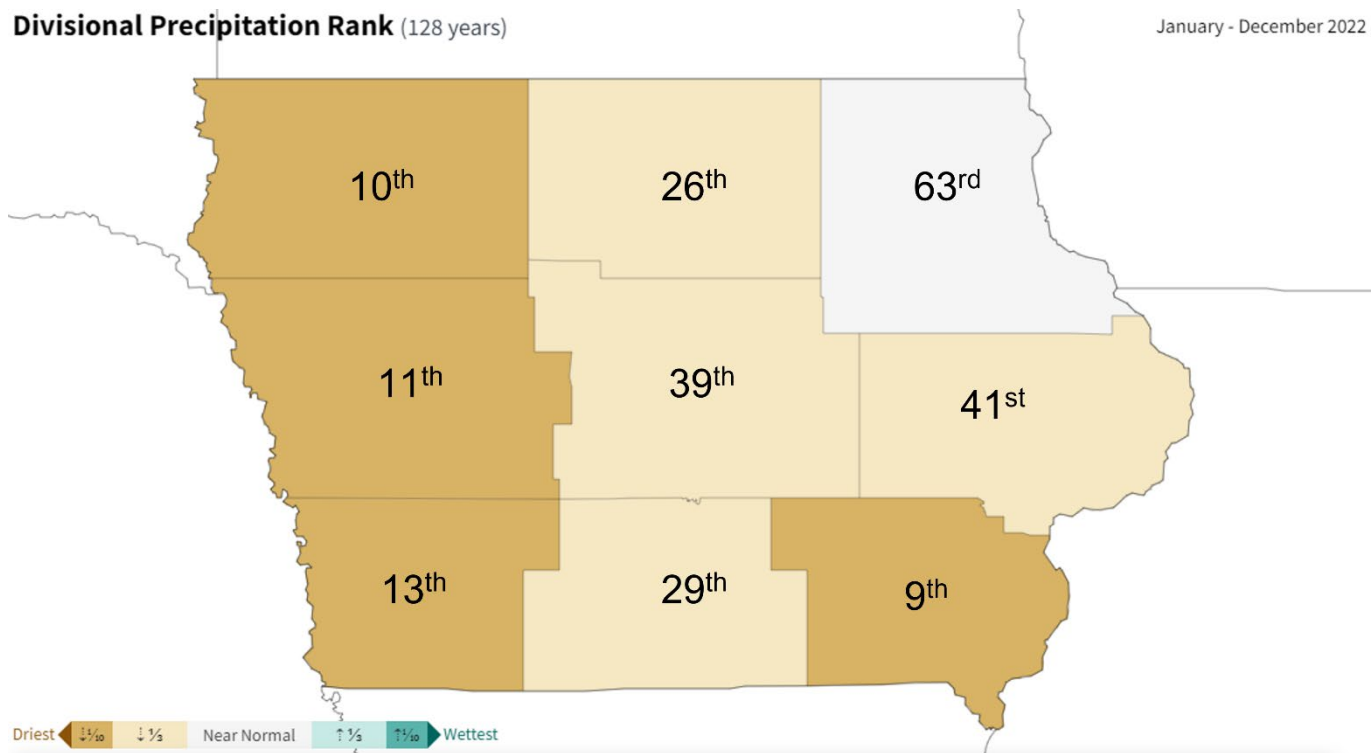


## IOWA ANNUAL WEATHER SUMMARY – 2022

General Summary: Statewide annual temperatures averaged 47.5 degrees or 0.9 degree below normal, ranking as the 47<sup>th</sup> coldest year on record with 150 years of statewide records. Annual precipitation averaged 27.25 inches or 8.30 inches less than normal, ranking as the 25<sup>th</sup> driest year on record. A colder year occurred in 2019 while a drier one occurred in 2012 (19<sup>th</sup> driest).

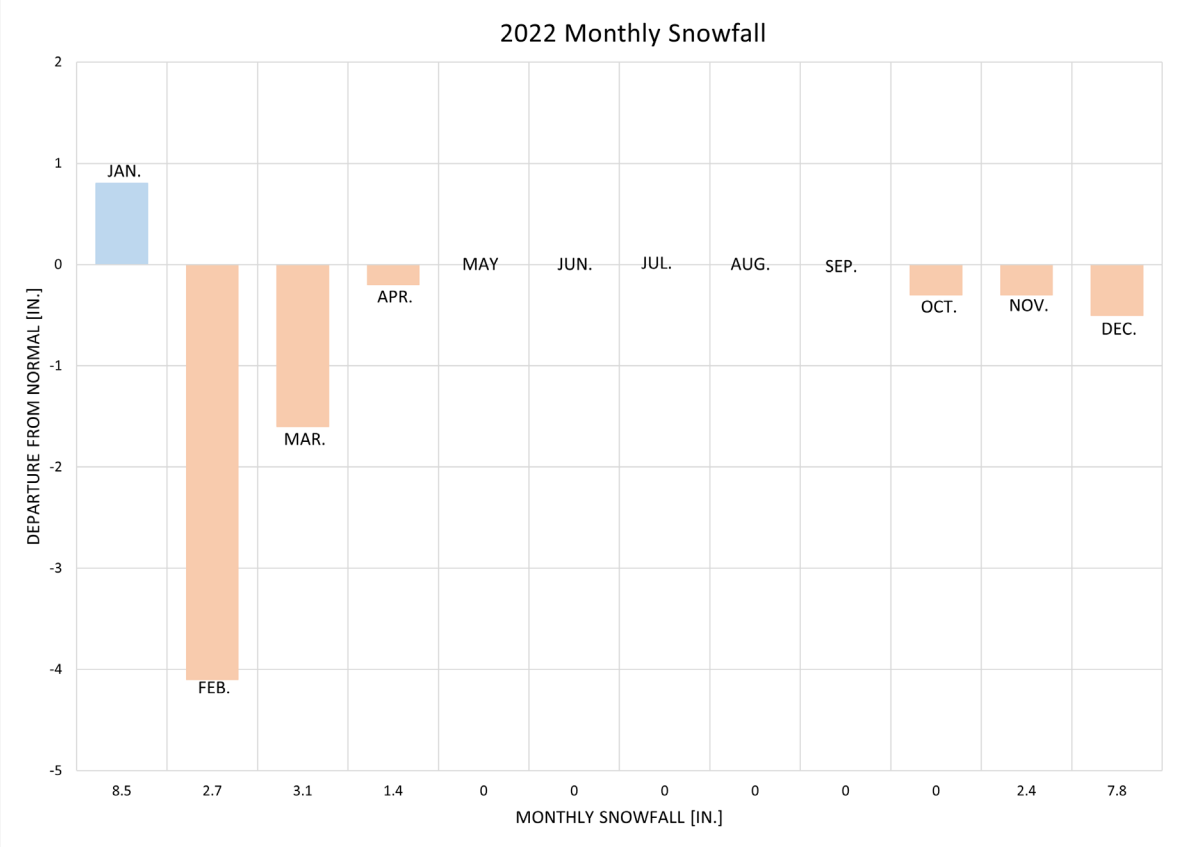
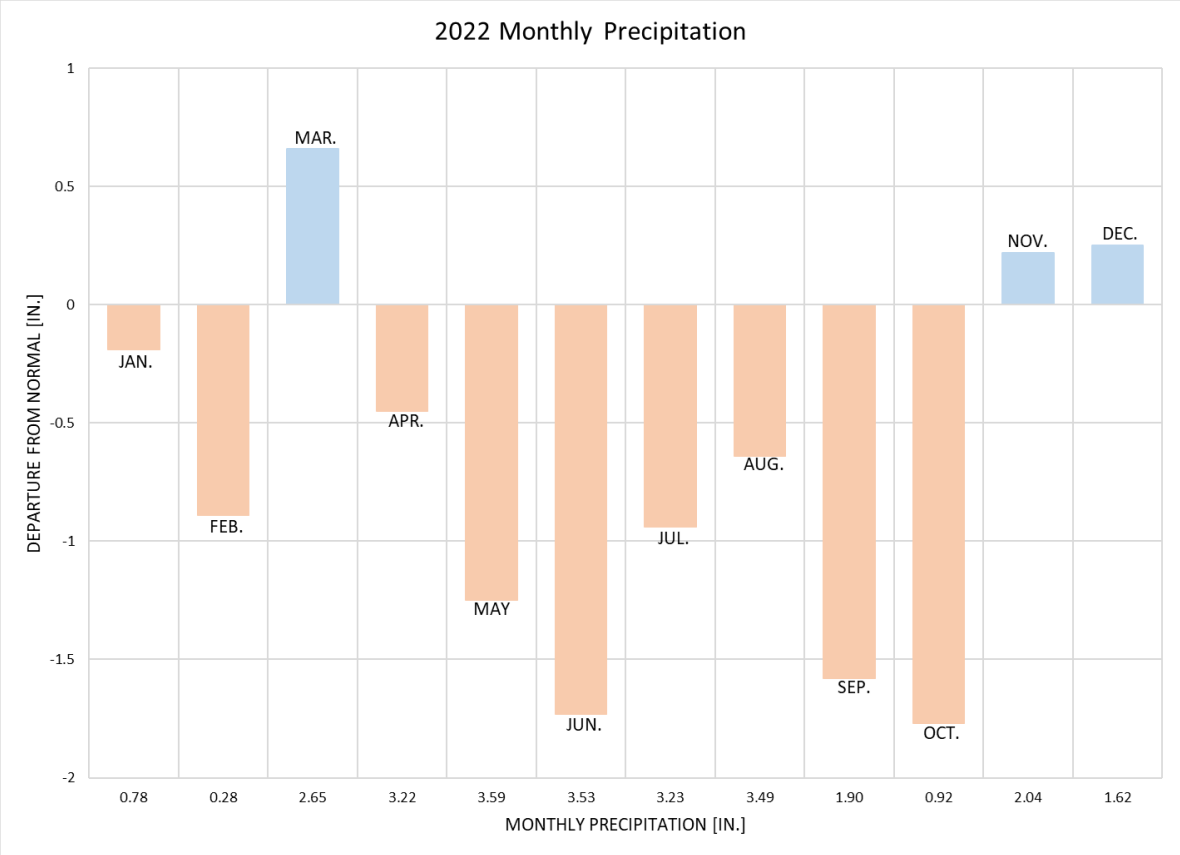
### Divisional Precipitation Rank (128 years)

January - December 2022



Precipitation: In 2022, precipitation was below normal for nine of the 12 months of the year and was significantly below normal during the growing season months. The driest conditions for the year remained in western Iowa where deficits from nine to 15 inches were widespread. A pocket of similar deficits was found in southeastern Iowa. Only a few National Weather Service stations in northeastern Iowa observed near normal to slight above-average totals. Annual minimum and maximum station precipitation totals ranged from 14.90 inches in Sioux Center (Sioux County) to 42.15 inches at a Community Collaborative Rain, Hail and Snow (CoCoRaHS) network rain gauge in Decorah (Winnebago County).

Precipitation for the three winter months of December, January and February (DJF) totaled 1.94 inches, 1.57 inches below normal. In terms of precipitation, DJF ranks as the 16<sup>th</sup> driest; 2002 was drier. The statewide average snowfall was 12.5 inches, 9.6 inches below normal, making it the 23<sup>rd</sup> least snowy winter in 135 years of records with 2002-2003 experiencing less snow.



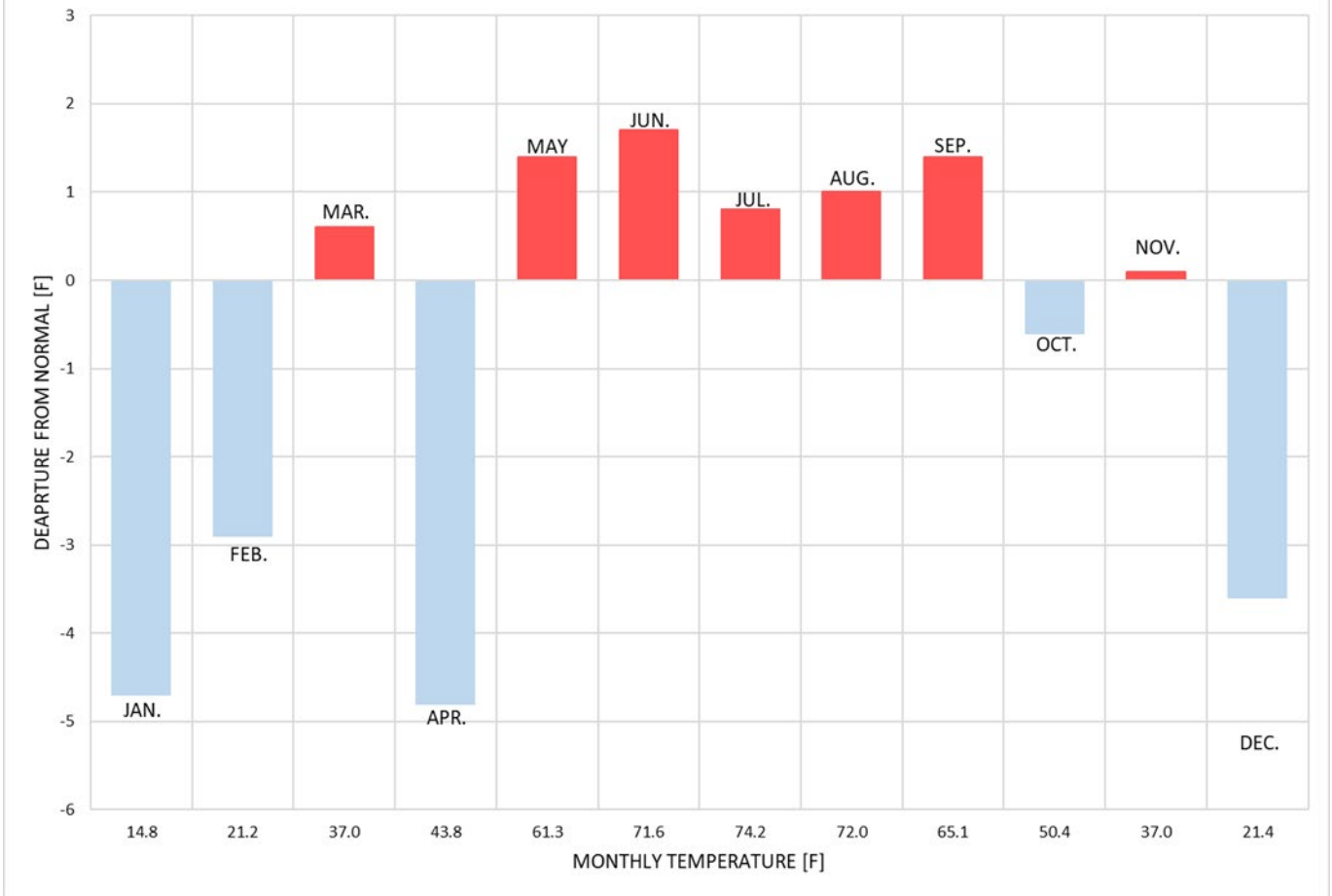
Temperature: Seven months of 2022 had above-average temperatures with May through September averaging 1.2 degrees above normal as drought conditions expanded and intensified across Iowa. Temperatures for the three spring months of March, April and May averaged 47.4 degrees, 0.9 degree below normal. This ties Spring 1915 and 1926 as the 63<sup>rd</sup> warmest on record. Precipitation totaled 9.37 inches or 1.13 inches below normal. Spring 2022 ranks as the 64<sup>th</sup> wettest/87<sup>th</sup> driest in 150 years of records; Spring 2021 was drier while 2019 was wetter and the 10<sup>th</sup> wettest on record. April statewide temperatures averaged 43.8 degrees or 4.9 degrees below normal. April 2022 ranks as the 12<sup>th</sup> coldest April in 150 years of statewide records. A colder April last occurred in 2018, which was also the coldest on record.

A notable early season heat event blanketed much of the central United States during the second week of May as a strong and stable atmospheric thermal ridge built into the region. Combined with southerly winds, temperatures over the next several days would be well-above average with many stations breaking daily record highs and overnight lows. The statewide average temperature from May 9-13 was 74.9 degrees, 15.6 degrees above normal.

Temperatures for the three summer months of June, July and August averaged 72.6 degrees, which is 1.2 degrees above normal. Precipitation totaled 10.18 inches or 3.38 inches below normal. This ties 1970 and 1972 as the 58<sup>th</sup> warmest summer on record. It also ranks as the 29<sup>th</sup> driest summer in 150 years of records. A warmer summer occurred last year while a drier summer occurred in 2020.

Temperatures over the three autumn months (September-October-November) averaged 50.8 degrees or 0.3 degree above normal while precipitation totaled 4.77 inches, 3.22 inches below normal. Fall 2022 ranks as the 77<sup>th</sup> warmest/74<sup>th</sup> coldest fall among the period of record; it was also the 19<sup>th</sup> driest fall on record. Fall 2021 was warmer while 2011 was drier. December temperatures averaged 3.6 degrees below average at 21.4 degrees, ranking as the 50<sup>th</sup> coldest December on record. A notable weather event occurred on the 21<sup>st</sup>-23<sup>rd</sup> as an Arctic blast brought frigid ambient temperatures and wind chills across the Upper Midwest. Blizzard conditions were reported throughout the event with falling snow and snow on the ground in the presence of strong northwesterly winds. Average temperatures through this period were -4.6 degrees, 25.1 degrees below normal.

## 2022 Monthly Temperatures



2022 Statewide Monthly Temperature Extremes							Statewide Monthly Rank*	
Month	Max. Temp.	Day	Location	Min. Temp.	Day	Location	Temperature	Precipitation
January	62	18th	Sioux City A.P.	-30	26	Elkader	38th coldest	44th driest
February	69	28th	Sioux City A.P.	-17	4th	Elkader Rockwell City	65th coldest	6th driest
March	79	21st	Muscatine	-5	12th	Rockwell City Sioux City A.P.	52nd warmest	37th wettest
April	90	12th	Little Sioux	11	1st	Algona	12th coldest	67th wettest
May	100	12th	Little Sioux	29	4th	Several northern stations	53rd warmest	57th driest
June	102	13th	Little Sioux	40	2nd	Cherokee Sioux Rapids	42nd warmest	40th driest
July	100	5th/23rd	Several stations	42	29th	Storm Lake	72nd warmest	52nd driest
August	102	2nd	Sioux City A.P.	47	10th	Anamosa	70th warmest	62nd driest
September	102	20th	Little Sioux	26	28th	Vinton	50th warmest	24th driest
October	88	23rd	Oskaloosa	7	18th	Spencer A.P.	49th coldest	15th driest
November	80	2nd	Lamoni Little Sioux	2	30th	Spencer A.P.	73rd warmest	49th wettest
December	67	29th	Donnellson	-20	22nd	Sibley	50th coldest	34th wettest

Drought Monitor: Iowa began 2022 with about half the state in some form of dryness or drought, but only 12% rated as Moderate Drought (D1). Conditions remained generally steady until March when Severe Drought (D2) was introduced in northwest Iowa. Through the spring months, drought and dryness designations were removed from much of the state, and on June 7 over 70% of Iowa was without Abnormally Dryness (D0) or drought. Extreme Drought (D3) was reintroduced in northwest Iowa at the end of June and on September 6 a small area of Exceptional Drought (D4) pushed across the Nebraska border into Iowa. Conditions continued to deteriorate into November, with drought designations reaching their peak on November 1, when 10% of Iowa designated in D3, 34% in D2, and 44% in D1. D4 conditions, the most severe of the USDM designations, have appeared in Iowa only twice. The first was during the 2012-2013 drought, and the second was in 2022. The year ended with 0.57 percent of Iowa in D4. The highest D4 coverage in Iowa, 2.5 percent, occurred ten years ago, in the fall of 2012.

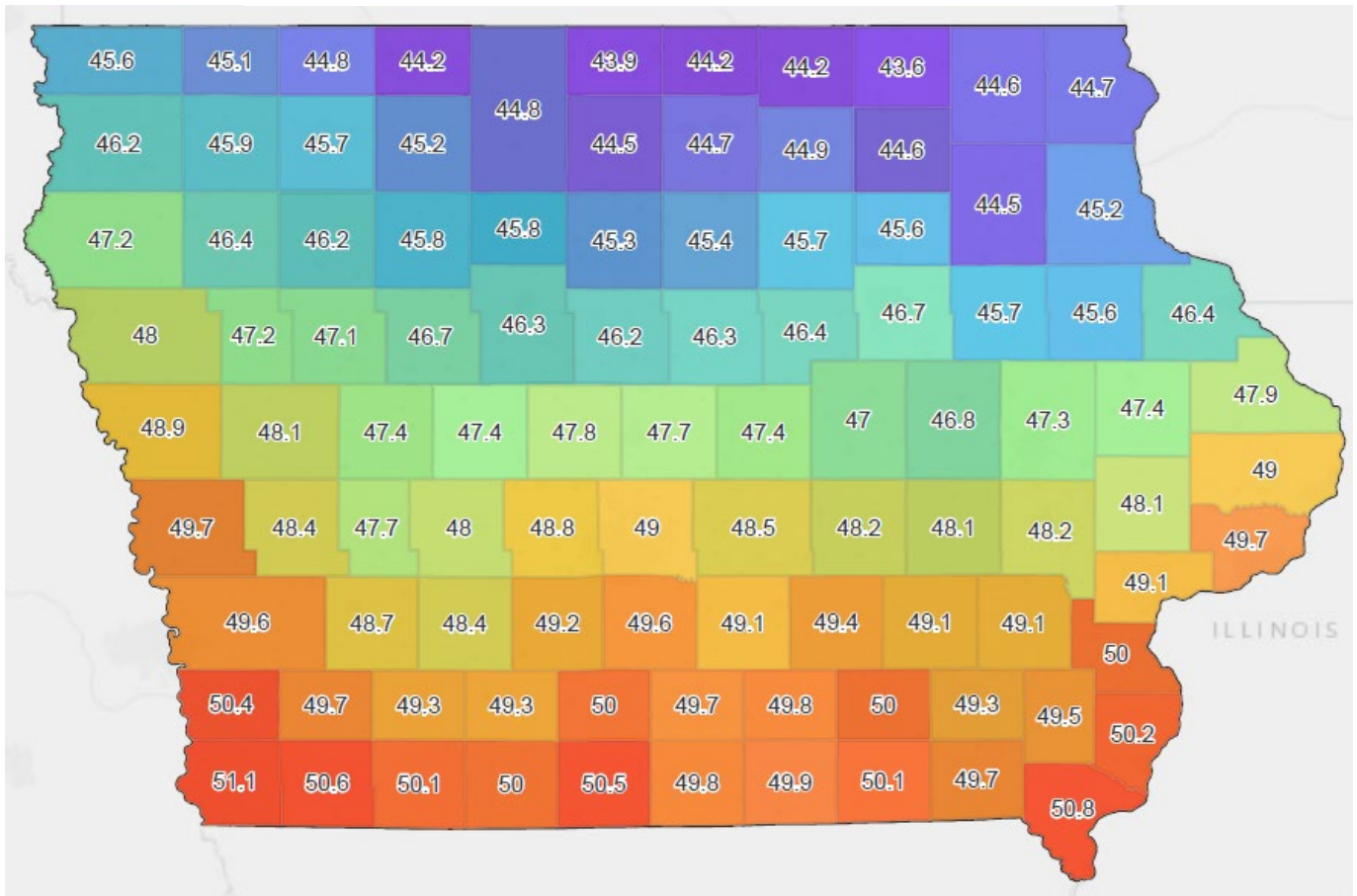
Severe Weather: Three supercell thunderstorms swept across Iowa on March 5<sup>th</sup>, producing several tornadoes. Two supercells in southern Iowa produced three tornadoes. Meanwhile, a single long-track

supercell produced multiple tornadoes from the southwest corner of Iowa through central Iowa and into east central Iowa. The largest tornado moved across Madison, Warren, Polk and Jasper counties for nearly 70 miles and at its peak produced winds of nearly 170 mph. This was the first EF-4 tornado in Iowa since October 4, 2013, which occurred in Woodbury and Cherokee counties. This is the second longest tornado in Iowa since 1980, behind the longest occurring on June 7, 1984, at a length of 117 miles across southern Iowa. Unfortunately, the Winterset EF-4 claimed six lives and the Chariton EF-3 resulted in one fatality. This is the highest loss of life since the Parkersburg EF-5 on May 25, 2008.

May 12 was a remarkable weather day in the Midwest with a late afternoon severe-warned squall line racing northeast through Nebraska and South Dakota, clipping Iowa's northwest corner. The thunderstorm line was classified as a derecho, the third to impact Iowa since 2020. Rain-evaporated cold air outflow in front of the derecho lofted dry topsoil, producing a rare dust storm known as a "haboob." Hot temperatures fed the instability with a statewide average high hitting 93 degrees, 23 degrees above normal.

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## 2021 County-Level Average Temperatures (°F)







## 2022 County-Level Precipitation Totals, Departure from Normal (inches)

