

Water-Data Report 2013

02137727 CATAWBA RIVER NEAR PLEASANT GARDENS, NC

Santee Basin
Upper Catawba Subbasin

LOCATION.--Lat 35°41'09", long 82°03'37" referenced to North American Datum of 1983, McDowell County, NC, Hydrologic Unit 03050101, on right bank 18 ft downstream of bridge on Secondary Road 1221, 0.8 mi upstream from Buck Creek, 0.8 mi southeast of Pleasant Gardens, and at river mile 297.

DRAINAGE AREA.--126 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1980 to current year. Occasional low-flow measurements, water years 1963, 1970-73, 1975.

GAGE.--Water-stage recorder. Datum of gage is 1,233.82 ft above North American Vertical Datum of 1988 (levels by North Carolina Floodplain Mapping Program). Satellite and telephone telemetry at streamgage.

REMARKS.--No estimated daily discharges. Records good. Maximum discharge for period of record from rating curve extended above 10,000 ft³/s on basis of contracted-opening measurement of peak flow. Minimum discharge for current water year also occurred December 14, 15, 16.

02137727 CATAWBA RIVER NEAR PLEASANT GARDENS, NC—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	124	103	79	202	564	365	244	371	264	232	535	252
2	499	101	79	215	429	326	232	366	421	284	478	236
3	276	100	79	194	372	298	225	385	376	737	431	221
4	197	100	79	182	330	277	254	392	280	2,010	395	212
5	167	99	79	173	303	305	304	3,700	265	1,950	401	206
6	153	99	79	169	281	406	257	6,560	352	1,270	462	201
7	165	101	79	162	279	321	245	1,590	386	1,720	544	197
8	148	99	79	156	338	297	238	1,070	396	1,040	535	195
9	139	96	78	153	287	281	230	814	386	750	452	191
10	134	94	80	150	271	268	224	682	1,190	669	405	186
11	127	94	84	172	304	262	221	608	703	802	374	204
12	122	94	77	168	280	466	666	547	493	690	350	230
13	118	106	74	158	315	365	443	479	412	1,980	336	205
14	114	95	72	216	289	326	356	440	369	2,090	318	179
15	175	94	72	755	272	304	346	412	323	1,980	302	175
16	142	92	80	1,240	258	290	311	385	301	1,070	294	175
17	127	90	113	1,490	244	275	300	361	304	802	286	167
18	122	89	95	1,460	232	267	288	409	298	681	310	165
19	120	90	83	681	231	290	340	413	286	592	371	170
20	116	89	104	488	221	254	382	375	265	620	321	167
21	113	88	163	393	214	246	323	348	254	715	297	205
22	111	87	104	336	279	238	301	578	242	675	284	234
23	110	86	95	300	273	233	285	735	242	655	275	176
24	107	85	153	277	259	293	278	473	250	538	271	171
25	107	83	152	257	243	305	264	395	280	508	253	211
26	107	83	1,110	247	683	274	247	359	250	469	246	204
27	107	83	480	232	605	256	244	336	230	1,160	240	179
28	105	83	304	223	440	246	415	317	219	1,130	235	170
29	105	81	272	217	---	238	653	300	214	705	231	165
30	104	80	227	617	---	239	441	285	201	569	238	161
31	104	---	205	1,210	---	257	---	272	---	540	267	---
Total	4,465	2,764	4,909	12,893	9,096	9,068	9,557	24,757	10,452	29,633	10,737	5,810
Mean	144	92.1	158	416	325	293	319	799	348	956	346	194
Max	499	106	1,110	1,490	683	466	666	6,560	1,190	2,090	544	252
Min	104	80	72	150	214	233	221	272	201	232	231	161
Cfsm	1.14	0.73	1.26	3.30	2.58	2.32	2.53	6.34	2.77	7.59	2.75	1.54
In.	1.32	0.82	1.45	3.81	2.69	2.68	2.82	7.31	3.09	8.75	3.17	1.72

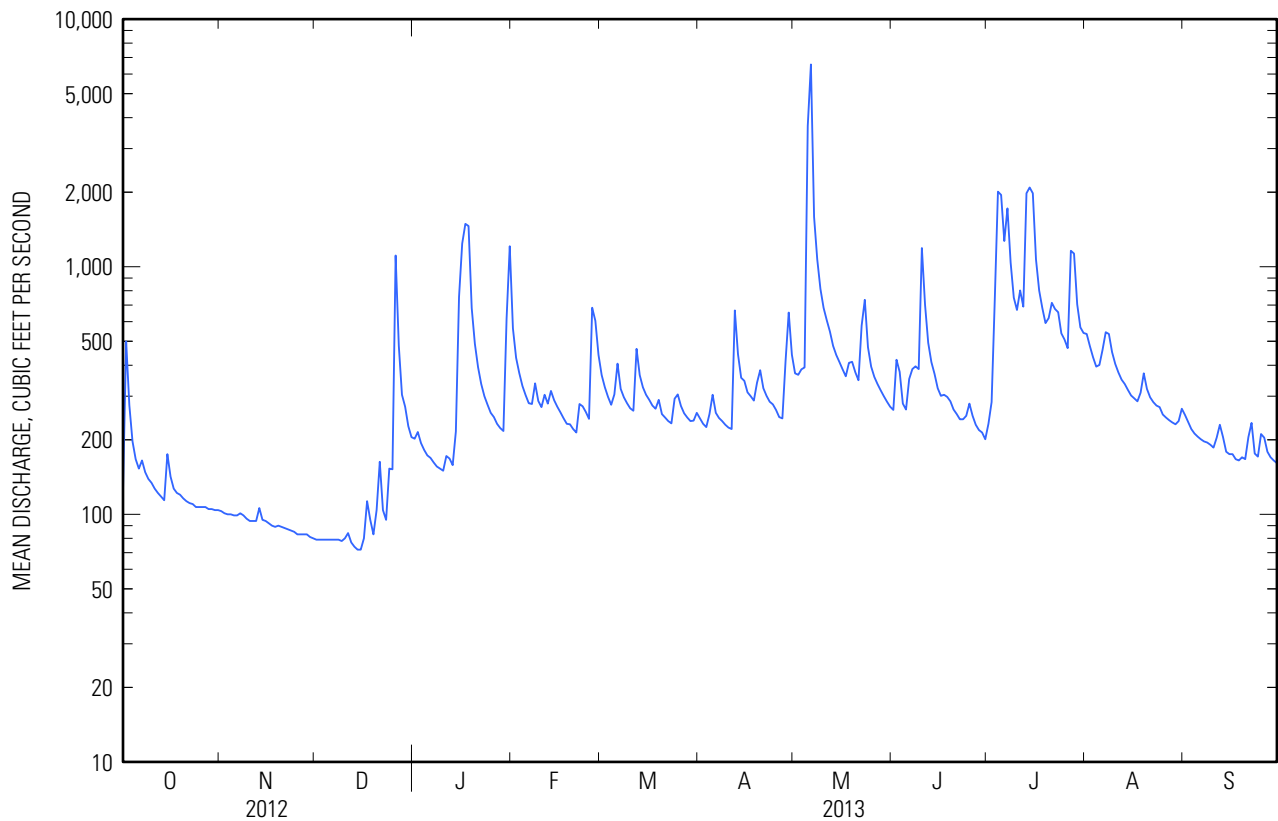
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 2013, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	171	200	228	267	292	316	297	246	197	189	192	206
Max	550	606	573	620	739	622	688	799	652	956	543	1,418
(WY)	(1996)	(1986)	(1984)	(1995)	(1998)	(1990)	(1983)	(2013)	(1992)	(2013)	(2003)	(2004)
Min	52.4	63.8	77.6	103	93.7	130	138	76.2	44.6	31.9	32.3	43.3
(WY)	(2001)	(2002)	(1989)	(2008)	(2009)	(1988)	(1986)	(2001)	(2008)	(2008)	(2002)	(1999)

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SUMMARY STATISTICS

	Calendar Year 2012		Water Year 2013		Water Years 1981 - 2013	
Annual total	59,847		134,141			
Annual mean	164		368		233	
Highest annual mean					368	2013
Lowest annual mean					103	2002
Highest daily mean	1,110	Dec 26	6,560	May 6	15,100	Sep 8, 2004
Lowest daily mean	72	Dec 14	72	Dec 14	12	Aug 23, 2008
Annual seven-day minimum	77	Dec 9	77	Dec 9	13	Aug 19, 2008
Maximum peak flow			11,800	May 6	^a 23,000	Sep 8, 2004
Maximum peak stage			13.72	May 6	17.55	Sep 8, 2004
Instantaneous low flow			^a 72	Dec 13	11	Sep 12, 2002
Annual runoff (cfs)	1.30		2.92		1.85	
Annual runoff (inches)	17.67		39.60		25.14	
10 percent exceeds	249		677		407	
50 percent exceeds	139		264		169	
90 percent exceeds	91		95		73	

^a See Remarks.

02137727 CATAWBA RIVER NEAR PLEASANT GARDENS, NC—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--April 2013 to September 2013.

PERIOD OF DAILY RECORD.--April 2013 to September 2013.

INSTRUMENTATION.--Temperature probe from April 2013 to September 2013.

REMARKS.--Records excellent. Station operated in cooperation with Duke Energy and the North Carolina Department of Environment and Natural Resources, Division of Water Resources.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 22.7°C, June 29, 2013; minimum recorded, 10.9°C, May 5, 2013.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 22.7°C, June 29; minimum recorded, 10.9°C, May 5.

**TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013**

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

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TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	---	---	---	---	---	---	---	---	---	16.3	14.6	15.1
2	---	---	---	---	---	---	---	---	---	14.6	13.5	13.8
3	---	---	---	---	---	---	---	---	---	13.8	13.0	13.4
4	---	---	---	---	---	---	---	---	---	13.6	11.7	12.4
5	---	---	---	---	---	---	---	---	---	11.7	10.9	11.2
6	---	---	---	---	---	---	---	---	---	13.4	11.2	12.2
7	---	---	---	---	---	---	---	---	---	12.9	11.0	12.1
8	---	---	---	---	---	---	---	---	---	13.5	11.8	12.5
9	---	---	---	---	---	---	---	---	---	15.3	12.3	13.7
10	---	---	---	---	---	---	---	---	---	15.8	13.4	14.7
11	---	---	---	---	---	---	---	---	---	15.8	14.4	15.2
12	---	---	---	---	---	---	---	---	---	16.0	13.9	15.0
13	---	---	---	---	---	---	---	---	---	14.9	11.7	13.2
14	---	---	---	---	---	---	---	---	---	14.3	11.0	12.8
15	---	---	---	---	---	---	---	---	---	17.1	13.0	14.9
16	---	---	---	---	---	---	---	---	---	17.0	15.2	16.2
17	---	---	---	---	---	---	---	---	---	17.4	15.2	16.4
18	---	---	---	---	---	---	---	---	---	17.3	15.6	16.3
19	---	---	---	---	---	---	---	---	---	16.7	15.2	15.9
20	---	---	---	---	---	---	---	---	---	18.2	15.9	17.0
21	---	---	---	---	---	---	---	---	---	19.1	16.9	18.0
22	---	---	---	---	---	---	---	---	---	18.5	17.3	18.0
23	---	---	---	---	---	---	---	---	---	18.5	16.1	17.3
24	---	---	---	---	---	---	---	---	---	18.0	15.7	16.8
25	---	---	---	---	---	---	16.5	13.3	14.8	16.5	13.6	15.2
26	---	---	---	---	---	---	15.0	12.2	13.8	17.1	14.5	15.8
27	---	---	---	---	---	---	14.3	12.9	13.6	17.5	15.0	16.4
28	---	---	---	---	---	---	12.9	12.0	12.4	18.2	16.1	17.2
29	---	---	---	---	---	---	15.3	11.8	13.2	19.7	16.9	18.2
30	---	---	---	---	---	---	16.3	13.7	14.9	19.7	17.5	18.7
31	---	---	---	---	---	---	---	---	---	20.1	17.9	19.0
Month	---	---	---	---	---	---	---	---	---	20.1	10.9	15.3

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TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	21.1	18.5	19.7	21.7	20.4	20.9	19.8	17.8	18.6	21.9	20.2	21.0
2	20.2	18.3	19.1	21.1	19.9	20.4	19.8	18.2	19.1	21.8	20.3	21.0
3	19.8	17.7	18.7	20.4	18.5	20.0	20.3	18.8	19.6	22.0	20.3	21.1
4	20.3	18.6	19.4	18.6	17.4	17.9	21.1	18.9	19.9	21.4	19.7	20.6
5	19.7	18.9	19.3	18.6	17.1	17.9	20.4	18.9	19.7	21.7	19.9	20.6
6	19.0	18.1	18.5	19.5	17.5	18.2	20.4	19.3	19.9	20.8	18.8	19.9
7	18.9	17.8	18.4	19.5	17.7	18.4	19.9	19.1	19.5	21.1	19.0	19.9
8	19.8	17.8	18.8	19.4	17.2	18.2	20.3	18.8	19.5	20.6	19.0	19.8
9	19.4	18.4	18.8	20.1	17.7	18.9	20.8	19.2	20.0	21.4	19.3	20.3
10	18.5	17.3	17.8	20.2	18.2	19.2	20.6	19.7	20.2	21.8	19.8	20.7
11	19.3	16.6	17.8	19.4	17.9	18.4	21.4	19.4	20.4	21.5	19.9	20.7
12	19.3	17.3	18.4	19.3	17.8	18.6	21.4	20.0	20.7	21.4	20.2	20.8
13	19.8	18.1	19.0	18.8	17.1	17.6	21.1	20.0	20.6	20.8	19.6	20.3
14	20.2	18.0	19.2	18.2	17.3	17.8	20.9	19.7	20.4	19.7	17.7	18.6
15	19.5	17.1	18.5	18.6	16.9	17.6	20.2	18.4	19.2	18.9	17.0	18.0
16	19.8	17.9	18.9	19.6	17.0	18.1	19.2	17.5	18.3	19.4	17.3	18.4
17	20.2	19.0	19.5	19.5	17.6	18.6	18.6	17.7	18.1	19.1	18.3	18.7
18	19.6	18.9	19.3	20.1	17.8	18.9	18.7	17.4	17.9	18.5	17.5	17.9
19	19.9	18.2	19.1	20.1	18.5	19.4	18.8	18.2	18.5	18.6	17.0	17.7
20	19.8	18.6	19.2	20.2	18.7	19.3	19.6	18.1	18.8	20.1	18.1	18.9
21	21.2	18.6	19.7	20.2	18.3	19.1	19.3	18.7	19.0	19.7	18.4	19.2
22	21.6	19.2	20.3	20.2	18.5	19.4	20.7	18.6	19.5	19.0	17.2	18.1
23	20.7	19.3	20.0	20.3	18.5	19.5	20.6	19.3	20.0	18.6	17.1	17.8
24	20.8	19.1	19.9	20.0	18.6	19.5	21.3	19.3	20.2	18.9	17.4	18.1
25	21.5	20.1	20.7	20.4	18.7	19.5	20.3	18.5	19.5	18.5	17.2	17.7
26	21.5	19.8	20.7	19.9	18.3	19.2	20.5	18.5	19.4	18.1	16.6	17.3
27	21.5	20.3	20.9	20.0	18.9	19.5	20.4	18.5	19.5	17.8	15.9	16.9
28	21.8	20.1	20.8	19.9	18.1	18.9	20.8	19.1	19.9	18.3	16.9	17.5
29	22.7	19.7	21.1	19.8	17.5	18.7	22.2	19.8	20.8	18.2	16.7	17.4
30	22.1	20.4	21.2	19.4	17.9	18.7	21.4	20.7	21.0	18.4	17.0	17.6
31	---	---	---	18.9	18.0	18.3	21.4	20.2	20.8	---	---	---
Month	22.7	16.6	19.4	21.7	16.9	18.9	22.2	17.4	19.6	22.0	15.9	19.1

02137727 CATAWBA RIVER NEAR PLEASANT GARDENS, NC—Continued**CLIMATOLOGICAL RECORDS**

PERIOD OF RECORD.--November 2000 to current year.

INSTRUMENTATION.--Tipping-bucket raingage and electronic datalogger. Satellite telemetry at station.

REMARKS.--Gage is operated in cooperation with Duke Energy and the North Carolina Department of Environment and Natural Resources. Precipitation data collected during freezing periods may not be accurately reflected in daily record.

PRECIPITATION, TOTAL, INCHES
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY SUM VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1.25	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.60	0.31	0.06
2	1.26	0.00	0.00	0.04	0.00	0.00	0.00	0.27	1.45	0.16	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.77	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.25	0.00	3.31	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.87	0.00	4.51	0.92	0.66	0.09	0.00
6	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.92	0.39	3.10	0.02	0.00
7	0.33	0.00	0.03	0.00	0.68	0.00	0.00	0.03	0.37	0.21	0.65	0.00
8	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.63	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.02	2.01	0.00
10	0.00	0.00	0.18	0.00	0.26	0.00	0.00	0.00	1.32	0.55	0.04	0.00
11	0.00	0.00	0.00	0.46	0.11	0.54	0.03	0.35	0.00	0.02	0.01	0.00
12	0.00	0.08	0.00	0.01	0.04	0.61	1.91	0.00	0.00	1.65	0.04	0.53
13	0.00	0.06	0.00	0.00	0.30	0.00	0.00	0.00	0.23	0.02	0.00	0.00
14	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.11	0.00	0.00
15	0.58	0.00	0.00	1.44	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.57	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.09	1.89	0.00	0.00	0.15	0.00	0.52	0.06	0.13	0.00
18	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.67	0.04	0.01	0.21	0.00
19	0.00	0.00	0.00	0.00	0.04	0.00	0.66	0.15	0.00	0.00	0.56	0.00
20	0.00	0.00	0.84	0.00	0.00	0.00	0.00	0.00	0.00	1.83	0.00	0.00
21	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.58	0.00	1.02
22	0.00	0.00	0.00	0.00	0.52	0.00	0.00	1.71	0.00	0.36	0.00	0.01
23	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.09	0.12	0.01	0.00	0.00
24	0.00	0.00	0.72	0.00	0.00	0.74	0.00	0.00	0.01	0.07	0.00	0.00
25	0.00	0.00	0.11	0.11	0.00	0.06	0.00	0.00	0.29	0.23	0.00	0.46
26	0.00	0.00	2.23	0.00	1.62	0.00	0.01	0.00	0.00	0.00	0.00	0.00
27	0.02	0.01	0.00	0.00	0.00	0.00	0.24	0.00	0.03	3.22	0.00	0.00
28	0.01	0.00	0.05	0.00	0.00	0.00	1.35	0.00	0.22	0.02	0.00	0.00
29	0.00	0.00	0.24	0.02	---	0.00	0.09	0.00	0.00	0.00	0.22	0.00
30	0.00	0.00	0.00	1.96	---	0.00	0.00	0.00	0.34	0.00	0.22	0.00
31	0.00	---	0.00	0.00	---	0.34	---	0.00	---	0.39	0.30	---
Total	3.45	0.19	5.08	7.59	3.96	3.56	5.56	8.96	7.35	19.96	4.81	2.08

02137727 CATAWBA RIVER NEAR PLEASANT GARDENS, NC—Continued

