

**02080500 ROANOKE RIVER AT ROANOKE RAPIDS, NC**

Roanoke Basin  
Lower Roanoke Subbasin

LOCATION.--Lat 36°27'36", long 77°38'01" referenced to North American Datum of 1983, Halifax County, NC, 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>.

**SURFACE-WATER RECORDS**

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. December 7, 1911, to November 21, 1921, and April 7 to December 31, 1932, nonrecording gage and November 21, 1921, to April 7, 1932, water-stage recorder, both at site 9 mi upstream at different datum. August 6, 1941, to March 1, 1973, auxiliary water-stage recorder, 3.6 mi downstream of base gage. Satellite telemetry at station.

REMARKS.--No estimated daily discharges. Records good. 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; since September 1962 by Leesville Lake; since October 1962 by Lake Gaston; and since September 1963 by Smith Mountain Lake. Prior to regulation, maximum discharge: 261,000 ft<sup>3</sup>/s, August 18, 1940; gage height: 39.0 ft, from floodmarks; minimum discharge: about 250 ft<sup>3</sup>/s, December 16, 1955.

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.

## 02080500 ROANOKE RIVER AT ROANOKE RAPIDS, NC—Continued

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**  
**DAILY MEAN VALUES**

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2,660	3,500	15,500	5,980	7,700	7,810	10,300	6,320	5,380	2,930	4,120	2,580
2	3,820	11,800	20,200	12,400	5,970	7,620	10,300	6,170	2,840	2,950	4,020	2,650
3	5,910	14,800	20,000	15,700	2,760	3,760	10,400	6,180	2,700	2,910	3,510	2,430
4	9,260	11,500	20,300	8,280	2,730	3,520	14,300	6,210	2,640	2,900	2,520	4,520
5	2,670	10,200	20,700	18,400	4,710	3,530	14,300	5,730	2,610	2,900	2,540	2,170
6	2,690	9,060	20,600	22,300	6,270	3,540	14,500	5,690	2,590	2,910	2,560	3,670
7	5,780	1,760	20,400	20,700	4,150	3,560	10,700	5,680	2,580	2,950	3,530	3,660
8	7,180	3,690	20,600	20,600	3,990	3,570	10,300	5,700	2,580	2,980	6,110	2,120
9	9,560	5,390	20,500	20,500	2,730	3,560	10,200	5,720	2,570	5,140	9,070	2,110
10	7,250	7,100	20,600	20,300	2,730	2,180	10,200	5,730	2,650	2,840	2,340	2,090
11	7,370	6,050	20,300	20,400	2,740	2,120	10,200	5,770	2,790	2,900	2,240	2,490
12	10,900	5,070	14,700	20,300	2,730	2,150	10,300	5,780	2,720	2,910	2,300	2,100
13	9,240	8,780	14,400	20,200	2,450	2,170	10,300	5,770	2,670	2,900	2,440	2,100
14	14,600	10,500	14,000	20,100	2,440	2,160	7,870	5,750	2,680	2,930	2,540	2,130
15	15,000	4,940	14,000	20,200	4,760	2,170	7,850	5,750	2,520	2,940	2,430	2,140
16	15,000	9,030	9,180	20,200	5,260	5,520	9,140	5,800	2,780	2,930	3,680	2,110
17	11,100	11,200	9,510	20,500	11,800	19,900	21,100	5,810	2,850	2,770	2,470	1,820
18	9,590	14,600	10,100	20,400	8,820	20,300	21,300	5,790	6,580	2,430	2,190	1,720
19	10,300	14,500	6,210	20,300	10,400	20,300	21,400	5,590	8,110	2,190	2,310	1,730
20	8,210	14,400	9,650	20,300	6,030	14,400	21,400	5,500	5,350	2,190	2,300	1,740
21	5,700	14,600	11,900	20,300	8,060	14,000	21,400	5,490	2,840	2,140	2,250	1,800
22	4,440	14,900	5,010	20,400	5,410	14,000	21,600	5,490	2,860	2,140	2,260	2,000
23	10,700	14,900	2,320	20,400	7,510	6,280	21,700	5,500	2,880	2,150	4,610	1,970
24	8,700	15,000	2,250	20,400	8,000	5,940	16,300	5,490	2,900	2,150	8,550	1,750
25	7,920	14,900	2,310	20,400	8,410	5,960	16,000	5,490	2,910	4,290	2,340	1,740
26	7,050	14,800	5,010	20,400	8,390	6,600	16,100	5,490	2,900	3,530	2,440	3,780
27	7,830	14,200	8,630	15,900	7,600	6,400	12,200	5,480	2,990	3,540	3,830	2,260
28	2,150	14,500	5,200	13,800	9,180	5,920	11,600	5,460	3,120	2,120	2,390	1,750
29	2,100	15,100	2,940	14,400	---	3,730	7,650	5,420	2,980	2,260	3,830	1,980
30	3,950	15,400	2,720	9,130	---	3,470	7,500	5,420	2,930	3,830	3,110	1,970
31	2,470	---	5,960	7,880	---	9,750	---	5,380	---	2,560	2,290	---
<b>Total</b>	231,100	326,170	375,700	551,470	163,730	215,890	408,410	176,550	97,500	89,210	103,120	69,080
<b>Mean</b>	7,455	10,870	12,120	17,790	5,848	6,964	13,610	5,695	3,250	2,878	3,326	2,303
<b>Max</b>	15,000	15,400	20,700	22,300	11,800	20,300	21,700	6,320	8,110	5,140	9,070	4,520
<b>Min</b>	2,100	1,760	2,250	5,980	2,440	2,120	7,500	5,380	2,520	2,120	2,190	1,720

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2007 <sup>a</sup>, BY WATER YEAR (WY)**

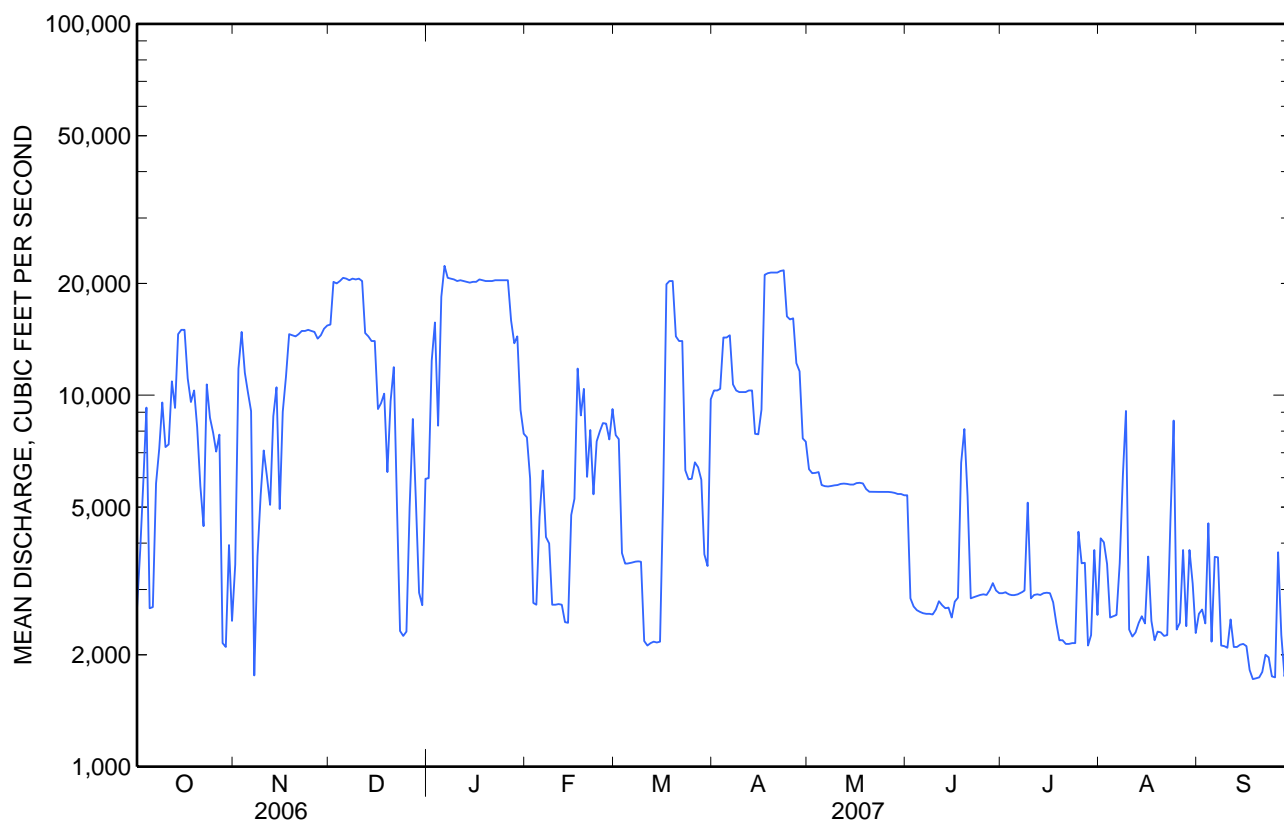
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	5,766	6,325	7,814	9,761	10,150	10,480	11,330	10,040	7,511	6,162	5,295	5,386
<b>Max</b>	20,360	17,690	18,380	17,850	26,800	27,350	32,660	31,750	23,040	22,870	15,180	25,970
<b>(WY)</b>	(1980)	(1986)	(1973)	(1991)	(1998)	(1998)	(1993)	(1978)	(2003)	(2003)	(2003)	(1996)
<b>Min</b>	2,031	1,987	2,046	2,037	2,014	1,910	1,951	2,446	2,365	2,581	2,519	2,186
<b>(WY)</b>	(1971)	(1987)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(1977)	(1970)	(1993)	(1968)

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SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1964 - 2007 <sup>a</sup>	
<b>Annual total</b>	2,201,210		2,807,930			
<b>Annual mean</b>	6,031		7,693		7,875	
<b>Highest annual mean</b>					15,330	2003
<b>Lowest annual mean</b>					2,361	2002
<b>Highest daily mean</b>	20,700	Dec 5	22,300	Jan 6	36,000	Sep 11, 1996
<b>Lowest daily mean</b>	1,760	Nov 7	1,720	Sep 18	818	Nov 15, 1970
<b>Annual seven-day minimum</b>	2,250	Apr 2	1,820	Sep 18	989	Nov 5, 1986
<b>Maximum peak flow</b>			24,100	Jan 6	37,700	Apr 16, 1993
<b>Maximum peak stage</b>			9.19	Jan 6	11.87	Apr 16, 1993
<b>Instantaneous low flow</b>			NOT DETERMINED		760	Nov 23, 1970
<b>10 percent exceeds</b>	14,200		20,200		18,800	
<b>50 percent exceeds</b>	4,260		5,590		5,950	
<b>90 percent exceeds</b>	2,330		2,190		2,030	

<sup>a</sup> Regulated period only (1964-2007). See Remarks.



## 02080500 ROANOKE RIVER AT ROANOKE RAPIDS, NC—Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1949, 1957, 1959, 1960, 1968-73, 1975-96, 2006, 2007.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1976 to September 1984.

WATER TEMPERATURE: October 1948 to September 1949, October 1976 to September 1984.

REMARKS.--Station operated as part of the NASQAN network from October 1976 to September 1995. Station operated as part of the NAWQA Program in November 1995. Samples collected at bridge on North Carolina Highway 48 at Roanoke Rapids, 1.2 mi upstream from gaging station. Miscellaneous water-quality data collected at bridge on North Carolina Highway 48 and/or gaging station 1.2 mi downstream are published for water years 1946-47, 1955-67. Water-quality measurements and samples for water years 2006, 2007 were collected by the U.S. Geological Survey and the North Carolina Department of Environment and Natural Resources, Division of Water Quality.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 153 microsiemens, September 15, 1981; minimum daily, 65 microsiemens, April 7, 1979.

WATER TEMPERATURE: Maximum daily, 32.5°C, July 30, 1949; minimum daily, 1.0°C, January 18-22, 30, 31, February 1, 1977.

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**

[Remark codes: <, less than.]

Date	Time	Sample type	Instan- taneous dis- charge, cfs (00061)	Dis- solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat unf µS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	Sus- pended sedi- ment concen- tration mg/L (80154)
<b>Oct</b>									
16...	1030	Environmental	14,900	8.7	6.4	105	19.8	.7	--
<b>Nov</b>									
06...	1330	Environmental	14,800	--	7.6	112	14.9	.4	18
06...	1331	Blank	14,800	--	7.6	112	14.9	.6	--
<b>Apr</b>									
03...	1030	Environmental	10,300	11.2	7.5	96	13.6	<1.0	7
17...	1220	Environmental	21,100	--	7.0	97	13.6	<1.0	--
<b>May</b>									
01...	1200	Environmental	6,380	10.5	7.3	100	18.1	<1.0	7
01...	1205	Replicate	6,380	10.5	7.3	100	18.1	<1.0	--
16...	1120	Environmental	5,760	8.6	7.3	99	20.6	<1.0	--
29...	1200	Environmental	5,380	9.4	7.7	101	23.3	<1.0	3
<b>Jun</b>									
14...	0935	Environmental	2,750	5.2	6.8	103	23.7	<1.0	--
26...	1015	Environmental	2,910	5.9	7.1	102	25.1	<1.0	3
26...	1020	Replicate	2,910	5.9	7.1	102	25.1	<1.0	--
<b>Jul</b>									
18...	0955	Environmental	2,590	5.0	6.6	102	27.0	<1.0	--
31...	1000	Environmental	2,560	8.0	7.2	101	26.4	<1.0	3
31...	1015	Replicate	2,560	8.0	7.2	101	26.4	<1.0	--