



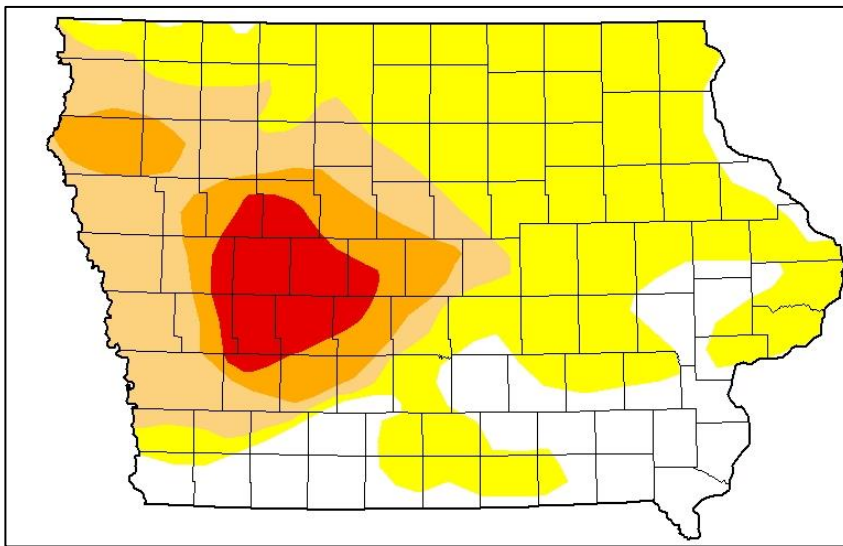
# WATER SUMMARY UPDATE

Published Date August 6, 2020 | Issue 110

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

### Drought Monitor - Conditions as of August 4, 2020

National Drought Mitigation Center and partners

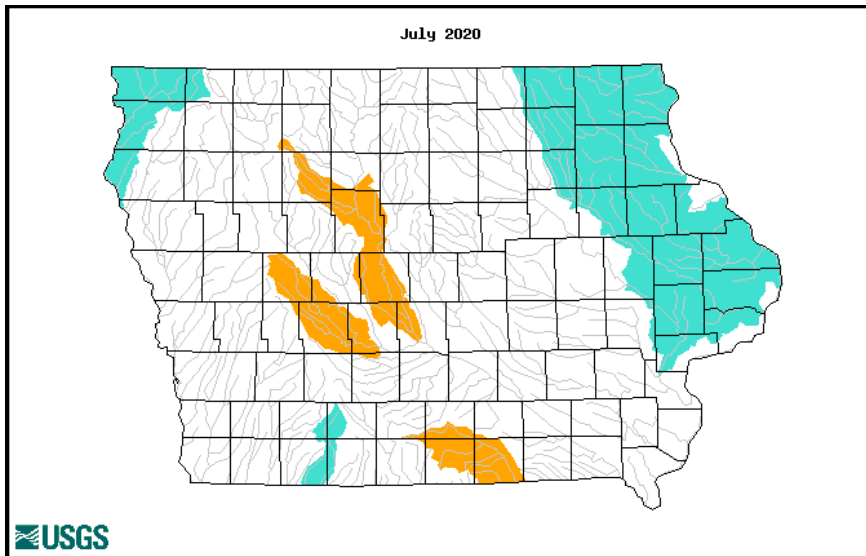


*Intensity:*

<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:lightorange; 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.

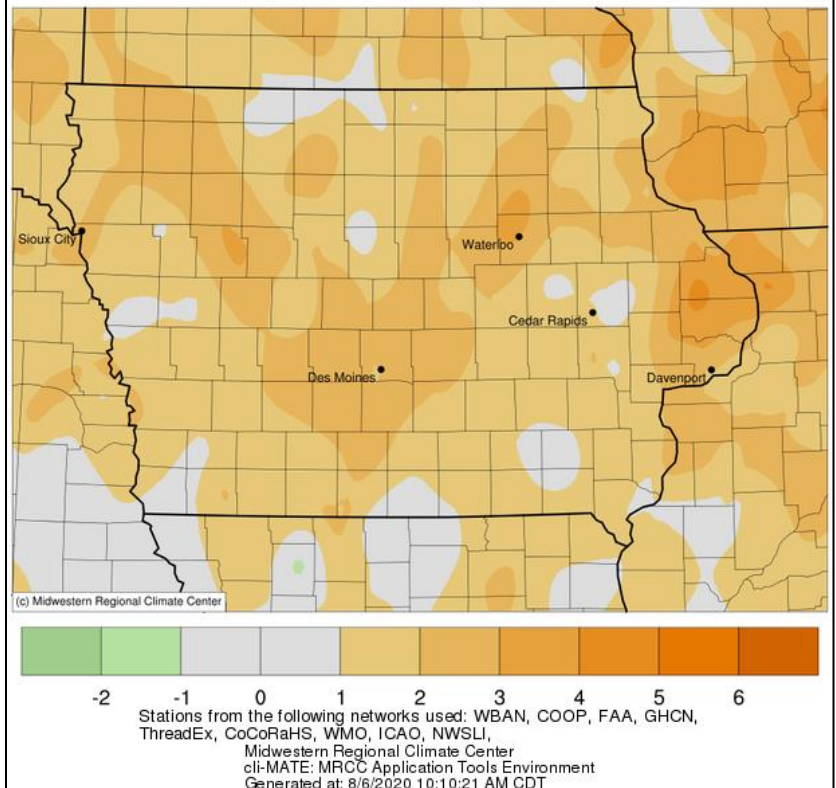
### Stream Flow – July 2020



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

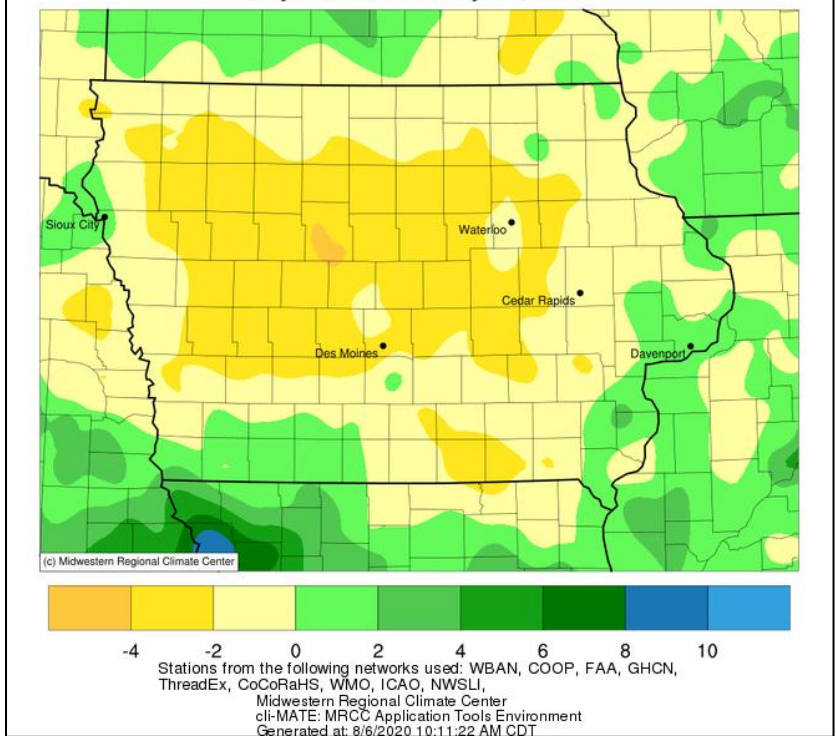
### Average Temperature (°F): Departure from 1981-2010 Normals

July 01, 2020 to July 31, 2020



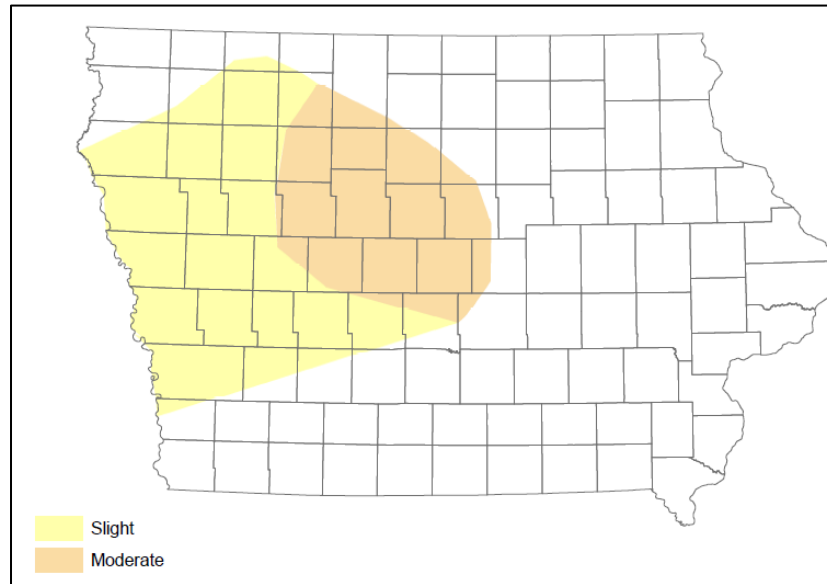
### Accumulated Precipitation (in): Departure from 1981-2010 Normals

July 01, 2020 to July 31, 2020



## Shallow Groundwater - Conditions for July 2020

Iowa DNR and IIHR-Hydroscience and Engineering



## RECENT DEVELOPMENTS AND CHANGES

### SUMMARY

For the first time in almost two years an area of Extreme Drought (D3) exists in Iowa. Current conditions show nearly 80 percent of Iowa with some level of dryness or drought, with an area of Extreme Drought covering more than six percent of the state. The Extreme Drought area is centered over Audubon, Carroll, Greene, and Guthrie counties, along with portions of the surrounding counties. July was warmer and drier than normal in Iowa – with temperatures averaging 1.7 degrees above normal and rainfall of 2.87” or 1.63” less than normal across the state. Streamflow is average on a statewide basis, but there are several watersheds that are showing below normal flow. Shallow groundwater conditions are deteriorating in several areas of Iowa as well.

### DROUGHT MONITOR

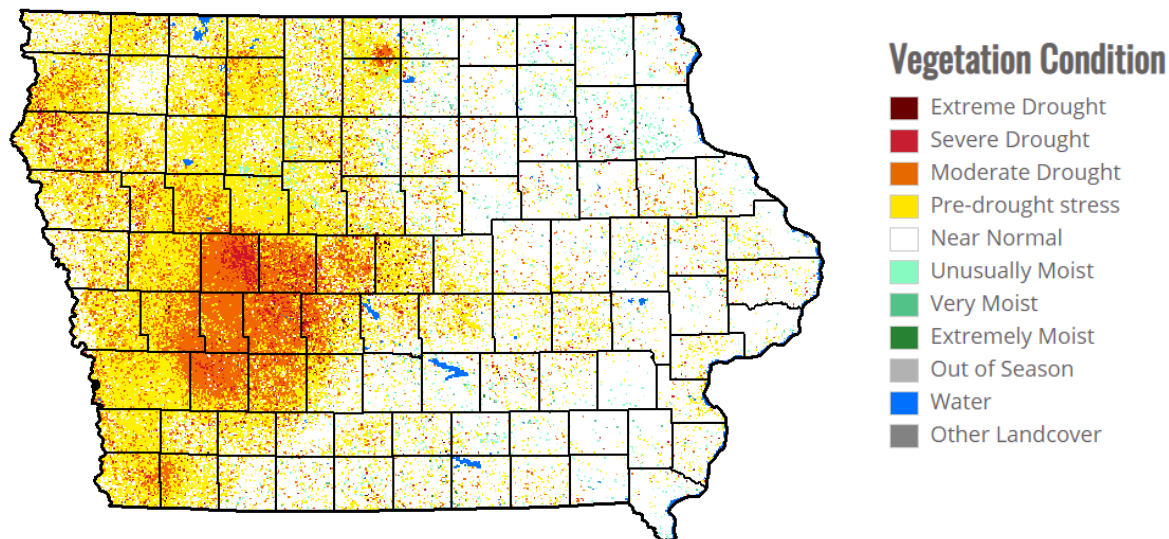
The expansion of drought conditions in Iowa, and the deterioration of conditions continues. In early July, Moderate Drought (D1) was introduced in eight west-central counties, centered on Greene County. Three counties in extreme northwest Iowa were also given the Moderate Drought designation. Moderate Drought conditions expanded northwest and southeast. As precipitation deficits continued to increase through July, Moderate Drought conditions expanded north and west. Severe Drought (D2) conditions were introduced across nearly six percent of west-central Iowa on July 14th. This region expanded through the end of the month, with Moderate and Severe Drought conditions covering over 34% of the state. As of August 6th, 11 counties in western Iowa were downgraded to Extreme Drought (D3). Abnormal dryness also pushed into wide swaths of northeastern Iowa. Overall, D0-D4 conditions cover 80% of the state, which is the widest expanse of abnormal dryness and drought since April 2014.

### OTHER DROUGHT INDICATORS

The Vegetation Drought Response Index, or VegDRI, is a weekly depiction of vegetation stress across the contiguous United States. Development of the VegDRI map and associated products is a joint effort by the

National Drought Mitigation Center (NDMC), the U.S. Geological Survey's National Center for Earth Resources Observation and Science (EROS), and the High Plains Regional Climate Center (HPRCC). VegDRI maps are produced weekly and provide regional to sub-county scale information about drought's effects on vegetation. VegDRI calculations integrate satellite-based observations of vegetation conditions, climate data, and other biophysical information such as land cover/land use type, soil characteristics, and ecological setting. The current VegDRI map for is included below, and can be found at: <https://vegdiri.unl.edu/Home/StateVegDRI.aspx?IA>

The stress to vegetation can be clearly seen in west central Iowa, as well as in other parts of the state. VegDRI maps are updated every week, and Iowa can be looked at more closely in four regional views.



#### JULY PRECIPITATION AND TEMPERATURE

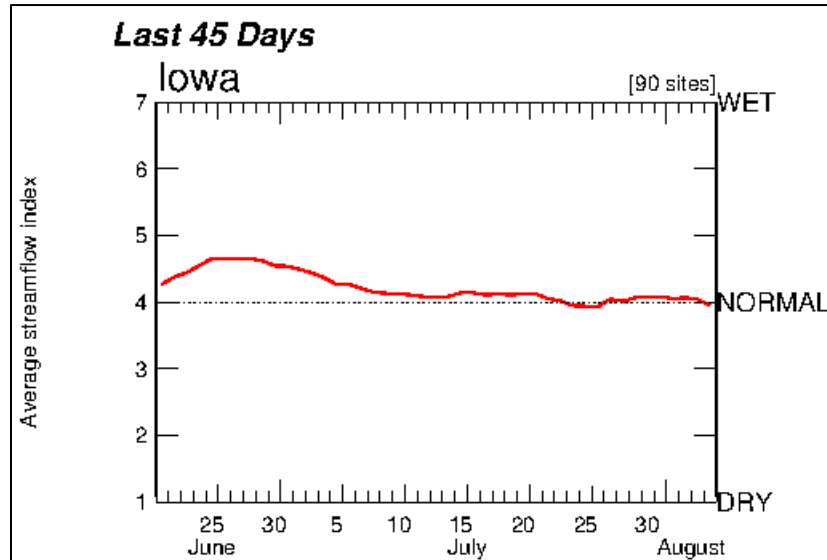
Iowa continued to experience warmer than normal temperatures statewide during July with an average temperature of 75.3 degrees, 1.7 degrees above normal. July 2020 ties 1911 and 2001 as the 47th warmest on record with a warmer July last occurring in 2012.

Positive departures of one to three degrees were reported across a majority of Iowa with embedded pockets of near average temperatures. July's statewide average maximum temperature was 86.0 degrees, 1.7 degrees above normal while the average minimum temperature was 64.7 degrees, also 1.7 degrees above normal. Little Sioux in Harrison County reported the month's high temperature of 98 degrees on the 18th, 12 degrees above normal. Mason City Municipal Airport reported the month's low temperature of 44 degrees on the 16th, 17 degrees below normal.

July 2020 was drier than normal with a statewide average of 2.87" or 1.63" less than the 30-year climatological expectation. The month ranked as the 41st driest July in 148 years of statewide records with a drier one last occurring in 2013. Unseasonably dry conditions persisted across most of Iowa during July. A good portion of the state reported precipitation departures on the order of two to four inches with only a small swath of southwestern and eastern Iowa reporting above-average rainfall. Dry conditions allowed drought conditions to advance across much of western Iowa. Monthly precipitation totals ranged from 0.28" at Holstein in Ida County to 8.79" at a rain gauge near Morning Sun in southeast Iowa in Louisa County.

### CURRENT STREAM FLOW

Streamflow conditions across the majority of the state are normal. The Wapsipinicon, Volga, Yellow, Turkey, Maquoketa, and Upper Iowa Rivers have moved from the much above normal to the above normal flow. Portions of the Des Moines, South Raccoon, and Chariton Rivers have moved into the below normal range since the last water summary update. The Streamflow Index, an indication of streamflow levels averaged across the entire state has been running near normal for the month of July.



### SHALLOW GROUNDWATER

Shallow groundwater conditions during July continued to deteriorate in most Central, West Central, and parts of Northwest Iowa. Moderate drought conditions and low groundwater conditions are present in West Central and Central Iowa, especially along parts of the Raccoon River, and East Fort of the Des Moines River. Low groundwater levels are also found along the Ocheyedan River in Northwest Iowa. Significant rainfall did occur in parts of West Central, Southern and Northwest Iowa the last week of July, but much more precipitation is needed to improve shallow groundwater conditions.

### ADDITIONAL INFORMATION

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

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