

Water-Data Report 2008

**02146300 IRWIN CREEK NEAR CHARLOTTE, NC**

Santee Basin  
Lower Catawba Subbasin

LOCATION.--Lat 35°11'52", long 80°54'16" referenced to North American Datum of 1983, Mecklenburg County, NC, Hydrologic Unit 03050103, on left bank, 2,200 ft upstream from Southern Railway bridge, 0.7 mi upstream from Taggart Creek, and 4.2 mi southwest of city hall, Charlotte.

DRAINAGE AREA.--30.7 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--May 1962 to current year. Prior to October 1963, published as "Sugar (Irwin) Creek at Charlotte".

REVISED RECORDS.--WDR NC-80-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 590.87 ft above North American Vertical Datum of 1988. Radio telemetry at station.

REMARKS.--Records good, except those for estimated daily discharges which are poor. Maximum discharge for period of record from rating curve extended above 7,500 ft<sup>3</sup>/s on basis of step-backwater computation. Minimum discharge for period of record also occurred July 14, 1986.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 6, 1936, reached a stage of about 17.3 ft at site 400 ft downstream, from information by plant employee. Peak may have been affected by failure of Lakewood Dam, 5 mi upstream. Flood of January 6, 1962, reached a stage of 14.32 ft, from floodmarks; discharge, 4,120 ft<sup>3</sup>/s. Flood of April 11, 1962, reached a stage of 15.18 ft, from floodmarks; discharge, 4,740 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow.

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**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**  
**DAILY MEAN VALUES**

[e, estimated]

| Day          | Oct   | Nov   | Dec   | Jan   | Feb  | Mar   | Apr   | May   | Jun   | Jul     | Aug     | Sep     |
|--------------|-------|-------|-------|-------|------|-------|-------|-------|-------|---------|---------|---------|
| 1            | 5.9   | 10    | 7.9   | 17    | 279  | 12    | 22    | 14    | 12    | 9.2     | 26      | 29      |
| 2            | 6.0   | 12    | 8.0   | 12    | 33   | 12    | 13    | 13    | 12    | 8.3     | 11      | 12      |
| 3            | 5.0   | 9.5   | 7.2   | 10    | 18   | 11    | 47    | e12   | 10    | 8.7     | 9.6     | 12      |
| 4            | 18    | 17    | 12    | 10    | 16   | 299   | 68    | 12    | 9.8   | 189     | 8.4     | 12      |
| 5            | 7.5   | 32    | 9.6   | 12    | 14   | 110   | 168   | 13    | 12    | 52      | 6.6     | 12      |
| 6            | 5.5   | 32    | 11    | 11    | 16   | 24    | 42    | 12    | 9.4   | 17      | 9.9     | 11      |
| 7            | 5.9   | 32    | 9.1   | 11    | 15   | 96    | 22    | 11    | 9.8   | 12      | 8.9     | 11      |
| 8            | 5.8   | 23    | 9.1   | 9.3   | 13   | 41    | 17    | 12    | 12    | 286     | 8.0     | 17      |
| 9            | 4.4   | 7.9   | 10    | 9.2   | 12   | 20    | 22    | 14    | 9.5   | 58      | 8.4     | e9.8    |
| 10           | 5.5   | 7.0   | 10    | 18    | 12   | 17    | 19    | 9.8   | 9.0   | 57      | 7.1     | 346     |
| 11           | 5.9   | 11    | 12    | 24    | 12   | 15    | 15    | 36    | 27    | 26      | 6.9     | 111     |
| 12           | 4.8   | 7.0   | 7.3   | 13    | 12   | 14    | 29    | 15    | 18    | 13      | 7.0     | 25      |
| 13           | 5.4   | 7.2   | 6.6   | 10    | 52   | 13    | 15    | 12    | 9.3   | 49      | 20      | 15      |
| 14           | 5.1   | 8.3   | 7.0   | 9.8   | 23   | 14    | 15    | 9.4   | 9.1   | 13      | 9.3     | 13      |
| 15           | 5.3   | 22    | 57    | 9.5   | 13   | 353   | 15    | 10    | 8.3   | 9.2     | 23      | 11      |
| 16           | 7.8   | 9.0   | 128   | 10    | 12   | 77    | 11    | 37    | 8.7   | 8.1     | 35      | 106     |
| 17           | 5.8   | 6.7   | 13    | 146   | 12   | 25    | 12    | 11    | 7.6   | 8.7     | 25      | 41      |
| 18           | 4.8   | 6.2   | 10    | 27    | 22   | 18    | 12    | 14    | 8.6   | 8.4     | 8.5     | 15      |
| 19           | 28    | 5.5   | 8.5   | 44    | 12   | 111   | 12    | 15    | 7.4   | 7.5     | 7.9     | 14      |
| 20           | 6.8   | 9.8   | 8.4   | 26    | 11   | 59    | 13    | 12    | 11    | 7.6     | 6.3     | 12      |
| 21           | 5.7   | 11    | 35    | 14    | 14   | 23    | 12    | 11    | 115   | 7.3     | 6.2     | 12      |
| 22           | 5.4   | 19    | 12    | 16    | 41   | 19    | 12    | 9.6   | 154   | 54      | 6.5     | 11      |
| 23           | 7.8   | 9.0   | 46    | 15    | 14   | 16    | 12    | 8.9   | 229   | 80      | 7.3     | 10      |
| 24           | 45    | 8.2   | 16    | 12    | 12   | 15    | 11    | 11    | 16    | 10      | 6.6     | 10      |
| 25           | 113   | 8.5   | 11    | 9.6   | 12   | 13    | 12    | 9.0   | 13    | 7.8     | 34      | 8.0     |
| 26           | 107   | 17    | 84    | 11    | 85   | 14    | 69    | 9.1   | 31    | 9.2     | 1,040   | 187     |
| 27           | 21    | 13    | 18    | 12    | 20   | 13    | 58    | 11    | 55    | 7.4     | 1,740   | 124     |
| 28           | 11    | 13    | e62   | 12    | 14   | 13    | 181   | 124   | 12    | 7.9     | 47      | 19      |
| 29           | 8.9   | 10    | 79    | 9.9   | 13   | 16    | 32    | 26    | 10    | 9.7     | 21      | 14      |
| 30           | 8.3   | 9.6   | 222   | 13    | ---  | 13    | 15    | 13    | 9.0   | 7.0     | 44      | 11      |
| 31           | 6.7   | ---   | 58    | 9.6   | ---  | 26    | ---   | 13    | ---   | 115     | 19      | ---     |
| <b>Total</b> | 489.0 | 393.4 | 994.7 | 572.9 | 834  | 1,522 | 1,003 | 539.8 | 864.5 | 1,163.0 | 3,224.4 | 1,240.8 |
| <b>Mean</b>  | 15.8  | 13.1  | 32.1  | 18.5  | 28.8 | 49.1  | 33.4  | 17.4  | 28.8  | 37.5    | 104     | 41.4    |
| <b>Max</b>   | 113   | 32    | 222   | 146   | 279  | 353   | 181   | 124   | 229   | 286     | 1,740   | 346     |
| <b>Min</b>   | 4.4   | 5.5   | 6.6   | 9.2   | 11   | 11    | 11    | 8.9   | 7.4   | 7.0     | 6.2     | 8.0     |
| <b>Cfsm</b>  | 0.51  | 0.43  | 1.05  | 0.60  | 0.94 | 1.60  | 1.09  | 0.57  | 0.94  | 1.22    | 3.39    | 1.35    |
| <b>In.</b>   | 0.59  | 0.48  | 1.21  | 0.69  | 1.01 | 1.84  | 1.22  | 0.65  | 1.05  | 1.41    | 3.91    | 1.50    |

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2008, BY WATER YEAR (WY)

|             | Oct    | Nov    | Dec    | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>Mean</b> | 36.2   | 36.1   | 40.2   | 54.6   | 59.9   | 68.5   | 43.6   | 39.7   | 38.0   | 35.7   | 36.6   | 33.5   |
| <b>Max</b>  | 157    | 137    | 107    | 123    | 124    | 161    | 139    | 204    | 134    | 215    | 118    | 135    |
| <b>(WY)</b> | (1991) | (1986) | (1984) | (1993) | (1979) | (1993) | (2003) | (1975) | (2003) | (1997) | (1995) | (1975) |
| <b>Min</b>  | 7.35   | 9.32   | 10.2   | 13.4   | 20.1   | 18.5   | 14.9   | 14.0   | 6.95   | 6.67   | 7.97   | 6.00   |
| <b>(WY)</b> | (2001) | (1982) | (1966) | (1981) | (2002) | (1985) | (1981) | (1986) | (1986) | (1986) | (1987) | (1983) |

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SUMMARY STATISTICS

|                                 | Calendar Year 2007 |       | Water Year 2008 |        | Water Years 1962 - 2008 |              |
|---------------------------------|--------------------|-------|-----------------|--------|-------------------------|--------------|
| <b>Annual total</b>             | 11,719.6           |       | 12,841.5        |        |                         |              |
| <b>Annual mean</b>              | 32.1               |       | 35.1            |        | 43.4                    |              |
| <b>Highest annual mean</b>      |                    |       |                 |        | 85.4                    | 2003         |
| <b>Lowest annual mean</b>       |                    |       |                 |        | 21.0                    | 1962         |
| <b>Highest daily mean</b>       | 1,450              | Mar 2 | 1,740           | Aug 27 | 5,010                   | Jul 23, 1997 |
| <b>Lowest daily mean</b>        | 4.4                | Oct 9 | 4.4             | Oct 9  | 3.1                     | Sep 25, 1983 |
| <b>Annual seven-day minimum</b> | 5.2                | Oct 9 | 5.2             | Oct 9  | 3.5                     | Oct 5, 1993  |
| <b>Maximum peak flow</b>        |                    |       | 5,150           | Aug 27 | <sup>a</sup> 11,600     | Jul 23, 1997 |
| <b>Maximum peak stage</b>       |                    |       | 14.55           | Aug 27 | 20.38                   | Jul 23, 1997 |
| <b>Instantaneous low flow</b>   |                    |       | 3.0             | Oct 11 | <sup>a</sup> 2.8        | Jul 13, 1986 |
| <b>Annual runoff (cfsm)</b>     | 1.05               |       | 1.14            |        | 1.41                    |              |
| <b>Annual runoff (inches)</b>   | 14.20              |       | 15.56           |        | 19.22                   |              |
| <b>10 percent exceeds</b>       | 60                 |       | 58              |        | 78                      |              |
| <b>50 percent exceeds</b>       | 14                 |       | 12              |        | 17                      |              |
| <b>90 percent exceeds</b>       | 6.8                |       | 7.2             |        | 8.6                     |              |

<sup>a</sup>See Remarks.

