

Water-Data Report 2013

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.--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 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.

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 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2,590	2,550	2,240	2,260	19,300	6,200	7,730	8,490	10,000	5,220	7,720	2,490
2	1,860	2,380	2,250	2,280	17,300	3,660	7,700	8,520	9,850	5,350	5,650	6,510
3	2,450	2,110	2,250	2,360	13,800	3,590	7,710	8,500	9,800	8,790	3,350	7,120
4	2,460	1,810	2,300	2,320	14,100	3,610	7,770	7,780	9,740	8,840	3,210	2,590
5	1,930	2,130	2,220	2,250	13,800	3,640	7,900	7,360	8,210	8,630	4,760	2,520
6	1,910	2,100	2,260	2,260	13,900	3,680	7,800	7,240	7,820	19,900	5,480	2,510
7	1,930	2,170	2,280	2,290	14,300	3,720	7,740	7,290	9,810	20,300	8,100	2,510
8	2,500	2,160	2,260	2,300	14,000	3,630	7,740	7,310	12,800	20,300	7,820	2,520
9	3,010	2,130	2,240	2,310	7,140	4,310	7,810	10,000	14,000	20,200	9,110	3,120
10	2,450	1,820	2,280	2,270	6,010	4,480	9,720	14,600	15,200	20,600	2,710	2,560
11	1,880	1,790	2,280	2,230	5,830	4,480	9,850	15,800	20,600	20,400	5,780	3,960
12	2,240	2,040	2,280	2,240	6,160	4,460	9,820	15,800	20,600	20,400	8,410	3,280
13	1,950	2,040	2,280	2,290	8,350	4,410	9,200	14,600	21,000	20,400	5,310	3,860
14	1,980	2,080	2,300	2,250	8,520	4,410	9,140	13,900	20,900	20,400	5,150	2,650
15	1,960	2,130	2,340	2,270	8,400	4,490	9,160	13,900	20,700	20,500	5,460	2,560
16	2,060	2,430	2,270	2,300	7,110	7,600	9,160	14,000	16,100	20,200	5,230	2,330
17	1,990	2,320	2,280	2,820	7,010	7,790	10,300	13,900	12,400	20,300	2,520	2,510
18	4,420	2,310	2,280	9,430	7,680	7,760	10,300	13,900	11,900	20,600	2,470	3,300
19	3,120	2,410	2,310	15,200	6,870	7,810	10,400	13,900	12,100	20,500	2,510	5,440
20	1,950	2,410	2,390	12,500	7,730	7,780	10,300	13,900	11,900	14,300	3,960	5,350
21	1,910	2,360	2,310	15,500	9,730	8,140	10,300	13,800	12,100	11,800	4,070	2,030
22	2,550	2,360	2,290	15,300	7,430	7,700	10,400	e13,700	9,620	11,800	4,800	2,030
23	2,410	2,380	2,240	15,700	3,310	6,660	10,300	e13,700	8,680	15,200	4,850	2,230
24	2,330	2,430	2,290	14,800	3,070	6,640	9,180	13,700	8,710	15,300	2,450	3,570
25	2,940	2,300	2,300	15,600	4,530	6,750	9,210	13,600	8,680	10,600	2,460	3,920
26	6,160	2,350	2,310	18,500	4,560	6,730	9,450	13,600	7,380	10,400	3,070	3,850
27	1,980	2,350	2,250	19,500	4,540	6,670	8,520	13,600	7,180	10,400	4,680	3,350
28	1,920	2,420	2,260	19,600	4,500	6,640	8,410	13,700	7,140	10,300	4,620	1,980
29	1,940	2,410	2,270	19,700	---	6,670	8,590	13,600	5,430	8,560	5,340	2,000
30	1,930	2,340	2,230	19,500	---	7,730	8,550	11,800	5,000	7,410	2,600	1,960
31	2,450	---	2,260	19,500	---	7,740	---	11,500	---	7,310	2,560	---
Total	75,160	67,020	70,600	269,630	248,980	179,580	270,160	376,990	355,350	455,210	146,210	96,610
Mean	2,425	2,234	2,277	8,698	8,892	5,793	9,005	12,160	11,840	14,680	4,716	3,220
Max	6,160	2,550	2,390	19,700	19,300	8,140	10,400	15,800	21,000	20,600	9,110	7,120
Min	1,860	1,790	2,220	2,230	3,070	3,590	7,700	7,240	5,000	5,220	2,450	1,960

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2013^a, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	5,369	6,152	7,733	9,602	9,735	10,120	11,110	9,820	7,510	6,071	5,088	5,160
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 2012		Water Year 2013		Water Years 1964 - 2013 ^a	
Annual total	1,577,600		2,611,500			
Annual mean	4,310		7,155		7,670	
Highest annual mean					15,330	2003
Lowest annual mean					2,361	2002
Highest daily mean	20,600	Mar 31	21,000	Jun 13	36,000	Sep 11, 1996
Lowest daily mean	1,790	Nov 11	1,790	Nov 11	818	Nov 15, 1970
Annual seven-day minimum	2,000	Nov 9	2,000	Nov 9	989	Nov 5, 1986
Maximum peak flow			21,500	Jun 13	37,700	Apr 16, 1993
Maximum peak stage			8.51	Jun 13	11.87	Apr 16, 1993
Instantaneous low flow			1,750	Nov 3	760	Nov 23, 1970
10 percent exceeds	8,110		15,200		18,700	
50 percent exceeds	3,330		5,460		5,700	
90 percent exceeds	2,240		2,230		2,040	

^a Regulated period only (1964-2013). See Remarks.

