

**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 North Carolina 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 National Geodetic Vertical Datum 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.--Records good except for those 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; 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.

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**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**  
**DAILY MEAN VALUES**

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2,320	2,280	10,800	8,340	4,880	2,580	20,400	5,390	5,600	2,390	3,660	2,310
2	2,240	2,190	8,600	8,090	4,970	2,570	20,300	5,460	5,000	3,810	3,770	2,310
3	1,860	2,260	3,090	9,800	5,290	2,570	15,700	5,430	4,760	3,070	3,680	2,290
4	3,880	2,850	6,380	8,790	2,440	2,520	14,200	5,520	4,710	2,320	2,290	3,860
5	1,800	1,720	9,930	9,410	2,410	2,520	13,600	5,360	4,780	3,670	2,270	3,930
6	3,390	1,700	5,860	8,590	2,350	2,530	9,920	5,220	4,850	3,750	3,270	4,730
7	1,760	1,700	7,290	8,270	2,330	2,560	8,260	5,210	4,800	2,370	2,920	4,080
8	2,150	4,390	8,740	8,140	2,350	2,530	8,280	5,240	4,770	2,430	3,000	3,080
9	2,170	2,240	7,880	8,430	2,370	2,610	8,260	5,400	4,240	6,310	3,810	2,740
10	3,350	1,740	7,830	8,180	2,410	3,240	7,410	5,420	4,210	3,770	3,010	3,240
11	4,970	3,880	8,110	8,640	2,350	3,280	7,270	5,340	4,220	3,420	2,290	4,010
12	4,610	2,510	8,980	8,900	2,370	3,280	7,110	5,280	4,190	2,880	2,240	3,970
13	2,230	1,720	15,400	9,090	2,410	3,350	7,130	5,260	4,160	2,280	3,300	3,760
14	3,340	1,720	19,900	7,090	2,400	3,320	7,060	5,170	4,140	2,310	3,800	2,840
15	2,080	1,720	18,000	8,120	4,040	3,340	7,140	5,310	e4,000	2,250	3,650	2,340
16	2,090	2,090	18,100	8,540	3,210	3,340	6,560	6,380	e3,500	3,630	5,240	2,330
17	1,680	2,190	9,560	6,810	2,420	3,450	6,560	6,410	e3,050	5,530	3,700	6,000
18	1,710	2,190	8,800	7,050	2,490	3,330	6,630	6,300	e3,050	3,650	2,350	6,170
19	1,710	2,200	7,160	7,580	2,510	3,330	6,650	6,190	4,460	2,240	2,610	6,940
20	1,720	2,160	7,200	8,180	2,540	3,390	6,610	6,180	5,260	2,270	2,370	1,950
21	1,690	8,320	8,550	8,180	3,630	3,400	6,090	6,340	5,270	2,300	3,670	2,980
22	2,040	9,190	7,810	8,270	2,540	3,410	6,150	6,360	5,340	2,260	3,600	1,900
23	2,110	8,160	8,120	8,170	2,510	3,430	6,130	6,170	2,850	3,710	4,450	1,940
24	1,760	3,680	2,880	8,310	2,520	4,330	6,210	6,150	2,890	3,730	3,830	4,790
25	1,700	2,210	2,830	8,150	2,570	4,260	6,000	6,280	2,840	3,830	10,900	4,170
26	2,700	7,970	4,220	8,110	2,570	4,380	6,110	5,340	2,810	3,780	2,340	4,170
27	3,170	7,990	8,120	8,930	2,590	9,440	6,100	5,210	2,810	3,820	3,550	4,060
28	3,770	5,380	7,640	5,880	2,590	14,400	5,530	5,170	2,820	2,270	5,130	4,570
29	2,130	5,890	8,350	5,230	2,600	20,100	5,450	5,200	2,820	2,260	2,970	1,890
30	2,110	5,210	9,060	5,230	---	20,500	5,450	5,420	2,840	3,050	3,520	1,870
31	4,960	---	6,280	5,420	---	20,600	---	5,530	---	3,760	6,870	---
<b>Total</b>	79,200	109,450	271,470	245,920	82,660	167,890	254,270	174,640	121,040	99,120	114,060	105,220
<b>Mean</b>	2,555	3,648	8,757	7,933	2,850	5,416	8,476	5,634	4,035	3,197	3,679	3,507
<b>Max</b>	4,970	9,190	19,900	9,800	5,290	20,600	20,400	6,410	5,600	6,310	10,900	6,940
<b>Min</b>	1,680	1,700	2,830	5,230	2,330	2,520	5,450	5,170	2,810	2,240	2,240	1,870

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2012<sup>a</sup>, BY WATER YEAR (WY)**

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	5,432	6,232	7,844	9,620	9,753	10,210	11,150	9,772	7,422	5,895	5,096	5,200
<b>Max</b>	20,360	17,690	20,390	19,850	26,800	27,350	32,660	31,750	23,040	22,870	15,180	25,970
<b>(WY)</b>	(1980)	(1986)	(2010)	(2010)	(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 2011		Water Year 2012		Water Years 1964 - 2012 <sup>a</sup>	
<b>Annual total</b>	1,803,450		1,824,940			
<b>Annual mean</b>	4,941		4,986		7,680	
<b>Highest annual mean</b>					15,330	2003
<b>Lowest annual mean</b>					2,361	2002
<b>Highest daily mean</b>	19,900	Dec 14	20,600	Mar 31	36,000	Sep 11, 1996
<b>Lowest daily mean</b>	1,680	Oct 17	1,680	Oct 17	818	Nov 15, 1970
<b>Annual seven-day minimum</b>	1,810	Oct 16	1,810	Oct 16	989	Nov 5, 1986
<b>Maximum peak flow</b>			28,600	Aug 25	37,700	Apr 16, 1993
<b>Maximum peak stage</b>			9.66	Aug 25	11.87	Apr 16, 1993
<b>Instantaneous low flow</b>			1,600	Oct 27	760	Nov 23, 1970
<b>10 percent exceeds</b>	8,760		8,370		18,700	
<b>50 percent exceeds</b>	3,800		3,900		5,710	
<b>90 percent exceeds</b>	2,190		2,210		2,040	

<sup>a</sup> Regulated period only (1964-2012). See Remarks.

