

## IOWA MONTHLY WEATHER SUMMARY – MARCH 2023

General Summary: Temperatures averaged 34.0 degrees or 2.4 degrees below normal while precipitation totaled 1.38 inches, 0.61 inch below normal. March 2022 ties 1901 and 1989 as the 67th coldest and ranks as the 46th driest in 151 years of statewide observational records. A colder March occurred in 2019 while March 2015 was drier.

Temperatures: Through the month of March, average temperatures were unseasonably cold across much of Iowa with near-normal conditions over portions of eastern Iowa. Departures of up to six degrees were observed in northwestern Iowa where existing snowpack was present. March's statewide average maximum temperature was 43.1 degrees, 3.2 degrees below normal while the average minimum temperature was 24.8 degrees, 1.7 degrees below normal. Ames Municipal Airport reported the month's high temperature of 81 degrees on the 31<sup>st</sup>, 26 degrees above average. Emmetsburg reported the month's low temperature of -1 degrees on the 18<sup>th</sup>, 26 degrees below normal.

Heating Degree Days: Home heating requirements, as estimated by heating degree day totals, averaged 10% more than last March and 7% more than normal. Heating degree day totals are running 3% more than last year at this time and 2% less than normal.

Precipitation: A majority of the state's National Weather Service co-op stations reported below average precipitation in March with only the southeast corner of Iowa measuring above-average totals. Pockets of precipitation deficits approaching 1.50 inches were found in east-central, western and southwestern Iowa. Monthly precipitation (melted snow and sleet plus rain) totals ranged from 0.55 inch at Sac City to 4.55 inches in Augusta. Statewide snowfall was below normal with an average of 6.3 inches, 1.6 inches above normal.

Severe Weather: Showers and thunderstorms formed overnight into the 31<sup>st</sup> in advance of a potent low pressure system pushing across Nebraska. As atmospheric instability increased over the daytime hours, highs climbed into the upper 70s and low 80s in central Iowa. Severe thunderstorms, initially discrete supercells, fired along a dry line as the low pressure marched through Iowa. Thunderstorms eventually consolidated into a line that sped into eastern Iowa at over 50 miles per hour. Several storms spawned tornadoes rated EF-2 with a strong EF-4 moving northeast through sections of Keokuk, Washington, and Johnson counties. Keota (Keokuk County) experienced wind speeds up to 170 mph with widespread structural damage. A second line of severe storms formed along the low's attendant cold front, producing several reports of severe hail and straight-line winds. The powerful system cleared Iowa as strong northwesterly winds built in, ushering in a colder airmass and light snow.

US Drought Monitor: This month's US Drought Monitor summary includes text from the Iowa Department of Natural Resources' (DNR) March Water Summary Update which is the second to reflect the 2023 Iowa Drought Plan (IDP). The IDP was developed as a collaborative effort between the DNR, the Department of Agriculture and Land Stewardship (IDALS), and the Department of Homeland Security and Emergency Management (HSEMD). The IDP can be seen in its entirety on the IDALS and DNR websites and found here:

<https://www.iowadnr.gov/Portals/idnr/uploads/files/2023-iowa-drought-plan.pdf>

Through March, the US Drought Monitor showed generally status quo conditions with Iowa's northwestern one-third under some drought designation. Over the last month, Iowa experienced a 10% reduction in the area designated as D0 (Abnormally Dry) across eastern and central Iowa, portions of Iowa Drought Plan (IDP) Drought Regions 3 and 5. The area designated as D4 (Exceptional Drought) stood at 0.57% of the state, and the area of D3 (Extreme Drought) stands at 0.94%; These areas D3-D4 cover portions of Woodbury and Monona Counties in western Iowa. The area of D2 (Severe Drought) covers 14% of Iowa, while D1 (Moderate Drought) covers about 16% of the state. Finally, 38% of Iowa is free from drought. At the start of 2023, only 10 percent of Iowa was free from any drought designation, so improvement has been seen over the last three months.

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# March 2023

## WEATHER BY DISTRICTS

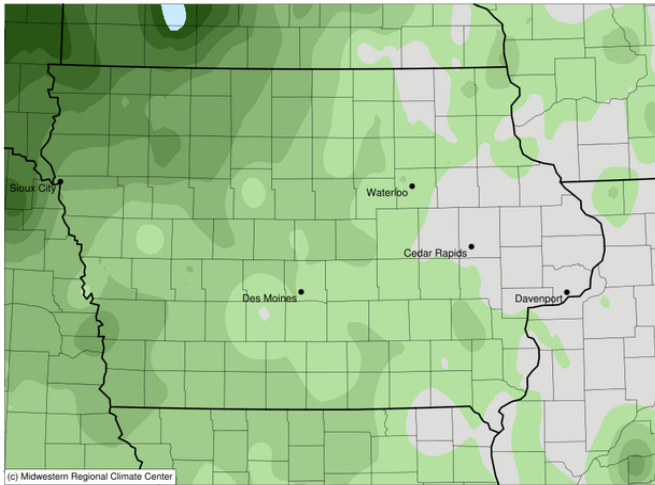
DISTRICT	TEMPERATURE (F)		HEATING DEGREE DAYS				PRECIPITATION (inches)				SNOWFALL Mar 2023 Average
	March 2023 Average	Departure	March 2023 Average	Departure	Since Jul., 1, 2022 Average	Departure	March 2023 Average	Departure	Since Jan.1, 2023 Average	Departure	
Northwest	28.5	-5.5	1132	+170	6850	+240	1.21	-0.45	4.95	+1.73	7.4
North Central	30.7	-2.6	1063	+81	6696	+32	1.35	-0.58	5.17	+1.32	6.2
Northeast	33.1	-0.9	989	+27	6350	-182	1.51	-0.51	5.67	+1.28	6.7
West Central	33.5	-3.3	976	+99	6145	+28	1.06	-0.75	4.78	+1.23	5.2
Central	34.1	-2.3	958	+71	6052	-57	1.22	-0.78	5.35	+1.30	8.2
East Central	36.5	-0.6	884	+19	5688	-263	1.55	-0.66	6.16	+1.28	7.6
Southwest	36.5	-2.9	884	+86	5635	-8	0.98	-1.00	5.01	+1.10	3.1
South Central	36.8	-2.3	874	+67	5503	-117	1.33	-0.77	5.14	+0.71	4.3
Southeast	38.0	-1.2	837	+35	5345	-193	2.38	+0.05	7.09	+1.82	3.7
STATE	34.0	-2.4	944	+60	5986	-103	1.38	-0.61	5.45	+1.32	6.3

\* Departures are computed from 1991-2020 normals.

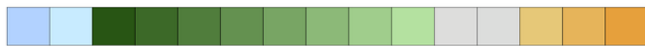
The weather data in this report are based upon information collected by the U. S. Dept. of Commerce, NOAA National Weather Service.

### Average Temperature (°F): Departure from 1991-2020 Normals

March 01, 2023 to March 31, 2023



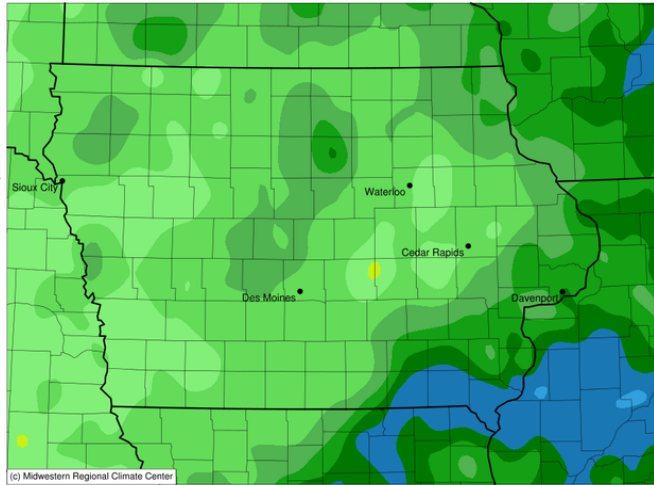
(c) Midwestern Regional Climate Center



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  
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### Accumulated Precipitation (in)

March 01, 2023 to March 31, 2023



(c) Midwestern Regional Climate Center



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