



## IOWA MONTHLY WEATHER SUMMARY – MARCH 2020

General Summary: Temperatures averaged 40.4 degrees or 4.5 degrees above normal while precipitation totaled 2.73 inches, which is 0.58 inch above normal. March 2020 ties 1982 as the 29<sup>th</sup> wettest March in 148 years of statewide observational records. This was also the 20<sup>th</sup> warmest March on record, tying 1907, 1935 and 2004. A warmer March last occurred in 2016 while a wetter one last occurred in 2009.

Temperatures: Positive temperature departures were generally uniform across the state with positive departures in the general range of three to five degrees. During the month, 22 days had statewide average temperatures above the 30-year climatological normal. Of those days, there were two extended periods of unseasonable warmth, the first of which was March 2<sup>nd</sup> – 10<sup>th</sup>. The warmest conditions of this period were reported on the 7<sup>th</sup> and 8<sup>th</sup>, where daytime highs reached into the upper 60s and low 70s for many stations across Iowa. The statewide average high was 64 degrees, 22 degrees above normal.

Colder than average conditions were reported from the 13<sup>th</sup> through the 16<sup>th</sup> and then again from the 19<sup>th</sup> through the 24<sup>th</sup>. March 19<sup>th</sup> and 20<sup>th</sup> were unseasonably cold with very windy conditions across the state. Daytime temperatures ranged in the 30s to low 40s. Estherville Municipal Airport (Emmet County) reported a 44-mph wind gust and wind chill values down to -8 degrees. Morning lows across northern Iowa were up to 17 degrees below normal. The final eight days of March were generally warmer than normal. The 28<sup>th</sup> and 30<sup>th</sup> were particularly pleasant days as highs reached into the mid to upper 60s with some 70s under sunny skies.

March's statewide average maximum temperature was 49.6 degrees, 4.2 degrees above normal while the average minimum temperature was 31.2 degrees, 4.6 degrees above normal. In terms of monthly temperature extremes, the warmest daytime high of 77 degrees was reported on the 28<sup>th</sup> at Bloomfield (Davis County) and Centerville (Appanoose County); this reading was on average 21 degrees above normal. Primghar (O'Brien County), Sanborn (O'Brien County) and Sibley (Osceola County) observed the coldest morning low of 10 degrees on the 20<sup>th</sup>, on average 14 degrees below normal.

Heating Degree Days: Home heating requirements, as estimated by heating degree day totals, averaged 27% less than last March and 14% less than normal. Heating degree day totals are running 12% less than last year at this time and 5% less than normal.

Precipitation: After a relatively dry February, wetter conditions returned to Iowa as a more active storm track brought multiple weather systems across the state. Almost all observing stations reported above average precipitation with the largest positive departures of 2.00 to 2.50 inches at various locations across the state.

The first widespread precipitation event occurred late on the 8<sup>th</sup> through the 9<sup>th</sup>, as a low pressure system moved through northern Missouri and southern Iowa. Several rounds of showers and some thunderstorms were reported with the highest accumulations found in Iowa's southeastern third; Muscatine (Muscatine County) reported 1.63 inches. Rain totals were at or above one inch at over 70 National Weather Service coop and CoCoRaHS stations with the statewide average total of 0.60 inch. Another strong storm system moved through Iowa on the 19<sup>th</sup> and 20<sup>th</sup>. There were multiple waves of

showers and thunderstorms with some locally heavy downpours. Light snow also fell across northwest Iowa, on the backside of the system. Two-day rain totals observed at 7:00 am on the 20<sup>th</sup> reported over 100 stations with an inch or above. Multiple stations across a swath of northern and central Iowa reported over two inches with a gauge in Creston (Union County) reporting 2.78 inches. The statewide average precipitation total was 1.15 inches.

Showers and isolated strong thunderstorms formed during the afternoon and evening of the 28<sup>th</sup> ahead of an active low pressure center and attendant cold front. Rainfall totals from the system ranged from a few tenths of an inch in southwest Iowa to over an inch at stations in northwestern and eastern Iowa. Rock Valley (Sioux County) reported 1.56 inches.

March precipitation totals ranged from 1.50" in Shenandoah (Page County) to 5.92" at Le Claire Lock and Dam (Scott County). Most of Iowa experienced below normal snowfall with the preliminary average statewide total of 2.0 inches, 2.7 inches below average. This ties 1974 as the 21<sup>st</sup> lowest snow total for March, based on 133 years of records; Rock Rapids (Mitchell County) reported the highest total of 7.5 inches. The lowest reported totals of a trace accumulation were found at multiple stations in southern Iowa.

Severe Weather: Iowa experienced two days of severe weather during March. The first event occurred on the 19<sup>th</sup> and was associated with a cold front moving through southern Iowa. Severe storms formed and quickly propagated to the east. There were several reports of severe hail across Montgomery and Page counties; Stanton (Montgomery County) reported a three-inch diameter hailstone. The second and more widespread event occurred during the afternoon and evening hours of the 28<sup>th</sup>. A warm front lifted north through southern Iowa, firing off discrete supercells. These thunderstorms produced multiple reports of weak tornadoes from Bridgewater (Adair County) and then later in the evening in the vicinity of Waterloo (Black Hawk County). Damage to a few machine sheds and barns were reported. An EF-1 tornado, the strongest of the day, occurred near Sherrill (Dubuque County). Additional damage to farm structures and uprooted trees was observed. A handful of hail and high wind events were also associated with the thunderstorms.

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# March 2020

## WEATHER BY DISTRICTS

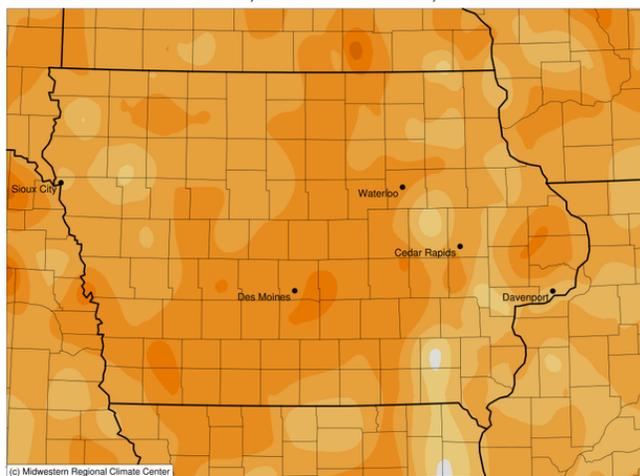
| DISTRICT      | TEMPERATURE (F) |            | HEATING DEGREE DAYS |            |                     |            | PRECIPITATION (inches) |            |                   |            | SNOWFALL |
|---------------|-----------------|------------|---------------------|------------|---------------------|------------|------------------------|------------|-------------------|------------|----------|
|               | March 2020      |            | March 2020          |            | Since Jul., 1, 2019 |            | March 2020             |            | Since Jan.1, 2020 |            | Mar 2020 |
|               | Average         | Departure* | Average             | Departure* | Average             | Departure* | Average                | Departure* | Average           | Departure* | Average  |
| Northwest     | 37.6            | 4.5        | 849                 | -116       | 6520                | -164       | 2.38                   | +0.50      | 3.68              | +0.49      | 3.9      |
| North Central | 37.6            | 4.8        | 849                 | -127       | 6511                | -223       | 2.66                   | +0.70      | 4.58              | +0.93      | 1.7      |
| Northeast     | 37.7            | 3.6        | 846                 | -111       | 6309                | -298       | 3.34                   | +1.37      | 5.26              | +1.17      | 1.3      |
| West Central  | 40.8            | 5.1        | 750                 | -133       | 5869                | -317       | 2.58                   | +0.47      | 4.01              | +0.30      | 2.9      |
| Central       | 40.9            | 5.0        | 747                 | -137       | 5870                | -303       | 2.63                   | +0.44      | 4.29              | +0.16      | 1.2      |
| East Central  | 40.8            | 3.6        | 750                 | -114       | 5722                | -285       | 3.38                   | +1.10      | 5.53              | +0.76      | 2.6      |
| Southwest     | 43.5            | 5.1        | 675                 | -133       | 5381                | -338       | 1.99                   | -0.24      | 3.16              | -0.91      | 1.4      |
| South Central | 43.4            | 5.2        | 678                 | -131       | 5396                | -282       | 2.40                   | +0.11      | 4.58              | +0.16      | 1.4      |
| Southeast     | 42.9            | 3.4        | 692                 | -106       | 5343                | -231       | 3.15                   | +0.58      | 5.76              | +0.36      | 1.8      |
| STATE         | 40.4            | 4.5        | 760                 | -123       | 5872                | -281       | 2.73                   | +0.58      | 4.52              | +0.40      | 2.0      |

\* 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

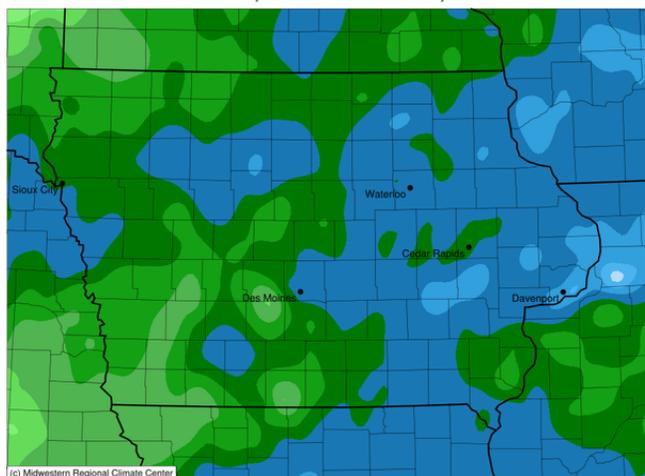
March 01, 2020 to March 31, 2020



Stations from the following networks used: WBAN, COOP, FAA, GHCN, ThreadEx, CoCoRaHS, WMO, ICAO, NWSLI, Midwestern Regional Climate Center  
cli-MATE: MRCC Application Tools Environment  
Generated at: 4/9/2020 8:24:31 AM CDT

### Accumulated Precipitation (in)

March 01, 2020 to March 31, 2020



Stations from the following networks used: WBAN, COOP, FAA, GHCN, ThreadEx, CoCoRaHS, WMO, ICAO, NWSLI, Midwestern Regional Climate Center  
cli-MATE: MRCC Application Tools Environment  
Generated at: 4/9/2020 10:06:01 AM CDT

### Accumulated Snowfall (in)

March 01, 2020 to March 31, 2020

