

Water-Data Report 2007

**02087359 WALNUT CREEK AT SUNNYBROOK DRIVE AT RALEIGH, NC**

Neuse Basin  
Upper Neuse Subbasin

LOCATION.--Lat 35°45'30", long 78°34'59" referenced to North American Datum of 1983, Wake County, NC, Hydrologic Unit 03020201, at bridge on Sunnybrook Drive (Secondary Road 2544), 0.9 mi upstream from Big Branch, and 3.5 mi southeast of Raleigh.

DRAINAGE AREA.--29 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--May 1996 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 190.8 ft above NGVD of 1929. Satellite and telephone telemetry at station.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Maximum discharge for period of record from computation of peak flow through culvert; maximum gage height, 17.03 ft, from high-water mark in gage shelter.

## 02087359 WALNUT CREEK AT SUNNYBROOK DRIVE AT RALEIGH, NC—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	3.9	3.0	79	37	46	17	14	10	3.2	2.4	5.9	1.8
2	2.8	2.4	47	33	52	195	14	8.6	3.2	2.6	3.8	1.7
3	2.5	2.8	23	21	29	59	13	8.1	146	2.6	3.0	e1.6
4	2.4	2.4	39	18	21	34	15	7.8	111	e2.4	2.6	e1.5
5	2.5	2.4	20	17	17	22	13	8.3	26	e2.2	2.3	e1.4
6	31	2.4	15	199	15	18	11	8.4	19	e2.0	3.9	e1.3
7	18	122	14	81	15	16	16	6.8	12	e1.8	3.4	e1.5
8	61	538	12	113	15	15	13	6.4	9.4	e1.6	2.2	e1.7
9	15	70	10	60	16	14	11	10	7.3	e1.6	2.1	e1.6
10	5.5	29	9.9	36	14	13	11	20	42	7.3	3.5	e1.5
11	2.8	18	9.6	26	13	14	14	13	9.5	16	5.6	e1.5
12	25	219	9.5	22	13	13	109	73	6.6	25	2.0	e1.4
13	6.6	98	9.5	20	15	12	39	189	30	7.9	1.9	e1.3
14	2.8	36	9.5	19	72	12	22	36	36	4.2	1.9	e1.9
15	2.1	21	9.4	18	34	12	131	20	20	3.3	1.8	82
16	1.9	313	8.8	18	22	260	203	14	13	2.9	1.9	16
17	34	215	7.7	16	17	349	59	14	9.6	9.7	1.9	5.3
18	67	48	6.8	30	15	69	31	11	7.1	611	2.0	2.7
19	12	26	9.1	36	13	37	23	8.7	5.5	75	1.8	2.0
20	16	18	8.7	22	13	28	19	7.2	8.2	27	1.9	3.3
21	5.5	39	7.8	27	13	23	16	6.6	9.9	14	2.9	5.6
22	3.8	807	46	163	13	20	15	6.1	6.7	8.6	10	2.4
23	3.8	411	215	58	12	19	14	5.5	5.9	5.9	33	1.9
24	2.7	63	51	35	11	18	13	5.2	4.2	4.7	12	1.7
25	2.3	35	270	26	55	17	12	5.0	3.7	4.2	3.9	1.5
26	2.1	23	464	21	63	15	12	4.6	3.2	3.9	10	1.5
27	16	18	72	18	30	15	35	4.2	2.9	4.0	17	1.5
28	80	16	36	18	20	15	27	3.9	2.9	15	3.8	1.4
29	12	15	25	16	---	21	17	5.1	3.0	11	2.4	e1.5
30	4.7	14	20	15	---	18	12	6.0	4.1	8.7	2.0	e1.5
31	3.3	---	18	14	---	16	---	3.6	---	14	1.9	---
<b>Total</b>	451.0	3,227.4	1,582.3	1,253	684	1,406	954	536.1	571.1	902.5	154.3	170.6
<b>Mean</b>	14.5	108	51.0	40.4	24.4	45.4	31.8	17.3	19.0	29.1	4.98	5.69
<b>Max</b>	80	807	464	199	72	349	203	189	146	611	33	82
<b>Min</b>	1.9	2.4	6.8	14	11	12	11	3.6	2.9	1.6	1.8	1.3

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2007, BY WATER YEAR (WY)**

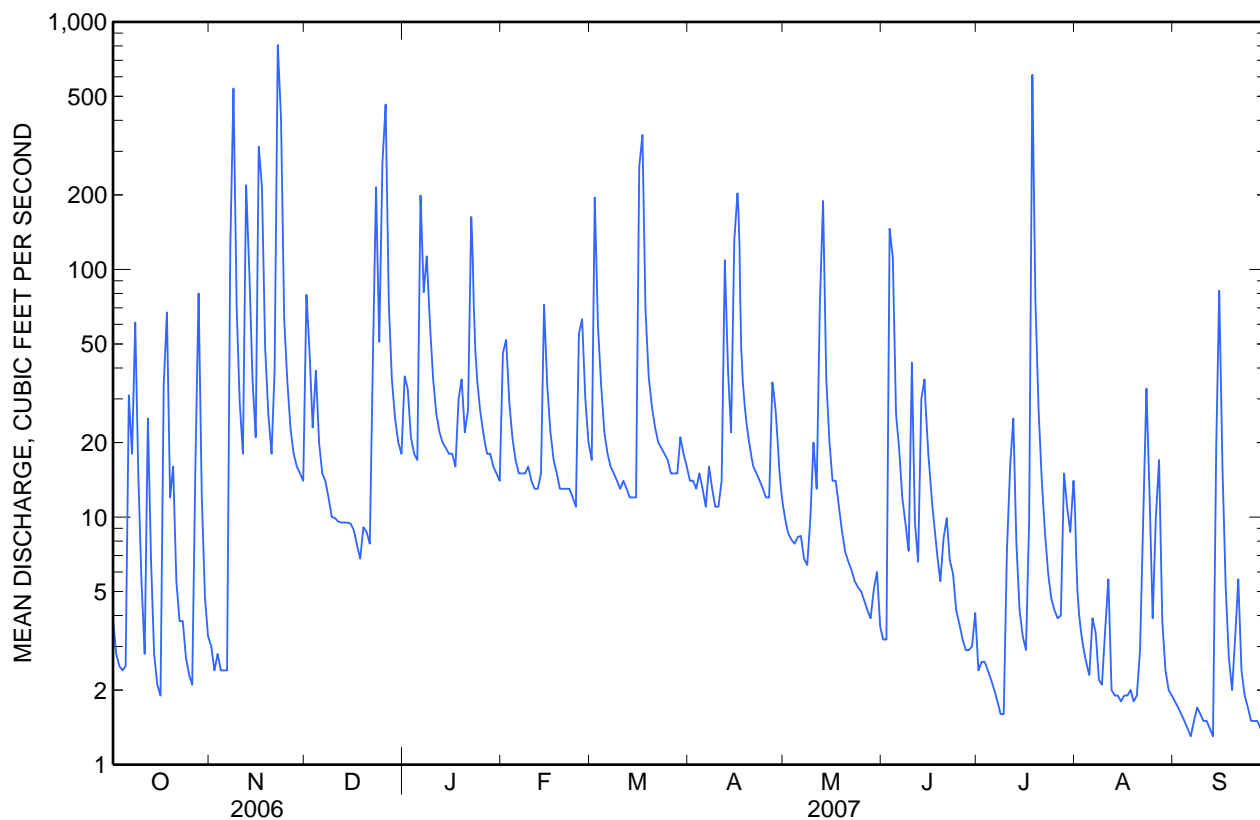
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	28.0	32.5	33.7	44.8	41.4	52.6	39.0	21.6	38.7	30.5	33.8	60.9
<b>Max</b>	79.3	108	58.5	106	98.0	123	84.5	34.3	131	54.3	114	263
<b>(WY)</b>	(2003)	(2007)	(2003)	(1998)	(1998)	(1998)	(2003)	(2003)	(2006)	(2003)	(2004)	(1999)
<b>Min</b>	9.04	5.69	15.2	13.9	21.9	14.5	20.9	3.03	11.9	11.3	4.98	4.68
<b>(WY)</b>	(2001)	(2002)	(2001)	(2001)	(1999)	(2006)	(1999)	(2002)	(2002)	(1999)	(2007)	(2005)

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SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1996 - 2007	
<b>Annual total</b>	14,821.6		11,892.3			
<b>Annual mean</b>	40.6		32.6		37.2	
<b>Highest annual mean</b>					61.2	2003
<b>Lowest annual mean</b>					23.4	2002
<b>Highest daily mean</b>	1,850	Jun 14	807	Nov 22	3,600	Sep 6, 1996
<b>Lowest daily mean</b>	1.6	Jun 9	1.3	Sep 6	0.50	Aug 8, 2002
<b>Annual seven-day minimum</b>	2.7	Oct 31	1.5	Sep 4	0.50	Aug 8, 2002
<b>Maximum peak flow</b>			1,160	Nov 22	<sup>a</sup> 6,760	Sep 6, 1996
<b>Maximum peak stage</b>			9.53	Nov 22	<sup>a</sup> 17.03	Sep 6, 1996
<b>Instantaneous low flow</b>			Not Determined		Not Determined	
<b>10 percent exceeds</b>	70		63		70	
<b>50 percent exceeds</b>	12		13		16	
<b>90 percent exceeds</b>	3.6		2.0		4.7	

<sup>a</sup> See Remarks.



**02087359 WALNUT CREEK AT SUNNYBROOK DRIVE AT RALEIGH, NC—Continued****CLIMATOLOGICAL RECORDS**

PERIOD OF RECORD.--July 1996 to current year. Records from July 1996 to September 1998 are unpublished and available from the USGS Water Science Center, Raleigh, NC.

INSTRUMENTATION.--Tipping bucket raingage. Satellite telemetry at station.

REMARKS.--Precipitation data collected during freezing periods may not be accurately reflected in daily record; consequently, winter record is poor.

**PRECIPITATION, TOTAL, INCHES**  
**WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**  
**DAILY SUM VALUES**

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.00	0.00	0.55	0.26	0.55	0.22	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.04	1.01	0.01	0.00	0.04	0.00	0.00	0.00
3	0.00	0.00	0.21	0.00	0.00	0.00	0.01	0.00	1.35	0.00	0.00	0.00
4	0.17	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.62	0.00	0.00	0.10	0.01	0.00	0.00	0.00	0.00
6	0.59	0.00	0.00	0.27	0.00	0.00	0.00	0.00	0.16	0.00	0.03	0.00
7	0.14	2.19	0.00	0.17	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00
8	0.41	0.09	0.00	0.26	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00
9	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.01	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.07	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.00	0.00	0.17	0.00	0.00
12	0.33	1.29	0.00	0.00	0.00	0.00	0.56	1.61	0.00	0.01	0.00	0.00
13	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.00	0.60	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	1.53
15	0.00	0.00	0.00	0.00	0.00	0.00	1.05	0.00	0.00	0.00	0.00	0.22
16	0.00	1.50	0.00	0.00	0.00	1.70	0.00	0.10	0.00	0.00	0.00	0.00
17	0.89	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	1.39	0.03	0.00
18	0.11	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	1.66	0.00	0.00
19	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.16	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.06	0.00	0.00	0.13
21	0.00	1.04	0.00	0.66	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.02
22	0.08	1.47	1.11	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
23	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	1.46	0.00	0.59	0.00	0.00	0.00	0.01	0.00	0.00	0.00
26	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.29	0.00
27	0.69	0.00	0.00	0.00	0.00	0.03	0.09	0.00	0.00	0.18	0.01	0.00
28	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00
29	0.00	0.00	0.00	0.00	---	0.14	0.00	0.03	0.02	0.01	0.00	0.00
30	0.00	0.05	0.00	0.00	---	0.00	0.00	0.00	0.00	0.12	0.00	0.00
31	0.00	---	0.01	0.00	---	0.00	---	0.00	---	0.00	0.00	---
<b>Total</b>	3.91	7.63	3.39	2.49	1.75	3.11	2.41	1.87	2.28	3.74	1.04	1.90

02087359 WALNUT CREEK AT SUNNYBROOK DRIVE AT RALEIGH, NC—Continued

