



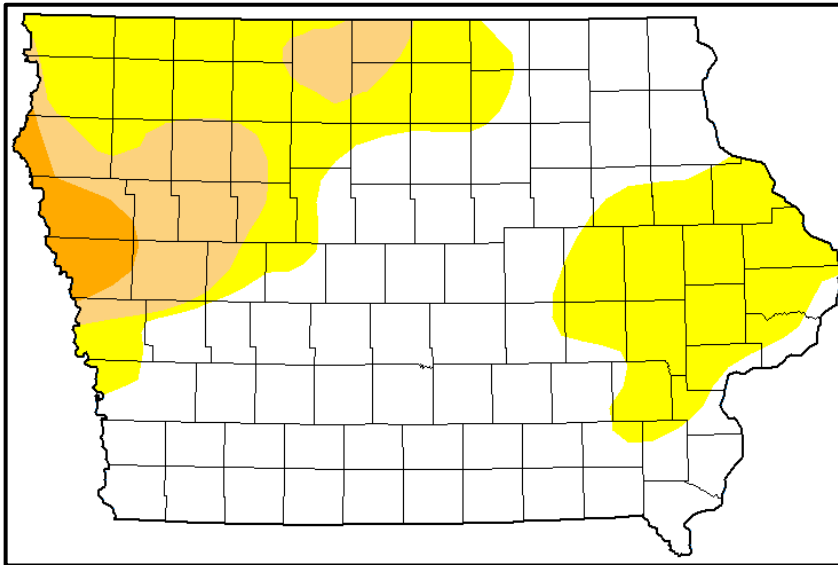
# WATER SUMMARY UPDATE

Published Date May 5, 2022 | Issue 131

## A snapshot of water resource trends for May 3, 2022

### Drought Monitor - Conditions as of May 3, 2022

National Drought Mitigation Center and partners

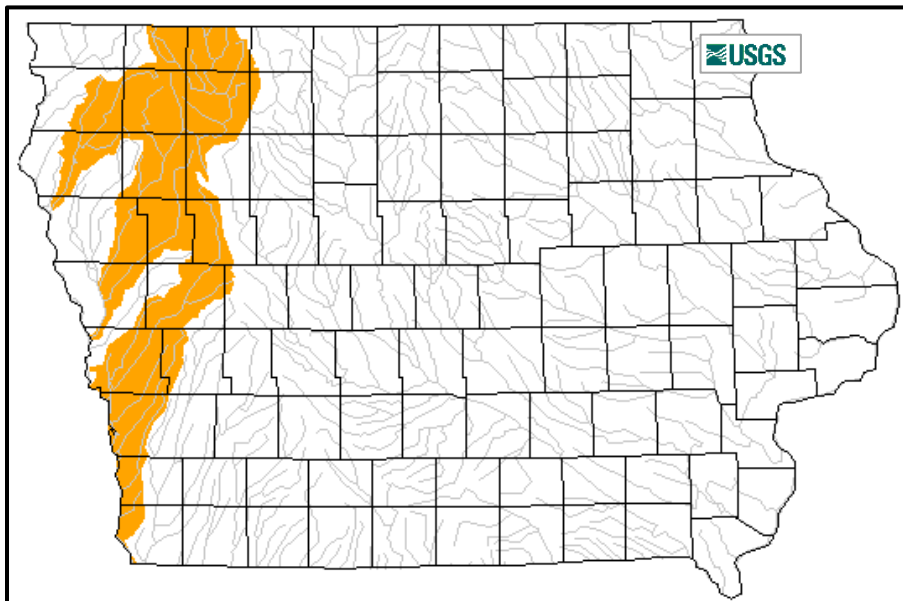


**Intensity:**

<span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> D0 Abnormally Dry	<span style="background-color: red; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> D3 Extreme Drought
<span style="background-color: #f4a460; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> D1 Moderate Drought	<span style="background-color: darkred; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> D4 Exceptional Drought
<span style="background-color: orange; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> D2 Severe Drought	

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

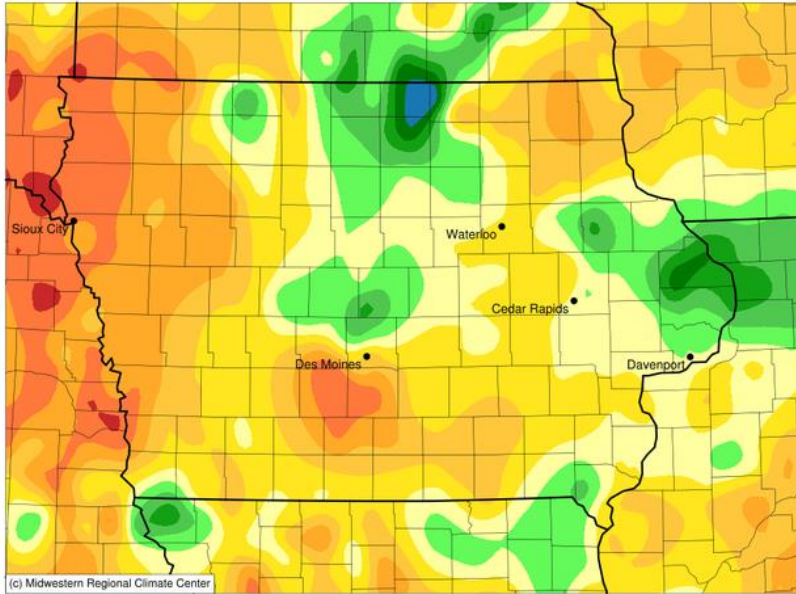
### Stream Flow – April, 2022



Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

**Accumulated Precipitation (in): Departure from 1991-2020 Normals**

April 01, 2022 to April 30, 2022



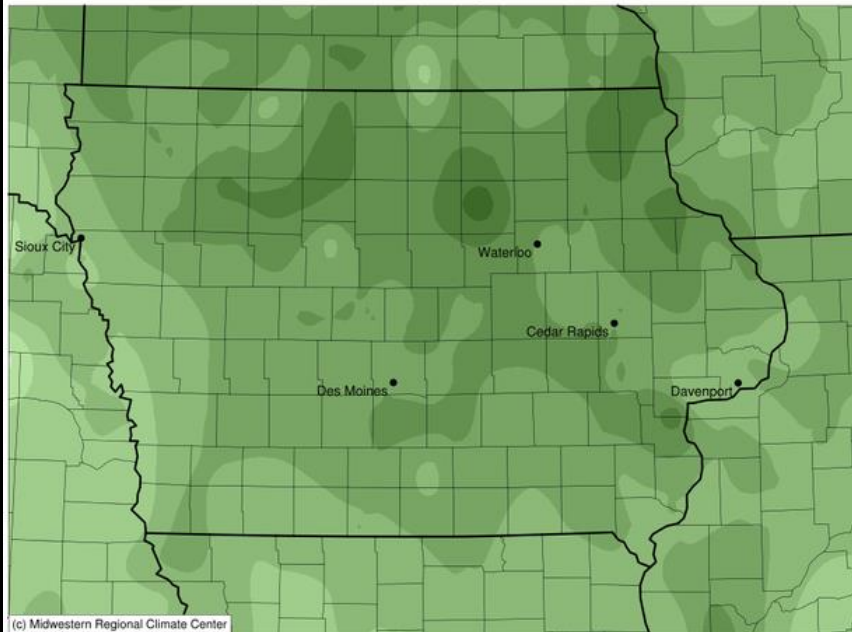
-3 -2.5 -2 -1.5 -1 -0.5 0 0.5 1 1.5 2

Stations from the following networks used: WBAN, COOP, FAA, GHCN, ThreadEx, CoCoRaHS, WMO, ICAO, NWSLI,

Midwestern Regional Climate Center  
cli-MATE: MRCC Application Tools Environment  
Generated at: 5/2/2022 2:51:50 PM CDT

**Average Temperature (°F): Departure from 1991-2020 Normals**

April 01, 2022 to April 30, 2022



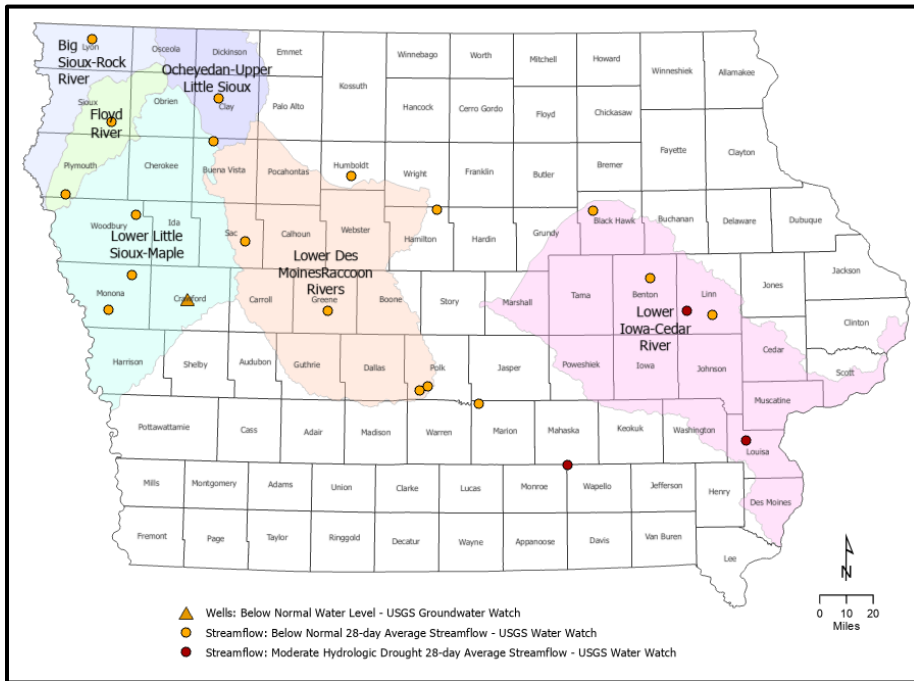
-7 -6 -5 -4 -3 -2 -1 0 1 2

Stations from the following networks used: WBAN, COOP, FAA, GHCN, ThreadEx, CoCoRaHS, WMO, ICAO, NWSLI,

Midwestern Regional Climate Center  
cli-MATE: MRCC Application Tools Environment  
Generated at: 5/2/2022 2:52:46 PM CDT

# Shallow Groundwater - Conditions for April, 2022

Iowa DNR and Iowa Geological Survey – IIHR Hydroscience and Engineering



## RECENT DEVELOPMENTS AND CHANGES

### SUMMARY

The month of April was cold and windy, but ended with about one-half inch less than normal rainfall. So far 2022 is running about 0.53 inches below normal for rain, with parts of the northwest and west central areas of the state over two inches behind for the year. Streamflow conditions are near normal across much of the state. Both soil moisture levels and shallow groundwater levels are lowest in northwest Iowa. The US Drought Monitor has shown improvement in the month of April, with an area of D2 (Severe Drought) remaining along the Missouri River in northwest Iowa. Soil moisture and groundwater levels are near normal across much of Iowa, with northwest Iowa the area of concern.

### DROUGHT MONITOR

The drought is not gone from Iowa, but considerable improvement has been seen in the month of April. The area of the state that is free from any dryness or drought increased from 33 percent in late March to 56 percent by the end of April. Most of this improvement has been in the D1, or Moderate Drought category. Coverage of D1 decreased from 32 percent in late March to 10 percent in late April. An area of D2, Severe Drought, remains in Monona, Woodbury, and Plymouth counties, and has remained nearly constant over the month at less than three percent of the state.

Most of the states to the west of Iowa are experiencing significant drought conditions, with conditions worst in Texas, Oklahoma, and New Mexico. Nearly 25% of Texas and New Mexico are in the worst category of drought, D4 (Exceptional Drought). Most of the states to the east of Iowa show little to no dryness or drought.

## **APRIL PRECIPITATION AND TEMPERATURE**

Iowa's preliminary statewide average precipitation totaled 3.20 inches in April, or 0.47 inches below normal. However, rainfall was not evenly distributed, as parts of central to north-central Iowa as well as eastern Iowa reported totals approaching two inches above normal. Western Iowa was the driest part of the state with precipitation deficits on the order of one to two inches. Monthly precipitation totals ranged from 0.91 inches at Rock Rapids to 7.24 inches at St. Ansgar.

Eastern and west-central Iowa stations observed above-average snowfall with below average totals at the remainder of Iowa stations. The preliminary statewide average snowfall was almost one inch, about 0.7 inches below normal. Dubuque measured the state's highest snow accumulation with 4.0 inches for the month.

April was extremely windy and unseasonably cold with the statewide average temperature registering at 49.3 degrees, nearly five degrees below normal. This ranks April 2022 in the top 15 coldest Aprils on record. A reporting station in Harrison County reported the month's high temperature of 90 degrees on the 12th, 29 degrees above average. Algona reported the month's low temperature of 11 degrees on the 1st, 18 degrees below normal.

## **MARCH STREAM FLOW**

During the month of April, streamflow conditions remained in the normal range for the majority of the state. Portions of the Floyd, Boyer, and Little Sioux Rivers show below normal flow. The Des Moines, Upper Iowa, and Cedar River have improved from below normal to normal condition since last month.

## **MISSOURI RIVER BASIN CONDITIONS**

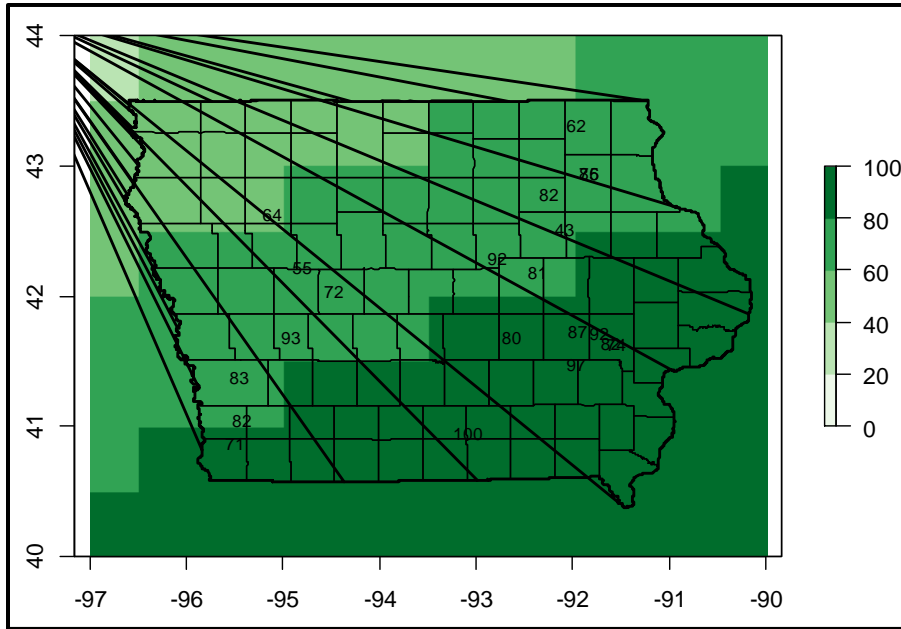
The total volume of water stored in the Missouri River reservoir system declined during most of the month of April, and then rebounded in the last week. The amount of water stored in the reservoirs on the Missouri River increased by 0.3 million acre feet (MAF) in the last week, but remains well below average for this time of year. The forecast runoff for the year for the Missouri River Basin above Sioux City is 17.8 MAF, or less than 70 percent of average. Mountain snowpack continues to increase, and is now just slightly below average.

## **MARCH SHALLOW GROUNDWATER**

In the month of April 2022 shallow groundwater level conditions were statistically normal across much of the state, but there is an area that is vulnerable to low water levels, and that area has increased since March. In the absence of a shallow groundwater monitoring network, below normal average streamflow can be used as an indirect measure of water level changes in adjoining shallow aquifers. During April, below normal baseflow was clustered in two broad areas, from northwest Iowa into parts of west central Iowa, as well as eastern Iowa. Current impacts to groundwater are relatively minor, with no reports of shortages. However, as warmer weather increases the demand for water, if drought conditions continue to intensify in these areas, declining shallow groundwater levels and reduced aquifer recharge will occur. Normal rainfall in May, June, and July will have a significant beneficial impact on aquifer level recovery rates.

## **MARCH SOIL MOISTURE**

The Iowa Flood Center map of soil moisture levels shows a continuing trend of drier soils in northwest Iowa and wetter soils in southeast Iowa. Having the wettest soils. The map shows soil wetness, as a percentage, at a 20-inch depth. Northwest Iowa has soil moistures between 20 and 40 percent, which is an improvement over March 2022 levels. Much of southeast Iowa shows nearly saturated to fully saturated soils. Map is obtained from interpolation of soil moisture gages.



**ADDITIONAL INFORMATION**

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

- General Information, Tim Hall, Iowa DNR . . . . . [Tim.Hall@dnr.iowa.gov](mailto:Tim.Hall@dnr.iowa.gov) 515-452-6633
- Monthly Climate Information, Justin Glisan, IDALS . . . . . [Justin.Glisan@iowaagriculture.gov](mailto:Justin.Glisan@iowaagriculture.gov) 515-281-8981
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