



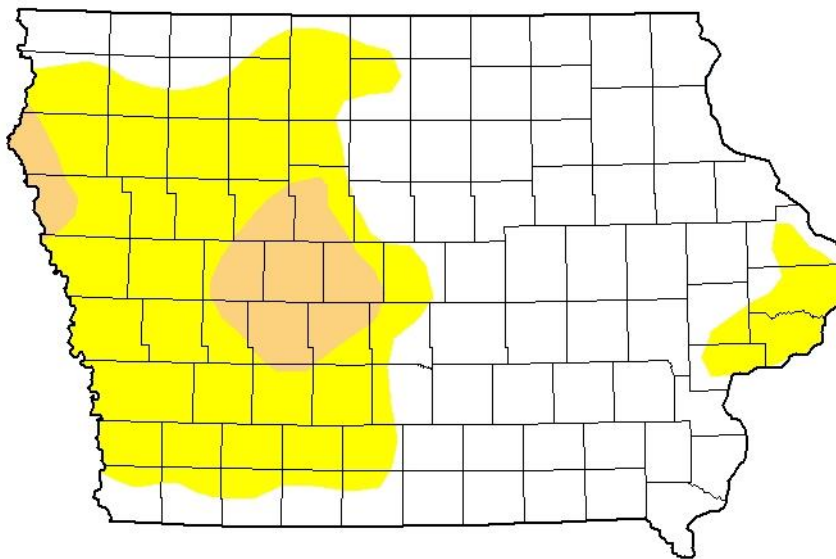
# WATER SUMMARY UPDATE

Published Date July 9, 2020 | Issue 109

## A snapshot of water resource trends for the month of June 2020

### Drought Monitor - Conditions as of July 7, 2020

National Drought Mitigation Center and partners

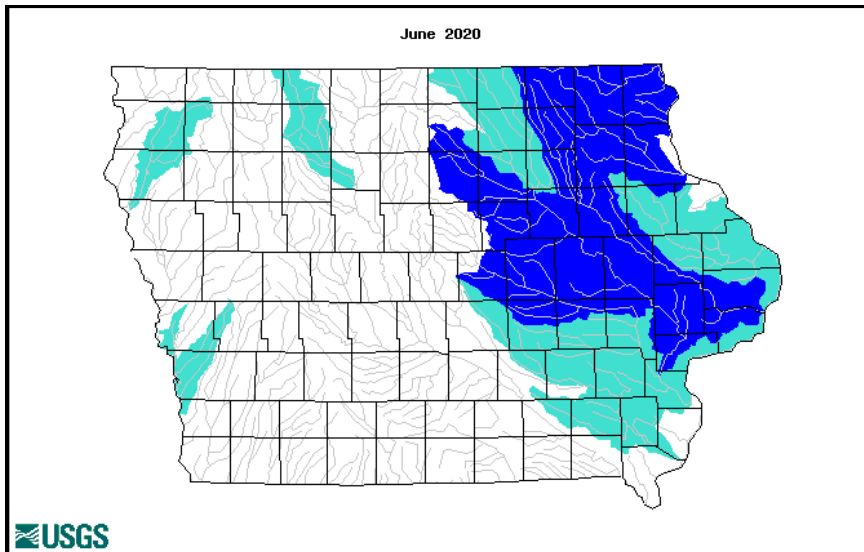


**Intensity:**

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

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

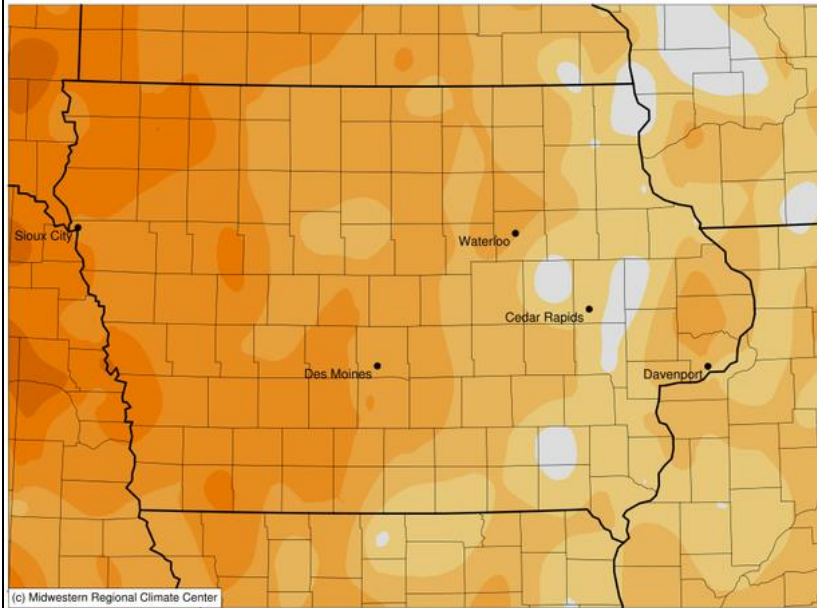
### Stream Flow – June 2020



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



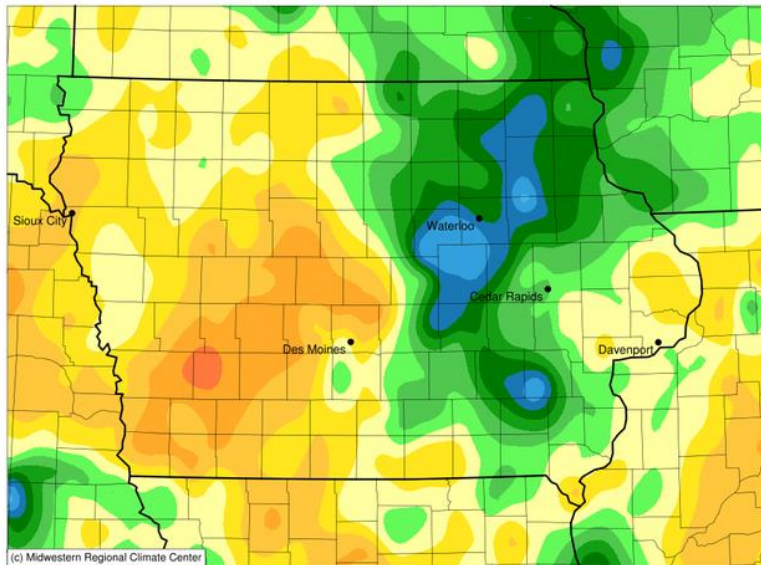
**Average Temperature (°F): Departure from 1981-2010 Normals**  
June 01, 2020 to June 30, 2020



-1 0 1 2 3 4 5 6 7 8 9

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: 7/8/2020 4:41:53 PM CDT

**Accumulated Precipitation (in): Departure from 1981-2010 Normals**  
June 01, 2020 to June 30, 2020

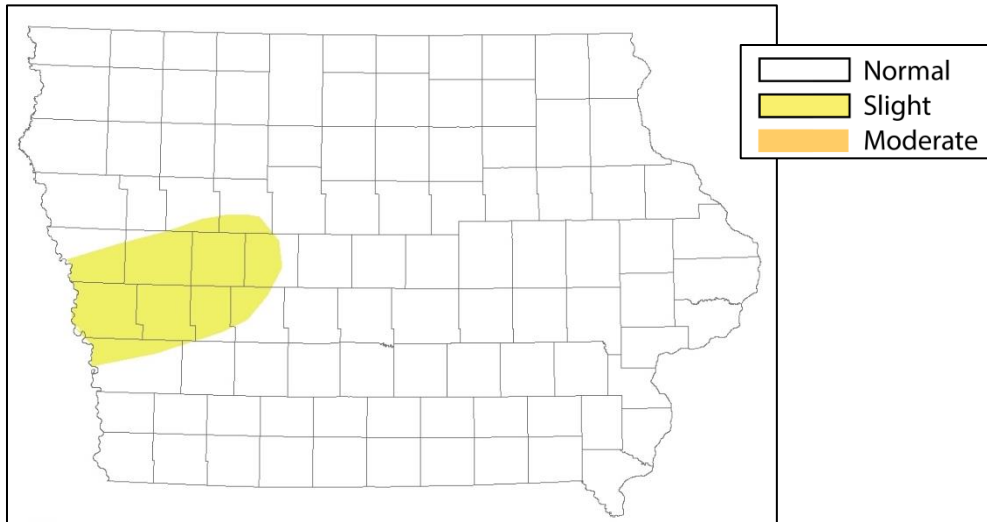


-4 -3 -2 -1 0 1 2 3 4 5 6

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: 7/8/2020 4:42:45 PM CDT

## Shallow Groundwater - Conditions for June 2020

Iowa DNR and IIHR-Hydroscience and Engineering



## RECENT DEVELOPMENTS AND CHANGES

### SUMMARY

Although statewide precipitation was near normal in June, there is a distinct dividing line between the wet conditions in northeast part of the state, and very dry conditions in the west and southwest parts of the state. The western areas of Iowa have been dry enough over the past month that areas of moderate drought (D1) have been introduced in the state for the first time in ten months. Increased demand for water during the hot summer weather will continue to put stress on shallow groundwater systems in western Iowa. Streamflow mostly normal in the state, with higher flows in the northeast, and lower flows in some watersheds in the west central part of the state.

### DROUGHT MONITOR

Abnormally Dry (D0) conditions expanded slightly into the middle of June, mainly across western and north-central Iowa. While measurable rainfall was reported in western Iowa, generally drier conditions prevailed. The final map of the June, showed over 19 percent of northwestern and west-central Iowa rated at D0. The Drought Monitor map released today shows Moderate Drought (D1) in eight west-central counties, centered on Greene County. Portions of three counties in extreme northwest Iowa were also given the D1 designation. D0 conditions expanded northwest and southeast. Overall, D0 conditions cover 35 percent of Iowa with just over 7 percent rated as D1.

A large area of significant drought conditions persists to the south and west of Iowa. There is now an area of extreme drought (D3) covering much of southern Colorado, and portions of northern New Mexico, southwestern Kansas, and northwestern Texas and Oklahoma. A separate area of drought covers the Dakotas, Wyoming, and eastern Montana.

## **JUNE PRECIPITATION AND TEMPERATURE**

June 2020 was a near normal month for precipitation with the statewide average of 4.85 inches, or 0.17 inches less than the 30-year climatological average. While the statewide average was near climatology, there was quite the contrast between eastern and western Iowa. The state's western half observed drier than normal conditions with precipitation deficits of up to four inches. The west central and southwest areas of the state were among the driest Junes on record. On the other hand, much of eastern Iowa reported general rainfall totals from two to six inches above average. The northeast area of the state was the ninth wettest on record for June. This wetness in eastern Iowa was due in part to the remnants of Tropical Storm Cristobal, which moved through Iowa as a tropical depression on June 9th. Cristobal is only the second tropical system on record to transverse Iowa, with the only other occurrence happening on September 11, 1900. Ten locations across a narrow south-to-north swath in eastern Iowa observed over four inches of rain on June 9; Vinton (Benton County) reported 4.11 inches while Stanley (Buchanan County) observed 4.65 inches. Monthly precipitation totals ranged from 0.46 inches at Atlantic Municipal Airport (Cass County) to 12.26 inches at Oelwein (Fayette County).

Iowa experienced warmer than normal temperatures statewide during June with an average temperature of 72.9 degrees, 3.2 degrees above normal. June 2020 ties 1954 and 2005 as the 18th warmest on record with a warmer June last occurring in 2018. Above normal temperatures were reported across the state with locations in western Iowa observing temperatures of up to five degrees above normal while isolated pockets in eastern Iowa reported near-average temperatures. June's statewide average maximum temperature was 83.7 degrees, 3.1 degrees above normal while the average minimum temperature was 62.1 degrees, 3.3 degrees above normal. Le Mars (Plymouth County), Sioux Center (Sioux County) and Spencer Municipal Airport (Clay County) reported the month's high temperature of 100 degrees on the 2nd, on average 22 degrees above normal. Fayette (Fayette County) reported the month's low temperature of 44 degrees on the 1st, eight degrees below normal.

## **CURRENT STREAM FLOW**

Streamflow conditions across the central and western portion of the state have remained steady or dropped from above normal to normal conditions over the last month. Streams in the eastern third of the state have moved to above and much above normal conditions. Flow in the Iowa, Cedar, Wapsipinicon, Volga, Yellow, Turkey, and Upper Iowa Rivers is much above normal.

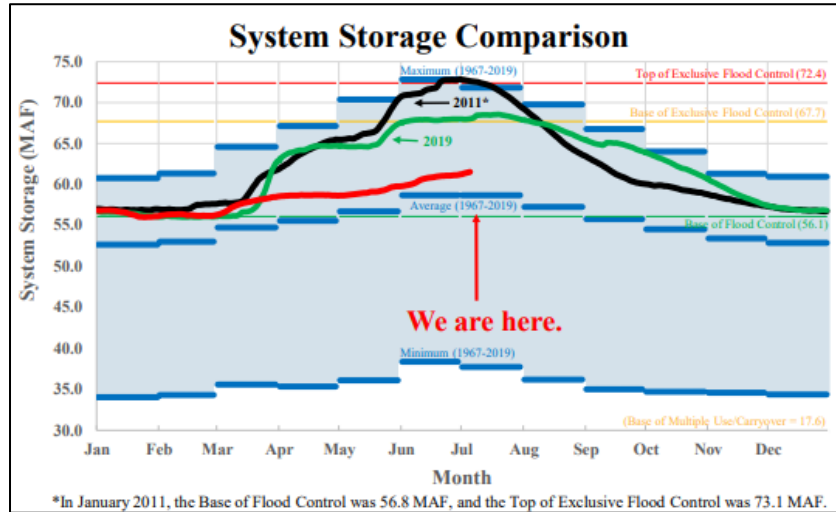
## **SHALLOW GROUNDWATER**

Shallow groundwater conditions have deteriorated somewhat in parts of Iowa over the last month. The dry conditions that persist across parts of west central and southwest Iowa could result in groundwater availability concerns without normal rainfall in the next month. Demand for water typically increases in July, including demand from the growing corn crop, which can further stress groundwater supplies. Normal to above normal precipitation in July and August should adequately recharge Iowa's shallow alluvial and bedrock aquifers.

## **MISSOURI RIVER BASIN**

The Corps of Engineers recently reduced its forecast for upper basin runoff by about 1 million acre feet (MAF) due to the recent dry conditions as well as the National Weather Service's climate outlook, which indicates that the remainder of the summer will be warmer and drier than normal in the basin. Even with this reduction in the forecast, the 2020 calendar year runoff is predicted to be above average, mostly due to the very wet soil conditions that existed during the early months of the year.

In its July 7 Missouri River Basin update the Corps of Engineers System indicates that storage is 61.5 MAF, with storage expected to peak in the next week or two. The July 1 runoff forecast is 31.2 MAF, still 20 percent above the average runoff of 25.8 MAF. Mountain snowpack has essentially melted. Gavins Point Dam releases were reduced from 33,000 cubic feet per second (cfs) to 30,000 cfs and expected to remain at that level for the next several weeks. The figure below shows that amount of water currently stored in all of the reservoirs in the Missouri River system (the red line) compared to the amount that was stored in 2011 (the black line) and 2019 (the green line). The system is storing more water than average, but much less than the last two flood years of 2011 and 2019.



The Iowa DNR and the Corps of Engineers are working with the other states of the lower Missouri River Basin (Nebraska, Kansas, and Missouri) on Planning Assistance to the States (PAS) project to identify and prioritize problem areas that contribute to flooding along the lower Missouri River. Details of meetings scheduled for July 2020 along with ways to participated are provided on the DNR’s website at <https://www.iowadnr.gov/simra>

**ADDITIONAL INFORMATION**

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

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