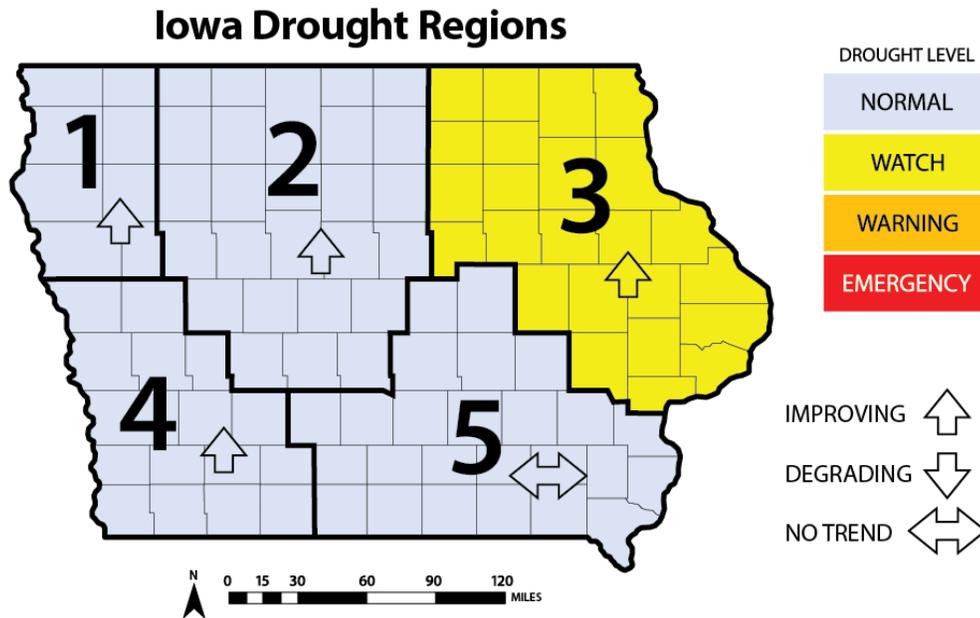


WATER SUMMARY UPDATE

Published Date April 10, 2025 | Issue 166

A snapshot of water resource trends for March 2025

IOWA DROUGHT CONDITIONS



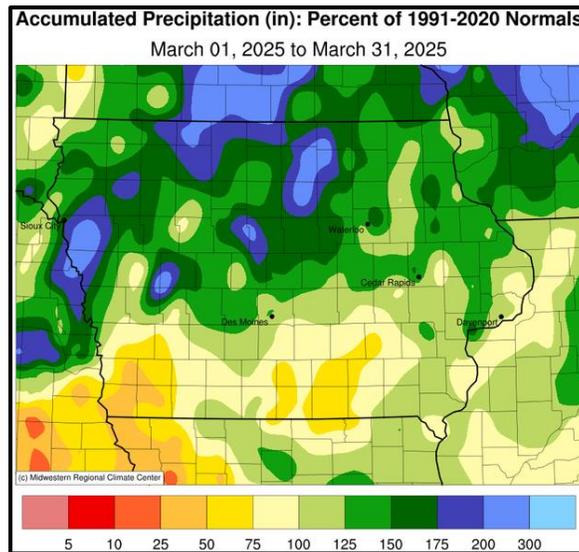
CONDITION SUMMARY - ABOVE NORMAL PRECIPITATION IN MARCH

For the first time since December 2024, Iowa saw above normal precipitation totals in March, which improved drought conditions across most of the state. The area of D2 - Severe Drought in northwest Iowa was removed, while D1 - Moderate Drought and D0 - Abnormally Dry conditions improved mostly in northwest and central Iowa. Soil moisture and stream flows are considered normal despite some deterioration in recent months. The final April precipitation outlook issued by the National Weather Service's Climate Prediction Center (CPC) indicates an equal chance for above, below, or near-average precipitation across the state.

March Precipitation and Temperature

Iowa's statewide precipitation totaled 2.57 inches, or 0.58 inches above normal. Most of Iowa's National Weather Service (NWS) stations across the northern two-thirds of the state reported at least 125% of normal precipitation with pockets of 200-300% of normal in north-central and western Iowa. Monthly precipitation totals ranged from 0.59 inches in Clarinda to 5.00 inches at a gauge near Webster City. The statewide average snowfall was 4.0 inches, 0.7 inches below normal.

The statewide average temperature was 42.7 degrees, 6.3 degrees above normal. Sioux City Airport reported the month's high temperature of 89 degrees on the 28th, 35 degrees above normal. Elkader and Vinton reported the month's low temperature of nine degrees on the 2nd, on average 10 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 March (comparing January, February, March precipitation) range from +0.3 to -0.5, with most values below zero. 180-day SPI values are nearly all positive, with only Drought Regions 5 with no trend.

Drought Region	3-month SPI	6-month SPI	IDP Classification ↑ = improving ↓ = degrading ↔ = no trend
1	0.2	0.4	Normal ↑
2	0.3	0.7	Normal ↑
3	-0.4	0.5	Drought Watch ↑
4	-0.4	-0.6	Normal ↑
5	-0.5	0.5	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 improved, with Drought Region 5 having a slightly lower value.

According to the US Geological Survey, in March, streamflow increased in the Des Moines, Lower Iowa, and Tarkio Rivers to below-normal conditions. The Wapsipinicon, Volga, Upper Iowa, Rock, Floyd, Little Sioux, and Ocheyedan decreased to below-normal conditions. The Bloody Run and Yellow Rivers remained in a much below-normal condition. The majority of the state remains in normal flow conditions.

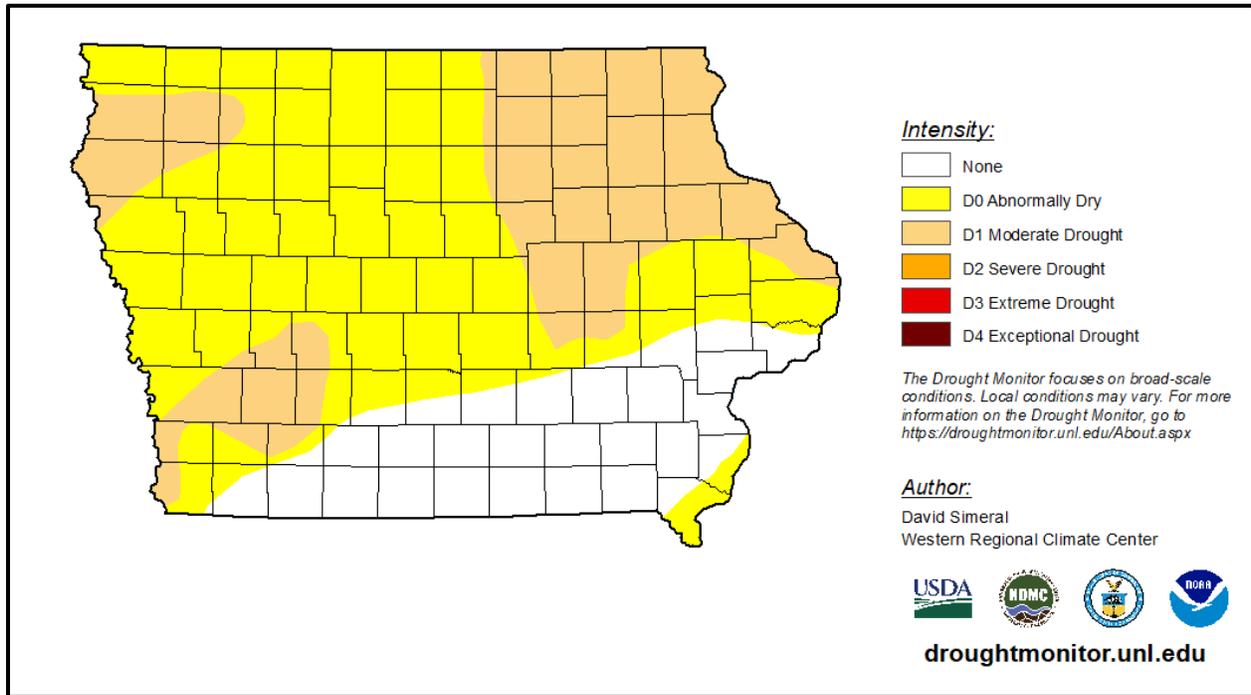
US DROUGHT MONITOR AND DROUGHT CONDITIONS

The current US Drought Monitor (USDM) shows improvement in most areas of the state, particularly in central and northwest Iowa. By the end of March, the entire area of the state classified in D2 - Severe Drought had been upgraded to D1-Moderate Drought and D0 - Abnormally Dry. Additionally, the areas of D1 and D0 decreased to 35 percent and 80

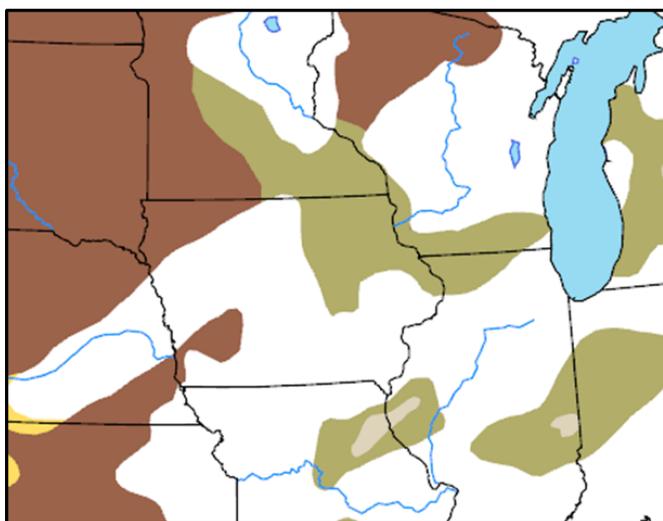
percent, respectively. Rainfall during the first week of April aided the progress in northwest Iowa. Just over 20 percent of the state was rated as free from drought and dryness through the beginning of April. The above normal precipitation in March explains the improved drought conditions. The most recent USDM, released on April 8, shows a continuation in conditions across portions of the state.

U.S. Drought Monitor
Iowa

April 8, 2025
(Released Thursday, Apr. 10, 2025)
Valid 8 a.m. EDT

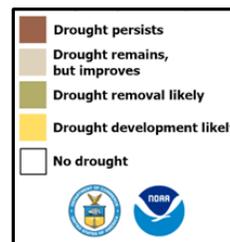


The Seasonal Drought Outlook released on March 31 by the CPC, valid through June 30, 2025, shows the potential for drought persistence in the northwestern and southwestern portions of Iowa, and no drought or removal over the rest of the state. This outlook considers the impacts of recent precipitation as well as seasonal precipitation outlooks.



U.S. Seasonal Drought Outlook
Drought Tendency During the Valid Period

Valid for April 1 - June 30, 2025
Released March 31, 2025



OTHER WATER RESOURCE INFORMATION

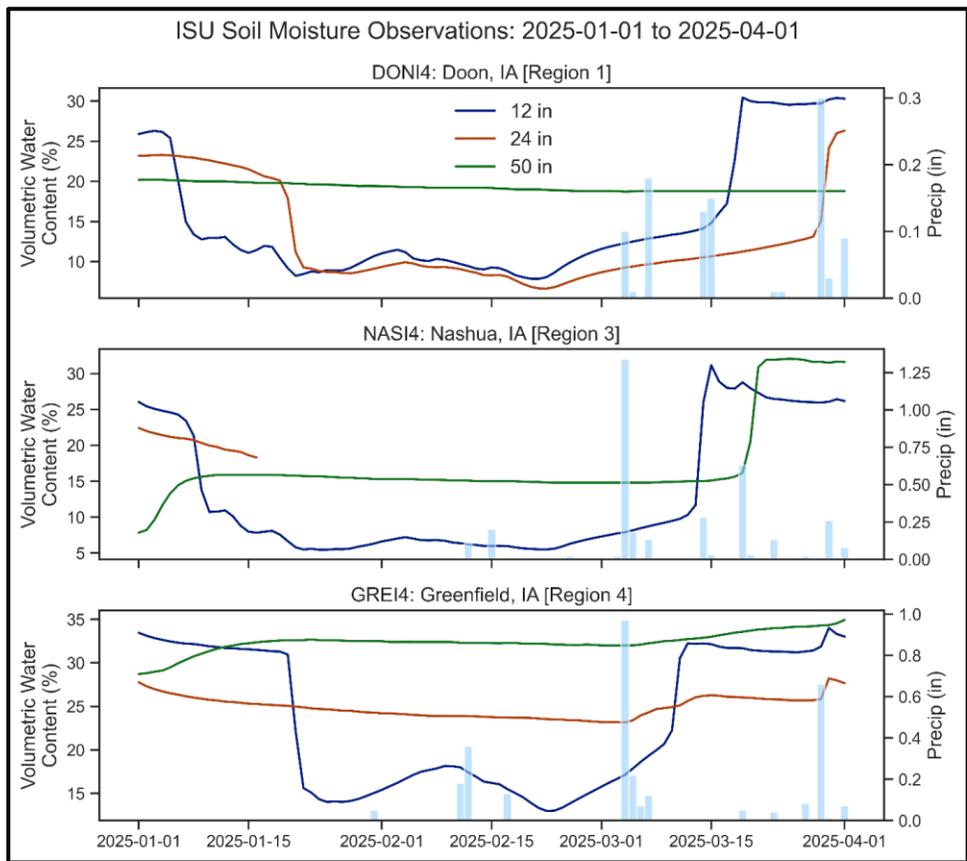
Border River Conditions

In their weekly update of Missouri River conditions dated April 9, 2025, the Army Corps of Engineers (USACE) indicates that the volume of water stored in the system of reservoirs is 50.8 Million Acre-Feet (MAF), slightly below normal for

this time of year, and about the same volume as last month. Runoff for the month of March was 76 percent of average. The forecast for the calendar year for runoff above Sioux City is 21.9 MAF, or just 85 percent of average. Mountain snowpack has recovered over the last month, and stands at about 94 percent of normal for this time of year.

March Soil Moisture

The Iowa Geological Survey reports that surface soil moisture conditions across the state have started to return to conditions similar to December. This is consistent with the warmer temperatures and above normal precipitation in March, as seen in the figure below.



However, soil profiles across portions of southwest and eastern Iowa are drier than normal for this time of year. As agricultural demand ramps up through the growing season along with increased atmospheric demand from warmer temperatures, near-normal to above average rainfall will be needed to replenish profiles.

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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