

Water-Data Report 2008

02097464 MORGAN CREEK NEAR WHITE CROSS, NC

Cape Fear Basin
Haw Subbasin

LOCATION.--Lat 35°55'25", long 79°06'54" referenced to North American Datum of 1983, Orange County, NC, Hydrologic Unit 03030002, at downstream side of culvert on North Carolina Highway 54, 2 mi upstream from University Lake, and 3.5 mi east of White Cross.

DRAINAGE AREA.--8.35 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 1988 to current year.

GAGE.--Water-stage recorder. Datum of gage is 410.13 ft above North American Vertical Datum of 1988. Satellite telemetry at station.

REMARKS.--Records poor. Maximum discharge for period of record from rating curve extended above 2,700 ft³/s, by logarithmic plotting. No flow occurs at times most years.

02097464 MORGAN CREEK NEAR WHITE CROSS, NC—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.00	e0.02	0.00	e1.6	e0.66	e0.85	14	3.5	0.89	e2.0	0.15	1.1
2	0.00	e0.01	0.00	e0.83	e1.2	e0.70	6.4	2.4	0.93	e1.5	0.06	0.81
3	0.00	e0.01	0.00	e0.61	e1.0	e0.61	3.9	1.8	0.89	e1.5	0.04	0.73
4	0.00	0.01	0.00	e0.50	e0.80	e7.6	9.2	1.6	0.88	e1.4	0.00	0.73
5	0.00	0.00	0.00	e0.44	e0.63	90	32	1.2	0.87	e6.2	0.00	0.73
6	0.00	0.00	0.00	e0.39	e0.51	13	18	1.1	0.78	e16	0.00	380
7	0.00	0.00	0.00	e0.33	e0.41	37	11	1.1	0.68	e4.5	0.00	16
8	0.00	0.00	0.00	e0.29	e0.30	31	6.6	0.89	0.64	e2.8	0.00	3.9
9	0.00	0.00	0.00	e0.24	e0.20	9.7	4.9	1.5	0.52	e1.9	0.00	1.7
10	0.00	0.00	0.00	e0.26	e0.16	5.5	4.0	1.6	0.44	e1.2	0.00	3.0
11	0.00	0.00	0.00	e0.23	e0.13	4.0	3.3	5.5	0.35	e0.87	0.00	2.2
12	0.00	0.00	0.00	e0.22	e0.12	3.3	2.7	7.8	0.29	e0.59	0.00	1.4
13	0.00	0.00	0.00	e0.21	e8.9	2.6	2.4	3.0	0.26	e0.42	0.00	1.0
14	0.00	0.00	0.00	e0.19	e3.8	2.5	1.9	1.7	0.24	0.31	0.00	0.70
15	0.00	0.00	0.00	e0.18	e2.2	4.5	1.9	1.3	0.23	0.92	0.08	0.56
16	0.00	0.00	0.03	e0.16	e1.6	14	1.6	9.6	0.20	1.0	0.06	9.5
17	0.00	0.00	0.03	e0.14	e1.1	5.2	1.4	5.0	0.22	0.71	0.00	5.0
18	0.00	0.00	0.02	e0.30	e1.2	3.6	1.3	2.9	0.37	0.52	0.00	1.7
19	0.00	0.00	0.02	e0.55	e0.89	3.2	1.1	4.7	0.22	2.7	0.00	0.91
20	0.00	0.00	0.01	e0.86	e0.72	3.7	3.6	3.3	0.16	0.92	0.00	0.65
21	0.00	0.00	0.01	e0.53	e0.61	2.9	7.4	2.2	0.13	0.13	0.00	0.56
22	0.00	0.00	0.01	e0.36	e0.71	2.6	3.4	1.5	0.11	0.09	0.00	0.51
23	0.00	0.00	0.01	e0.31	e0.68	2.5	2.3	1.1	0.11	0.06	0.00	0.43
24	0.00	0.00	0.01	e0.26	e0.64	2.2	1.8	0.94	0.08	0.12	0.00	0.39
25	0.00	0.00	0.01	e0.24	e0.64	2.0	1.5	0.86	0.06	0.13	0.00	0.38
26	0.01	0.01	0.08	e0.23	e1.3	1.9	1.5	0.81	0.05	0.13	0.00	1.5
27	0.14	0.01	e0.04	e0.21	e2.8	1.8	1.2	0.76	0.03	0.14	81	1.1
28	0.03	0.01	e0.02	e0.20	e1.6	1.8	15	0.82	0.03	0.95	35	0.77
29	0.02	0.00	e0.14	e0.20	e1.1	1.7	21	1.2	0.12	0.24	5.0	0.57
30	0.02	0.00	e1.7	e0.19	---	1.7	6.2	0.90	2.7	0.42	2.4	0.48
31	0.02	---	e3.5	e0.18	---	4.9	---	0.91	---	0.26	1.7	---
Total	0.24	0.08	5.64	11.44	36.61	268.56	192.5	73.49	13.48	50.63	125.49	439.01
Mean	0.01	0.00	0.18	0.37	1.26	8.66	6.42	2.37	0.45	1.63	4.05	14.6
Max	0.14	0.02	3.5	1.6	8.9	90	32	9.6	2.7	16	81	380
Min	0.00	0.00	0.00	0.14	0.12	0.61	1.1	0.76	0.03	0.06	0.00	0.38
Cfsm	0.00	0.00	0.02	0.04	0.15	1.04	0.77	0.28	0.05	0.20	0.48	1.75
In.	0.00	0.00	0.03	0.05	0.16	1.20	0.86	0.33	0.06	0.23	0.56	1.96

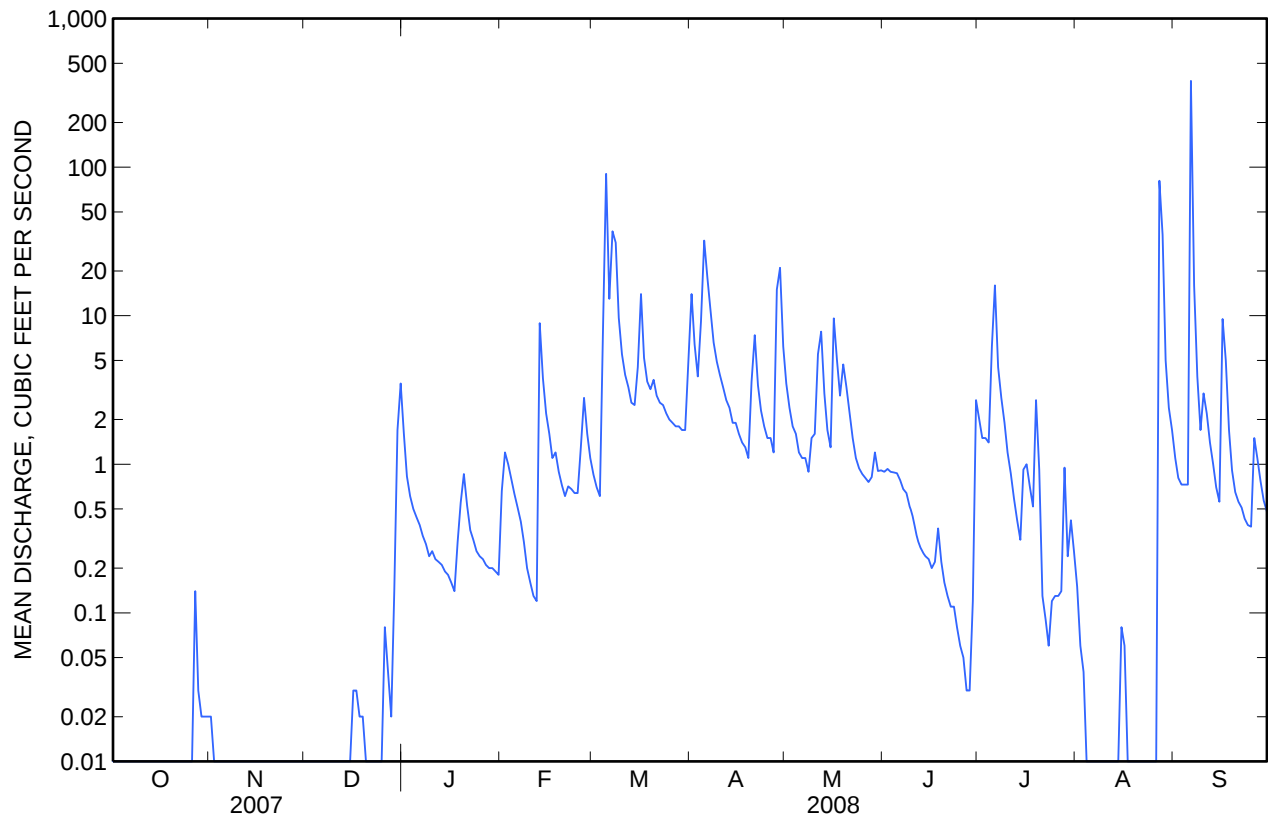
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	3.17	4.43	4.97	10.3	11.9	16.7	10.4	5.63	3.83	2.70	2.49	5.70
Max	13.1	16.0	15.2	33.4	39.7	53.0	38.6	30.1	19.9	12.3	18.7	40.4
(WY)	(1990)	(2007)	(2003)	(1998)	(1998)	(1998)	(2003)	(1989)	(1995)	(2000)	(1995)	(1999)
Min	0.01	0.00	0.18	0.37	1.26	1.67	1.95	0.72	0.03	0.04	0.00	0.00
(WY)	(2008)	(2008)	(2008)	(2008)	(2008)	(2006)	(2002)	(2002)	(2002)	(2002)	(2007)	(2007)

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SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1989 - 2008	
Annual total	1,314.77		1,217.17			
Annual mean	3.60		3.33		6.65	
Highest annual mean					12.5	1998
Lowest annual mean					1.46	2002
Highest daily mean	122	Apr 15	380	Sep 6	737	Sep 6, 1996
Lowest daily mean	0.00	Aug 5	0.00	Oct 1	0.00	Jun 16, 2002
Annual seven-day minimum	0.00	Aug 5	0.00	Oct 1	0.00	Aug 8, 2002
Maximum peak flow			1,700	Sep 6	^a 3,100	Aug 27, 1995
Maximum peak stage			9.57	Sep 6	11.20	Aug 27, 1995
Instantaneous low flow			^a 0.00	Oct 1	^a 0.00	Jun 16, 2002
Annual runoff (cfs)	0.431		0.398		0.796	
Annual runoff (inches)	5.86		5.42		10.81	
10 percent exceeds	6.7		4.8		13	
50 percent exceeds	0.32		0.50		2.2	
90 percent exceeds	0.00		0.00		0.15	

^aSee Remarks.

02097464 MORGAN CREEK NEAR WHITE CROSS, NC—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1989 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: August 2002 to November 2003.

REMARKS.--Station operated as part of a regional surface-water quality assessment. August 2002 to November 2003, station was also part of the NAWQA Urban Land Use Gradient study.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 27.6°C, August 30, 2003; minimum recorded, 0.0°C, January 19, 23-26, 28, 2003.

**WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 1 of 5

[QC, quality control sample. Remark codes: <, less than; E, estimated.]

Date	Time	Sample medium and type	Instantaneous discharge, cfs (00061)	Color, water, fltrd, Pt-Co units (00080)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf 25 degC μ S/cm (00095)
Feb									
08...	0930	Surface water, regular	.21	30	752	7.6	65	6.7	135
08...	1005	QC - Artificial, blank	--	--	--	--	--	--	--
Apr									
11...	0945	Surface water, regular	3.5	40	755	9.6	96	6.9	99
Jun									
27...	1100	Surface water, regular	.03	60	754	1.1	13	6.7	161
27...	1110	QC - Artificial, blank	--	--	--	--	--	--	--
Aug									
01...	0930	Surface water, regular	.22	80	749	4.8	57	6.8	106

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 2 of 5

[QC, quality control sample. Remark codes: <, less than; E, estimated.]

Date	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)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf infl pt titr., field, mg/L as CaCO3 (00419)	Bicar- bonate, wat unf infl pt titr., field, mg/L (00450)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L as SiO2 (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)
Feb 08...	8.2	46	12.1	3.79	2.16	7.30	26	31	9.50	<.12	14.3	22.0	114
08...	--	--	<.04	<.020	<.02	<.12	--	--	<.12	<.12	E.02	<.18	--
Apr 11...	15.1	30	7.74	2.57	1.63	6.62	22	26	8.78	<.12	2.88	8.58	72
Jun 27...	21.8	58	15.4	4.79	2.72	8.56	56	68	11.0	E.06	16.9	2.39	115
27...	--	--	<.04	<.020	<.02	E.07	--	--	<.12	<.12	.09	<.18	--
Aug 01...	23.2	34	8.97	2.78	2.27	5.70	32.6	39.7	8.27	E.07	10.8	2.80	96

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 3 of 5

[QC, quality control sample. Remark codes: <, less than; E, estimated.]

Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate + nitrite water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L as P (00665)	Organic carbon, water, fltrd, mg/L (00681)	Organic carbon, water, unfltrd mg/L (00680)	Alum- inum, water, unfltrd recover- able, µg/L (01105)	Arsenic water, unfltrd µg/L (01002)	Cadmium water, unfltrd µg/L (01027)	Chrom- ium, water, unfltrd recover- able, µg/L (01034)	Cobalt water, unfltrd recover- able, µg/L (01037)
Feb 08...	.26	E.014	<.016	<.002	.010	.028	4.6	4.9	--	--	--	--	--
08...	--	<.020	<.016	<.002	<.006	--	E.3	--	--	--	--	--	--
Apr 11...	.29	<.020	<.016	E.001	E.006	.027	5.0	6.2	84	E.46	<.01	E.34	.22
Jun 27...	.64	.140	.026	.003	.013	.111	4.3	5.4	--	--	--	--	--
27...	--	<.020	<.016	<.002	<.006	--	.5	--	--	--	--	--	--
Aug 01...	.42	.040	.123	.002	.029	.078	5.6	6.7	--	--	--	--	--

02097464 MORGAN CREEK NEAR WHITE CROSS, NC—Continued

Date	Copper, water, unfltrd recover- able, µg/L (01042)	Iron, water, unfltrd recover- able, µg/L (01045)	Lead, water, unfltrd recover- able, µg/L (01051)	Mangan- ese, water, unfltrd recover- able, µg/L (01055)	Mercury water, unfltrd recover- able, µg/L (71890)	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 recover- able, µg/L (01147)	Silver, water, unfltrd recover- able, µg/L (01077)	Zinc, water, unfltrd recover- able, µg/L (01092)	Sus- pended sedi- ment concen- tration mg/L (80154)
Feb												
08...	--	--	--	--	.011	<.010	--	--	--	--	--	4
08...	--	--	--	--	<i>E.007</i>	<.010	--	--	--	--	--	--
Apr												
11...	E1.1	568	.25	42.8	<.010	<.010	.1	.43	.13	<.02	E1.6	6
Jun												
27...	--	2,280	--	676	<.010	<.010	--	--	--	--	--	17
27...	--	--	--	--	<.010	<.010	--	--	--	--	--	--
Aug												
01...	--	--	--	--	<.010	<.010	--	--	--	--	--	11