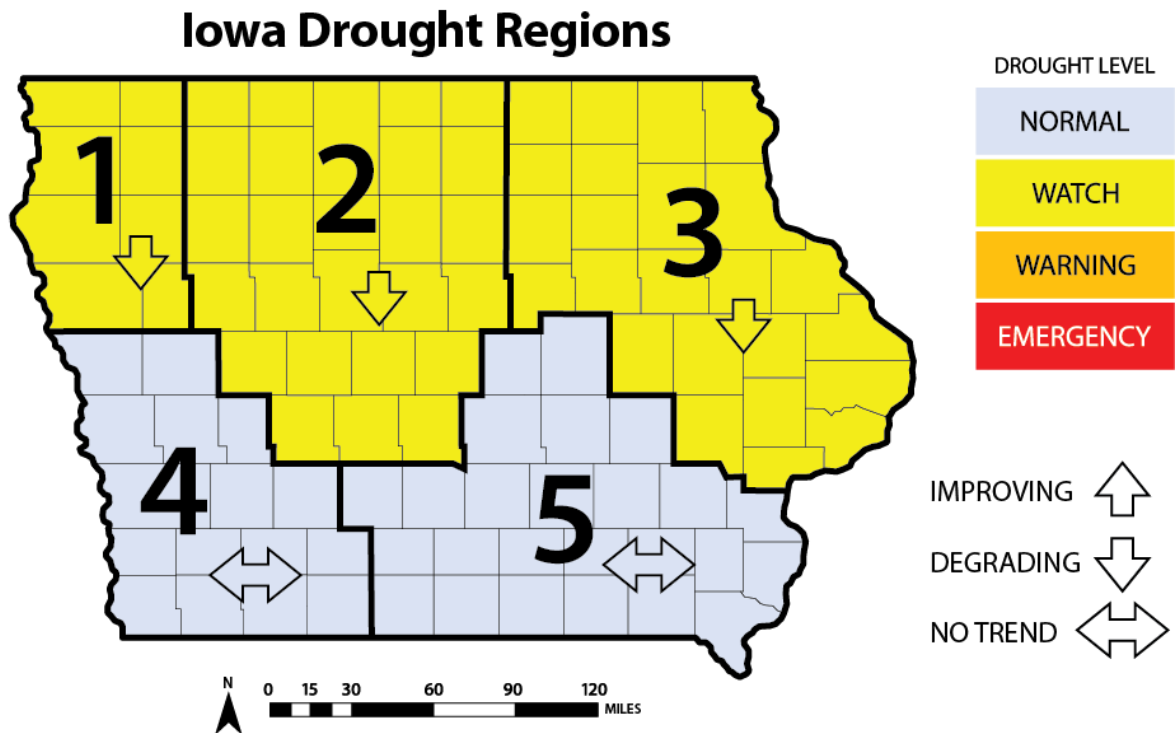


WATER SUMMARY UPDATE

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A snapshot of water resource trends for February 2025

IOWA DROUGHT CONDITIONS



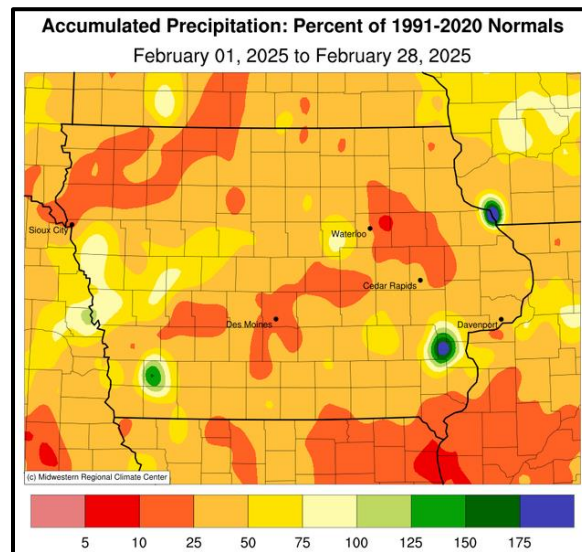
CONDITION SUMMARY - DRY JANUARY AND FEBRUARY

For the second consecutive month, Iowa saw below normal precipitation totals during Iowa's typically driest part of the year. D1 - Moderate Drought conditions expanded in central Iowa while remaining stable across the rest of the state due to a dry January and February. Above-normal precipitation in November and December helped maintain mostly stable drought conditions until now. Soil moisture and stream flows are considered normal despite some deterioration in January and February. The final March precipitation outlook issued by the National Weather Service's Climate Prediction Center (CPC) indicates a slight chance for above-average precipitation for the eastern half of Iowa.

February Precipitation and Temperature

Iowa's preliminary statewide precipitation totaled 0.42 inches, or 0.75 inches below normal. Iowa's National Weather Service (NWS) co-op stations reported below-normal precipitation with the driest conditions in eastern and southern Iowa; many stations reported deficits of at least 0.75 inch. Monthly precipitation totals ranged from 0.10 inch at several stations to 1.72 inches in Parnell. The statewide average snowfall was 4.8 inches, 2.0 inches below normal. The highest snowfall total of 17.0 inches was observed at Little Sioux.

The statewide average temperature was 20.2 degrees, 3.9 degrees below normal. Red Oak reported the month's high temperature of 67 degrees on the 24th, 25 degrees above normal. Fayette and Pocahontas reported the month's low temperature of -23 degrees on the 18th, on average 33 degrees below normal.



Standardized Precipitation Index (SPI)

The SPI is an index based on accumulated precipitation for various time scales. SPI is the most commonly used indicator worldwide for detecting and characterizing meteorological droughts. The SPI indicator measures precipitation differences based on a comparison of observed total precipitation amounts over the period of interest with the long-term historical precipitation record for that period. Droughts are characterized by negative SPI values, while positive SPI values indicate wet periods. The range of SPI values is between -3 and +3, denoting “extremely dry” to “extremely wet”.

90-day SPI values for all Drought Regions in February (comparing December, January, and February precipitation) are below zero. 180-day SPI values are all negative, with only Drought Regions 3, 4, and 5 degrading slightly.

Drought Region	3-month SPI	6-month SPI	IDP Classification ↑ = improving ↓ = degrading ↔ = no trend
1	-1.5	-1.2	Drought Watch ↓
2	-1.2	-0.9	Drought Watch ↓
3	-1.2	-0.9	Drought Watch ↓
4	-1.1	-0.6	Normal ↓
5	-0.5	-0.6	Normal ↓

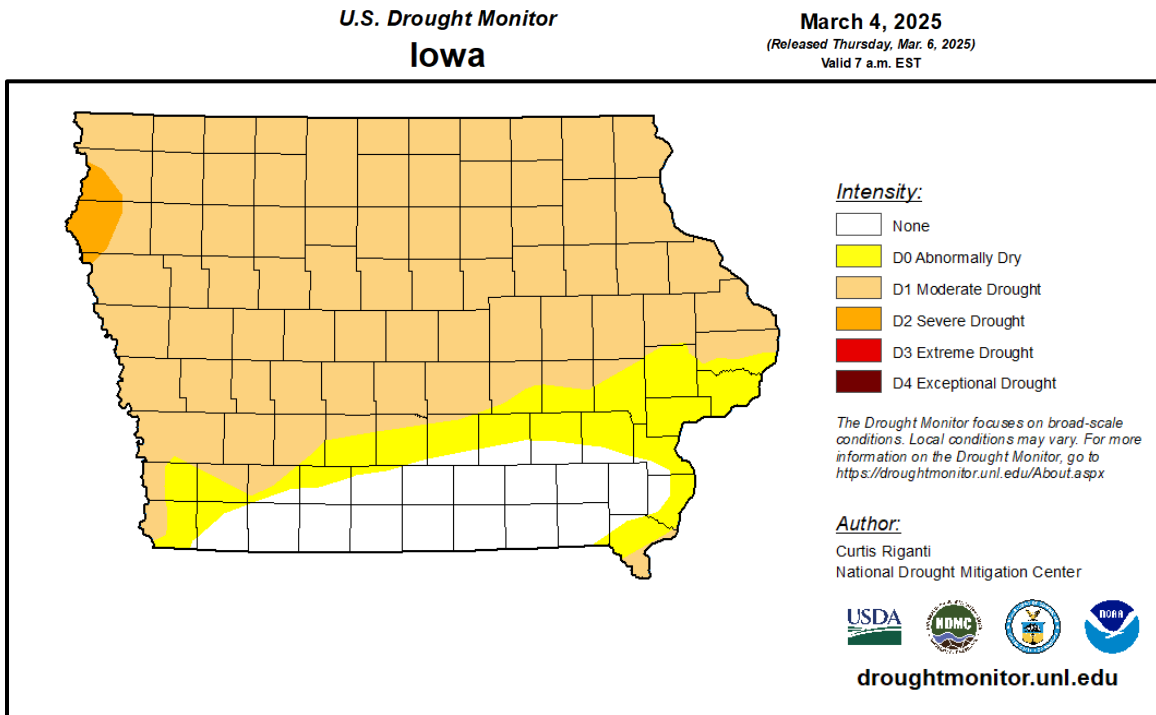
Standardized Streamflow Index (SSI) and Streamflow

SSI is a metric that compares current streamflow against the historical record to determine how far away the current streamflow value is from the river's historical mean observed on the same date. SSI values in four of the five drought regions have degraded, with Drought Region 5 having a slightly higher value.

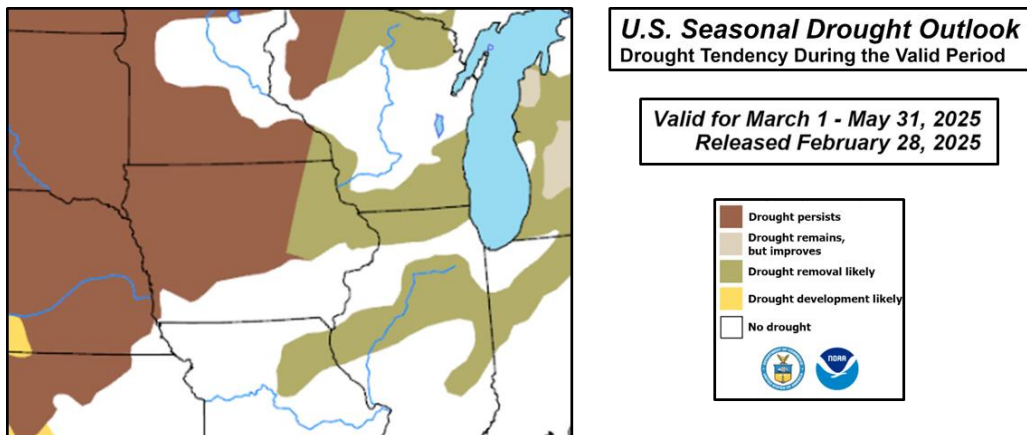
According to the US Geological Survey, in February, streamflow decreased in the Des Moines, Lower Iowa, and Tarkio Rivers to below-normal and much below-normal conditions. The majority of the state remains in normal flow conditions. It should be noted that during the winter season, USGS streamflow data may be impacted by ice formation and backwater.

US DROUGHT MONITOR AND DROUGHT CONDITIONS

The current US Drought Monitor (USDM) shows some degradation but otherwise similar drought conditions compared to January’s map published in the February Water Summary Update. However, drought conditions improved compared to the end of October. The area of the state classified in D1-Moderate Drought expanded to 73 percent, while the areas of D2 - Severe Drought and D0 - Abnormally Dry remained largely unchanged at one percent and 86 percent, respectively. At the end of February, less than 15 percent of the state was rated as free from drought and dryness. Degradation of conditions occurred in a small pocket of eastern Iowa and throughout central Iowa. An unseasonably dry January and February, which are already the driest months of the year, explains the continued and expanded drought conditions. The most recent USDM, released on March 6, shows a continuation in conditions across portions of the state.



The Seasonal Drought Outlook released on February 28 by the CPC, valid through May 31, 2025, shows the potential for drought persistence in the western, northwestern, central and north central portions of Iowa, and no drought or removal over the rest of the state. This outlook considers the impacts of recent precipitation as well as seasonal precipitation outlooks. Drought conditions tend to be stable during the winter months, so improvement or removal is seen as a positive development.



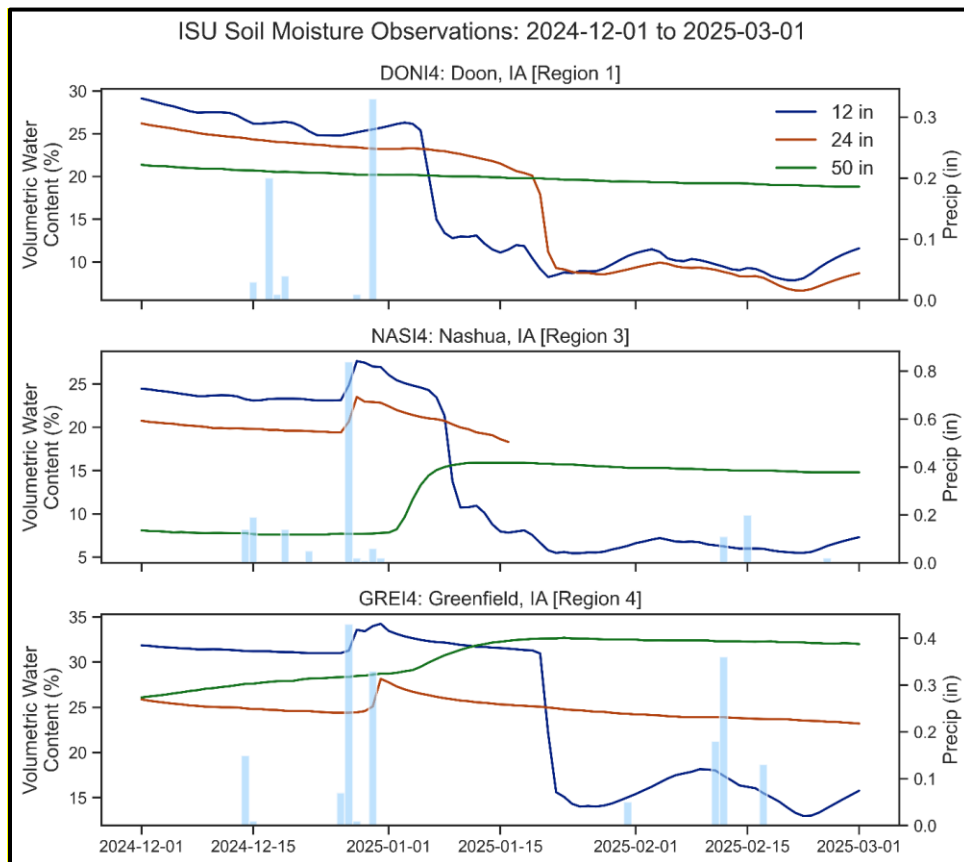
OTHER WATER RESOURCE INFORMATION

Border River Conditions

Current conditions on both the Missouri and Mississippi Rivers show generally normal flows. On March 6, 2025, the US Army Corps of Engineers (USACE) reported that the 2025 calendar year runoff forecast for the Missouri River Basin above Sioux City continues to be below average at 22.1 Million Acre-Feet (MAF), or just 86% of average. The Corps indicated that the volume of water stored in the system of reservoirs is 50.4 MAF, slightly below normal for this time of year. Storage should be slightly below normal levels by the end of the calendar year, which will allow for flood storage in 2025.

February Soil Moisture

The Iowa Geological Survey reports that surface soil moisture conditions across the state continue to be considerably lower than in December. This is consistent with the absence of precipitation in January and February, as seen in the figure below. Additionally, soil moisture sensors can misinterpret frozen water as very dry soil.



ADDITIONAL INFORMATION

This edition of the Water Summary Update continues to reflect use of the 2023 Iowa Drought Plan (IDP), which 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 can be seen in its entirety on the DNR's website: [The Iowa Drought Plan](#).

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