

RAPPAHANNOCK RIVER BASIN

01667500 RAPIDAN RIVER NEAR CULPEPER, VA

LOCATION.--Lat 38°21'01", long 77°58'31", Culpeper County, Hydrologic Unit 02080103, on left bank 0.7 mi upstream from Cedar Run and bridge on U.S. Highway 522, 8.5 mi south of Culpeper, and at mile 29.6.

DRAINAGE AREA.--472 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 741: 1931. WSP 801: 1934(M), 1936(M). WSP 1081: 1943-46. WSP 1171: 1932(M), 1933-35. WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 241.36 ft above sea level.

REMARKS.--Records good except those for period with ice effect, Jan. 6-8, which is fair. Prior to 1977, diurnal fluctuation at low flow caused by mill at Rapidan, and since July 1986, by powerplant at same site. National Weather Service gage-height telemeter at station. Maximum discharge, 59,300 ft<sup>3</sup>/s, from rating curve extended above 43,000 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 30.26 ft. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

COOPERATION.--Records were provided by the Virginia Department of Environmental Quality - Water Division.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan 24	1800	5,590	7.05	Sep 30	1845	*19,200	*17.53

Minimum discharge, 4.2 ft<sup>3</sup>/s, Aug 11, 13.

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	38	83	99	98	395	427	373	199	119	53	24	30
2	38	82	97	185	610	351	437	193	114	58	20	27
3	35	87	95	502	684	319	382	188	110	59	16	24
4	37	111	96	1020	525	838	363	185	104	98	13	24
5	38	114	97	440	457	649	386	184	98	77	10	39
6	44	93	100	e280	414	541	343	188	96	54	8.4	647
7	53	94	100	e250	394	526	320	190	92	42	5.9	1010
8	120	93	106	e230	389	461	306	518	92	36	6.4	563
9	514	93	217	250	353	444	308	435	89	42	6.7	308
10	206	95	253	430	330	471	364	258	80	35	5.2	862
11	129	101	149	329	311	453	322	213	76	30	4.6	355
12	102	125	112	271	301	502	354	193	81	27	5.4	219
13	91	124	124	269	303	473	309	181	84	26	5.3	166
14	86	113	236	291	278	578	284	213	84	32	6.1	136
15	80	109	189	687	264	2320	274	252	83	39	4.8	121
16	76	106	158	795	259	1720	296	208	78	34	10	391
17	78	102	142	489	258	1020	272	186	73	34	19	783
18	76	100	130	594	420	867	254	178	79	27	16	391
19	75	98	121	848	660	822	248	173	83	24	12	284
20	75	100	116	546	478	728	244	167	78	21	14	234
21	75	105	115	443	415	739	241	153	86	21	101	314
22	72	105	115	402	367	1010	249	148	95	120	50	552
23	69	99	113	395	333	791	243	190	85	103	32	425
24	72	98	115	2860	321	714	279	235	73	62	25	328
25	76	98	122	2170	311	653	261	208	64	55	21	270
26	80	105	106	1190	303	576	238	173	59	45	26	231
27	79	119	98	861	290	520	229	155	57	34	143	205
28	80	111	122	699	325	481	218	143	59	28	147	388
29	79	102	119	588	---	448	217	137	62	25	80	1050
30	79	103	121	498	---	408	207	131	59	25	53	13700
31	78	---	110	439	---	374	---	125	---	28	37	---
TOTAL	2830	3068	3993	19349	10748	21224	8821	6300	2492	1394	927.8	24077
MEAN	91.3	102	129	624	384	685	294	203	83.1	45.0	29.9	803
MAX	514	125	253	2860	684	2320	437	518	119	120	147	13700
MIN	35	82	95	98	258	319	207	125	57	21	4.6	24
CFSM	.19	.22	.27	1.32	.81	1.45	.62	.43	.18	.10	.06	1.70
IN.	.22	.24	.31	1.52	.85	1.67	.70	.50	.20	.11	.07	1.90

01667500 RAPIDAN RIVER NEAR CULPEPER, VA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	422	469	552	677	747	851	779	580	487	304	332	367
MAX	3163	2690	1653	1924	3048	2236	2615	1734	2901	1206	2323	2908
(WY)	1943	1986	1949	1998	1998	1993	1937	1998	1995	1949	1955	1996
MIN	8.10	29.4	62.4	93.6	91.5	179	210	166	83.1	45.0	22.5	14.0
(WY)	1931	1931	1931	1966	1931	1931	1981	1956	1999	1999	1957	1954

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1931 - 1999

ANNUAL TOTAL	329272	105223.8	
ANNUAL MEAN	902	288	546
HIGHEST ANNUAL MEAN			1099
LOWEST ANNUAL MEAN			151
HIGHEST DAILY MEAN	12800	Feb 18	13700 Sep 30
LOWEST DAILY MEAN	35	Oct 3	4.6 Aug 11
ANNUAL SEVEN-DAY MINIMUM	38	Sep 29	5.4 Aug 9
INSTANTANEOUS PEAK FLOW			19200 Sep 30
INSTANTANEOUS PEAK STAGE			17.53 Sep 30
INSTANTANEOUS LOW FLOW			4.2 bAug 11
ANNUAL RUNOFF (CFSM)	1.91	.61	1.16
ANNUAL RUNOFF (INCHES)	25.95	8.29	15.72
10 PERCENT EXCEEDS	1990	556	1080
50 PERCENT EXCEEDS	326	136	342
90 PERCENT EXCEEDS	67	29	84

- a From high-water mark in gage house.
- b Also Aug 13, 1999.
- c Also Oct 5, 11, 1954.
- e Estimated.

