IOWA DEPARTMENT OF AGRICULTURE & LAND STEWARDSHIP

Mike Naig
Secretary of Agriculture

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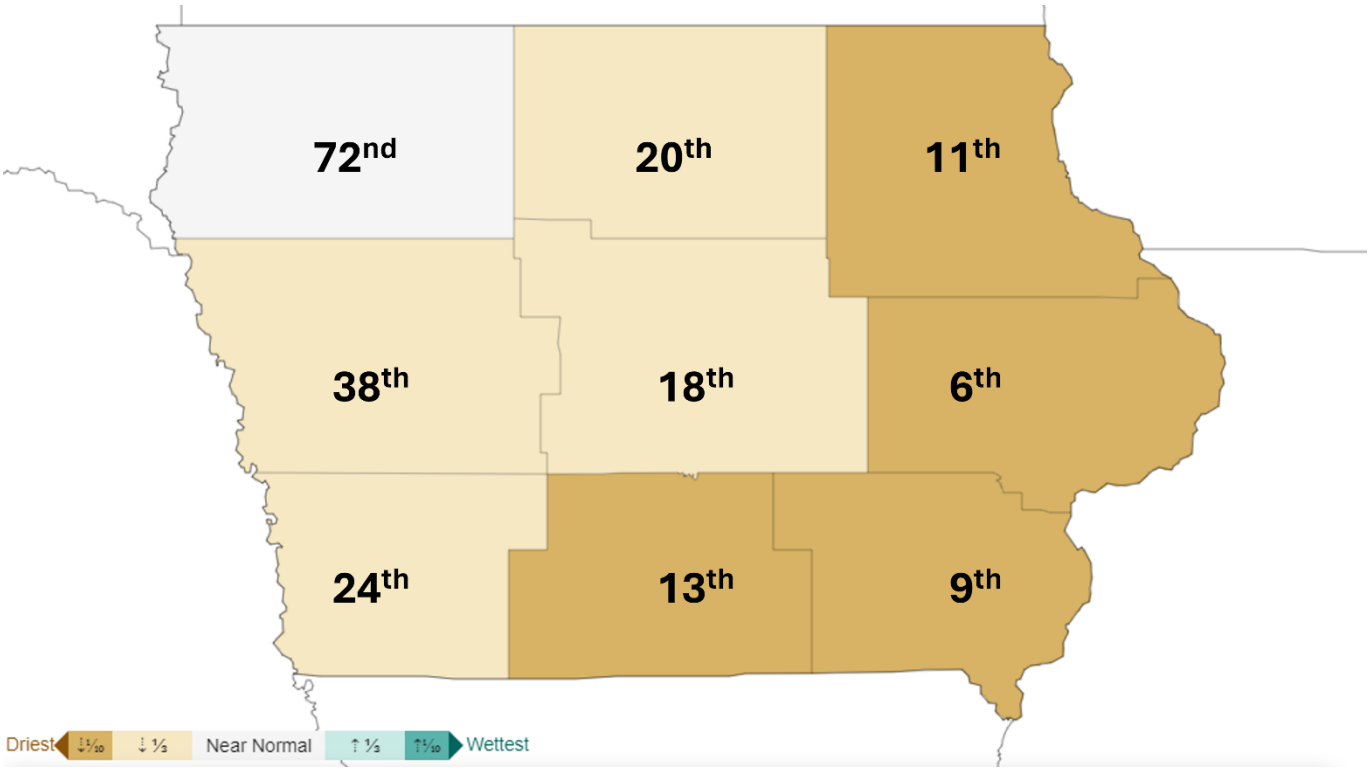
IOWA ANNUAL WEATHER SUMMARY – 2023

General Summary: Statewide annual temperatures averaged 50.6 degrees or 2.2 degrees above normal, tying 2016 as the 10th warmest year on record. Annual precipitation averaged 26.82 inches or 8.73 inches less than normal, ranking as the 22nd driest year on record. A warmer and drier year last occurred in 2012.

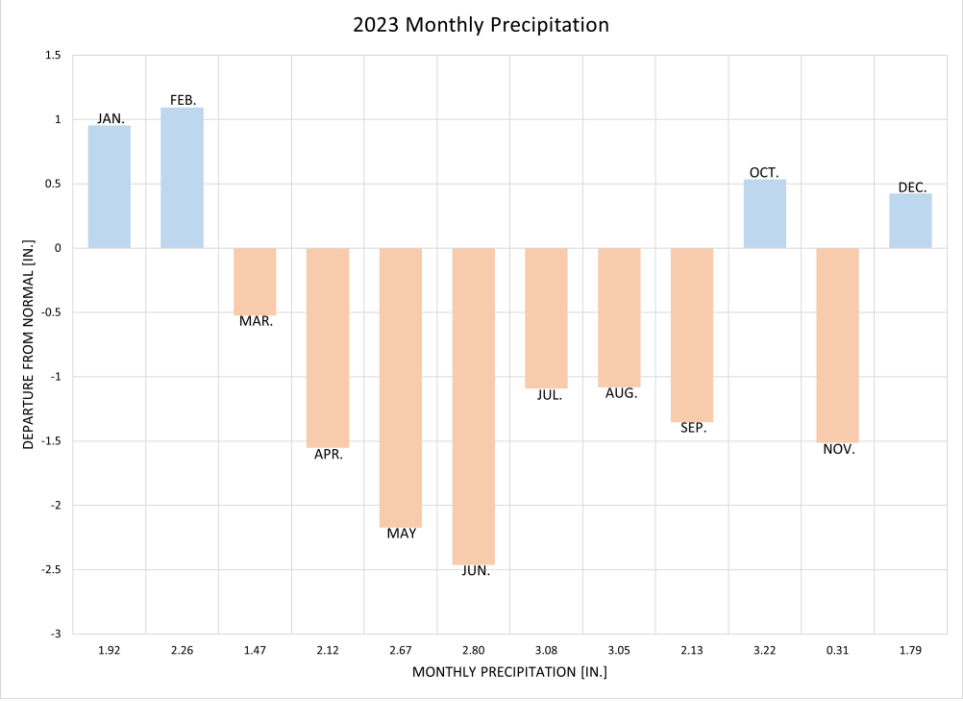


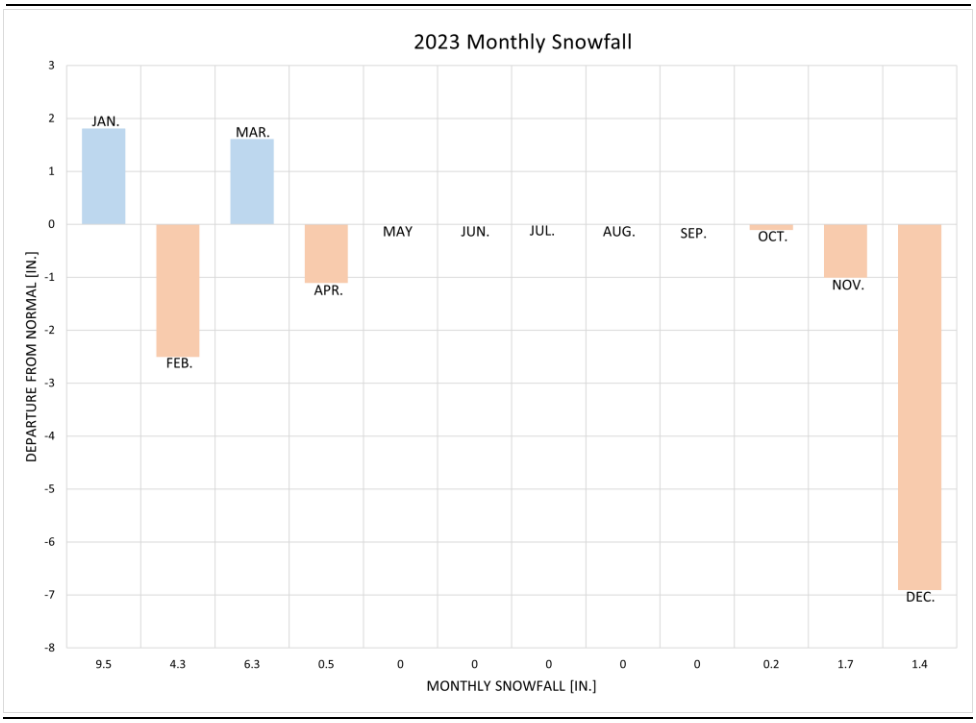
Precipitation: In 2023, precipitation was below normal for eight of the 12 months of the year and was significantly below normal from April through July, which are climatologically the four wettest months. The driest conditions for the year shifted to eastern Iowa were widespread departure of nine to twelve inches were reported; deficits approaching 20 inches were found near Cedar Rapids (Linn County) and Waterloo (Black Hawk County). Only northwestern Iowa observed near normal to slightly above-average totals. Annual minimum and maximum station precipitation totals ranged from 20.47 inches in Cedar Rapids to 43.38 inches at Little Sioux (Harrison County).

Precipitation for the three winter months of December, January and February (DJF) totaled 5.63 inches, 2.12 inches above normal. Winter 2022-2023 ranks as the 4th wettest; 2018 was wetter and the 3rd wettest. The statewide average snowfall was 21.6 inches, 0.5 inch below normal, making it the 57th snowiest winter in 136 years of records with 2020-2021 experiencing more snow.

Precipitation for the three spring months of March, April and May totaled 6.09 inches or 4.41 inches below normal. Spring 2023 ranked as the 16th driest in 151 years of observations; Spring 1994 was drier

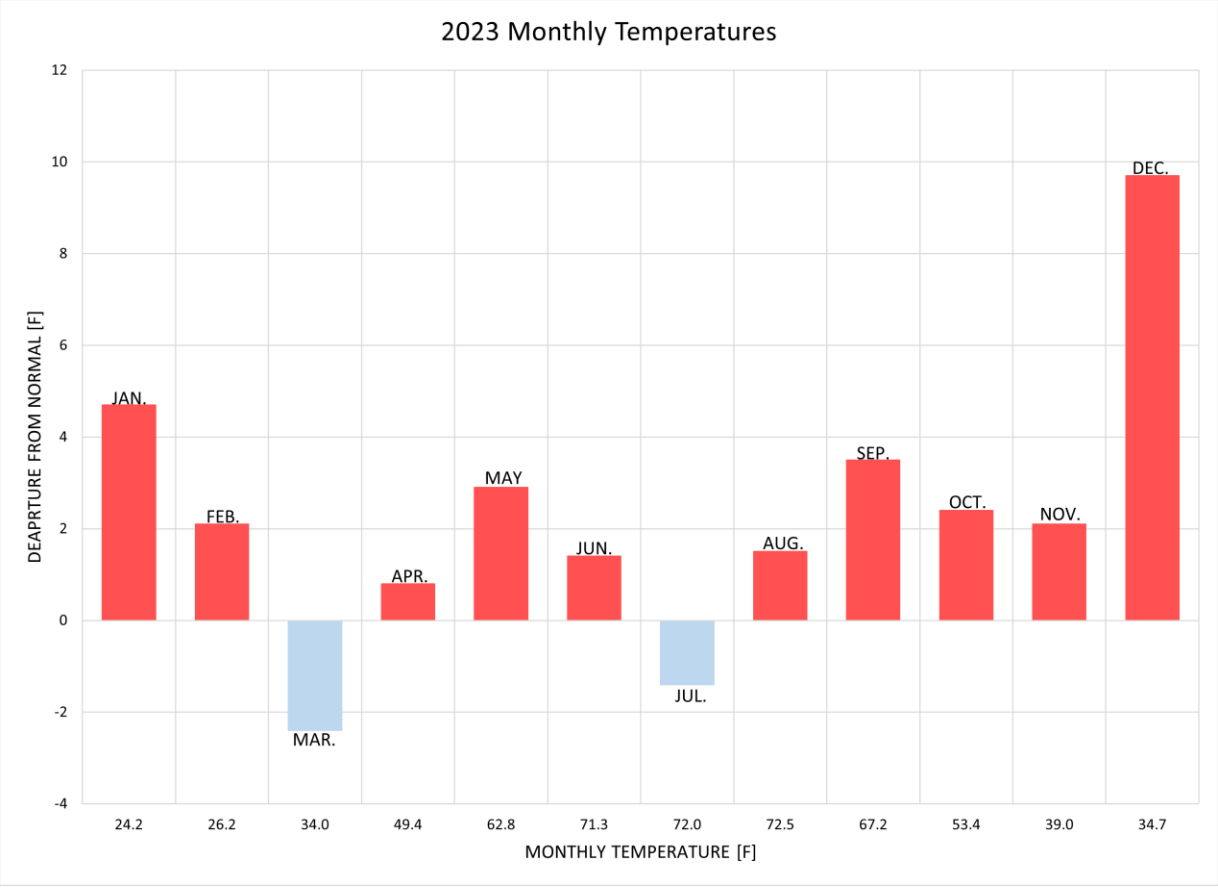
(6th driest). Precipitation for the three summer months of June, July and August totaled 8.90 inches or 4.66 inches below normal, ranking as the 17th driest summer in 151 years of records. Summer 2012 was drier and the 5th driest on record. Precipitation over the three autumn months (September-October-November) totaled 5.61 inches, 2.38 inches below normal. Fall 2023 tied 1895 as the 34th driest fall on record; Fall 2022 was drier. December 2023 ranked as the 27th wettest with a statewide average of 1.79 inches or 0.42 inch more than normal.





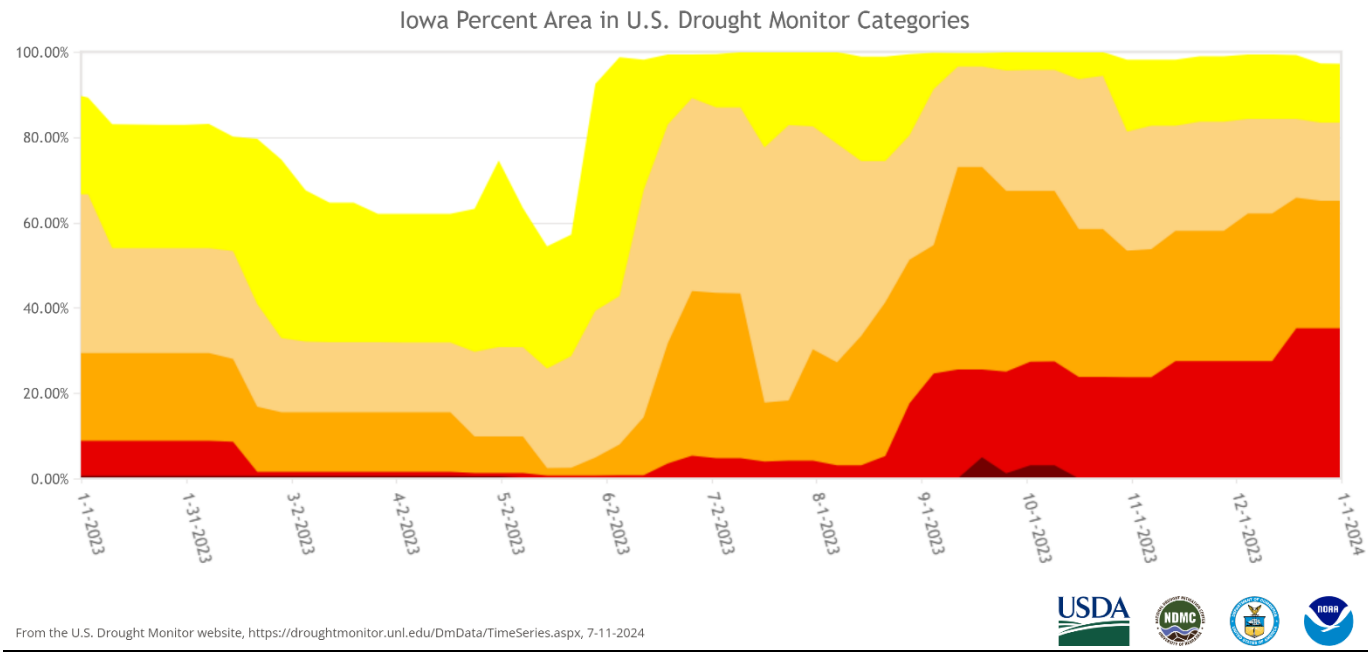
Temperature: Ten months of 2023 had above-average temperatures with May through September averaging 1.2 degrees above normal as drought conditions expanded and intensified across Iowa. Temperatures for the three winter months of December, January and February averaged 23.9 degrees or 1.1 degrees above normal. Winter 2022-2023 ties 1927 and 1957 as the 52nd warmest with a warmer one occurring in 2019. In terms of precipitation, winter ranks as the 4th wettest; 2018 was wetter and the 3rd wettest. The statewide average snowfall was 21.6 inches, 0.5 inch below normal, making it the 57th snowiest winter in 136 years of records with 2020-2021 experiencing more snow.

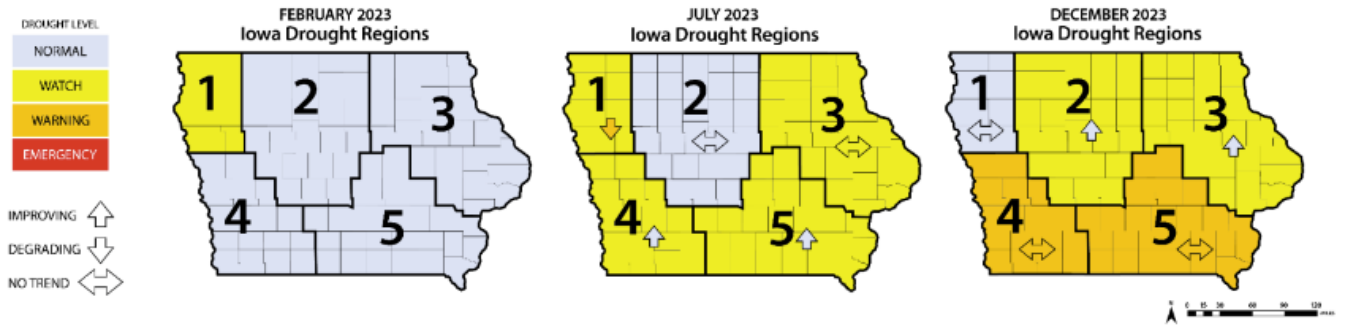
Temperatures for the three spring months of March, April and May averaged 48.7 degrees, 0.4 degree above normal. This ties Spring 1970 as the 62nd warmest on record. Precipitation totaled 6.09 inches or 4.41 inches below normal. This spring ranks as the 16th driest in 151 years of observations; Spring 1994 was drier (6th driest) while 2021 was warmer. Temperatures for the three summer months of June, July and August averaged 71.9 degrees, which is 0.5 degree above normal. Precipitation totaled 8.90 inches or 4.66 inches below normal. This ties several years as the 76th warmest summer on record. It also ranks as the 17th driest summer in 151 years of records. Summer 2022 was warmer while 2012 was drier and the 5th driest on record. Temperatures over the three autumn months (September-October-November) averaged 50.8 degrees or 2.7 degrees above normal while precipitation totaled 5.61 inches, 2.38 inches below normal. Fall 2023 ties 1954, 1990 and 2005 as the 19th warmest fall among the period of record. December temperatures averaged 34.7 degrees or 9.7 degrees above normal, ranking as the 3rd warmest in 151 years of statewide records.



2023 Statewide Monthly Temperature Extremes							Statewide Monthly Rank*	
Month	Max. Temp.	Day	Location	Min. Temp.	Day	Location	Temperature	Precipitation
January	64	17th	Donnellson	-25	30th	Elkader	26th warmest	12th wettest
						Stanley		
February	65	6th	Lamoni A.P.	-17	1st	Elkader	46th warmest	7th wettest
March	81	31st	Ames A.P.	-7	18th	Emmetsburg	67th coldest	46th driest
April	92	12th	Sioux City A.P.	13	6th	Atlantic	71st warmest	36th driest
			Spencer A.P.			Audubon		
May	93	30th/31st	Multiple Stations	25	3rd	Chariton	36th warmest	20th driest
						Vinton		
June	95	24th	Washington	35	12th	Elkader	40th warmest	16th driest
July	101	28th	Keokuk Lock&Dam	42	7th	Vinton	22nd coldest	50th driest
August	105	23rd	Decorah	40	31st	Elkader	53rd warmest	52nd driest
			Waterloo A.P.					
September	102	2nd	Souix City A.P.	36	13th	Mason City A.P.	20th warmest	31st driest
October	95	1st	Spencer A.P.	16	30th	Primghar	48th warmest	46th wettest
November	72	6th	Several stations	-5	28th	Fayette	47th warmest	12th driest
December	64	7th	Donnellson	6	19th	Fayette	3rd warmest	27th wettest
			Keokuk Lock&Dam					

The Iowa Drought Plan (IDP) was implemented in early 2023. The IDP was developed as a collaborative effort between the Department of Natural Resources, the Department of Agriculture and Land Stewardship, and the Department of Homeland Security and Emergency Management. The IDP divides the state into five drought regions, and drought conditions were reported for those regions beginning in March 2023.Conditions can be designated as Normal, Drought Watch, Drought Warning, and Drought Emergency. 2023 began with Drought Region 1 (northwest Iowa) in Drought Warning, and the balance of the state in normal conditions. Over the course of the year the driest areas shifted from northwest Iowa toward southeast Iowa. 2023 ended with Drought Region 1 in normal conditions, Drought Regions 2 and 3 in Drought Watch, and Drought Regions 4 and 5 (southern Iowa) designated as Drought Warning, with conditions generally improving or stable.





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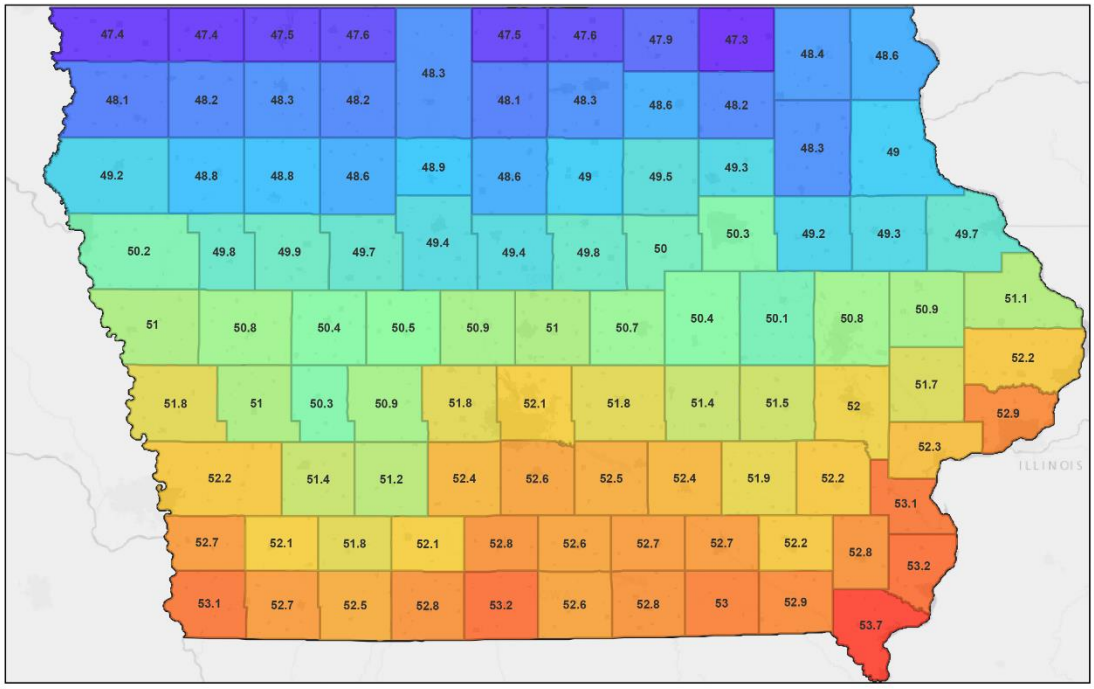
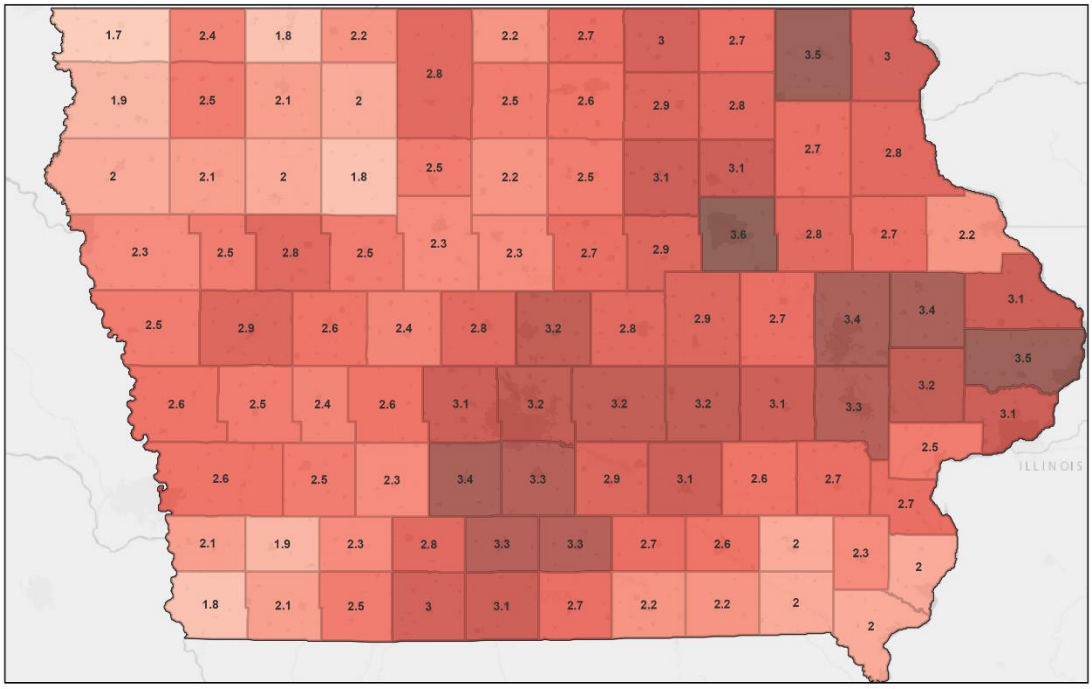
2023 Annual County Average Temperature



2023 Annual County Average Temperature Departure



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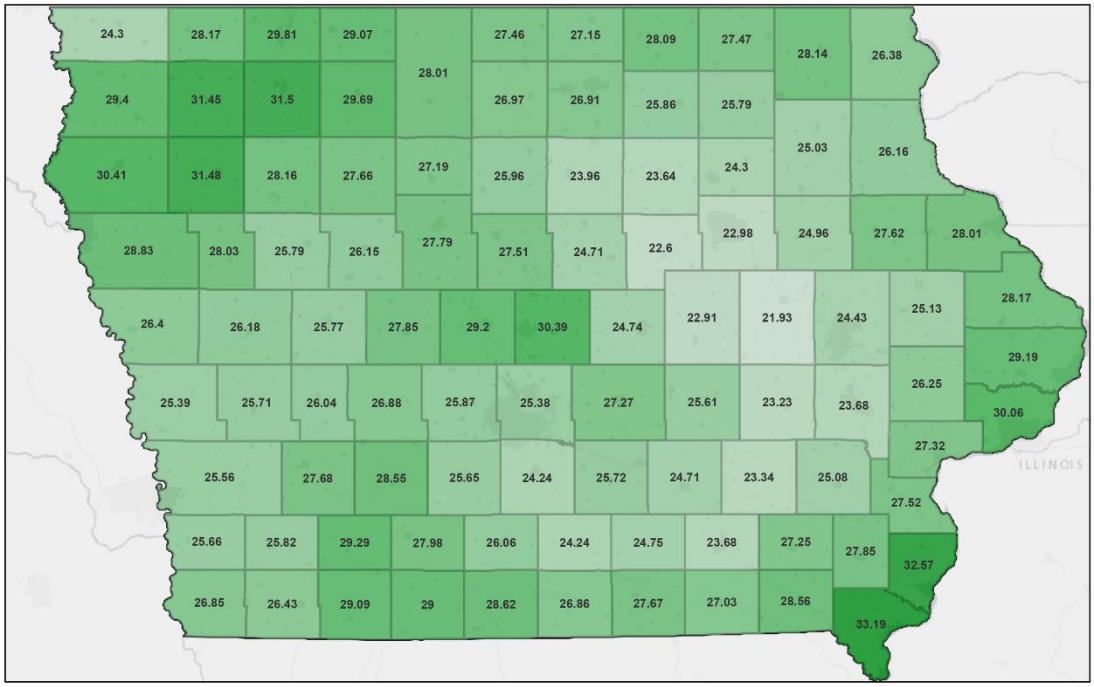
2023 Annual County Average Precipitation [in.]



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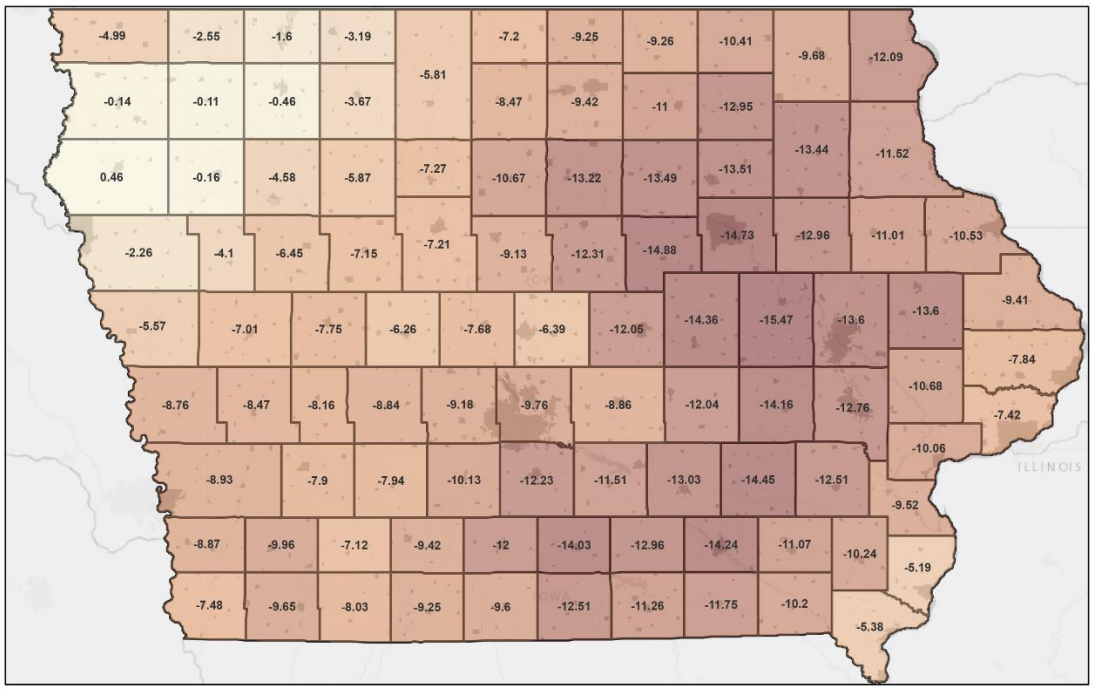
0 15 30 60 mi
0 30 60 120 km
Esri, HERE, Garmin, USGS, EPA, NPS

2023 Annual County Average Precipitation Departure [in.]



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