

## ROANOKE RIVER BASIN

02080500 ROANOKE RIVER AT ROANOKE RAPIDS, NC

LOCATION.--Lat 36°27'37", long 77°38'04", Halifax County, Hydrologic Unit 03010107, on right bank 1.2 mi downstream of bridge on State Highway 48 at Roanoke Rapids, 2.5 mi upstream from Chockoyotte Creek, 2.8 mi downstream of Roanoke Rapids dam, and 133.6 mi upstream from mouth in Albemarle Sound.

DRAINAGE AREA.--8,384 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1911 to current year. Prior to January 1933, published as "Roanoke River at Old Gaston". Records published for both sites February 1930 to December 1932. Gage-height records collected at site of auxiliary gage since November 1890 are contained in reports of National Weather Service, NOAA, U.S. Department of Commerce.

REVISED RECORDS.--WSP 712: 1930. WSP 822: 1936. WSP 1032: 1912, 1928(M), 1930(M), 1932-33(M). WSP 1433: 1912-23, 1925-28, 1930, 1932-33, 1935, 1937-39. WSP 1904: 1958, 1960. WDR NC-83-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 43.84 ft above NGVD of 1929. Dec. 7, 1911, to Nov. 21, 1921, and Apr. 7 to Dec. 31, 1932, nonrecording gage and Nov. 21, 1921, to Apr. 7, 1932, water-stage recorder, both at site 9 mi upstream at different datum. Aug. 6, 1941, to Mar. 1, 1973, auxiliary water-stage recorder, 3.6 mi downstream of base gage. Satellite telemetry at station.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since August 1950 by Philpott Lake on Smith River, usable capacity, 6,325,000,000 ft<sup>3</sup>; since September 1950 by John H. Kerr Reservoir, usable capacity, 101,247,000,000 ft<sup>3</sup>; since June 1955 by Roanoke Rapids Lake (station 02080100); since September 1962 by Leesville Lake; since October 1962 by Lake Gaston (station 02079964); and since September 1963 by Smith Mountain Lake. Prior to regulation, maximum discharge: 261,000 ft<sup>3</sup>/s, Aug. 18, 1940; gage height: 39.0 ft, from floodmarks; minimum discharge: about 250 ft<sup>3</sup>/s, Dec. 16, 1955. Minimum discharge for current water year also occurred Mar. 28.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in November 1877, discharge, 212,000 ft<sup>3</sup>/s, reached a stage about 2 ft lower at Old Gaston than flood in August 1940 which was 21.5 ft. Flood in August 1940 is the maximum known since at least 1771.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2090	2000	2130	2040	1990	2000	2000	2020	2610	3390	2750	2510
2	3700	1990	2050	2030	1990	2010	1900	2030	2600	3440	2770	2510
3	4450	2000	2010	2040	2030	2010	1890	2040	2590	3460	2710	2510
4	3250	1980	2020	2040	2020	1950	1870	2020	2600	3860	2770	2510
5	2300	2050	2020	2050	2020	1900	1870	2030	2610	3970	2730	2520
6	2320	2070	2020	2090	2040	1910	1870	2030	e2630	2890	2680	2530
7	2310	2060	2040	2060	2050	1910	1880	2080	e2630	2960	2900	2540
8	2310	2050	2050	2050	2010	1910	1880	2050	2640	3980	2690	2540
9	3850	2030	2060	2050	2010	1910	1880	2060	2640	3850	3060	2520
10	2550	2030	2060	2040	2020	1900	1890	2060	2630	3720	3040	2540
11	2100	2020	2090	2040	2010	1910	1880	2460	2640	3960	3170	2530
12	2110	2040	2070	2030	2000	1900	1880	2570	2640	4020	3100	2530
13	2110	2040	2070	2050	2000	1910	1890	2600	2640	2770	2850	2520
14	2130	2030	2070	2050	2070	1920	1890	2550	2640	2670	2740	2530
15	3950	2010	2070	2040	2100	1900	1980	2640	2640	3700	2890	2530
16	2180	2010	2050	2050	2010	1890	1990	2820	2640	3930	2690	2590
17	2690	2000	2030	2040	2000	1910	2000	2850	2640	3880	2670	2510
18	2090	2020	2040	2030	2010	1910	1990	2790	2640	3830	2880	2500
19	3880	2020	e2050	2090	2020	1900	1990	2660	2630	3790	2740	2500
20	2100	2010	e2020	2060	2010	1890	2000	2650	2630	2670	2620	2520
21	2110	1990	2020	2030	2000	1890	2000	2660	2620	2650	2570	2530
22	2060	2010	2030	2020	2000	1870	2000	2650	2620	3730	e2560	2540
23	2070	2010	2040	2040	2000	1880	2000	2610	2630	3770	2550	2520
24	2070	1990	2040	2020	2000	1880	e2010	2610	2630	3850	2550	2520
25	2060	1990	2030	2020	2000	1880	2020	2620	e2610	4160	2550	2520
26	2040	1970	2030	2020	2000	1890	2010	2620	2680	3920	2630	2530
27	2020	1980	2040	2010	1990	1890	2010	2620	2720	2640	2760	2540
28	2020	1990	2040	2000	1990	1870	2030	2610	2650	2600	2730	2530
29	2540	2060	2050	2000	---	1880	2010	2620	2640	3870	2500	2530
30	2000	2120	2040	2020	---	1880	2020	2600	2630	2850	e2550	2450
31	2020	---	2040	2000	---	1960	---	2600	---	2730	2510	---
TOTAL	77480	60570	63420	63150	56390	59220	58530	75830	78990	107510	84910	75700
MEAN	2499	2019	2046	2037	2014	1910	1951	2446	2633	3468	2739	2523
MAX	4450	2120	2130	2090	2100	2010	2030	2850	2720	4160	3170	2590
MIN	2000	1970	2010	2000	1990	1870	1870	2020	2590	2600	2500	2450
†	-195	-1046	+161	+1514	-510	+1116	-37	+174	-609	-45	+134	-811

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2002,\* BY WATER YEAR (WY)

MEAN	6513	6172	7123	9599	10410	10670	11060	10230	7372	5817	5066	5291
MAX	20360	17690	18380	17850	26800	27350	32660	31750	15260	20560	9755	25970
(WY)	1980	1986	1973	1991	1998	1998	1993	1978	1982	1972	1975	1996
MIN	2031	1987	2046	2037	2014	1910	1951	2446	2365	2581	2519	2186
(WY)	1971	1987	2002	2002	2002	2002	2002	1977	1977	1970	1993	1968

## ROANOKE RIVER BASIN

02080500 ROANOKE RIVER AT ROANOKE RAPIDS, NC--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1964 - 2002*	
ANNUAL TOTAL	1637010	861700		
ANNUAL MEAN	4485	2361	7716	(UNADJUSTED)
HIGHEST ANNUAL MEAN			12920	1973
LOWEST ANNUAL MEAN			2361	2002
HIGHEST DAILY MEAN	18300	Apr 7	36000	Sep 11 1996
LOWEST DAILY MEAN	1950	Jan 10	818	Nov 15 1970
ANNUAL SEVEN-DAY MINIMUM	1990	Nov 21	989	Nov 5 1986
MAXIMUM PEAK FLOW			37700	Apr 16 1993
MAXIMUM PEAK STAGE		7.38 Oct 19	11.87	Apr 16 1993
INSTANTANEOUS LOW FLOW		1840* Nov 30	760	Nov 23 1970
10 PERCENT EXCEEDS	9480	2860	18700	
50 PERCENT EXCEEDS	3190	2060	5790	
90 PERCENT EXCEEDS	2010	1910	2000	

e Estimated.

\* Regulated period only (1964-2002). See REMARKS.

† Change in contents, equivalent in cubic feet per second, in Leeville and Smith Mountain Lake, provided by Appalachian Power Co.; Philpott and Kerr Reservoirs, provided by U.S. Army Corps of Engineers; and Lake Gaston and Roanoke Rapids Lake, provided by North Carolina Power Company.

‡ Adjusted for change in contents.

