



Water-Data Report 2011

02085070 ENO RIVER NEAR DURHAM, NC

Neuse Basin
Upper Neuse Subbasin

LOCATION.--Lat 36°04'20", long 78°54'28" referenced to North American Datum of 1983, Durham County, NC, Hydrologic Unit 03020201, on right bank
275 ft downstream of bridge on U.S. Highway 501, 0.2 mi downstream of Crooked Creek, and 5 mi north of Durham.

DRAINAGE AREA.--141 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1963 to current year. Occasional low-flow measurements, 1955.

PRECIPITATION: August 2008 to current year. Published as station number 360419078543145.

REVISED RECORDS.--WDR NC-72-1: 1968-71 (annual maximum discharges).

GAGE.--Water-stage recorder. Datum of gage is 269.92 ft above North American Vertical Datum of 1988. Prior to November 19, 1966, at site 275 ft upstream, at datum 272.35 ft. Water-stage recorder at present site, at datum 270.94 ft. November 20, 1966, to September 30, 1967. U.S. Army Corps of Engineers satellite telemetry at streamgage.

REMARKS.--No estimated daily discharges. Records good. Some regulation during periods of low flow caused by mill 600 ft upstream. Maximum gage height for period of record, 23.58 ft, from floodmark. Minimum discharge for period of record also occurred on August 15, 1977.

Water-Data Report 2011

02085070 ENO RIVER NEAR DURHAM, NC—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	278	10	22	21	24	92	221	23	17	25	17	5.7
2	71	9.8	25	29	25	87	128	20	13	14	9.4	4.9
3	44	9.9	21	36	24	52	90	18	13	10	7.3	5.0
4	32	17	20	34	28	39	69	164	11	73	6.4	4.6
5	23	20	21	31	193	33	63	187	12	58	5.2	4.8
6	17	20	18	28	230	47	65	76	9.8	28	9.0	145
7	13	17	18	25	98	175	54	65	9.1	21	22	270
8	11	14	16	24	63	114	47	65	8.8	40	13	28
9	10	12	15	21	47	69	55	48	8.0	113	7.7	15
10	10	12	14	19	38	94	286	40	7.7	53	5.7	8.6
11	9.8	11	14	20	34	273	188	35	53	28	4.5	5.6
12	9.2	10	17	19	31	147	115	33	22	17	3.9	3.9
13	8.2	9.7	19	20	29	96	82	33	16	13	16	3.3
14	40	9.0	24	19	27	69	61	72	13	9.2	11	3.7
15	54	9.5	20	18	25	54	50	101	10	7.3	7.9	3.5
16	27	10	31	18	23	62	186	60	9.2	6.5	6.2	3.0
17	17	14	38	18	22	79	234	43	8.1	6.5	5.5	2.8
18	13	15	47	20	21	65	118	39	7.7	6.1	4.9	2.5
19	11	25	39	19	21	52	74	34	7.0	5.3	4.4	2.3
20	10	15	33	20	19	45	55	30	6.6	4.9	4.0	2.2
21	9.3	12	29	19	19	38	45	25	6.8	4.6	4.0	12
22	8.6	11	26	18	18	35	43	21	6.8	4.4	5.5	9.2
23	8.0	11	24	16	18	35	49	25	6.2	4.1	3.9	18
24	7.8	10	21	16	18	159	53	24	5.8	5.2	4.1	12
25	8.4	10	19	15	19	174	43	21	6.2	4.6	4.4	8.2
26	16	11	23	32	19	94	38	17	6.6	4.1	3.9	6.7
27	28	11	23	33	22	144	39	170	7.4	5.3	4.2	5.2
28	26	11	24	36	36	161	38	98	21	7.5	4.1	9.1
29	17	11	22	32	---	110	33	43	320	6.6	4.0	5.6
30	14	11	20	27	---	335	28	29	67	7.1	7.2	5.2
31	11	---	19	24	---	557	---	22	---	13	6.8	---
Total	862.3	378.9	722	727	1,191	3,586	2,650	1,681	715.8	605.3	223.1	615.6
Mean	27.8	12.6	23.3	23.5	42.5	116	88.3	54.2	23.9	19.5	7.20	20.5
Max	278	25	47	36	230	557	286	187	320	113	22	270
Min	7.8	9.0	14	15	18	33	28	17	5.8	4.1	3.9	2.2
Cfsm	0.20	0.09	0.17	0.17	0.30	0.82	0.63	0.38	0.17	0.14	0.05	0.15
In.	0.23	0.10	0.19	0.19	0.31	0.95	0.70	0.44	0.19	0.16	0.06	0.16

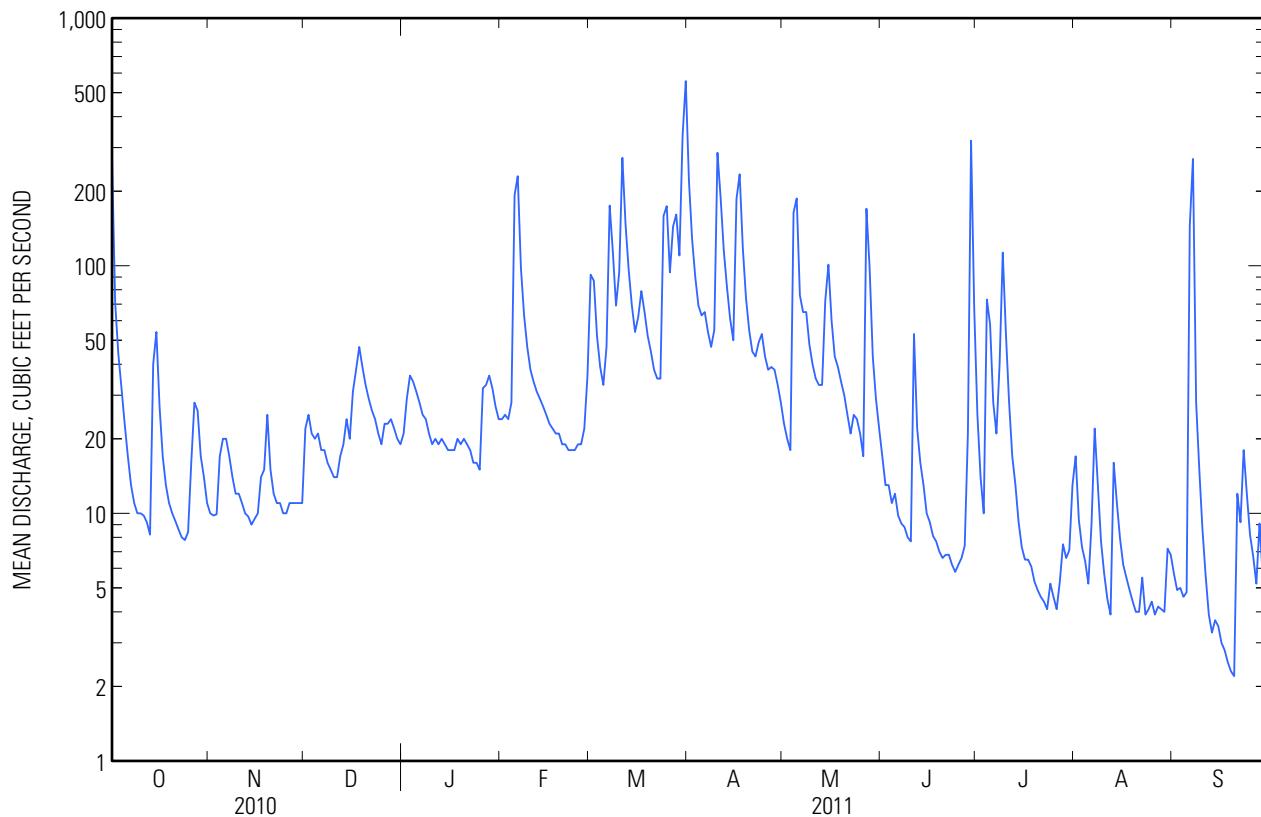
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	54.9	79.7	117	185	226	266	180	114	85.2	66.9	50.4	71.1
Max	456	462	415	517	638	767	603	429	411	452	282	606
(WY)	(1972)	(1986)	(2010)	(1998)	(1998)	(1998)	(2003)	(1978)	(1982)	(1975)	(1985)	(1999)
Min	4.77	3.51	11.3	14.3	37.4	32.4	34.9	10.2	5.28	6.01	3.12	0.84
(WY)	(1964)	(2008)	(2002)	(2008)	(2008)	(2006)	(1995)	(2002)	(2002)	(2002)	(2007)	(1968)

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	Calendar Year 2010		Water Year 2011		Water Years 1963 - 2011	
Annual total	38,746.5		13,958.0			
Annual mean	106		38.2		124	
Highest annual mean					293	2003
Lowest annual mean					26.7	2002
Highest daily mean	3,430	Feb 6	557	Mar 31	9,900	Sep 6, 1996
Lowest daily mean	3.7	Sep 20	2.2	Sep 20	0.08	Aug 14, 1977
Annual seven-day minimum	4.0	Sep 17	2.9	Sep 14	0.20	Aug 8, 1977
Maximum peak flow			1,570	Sep 7	14,700	Sep 6, 1996
Maximum peak stage				5.96	Sep 7	^a 23.58 Sep 6, 1996
Instantaneous low flow				2.1	Sep 20	^a 0.06 Aug 14, 1977
Annual runoff (cfsm)	0.753		0.271			0.881
Annual runoff (inches)	10.22		3.68			11.98
10 percent exceeds	175		91			253
50 percent exceeds	33		19			50
90 percent exceeds	7.6		5.3			6.3

^a See Remarks.



02085070 ENO RIVER NEAR DURHAM, NC—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1989-95, 2009-11.

REMARKS.--Station operated to define water quality as part of a regional surface-water quality assessment.

**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; <, less than]

Date	Sample start time	Medium name	Sample type	Barometric pressure, mm Hg (00025)	Color, water, filtered, platinum (00080)	Discharge, instantan-eous, cobalt units (00061)	Dissolved oxygen, water, unfiltered, ft ³ /s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)
03-30-2011	1345	Surface water	Regular	755	100	439	11.1	98	6.9	

**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; <, less than]

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		Hardness, water, mg/L as CaCO ₃ (70300)	Calcium, water, filtered, mg/L (00900)	Magnesium, water, filtered, mg/L (00915)	Potassium, water, filtered, mg/L (00925)	Sodium, water, filtered, mg/L (00935)	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	Magnesium, water, filtered, mg/L						
03-30-2011	1345	83	9.3		66	24.1	5.79	2.35	1.40	6.78	18.5	

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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; <, less than]

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)	mg/L as (00955)	mg/L (00625)	mg/L as N (00608)	mg/L as N (00631)	mg/L as N (00613)		
03-30-2011	1345	22.6	8.74	.05	6.61	4.92	.86	.047	.229	.005

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 4 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; <, less than]

Date	Sample start time	Orthophosphate, water, filtered, mg/L as P (00671)			Aluminum, water, unfiltered, recoverable, µg/L (01105)	Cadmium, water, unfiltered, recoverable, µg/L (01027)	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)
		Phosphorus, water, unfiltered, mg/L as P (00665)	recoverable, µg/L (01105)	unfiltered, recoverable, µg/L (01027)	recoverable, µg/L (01034)	water, unfiltered, recoverable, µg/L (01037)	water, unfiltered, recoverable, µg/L (01042)	water, unfiltered, recoverable, µg/L (01045)	water, unfiltered, recoverable, µg/L (01042)	water, unfiltered, recoverable, µg/L (01045)
03-30-2011	1345	.026	.150	970	<.05	2.3	2.1	4.6	1,910	

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; <, less than]

Date	Sample start time	Manganese, water, unfiltered, recoverable, µg/L (01051)			Mercury, water, unfiltered, recoverable, µg/L (71900)	Molybdenum, water, unfiltered, recoverable, µg/L (01062)	Nickel, water, unfiltered, recoverable, µg/L (01067)	Silver, water, unfiltered, recoverable, µg/L (01077)	Zinc, water, unfiltered, recoverable, µg/L (01092)	Arsenic, water, unfiltered, recoverable, µg/L (01002)	Selenium, water, unfiltered, recoverable, µg/L (01147)
		Lead, water, unfiltered, recoverable, µg/L (01055)	Mercury, water, unfiltered, recoverable, µg/L (71900)	µg/L (01062)	µg/L (01067)	µg/L (01077)	µg/L (01092)	µg/L (01002)	µg/L (01147)		
03-30-2011	1345	2.89	200	.010	.1	2.3	<.01	11.7	.89	.10	

02085070 ENO RIVER NEAR DURHAM, 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; <, less than]

Date	Sample start time	Organic carbon, water, unfiltered, mg/L (00680)	Suspended sediment concentration, mg/L (80154)
03-30-2011	1345	12.2	97