

02097517 MORGAN CREEK NEAR CHAPEL HILL, NC

LOCATION.--Lat 35°53'36", long 79°01'11", Orange County, Hydrologic Unit 03030002, on left bank 2.5 mi southeast of Chapel Hill, and 3.8 mi downstream of U.S. Highway 501.

DRAINAGE AREA.--41.0 mi²

PERIOD OF RECORD.--November 1982 to current year.

GAGE.--Water-stage recorder. Datum of gage is 239.02 ft above NGVD of 1929. Satellite telemetry at station.

REMARKS.--No estimated daily discharges. Records fair. The City of Chapel Hill diverted an average of 13.4 ft³/s for water supply upstream of station, and an average of 12.5 ft³/s was returned as treated effluent upstream of station. Considerable diurnal fluctuation and occasional slight regulation caused by small reservoir and treated effluent outfall upstream from station. Maximum discharge for period of record from rating curve extended above 1,700 ft³/s, by logarithmic plotting; maximum gage height, 16.18 ft, from floodmark.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	21	44	12	39	115	55	32	13	11	14	10
2	35	20	35	12	32	63	89	23	32	22	12	10
3	30	22	31	13	57	48	70	20	32	10	12	9.4
4	33	31	28	13	69	41	50	18	17	18	22	8.9
5	24	29	26	13	45	37	43	18	18	11	16	9.3
6	16	22	25	12	36	35	42	29	17	10	12	10
7	13	21	33	12	31	32	53	21	15	67	9.9	9.8
8	12	20	29	12	31	134	54	19	18	67	10	10
9	12	20	25	12	31	97	59	17	18	13	196	9.5
10	10	19	105	12	32	58	45	16	16	11	22	9.7
11	12	18	63	13	28	49	38	16	12	10	13	9.8
12	12	61	44	13	25	44	36	18	12	12	12	11
13	76	60	37	33	24	38	54	18	12	12	21	17
14	43	36	28	e568	28	37	45	16	12	11	13	16
15	32	28	22	e150	33	33	37	17	11	12	10	12
16	24	24	20	e100	29	67	31	18	10	11	10	11
17	19	23	19	e66	25	231	29	15	11	9.5	27	12
18	19	22	17	e50	25	117	28	16	9.1	10	11	12
19	20	22	14	38	22	70	25	17	11	15	10	11
20	21	22	16	36	20	55	24	27	11	101	18	16
21	19	21	14	36	24	47	21	29	9.8	15	13	25
22	20	21	13	32	22	41	20	21	11	12	9.9	14
23	19	63	30	32	24	51	22	18	11	9.6	15	12
24	21	66	22	24	51	46	20	15	8.8	9.2	10	12
25	22	45	16	24	46	39	18	14	8.9	9.9	9.9	11
26	25	31	15	24	36	36	18	15	8.5	9.3	9.7	10
27	23	30	15	24	32	34	18	13	10	9.5	8.9	10
28	20	141	14	21	166	342	18	13	11	15	9.5	10
29	18	64	13	21	---	182	20	13	12	35	10	10
30	19	52	12	58	---	88	21	14	11	14	9.6	9.0
31	19	---	12	49	---	65	---	15	---	16	10	---
TOTAL	706	1,075	837	1,535	1,063	2,372	1,103	571	409.1	598.0	586.4	347.4
MEAN	22.8	35.8	27.0	49.5	38.0	76.5	36.8	18.4	13.6	19.3	18.9	11.6
MAX	76	141	105	568	166	342	89	32	32	101	196	25
MIN	10	18	12	12	20	32	18	13	8.5	9.2	8.9	8.9
CFSM	0.56	0.87	0.66	1.21	0.93	1.87	0.90	0.45	0.33	0.47	0.46	0.28
IN.	0.64	0.98	0.76	1.39	0.96	2.15	1.00	0.52	0.37	0.54	0.53	0.32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2005, BY WATER YEAR (WY)

MEAN	25.4	34.5	37.0	64.3	75.4	94.9	59.0	32.6	25.2	21.9	22.9	33.3
MAX	54.9	141	105	184	206	226	194	91.2	84.9	53.8	65.0	272
(WY)	(2003)	(1986)	(1984)	(1998)	(1998)	(1993)	(2003)	(1990)	(1992)	(2003)	(1985)	(1999)
MIN	12.9	10.5	12.9	13.3	17.2	18.0	17.5	14.5	11.1	8.93	12.1	8.77
(WY)	(1999)	(1983)	(1989)	(2004)	(1991)	(1988)	(1986)	(1986)	(1986)	(1988)	(1988)	(1983)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1983 - 2005	
ANNUAL TOTAL	10,750.1		11,202.9			
ANNUAL MEAN	29.4		30.7		43.1	
HIGHEST ANNUAL MEAN					80.2 2003	
LOWEST ANNUAL MEAN					21.7 1988	
HIGHEST DAILY MEAN	377	Aug 30	568	Jan 14	2,600	Sep 6, 1996
LOWEST DAILY MEAN	8.7	Aug 11	8.5	Jun 26	0.60	Nov 26, 1982
ANNUAL SEVEN-DAY MINIMUM	11	Jul 5	9.6	Sep 3	2.1	Nov 22, 1982
MAXIMUM PEAK FLOW			1,060	Aug 9	4210*	Sep 6, 1996
MAXIMUM PEAK STAGE			9.82	Aug 9	16.18*	Sep 6, 1996
INSTANTANEOUS LOW FLOW			2.7	Jun 19	NOT DETERMINED	
ANNUAL RUNOFF (CFSM)	0.716		0.749		1.05	
ANNUAL RUNOFF (INCHES)	9.75		10.16		14.28	
10 PERCENT EXCEEDS	49		57		78	
50 PERCENT EXCEEDS	21		20		20	
90 PERCENT EXCEEDS	13		10		12	

* See REMARKS.
e Estimated.

