IOWA DNR
DEPARTMENT OF NATURAL RESOURCES

WATER SUMMARY UPDATE

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A review of water resource trends from 2024

Above-normal precipitation eased drought conditions in 2024. The year ended with 36.87 inches of precipitation, just over an inch above normal. In a flip from 2023, precipitation was above normal for eight of the twelve months of the year. Much of the growing season was unseasonably wet, which ended 204 consecutive weeks of drought somewhere in Iowa, the longest drought since the 1950s. Stream flow returned to normal in 2024. Above-average rainfalls have improved soil moisture across nearly all of the state. The US Drought Monitor showed an easing of drought conditions in the state over the past year, starting with an area of D3-Extreme Drought in northeast Iowa to a small area of D2-Severe Drought in northwest Iowa to end 2024. No D4-Exceptional Drought existed in the state in 2024. The *Iowa Drought Plan* currently shows normal conditions in Iowa. During 2024, Drought Regions 3 (northeast Iowa), 4 (southwest Iowa), and 5 (southeast Iowa) had been consistently in "Drought Watch" or "Drought Warning," but all regions have now returned to normal conditions.

PRECIPITATION AND TEMPERATURE FOR 2024

Based on 152 years of statewide observations, the preliminary annual precipitation for Iowa totaled 36.87 inches, 1.32 inches above normal; this ranks near the 30th wettest on record; a wetter year last occurred in 2019, which is the 12th wettest on record. The statewide average temperature was 51.3 degrees or 2.9 degrees above normal, ranking as the 5th warmest year on record; 2012 was warmer and the 4th warmest.

Winter 2023-2024:

Temperatures for the three winter months of December, January and February averaged 30.7 degrees or 7.8 degrees above normal while precipitation totaled 3.83 inches, 0.32 inches above normal. 2024's winter ranks as the 47th wettest on record. Statewide average snowfall was 20.1 inches, 2.00 inch below normal.

Spring 2024:

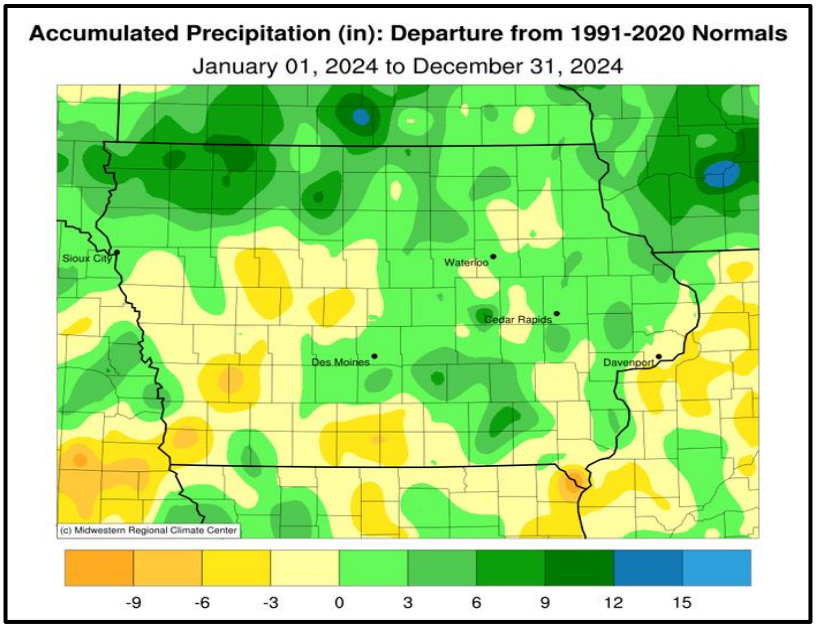
Temperatures for the three spring months of March, April and May averaged 51.1 degrees, 2.8 degrees above normal. Precipitation totaled 14.22 inches or 3.73 inches above normal. This past spring ranks as the 6th driest in 152 years of observations.

Summer 2024:

Temperatures for the three summer months of June, July and August averaged 71.8 degrees, which is 0.4 degrees above normal. Precipitation totaled 13.48 inches or 0.8 inches above normal. The 2024 summer ranks as the 52nd driest summer in 152 years of records.

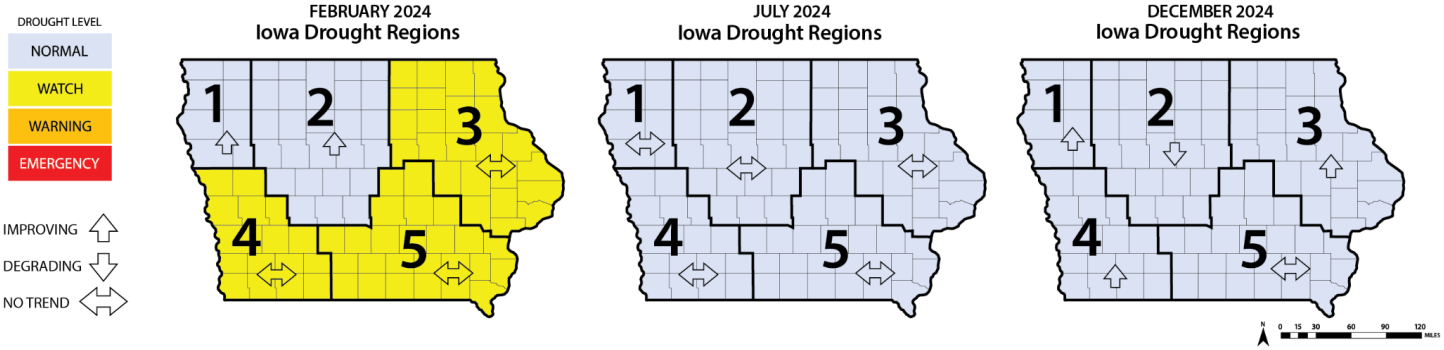
Fall 2024:

Temperatures over the three autumn months (September-October-November) averaged 54.8 degrees or 4.3 degrees above normal while precipitation totaled 5.62 inches, 2.37 inches below normal. Fall 2024 ties 1953 as the 5th warmest fall among the period of record; it also tied 1949 as the 35th driest fall on record. Fall 2016 was warmer while 2022 was drier.

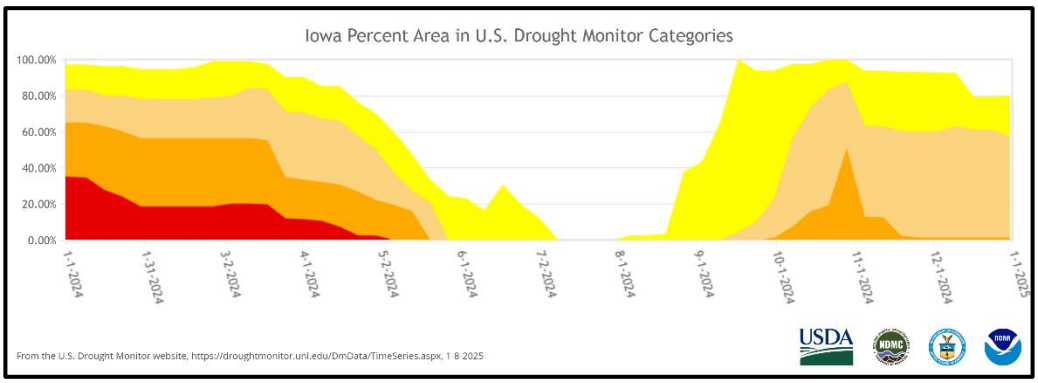


IOWA DROUGHT PLAN FOR 2024

The Iowa Drought Plan (IDP) divides the state into five drought regions, and drought conditions are reported monthly for those regions. IDP categories are Normal, Drought Watch, Drought Warning, and Drought Emergency. 2024 began with Drought Region 3 (northeast Iowa), Region 4 (southwest Iowa), and Region 5 (southeast Iowa) in Drought Watch, and the remaining regions of the state in normal conditions. Throughout the year, higher-than-average monthly rainfall totals resulted in the entire state being classified under normal conditions for seven months. The fall months of 2024 were very dry resulting in a drought watch classification for much of the state. However, above-normal rainfall in November changed the classification in all drought regions to normal to wrap up the year.

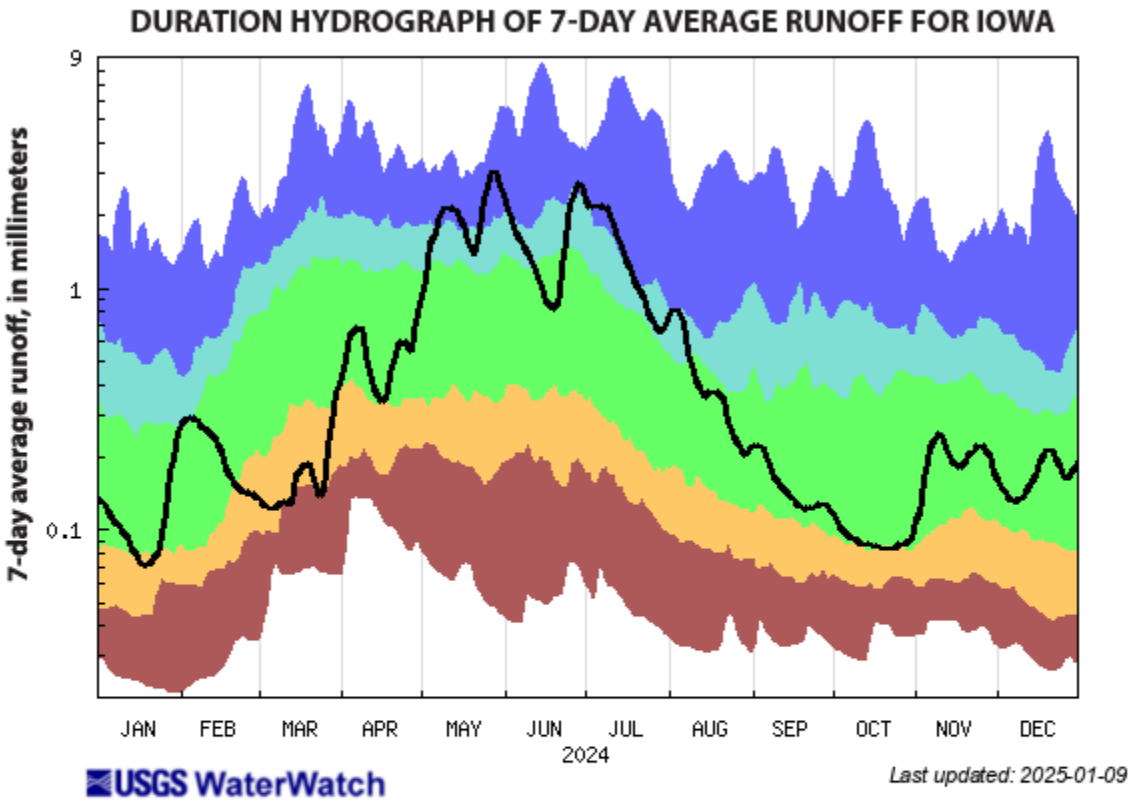


The US Drought Monitor (one of the data sources used in the IDP) shows that Iowa was in drought conditions in early 2024, but returned to D0 or no drought conditions over the summer months. Below is a graph that shows statewide coverage of drought conditions for 2024, starting with nearly the entire state in some form of drought and then no drought conditions in July.



2024 Runoff and Streamflow

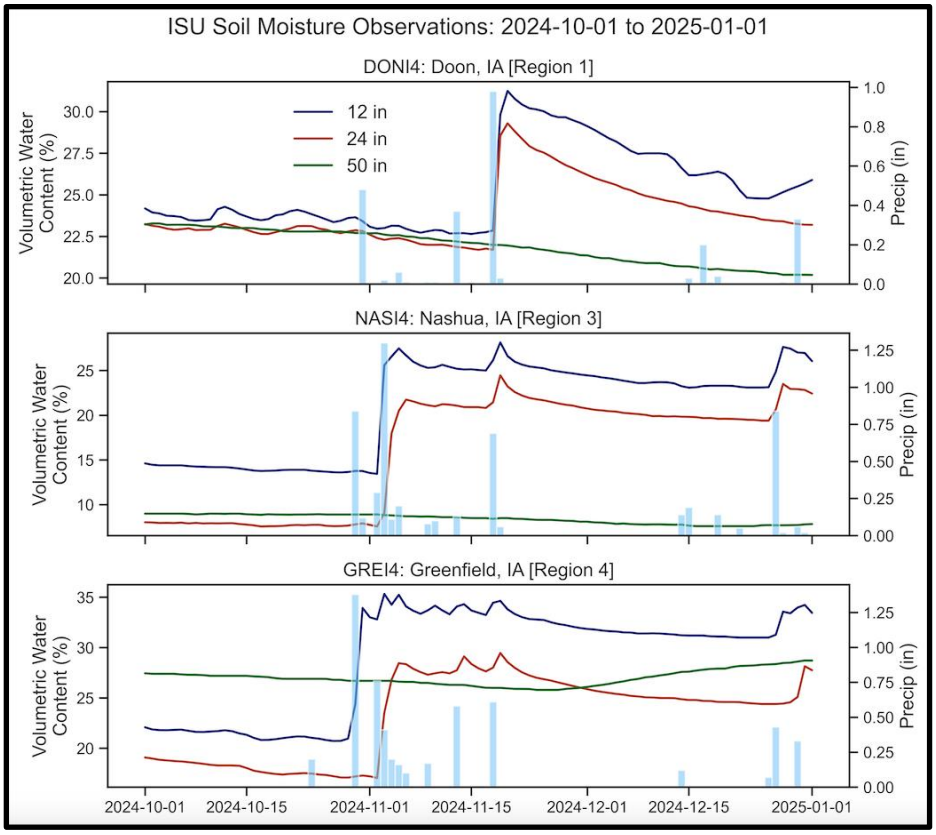
Average streamflow across the state, as shown by the black line in the figure below, started the year in the normal range (the green band) - then increased during the summer months into higher than normal ranges (the blue bands). This was partially driven by the excessive rains that fell during the early summer in northern and northwest Iowa. Average streamflow then decreased during the later summer and fall months, but remained in the normal, increasing with the wetter than normal months of the late fall. 2024 ended with statewide average streamflow in the normal range.



EXPLANATION - PERCENTILE CLASSES					
LOWEST-10TH PERCENTILE	10-24	25-75	76-90	90TH PERCENTILE - HIGHEST	RUNOFF
MUCH BELOW NORMAL	BELOW NORMAL	NORMAL	ABOVE NORMAL	MUCH ABOVE NORMAL	

2024 Soil Moisture

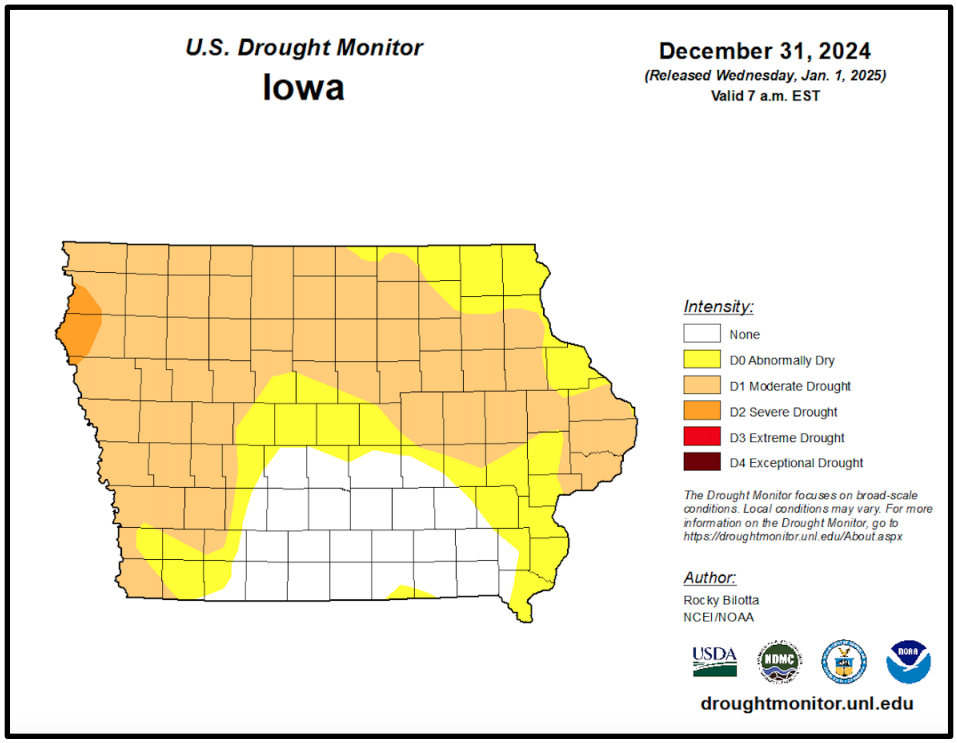
Soil moisture levels improved in 2024 with many months recording above-normal rainfall, this is most notable in eastern and central Iowa. With the wet end to fall 2024, soil moisture conditions improved rapidly and remained at normal levels through the rest of 2024. Soil moisture levels will be unchanged during the winter months, as soils typically remain frozen and show little improvement or degradation until the spring.



MONTHLY CONDITIONS: DECEMBER 2024

Drought Monitor for December 2024

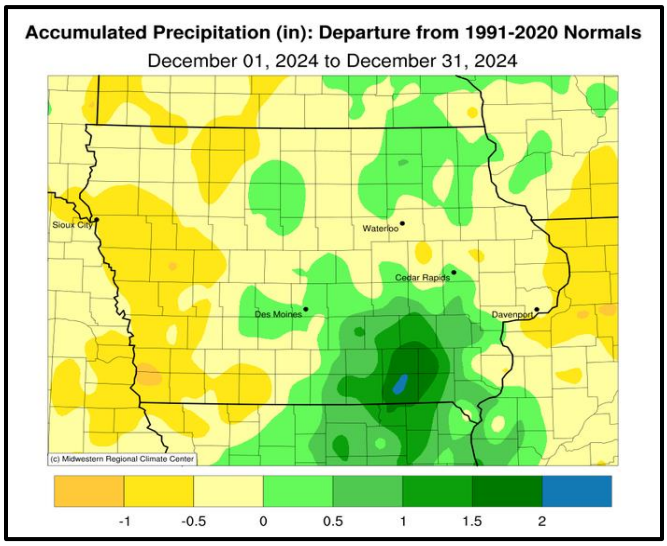
Overall drought and dryness in Iowa deteriorated somewhat in December, with most of the state experiencing some level of dryness or drought. The area of D2 - Severe Drought remained in a small area of northwest Iowa, while the southern part of central Iowa and southeastern Iowa showed no dryness or drought. The D3 coverage remained the same at 1.3 percent of Iowa during the month of December.

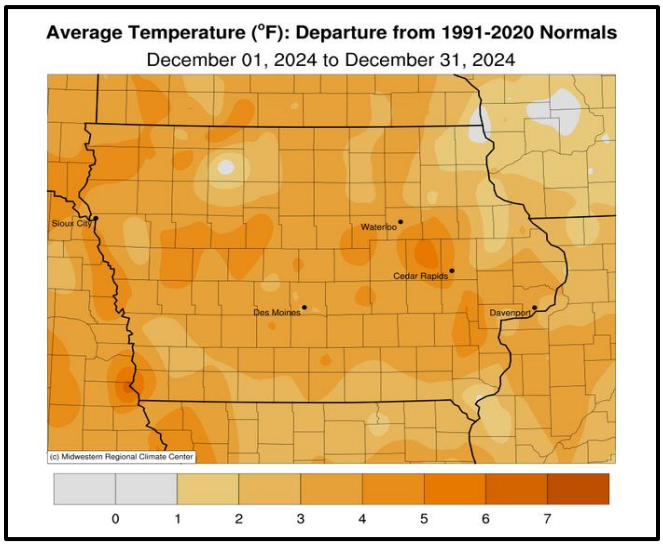


Precipitation and Temperature for December 2024

Precipitation for December was 1.40 inches, or 0.03 inches above normal. Stations across northeastern and south-central to southeastern Iowa reported positive departures. Most of western Iowa reported dry conditions with deficits approaching 0.50-1.00 inch at many stations. The statewide average snowfall was 2.3 inches, 5.6 inches below normal.

Monthly average temperatures were above normal statewide with the warmest conditions reported across the middle of the state. Several stations reported the month's high temperature of 65 degrees on the 7th, on average 28 degrees above normal. Multiple stations reported the month's low temperature of -8 degrees on the 12th and 21st, on average 22 degrees below normal.





Streamflow Conditions for December 2024

During December, streamflow levels decreased in portions of Des Moines, Boone, and Middle Raccoon to below-normal conditions. The Blue Earth River has moved into above-normal conditions in north-central Iowa. The majority of the state remains in normal flow conditions.

ADDITIONAL INFORMATION

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