

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 mi².

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.--No estimated daily discharges. Records good. Flow regulated since August 1950 by Philpott Lake on Smith River, usable capacity, 6,325,000,000 ft³; since September 1950 by John H. Kerr Reservoir, usable capacity, 101,247,000,000 ft³; 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 ft³/s, August 18, 1940; gage height: 39.0 ft, from floodmarks; minimum discharge: about 250 ft³/s, December 16, 1955. Minimum discharge for current water year also occurred October 26, 31.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in November 1877, discharge, 212,000 ft³/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 2009 TO SEPTEMBER 2010
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	3,520	1,770	19,900	20,600	20,700	20,700	17,400	7,480	6,340	2,350	2,190	3,610
2	3,560	2,470	20,000	20,600	20,700	20,600	20,000	7,470	8,250	2,260	2,170	4,120
3	2,190	1,730	20,400	20,600	20,700	e20,700	20,300	7,480	8,390	2,250	3,230	3,520
4	2,190	3,230	20,600	20,600	20,700	e20,800	20,200	7,390	8,380	2,280	3,210	2,320
5	2,510	3,230	20,600	20,600	20,800	20,800	20,400	7,340	8,300	2,280	4,040	2,310
6	2,470	3,290	20,500	20,600	20,800	20,700	20,200	7,350	8,270	4,100	3,290	2,310
7	1,880	1,710	20,200	20,600	20,700	20,700	20,400	7,410	8,250	5,890	2,200	4,170
8	2,270	1,690	20,100	20,600	20,700	20,600	20,700	6,560	8,350	3,510	2,210	4,410
9	2,720	2,440	20,300	20,600	20,700	20,700	20,800	6,430	8,390	2,440	3,300	3,510
10	1,830	2,550	20,200	20,700	20,700	20,800	14,600	6,390	8,330	2,620	3,670	3,920
11	1,660	3,480	20,400	20,700	20,600	20,800	14,300	6,390	8,330	2,310	3,340	2,340
12	1,660	8,800	20,500	20,700	20,700	20,500	14,400	6,440	6,870	2,400	3,690	2,300
13	1,670	15,400	20,500	20,600	20,600	8,830	14,400	6,520	6,760	2,440	3,380	3,470
14	1,670	15,900	20,500	20,700	20,700	8,240	14,300	6,440	6,810	3,420	2,250	5,600
15	1,680	20,400	20,300	20,600	20,700	12,200	14,400	5,340	6,800	4,150	2,260	4,510
16	1,720	20,400	20,300	14,600	20,700	10,500	14,400	5,310	8,290	3,380	3,380	4,070
17	2,080	20,500	18,400	16,300	20,700	11,600	11,500	5,370	10,300	2,380	3,400	3,990
18	2,040	20,500	20,600	15,000	20,700	8,680	11,300	5,310	7,610	2,280	3,400	2,310
19	2,440	20,300	20,600	16,200	20,700	9,070	8,650	5,250	3,420	3,350	3,360	2,380
20	2,800	19,700	20,600	16,200	20,700	12,100	8,480	5,350	3,360	2,210	3,890	3,840
21	2,780	20,400	20,600	20,600	20,700	12,300	8,490	5,350	3,410	2,140	2,320	3,610
22	2,750	20,400	20,600	20,700	20,600	12,400	8,520	6,360	3,310	3,250	2,290	3,600
23	2,450	19,500	20,600	20,600	20,700	15,000	8,460	6,450	3,010	5,370	3,570	5,260
24	2,050	20,800	20,500	20,700	20,700	12,200	8,340	6,390	3,060	2,150	3,440	6,890
25	2,020	20,400	20,600	20,900	20,700	12,300	8,220	6,280	3,080	2,160	3,470	2,490
26	3,180	19,100	20,600	20,700	20,800	11,700	8,240	6,240	3,250	3,160	4,280	2,330
27	1,700	20,000	20,600	20,700	20,700	12,200	8,300	6,360	3,110	3,190	3,510	7,720
28	1,700	17,600	20,600	20,700	20,600	12,300	8,300	6,330	3,200	4,250	2,330	4,250
29	1,780	19,400	20,600	20,700	---	12,500	8,350	6,300	3,190	6,860	2,340	3,910
30	1,870	19,900	20,600	20,700	---	12,300	8,390	6,260	2,980	2,140	3,780	6,260
31	2,020	---	20,600	20,700	---	17,600	---	6,290	---	2,190	3,840	---
Total	68,860	386,990	632,000	615,400	579,500	472,420	404,740	197,630	181,400	95,160	97,030	115,330
Mean	2,221	12,900	20,390	19,850	20,700	15,240	13,490	6,375	6,047	3,070	3,130	3,844
Max	3,560	20,800	20,600	20,900	20,800	20,800	20,800	7,480	10,300	6,860	4,280	7,720
Min	1,660	1,690	18,400	14,600	20,600	8,240	8,220	5,250	2,980	2,140	2,170	2,300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2010^a, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	5,529	6,293	7,888	9,783	10,060	10,370	11,250	9,924	7,556	6,012	5,156	5,269
Max	20,360	17,690	20,390	19,850	26,800	27,350	32,660	31,750	23,040	22,870	15,180	25,970
(WY)	(1980)	(1986)	(2010)	(2010)	(1998)	(1998)	(1993)	(1978)	(2003)	(2003)	(2003)	(1996)
Min	2,031	1,987	2,046	2,037	2,014	1,910	1,951	2,446	2,365	2,581	2,519	2,186
(WY)	(1971)	(1987)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(1977)	(1970)	(1993)	(1968)

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SUMMARY STATISTICS

	Calendar Year 2009		Water Year 2010		Water Years 1964 - 2010 ^a	
Annual total	2,946,790		3,846,460			
Annual mean	8,073		10,540		7,802	
Highest annual mean					15,330	2003
Lowest annual mean					2,361	2002
Highest daily mean	20,800	Jun 9	20,900	Jan 25	36,000	Sep 11, 1996
Lowest daily mean	1,660	Oct 11	1,660	Oct 11	818	Nov 15, 1970
Annual seven-day minimum	1,700	Oct 10	1,700	Oct 10	989	Nov 5, 1986
Maximum peak flow			23,600	Jun 17	37,700	Apr 16, 1993
Maximum peak stage			8.90	Jun 17	11.87	Apr 16, 1993
Instantaneous low flow			^b 1,620	Oct 22	760	Nov 23, 1970
10 percent exceeds	20,400		20,700		18,900	
50 percent exceeds	5,320		7,720		5,850	
90 percent exceeds	2,370		2,260		2,040	

^a Regulated period only (1964-2010). See Remarks.

^b See Remarks.

