.07
No other peak greater than base discharge			

## 01387500 RAMAPO RIVER NEAR MAHWAH, 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>	e50	178	272	335	112	145	180	116	66	288	296	81
<b>2</b>	38	145	270	298	111	e144	204	132	58	349	429	71
<b>3</b>	46	129	214	273	118	e128	260	127	57	402	481	65
<b>4</b>	36	117	184	248	117	e118	358	125	106	288	280	58
<b>5</b>	42	99	171	229	e97	e110	280	129	92	212	202	53
<b>6</b>	32	122	156	218	94	e116	270	193	100	165	169	48
<b>7</b>	29	139	152	e328	90	142	314	701	74	156	136	46
<b>8</b>	26	125	135	367	117	169	258	526	62	241	117	45
<b>9</b>	27	116	119	276	160	248	224	408	296	164	97	53
<b>10</b>	29	108	177	224	149	270	202	334	267	133	177	90
<b>11</b>	25	96	402	219	167	235	200	262	266	114	263	144
<b>12</b>	24	91	2,780	197	297	210	194	220	474	130	193	179
<b>13</b>	25	95	2,170	176	347	183	166	192	336	109	195	135
<b>14</b>	23	176	976	164	280	169	146	175	275	87	216	104
<b>15</b>	23	285	641	149	237	158	149	249	423	73	160	77
<b>16</b>	24	499	534	e124	207	150	142	218	415	68	126	57
<b>17</b>	32	362	482	e114	183	141	135	378	298	91	104	54
<b>18</b>	25	269	430	129	174	135	129	288	612	230	88	51
<b>19</b>	26	219	379	134	226	137	123	219	941	120	76	47
<b>20</b>	23	185	369	129	217	138	132	181	577	85	68	43
<b>21</b>	24	165	333	119	179	129	273	156	752	170	81	40
<b>22</b>	24	144	299	110	166	121	268	134	791	171	164	40
<b>23</b>	21	127	254	106	161	112	254	122	577	117	138	39
<b>24</b>	23	116	279	104	142	104	200	110	405	90	112	37
<b>25</b>	50	176	592	e93	131	97	166	102	324	79	90	35
<b>26</b>	229	194	548	e89	126	98	149	89	275	85	75	35
<b>27</b>	163	163	436	86	127	129	138	86	341	132	66	78
<b>28</b>	380	142	487	125	152	122	129	83	279	123	70	65
<b>29</b>	707	128	567	177	---	159	122	98	215	122	155	51
<b>30</b>	381	144	471	144	---	276	112	91	207	144	148	44
<b>31</b>	235	---	397	124	---	216	---	77	---	279	102	---
<b>Total</b>	2,842	5,054	15,676	5,608	4,684	4,809	5,877	6,321	9,961	5,017	5,074	1,965
<b>Mean</b>	91.7	168	506	181	167	155	196	204	332	162	164	65.5
<b>Max</b>	707	499	2,780	367	347	276	358	701	941	402	481	179
<b>Min</b>	21	91	119	86	90	97	112	77	57	68	66	35
<b>Cfsm</b>	0.76	1.40	4.21	1.51	1.39	1.29	1.63	1.70	2.77	1.35	1.36	0.55
<b>In.</b>	0.88	1.57	4.86	1.74	1.45	1.49	1.82	1.96	3.09	1.56	1.57	0.61

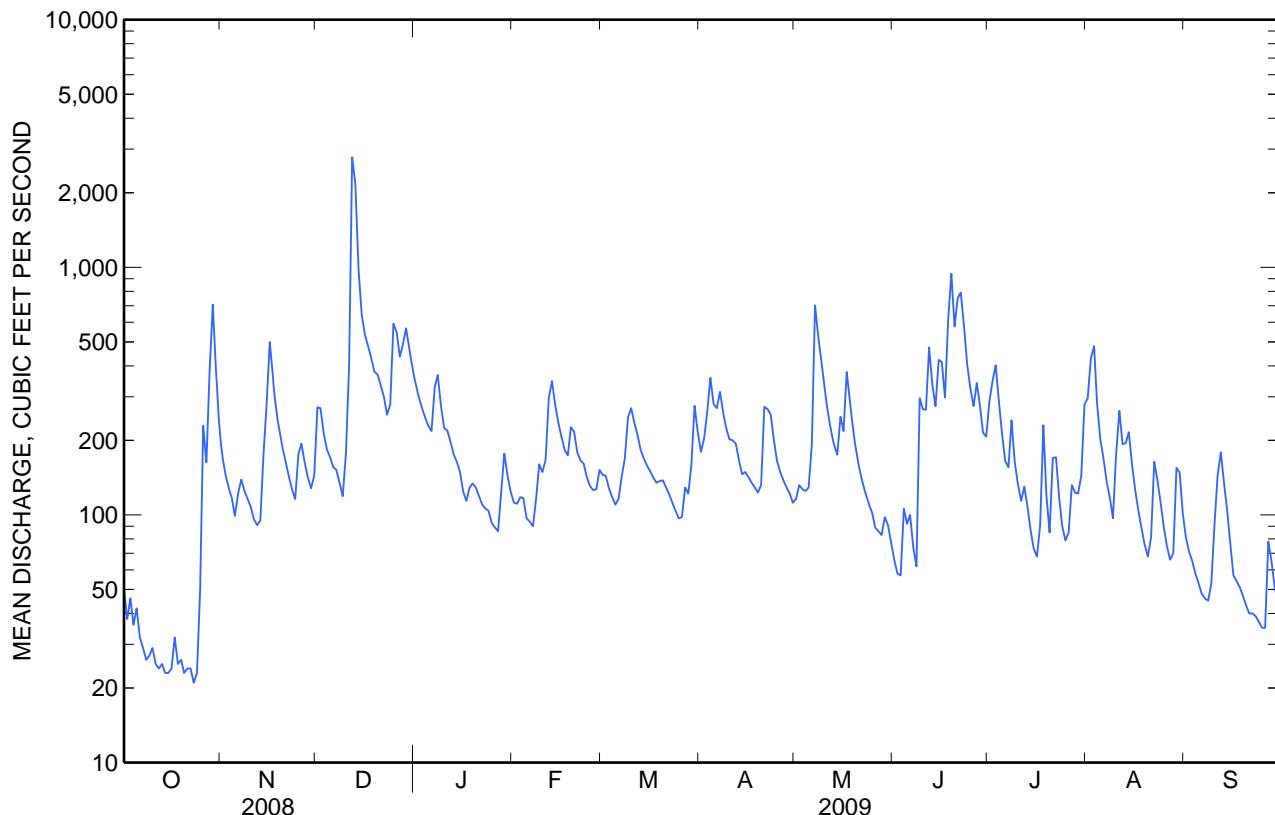
**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2009, BY WATER YEAR (WY)**

	<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>	154	226	283	269	276	434	396	252	159	96.9	98.2	114
<b>Max</b>	1,119	736	873	877	701	1,151	1,055	994	735	602	755	641
(WY)	(2006)	(1978)	(1984)	(1979)	(1970)	(1936)	(1984)	(1989)	(1972)	(1945)	(1955)	(1999)
<b>Min</b>	13.8	17.9	19.8	16.5	42.7	113	88.4	79.5	29.6	15.8	11.3	11.1
(WY)	(1942)	(2002)	(1999)	(1981)	(2002)	(2006)	(1985)	(1905)	(1999)	(1993)	(1993)	(1964)

**01387500 RAMAPO RIVER NEAR MAHWAH, NJ—Continued****SUMMARY STATISTICS**

	<b>Calendar Year 2008</b>	<b>Water Year 2009</b>		<b>Water Years 1903 - 2009</b>	
<b>Annual total</b>	88,770	72,888			
<b>Annual mean</b>	243	200		230	
<b>Highest annual mean</b>				461	1903
<b>Lowest annual mean</b>				80.0	2002
<b>Highest daily mean</b>	2,780	Dec 12	2,780	Dec 12	8,920 Oct 9, 1903
<b>Lowest daily mean</b>	20	Jul 21	21	Oct 23	1.2 Aug 12, 1993
<b>Annual seven-day minimum</b>	22	Jul 16	24	Oct 18	3.7 Sep 7, 1995
<b>Maximum peak flow</b>			3,090	Dec 12	<sup>a</sup> 15,500 Apr 5, 1984
<b>Maximum peak stage</b>			8.07	Dec 12	13.35 Apr 5, 1984
<b>Instantaneous low flow</b>			19	Oct 23	0.20 Aug 11, 1993
<b>Annual runoff (cfsm)</b>	2.02		1.66		1.91
<b>Annual runoff (inches)</b>	27.52		22.60		25.99
<b>10 percent exceeds</b>	493		378		502
<b>50 percent exceeds</b>	146		144		138
<b>90 percent exceeds</b>	24		50		26

<sup>a</sup> From rating curve extended above 6,500 ft<sup>3</sup>/s.



**01387500 RAMAPO RIVER NEAR MAHWAH, NJ—Continued****WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1963 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: February 1964 to June 1965.

REMARKS.--Cooperative Network Site Descriptor: Mixed Land Use Indicator, NJ Department of Environmental Protection Watershed Management Area 3.

COOPERATION.--Physical measurements and samples for laboratory analyses were provided by personnel of the NJ Department of Environmental Protection. Determinations of dissolved ammonia, dissolved orthophosphate, and suspended residue were performed by the NJ Department of Health and Senior Services, Environmental and Chemical Laboratory.

**WATER-QUALITY DATA  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

Part 1 of 3

[Remark codes: &lt;, less than; E, estimated.]

Date	Time	Baro-metric pressure, mm Hg (00025)	Temper-ature, air, deg C (00020)	UV absorb-ance, 254 nm, wat flt /cm (50624)	UV absorb-ance, 280 nm, wat flt /cm (61726)	Instan-taneous dis-charge, ft³/s (00061)	Dis-solved oxygen, mg/L (00300)	Dis-solved oxygen, percent of sat-uration (00301)	pH, water, unfltrd field, std units (00400)	Specif-ic conduc-tance, µS/cm @ 25 degC (00095)	Turbdty white light, det ang 90+/‐30 corctd NTRU (63676)	Dis-solved solids dried @ 180degC wat flt mg/L (70300)
Nov 05...	1000	761	16.0	.110	.085	100	9.1	81	7.5	413	10.3	1.6
Feb 02...	1045	754	9.0	.065	.050	109	14.8	106	7.7	875	1.4	1.6
May 28...	1100	753	16.0	.079	.060	83	7.2	73	7.6	564	16.2	2.5
Aug 13...	1000	758	20.5	.144	.110	191	6.8	77	7.5	393	21.8	5.8

**WATER-QUALITY DATA  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

Part 2 of 3

[Remark codes: &lt;, less than; E, estimated.]

Date	Dis-solved solids, sum of constituents, mg/L as CaCO <sub>3</sub> (70301)	Hard-ness, water, mg/L as CaCO <sub>3</sub> (00900)	Sus-pended solids, water, unfltrd mg/L (00530)	Cal-cium, water, filtrd, mg/L (00915)	Magnes-iun, water, filtrd, mg/L (00925)	Potas-sium, water, filtrd, mg/L (00935)	Sodium, water, filtrd, mg/L (00930)	ANC, wat unf fixed end pt, mg/L as CaCO <sub>3</sub> (90410)	Total carbon, suspnd sedimnt total, mg/L (00694)	Chlor-ide, water, filtrd, mg/L (00940)	Fluor-ide, water, filtrd, mg/L (00950)	Inor-ganic carbon, suspnd sediment total, mg/L (00688)	Silica, water, mg/L as SiO <sub>2</sub> (00955)
Nov 05...	E207	87	2	23.7	6.77	1.86	41.7	58	E.2	69.3	E.09	<.04	7.7
Feb 02...	E431	110	3	31.5	8.62	1.73	118	68	.3	200	E.06	<.04	6.9
May 28...	E294	120	2	34.0	9.04	2.03	57.7	76	.5	112	E.09	E.02	8.4
Aug 13...	E205	86	8	24.2	6.15	1.47	39.3	62	.5	74.6	E.08	E.02	8.1

## 01387500 RAMAPO RIVER NEAR MAHWAH, NJ—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**  
 Part 3 of 3  
 [Remark codes: <, less than; E, estimated.]

Date	Ammonia		Nitrate	Ortho-phosphate,	Partic-ulate	Phos-phorus,	Phos-phorus,	Total nitro-gen,	Total nitro-gen,	Organic carbon, suspnd	Organic carbon, water, filtrd,	
	Sulfate water, filtrd, mg/L (00945)	org-N, water, filtrd, mg/L (00623)	Ammonia water, filtrd, mg/L (00608)	nitrite water, filtrd, mg/L (00631)	water, filtrd, mg/L (00671)	nitro-gen, susp, water, mg/L (49570)	mg/L (00666)	water, filtrd, mg/L (00665)	water, filtrd, mg/L (00602)	water, unfltrd mg/L (00600)	total, mg/L (00689)	mg/L (00681)
Nov 05...	13.9	.33	.062	1.52	.102	E.02	.112	.152	1.9	E1.9	.18	3.6
Feb 02...	16.8	.33	.038	1.51	E.009	.05	.10	.12	1.8	1.9	.28	2.3
May 28...	17.1	.56	.120	1.75	.160	.07	.17	.19	2.3	2.4	.48	2.6
Aug 13...	9.89	.36	.029	.86	.083	.07	.09	.13	1.2	1.3	.48	3.8