

IOWA MONTHLY WEATHER SUMMARY – FEBRUARY 2021

General Summary: Temperatures averaged 12.6 degrees or 11.4 degrees below normal while precipitation totaled 0.72 inch, 0.33 inch below normal. February 2021 was the 8th coldest and ties 1902/1907 as the 45th driest in 149 years of statewide observational records. A colder February last occurred in 2014 while a drier one occurred last year.

Temperatures: Frigid temperatures blanketed the state for a good portion of the first weeks of February due to an Arctic air outbreak from a bulge in the Polar Vortex. The Polar Vortex is a large low pressure system over the Arctic basin that dams off frigid air from the mid-latitudes. When the vortex weakens and begins to wobble, meanders (dips) form that allow bulges of cold air to intrude into the Midwest. Typically after a burst of Arctic air, warmer than average temperatures follow from west to east over the following several days. While there was a rebound in the statewide average temperature behavior given warmer than normal temperatures at the end of the month, average temperatures for February were anywhere from eight to 16 degrees below normal. The coldest period of the month was between February 7th and 16th when the average temperature was -5.2 degrees, 27.2 degrees below normal. Temperatures did not rebound to normal until the final eight days of February, where the average temperature for the period was a degree warmer than climatology.

February's statewide average maximum temperature was 20.7 degrees, 12.7 degrees below normal while the average minimum temperature was 4.4 degrees, 14.5 degrees below normal. Centerville (Appanoose County) and Donnellson (Lee County) reported the month's high temperature of 59 degrees on the 27th, on average 16 degrees above normal. Battle Creek 3NE (Ida County) and Mapleton No. 2 (Monona County) reported the month's low temperature of -35 degrees on the 16th, 48 degrees below normal. The reading from Mapleton No. 2 is the coldest temperature reported by the station since it began observation in 1937.

Heating Degree Day Totals: Home heating requirements, as estimated by heating degree day totals, were 31% more than last February and 30% more than normal. Thus far this heating season, heating degree day totals are running 5% more than last year at this time and 1% less than normal.

Precipitation: A majority of the state's National Weather Service co-op stations reported near to slightly below average precipitation in February. The driest conditions were found across portions of southern and eastern Iowa while many western Iowa stations reported above normal totals.

Monthly precipitation (melted snow and sleet plus rain) totals ranged from 0.27 inch in Rock Valley (Sioux County) to 2.06 inches in Augusta (Lee County). Unseasonably snowy conditions also blanketed much of Iowa with the preliminary with the statewide average snowfall totaling 11.2 inches, 4.4 inches above normal making it the 22nd snowiest in 134 years of snowfall records; Little Sioux 2NW (Harrison County) measured the highest accumulation of 23.7 inches.

Winter Summary: Temperatures for the three winter months of December, January and February (DJF) averaged 21.2 degrees or 0.9 degree below normal while precipitation totaled 2.82 inches, 0.49 inch below normal. Winter 2021 ties 1995 as the 63rd coldest winter with a colder one occurring in 2018. In terms of precipitation, it ties 1966 and 1985 as the 52nd driest; 2013 was drier. The statewide average snowfall was 32.2 inches, 9.4 inches above normal, making it the 12th snowiest winter in 134 years of records with 2018-2019 experiencing more snow.

Outlooks: As Iowa transitions from winter, which is the driest season, we expect the amount of precipitation to increase gradually through the spring and peak in May and June, Iowa's two wettest months. The latest CPC outlooks for March-April-May highlight a similar pattern for what is shown in March, namely elevated chances of warmer conditions with EC for precipitation. The April-May-June outlooks mimic the temperature field, though they show a slightly elevated chance of wetter conditions over Iowa's eastern half. La Niña is forecasted to persist into early spring with a 60% chance of transitioning into a neutral phase of El Niño-Southern Oscillation (ENSO) during late spring and early summer. Seasonal composites of rainfall behavior into summer show that if La Niña is present, drier conditions could prevail across portions of the Midwest.

The final March climatological outlooks from the Climate Prediction Center (CPC) show an elevated signal for warmer-than-average conditions across Iowa. On the precipitation front, there is no clear signal for a majority of Iowa, as outlooks continues to show a moderate La Niña configuration; higher probabilities of wetter-than-normal conditions across the Ohio Valley and above-average probabilities of dryness from the High Plains into the Desert Southwest. Iowa remains in the middle of this interface, which happens to fall into the EC category. This designation slightly favors near-average precipitation through March.

US Drought Monitor: Drought conditions remained generally unchanged during the first half of February with Abnormally Dry (D0) to Extreme Drought (D3) conditions covering 52% of Iowa; the largest aerial coverage was that of Moderate Drought (D1) which was at 18%. The driest part of Iowa continued to be the northwest corner where D3 was found across 3% of the region. With additional snowfall and snowpack melt, the small section of D2 (Severe Drought) in southwestern Iowa was upgraded to D1 with a minor section of D1 upgraded to D0 in on the western periphery of the existing D1 region. As of this writing, D0-D3 conditions cover 55% of Iowa with a recent expansion of D0 in northeastern Iowa.

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February 2021

WEATHER BY DISTRICTS

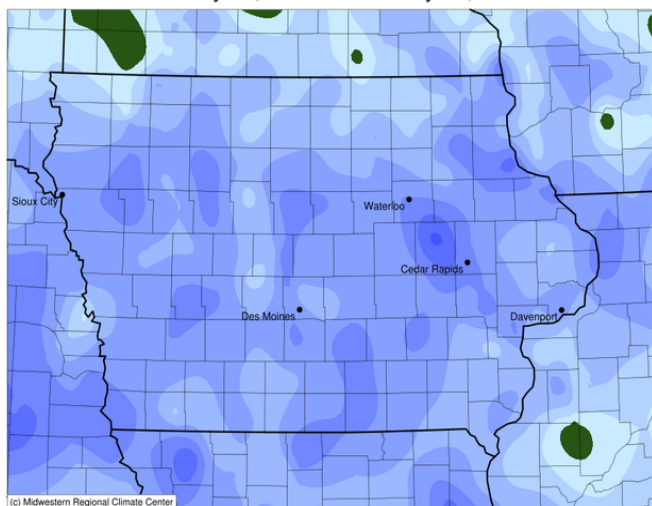
DISTRICT	TEMPERATURE (F)		HEATING DEGREE DAYS				PRECIPITATION (inches)				SNOWFALL Feb 2021 Average
	February 2021		February 2021		Since Jul., 1, 2020		February 2021		Since Jan.1, 2021		
	Average	Departure*	Average	Departure*	Average	Departure*	Average	Departure*	Average	Departure*	
Northwest	10.3	-11.0	1532	+329	5681	-38	0.55	-0.09	1.39	+0.08	8.3
North Central	10.1	-10.3	1537	+315	5720	-38	0.57	-0.29	1.35	-0.34	11.2
Northeast	10.1	-11.7	1537	+335	5675	+25	0.76	-0.34	1.79	-0.33	11.3
West Central	12.6	-11.3	1467	+343	5289	-14	0.84	+0.02	2.04	+0.44	14.3
Central	12.7	-11.1	1464	+330	5354	+66	0.68	-0.34	1.67	-0.27	11.2
East Central	12.7	-12.5	1464	+349	5258	+115	0.93	-0.41	2.35	-0.14	11.2
Southwest	15.4	-11.5	1389	+339	4997	+87	0.72	-0.32	2.07	+0.22	11.9
South Central	15.4	-11.2	1389	+340	5006	+138	0.62	-0.62	2.23	+0.10	9.3
Southeast	15.8	-12.1	1378	+336	4951	+175	0.83	-0.73	2.94	+0.11	11.4
STATE	12.6	-11.4	1467	+337	5338	+68	0.72	-0.33	1.94	-0.03	11.2

* 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

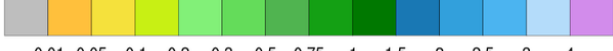
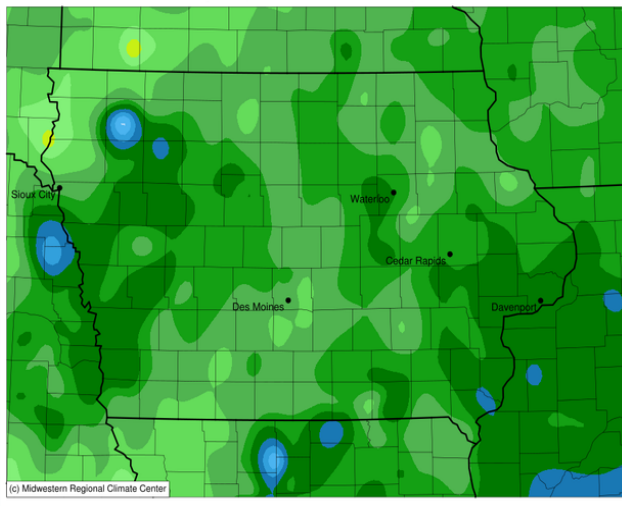
February 01, 2021 to February 28, 2021



Stations from the following networks used: WBAN, COOP, FAA, GHCN, ThreadEx, CoCoRaHS, WMO, ICAO, NWSLI, Midwest Regional Climate Center
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Accumulated Precipitation (in)

February 01, 2021 to February 28, 2021



Stations from the following networks used: WBAN, COOP, FAA, GHCN, ThreadEx, CoCoRaHS, WMO, ICAO, NWSLI, Midwest Regional Climate Center
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Accumulated Snowfall (in)

February 01, 2021 to February 28, 2021

