

## IOWA MONTHLY WEATHER SUMMARY – OCTOBER 2020

General Summary: Temperatures averaged 46.0 degrees or 4.8 degrees below normal while precipitation totaled 1.66 inches or 0.95 inch below normal. October 2020 ranks as the 6<sup>th</sup> coldest on record with a colder October last occurring in 2009. The month ranked as the 48<sup>th</sup> driest October in 148 years of statewide records with a drier one last occurring in 2011.

Temperatures: For the month, negative departures of three to six degrees were reported across the state with the coldest conditions found in northwestern Iowa. October's statewide average maximum temperature was 56.7 degrees, 5.7 degrees below normal while the average minimum temperature was 35.3 degrees, 3.9 degrees below normal. Ames Municipal Airport (Story County), Red Oak (Montgomery County) and Shenandoah (Page County) reported the month's high temperature of 88 degrees on the 9<sup>th</sup>, on average 20 degrees above normal. Estherville Municipal Airport (Emmet County) reported the month's low temperature of 5 degrees on the 27<sup>th</sup>, 27 degrees below normal.

Heating Degree Day Totals: Home heating requirements, as estimated by heating degree day totals, averaged 6% more than last October and 31% more than normal. Thus far this heating season, heating degree day totals are running 18% more than last year at this time and 23% more than normal.

Precipitation: Precipitation deficits of one to two inches were reported over much of Iowa during October. Wetter than average conditions were found across portions of eastern Iowa with over two inches or more in a few northeastern counties. Monthly precipitation totals ranged from 0.50 inch at a rain gauge in Cantril (Van Buren County) to 5.76 inches at Elkader 6 SSW (Clayton County). The statewide average snowfall was 1.8 inches, which is 1.5 inches above average.

To start the month, very spotty showers were again reported across eastern Iowa on the 1<sup>st</sup>, though amounts were light. Cloud cover increased across western Iowa during the evening hours on the 2<sup>nd</sup> ahead of a disturbance that brought widespread rainfall over much of southern Iowa through the 3<sup>rd</sup>. Rain totals from the system were under 0.50 inch; Knoxville (Marion County) observed 0.49 inch. Rainfall amounts tapered off from a few tenths to under a tenth north of I-80. A strong cold front pushed into western Iowa during the evening hours of the 11<sup>th</sup>, firing a line of strong thunderstorms. Some storms turned severe with several reports of straight-line winds causing tree damage; a 61 mph wind gust was reported in Shenandoah (Fremont County). Rain totals reported at 7:00 am on the 12<sup>th</sup> were highest in the state's northwestern one-third with general amounts in the range of 0.50 inch to 1.00 inch. Seventeen stations reported an inch or more with Sioux Rapids (Buena Vista County) observing 1.76 inches while Rock Valley (Sioux County) reported over three inches. Precipitation totals tailed off to a few tenths of an inch southeast into central Iowa with a statewide average of 0.22 inch. The front continued through eastern Iowa during the late afternoon with winds shifting to the northwest. A secondary, weak cold front sped through Iowa on the 13<sup>th</sup>, leaving behind very light rain totals in the northeast.

Light rain showers developed behind a low pressure system over the Great Lakes into the 16<sup>th</sup> with minor totals reported in eastern Iowa; Elma (Howard County) reported 0.05 inch. Cloud cover increased through the late evening hours of the 17<sup>th</sup> as a cold front approached western Iowa. Rain and some early season snow fell across much of Iowa on the 18<sup>th</sup> with a portion of west-central Iowa reporting snow totals above an inch; Perry (Dallas County) reported 2.7 inches while the Des Moines National Weather Service office in Johnston (Polk County) measured one inch of new snow. Snow and rain tapered off through Sunday (18th) afternoon as daytime highs held in the low to mid 40s. Snow totals were light, ranging from trace amounts at several stations to 3.5 inches in

Lowden (Cedar County). Liquid equivalent precipitation was under 0.50 inches with a majority of observations less than 0.20 inch. October 19<sup>th</sup> was an active weather day as a disturbance brought additional snow across an east-west swath of Iowa. A snow squall warning was issued for the Des Moines metro area as a rapid onset of locally heavy snow reduced visibilities and caused conditions to deteriorate through early afternoon. Over 50 stations reported an inch or more with some locations observing record snowfall for the date; the National Weather Service office in Johnston (Polk County) measured 7.2 inches.

Rain showers were reported on the 20<sup>th</sup> with light amounts observed across northern Iowa which persisted through the next day. More showers and thunderstorms popped up in eastern Iowa ahead of a warm front lifting north from Missouri. The northwestern half of Iowa saw additional storms overnight into the 22<sup>nd</sup> as a strong cold front approached Iowa. Two-day rainfall totals at 7:00 am showed above two inches at numerous stations in eastern and central Iowa with Des Moines International Airport (Polk County) observing 3.11 inches; the statewide average rainfall was 0.65 inch. As the front propagated across the state, stronger thunderstorms began to fire later in the day across central Iowa and overnight into the 23<sup>rd</sup>. Showers and thunderstorms moved over the same locations in eastern Iowa where 15 stations collected over two inches of rain. Over 100 stations reported an inch or more with the statewide average rainfall of 0.83 inch. Overcast, cold and windy conditions persisted into the 25<sup>th</sup> as light snow fell across northwest Iowa. The system moved through Iowa overnight into the 26<sup>th</sup> with at least an inch of snow reported at many stations in the state's western half. Higher totals were reported in the northwest quadrant with Pocahontas (Pocahontas County) measuring 2.4 inches while Sibley (Osceola County) observed 5.6 inches. Totals tapered off in eastern Iowa with accumulations generally under 0.25 inch.

US Drought Monitor: The final drought depiction released prior to the start of October showed two regions of D2 (Severe Drought) in western Iowa embedded within a larger area of D1 (Moderate Drought); D1 covered 24% of Iowa while D2 covered 24% of the state. As warmer and drier conditions continued into early October, severe drought expanded to around 30% of western Iowa with a one-category degradation of the northwestern D2 region to D3 (Extreme Drought). The map remained status quo through much of the rest of the month, given colder than average conditions and timely, widespread precipitation especially during the third week of October. With a persistent storm track over eastern Iowa, drought and abnormally dry conditions were removed as heavier rain and some snow fell.

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# October 2020

## WEATHER BY DISTRICTS

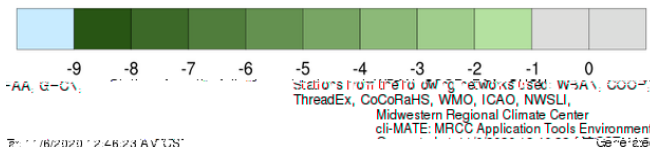
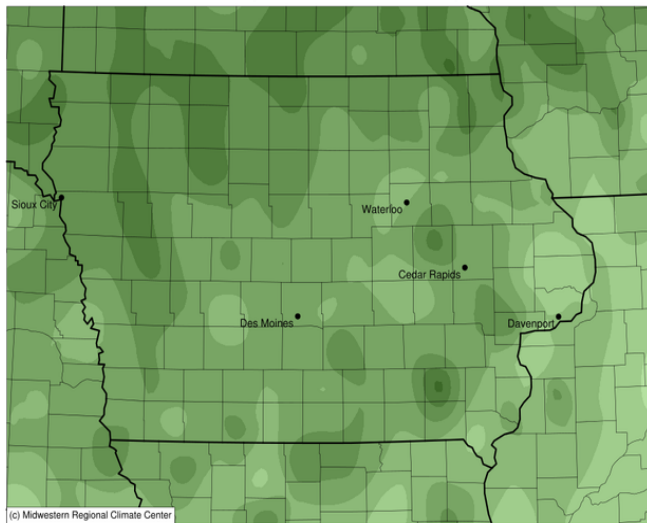
DISTRICT	TEMPERATURE (F)		HEATING DEGREE DAYS				PRECIPITATION (inches)				SNOWFALL Oct 2020
	October 2020		October 2020		Since Jul., 1, 2020		October 2020		Since Jan.1, 2020		
	Average	Departure*	Average	Departure*	Average	Departure*	Average	Departure*	Average	Departure*	Average
Northwest	43.4	-5.6	670	+176	845	+149	1.41	-0.83	18.55	-9.41	2.9
North Central	43.7	-5.2	660	+161	852	+149	1.08	-1.29	25.69	-5.51	1.3
Northeast	44.5	-5.1	636	+142	846	+147	2.52	-0.06	33.56	+1.07	0.4
West Central	46.1	-4.4	586	+143	740	+132	1.35	-1.06	19.01	-11.24	3.6
Central	46.2	-4.5	583	+140	735	+136	1.42	-1.20	25.21	-7.68	3.1
East Central	47.5	-4.2	542	+112	688	+118	2.69	-0.20	32.62	+0.11	1.8
Southwest	47.9	-4.5	530	+133	678	+145	1.24	-1.37	21.09	-11.36	1.1
South Central	47.8	-4.5	533	+135	677	+148	1.41	-1.44	26.96	-7.11	0.6
Southeast	48.4	-5.2	515	+134	642	+150	1.79	-1.27	29.67	-4.59	0.2
STATE	46.0	-4.8	579	+136	738	+137	1.66	-0.95	25.67	-6.21	1.8

\* 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.

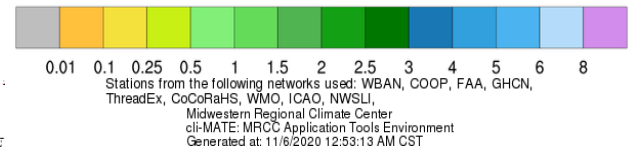
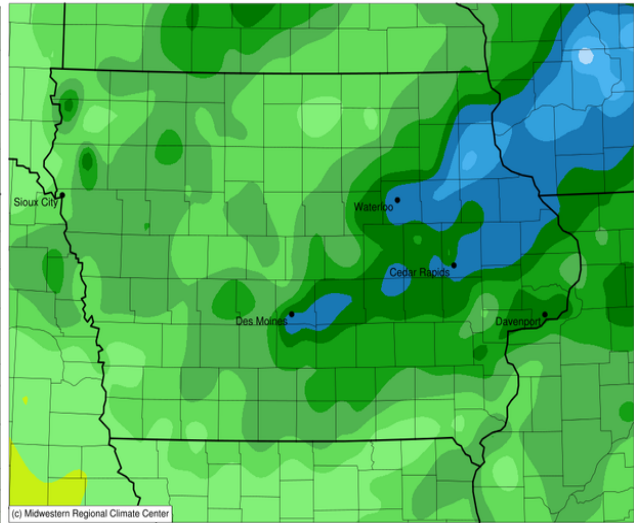
### Average Temperature (°F): Departure from 1981-2010 Normals

October 01, 2020 to October 31, 2020



### Accumulated Precipitation (in)

October 01, 2020 to October 31, 2020



11/16/2020 12:46:23 AM UTC

Stations from the following networks used: WBA, COOP, ThreadEx, CoCoRaHS, WMO, ICAO, NWSLI, Midwestern Regional Climate Center, cli-MATE: MRCC Application Tools Environment

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