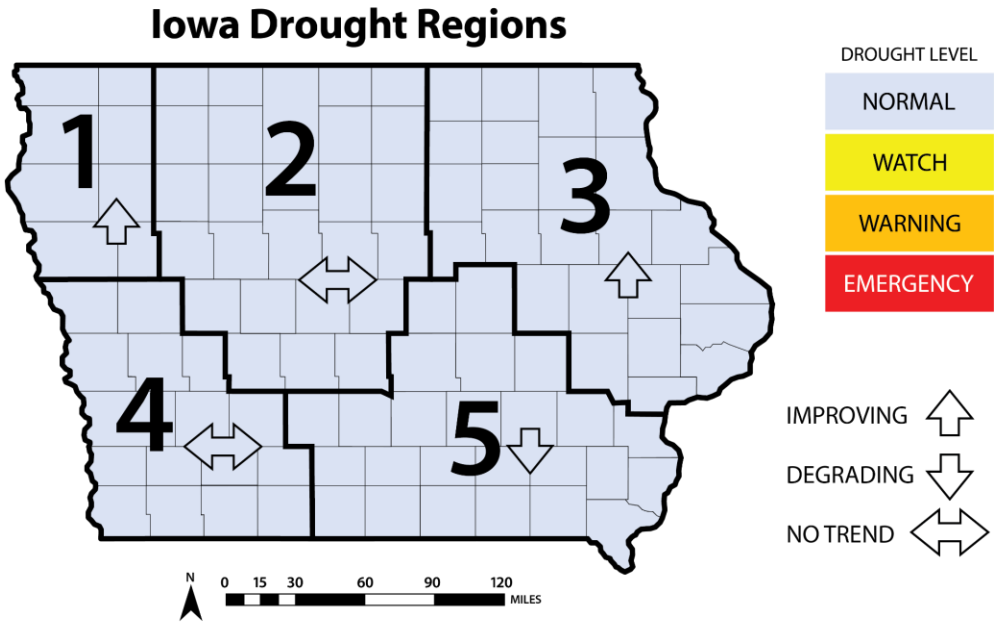
IOWA DNR
DEPARTMENT OF NATURAL RESOURCES

WATER SUMMARY UPDATE

Published Date May 8, 2025 | Issue 167

A snapshot of water resource trends for April 2025

IOWA DROUGHT CONDITIONS



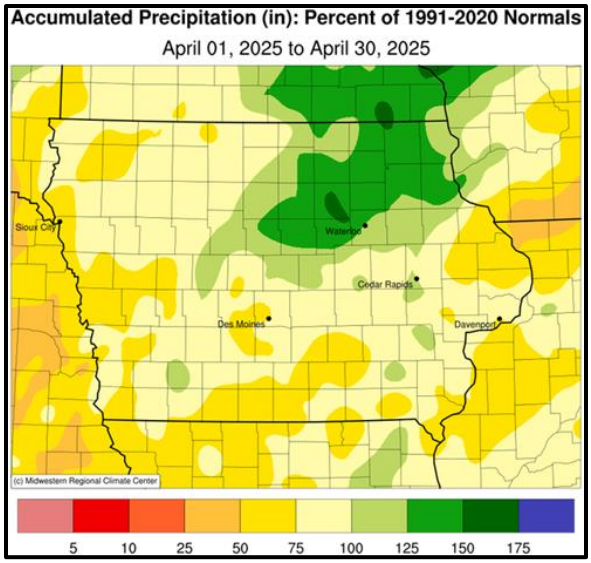
CONDITION SUMMARY - DROUGHT IMPROVES IN APRIL

Drought and dryness improved across most of the state in April. Areas of D1 - Moderate Drought in northeast, northwest, and southwest Iowa were almost entirely upgraded to D0 - Abnormally Dry, while conditions improved mostly in northeast and central Iowa. The middle and latter spring months of April and May, and the early summer month of June are typically the wettest months of the year for the state. Soil moisture and stream flows are mostly considered normal despite some deterioration in recent months. The final May precipitation outlook issued by the National Weather Service's Climate Prediction Center (CPC) indicates a slightly below average chance of precipitation across the northwest and eastern half of the state, and an equal chance for above, below, or near-average precipitation across the southwest and southern half of the state.

April Precipitation and Temperature

Iowa's statewide precipitation totaled 3.33 inches, or 0.34 inches below normal. Precipitation totals were at an inch or less below normal for a majority of Iowa's National Weather Service (NWS) and Community Collaborative Rain, Hail and Snow (CoCoRaHS) network gauges. Much of northeastern Iowa reported above normal totals, on the order of one to two inches above the 30-year climatology.

The statewide average temperature was 50.0 degrees, 1.4 degrees above normal. Several northwestern stations reported the month's high temperature of 89 degrees on the 28th, 24 degrees above normal. Elkader reported the month's low temperature of 13 degrees on the 8th, on average 18 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 February, March, and April precipitation) range from +0.7 to -0.4, with most values below zero. 180-day SPI values are nearly all positive, with Drought Regions 4 and 5 with the most significant decreasing trends.

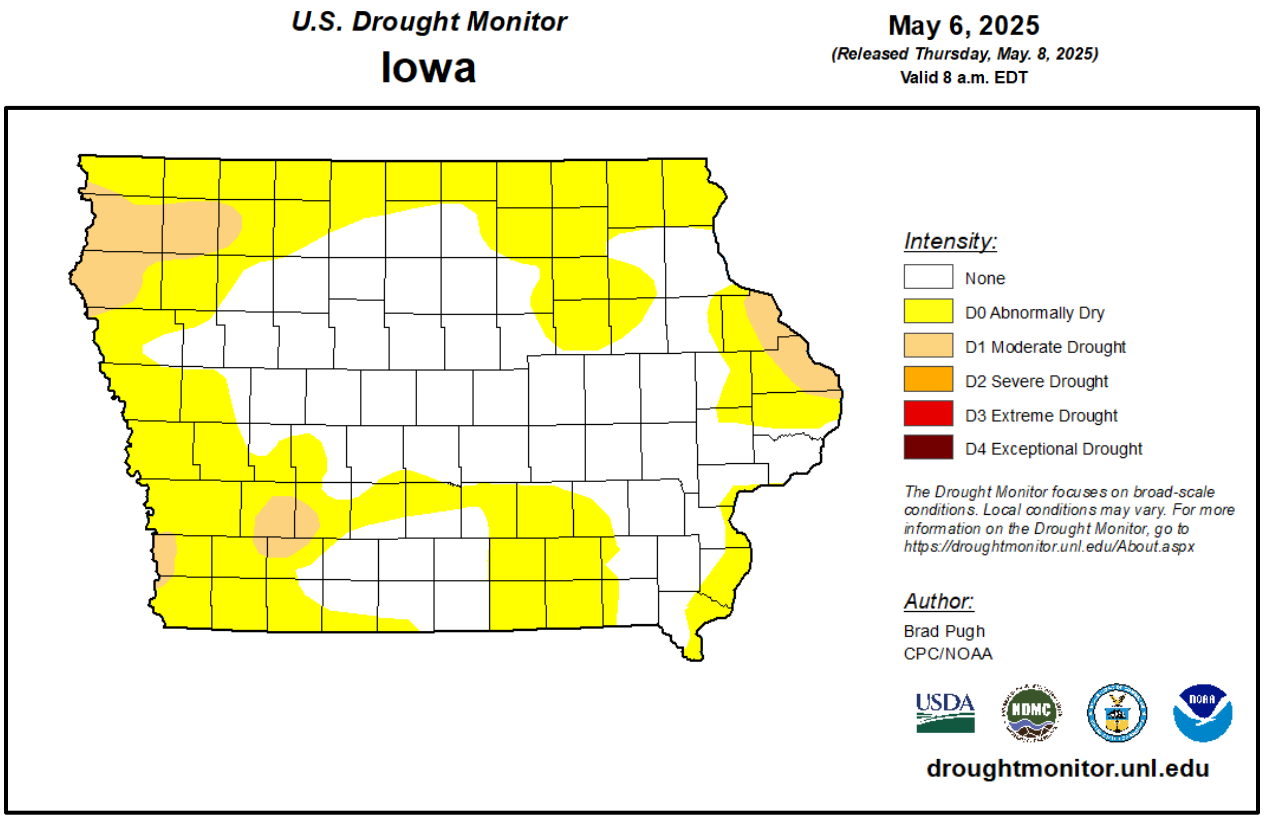
Drought Region	3-month SPI	6-month SPI	IDP Classification ↑ = improving ↓ = degrading ↔ = no trend
1	-0.1	0.0	Normal ↑
2	0.7	0.5	Normal ↔
3	0.5	0.0	Normal ↑
4	-0.2	-0.1	Normal ↔
5	-0.4	-0.4	Normal ↓

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 lower value in April compared to March.

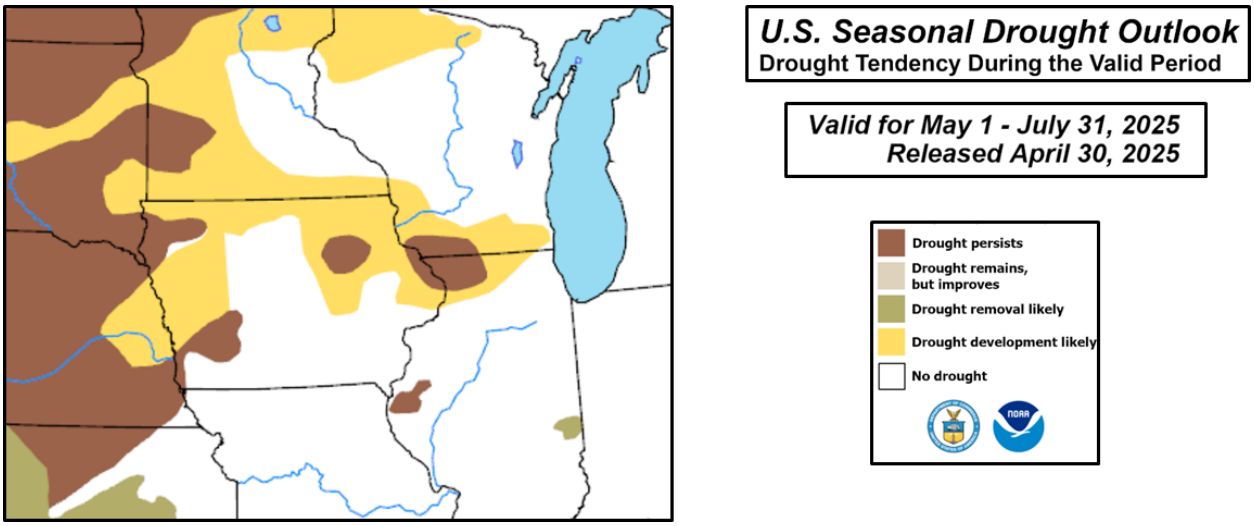
According to the US Geological Survey, in April, streamflow levels increased in the Turkey, Volga, and upper portion of the Wapsipinicon Rivers to above-normal conditions. The Rock, Floyd, Ocheyedan, Little Sioux, upper portion of the Des Moines, Upper Iowa, Yellow, Bloody Run, East Nodaway, West Nodaway, and lower portion of the Wapsipinicon Rivers increased to normal flow conditions. The Keg and Waubonsie Creeks decreased to below-normal conditions. The Chariton River remained in a 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 northeast Iowa. By the end of April, about 27 percent of D1-Moderate Drought areas have been upgraded to D0 -

Abnormally Dry or no dryness. Additionally, the areas of D0 decreased to 51 percent. Rainfall throughout April aided the progress in northwest Iowa. Nearly 50 percent of the state was rated as free from drought and dryness through the beginning of May. Despite the slightly below-normal precipitation in April, drought and abnormally dry conditions improved as spring is the wettest season for the state. The most recent USDM, released on May 6, shows improvements, but a continuation of dry conditions across portions of the state.



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



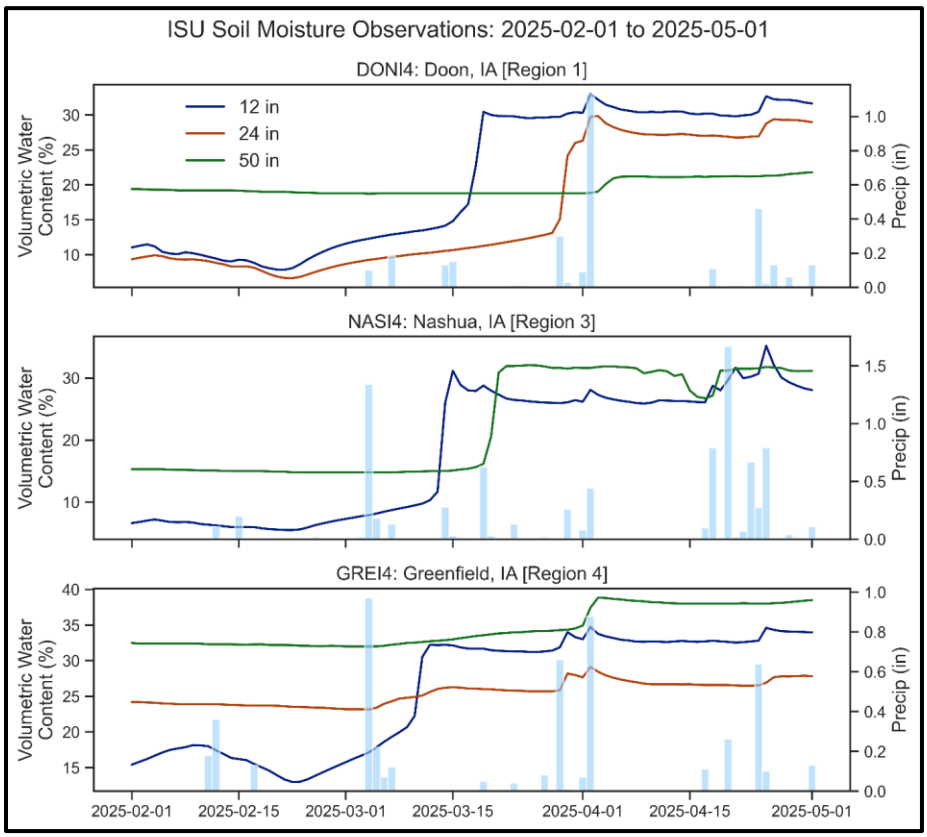
Other Water Resource Information

Border River Conditions

In their weekly update of Missouri River conditions dated May 6, 2025, the Army Corps of Engineers (USACE) indicates that the volume of water stored in the system of reservoirs is 50.4 Million Acre-Feet (MAF), slightly below normal for this time of year, and about the same volume as last month. Mountain snowpack between Fort Peck to Garrison remained below average last month, and peaked on April 5 at about 95 percent of the normal peak.

April Soil Moisture

Precipitation during April has led to increased soil moisture conditions at deeper soils. Higher temperature and wind create increased evapotranspiration that leads to normal saturation conditions at the surface.



However, soil profiles across portions of western and southern 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.

For additional information on the information in this Water Summary Update please contact any of the following:

General Information, Jessica Reese McIntyre, Iowa DNR.....Jessica.ReeseMcIntyre@dnr.iowa.gov, 515-725-9547
State Climatologist & Drought Coordinator, Justin Glisan, IDALS.....Justin.Glisan@iowaagriculture.gov, 515-281-8981
Standardized Streamflow Index (SSI), Elliot Anderson, IGS ..... elliot-anderson@uiowa.edu, 319-335-1575
Stream Flow, Padraic O'Shea, USGS ..... poshea@usgs.gov, 319-358-3653
Stream Flow, Mike Anderson, Iowa DNR..... Michael.Anderson@dnr.iowa.gov, 515-725-0336
Soil Moisture, Filipe Quintero Duque, Iowa Flood Center.....felipe-quintero@uiowa.edu, 319-384-1727