Water-Data Report 2012

02085500 FLAT RIVER AT BAHAMA, NC

Neuse Basin
Upper Neuse Subbasin

LOCATION.--Lat 36°10′58″, long 78°52′44″ referenced to North American Datum of 1983, Durham County, NC, Hydrologic Unit 03020201, on right bank 0.5 mi upstream from Lake Michie, 1.2 mi upstream from bridge on Secondary Road 1616, 1.2 mi north of Bahama, and 1.5 mi upstream from Dial Creek.

DRAINAGE AREA.--149 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1925 to current year.

REVISED RECORDS.--WSP 1333: 1926, 1928(M), 1938, 1946. WDR NC-81-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 346.85 ft above National Geodetic Vertical Datum of 1929. Prior to October 22, 1925, nonrecording gage at present site at 346.27 ft. Satellite telemetry at streamgage.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Prior to December 1962, some diurnal fluctuation and infrequent regulation at low flow caused by small mill 5 mi upstream. Maximum discharge for period of record from rating curve extended above 18,000 ft^3/s, on basis of slope-conveyance measurement of peak flow; maximum gage height, 17.26 ft, from high-water mark inside gage shelter. No flow also occurred October 12-17, 2007.

Suggested citation: U.S. Geological Survey, 2013, Water-resources data for the United States, Water Year 2012: U.S. Geological Survey Water-Data Report WDR-US-2012, site 02085500, accessed at http://wdr.water.usgs.gov/wy2012/pdfs/02085500.2012.pdf

02085500 FLAT RIVER AT BAHAMA, NC—Continued

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	1.6	e1.2	80	36	24	48	54	35	25	3.9	7.0	14
2	1.3	e1.1	47	35	24	48	49	30	217	3.9	4.7	9.6
3	1.6	e1.0	34	32	24	101	42	28	77	3.8	3.6	137
4	1.9	448	26	28	24	185	38	25	39	3.6	3.0	193
5	1.3	282	21	27	26	91	49	147	28	3.4	2.4	67
6	1.0	76	18	25	35	58	54	864	23	3.3	2.5	34
7	0.99	37	20	24	37	47	39	159	20	3.1	2.9	25
8	1.1	24	188	24	31	41	33	76	17	2.7	16	23
9	0.90	17	97	24	29	41	29	53	15	2.7	11	18
10	0.86	12	54	24	25	47	26	210	13	4.6	6.9	12
11	e0.95	9.6	40	26	25	42	23	95	12	5.7	8.3	9.2
12	e1.2	7.2	32	37	22	36	20	49	14	13	15	6.8
13	e0.90	6.5	27	62	21	29	19	37	163	10	13	5.0
14	e0.78	5.1	24	43	19	29	19	34	69	8.2	9.1	3.8
15	e0.72	3.9	23	33	18	30	19	78	33	5.7	6.0	2.9
16	e0.71	4.3	21	28	19	28	18	80	22	4.5	4.0	3.5
17	e0.70	14	44	25	21	29	17	49	17	4.0	2.9	3.5
18	e0.69	116	81	24	23	29	16	38	14	3.7	2.3	444
19	e3.7	54	48	24	26	29	16	29	12	2.9	124	626
20	e2.6	32	36	23	52	108	19	24	12	2.5	167	121
21	e1.7	22	35	24	143	116	19	20	13	106	45	56
22	e1.2	16	263	29	90	82	47	20	12	52	23	37
23	e1.0	15	244	35	76	51	148	224	9.5	46	14	28
24	e0.94	12	134	31	95	111	94	127	8.5	24	9.6	25
25	e0.88	10	75	29	187	1,800	48	73	7.6	12	7.2	18
26	e0.84	9.0	54	27	103	404	216	48	6.1	7.9	5.7	14
27	e0.82	8.7	47	28	59	192	241	33	5.1	5.6	4.8	12
28	e0.78	8.8	87	32	51	112	90	27	6.2	44	3.8	13
29	e2.7	215	79	34	50	88	53	22	5.2	44	111	13
30	e1.8	231	52	28	---	68	40	20	4.3	19	52	12
31	e1.3	---	41	25	---	57	---	18	---	11	24	---
Total	39.46	1,699.4	2,072	926	1,379	4,177	1,595	2,772	919.5	466.7	711.7	1,986.3
Mean	1.27	56.6	66.8	29.9	47.6	135	53.2	89.4	30.6	15.1	23.0	66.2
Max	3.7	448	263	62	187	1,800	241	864	217	106	167	626
Min	0.69	1.0	18	23	18	28	16	18	4.3	2.5	2.3	2.9
Cfsm	0.01	0.38	0.45	0.20	0.32	0.90	0.36	0.60	0.21	0.10	0.15	0.44
In.	0.01	0.42	0.52	0.23	0.34	1.04	0.40	0.69	0.23	0.12	0.18	0.50

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 2012, BY WATER YEAR (WY)

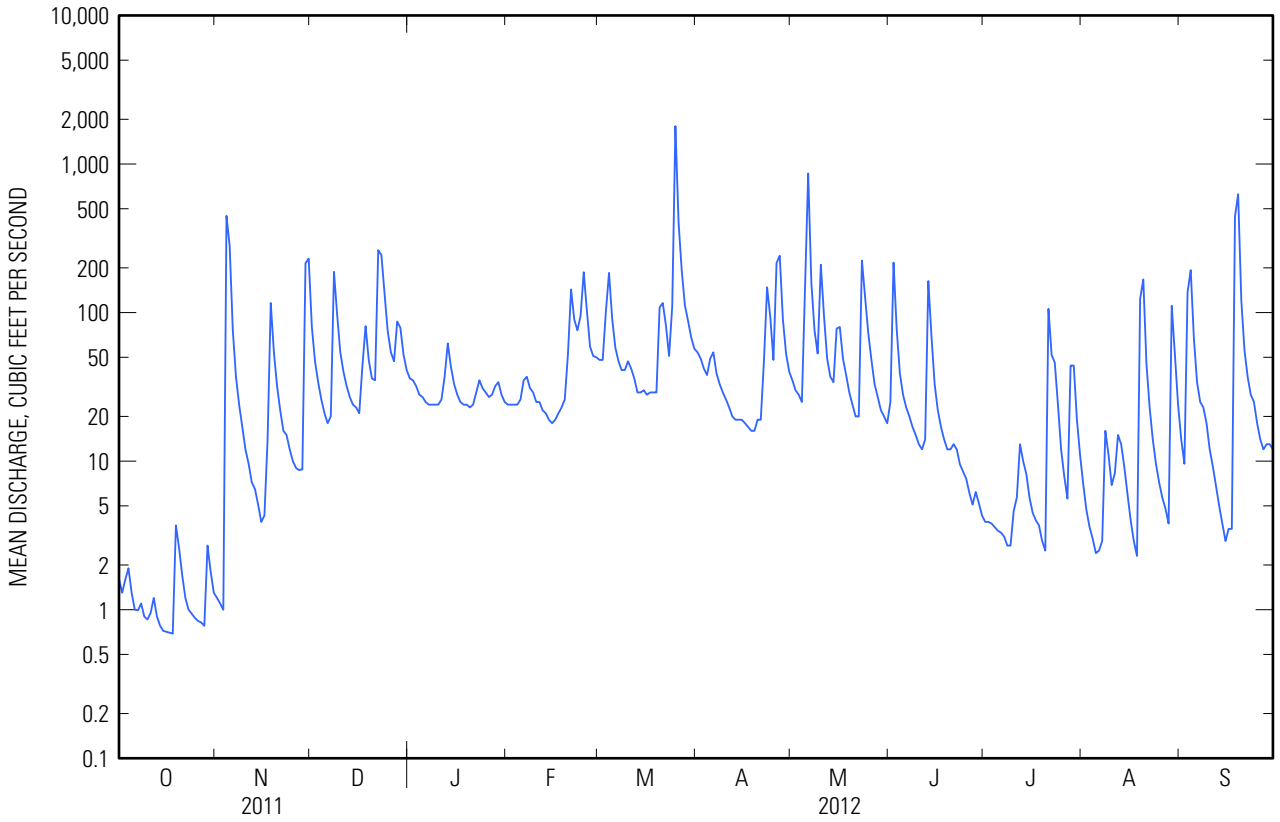
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	63.5	98.1	137	211	256	279	215	110	78.1	80.3	69.6	84.9
Max	561	489	542	761	758	948	656	573	551	798	431	984
(WY)	(1972)	(1986)	(2010)	(1936)	(1998)	(1998)	(2003)	(1978)	(1938)	(1975)	(1939)	(1996)
Min	1.11	0.71	1.81	4.29	33.3	28.5	31.1	19.3	3.85	1.68	0.72	0.22
(WY)	(2006)	(1934)	(1934)	(1934)	(2011)	(2006)	(1942)	(2002)	(2002)	(2002)	(2007)	(2007)

02085500 FLAT RIVER AT BAHAMA, NC—Continued

SUMMARY STATISTICS

	Calendar Year 2011		Water Year 2012		Water Years 1925 - 2012	
Annual total	17,512.21		18,744.06			
Annual mean	48.0		51.2		140	
Highest annual mean					347	2003
Lowest annual mean					25.2	2002
Highest daily mean	680	Mar 31	1,800	Mar 25	21,800	Sep 6, 1996
Lowest daily mean	0.16	Sep 4	0.69	Oct 18	0.00	Oct 12, 2007
Annual seven-day minimum	0.33	Aug 30	0.81	Oct 12	0.00	Oct 11, 2007
Maximum peak flow			3,360	Mar 25	[a]33,800	Sep 6, 1996
Maximum peak stage			6.14	Mar 25	[a]17.26	Sep 6, 1996
Instantaneous low flow			Not determined		[a]0.00	Oct 11, 2007
Annual runoff (cfsm)	0.322		0.344		0.938	
Annual runoff (inches)	4.37		4.68		12.74	
10 percent exceeds	115		111		271	
50 percent exceeds	20		24		47	
90 percent exceeds	1.0		2.7		6.1	

[a] See Remarks.



02085500 FLAT RIVER AT BAHAMA, NC—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1988 to June 2012 (discontinued).

REMARKS.--Station operated to define water quality as part of a regional surface-water quality assessment and to define the impacts of various land-use development on surface-water quality in the Upper Neuse River basin. For the period February 1988 through June 1989 the inorganic-chemical data and trace-metal data were analyzed by the city of Durham's Brown Water Treatment Laboratory.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 1 of 4

[%, percent; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Medium name	Sample type	Barometric pressure, mm Hg (00025)	Discharge, instantaneous, ft³/s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)	Specific conductance, water, unfiltered, µS/cm at 25°C (00095)
10-27-2011	**1030**	Surface water	Regular	747	4.6	7.3	71	6.7	84
11-04-2011	**1245**	Surface water	Regular	751	759	9.9	89	6.0	58
11-29-2011	**1400**	Surface water	Regular	746	51	9.2	89	7.5	88
12-22-2011	**1430**	Surface water	Regular	755	268	10.2	94	6.6	76
03-13-2012	**1315**	Surface water	Regular	761	30	9.9	99	7.5	86
03-20-2012	**1130**	Surface water	Regular	756	69	8.0	85	6.3	87
06-07-2012	**1415**	Surface water	Regular	757	18	7.7	88	6.4	83

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 2 of 4

[%, percent; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Temperature, water, °C (00010)	Ammonia plus organic nitrogen, water, unfiltered, mg/L as N (00625)	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Orthophosphate, water, filtered, mg/L as P (00671)	Phosphorus, water, unfiltered, mg/L as P (00665)	Aluminum, water, unfiltered, recoverable, µg/L (01105)	Cadmium, water, unfiltered, µg/L (01027)
10-27-2011	**1030**	13.4	0.30	< .010	< .01	< .004	0.024	--	--
11-04-2011	**1245**	10.3	1.4	.017	.15	.072	.453	--	--
11-29-2011	**1400**	13.0	.52	< .010	.06	.027	.078	331	< .016
12-22-2011	**1430**	11.2	.59	< .010	.18	.015	.091	--	--
03-13-2012	**1315**	15.2	.36	.019	.10	.010	.037	--	--
03-20-2012	**1130**	17.9	.44	.024	.09	.007	.044	--	--
06-07-2012	**1415**	21.6	.55	.032	.31	.026	.082	--	--

02085500 FLAT RIVER AT BAHAMA, NC—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 3 of 4

[%, percent; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Chromium, water, unfiltered, recoverable, µg/L (01034)	Cobalt, water, unfiltered, recoverable, µg/L (01037)	Copper, water, unfiltered, recoverable, µg/L (01042)	Iron, water, unfiltered, recoverable, µg/L (01045)	Lead, water, unfiltered, recoverable, µg/L (01051)	Manganese, water, unfiltered, recoverable, µg/L (01055)	Mercury, water, unfiltered, recoverable, µg/L (71900)	Molybdenum, water, unfiltered, recoverable, µg/L (01062)	Nickel, water, unfiltered, recoverable, µg/L (01067)
10-27-2011	1030	--	--	--	--	--	--	--	--	--
11-04-2011	1245	--	--	--	--	--	--	--	--	--
11-29-2011	1400	.45	.34	1.9	1,120	.57	124	< .005	.11	.51
12-22-2011	1430	--	--	--	--	--	--	--	--	--
03-13-2012	1315	--	--	--	--	--	--	--	--	--
03-20-2012	1130	--	--	--	--	--	--	--	--	--
06-07-2012	1415	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 4 of 4

[%, percent; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

Date	Sample start time	Silver, water, unfiltered, recoverable, µg/L (01077)	Zinc, water, unfiltered, recoverable, µg/L (01092)	Arsenic, water, unfiltered, µg/L (01002)	Selenium, water, unfiltered, µg/L (01147)	Suspended sediment concentration, mg/L (80154)	Suspended sediment discharge, tons per day (80155)
10-27-2011	1030	--	--	--	--	4	0.05
11-04-2011	1245	--	--	--	--	368	754
11-29-2011	1400	< .015	< 3.0	.60	.127	--	--
12-22-2011	1430	--	--	--	--	43	31
03-13-2012	1315	--	--	--	--	9	.73
03-20-2012	1130	--	--	--	--	12	2.2
06-07-2012	1415	--	--	--	--	10	.49