

Water-Data Report 2010

02146211 IRWIN CREEK AT STATESVILLE AVENUE AT CHARLOTTE, NC

Santee Basin
Lower Catawba Subbasin

LOCATION.--Lat 35°15'43", long 80°50'13" referenced to North American Datum of 1983, Mecklenburg County, NC, Hydrologic Unit 03050103, on left bank, at upstream side of bridge on U.S. Highway 21 (Statesville Ave) 1,000 ft upstream of Kennedy Branch, 0.2 mi upstream of Interstate Highway 77 and 2.5 mi north of Trade and Tryon Streets intersection, downtown Charlotte.

DRAINAGE AREA.--5.97 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1969-80, October 1981 to September 1994, November 1997 to September 2001, June 2004 to current water year.

REVISED RECORDS.--WDR NC-84-1: 1982.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 656.04 ft above North American Vertical Datum of 1988. Radio telemetry at streamgage.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. A 140-acre solid-waste landfill, used 1940 to 1970, is located just upstream from station. No flow for parts of August 1, 3, 4, 1987, occurred as a result of upstream construction; minimum discharge not affected by construction: 0.11 ft³/s, August 21, 2008. Peak flow for period of record and current water year from rating curve extended above 2,700 ft³/s.

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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 | 0.62 | 35 | 2.0 | 3.7 | 7.8 | 3.0 | 4.4 | 2.1 | 205 | 2.4 | 0.96 | 0.68 |
| 2 | 0.60 | 2.1 | 42 | 3.0 | 40 | 6.4 | 3.9 | 2.0 | 15 | 1.4 | 0.83 | 0.65 |
| 3 | 0.60 | 1.2 | 18 | 2.7 | 17 | 7.9 | 3.9 | 3.9 | 5.8 | 1.2 | 0.80 | 0.66 |
| 4 | 0.55 | 0.97 | 4.2 | 2.7 | 7.8 | 4.0 | 3.9 | 2.5 | 3.5 | 1.1 | 0.82 | 0.68 |
| 5 | 4.5 | 0.89 | 3.5 | 2.5 | 236 | 3.5 | 3.6 | 2.1 | 2.7 | 1.0 | 4.1 | 0.71 |
| 6 | 0.88 | 0.83 | 2.2 | 2.4 | 37 | 3.1 | 4.1 | 2.0 | 3.2 | 0.97 | 279 | 0.73 |
| 7 | 0.65 | 0.80 | 2.1 | 2.4 | 9.6 | 3.0 | 3.7 | 1.9 | 3.6 | 0.94 | 28 | 0.64 |
| 8 | 0.62 | 0.78 | 8.3 | 2.5 | 6.6 | 3.0 | 6.1 | 1.8 | 2.2 | 0.92 | 2.1 | 0.57 |
| 9 | 0.71 | 0.77 | 22 | 2.3 | 5.8 | 3.0 | 3.5 | 1.6 | 2.1 | 0.89 | 8.2 | 0.68 |
| 10 | 0.63 | 31 | 7.0 | 2.3 | 5.1 | 3.2 | 2.8 | 1.6 | 2.1 | 0.87 | 1.4 | 0.70 |
| 11 | 0.59 | 54 | e3.6 | 2.3 | 4.4 | 4.7 | 2.8 | 2.7 | 2.1 | 0.83 | 1.0 | 0.85 |
| 12 | 1.8 | 24 | e2.8 | 2.4 | 4.5 | 60 | 2.9 | 1.9 | 2.0 | 83 | 0.92 | 0.70 |
| 13 | 0.94 | 7.7 | 5.5 | 2.3 | 6.1 | 47 | 2.9 | 1.8 | 19 | 5.6 | 0.83 | 0.69 |
| 14 | 2.4 | 3.6 | 3.1 | 2.4 | 4.5 | 20 | 3.0 | 1.7 | 4.9 | 3.7 | 0.78 | 0.64 |
| 15 | 2.0 | 2.4 | 2.7 | 2.3 | 8.3 | 6.1 | 3.1 | 1.7 | 5.5 | 1.4 | 2.6 | 0.62 |
| 16 | 1.0 | 2.0 | 2.3 | 3.0 | 4.7 | 4.5 | 2.7 | 6.7 | 2.1 | 27 | 1.1 | 0.67 |
| 17 | 1.1 | 1.7 | e2.2 | 94 | 3.7 | 4.1 | 2.5 | 23 | 1.8 | 13 | 0.80 | 0.70 |
| 18 | 0.72 | 2.4 | 30 | 7.6 | 3.5 | 3.9 | 2.4 | 4.9 | 1.6 | 3.5 | 0.77 | 0.65 |
| 19 | 0.67 | 1.9 | 27 | 4.6 | 3.3 | 3.6 | 2.2 | 11 | 1.6 | 1.5 | 113 | 0.66 |
| 20 | 0.65 | 1.6 | 5.9 | 3.8 | 3.2 | 3.9 | 2.3 | 2.6 | 1.5 | 1.3 | 3.9 | 0.69 |
| 21 | 0.62 | 1.5 | 3.9 | 18 | 3.1 | 7.2 | 3.1 | 2.5 | 1.4 | 1.1 | 1.4 | 0.80 |
| 22 | 0.62 | 3.7 | 3.3 | 8.8 | 19 | 10 | 2.3 | 2.2 | 1.4 | 0.87 | 1.1 | 0.59 |
| 23 | 0.63 | 16 | 2.9 | 4.5 | 5.1 | 4.1 | 2.2 | 1.9 | 1.3 | 1.0 | 0.98 | 0.66 |
| 24 | 1.1 | 3.5 | 2.6 | 75 | 6.3 | 3.4 | 2.6 | 1.8 | 1.2 | 1.4 | 0.89 | 0.66 |
| 25 | 0.74 | 2.3 | 168 | 251 | 5.3 | 4.1 | 10 | 2.0 | 1.2 | 0.87 | 0.92 | 0.79 |
| 26 | 0.67 | 3.2 | 16 | 9.8 | 3.7 | 4.0 | 2.6 | 1.8 | 1.2 | 0.75 | 6.9 | 8.3 |
| 27 | 16 | 3.5 | 6.2 | 5.6 | 3.5 | 3.5 | 5.9 | 1.6 | 1.2 | 81 | 0.89 | 19 |
| 28 | 11 | 2.0 | 4.4 | 4.6 | 3.3 | 21 | 3.6 | 15 | 1.1 | 6.3 | 0.77 | 14 |
| 29 | 1.2 | 1.8 | 3.6 | 4.2 | --- | 116 | 2.3 | 16 | 1.1 | 1.5 | 0.74 | 15 |
| 30 | 0.90 | 2.2 | 3.2 | 6.2 | --- | 8.5 | 2.2 | 2.4 | 30 | 1.0 | 0.72 | 8.4 |
| 31 | 1.3 | --- | 7.1 | 8.7 | --- | 5.2 | --- | 23 | --- | 1.3 | 0.72 | --- |
| Total | 57.01 | 215.34 | 417.6 | 547.6 | 468.2 | 384.9 | 103.5 | 149.7 | 328.4 | 249.61 | 467.94 | 81.77 |
| Mean | 1.84 | 7.18 | 13.5 | 17.7 | 16.7 | 12.4 | 3.45 | 4.83 | 10.9 | 8.05 | 15.1 | 2.73 |
| Max | 16 | 54 | 168 | 251 | 236 | 116 | 10 | 23 | 205 | 83 | 279 | 19 |
| Min | 0.55 | 0.77 | 2.0 | 2.3 | 3.1 | 3.0 | 2.2 | 1.6 | 1.1 | 0.75 | 0.72 | 0.57 |
| Cfsm | 0.31 | 1.20 | 2.26 | 2.96 | 2.80 | 2.08 | 0.58 | 0.81 | 1.83 | 1.35 | 2.53 | 0.46 |
| In. | 0.36 | 1.34 | 2.60 | 3.41 | 2.92 | 2.40 | 0.64 | 0.93 | 2.05 | 1.56 | 2.92 | 0.51 |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 2010^a, BY WATER YEAR (WY)

| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Mean | 4.45 | 6.19 | 7.03 | 10.3 | 11.9 | 13.2 | 7.02 | 5.79 | 6.99 | 4.24 | 5.90 | 5.31 |
| Max | 23.8 | 27.8 | 21.3 | 22.9 | 38.8 | 30.6 | 16.0 | 16.5 | 24.9 | 8.15 | 21.2 | 28.0 |
| (WY) | (1991) | (1986) | (1984) | (1993) | (1995) | (1993) | (1998) | (1990) | (1982) | (1984) | (2008) | (2004) |
| Min | 0.88 | 0.47 | 1.64 | 2.28 | 2.42 | 2.58 | 2.47 | 1.62 | 0.89 | 0.93 | 0.39 | 0.47 |
| (WY) | (2001) | (2008) | (2001) | (2008) | (2006) | (2006) | (2006) | (2007) | (1986) | (1986) | (1987) | (1983) |

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SUMMARY STATISTICS

| | Calendar Year 2009 | | Water Year 2010 | | Water Years 1981 - 2010 ^a | |
|---------------------------------|--------------------|-------|--------------------|--------|--------------------------------------|--------------|
| Annual total | 2,751.68 | | 3,471.57 | | | |
| Annual mean | 7.54 | | 9.51 | | 7.10 | |
| Highest annual mean | | | | | 10.7 | 1984 |
| Lowest annual mean | | | | | 3.25 | 2001 |
| Highest daily mean | 175 | Jun 5 | 279 | Aug 6 | 429 | Aug 27, 2008 |
| Lowest daily mean | 0.50 | Sep 7 | 0.55 | Oct 4 | 0.16 | Aug 1, 1986 |
| Annual seven-day minimum | 0.58 | Sep 3 | 0.66 | Sep 13 | 0.25 | Aug 20, 2001 |
| Maximum peak flow | | | ^b 3,930 | Aug 6 | ^b 3,930 | Aug 6, 2010 |
| Maximum peak stage | | | 11.00 | Aug 6 | 11.00 | Aug 6, 2010 |
| Instantaneous low flow | | | 0.35 | Sep 22 | ^b 0.00 | Aug 1, 1987 |
| Annual runoff (cfsm) | 1.26 | | 1.59 | | 1.19 | |
| Annual runoff (inches) | 17.15 | | 21.63 | | 16.16 | |
| 10 percent exceeds | 16 | | 16 | | 13 | |
| 50 percent exceeds | 2.3 | | 2.6 | | 2.2 | |
| 90 percent exceeds | 0.79 | | 0.72 | | 0.67 | |

^a See Period of Record.

^b See Remarks.

