



IOWA PRELIMINARY MONTHLY WEATHER SUMMARY – JULY 2016

General Summary. Iowa temperatures averaged 73.0° or 0.6° below normal while precipitation totaled 6.13 inches or 1.63 inches above normal. This ranks as the 50th coolest and 16th wettest July among 144 years of records. This was the wettest July since 2010 and despite averaging slightly cooler than normal was the warmest July since 2012.

Temperatures. July began with much cooler than normal weather prevailing over the first four days of the month. Cresco, Elkader and Estherville recorded the month's lowest temperatures with 47° minimums on the morning of the 3rd. Light rain and persistent cloud cover held the afternoon high temperature to only 62° at Fort Madison on the 2nd. On the other end of the spectrum hotter than normal weather prevailed from the 17th through the 27th. Actual temperatures peaked at 97° at Sioux City on the 20th and at Sioux City, Des Moines and Lamoni on the 21st. However, very high humidity pushed heat index values (how hot the air 'feels' when humidity is taken into account) in excess of 110° somewhere in the state each day from the 20th through the 23rd. The heat index reached 119° at Shenandoah at 5 p.m. on July 21 (95° actual temperature combined with a dew point of 82°). Perry Airport reported the highest dew point temperature of the month at 85° at 7 p.m. on the 21st while the Charles City Airport reported 100% relative humidity at 9 p.m. that same evening with a temperature and dew point of 84°. 100% relative humidity at 84° represents twice as much water vapor in the air as does 100% relative humidity at 64° (a value that is close to the typical humidity level in Iowa during July).

Cooling Degree Day Totals. Home air conditioning requirements, as estimated by cooling degree day totals, averaged 8% greater than last July but 4% less than normal. Thus far this air conditioning season cooling degree day totals are running 30% greater than last year at this time and 14% greater than normal (the increase mostly results from a much warmer than usual June this year).

Precipitation. The relatively dry weather pattern that prevailed across much of Iowa during June continued into the first five days of July. However, rainfall amounts and frequency increased dramatically from the 6th through the 20th when a statewide average of 4.86 inches of rain fell compared to the normal for this mid-July period of 2.23 inches. The heaviest rain fell during the last five days of this period. This abundant rain fell immediately prior to the hottest weather of the month and allowed crop conditions to actually improve slightly despite the heat. Greatest July rain totals occurred over the southwest one-quarter of Iowa, as well along the Iowa-Minnesota border from Estherville eastward to Wisconsin. However, rain amounts in far northwest Iowa were less than one-half of normal over much of Lyon, Sioux and Plymouth counties. Monthly totals varied from 1.64 inches at Orange City to 12.37 inches at Red Oak. Only 1958 brought more July rainfall (13.40 inches) to Red Oak among 105 years of records at that location.

Severe Weather. July brought reports of severe thunderstorms on eleven dates with the most widespread severe weather occurring on the early morning of July 17 when a derecho brought a wide area of high winds from Lyon County on the South Dakota border to Scott County on the Illinois border.

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July 2016

WEATHER BY DISTRICTS

DISTRICT	TEMPERATURE (F)		COOLING DEGREE DAYS				PRECIPITATION (inches)			
	July 2016 Average	Departure*	July 2016 Average	Departure*	Since Jan., 1, 2016 Average	Departure*	July 2016 Average	Departure*	Since Jan.1, 2016 Average	Departure*
Northwest	72.5	-0.2	232	-14	518	+71	4.08	+0.23	21.30	+2.59
North Central	71.4	-0.6	214	-12	436	+30	6.93	+2.29	23.65	+2.12
Northeast	71.9	-0.3	220	-12	462	+49	7.44	+2.77	25.47	+3.52
West Central	73.2	-0.7	266	-13	589	+81	5.13	+0.87	20.30	-0.50
Central	73.0	-0.5	261	-8	572	+84	5.63	+0.93	19.51	-2.99
East Central	73.4	-0.4	274	-3	598	+82	6.03	+1.67	21.94	+0.12
Southwest	74.2	-1.0	295	-23	658	+77	7.84	+3.10	24.80	+2.17
South Central	73.8	-0.8	311	+9	650	+115	6.11	+1.13	18.71	-4.40
Southeast	74.2	-1.4	296	-33	656	+43	6.79	+2.32	18.58	-4.58
STATE	73.0	-0.6	261	-12	566	+70	6.13	+1.63	21.54	-0.17

* 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, JULY 2016 (inches)

