

RAPPAHANNOCK RIVER BASIN

01668000 RAPPAHANNOCK RIVER NEAR FREDERICKSBURG, VA

LOCATION.--Lat 38°19'20", long 77°31'05", Spotsylvania County, Hydrologic Unit 02080104, on right bank 1.6 mi upstream from Virginia Power dam, 2.2 mi downstream from Motts Run, and 3.8 mi upstream from Fredericksburg.

DRAINAGE AREA.--1,596 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1907 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 801: 1924(M). WSP 951: 1937(M). WSP 1302: 1907-12, 1913(M), 1916(M), 1918(M), 1920- 21(M). WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 55.18 ft above sea level. Prior to Jan. 15, 1922, nonrecording gage, and Jan. 15, 1922, to Aug. 2, 1966, water-stage recorder at same site at datum 1.00 ft higher.

REMARKS.--Records fair. Maximum discharge, 140,000 ft³/s, from rating curve extended above 76,000 ft³/s on basis of flow-over-dam and slope-area measurements at gage heights 26.1 ft and 26.9 ft, present datum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1889 was probably several feet lower than that of Oct. 16, 1942.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 26,400 ft³/s, Sep 30, gage height, 10.36 ft, stage rising, peak occurred Oct 1, 1999; peak discharges greater than base discharge of 16,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan 25	0130	*14,000	*7.78	No peak greater than base discharge.			

Minimum discharge, 8.8 ft³/s, Aug 19-23, gage height, 0.85 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	121	192	209	816	1180	915	595	289	122	87	87
2	77	121	180	198	842	1120	957	572	270	126	78	69
3	69	133	171	372	1620	863	1070	551	255	181	65	57
4	63	143	170	1930	1300	2430	960	536	241	148	53	56
5	62	160	169	e1200	1030	2290	1080	531	227	145	47	69
6	58	189	174	e750	887	1460	1130	535	219	171	42	87
7	57	191	174	e600	814	1280	974	531	208	154	37	1050
8	65	167	189	e480	783	1150	912	543	198	119	30	1690
9	121	162	251	e390	765	997	891	1030	192	e96	26	919
10	811	159	485	e440	702	1020	1040	945	184	e80	23	749
11	440	162	597	e750	652	1050	1150	683	174	74	20	1430
12	281	174	417	575	620	1210	1050	577	156	71	18	752
13	210	180	372	441	647	1350	1060	529	147	e77	17	497
14	171	197	372	468	667	1330	943	504	151	69	16	376
15	150	212	459	645	595	9350	887	496	163	68	14	333
16	136	198	420	1990	560	7260	848	531	158	67	12	509
17	130	188	348	1280	548	3440	868	502	158	65	11	1730
18	123	178	304	885	713	2530	819	469	161	63	9.7	1540
19	123	169	275	2350	2060	2250	762	454	144	62	9.2	914
20	121	169	260	1470	1450	1930	739	433	139	60	8.8	669
21	117	170	244	918	1070	1710	735	416	163	58	8.8	558
22	119	167	240	783	904	2650	744	392	168	426	8.8	1080
23	115	173	234	1110	789	2360	785	408	178	423	20	1280
24	109	177	246	4830	708	1870	836	511	e190	390	64	925
25	108	173	239	9160	685	1680	822	663	e163	257	51	716
26	111	183	238	3390	654	1480	765	570	143	176	46	595
27	114	188	212	2080	638	1280	705	463	132	139	41	520
28	119	190	219	1570	654	1180	664	394	127	112	39	508
29	127	203	254	1280	---	1100	632	361	132	92	226	1340
30	126	198	255	1070	---	1030	613	331	127	75	182	14500
31	125	---	254	909	---	951	---	312	---	79	121	---
TOTAL	4632	5195	8614	44523	24173	62781	26356	16368	5357	4245	1431.3	35605
MEAN	149	173	278	1436	863	2025	879	528	179	137	46.2	1187
MAX	811	212	597	9160	2060	9350	1150	1030	289	426	226	14500
MIN	57	121	169	198	548	863	613	312	127	58	8.8	56
CFSM	.09	.11	.17	.90	.54	1.27	.55	.33	.11	.09	.03	.74
IN.	.11	.12	.20	1.04	.56	1.46	.61	.38	.12	.10	.03	.83

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1907 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1146	1323	1670	2225	2520	2711	2490	1905	1419	912	1011	951
MAX	11090	6522	5357	6472	8880	8505	9484	10310	7112	3368	7190	6924
(WY)	1943	1986	1949	1996	1998	1993	1983	1924	1972	1949	1955	1996
MIN	15.3	75.4	147	268	224	526	587	492	179	78.6	21.1	46.5
(WY)	1931	1931	1931	1966	1931	1931	1981	1956	1999	1930	1930	1930

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1907 - 1999

ANNUAL TOTAL	900571	239280.3	
ANNUAL MEAN	2467	656	1686
HIGHEST ANNUAL MEAN			3072
LOWEST ANNUAL MEAN			440
HIGHEST DAILY MEAN	39800	Feb 5	a14500 Sep 30
LOWEST DAILY MEAN	57	Oct 7	8.8 bAug 20
ANNUAL SEVEN-DAY MINIMUM	64	Oct 2	9.8 Aug 16
INSTANTANEOUS PEAK FLOW			14000 Jan 25
INSTANTANEOUS PEAK STAGE			7.78 Jan 25
INSTANTANEOUS LOW FLOW			8.8 fAug 19
ANNUAL RUNOFF (CFSM)	1.55		.41
ANNUAL RUNOFF (INCHES)	20.99		5.58
10 PERCENT EXCEEDS	5500		1290
50 PERCENT EXCEEDS	722		348
90 PERCENT EXCEEDS	111		65

- a Stage rising, peak occurred Oct 1, 1999.
- b Also Aug 21-22, 1999.
- c Also Oct 12, 1930.
- d From floodmarks.
- e Estimated.
- f Also Aug 20-23, 1999.

