

Water-Data Report 2007

02085000 ENO RIVER AT HILLSBOROUGH, NC

Neuse Basin
Upper Neuse Subbasin

LOCATION.--Lat 36°04'16", long 79°05'44" referenced to North American Datum of 1983, Orange County, NC, Hydrologic Unit 03020201, on left bank 900 ft downstream of bridge on North Carolina Highway 86 at Hillsborough, and 2 mi downstream of Sevenmile Creek.

DRAINAGE AREA.--66 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1927 to September 1971, October 1985 to current year.

REVISED RECORDS.--WDR NC-96-1: 1945(M).

GAGE.--Water-stage recorder. Datum of gage is 487.44 ft above NGVD of 1929. Telephone and satellite telemetry at station.

REMARKS.--No estimated daily discharges. Records fair. Diversions upstream from station of 0.25 ft³/s by Orange-Alamance Water System, Inc. and 1.8 ft³/s by town of Hillsborough for municipal supply, part of which is returned downstream of station as treated effluent. Maximum gage height for period of record, 21.13 ft, from high-water mark in gage shelter. No flow for part of September 13, 2002. Minimum discharge for current water year also occurred August 4, September 10, 11.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	3.6	5.0	38	78	30	49	31	20	3.4	3.2	3.2	2.8
2	2.8	4.0	50	121	64	473	35	19	3.2	1.9	2.0	2.4
3	2.2	3.6	33	76	63	179	31	17	29	1.9	1.2	2.3
4	2.0	3.2	27	54	42	103	27	18	20	5.3	1.1	2.1
5	2.0	2.9	20	50	36	73	22	19	29	4.8	1.3	1.8
6	5.0	3.2	19	193	31	57	19	22	35	4.5	1.9	1.5
7	5.0	34	19	124	29	49	21	17	19	3.8	1.7	1.4
8	8.0	141	16	433	28	42	19	15	10	4.1	1.7	1.6
9	6.7	37	13	188	26	37	16	15	7.6	3.5	2.0	1.7
10	4.0	16	13	106	25	35	17	19	6.0	6.4	2.0	1.4
11	2.1	10	13	75	23	34	22	20	5.9	6.8	1.8	2.6
12	1.9	94	13	59	22	31	149	33	4.5	5.2	2.1	3.8
13	1.3	49	14	51	31	30	96	42	8.6	4.1	1.7	3.0
14	1.4	20	14	48	429	29	55	22	8.5	3.7	1.5	9.1
15	1.5	13	13	43	168	29	748	15	8.1	4.1	1.2	6.2
16	1.8	245	14	41	97	246	563	12	6.0	3.5	1.6	2.1
17	11	167	13	34	70	348	180	11	5.0	3.1	2.0	1.6
18	30	74	12	31	57	129	116	12	3.7	4.8	2.0	2.0
19	11	40	11	41	43	83	89	11	2.5	3.0	2.3	2.0
20	5.1	26	11	36	39	64	74	9.6	2.1	2.7	2.7	2.2
21	2.8	53	11	37	39	52	63	8.7	2.0	2.6	2.4	2.4
22	2.5	1,480	22	178	37	45	56	7.7	2.5	2.8	2.9	2.9
23	2.2	584	103	127	32	42	46	7.1	6.0	2.8	2.5	4.0
24	2.0	189	56	84	28	40	39	6.3	19	2.2	2.7	3.0
25	2.1	104	278	63	59	36	37	5.9	47	2.9	1.8	2.7
26	1.8	70	293	49	155	31	34	5.5	16	3.1	2.1	3.2
27	3.1	52	119	42	90	30	31	5.8	9.5	3.8	2.0	4.0
28	49	43	76	39	61	32	32	4.8	6.0	4.4	1.6	2.5
29	19	35	55	34	---	38	27	4.0	5.8	3.6	1.6	2.9
30	9.0	30	43	30	---	40	22	3.9	5.8	3.6	2.0	2.0
31	7.0	---	36	30	---	33	---	3.3	---	3.4	1.7	---
Total	208.9	3,627.9	1,468	2,595	1,854	2,539	2,717	431.6	336.7	115.6	60.3	83.2
Mean	6.74	121	47.4	83.7	66.2	81.9	90.6	13.9	11.2	3.73	1.95	2.77
Max	49	1,480	293	433	429	473	748	42	47	6.8	3.2	9.1
Min	1.3	2.9	11	30	22	29	16	3.3	2.0	1.9	1.1	1.4
Cfsm	0.10	1.83	0.72	1.27	1.00	1.24	1.37	0.21	0.17	0.06	0.03	0.04
In.	0.12	2.04	0.83	1.46	1.04	1.43	1.53	0.24	0.19	0.07	0.03	0.05

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2007^a, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	28.5	44.5	57.0	88.2	109	118	94.2	49.9	38.3	36.8	31.8	37.1
Max	181	213	183	326	311	354	304	175	210	359	256	342
(WY)	(1930)	(1986)	(2003)	(1936)	(1998)	(1998)	(2003)	(2003)	(1995)	(1938)	(1939)	(1945)
Min	0.63	0.82	3.64	5.16	17.2	15.7	12.4	4.17	1.75	1.28	0.85	0.28
(WY)	(1987)	(1942)	(1942)	(1942)	(2002)	(2006)	(2002)	(2002)	(1986)	(1986)	(1987)	(1954)

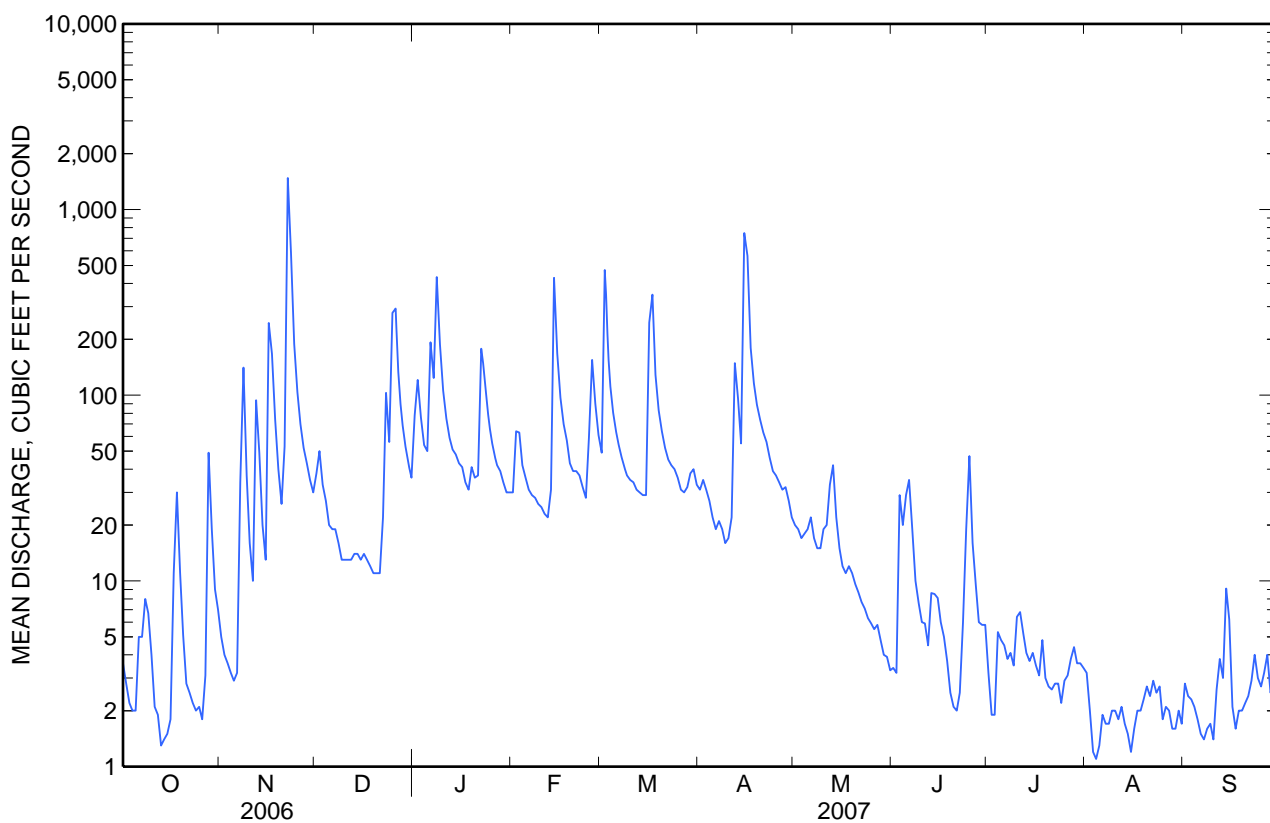
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SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1928 - 2007 ^a	
Annual total	13,250.4		16,037.2			
Annual mean	36.3		43.9		60.8	
Highest annual mean					154	2003
Lowest annual mean					9.67	2002
Highest daily mean	1,480	Nov 22	1,480	Nov 22	4,600	Sep 6, 1996
Lowest daily mean	1.3	Oct 13	1.1	Aug 4	0.02	Jul 10, 1986
Annual seven-day minimum	2.0	Oct 10	1.6	Aug 2	0.10	Oct 6, 1954
Maximum peak flow			1,850	Nov 22	10,800	Sep 6, 1996
Maximum peak stage			11.81	Nov 22	^b 21.13	Sep 6, 1996
Instantaneous low flow			^b 0.99	Aug 3	^b 0.00	Sep 13, 2002
Annual runoff (cfsm)	0.550		0.666		0.921	
Annual runoff (inches)	7.47		9.04		12.52	
10 percent exceeds	72		92		115	
50 percent exceeds	14		16		25	
90 percent exceeds	3.6		2.0		4.0	

^a See Period of Record.

^b See Remarks.



02085000 ENO RIVER AT HILLSBOROUGH, NC—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1990 to current year.

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 4

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

Date	Time	Instan- taneous dis- charge, cfs (00061)	Color, water, fltrd, Pt-Co units (00080)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat unf µS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Potas- sium, water, fltrd, mg/L (00935)
Oct 02...	1245	2.5	25	758	6.5	67	6.3	124	16.6	40	10.3	3.49	1.81
Dec 05...	1230	18	70	759	10.8	92	6.6	87	8.0	27	6.39	2.70	2.07
Jan 08...	1045	608	100	745	10.1	97	5.6	63	12.6	21	4.84	2.10	1.94
Feb 13...	0945	23	40	751	12.1	96	6.2	85	5.0	28	6.70	2.72	1.27
Apr 16...	0930	564	100	738	9.7	92	5.8	58	11.8	20	4.71	1.98	1.81
Jun 04...	0945	24	30	741	6.8	79	6.3	103	21.5	32	7.66	3.06	1.38
Aug 20...	1230	2.2	25	753	--	--	--	110	26.2	35	8.78	3.26	1.71

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 4

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unfltrd, field, mg/L as CaCO ₃ (00419)	Bicarbonate, wat unfltrd, field, mg/L (00450)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)
Oct 02...	6.09	35	43	6.84	E.06	9.20	6.99	78	.24	.021	.156	<.002	<.006
Dec 05...	4.88	22	27	5.75	<.10	12.8	6.00	69	.41	.024	.280	.002	E.004
Jan 08...	3.44	16	19	3.96	E.06	9.33	5.29	62	.84	.039	.209	.004	.014
Feb 13...	5.75	28	34	6.70	E.06	10.7	5.42	62	.24	<.020	.380	.002	E.004
Apr 16...	3.44	15	18	3.71	E.05	7.94	5.61	69	.74	.028	.240	.004	.009
Jun 04...	6.09	32	39	5.91	E.09	13.8	3.46	85	.37	.038	.272	.004	.007
Aug 20...	5.64	35	42	4.88	.10	8.43	4.20	78	.36	.022	.056	E.002	.006

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 3 of 4

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

Date	Phosphorus, water, unfltrd mg/L (00665)	Organic carbon, water, fltrd, mg/L (00681)	Organic carbon, water, unfltrd mg/L (00680)	Aluminum, water, unfltrd recover-able, µg/L (01105)	Arsenic, water, unfltrd µg/L (01002)	Cadmium, water, unfltrd µg/L (01027)	Chromium, water, unfltrd recover-able, µg/L (01034)	Cobalt, water, unfltrd recover-able, µg/L (01037)	Copper, water, unfltrd recover-able, µg/L (01042)	Iron, water, unfltrd recover-able, µg/L (01045)	Lead, water, unfltrd recover-able, µg/L (01051)	Manganese, water, unfltrd recover-able, µg/L (01055)	Mercury, water, fltrd, µg/L (71890)
Oct 02...	.017	--	4.7	33	.29	<.02	E.37	.164	1.3	439	.13	91.2	--
Dec 05...	.036	--	6.7	--	--	--	--	--	--	--	--	--	--
Jan 08...	.150	--	E12.3	829	.50	E.02	1.1	1.25	3.4	2,030	1.70	256	--
Feb 13...	.019	--	3.6	--	--	--	--	--	--	--	--	--	--
Apr 16...	.103	--	14.1	801	.51	E.01	.73	.97	3.4	1,360	1.16	224	--
Jun 04...	.033	--	4.2	--	--	--	--	--	--	--	--	--	--
Aug 20...	.017	5.9	6.1	--	--	--	--	--	--	--	--	--	E.005

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 4 of 4

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

Date	Mercury water, unfltrd recover -able, µg/L (71900)	Molyb- denum, water, unfltrd recover -able, µg/L (01062)	Nickel, water, unfltrd recover -able, µg/L (01067)	Selen- ium, water, unfltrd µg/L (01147)	Silver, water, unfltrd recover -able, µg/L (01077)	Zinc, water, unfltrd recover -able, µg/L (01092)	Sus- pended sedi- ment concentra- tion mg/L (80154)
Oct 02...	<.010	.1	.37	.09	<.02	5	3
Dec 05...	--	--	--	--	--	--	8
Jan 08...	E.009	M	.82	.15	E.01	7	74
Feb 13...	--	--	--	--	--	--	2
Apr 16...	.024	M	.69	.15	E.01	6.5	49
Jun 04...	--	--	--	--	--	--	11
Aug 20...	E.006	--	--	--	--	--	2