

02097517 MORGAN CREEK NEAR CHAPEL HILL, NC

LOCATION.--Lat 35°53'37", long 79°01'09", 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.--Records fair except those for estimated daily discharges, which are poor. The City of Chapel Hill diverted an average of 12.4 ft³/s for water supply upstream of station, and an average of 13.0 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. Maximum gage height for current water year, 15.19 ft, from high-water mark in well.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	33	20	59	70	234	107	42	54	76	24	e30
2	13	26	20	52	54	247	80	39	41	360	26	e22
3	13	24	20	56	47	165	66	37	38	272	34	21
4	12	23	21	51	56	123	56	35	41	85	25	58
5	11	23	265	42	49	127	54	39	38	55	32	32
6	10	68	177	38	51	258	49	63	34	43	32	23
7	11	45	150	35	226	182	272	44	50	39	24	21
8	12	31	98	31	131	121	205	39	84	33	98	27
9	12	26	80	31	82	102	1,050	36	54	30	52	24
10	24	24	55	29	90	91	e1,600	33	39	30	41	23
11	575	29	91	27	79	81	e700	31	34	32	106	22
12	122	86	90	26	64	76	e400	29	40	31	37	21
13	49	125	358	25	53	74	e200	24	35	27	29	21
14	39	65	297	25	49	75	e110	26	30	42	27	22
15	35	41	108	23	53	68	81	25	38	31	22	21
16	128	42	72	24	56	279	70	30	66	28	39	23
17	62	144	52	28	61	179	59	23	49	27	26	22
18	35	136	42	31	84	121	54	24	41	26	22	72
19	28	69	46	31	115	101	57	45	75	26	21	40
20	24	49	82	31	104	e1,200	52	35	113	23	20	26
21	24	37	65	31	87	461	49	31	77	22	19	24
22	38	32	46	32	349	183	48	193	47	46	19	26
23	26	27	39	34	346	124	40	189	38	80	20	109
24	23	24	87	31	132	97	36	99	34	43	37	27
25	22	23	252	30	94	78	38	236	30	30	21	28
26	21	22	127	30	80	67	69	131	28	25	20	24
27	20	21	76	31	391	62	72	79	26	22	19	22
28	77	19	57	30	609	55	49	62	24	22	19	21
29	84	19	46	32	---	61	47	52	24	20	19	20
30	89	19	42	76	---	400	43	48	53	25	e20	18
31	51	---	38	110	---	219	---	53	---	18	e80	---
TOTAL	1,703	1,352	3,019	1,162	3,662	5,711	5,813	1,872	1,375	1,669	1,030	890
MEAN	54.9	45.1	97.4	37.5	131	184	194	60.4	45.8	53.8	33.2	29.7
MAX	575	144	358	110	609	1,200	1,600	236	113	360	106	109
MIN	10	19	20	23	47	55	36	23	24	18	19	18
CFSM	1.34	1.10	2.38	0.91	3.19	4.49	4.73	1.47	1.12	1.31	0.81	0.72
IN.	1.55	1.23	2.74	1.05	3.32	5.18	5.27	1.70	1.25	1.51	0.93	0.81

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2003, BY WATER YEAR (WY)

MEAN	25.7	35.0	37.9	67.4	78.8	98.6	61.7	33.4	26.1	22.1	22.3	33.9
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	15.2	17.2	18.0	17.5	14.5	11.1	8.93	12.1	8.77
(WY)	(1999)	(1983)	(1989)	(1989)	(1991)	(1988)	(1986)	(1986)	(1986)	(1988)	(1988)	(1983)

02097517 MORGAN CREEK NEAR CHAPEL HILL, NC—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1983 - 2003	
ANNUAL TOTAL	12,660.1		29,258		44.4	
ANNUAL MEAN	34.7		80.2		80.2	
HIGHEST ANNUAL MEAN					2003	
LOWEST ANNUAL MEAN					1988	
HIGHEST DAILY MEAN	575	Oct 11	1,600	Apr 10	2,600	Sep 6, 1996
LOWEST DAILY MEAN	8.4	Aug 14	10	Oct 6	0.60	Nov 26, 1982
ANNUAL SEVEN-DAY MINIMUM	9.4	Aug 9	12	Oct 3	2.1	Nov 22, 1982
MAXIMUM PEAK FLOW			3,550	Mar 20	4210*	Sep 6, 1996
MAXIMUM PEAK STAGE			15.19*	Mar 20	16.18*	Sep 6, 1996
INSTANTANEOUS LOW FLOW			5.0	Oct 6	NOT DETERMINED	
ANNUAL RUNOFF (CFSM)	0.85		1.96		1.08	
ANNUAL RUNOFF (INCHES)	11.49		26.55		14.72	
10 PERCENT EXCEEDS	70		146		82	
50 PERCENT EXCEEDS	21		41		20	
90 PERCENT EXCEEDS	12		21		12	

e Estimated.
 * See REMARKS.

