



Water-Data Report 2011

02086624 KMAP OF REEDS CREEK NEAR BUTNER, NC

Neuse Basin
Upper Neuse Subbasin

LOCATION.--Lat 36°07'40", long 78°47'55" referenced to North American Datum of 1927, Granville County, NC, Hydrologic Unit 03020201, on left bank, 1.5 mi downstream of bridge on Secondary Road 1120, 2.3 mi west of Butner, and 2.5 mi upstream from mouth.

DRAINAGE AREA.--43 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1982 to September 1995, February 2006 to current year.

GAGE.--Water-stage recorder. Datum of gage is 254.56 ft above North American Vertical Datum of 1988. Satellite telemetry at streamgage.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Some diurnal fluctuation at low flow.

02086624 KMAP OF REEDS CREEK NEAR BUTNER, NC—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	33	e4.4	e23	5.0	4.4	e15	40	3.5	8.1	3.6	3.5	2.8
2	15	e4.4	e5.9	7.3	6.1	e11	36	3.6	8.3	2.4	2.6	2.6
3	8.1	e15	e4.7	5.9	6.5	e9.8	27	3.6	5.8	2.7	2.4	2.8
4	6.5	e29	e4.4	4.6	6.4	e7.9	23	26	5.3	3.1	2.6	2.2
5	5.6	e9.9	e8.3	4.2	e37	e6.5	38	25	5.1	5.8	1.9	2.3
6	5.5	e6.1	e4.7	4.3	e11	e6.7	26	18	4.7	4.1	2.3	12
7	6.1	e5.2	3.1	4.5	e12	e9.6	14	22	4.5	4.4	2.2	64
8	e5.2	e4.0	2.4	4.7	e12	e4.9	11	16	4.6	4.4	2.4	5.8
9	e4.7	e4.4	2.5	4.5	e9.5	e4.0	13	11	4.2	8.6	2.6	3.7
10	e4.7	e4.0	2.8	4.6	e8.3	37	35	7.6	4.6	4.0	2.7	2.7
11	e4.7	e4.3	2.6	4.2	e7.1	37	28	6.6	5.9	4.8	2.8	2.7
12	e4.7	e3.7	2.9	4.7	e6.3	16	24	4.6	13	3.5	1.9	2.8
13	e4.5	e4.0	4.4	4.5	e6.1	10	22	4.1	6.2	3.0	62	2.7
14	e27	e3.9	3.2	4.3	e5.9	8.0	13	14	4.5	2.8	8.1	3.0
15	e10	e3.9	3.0	3.6	e5.1	6.7	8.3	22	4.3	2.7	2.9	2.5
16	e5.4	e4.4	4.7	3.8	e4.9	11	63	12	4.4	2.3	2.4	2.9
17	e4.4	e9.9	7.9	4.3	e4.6	8.1	142	7.6	4.5	2.5	2.1	2.7
18	e4.2	e4.8	4.5	4.6	e4.6	6.7	44	6.6	3.4	2.9	1.9	2.9
19	e4.2	e4.1	4.0	3.7	e4.6	5.7	27	4.5	3.5	3.5	2.6	2.9
20	e4.2	e4.3	3.8	6.5	e5.0	5.0	22	3.4	3.9	2.8	5.6	2.9
21	e4.1	e4.1	3.7	4.2	e4.3	5.1	17	2.7	3.5	4.6	2.2	3.0
22	e4.4	e4.0	4.0	3.9	e4.1	5.1	11	2.4	3.9	2.0	2.1	3.6
23	e4.2	e4.1	4.1	4.0	e3.7	5.0	15	17	3.7	1.9	2.2	12
24	e3.9	e4.0	4.4	4.4	e4.0	52	12	6.5	3.5	1.9	2.3	7.5
25	e12	e4.0	4.3	4.3	e4.5	16	10	3.6	3.2	2.9	2.4	3.9
26	e13	e4.1	4.9	11	e4.7	9.4	7.4	3.0	3.1	4.5	2.0	3.5
27	e12	e4.1	5.8	9.5	e4.6	31	6.3	120	3.6	4.0	3.4	3.9
28	e8.2	e3.7	5.3	5.8	e7.4	18	6.0	77	4.2	3.3	7.1	5.6
29	e6.3	e3.9	5.3	4.6	---	16	5.1	25	5.6	3.2	14	4.8
30	e5.1	e4.0	5.2	4.2	---	96	4.1	16	3.9	2.0	14	4.1
31	e4.7	---	4.9	4.4	---	44	---	11	---	3.1	3.7	---
Total	245.6	173.7	154.7	154.1	204.7	524.2	750.2	505.9	147.0	107.3	172.9	180.8
Mean	7.92	5.79	4.99	4.97	7.31	16.9	25.0	16.3	4.90	3.46	5.58	6.03
Max	33	29	23	11	37	96	142	120	13	8.6	62	64
Min	3.9	3.7	2.4	3.6	3.7	4.0	4.1	2.4	3.1	1.9	1.9	2.2
Cfsm	0.18	0.13	0.12	0.12	0.17	0.39	0.58	0.38	0.11	0.08	0.13	0.14
In.	0.21	0.15	0.13	0.13	0.18	0.45	0.65	0.44	0.13	0.09	0.15	0.16

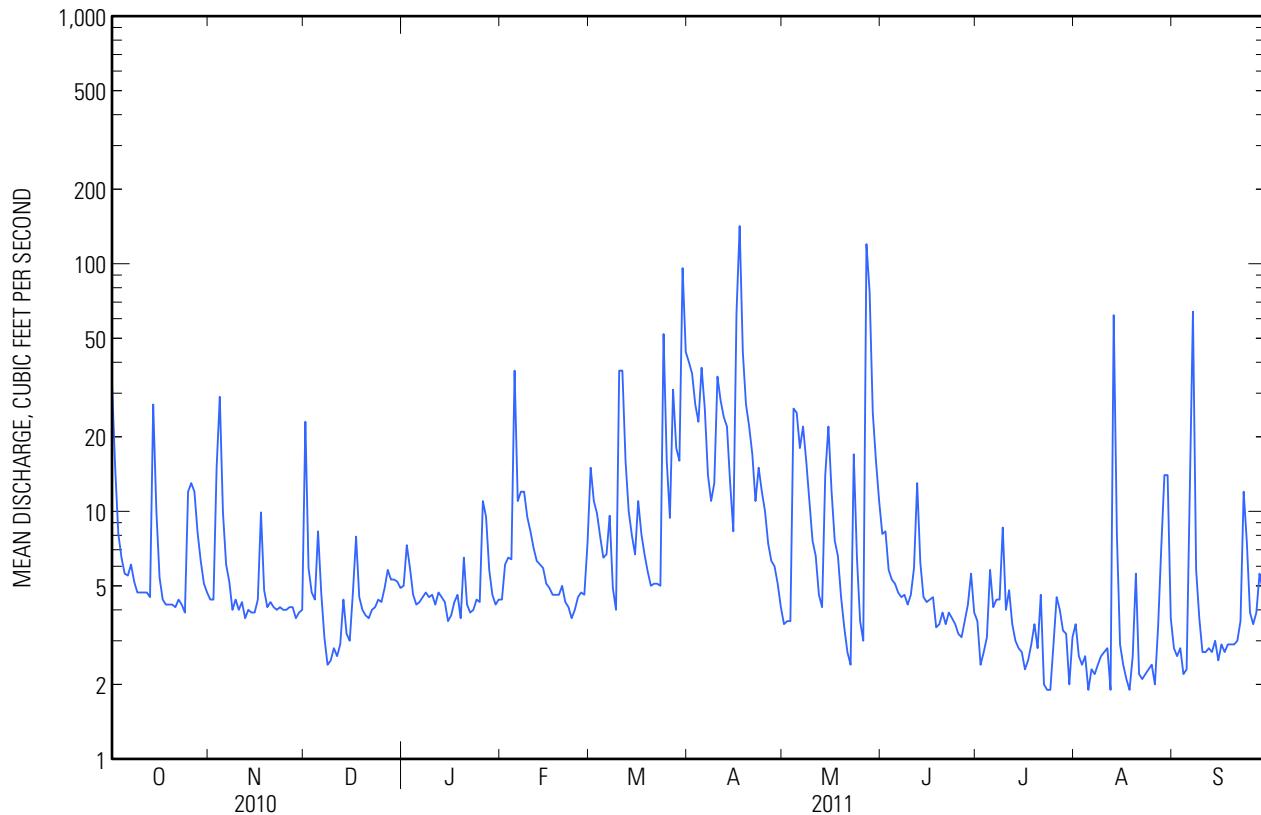
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2011^a, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	15.4	30.1	43.1	59.2	68.1	96.9	57.6	31.8	18.6	21.6	15.3	9.28
Max	105	147	136	164	170	253	190	109	151	166	113	65.8
(WY) (1990)	(1986)	(2010)	(1991)	(1983)	(1993)	(1993)	(1993)	(1989)	(1995)	(1989)	(1989)	(2008)
Min	3.65	3.72	4.99	4.97	7.31	6.57	5.83	5.33	2.41	2.12	3.04	2.44
(WY)	(1985)	(2008)	(2011)	(2011)	(2011)	(2006)	(1995)	(1986)	(1986)	(1985)	(1993)	(1984)

02086624 KMAP OF REEDS CREEK NEAR BUTNER, NC—Continued**SUMMARY STATISTICS**

	Calendar Year 2010		Water Year 2011		Water Years 1983 - 2011^a	
Annual total	9,924.4		3,321.1			
Annual mean	27.2		9.10		39.5	
Highest annual mean					78.9	1989
Lowest annual mean					9.10	2011
Highest daily mean	619	Feb 6	142	Apr 17	2,920	Mar 4, 1993
Lowest daily mean	2.4	Dec 8	1.9	Jul 23	0.99	Jun 12, 2008
Annual seven-day minimum	2.9	Sep 10	2.3	Aug 2	1.2	Jun 9, 2008
Maximum peak flow			430	May 27	5,800	Mar 4, 1993
Maximum peak stage			6.16	May 27	8.31	Mar 4, 1993
Instantaneous low flow			Not determined		Not determined	
Annual runoff (cfsm)	0.632		0.212		0.919	
Annual runoff (inches)	8.59		2.87		12.48	
10 percent exceeds	53		18		71	
50 percent exceeds	5.9		4.6		7.8	
90 percent exceeds	3.3		2.7		2.9	

^a See Period of Record.



02086624 KMAP OF REEDS CREEK NEAR BUTNER, NC—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1983-87, 1989-95, 2006-11.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1982 to September 1985.

WATER TEMPERATURE: October 1982 to September 1985.

INSTRUMENTATION.--Water-quality monitor from October 1982 to September 1985.

REMARKS.--Station operated to define water quality as part of a regional surface-water quality assessment. Samples for October 1994 and April 1995 were collected by the North Carolina Department of Environment, Health and Natural Resources. A GC/FID scan for trace organic compounds was performed on these samples at the U.S. Geological Survey Water Quality Lab. Results are available at the North Carolina Water Science Center, Raleigh, NC.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, >1,100 microsiemens, August 25, 30, 31, 1984; minimum recorded, 39 microsiemens, March 7, 1984.

WATER TEMPERATURE: Maximum recorded, 31.5°C, August 15, 1985; minimum recorded, 1.0°C, January 21, 29, February 9, 1985.

**WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 1 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; 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]

Date	Sample start time	Medium name	Sample type	Barometric pressure, mm Hg (00025)	Color, water, filtered, platinum	Discharge, instantan-eous, cobalt units (00080)	Dissolved oxygen, water, ft ³ /s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)	pH, water, unfiltered, % saturation (00301)	pH, water, field, standard units (00400)
03-30-2011	1515	Surface water	Regular	755	150	291	10.2	90	6.8	

**WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 2 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; 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]

Date	Sample start time	Specific conductance, water, unfiltered, µS/cm at 25 °C (00095)		Temperature, water, °C (00010)	Dissolved solids dried at 180 °C, water, filtered, mg/L (70300)		Hardness, water, mg/L as CaCO ₃ (00900)	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	Sodium, water, filtered, mg/L (00930)	ANC, water, unfiltered, inflection-point, incremental titration method, field, mg/L as CaCO ₃ (00419)
		Specific conductance, water, unfiltered, µS/cm at 25 °C (00095)	Temperature, water, °C (00010)		Dissolved solids dried at 180 °C, water, filtered, mg/L (70300)							
03-30-2011	1515	125	9.6		85	32.4	7.10	3.57	2.78	11.3	24.7	

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 3 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; 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]

Date	Sample start time	Bi-carbonate, water, unfiltered, inflection-point, incremental titration method, field, mg/L (00450)				Silica, water, filtered, mg/L as SiO ₂ (00955)	Sulfate, water, filtered, mg/L (00945)	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)	Nitrite, water, filtered, mg/L as N (00613)
		Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)								
03-30-2011	1515	30.1	11.2	.12	9.29	11.5	1.4	.063	.691	.007	

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

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[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; 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]

Date	Sample start time	Orthophosphate, water, filtered, mg/L as P (00671)	Phosphorus, water, unfiltered, mg/L as P (00665)	Aluminum, water, recoverable, µg/L (01105)	Cadmium, water, unfiltered, µg/L (01027)	Chromium, water, unfiltered, recoverable, µg/L (01034)	water, unfiltered, recoverable, µg/L (01037)	Copper, water, unfiltered, recoverable, µg/L (01042)	Iron, water, unfiltered, recoverable, µg/L (01045)
03-30-2011	1515	.135	.397	2,540	.09	9.0	6.4	10.5	5,130

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 5 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; 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]

Date	Sample start time	Manganese, water, unfiltered, recoverable, µg/L (01051)	Mercury, water, unfiltered, recoverable, µg/L (01055)	Molybdenum, water, unfiltered, recoverable, µg/L (71900)	Nickel, water, unfiltered, recoverable, µg/L (01062)	Silver, water, unfiltered, recoverable, µg/L (01067)	Zinc, water, unfiltered, recoverable, µg/L (01077)	Arsenic, water, unfiltered, recoverable, µg/L (01092)	Selenium, water, unfiltered, recoverable, µg/L (01147)
03-30-2011	1515	5.93	683	.020	.4	8.2	.02	29.6	.99

02086624 KMAP OF REEDS CREEK NEAR BUTNER, NC—Continued

**WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER
2011**

Part 6 of 6

[%; percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; 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]

Date	Sample start time	Organic carbon, water, unfiltered, mg/L (00680)	Suspended sediment concentration, mg/L (80154)
03-30-2011	1515	21.4	282