

JAMES RIVER BASIN

02018500 CATAWBA CREEK NEAR CATAWBA, VA

LOCATION.--Lat 37°28'05", long 80°00'20", Botetourt County, Hydrologic Unit 02080201, on right bank 80 ft upstream from bridge on State Highway 779, 1.0 mi downstream from Little Catawba Creek, 1.9 mi west of Haymakertown, and 8.2 mi northeast of Catawba.

DRAINAGE AREA.--34.3 mi².

PERIOD OF RECORD.--September 1943 to current year.

REVISED RECORDS.--WSP 1303: 1944-45(M). WSP 2104: Drainage area. WDR VA-72-1: 1954, 1955(P), 1957-58(P), 1959, 1960-62(P), 1963, 1964(M), 1965-67(P), 1968(M), 1969, 1970(M), 1971.

GAGE.--Water-stage recorder. Datum of gage is 1,299.96 ft above sea level. Prior to Aug. 1, 1953, nonrecording gage at site 80 ft downstream at same datum.

REMARKS.--Records good except for period with ice effect, Jan. 4-8, which is fair. At a point 5.3 mi upstream from station, there has been transmountain diversion through a tunnel into Roanoke River Basin for municipal water supply of city of Roanoke since December 1974. From October 1953 to October 1976, monthly means adjusted for pumpage by Citadel Cement Corporation. Maximum discharge, 21,200 ft³/s, from rating curve extended above 1,700 ft³/s on basis of slope-area measurements at gage heights 10.35 ft and 19.19 ft. Minimum discharge, 0.28 ft³/s, Aug. 21, 1987, gage height, 0.99 ft, cause unknown. 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 OUTSIDE PERIOD OF RECORD.--Flood in August 1940 reached a stage of 13.26 ft, from information by observer.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 355 ft³/s, Sep 21, gage height, 3.83 ft; minimum discharge, 0.48 ft³/s, Aug 18, 19.

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	2.4	3.4	3.2	4.8	6.7	4.9	8.3	5.8	3.1	1.6	2.3	.78
2	2.8	3.5	3.0	2.8	13	5.4	7.9	5.7	3.1	1.5	3.2	.82
3	2.1	5.4	3.2	6.0	16	6.3	7.5	5.9	3.2	1.3	3.7	1.0
4	3.1	6.1	3.5	e4.7	12	6.6	7.9	5.6	3.0	1.3	3.0	1.2
5	2.6	6.8	3.5	e4.0	7.8	6.4	7.8	5.6	2.9	1.1	3.2	39
6	2.7	5.1	3.5	e3.6	6.7	5.4	8.9	5.7	2.9	.94	1.8	78
7	5.0	3.4	3.6	e4.4	7.7	5.1	8.6	5.3	2.7	1.0	1.3	23
8	9.7	3.8	4.6	e3.9	7.0	5.7	8.5	5.7	2.7	1.1	1.3	16
9	6.8	3.8	6.3	4.9	6.2	6.4	9.0	4.6	2.6	.85	1.4	22
10	5.2	4.2	4.9	4.6	6.2	6.4	6.8	4.9	2.5	.97	1.2	18
11	3.8	4.5	4.0	4.1	6.2	6.1	8.7	4.2	2.5	1.1	1.2	13
12	3.4	4.3	4.0	4.0	7.4	6.3	10	4.4	2.5	2.5	1.1	9.3
13	3.1	4.1	7.5	5.0	5.4	6.6	12	4.4	2.4	2.1	1.0	8.1
14	2.8	3.9	7.5	5.4	5.2	8.3	12	7.2	2.4	2.0	1.2	7.4
15	2.9	4.6	5.5	11	5.2	18	12	6.6	2.2	1.9	1.0	12
16	2.8	4.4	4.8	8.6	5.3	20	11	5.9	2.4	1.4	.72	13
17	2.9	4.0	4.3	7.1	5.4	23	9.8	5.4	3.3	2.8	.65	9.3
18	2.4	4.1	3.9	6.6	14	24	9.9	5.2	2.2	5.1	.59	5.1
19	2.5	4.0	4.0	5.1	15	19	9.3	5.6	2.0	3.1	.58	3.6
20	3.1	4.0	4.1	6.1	9.9	15	9.6	5.1	1.8	2.1	3.1	16
21	3.4	3.8	4.1	6.0	8.8	18	8.6	4.5	1.9	3.0	1.3	84
22	3.4	3.9	4.1	5.6	7.1	18	8.1	4.3	1.8	8.4	.91	24
23	3.4	4.0	4.1	10	7.1	16	7.7	4.4	1.6	3.3	.81	13
24	3.2	5.6	4.9	27	6.1	14	7.3	4.1	1.5	2.4	1.1	9.9
25	3.0	4.8	4.8	16	5.1	12	7.1	3.9	1.6	2.1	3.0	8.0
26	2.9	4.5	4.5	10	4.8	10	6.5	3.8	1.7	1.8	3.3	6.8
27	3.1	3.3	4.6	8.2	5.3	9.4	7.0	3.8	1.6	1.8	1.8	35
28	2.7	2.4	5.0	8.8	4.9	8.3	8.4	3.7	1.7	2.7	1.2	52
29	3.2	3.3	5.2	7.8	---	7.1	6.9	3.5	1.4	6.3	1.1	56
30	2.7	3.3	4.9	6.5	---	6.9	6.0	3.4	1.4	4.1	.87	65
31	2.6	---	4.6	6.0	---	6.4	---	3.2	---	2.8	.73	---
TOTAL	105.7	126.3	139.7	218.6	217.5	331.0	259.1	151.4	68.6	74.46	49.66	650.30
MEAN	3.41	4.21	4.51	7.05	7.77	10.7	8.64	4.88	2.29	2.40	1.60	21.7
MAX	9.7	6.8	7.5	27	16	24	12	7.2	3.3	8.4	3.7	84
MIN	2.1	2.4	3.0	2.8	4.8	4.9	6.0	3.2	1.4	.85	.58	.78
(†)	0	0	0	255	140	221	85.8	10.8	0	0	0	250
MEAN†	3.41	4.21	4.51	15.3	12.8	17.8	11.5	5.23	2.29	2.40	1.60	30.0
CFSM†	.10	.12	.13	.45	.37	.52	.34	.15	.07	.07	.05	.87
IN.†	.11	.14	.15	.51	.39	.60	.37	.18	.07	.08	.05	.98

CAL YR 1998 TOTAL 17538.5 MEAN 48.1 MAX 967 MIN 2.1 MEAN† 52.9 CFSM† 1.54 IN.† 20.92
WTR YR 1999 TOTAL 2392.32 MEAN 6.55 MAX 84 MIN .58 MEAN† 9.19 CFSM† .27 IN.† 3.64

† Total diversion, equivalent in cubic feet per second, per month, provided by city of Roanoke.
‡ Adjusted for diversion.

02018500 CATAWBA CREEK NEAR CATAWBA, VA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1999, BY WATER YEAR (WY) [REGULATED, UNADJUSTED]

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	14.9	32.0	22.4	39.3	56.5	84.1	74.1	40.6	31.4	11.4	11.6	18.2
MAX	82.2	390	105	131	221	278	337	122	142	52.2	75.5	105
(WY)	1990	1986	1997	1996	1998	1993	1987	1989	1992	1989	1985	1979
MIN	3.41	2.01	3.16	3.45	5.82	6.20	6.78	4.88	2.29	2.40	1.60	2.30
(WY)	1999	1982	1982	1981	1981	1981	1981	1999	1999	1999	1999	1981

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1975 - 1999
ANNUAL TOTAL	17538.5	2392.32	
ANNUAL MEAN	48.1	6.55	36.2
HIGHEST ANNUAL MEAN			64.9 1987
LOWEST ANNUAL MEAN			6.16 1981
HIGHEST DAILY MEAN	967 Feb 17	84 Sep 21	7400 Nov 4 1985
LOWEST DAILY MEAN	2.1 Sep 29	.58 Aug 19	.58 Aug 19 1999
ANNUAL SEVEN-DAY MINIMUM	2.3 Sep 27	.82 Aug 13	.82 Aug 13 1999
INSTANTANEOUS PEAK FLOW		355 Sep 21	21200 Nov 4 1985
INSTANTANEOUS PEAK STAGE		3.83 Sep 21	a19.19 Nov 4 1985
INSTANTANEOUS LOW FLOW		.48 bAug 18	c.28 Aug 21 1987
ANNUAL RUNOFF (CFSM)	1.40	.19	1.06
ANNUAL RUNOFF (INCHES)	19.02	2.59	14.34
10 PERCENT EXCEEDS	105	12	72
50 PERCENT EXCEEDS	8.1	4.6	12
90 PERCENT EXCEEDS	3.2	1.4	4.4

- a From high-water mark.
- b Also Aug 19, 1999.
- c Regulation form unknown source.
- e Estimated.

