



IOWA PRELIMINARY MONTHLY WEATHER SUMMARY – SEPTEMBER 2016

General Summary. Iowa temperatures averaged 67.3° or 4.1° above normal while precipitation totaled 6.29 inches or 2.91 inches above normal. This ranks as the 15th warmest and 13th wettest September among 144 years of state records. A wetter September last occurred in 1986 while a warmer one came just last year.

Temperatures. Above normal temperatures were the rule for most of the month with below normal readings confined to the 1st-3rd, 10th-11th, 13th and 28th. There were six days averaging more than ten degrees above normal (6th and 20th through 24th) while the 2nd was the most unusually cool at just 3.7 degrees below normal. Temperatures extremes varied from highs of 94° at Burlington on the 6th and at Algona, Atlantic, Clarion and Indianola on the 21st. The lowest temperatures occurred at Spencer Airport on the mornings of the 29th and 30th with 38° readings, which was also matched at Sheldon on the 29th. This was the highest statewide September minimum temperature on record (old record of 36° in 1905 and 1987).

Cooling Degree Day Totals. Home air conditioning requirements, as estimated by cooling degree day totals, averaged 64% greater than normal but 22% less than last September. Cooling degree day totals for the year-to-date are running 21% greater than last year and 18% greater than normal.

Precipitation. The big weather news for the month was the excessive rains over central and northern Iowa on the 9th-10th, 15th-16th and 21st-23rd. The first of these three events brought rain statewide with Clarksville reporting the most rain with 4.35 inches. The second event brought the most widespread heavy rains of the month with a maximum of 5.35 inches near Blencoe in Monona County. However, the most destructive event was the final one. This last event largely left the southern one-third of Iowa dry but dumped 10.56 inches of rain near Nora Springs and 9.44 inches near Nashua. Major flooding occurred across much of north central and northeast Iowa and locations downstream of the heaviest rains. The Shell Rock River at Shell Rock set a record flood crest 1.15 feet higher than the old record of June 2008. Flooding along the Cedar River at Cedar Falls, Waterloo and Cedar Rapids was the second highest of record behind the disastrous floods of 2008. Monthly rain totals of ten inches or more were fairly common across the north one-third of the state while parts of southeast Iowa were unusually dry. Monthly rain totals varied from only 0.90 inches at Fairfield (less than one-third of normal) to 17.25 near Nora Springs. A higher September rain total than that at Nora Springs has been recorded in only two other years in Iowa (1926 and 1970). Record high September rain totals were set at the following locations:

| Station | Sep 2016 Total | Previous Sep Record | Period of Record |
|--------------|----------------|---------------------|------------------|
| Charles City | 15.83 inches | 12.51 in 1965 | 134 years |
| Decorah | 11.66 | 11.21 in 1972 | 134 years |
| Tripoli | 11.49 | 8.02 in 1965 | 69 years |
| New Hampton | 11.17 | 9.82 in 1965 | 115 years |
| Emmetsburg | 10.78 | 9.82 in 1964 | 75 years |
| Sheldon | 9.70 | 9.52 in 1926 | 106 years |

September was the fourth consecutive very wet month across parts of northeastern Iowa. As a result, with three months remaining in the year, record annual precipitation totals have already been established at the following locations:

| Station | 2016 Total | Previous Annual Record | Period of Record |
|--------------|--------------|------------------------|------------------|
| Charles City | 51.88 inches | 51.35 in 1999 | 133 years |
| Decorah | 51.26 inches | 48.74 in 2007 | 128 years |
| Cresco | 50.80 inches | 47.87 in 1951 | 110 years |

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September 2016

WEATHER BY DISTRICTS

| DISTRICT | TEMPERATURE (F) | | COOLING DEGREE DAYS | | | | PRECIPITATION (inches) | | | |
|---------------|---------------------------|------------|---------------------------|------------|--------------------------------|------------|---------------------------|------------|------------------------------|------------|
| | September 2016 Average | Departure* | September 2016 Average | Departure* | Since Jan., 1, 2016 Average | Departure* | September 2016 Average | Departure* | Since Jan.1, 2016 Average | Departure* |
| Northwest | 65.5 | +3.7 | 97 | +34 | 805 | +110 | 7.79 | +4.56 | 32.67 | +6.95 |
| North Central | 65.3 | +4.0 | 84 | +29 | 703 | +75 | 10.10 | +6.91 | 40.16 | +11.33 |
| Northeast | 65.8 | +3.9 | 84 | +22 | 763 | +107 | 9.21 | +5.86 | 41.64 | +11.71 |
| West Central | 66.5 | +3.4 | 116 | +38 | 925 | +121 | 5.96 | +2.80 | 31.31 | +3.46 |
| Central | 67.7 | +4.6 | 136 | +60 | 943 | +166 | 6.61 | +3.29 | 33.14 | +2.86 |
| East Central | 68.5 | +4.7 | 150 | +68 | 1021 | +199 | 4.63 | +1.31 | 34.30 | +4.67 |
| Southwest | 69.1 | +4.3 | 163 | +65 | 1078 | +138 | 4.76 | +1.35 | 36.42 | +6.57 |
| South Central | 68.9 | +4.7 | 159 | +69 | 1079 | +198 | 4.11 | +0.29 | 28.76 | -2.46 |
| Southeast | 70.0 | +4.6 | 186 | +79 | 1151 | +154 | 2.04 | -1.74 | 27.58 | -3.62 |
| STATE | 67.3 | +4.1 | 128 | +50 | 930 | +139 | 6.29 | +2.91 | 34.05 | +4.76 |

* Departures are computed from 1981-2010 normals.

Monthly estimates are preliminary and are likely to change.

The weather data in this report are based upon information collected by the U. S. Dept. of Commerce, NOAA National Weather Service.

State Climatologist, Iowa Dept. of Agriculture & Land Stewardship

PRELIMINARY COUNTY PRECIPITATION ESTIMATES, SEPTEMBER 2016 (inches)

