Water-Data Report 2010

01364500 ESOPUS CREEK AT MOUNT MARION, NY

Upper Hudson Basin
Middle Hudson Subbasin

LOCATION.--Lat 42°02′16″, long 73°58′21″ referenced to North American Datum of 1927, Ulster County, NY, Hydrologic Unit 02020006, on left bank at downstream side of bridge on Glasco Turnpike, 0.8 mi east of Mount Marion, 1.6 mi downstream from Plattekill Creek, and 4.5 mi upstream from mouth.

DRAINAGE AREA.--419 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1907 to December 1913 (furnished by Board of Water Supply, City of New York), January 1914 to March 1918 (monthly discharges only, furnished by Board of Water Supply, City of New York, published in WSP 1302), March 1970 to current year. Occasional miscellaneous measurements, 1902, 1951, 1956, 1966, 1967, 1969.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 40.15 ft above NGVD of 1929. Prior to Aug. 12, 1970, nonrecording gage at same site (at different datum April 1907 to March 1918).

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow from 256 mi^2 of drainage area regulated by Ashokan Reservoir since Sept. 9, 1913. Water diverted from Schoharie Creek through Shandaken Tunnel (see station 01362230) since Feb. 3, 1924, enters Esopus Creek about 12.2 mi upstream from Ashokan Reservoir. Diversion from Plattekill Creek for water supply of village of Saugerties. Slight diversion at headwaters into Cooper Lake for water supply of Kingston. Diversions upstream during summer months for irrigation purposes. Diversions for water supply of city of New York made from Ashokan Reservoir (see 01363400). Discharge records for this station now represent the natural flow from 112 mi^2, together with conservation releases and spillage during high stages from the upstream reservoirs. Satellite and telephone gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 28,000 ft^3/s, Apr. 26, 1910, gage height, 25.10 ft, datum then in use; maximum discharge since March 1970, 30,500 ft^3/s, Apr. 3, 2005, gage height, 26.46 ft, outside gage height was 26.19 ft, from crest-stage gage; minimum discharge, 5.3 ft^3/s, Aug. 10, 1999, gage height, 11.51 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,200 ft^3/s, Mar. 24, gage height, 21.57 ft, outside gage height was 21.79 ft, from crest-stage gage; minimum discharge, 18 ft^3/s, Aug. 15, 20, 21, 22; minimum gage height, 11.90 ft, Aug. 21, 22.

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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	107	472	181	758	e1,040	1,200	6,790	173	64	30	25	69
2	95	377	170	640	e850	1,150	4,980	151	62	28	28	61
3	100	318	1,480	e600	738	1,170	3,900	143	58	26	30	55
4	115	276	1,240	e445	626	1,140	3,330	137	55	25	27	51
5	120	248	789	e320	545	1,050	2,850	131	52	24	26	45
6	116	226	624	287	e517	957	2,350	124	60	23	29	42
7	112	205	485	321	e502	900	1,970	114	62	22	26	39
8	109	190	403	419	e480	895	1,830	125	56	21	22	37
9	102	179	403	494	585	911	1,930	136	57	19	20	34
10	111	170	433	e410	641	1,020	1,800	116	83	76	22	32
11	103	160	377	e400	634	1,080	1,440	111	80	82	23	31
12	95	153	309	e395	620	1,080	1,290	136	72	53	22	31
13	92	147	305	e390	612	1,350	884	154	77	40	22	30
14	89	160	609	e390	608	2,410	565	161	82	60	21	29
15	88	191	612	404	605	2,160	453	146	79	60	20	28
16	87	180	604	402	611	1,800	386	125	70	50	28	28
17	83	165	516	397	604	1,470	389	115	65	45	28	29
18	77	155	401	522	599	1,160	405	115	60	52	24	28
19	73	149	e345	560	600	1,090	361	154	54	47	21	27
20	71	616	e320	520	604	1,190	301	147	50	49	19	26
21	70	593	e285	525	612	1,170	223	131	46	59	18	25
22	69	426	e245	511	604	1,210	209	116	45	74	69	23
23	66	346	e220	490	539	6,430	221	108	50	57	2,260	22
24	642	302	e210	471	672	10,500	222	102	48	66	756	22
25	1,910	274	203	e1,410	1,160	6,930	203	96	45	57	357	21
26	739	257	218	e2,500	2,750	4,610	218	91	41	46	239	19
27	462	236	2,230	e1,840	1,700	3,420	241	84	39	39	174	22
28	804	216	1,900	e1,570	1,330	2,620	248	79	39	35	136	37
29	1,240	212	1,120	e1,410	---	4,380	234	78	37	32	111	46
30	776	193	1,220	e1,290	---	5,400	210	73	33	29	93	93
31	564	---	1,030	e1,150	---	6,970	---	67	---	27	80	---
Total	9,287	7,792	19,487	22,241	21,988	78,823	40,433	3,739	1,721	1,353	4,776	1,082
Mean	300	260	629	717	785	2,543	1,348	121	57.4	43.6	154	36.1
Max	1,910	616	2,230	2,500	2,750	10,500	6,790	173	83	82	2,260	93
Min	66	147	170	287	480	895	203	67	33	19	18	19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2010, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	317	482	612	542	510	840	1,207	660	474	196	124	190
Max	1,562	2,109	2,775	2,641	1,834	2,830	3,306	1,738	2,926	1,163	968	1,700
(WY)	(2006)	(2007)	(1997)	(2006)	(2008)	(2008)	(1987)	(1998)	(2006)	(1996)	(2009)	(2004)
Min	19.2	20.4	64.6	31.6	59.4	167	136	97.9	37.5	14.4	12.4	13.6
(WY)	(2002)	(2002)	(2002)	(1981)	(1980)	(1981)	(1985)	(1995)	(1991)	(1993)	(1993)	(1980)

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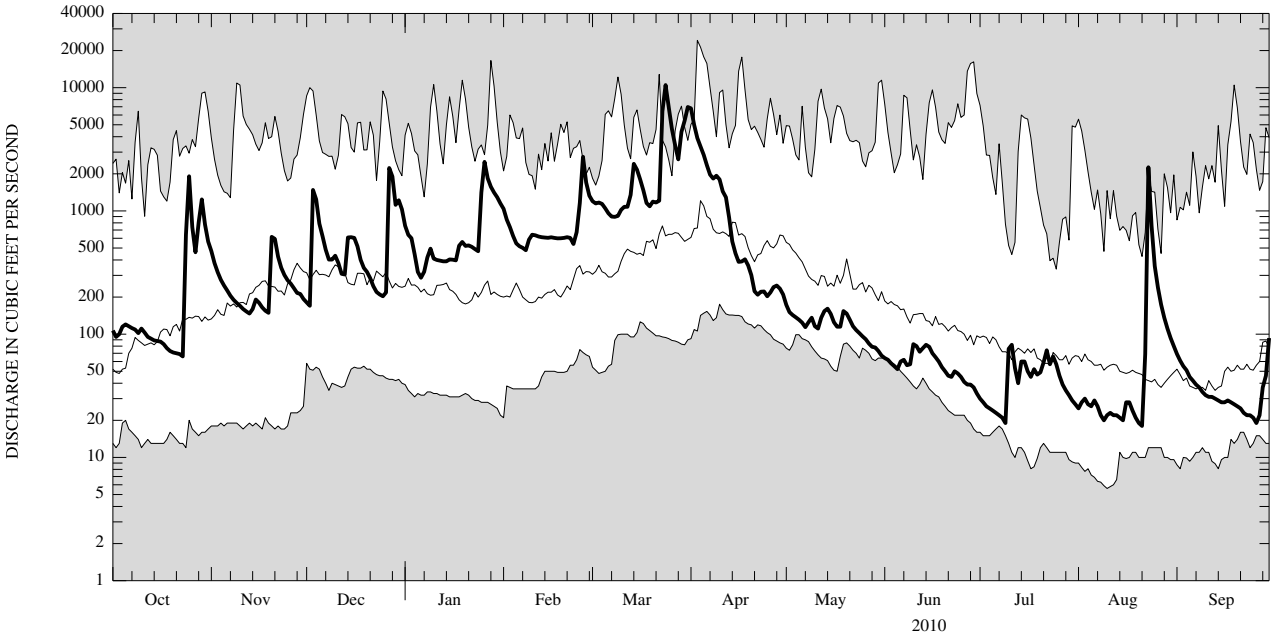
SUMMARY STATISTICS

	Calendar Year 2009		Water Year 2010		Water Years 1914 - 2010	
Annual total	184,600		212,722			
Annual mean	506		583		509	
Highest annual mean					1,194	2006
Lowest annual mean					98.5	1985
Highest daily mean	5,550	Aug 1	10,500	Mar 24	24,200	Apr 3, 2005
Lowest daily mean	66	Oct 23	18	Aug 21	5.6	Aug 10, 1999
Annual seven-day minimum	73	Oct 17	21	Aug 9	6.1	Aug 7, 1999
10 percent exceeds	1,050		1,370		1,260	
50 percent exceeds	270		180		183	
90 percent exceeds	112		28		33	



CURRENT WATER YEAR DAILY MEAN DISCHARGE (BOLD) WITH DAILY MEDIAN FOR PERIOD OF RECORD.
SHADED AREAS SHOW HIGHEST AND LOWEST DAILY MEAN FOR PERIOD OF RECORD THROUGH PREVIOUS WATER YEAR.