

Water-Data Report 2007

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. Elevation of gage is 420 ft above NGVD of 1929, from topographic map. Satellite telemetry at station.

REMARKS.--No estimated daily discharges. Records fair except those above 100 ft³/s, which are 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 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.38	0.95	4.6	9.5	4.5	4.7	3.4	2.6	0.66	0.28	0.03	0.00
2	0.39	1.1	4.3	11	7.2	80	3.4	2.3	0.67	0.22	0.02	0.00
3	0.37	1.2	3.3	6.3	5.9	23	3.9	2.1	3.0	0.20	0.01	0.00
4	0.35	1.2	3.3	5.3	4.4	12	3.9	2.2	1.5	0.19	0.01	0.00
5	0.33	1.2	2.6	6.0	3.9	8.5	3.4	2.5	0.81	0.15	0.00	0.00
6	0.37	1.6	2.5	76	3.7	6.7	3.3	2.5	0.89	0.12	0.00	0.00
7	0.51	10	2.4	31	3.7	5.9	4.1	2.0	0.67	0.10	0.00	0.00
8	3.8	25	2.5	60	3.4	5.4	3.7	2.0	0.55	0.09	0.00	0.00
9	1.9	5.4	2.3	22	3.1	4.9	4.1	3.5	0.50	0.08	0.00	0.00
10	1.2	2.8	2.0	14	3.2	4.6	4.4	3.7	0.44	1.6	0.00	0.00
11	1.1	2.0	2.0	9.8	2.9	4.6	5.3	2.2	0.43	0.69	0.00	0.00
12	0.98	32	2.0	7.3	3.0	4.1	19	4.0	0.44	0.27	0.00	0.00
13	0.90	10	1.9	6.1	4.6	3.9	7.1	5.5	0.40	0.17	0.00	0.00
14	0.84	4.6	1.9	5.7	44	3.9	5.1	2.1	0.47	0.16	0.00	0.00
15	0.92	2.8	1.8	5.3	16	4.0	122	1.6	0.50	0.15	0.00	0.00
16	0.92	38	1.7	4.8	8.8	22	71	1.5	0.44	0.13	0.00	0.00
17	2.5	14	1.7	4.0	6.7	22	21	1.4	0.41	0.12	0.00	0.00
18	13	5.9	1.7	4.1	5.7	10	12	1.4	0.34	0.58	0.00	0.00
19	1.8	3.9	1.7	5.2	4.8	7.0	8.5	1.3	0.33	0.19	0.00	0.00
20	1.3	2.9	1.6	4.2	4.6	5.9	6.9	1.1	0.64	0.13	0.00	0.00
21	1.4	9.0	1.5	4.7	4.8	5.2	5.9	1.1	0.51	0.12	0.00	0.00
22	1.3	222	3.6	28	4.5	4.7	5.2	1.0	0.35	0.09	0.00	0.00
23	1.4	35	8.2	16	3.7	4.6	4.6	0.95	0.30	0.10	0.00	0.00
24	1.4	15	3.5	9.1	3.7	4.3	4.1	0.86	0.28	0.08	0.00	0.00
25	1.4	8.3	65	6.8	8.2	4.0	3.9	0.85	0.32	0.06	0.00	0.00
26	1.4	5.9	30	5.5	14	3.7	3.6	0.86	0.27	0.05	0.00	0.00
27	2.1	4.8	13	5.0	7.0	3.7	3.8	0.81	0.56	0.03	0.00	0.00
28	11	6.0	7.2	4.7	5.3	3.7	3.2	0.70	0.66	0.04	0.00	0.00
29	2.0	3.9	5.5	4.1	---	3.6	2.9	0.69	0.36	0.05	0.00	0.00
30	1.4	3.5	4.7	3.9	---	3.8	2.7	0.70	0.38	0.03	0.00	0.00
31	0.85	---	4.2	3.8	---	3.3	---	0.74	---	0.03	0.00	---
Total	59.51	479.95	194.2	389.2	195.3	287.7	355.4	56.76	18.08	6.30	0.07	0.00
Mean	1.92	16.0	6.26	12.6	6.97	9.28	11.8	1.83	0.60	0.20	0.00	0.00
Max	13	222	65	76	44	80	122	5.5	3.0	1.6	0.03	0.00
Min	0.33	0.95	1.5	3.8	2.9	3.3	2.7	0.69	0.27	0.03	0.00	0.00
Cfsm	0.23	1.92	0.75	1.50	0.84	1.11	1.42	0.22	0.07	0.02	0.00	0.00
In.	0.27	2.14	0.87	1.73	0.87	1.28	1.58	0.25	0.08	0.03	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2007, BY WATER YEAR (WY)

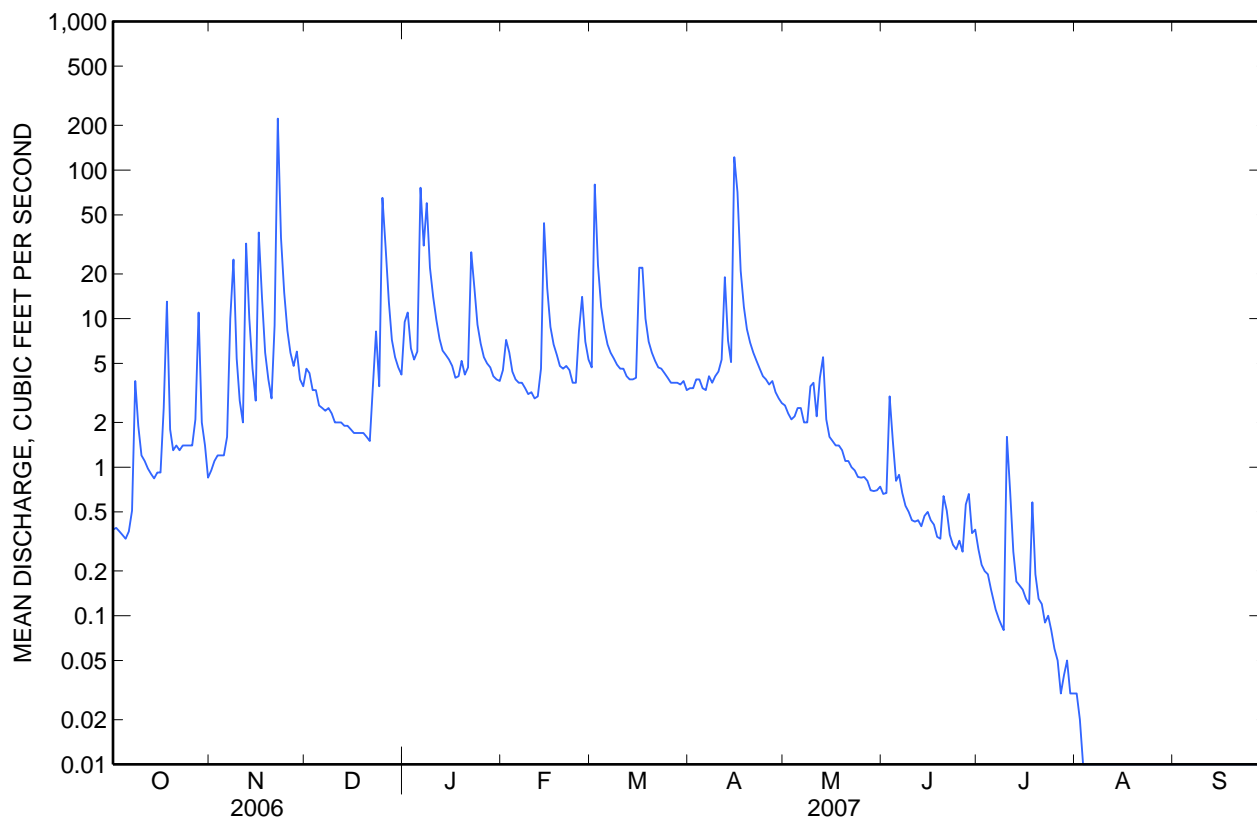
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	3.34	4.66	5.22	10.8	12.4	17.1	10.6	5.80	4.00	2.75	2.41	5.23
Max	13.1	16.0	15.2	33.4	39.7	53.0	38.6	30.1	19.9	12.3	18.7	40.4
(WY)	(1990)	(2007)	(2003)	(1998)	(1998)	(1998)	(2003)	(1989)	(1995)	(2000)	(1995)	(1999)
Min	0.13	0.13	0.28	2.02	2.09	1.67	1.95	0.72	0.03	0.04	0.00	0.00
(WY)	(2002)	(1999)	(2002)	(2004)	(2006)	(2006)	(2002)	(2002)	(2002)	(2002)	(2007)	(2007)

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SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1989 - 2007	
Annual total	1,241.58		2,042.47			
Annual mean	3.40		5.60		6.83	
Highest annual mean					12.5	1998
Lowest annual mean					1.46	2002
Highest daily mean	222	Nov 22	222	Nov 22	737	Sep 6, 1996
Lowest daily mean	0.02	Aug 3	0.00	Aug 5	0.00	Jun 16, 2002
Annual seven-day minimum	0.02	Aug 3	0.00	Aug 5	0.00	Aug 8, 2002
Maximum peak flow			413	Nov 22	^a 3,100	Aug 27, 1995
Maximum peak stage			6.63	Nov 22	11.20	Aug 27, 1995
Instantaneous low flow			^a 0.00	Aug 5	0.00	Jun 16, 2002
Annual runoff (cfsm)	0.407		0.670		0.818	
Annual runoff (inches)	5.53		9.10		11.11	
10 percent exceeds	5.4		9.9		13	
50 percent exceeds	1.3		2.0		2.4	
90 percent exceeds	0.23		0.00		0.19	

^a See 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.

INSTRUMENTATION.--Logging pressure transducer with water temperature probe.

REMARKS.--Station operated as part of a regional surface-water quality assessment. During 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 2006 TO SEPTEMBER 2007

Part 1 of 4

[Remark codes: <, less than; E, estimated.]

Date	Time	Sample type	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, deg C (00010)	Hard- ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
Oct 27...	1145	Environmental	1.6	30	755	8.9	77	6.5	137	8.6	48	12.5
Nov 16...	1300	Environmental	53	200	744	7.3	76	7.6	92	15.8	27	6.72
Dec 05...	1345	Environmental	2.5	60	759	13.1	107	6.7	106	6.5	34	8.36
Feb 13...	1230	Environmental	3.7	25	751	12.2	99	6.8	102	6.0	34	8.71
Feb 13...	1235	<i>Replicate</i>	3.7	25	751	12.1	99	6.8	102	6.0	34	8.65
Apr 12...	1045	Environmental	24	100	744	9.5	91	6.3	74	12.2	27	7.00
Jun 04...	1215	Environmental	1.4	50	741	7.3	82	6.7	112	19.4	39	10.0
Aug 31...	1245	Environmental	.00	175	754	--	--	--	249	23.3	95	26.2

02097464 MORGAN CREEK NEAR WHITE CROSS, NC—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 4

[Remark codes: <, less than; E, estimated.]

Date	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unfiltered, titr., mg/L as CaCO3 (00419)	Bicarbonate, wat unfiltered, titr., 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, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
Oct 27...	4.10	4.79	6.54	44	53	8.69	E.08	14.5	6.35	111	.28	E.018	E.010
Nov 16...	2.52	6.32	5.08	26	26	7.50	<.10	8.46	6.20	86	1.4	.141	.468
Dec 05...	3.16	2.30	6.72	30	37	8.59	<.10	13.5	6.22	79	.29	<.020	.887
Feb 13...	2.96	1.16	6.31	30	37	8.31	<.10	7.14	5.44	67	.23	<.020	.699
Feb 13...	2.94	1.18	6.26	30	37	8.32	E.07	7.13	5.45	69	.15	<.020	.782
Apr 12...	2.40	1.80	5.03	23	28	6.11	<.10	7.91	4.67	65	.72	E.012	.408
Jun 04...	3.31	1.58	5.47	32	39	5.90	E.08	14.0	3.23	87	.43	E.015	.348
Aug 31...	7.29	3.52	9.84	96	117	10.5	.11	24.1	.77	159	.72	.226	<.016

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 3 of 4

[Remark codes: <, less than; E, estimated.]

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Organic carbon, water, fltrd, mg/L (00681)	Organic carbon, water, unfltrd mg/L (00680)	Aluminum, water, recoverable, µg/L (01105)	Arsenic water, unfltrd µg/L (01002)	Cadmium water, unfltrd µg/L (01027)	Chromium, water, unfltrd recoverable, µg/L (01034)	Cobalt water, unfltrd recoverable, µg/L (01037)	Copper, water, unfltrd recoverable, µg/L (01042)	Iron, water, unfltrd recoverable, µg/L (01045)	Lead, water, unfltrd recoverable, µg/L (01051)
Oct 27...	<.002	.014	.047	--	5.8	21	.66	.02	E.57	.164	E1.0	322	.07
Nov 16...	.013	.137	.34	--	19.0	779	.94	.04	.86	.991	4.4	1,330	1.51
Dec 05...	.003	.016	.058	--	4.1	--	--	--	--	--	--	--	--
Feb 13...	.003	E.005	.018	--	2.3	--	--	--	--	--	--	--	--
Feb 13...	.003	E.004	.018	--	2.5	--	--	--	--	--	--	--	--
Apr 12...	.005	.012	.096	--	8.9	444	.81	E.01	.65	.68	2.0	1,360	.87
Jun 04...	.003	.041	.090	--	7.5	--	--	--	--	--	--	--	--
Aug 31...	E.001	.013	.107	5.0	6.7	--	--	--	--	--	--	--	--

02097464 MORGAN CREEK NEAR WHITE CROSS, NC—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 4 of 4

[Remark codes: <, less than; E, estimated.]

Date	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 concentra- -tion mg/L (80154)	Data base number
Oct										
27...	41.6	--	<.010	.1	14.5	.14	<.02	6	1	01
Nov										
16...	197	--	.013	.1	1.02	.16	E.01	12	59	01
Dec										
05...	--	--	--	--	--	--	--	--	4	01
Feb										
13...	--	--	--	--	--	--	--	--	1	01
13...	--	--	--	--	--	--	--	--	--	04
Apr										
12...	114	--	.014	.1	.70	.13	E.01	3.5	33	01
Jun										
04...	--	--	--	--	--	--	--	--	8	01
Aug										
31...	--	<.010	<.010	--	--	--	--	--	--	01