

## IOWA MONTHLY WEATHER SUMMARY – APRIL 2023

General Summary: Temperatures averaged 49.3 degrees or 0.7 degree above normal while precipitation totaled 2.06 inches, 1.61 inches below normal. April 2023 ties 1949 and 2021 as the 71st warmest and ranks as the 36th driest in 151 years of statewide observational records. A warmer April occurred in 2017 while April 2021 was drier.

Temperatures: Periods of unseasonably warm temperatures along with cooler than normal conditions were reported through April. Notably, average temperatures from April 12-15 were 15.1 degrees above normal with daytime high temperatures in the 80s and 90s across much of Iowa. Overall, temperatures for the month were near average across much of Iowa with pockets of slightly warmer temperatures as well.

April's statewide average maximum temperature was 62.3 degrees, 2.2 degrees above normal while the average minimum temperature was 36.3 degrees, 0.9 degree below normal. Airports in Sioux City (Woodbury County) and Spencer (Clay County) reported the month's high temperature of 92 degrees on the 12<sup>th</sup>, on average 33 degrees above average. Atlantic and Audubon reported the week's low temperature of 13 degrees on the 6<sup>th</sup>, on average 19 degrees below normal.

Heating Degree Days: Home heating requirements, as estimated by heating degree day totals, averaged 27% less than last March and 2% less than normal. Heating degree day totals are running at a similar level to last year at this time and 2% less than normal.

Precipitation: For the second month in a row, unseasonably dry conditions were reported in Iowa. Many of the state's National Weather Service (NWS) co-op stations registered precipitation deficits on the order of an inch with pockets of two inches or more in southern and eastern Iowa. Several stations in southwestern Iowa observed positive departures nearing an inch. Monthly precipitation totals ranged from 0.52 inch in Clive (Polk County) to 5.07 inches in Winterset (Madison County).

Winds turned to the east in advance of a powerful low pressure center that was moving towards southwest Iowa on the 4<sup>th</sup>. A deck of stratus clouds held temperatures in the upper 30s north to mid 40s south as a warm front lifted into southern Iowa along with anomalous moisture. Severe thunderstorms formed later in the afternoon as clearing skies allowed for atmospheric destabilization in the presence of high temperatures 20 degrees above normal. While this system was a mirror image of the March 31st event, the dominant severe weather mode was very large hail; observers in Osceola (Clarke County) measured 3.50-inch hail that caused structural damage. A swath of 1.00 to 3.00-inch hail was reported across east-central Iowa as initial discrete supercells consolidated into a squall line. A brief tornado was also observed crossing over the Warren County line into Pleasantville (Marion County). A disturbance pushed across western Iowa during the evening hours of the 9<sup>th</sup> and persisted through the morning of the 10<sup>th</sup>. Several southwestern and south-central stations measured at least 0.20 inch with Hastings (Mills County) reporting 0.47 inch.

Isolated showers popped up in northwestern Iowa a few hours after sunrise on the 14<sup>th</sup>. Another line of showers and a few thunderstorms developed in western Iowa after noon along a cold front. In advance of a low pressure system, strong to severe storms formed after sunset over southwestern Iowa, expanding in coverage while losing strength as the cluster pushed into central Iowa. There were several reports of severe straight-line wind events causing structural damage with a 68-mph wind gust clocked near Essex (Page County). The low slowly moved through Iowa on the 15<sup>th</sup> as showers and thunderstorms brought widespread rainfall. Light snow filtered on the backside of the low pressure as rainfall moved into eastern Iowa overnight into the 16<sup>th</sup>. All Iowa stations reported measurable precipitation with over 50 measuring at least 0.50 inch; the highest totals were observed in southwest Iowa where eight stations recorded from 1.00 inch to 1.74 inches. Snow totals were isolated with 0.1 inch in Davenport (Scott County) to 3.5 inches in Swea City (Kossuth County).

Clouds increased through the evening of the 18<sup>th</sup> as a disturbance approached Iowa producing thunderstorms in north-central and western Iowa into the early morning hours of the 19<sup>th</sup>; a few cells were severe-warned in eastern Iowa later in the morning as stratus clouds covered most of the sky statewide. A warm front lifting north in advance of a strong low-pressure system pushed temperatures into the upper 70s in southern Iowa, while north of the boundary highs only reached into the upper 50s. Ample moisture and atmospheric instability allowed discrete supercells to fire in western Iowa along a cold front just after 5:00 pm with four reports of weak tornadoes and golf ball to tennis ball-sized hail. The storms coalesced into a line, maintaining strength into eastern Iowa through the early morning hours on the 20<sup>th</sup>. A second complex of thunderstorms formed in southwestern Iowa and expanded across central and eastern Iowa through the day as cold air wrapped in on the backside of the low. Event totals reported at 7:00 am on the 21<sup>st</sup> showed a wide swath of above-average totals from southwest to northeast with smaller pockets in northwest and east-central Iowa. More than 125 stations reported at least an inch with nearly 15 stations hitting two inches or more; Corning (Adams County) measured 2.95 inches while the statewide average was 0.81 inch.

Winds shifted to the northwest after midnight on the 28<sup>th</sup> as a cold front began sweeping east through Iowa. Light rain showers formed in western Iowa as the front advanced. Skies cleared west to east as rain showers tapered off into the 29<sup>th</sup> with rain totals at 7:00 am highest in western Iowa. Totals were in the 0.30 to 0.60-inch range with Primghar (O'Brien County) receiving 0.31 inch while 0.59 inch was observed at Logan (Harrison County). Locations that received rain across the rest of Iowa generally measured at most a tenth or two with many stations registering a few one-hundredths. Additional showers spun in on the backside of a large low-pressure center over the Great Lakes through the afternoon and evening hours; a narrow swath of rainfall totals in the 0.25 to 0.50-inch range was found from west central to southeast Iowa.

US Drought Monitor: The US Drought Monitor showed improvement across Iowa in April along with some deterioration. Overall, 75% of Iowa was rated at some level of dryness or drought. In northwest Iowa, the area in Severe Drought (D2) was reduced by over one third. At the same time, the area of southeast Iowa experienced expansion of Abnormally Dry (D0) conditions as well as the introduction of Moderate Drought (D1) in Davis and Van Buren Counties. This area of D1 in southeast Iowa was the first since the middle of February. The area designated as Exceptional Drought (D3) stands at 0.54% of the state, and the area of Extreme Drought (D3) stands at 0.73 percent. These areas of D3-D4 conditions are located Woodbury and

Monona counties in western Iowa. The area of D2 covers 8% of Iowa, while D1 covers about 21% of the state. Only 25% of the state is free from any drought designation.

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# April 2023

## WEATHER BY DISTRICTS

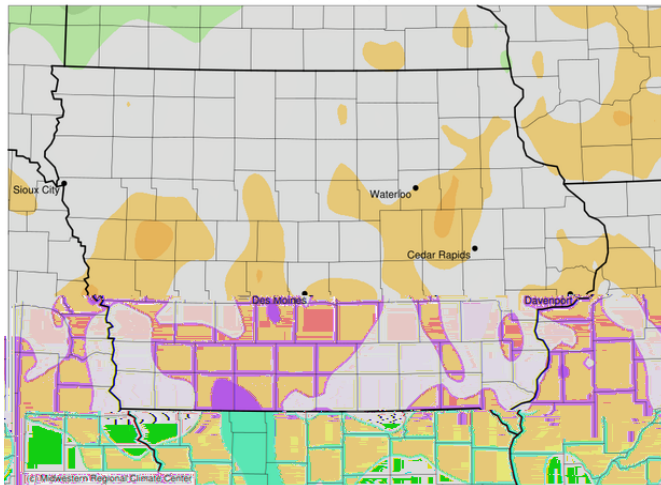
DISTRICT	TEMPERATURE (F)		HEATING DEGREE DAYS				PRECIPITATION (inches)				SNOWFALL Apr 2023 Average
	April 2023 Average	Departure	April 2023 Average	Departure	Since Jul., 1, 2022 Average	Departure	April 2023 Average	Departure	Since Jan. 1, 2023 Average	Departure	
Northwest	46.5	-0.2	555	+6	7411	+252	1.48	-1.77	6.62	+0.16	0.9
North Central	46.8	+0.1	546	-6	7247	+31	2.53	-1.24	8.07	+0.44	0.8
Northeast	47.3	+0.7	531	-21	6885	-199	2.47	+1.44	8.15	-0.15	1.8
West Central	49.6	+0.8	462	-28	6613	+6	1.93	-1.51	6.89	-0.11	0.4
Central	49.7	+0.8	459	-27	6491	-104	2.18	-1.61	7.74	-0.10	0.1
East Central	50.1	+0.9	447	-30	6136	-292	1.81	-1.97	8.00	-0.66	0.2
Southwest	52.0	+1.4	395	-41	6039	-40	2.99	-0.52	8.01	+0.58	0.0
South Central	52.0	+1.4	392	-40	5904	-149	1.82	-2.07	7.26	-1.06	0.0
Southeast	51.6	+0.6	406	-18	5757	-205	1.43	-2.28	8.60	-0.38	0.0
STATE	49.3	+0.7	464	-25	6449	-129	2.06	-1.61	7.67	-0.13	0.5

\* 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

April 01, 2023 to April 30, 2023

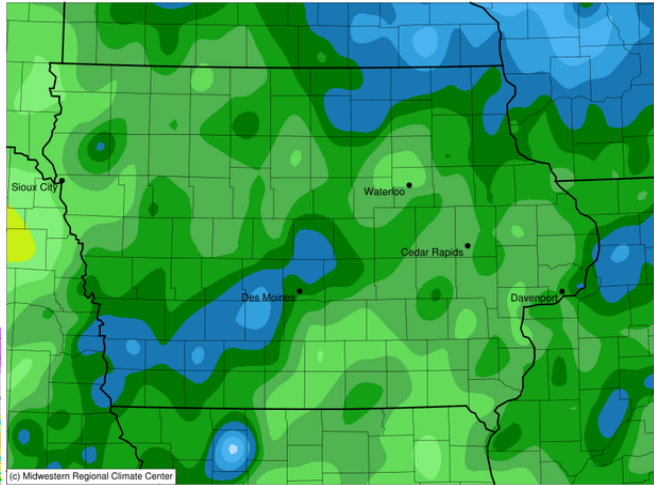


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Stations from the following networks used: WBAN, COOP, FAA, GHCN, ThreadEx, CoCoRaHS, WMO, ICAO, NWSLI, Midwest Regional Climate Center  
cli-MATE: MRCC Application Tools Environment  
Generated at: 5/8/2023 12:02:26 AM CDT

### Accumulated Precipitation (in)

April 01, 2023 to April 30, 2023



0.01

0.1

0.25

0.5

1

1.5

2

2.5

3

4

5

6

8

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