

Water-Data Report 2010

02087183 NEUSE RIVER NEAR FALLS, NC

Neuse Basin
Upper Neuse Subbasin

LOCATION.--Lat 35°56'24", long 78°34'51" referenced to North American Datum of 1983, Wake County, NC, Hydrologic Unit 03020201, on right bank 300 ft downstream from Falls Lake Dam, and 0.3 mi northwest of Falls.

DRAINAGE AREA.--771 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1970 to current year.

REVISED RECORDS.--WDR NC-91-1: Drainage area. WRD NC 96-1: 1991-95 (annual maximum discharges and gage heights)

GAGE.--Water-stage recorder. Datum of gage is 194.69 ft above National Geodetic Vertical Datum of 1929. Prior to October 1, 1990, water-stage recorder at site 0.4 mi downstream at 182.62 ft. U.S. Army Corps of Engineers satellite telemetry at streamgage.

REMARKS.--No estimated daily discharges. Records good. The City of Raleigh diverted an average of 69.4 ft³/s, 1.2 mi upstream from station for municipal water supply, of which an average of 68.9 ft³/s was returned downstream as treated effluent. Flow regulated by Falls Lake (station 02087182). June 5, 1980, to May 6, 1981, flows affected by incidental storage in Falls Lake, under construction; May 6, 1981, to January 13, 1983, gates closed and Falls Lake partially filled to provide storage for City of Raleigh water supply; January 13, 1983, gates closed and normal pool elevation, 250.1 ft, reached December 7, 1983. Prior to regulation, maximum discharge: 13,600 ft³/s, July 17, 1975; gage height: 25.21 ft; minimum discharge: 4.6 ft³/s, September 24, 1980; gage height: 2.13 ft, at site then in use. Maximum gage-height and discharge for period of record may have been higher during period of estimated record, August 27-September 30, 1996. Minimum discharge for period of record not determined due to intermittent gate closure at dam. Minimum discharge for current water year occurred several days.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in September 1945 reached an elevation of 216.1 ft; discharge, 23,300 ft³/s at bridge 0.4 mi upstream, from information provided by the U.S. Army Corps of Engineers.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	92	94	1,510	3,020	1,170	2,880	396	112	2,020	107	103	117
2	93	94	493	3,040	1,430	1,710	1,000	112	2,510	129	103	121
3	92	81	496	3,030	1,930	1,720	1,190	113	2,480	155	102	115
4	93	61	1,050	3,020	1,370	1,350	1,190	112	2,460	166	103	115
5	93	61	2,100	1,770	526	958	1,190	111	2,460	166	104	135
6	94	61	2,100	634	537	511	1,030	110	2,440	165	103	160
7	94	61	2,100	633	541	511	733	109	1,870	154	103	159
8	94	60	2,090	635	542	481	512	109	755	149	103	143
9	94	74	2,090	634	542	427	380	109	114	148	103	144
10	94	103	2,100	633	995	359	322	107	114	152	103	144
11	94	104	2,580	388	2,000	253	442	105	116	134	103	144
12	94	106	3,030	215	3,220	254	403	105	116	122	103	144
13	94	108	3,010	215	3,350	256	375	105	116	122	103	144
14	94	908	3,000	215	3,340	256	387	105	116	122	104	125
15	94	1,640	2,990	193	3,340	258	415	105	116	120	104	107
16	94	1,640	3,010	148	3,320	258	408	105	116	113	115	117
17	94	1,960	3,000	149	3,310	310	367	107	116	107	135	146
18	95	2,220	1,670	150	3,490	413	342	107	116	107	136	156
19	105	1,640	496	923	3,690	1,470	321	107	116	107	128	156
20	117	653	496	2,210	3,660	2,520	294	107	117	107	122	156
21	117	650	1,660	1,620	3,460	2,480	265	567	116	107	122	156
22	117	651	3,070	397	2,780	2,310	234	1,080	117	107	122	155
23	101	653	3,080	397	3,230	921	215	1,080	129	129	122	153
24	93	658	3,060	396	3,460	173	214	533	120	134	122	157
25	94	1,400	3,050	399	3,670	173	216	131	121	99	122	159
26	94	2,100	3,050	793	3,660	173	200	128	140	114	122	159
27	94	2,090	3,090	2,050	3,650	174	186	816	140	148	122	126
28	94	2,070	3,080	2,180	3,630	174	187	1,610	140	123	122	105
29	94	2,050	3,060	1,170	---	175	187	1,610	140	102	122	106
30	94	2,050	3,050	1,170	---	177	160	1,630	120	103	118	107
31	94	---	3,040	1,180	---	177	---	1,620	---	102	112	---
Total	2,994	26,101	71,701	33,607	69,843	24,262	13,761	12,967	19,667	3,920	3,511	4,131
Mean	96.6	870	2,313	1,084	2,494	783	459	418	656	126	113	138
Max	117	2,220	3,090	3,040	3,690	2,880	1,190	1,630	2,510	166	136	160
Min	92	60	493	148	526	173	160	105	114	99	102	105

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2010^a, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	359	378	635	752	1,074	1,377	1,107	469	347	300	276	411
Max	3,217	1,535	2,313	2,014	3,462	3,992	3,687	1,821	1,427	1,501	1,099	3,953
(WY)	(2000)	(1996)	(2010)	(1984)	(1998)	(1989)	(2003)	(1989)	(2003)	(1995)	(1989)	(1996)
Min	72.6	65.2	55.0	56.6	54.8	30.8	72.3	110	115	61.7	61.0	67.8
(WY)	(1984)	(1984)	(2008)	(2008)	(2008)	(2008)	(2006)	(1995)	(2008)	(1983)	(1983)	(1985)

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SUMMARY STATISTICS

	Calendar Year 2009		Water Year 2010		Water Years 1983 - 2010 ^a	
Annual total	248,353		286,465			
Annual mean	680		785		621	
Highest annual mean					1,312	2003
Lowest annual mean					123	2002
Highest daily mean	3,090	Dec 27	3,690	Feb 19	7,420	Sep 16, 1996
Lowest daily mean	60	Nov 8	60	Nov 8	26	Mar 4, 2008
Annual seven-day minimum	66	Nov 3	66	Nov 3	28	Mar 4, 2008
Maximum peak flow			3,900	Feb 18	^b 7,650	Sep 16, 1996
Maximum peak stage			4.03	Feb 18	^b 8.05	Sep 16, 1996
Instantaneous low flow			^b 60	Nov 3		
10 percent exceeds	2,360		2,920		2,050	
50 percent exceeds	161		166		175	
90 percent exceeds	94		100		80	

^a Regulated period only (1983-2010). See Remarks.

^b See Remarks.

