

JAMES RIVER BASIN

02029000 JAMES RIVER AT SCOTTSVILLE, VA

LOCATION.--Lat 37°47'50", long 78°29'30", Albemarle County, Hydrologic Unit 02080203, on left bank 900 ft downstream from bridge on State Highway 20 at Scottsville, 6.8 mi upstream from Hardware River, and at mile 188.6.

DRAINAGE AREA.--4,584 mi².

PERIOD OF RECORD.--October 1924 to current year. Monthly discharge only for some periods, published in WSP 1303.

REVISED RECORDS.--WSP 727: 1931(m). WSP 972: 1936(M), 1940(M). WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 253.18 ft above sea level. Prior to Nov. 28, 1928, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Large diurnal fluctuation caused by powerplants upstream from station. Flow regulated since December 1979 by Lake Moomaw (station 02011795) 197.5 mi upstream; since October 1984 by Back Creek Lake 225.5 mi upstream; and since January 1985 by Little Back Creek Lake 228.6 mi upstream, amount unknown. Statistics of monthly mean data and summary statistics for water years 1925 - 1979 (unregulated flow) are available in previous data books, water years 1991 - 1998. National Weather Service gage-height telemeter at station. Maximum discharge, 301,000 ft³/s, from rating curve extended above 120,000 ft³/s on basis of slope-conveyance study. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in October 1870 reached a stage of 30.7 ft, discharge, about 215,000 ft³/s, and flood in November 1877 reached a stage of 27.9 ft, discharge, about 160,000 ft³/s, from information by local resident. Flood in March 1913 reached a stage of 25.16 ft, from floodmarks, discharge, 121,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 35,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sep 30	0930	*72,200	*20.38	No other peak greater than base discharge.			

Minimum discharge, 536 ft³/s, Aug 10-11, 15, gage height, 2.13 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	1060	1150	1120	1210	3140	2600	3800	2490	1500	778	691	829
2	1000	996	1160	1090	3760	2540	4180	2580	1500	1170	729	1070
3	1110	1160	1010	1550	5870	2480	4110	2450	1550	1090	1080	846
4	870	1330	1020	3420	5590	2610	3770	2340	1350	982	826	816
5	1010	1310	1070	2940	6180	2790	3470	2400	1530	1080	749	1750
6	972	1110	1140	2650	5270	3740	3410	2250	1480	962	792	5910
7	1030	1190	987	2340	4380	4290	3480	2210	1450	886	617	10600
8	1180	1170	1140	1970	3950	3720	3040	2330	1100	994	674	8670
9	2010	1030	1280	1920	3450	3830	2850	2440	1170	961	728	5400
10	1810	1150	1670	1940	3280	4030	2820	4990	1230	1060	601	4470
11	1870	1200	1420	1760	3150	3660	2730	4600	1130	775	576	3260
12	1660	1220	1510	2060	3040	3520	3180	3590	1200	792	709	2570
13	1430	1170	1400	2050	2920	3280	3010	3330	1040	815	646	2150
14	1500	1200	2040	2020	2630	3140	3090	4370	1280	1210	596	1990
15	1180	1220	2020	2530	2420	6990	3250	4670	1050	1080	583	1610
16	1000	1170	1600	3560	2390	7470	3200	8330	1170	915	622	2950
17	1130	1110	1560	6840	2290	8850	3020	7150	776	933	656	3100
18	1170	1080	1600	5810	2450	9820	2910	5610	1280	1120	665	2580
19	955	1160	1480	5500	3570	14100	2860	4590	1250	814	617	2040
20	1210	1040	1260	4060	4200	13000	2790	3870	1280	923	778	1850
21	1100	1080	1370	3810	4830	10000	2760	3480	1610	903	783	1630
22	1050	1180	919	3580	4410	9050	2610	3320	1190	971	1080	1620
23	1070	1010	1160	3200	3820	9600	2450	3420	799	1100	877	2150
24	985	1050	1180	6350	3130	9290	2640	3120	697	1020	857	1660
25	1140	1060	1350	14200	3050	8280	2460	2520	674	981	901	1640
26	914	1070	1290	15500	2760	7260	2450	2450	1050	1180	1160	1740
27	1050	1160	1220	9000	2600	6360	2490	2350	956	935	1330	1520
28	1000	1040	1180	6190	2700	5440	2360	2150	1060	977	1230	1900
29	1110	1160	1260	5070	---	4940	2480	1900	908	950	1160	8120
30	1030	1030	1290	4130	---	4500	2450	1870	1060	1060	1090	51300
31	1070	---	1170	3360	---	4090	---	1730	---	979	1230	---
TOTAL	36676	34006	40876	131610	101230	185270	90120	104900	35320	30396	25633	137741
MEAN	1183	1134	1319	4245	3615	5976	3004	3384	1177	981	827	4591
MAX	2010	1330	2040	15500	6180	14100	4180	8330	1610	1210	1330	51300
MIN	870	996	919	1090	2290	2480	2360	1730	674	775	576	816
(†)	-4134	-3176	-2823	+10680	+5848	+10587	0	-1008	-6756	-7915	-7008	-4689
MEAN‡	1050	1028	1228	4590	3824	6318	3004	3351	952	725	601	4435
CFSM‡	.23	.22	.27	1.00	.83	1.38	.66	.73	.21	.16	.13	.97
IN.‡	.26	.25	.31	1.15	.87	1.59	.73	.84	.23	.18	.15	1.08

CAL YR 1998 TOTAL 2665997 MEAN 7304 MAX 68100 MIN 870 MEAN‡ 7284 CFSM‡ 1.59 IN.‡ 21.58
WTR YR 1999 TOTAL 953778 MEAN 2613 MAX 51300 MIN 576 MEAN‡ 2585 CFSM‡ .56 IN.‡ 7.66

† Total change in contents, equivalent in cubic feet per second, per month, in Lake Moomaw; provided by U.S. Army Corps of Engineers.
‡ Adjusted for monthly change in contents.

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1999, BY WATER YEAR (WY) [REGULATED, UNADJUSTED]

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2950	4377	5029	7281	8272	10340	9473	6621	4684	2520	2353	2885
MAX	11990	25090	13450	18230	22960	23820	28930	18230	14380	6941	7934	13180
(WY)	1980	1986	1997	1996	1998	1993	1987	1989	1995	1995	1984	1996
MIN	963	1134	1318	1165	3198	1961	2493	3384	1177	981	827	844
(WY)	1987	1999	1981	1981	1981	1981	1995	1999	1999	1999	1999	1983

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1980 - 1999
ANNUAL TOTAL	2665997	953778	
ANNUAL MEAN	7304	2613	5547
HIGHEST ANNUAL MEAN			7531
LOWEST ANNUAL MEAN			2217
HIGHEST DAILY MEAN	68100	Jan 9	199000
LOWEST DAILY MEAN	870	Oct 4	571
ANNUAL SEVEN-DAY MINIMUM	1010	Oct 1	602
INSTANTANEOUS PEAK FLOW			72200
INSTANTANEOUS PEAK STAGE			20.38
INSTANTANEOUS LOW FLOW			536
ANNUAL RUNOFF (CFSM)	1.59	.57	1.21
ANNUAL RUNOFF (INCHES)	21.64	7.74	16.44
10 PERCENT EXCEEDS	18500	5020	11900
50 PERCENT EXCEEDS	2550	1600	3210
90 PERCENT EXCEEDS	1070	895	1150

a Also Aug 11, 15, 1999.

