

IOWA MONTHLY WEATHER SUMMARY – MAY 2019

General Summary: Iowa temperatures averaged 56.6 degrees or 3.5 degrees below normal while precipitation totaled 8.21 inches or 3.65 inches above average. The unseasonable wetness across the state makes May 2019 the 5th wettest in 147 years of statewide records. A wetter May last occurred in 2013. In terms of temperature, May 2019 is the 22nd coldest on record with a cooler May last occurring in 1997.

Temperatures: Temperatures across the state were below average for the month with northwest Iowa experiencing the coolest conditions, generally three to five degrees below average. Multiple days of showers and thunderstorms contributed to this monthly behavior due to many days having cloud cover and rainfall. Over half of the days of the month had below average temperatures statewide while only seven days exhibited unseasonable warmth across the entire state. The remaining days of the month either saw a distribution of below and above average temperatures or were considered transition days between air masses.

May 7th through the 13th saw the longest stretch of unseasonable coolness with temperatures averaging 6-12 degrees below normal. May 9th was the coldest day of this period and of the month with highs averaging 53 degrees, 16 degrees below average. Only Bloomfield (Davis County) reported an above average high temperature of 74 degrees, four degrees above average. The longest stretch of unseasonable warmth occurred between May 24th and the 26th with temperatures averaging up to six degrees above normal.

The warmest day of the month was the 16th with highs averaging 84 degrees, 13 degrees above average. May ended warmer than average with highs across the state in the low to mid 80s; temperatures in north central Iowa reached near 90, 10-14 degrees above average. The month's high temperature of 94 degrees was observed at Clarinda (Page County) on the 16th, 21 degrees warmer than average. Cresco (Howard County) reported a low of 28 degrees on the 1st, 15 degrees below average.

Heating Degree Days: Home heating requirements, as estimated by heating degree day totals, averaged 39% more than normal. Heating degree day totals so far this season (since July 1st, 2018) are running 7% more than last season at this time.

Precipitation: All National Weather Service Coop stations reported above average rainfall during May with the largest totals and departures reported in southern Iowa; stations reported above 200% of expected rainfall across the southeastern quadrant. Monthly rainfall totals varied from 5.23 inches at Dubuque (Dubuque County), 1.04 inches above average to 13.33 inches at Allerton (Wayne County), 7.84 inches above average.

May started off wet as a low pressure system brought a widespread area of moderate rainfall over the southeastern third of Iowa. Rain totals through 7:00 am on the 2nd exceeded 1.00 inch at 21 stations with Burlington (Des Moines County) reporting 2.75 inches; six more stations observed totals above 2.00 inches. Isolated thunderstorms swept across Iowa on the 5th into the morning of the 6th along a cold front. Later in the afternoon into evening saw widespread showers and thunderstorms associated with a low pressure system moving through northern Missouri. The highest accumulation reported at 7:00 am on the 7th was 2.11 inches at Keokuk Lock and Dam (Lee County). The average statewide rainfall total was 0.25 inches. The two-day period from the 7th and the 8th marked the wettest period for the first full week of May as another low pressure system brought ample rainfall to Iowa. Over 70 stations reported two-day rain totals above 1.00 inch with all remaining stations reporting measurable rain; the average statewide rain accumulation was 0.63 inches. Little Sioux (Harrison County) observed 2.15 inches.

The middle of the month was extremely active with notable multi-day thunderstorm events, one of which began on the 16th with a stretch of thunderstorms and locally heavy rainfall across Iowa. Widespread thunderstorm activity occurred on the 17th and 18th, associated with a strong low pressure system. Northern and eastern Iowa received multiple waves of showers and thunderstorms with New Hampton (Chickasaw County) observing the

highest 24-hour total of 4.25 inches on the 18th, 4.09 inches above average. Three-day rain totals reported at 7:00 am on the 19th were above one inch at 48 stations.

A potent low pressure system moved into Iowa during the evening of the 25th, bringing widespread showers and thunderstorms that remained through the morning of the 24th. Warm daytime highs helped fuel thunderstorms in eastern Iowa during the late afternoon and evening hours. Additional thunderstorms formed over Iowa's southern half during the evening and through the night of the 25th. Rainfall persisted into the 26th with totals at 7:00 am averaging 0.25 inch; Keokuk reported 2.21 inches, 1.93 inches above average.

May 28th was another active day with additional rounds of thunderstorms moving through the state. Rain totals were highest across the state's southern third where multiple stations reported above average totals between two to four inches. Over 40 stations reported totals above two inches with Salem (Henry County) observing 4.70 inches. Rainfall totals across the rest of Iowa were generally between 0.50-1.00 inch.

Severe Weather: May was an active severe weather month with at least one report of severe hail, straight-line winds and/or tornadic activity on 13 days of the month. The first severe weather reported in the state occurred on the afternoon of the 5th with two reports of one-inch hail in Callender (Webster County) and Elkader (Clayton County). The first widespread event occurred across 11 counties over the 16th and 17th. A warm and unstable atmosphere over central Iowa supported severe storms on the night of the 16th. There were multiple reports of large hail, the largest of which was 1.75 inches in Tama County. Severe straight-line winds were also reported from Dallas to Clinton counties.

The stretch of days between May 22nd and 29th was an extremely active period with multiple reports of tornadoes. Severe thunderstorms moved into southwestern Iowa late in the night into early morning on the 22nd. An EF-2 rated tornado touched down in Adair (Adair County) with estimated wind speeds up to 130 mph. Extensive structural damage was reported at a house and nearby farm buildings. Unfortunately, one fatality and one injury were reported; this was the first tornado-related death in Iowa since April 27th, 2014. An EF-1 rated tornado also touched down in Anita (Cass County) causing barn damage.

Warm daytime highs helped fuel thunderstorms in eastern Iowa during the late afternoon and evening hours of the 24th. An EF-1 rated tornado briefly touched down in southwest Johnson County causing minor structural damage. After an unseasonably warm and sunny afternoon, thunderstorms moved through Iowa late on the 26th through Memorial Day (27th). Isolated severe thunderstorms moved through west-central Iowa early in the day with reports of straight-line wind damage to trees from Page County to Polk County; 70 mph wind gusts were reported in Menlo (Guthrie County). Around mid-afternoon, an isolated severe storm in northeastern Iowa produced multiple reports of tornadoes from Charles City (Floyd County) into Howard County. Weak tornadoes with minor structural damage were also reported across Van Buren, Des Moines and Lee counties, associated with a fast moving severe storm in the evening hours.

Spring Summary: Temperatures for the three spring months of March, April and May averaged 45.6, which is 2.7 degrees below normal. Precipitation totaled 13.43 inches or 3.21 inches above normal. This ranks as the 6th wettest and 33rd coldest spring in 147 years of records. A wetter and colder spring last occurred in 2013 and 2014, respectively.

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May 2019

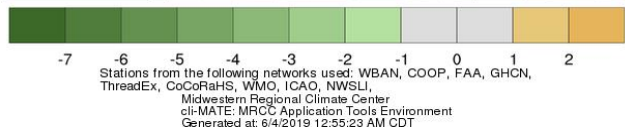
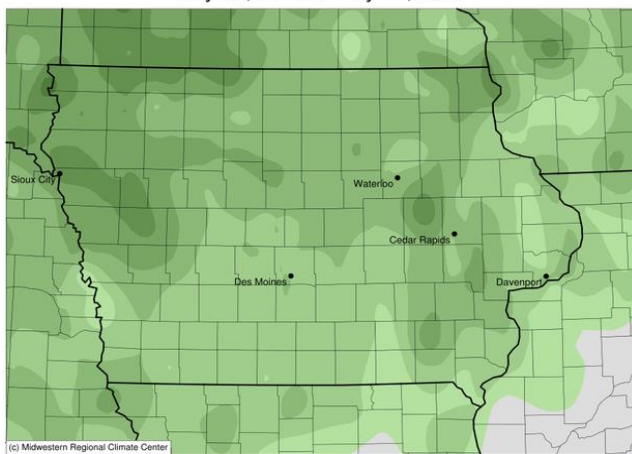
WEATHER BY DISTRICTS

DISTRICT	TEMPERATURE (F)		HEATING DEGREE DAYS				PRECIPITATION (inches)				SNOWFALL May 2019 Average
	May 2019 Average	Departure*	May 2019 Average	Departure*	Since Jul., 1, 2018 Average	Departure*	May 2019 Average	Departure*	Since Jan.1, 2019 Average	Departure*	
Northwest	54.4	-4.7	347	+109	8150	+696	7.40	+3.68	16.25	+6.12	0.0
North Central	54.8	-3.8	336	+92	8127	+615	6.95	+2.48	15.48	+3.78	0.0
Northeast	55.2	-3.6	322	+72	7921	+530	6.79	+2.41	16.18	+4.00	0.0
West Central	56.5	-3.7	289	+79	7484	+610	7.11	+2.62	13.28	+1.65	0.0
Central	57.0	-3.0	276	+65	7376	+517	8.08	+3.39	15.66	+3.23	0.0
East Central	57.5	-3.2	262	+57	7182	+503	8.07	+3.73	19.79	+7.30	0.0
Southwest	58.4	-3.0	240	+56	6943	+609	9.43	+4.21	16.53	+3.77	0.0
South Central	58.2	-2.4	243	+54	6854	+559	10.19	+5.07	19.72	+6.53	0.0
Southeast	58.5	-3.5	237	+59	6770	+606	11.17	+6.28	22.60	+8.73	0.0
STATE	56.6	-3.5	280	+67	7397	+569	8.21	+3.65	17.05	+4.86	0.0

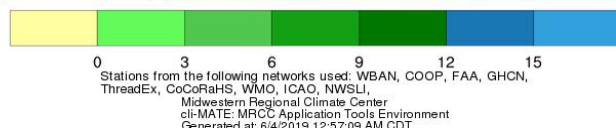
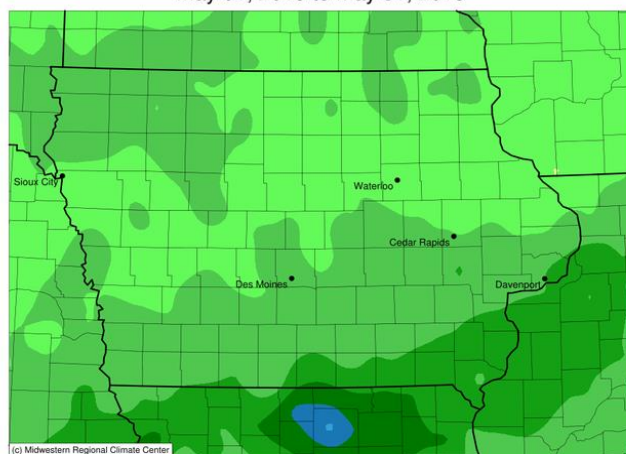
* Departures are computed from 1981-2010 normals.

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

Average Temperature (°F): Departure from 1981-2010 Normals Accumulated Precipitation (in): Departure from 1981-2010 Normals
 May 01, 2019 to May 31, 2019



Stations from the following networks used: WBAN, COOP, FAA, GHCN, ThreadEx, CoCoRaHS, WMO, ICAO, NWSLI, Midwestern Regional Climate Center
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