



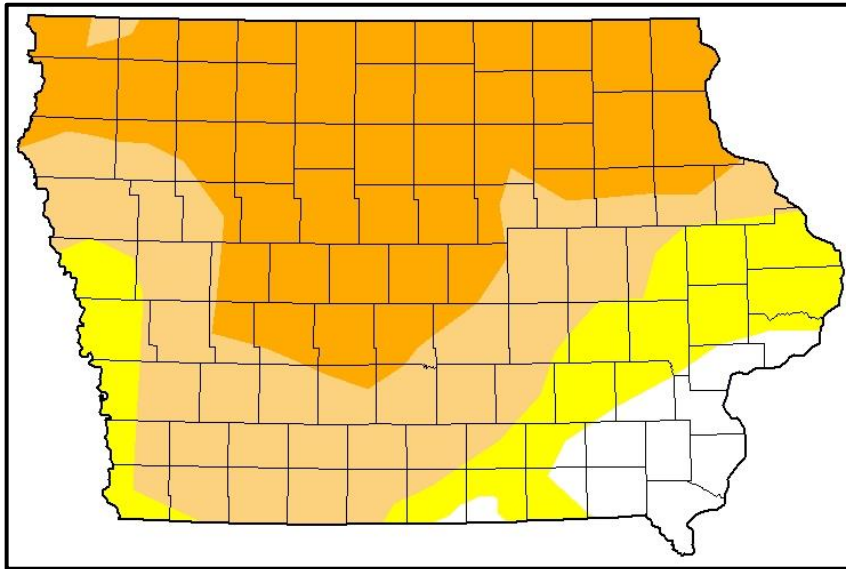
WATER SUMMARY UPDATE

Published Date June 24, 2021 | Issue 120

A snapshot of water resource trends for mid-June, 2021

Drought Monitor - Conditions as of June 24, 2021

National Drought Mitigation Center and partners

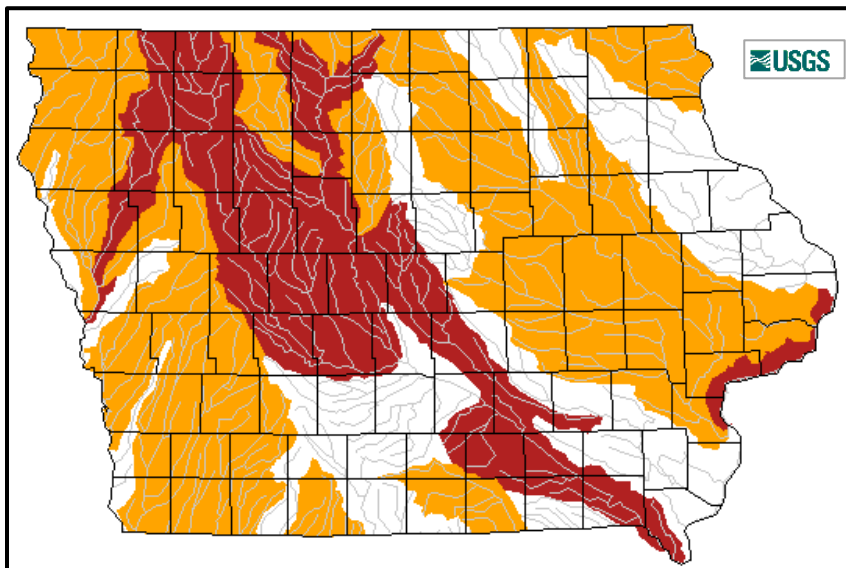


Intensity:

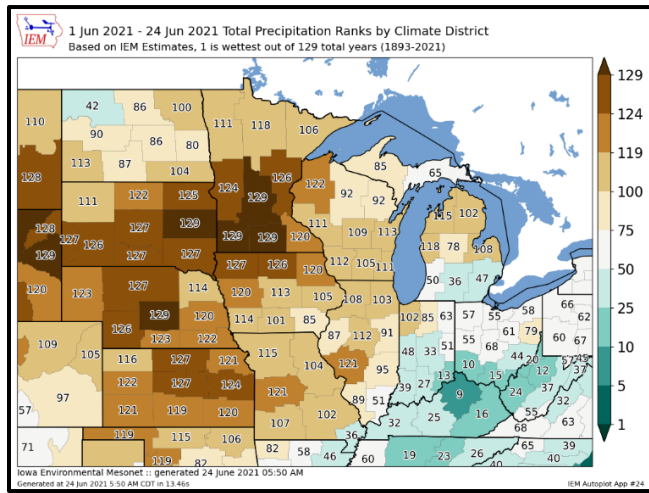
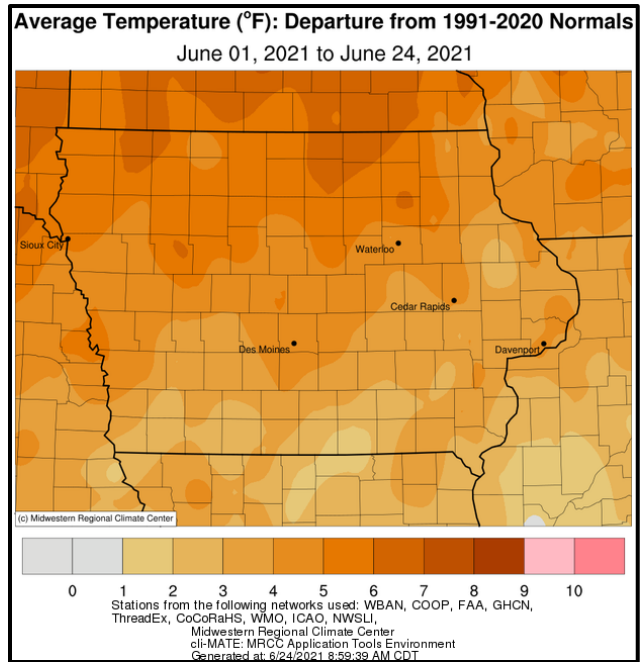
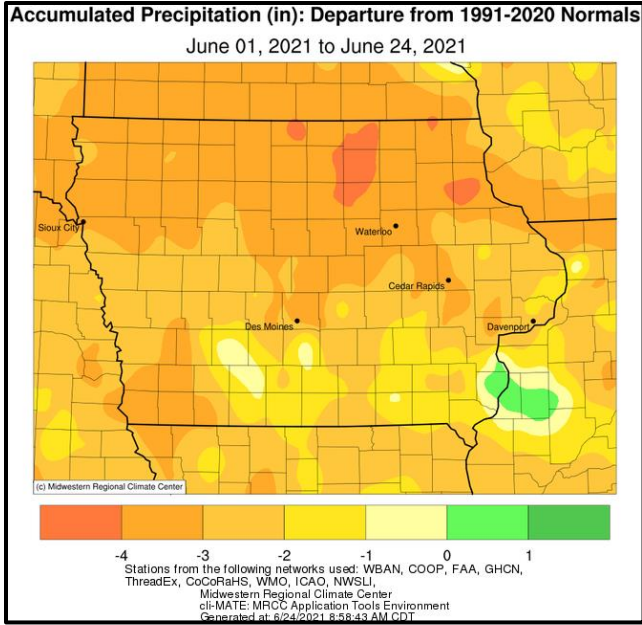
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

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

Stream Flow – June 23, 2021

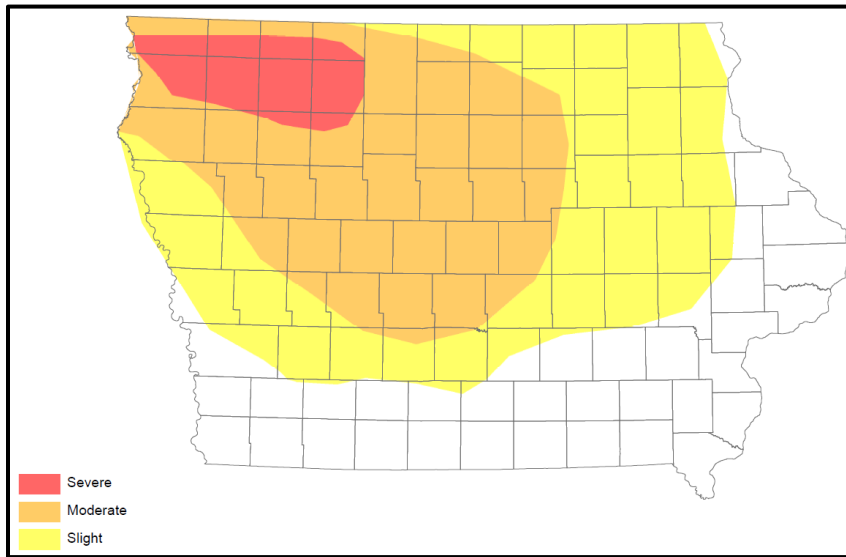


Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	



Shallow Groundwater - Conditions for June 24 2021

Iowa DNR and IIHR-Hydroscience and Engineering



RECENT DEVELOPMENTS AND CHANGES

SUMMARY

Starting in September, 2016 the Water Summary Update (WSU) switched from a bi-weekly to a monthly publication schedule. With the recent rapid changes in hydrologic conditions, this WSU returns to the original bi-weekly schedule.

The early part of June was exceptionally dry across most of the state, with very little rain falling in what is normally the wettest month of the year. This resulted in worsening drought conditions across most of Iowa over the first part of June, with nearly the entire state in some form of dryness or drought, and 44 percent of the state rated as D2 – Severe Drought. The preliminary statewide average precipitation is 1.51 inches for the month so far. With seven days remaining in June this is 2.00 inches below normal. As a result of this lack of rainfall, streamflow is down across the state, and concern for shallow groundwater availability remains.

DROUGHT MONITOR

Over the first three weeks of June the USDM has indicated worsening conditions across Iowa. D2 – Severe Drought, now covers almost 44 percent of the state, up from only eight percent at the start of June. The current rainfall that is occurring over much of Iowa fell after the cut-off of 7:30 am on Tuesday, so it is not considered in this week's map. It is expected that rainfall from Tuesday, and significant rainfall that is expected into the coming weekend will result in improvement in the USDM map that will be released on July 1, especially across the southern parts of the state.

EARLY JUNE PRECIPITATION AND TEMPERATURE

Hot and dry conditions blanketed the state for much of the first half of June as the jet stream remained farther north, allowing a stable dome of high pressure to block the normal storm track through the Midwest. As of June 23, the preliminary statewide average precipitation is 1.51 inches, tying 1956 as the 8th driest start to June on record, with seven days remaining; this reading is 2.00 inches below normal with a drier start last reported in

1992. A more active storm track has returned to the Midwest, bringing much needed rainfall across the state, along with several days of severe hail and high wind reports. Recent temperatures have been more seasonal compared to the first two weeks of June, when multiple days of upper 80s and 90s were reported. The preliminary statewide average temperature through June 23 is 79.6 degrees, 4.6 degrees above normal. The warmest departures of eight to nine degrees have been observed in northern Iowa.

JUNE STREAM FLOW

Since the last water summary update, streamflow conditions across approximately a quarter of the state are now in the much below normal condition. The Skunk, Des Moines, Raccoon, and Little Sioux basins have moved into the much below normal condition since the last water summary update. Most of the state has now moved into the below normal conditions.

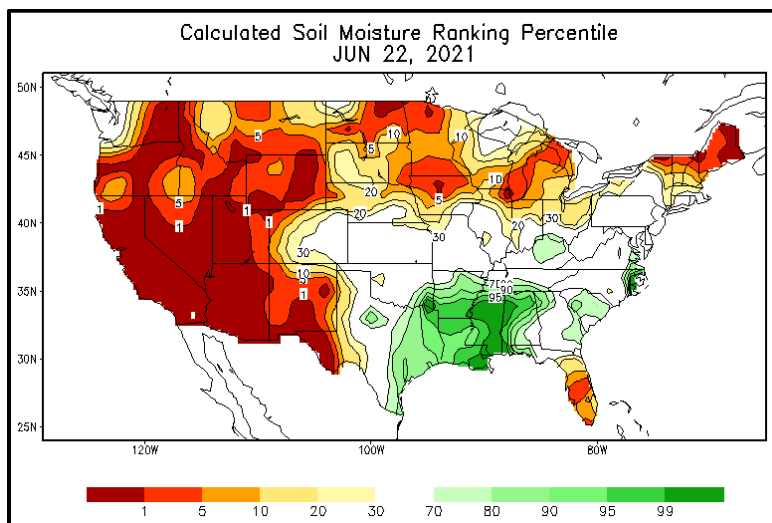
JUNE SHALLOW GROUNDWATER

Shallow groundwater conditions continue to be below normal across all of Iowa, with the northwest and central portions of the State well below normal. Recent rainfall across parts of southern and northeast Iowa have slightly increased shallow groundwater levels in those areas. Groundwater levels have stabilized along the Floyd and Rock Rivers, but continue to decline along the Ocheyedan, Little Sioux, and West Fork of the Des Moines Rivers. Severe to moderate groundwater conditions exist in parts of Northwest, North Central, and Central Iowa. Additional precipitation is needed across most of Iowa during the summer months to prevent further deterioration in shallow groundwater conditions.

The number of water utilities that have implemented voluntary or mandatory water use restrictions has expanded, but recent cooler and wetter weather has decreased demand. This should help to reduce the stress on most water systems, and to lower the short-term concern for water availability. A return to hot and dry weather could reverse this change, and Iowan's should contact their local water utility with any concerns they may have for their area.

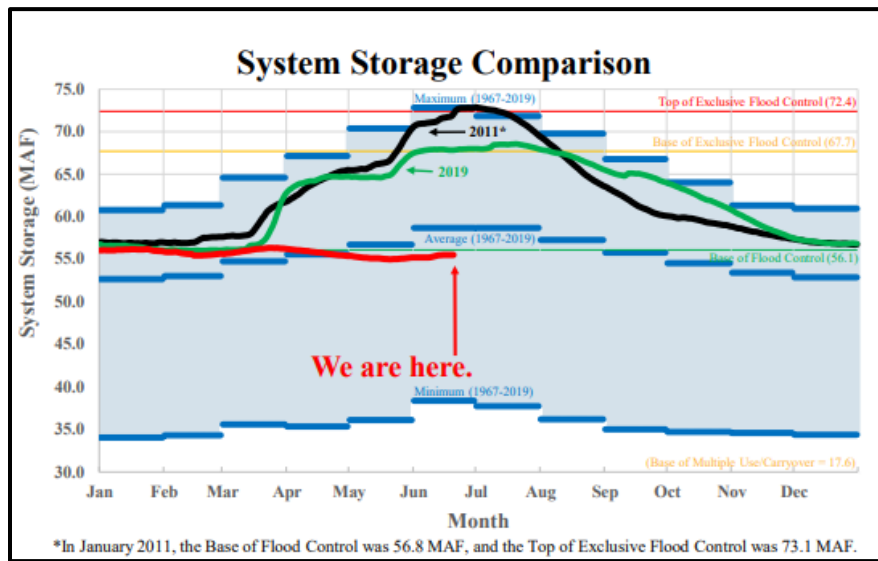
JUNE SOIL MOISTURE

Soil moisture levels across the state have continued to decline in June. One year ago, over 90 percent of the state had adequate or surplus soil moisture. As of June 21, 2021, only about one third of the state had adequate or surplus soil moisture. The calculated soil moisture ranking map from NOAA's Climate Prediction Center continues to show a large area of north central Iowa with soil moisture levels below the fifth percentile ranking.



MISSOURI RIVER BASIN CONDITIONS

Conditions in the Missouri River basin are much drier than normal in many locations. The mountain snowpack has mostly melted, and dry conditions in Montana, Wyoming, and the Dakotas has resulted in much reduced runoff in the basin. The graph below shows that the overall volume of water is now below the average recorded since 1967, and significantly below the peak volume of water stored in 2011. This volume of water is exceptionally low for this time of the year, and is close to what is typically in storage during the winter months after a season of runoff has been released from the system. Based on the June 1 forecast from the Corps of Engineers, navigation support for the second half of the navigation season (July 1 to December 1) will likely be 1,500 cubic feet per second (cfs) less than full service flow. Flows are also expected to be below normal during the upcoming winter months, with the Corps forecasting that winter releases from Gavins Point Dam will be at the minimum rate of 12,000 cfs.



ADDITIONAL INFORMATION

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

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