

Water-Data Report 2010

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 mi².

SURFACE-WATER RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 190.8 ft above National Geodetic Vertical Datum of 1929. Satellite and telephone telemetry at streamgage.

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. Minimum discharge for current water year also occurred July 26, 27.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	8.2	33	18	37	39	13	22	7.0	126	4.6	15	e28
2	6.3	20	77	22	56	15	18	7.0	220	3.8	8.8	45
3	5.2	13	652	17	119	51	16	8.3	163	3.7	6.0	44
4	5.0	8.5	125	15	68	27	15	8.2	42	3.3	5.1	16
5	7.5	6.4	77	13	200	19	14	8.7	23	4.6	68	6.1
6	8.6	5.4	46	13	751	15	13	6.5	16	5.2	164	4.6
7	6.2	5.0	29	12	100	14	12	7.4	26	5.3	34	4.3
8	5.0	4.9	24	13	43	13	11	6.1	12	4.3	14	4.4
9	4.9	4.8	353	12	57	13	121	5.2	9.4	4.1	8.7	8.1
10	4.8	10	105	11	68	13	30	4.7	8.0	5.2	6.2	18
11	7.3	611	38	11	35	33	19	5.2	7.5	3.8	5.0	19
12	5.7	684	24	11	25	44	15	5.2	7.5	3.2	9.4	21
13	9.0	107	34	11	34	144	12	5.0	26	3.5	4.6	20
14	9.5	39	29	11	27	55	11	4.6	12	3.7	4.2	20
15	10	23	22	11	22	30	10	4.4	8.4	3.5	3.9	19
16	7.1	16	19	11	20	21	10	8.3	8.5	4.0	3.9	12
17	6.2	13	17	223	18	17	9.8	58	13	29	4.1	6.8
18	5.5	19	17	152	17	15	8.9	177	9.1	11	4.1	4.9
19	5.1	43	163	47	15	14	8.5	200	7.6	4.6	7.6	3.6
20	5.2	23	61	29	15	13	8.2	52	7.5	3.5	101	3.3
21	4.8	15	31	49	15	15	12	22	7.0	3.2	30	3.3
22	4.6	13	21	217	26	14	19	16	6.4	3.0	16	3.1
23	4.6	60	18	56	26	13	15	85	16	2.8	33	3.2
24	4.9	37	16	32	20	11	12	102	15	3.2	363	3.2
25	7.4	21	71	343	22	10	35	39	6.4	2.7	204	3.2
26	5.7	16	87	98	19	12	25	21	4.8	2.7	29	31
27	9.6	13	37	39	21	10	14	14	4.5	9.9	16	248
28	14	11	27	27	14	10	10	11	4.1	6.8	11	60
29	6.5	9.6	16	21	---	285	8.6	257	4.1	4.3	8.6	144
30	5.3	10	16	31	---	e76	8.5	54	4.7	106	7.4	770
31	5.9	---	47	30	---	e36	---	23	---	13	6.9	---
Total	205.6	1,894.6	2,317	1,625	1,892	1,071	543.5	1,232.8	825.5	271.5	1,202.5	1,577.1
Mean	6.63	63.2	74.7	52.4	67.6	34.5	18.1	39.8	27.5	8.76	38.8	52.6
Max	14	684	652	343	751	285	121	257	220	106	363	770
Min	4.6	4.8	16	11	14	10	8.2	4.4	4.1	2.7	3.9	3.1
Cfsm	0.23	2.18	2.58	1.81	2.33	1.19	0.62	1.37	0.95	0.30	1.34	1.81
In.	0.26	2.43	2.97	2.08	2.43	1.37	0.70	1.58	1.06	0.35	1.54	2.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2010, BY WATER YEAR (WY)

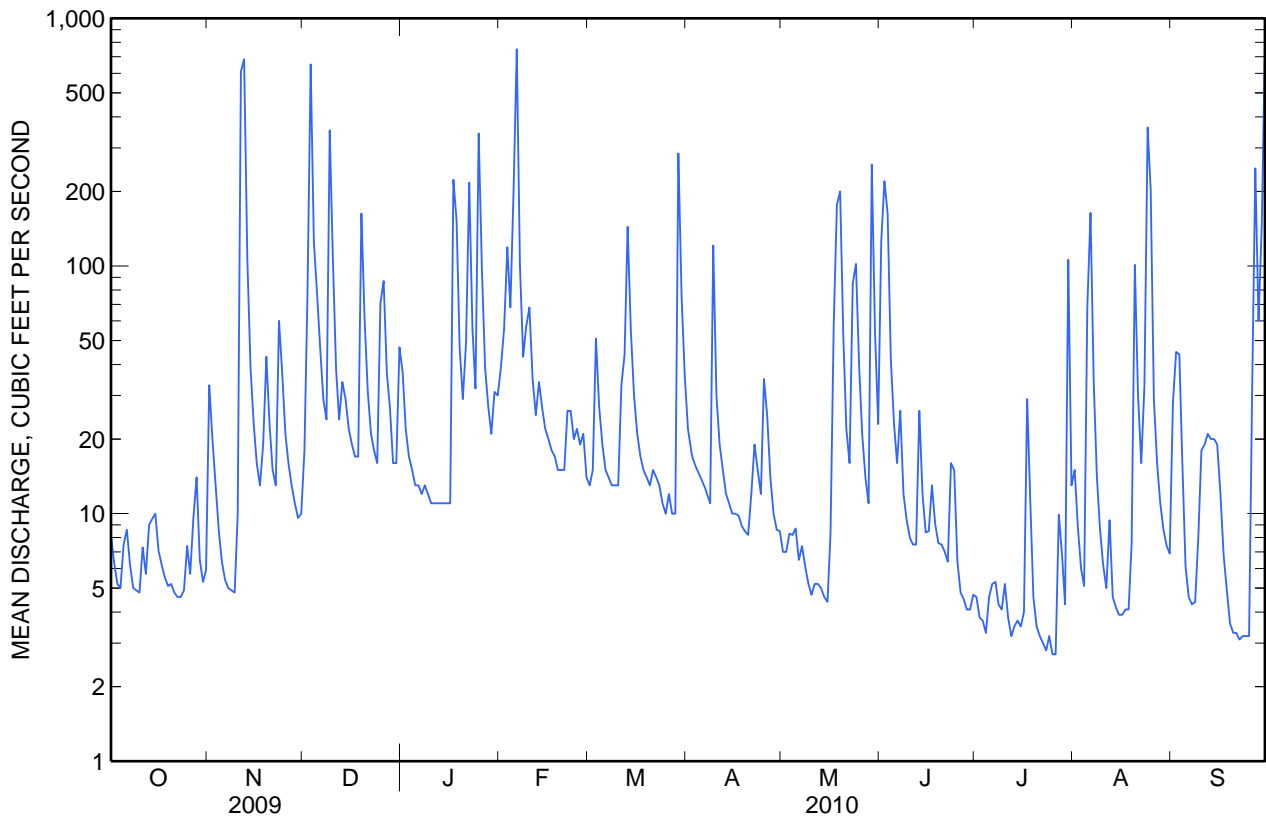
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	27.0	32.4	37.5	42.4	40.1	52.0	36.9	22.9	39.1	27.1	32.3	59.3
Max	79.3	108	74.7	106	98.0	123	84.5	39.8	131	54.3	114	263
(WY)	(2003)	(2007)	(2010)	(1998)	(1998)	(1998)	(2003)	(2010)	(2006)	(2003)	(2004)	(1999)
Min	6.63	5.69	15.2	13.9	15.4	14.5	18.1	3.03	10.2	8.76	4.98	4.68
(WY)	(2010)	(2002)	(2001)	(2001)	(2009)	(2006)	(2010)	(2002)	(2008)	(2010)	(2007)	(2005)

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SUMMARY STATISTICS

	Calendar Year 2009		Water Year 2010		Water Years 1996 - 2010	
Annual total	14,228.7		14,658.1			
Annual mean	39.0		40.2		36.6	
Highest annual mean					61.2	2003
Lowest annual mean					23.4	2002
Highest daily mean	1,170	Jun 16	770	Sep 30	3,600	Sep 6, 1996
Lowest daily mean	3.5	Jul 16	2.7	Jul 25	0.50	Aug 8, 2002
Annual seven-day minimum	4.5	Jul 3	3.0	Jul 20	0.50	Aug 8, 2002
Maximum peak flow			1,140	Feb 6	^a 6,760	Sep 6, 1996
Maximum peak stage			9.31	Feb 6	^a 17.03	Sep 6, 1996
Instantaneous low flow			^a 2.6	Jul 25		
Annual runoff (cfsm)	1.34		1.38		1.26	
Annual runoff (inches)	18.25		18.80		17.15	
10 percent exceeds	70		86		69	
50 percent exceeds	13		14		15	
90 percent exceeds	5.5		4.5		4.6	

^a See Remarks.



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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.

PRECIPITATION, TOTAL, INCHES
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
DAILY SUM VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.00	0.34	0.01	0.00	---	0.00	0.00	0.00	0.97	0.00	0.20	0.00
2	0.00	0.01	1.49	0.00	---	0.24	0.00	0.00	0.65	0.00	0.00	0.00
3	0.00	0.00	0.02	0.00	---	0.20	0.00	0.06	0.00	0.00	0.00	0.00
4	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00
5	0.16	0.00	0.31	0.00	1.71	0.00	0.00	0.00	0.00	0.00	1.13	0.00
6	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.01	0.00
7	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00
8	0.00	0.00	0.44	0.04	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	1.00	0.00	0.24	0.00	0.69	0.00	0.00	0.00	0.00	0.00
10	0.00	1.12	0.00	0.00	0.01	0.11	0.00	0.00	0.00	0.02	0.00	0.00
11	0.11	2.85	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.03	0.03
12	0.15	0.20	0.00	0.00	---	0.03	0.00	0.00	0.00	0.00	0.09	0.02
13	0.00	0.05	0.23	0.00	---	0.58	0.00	0.00	0.29	0.00	0.00	0.00
14	0.22	0.00	0.01	0.00	0.03	0.06	0.00	0.00	0.00	0.00	0.00	0.00
15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.70	0.00	0.38	0.00	0.00
17	0.00	0.00	0.00	1.38	0.00	0.00	0.00	1.34	0.01	0.31	0.00	0.00
18	0.00	0.24	0.31	0.01	0.00	0.00	0.00	0.58	0.00	0.00	0.05	0.00
19	0.00	0.06	0.37	0.00	0.00	0.00	0.00	0.78	0.00	0.00	0.04	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41	0.00
21	0.00	0.00	0.00	0.90	0.00	0.00	0.44	0.00	0.00	0.01	0.00	0.00
22	0.00	0.17	0.00	0.01	0.23	0.09	0.00	0.24	0.00	0.00	0.27	0.00
23	0.00	0.43	0.00	0.00	0.00	0.02	0.00	0.17	0.41	0.00	0.76	0.00
24	0.10	0.00	0.00	0.05	0.06	0.00	0.04	0.21	0.00	0.00	4.41	0.00
25	0.00	0.01	0.62	1.09	0.01	0.00	0.32	0.00	0.00	0.00	0.03	0.00
26	0.08	0.01	0.00	0.04	0.00	0.06	0.01	0.00	0.00	0.00	0.00	2.13
27	0.08	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.00	1.07
28	0.12	0.00	0.00	0.00	0.00	0.07	0.00	0.87	0.00	0.00	0.00	0.08
29	0.00	0.00	0.00	---	---	1.89	0.00	0.17	0.09	1.46	0.00	1.79
30	0.00	0.14	0.05	---	---	0.00	0.00	0.00	0.02	0.01	0.00	1.77
31	0.04	---	0.33	---	---	0.00	---	0.00	---	0.02	0.00	---
Total	1.18	5.64	5.22	---	---	3.49	1.83	5.15	2.69	2.56	8.43	6.89

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