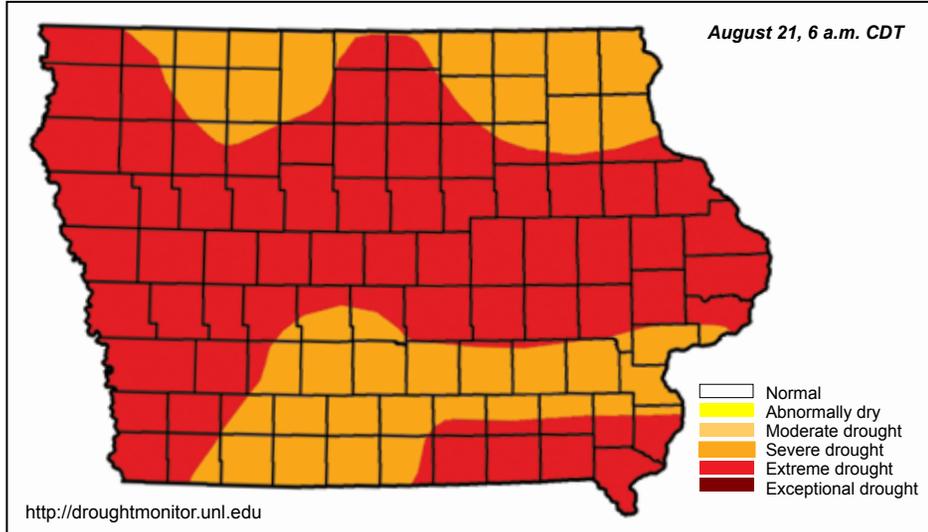


# WATER SUMMARY UPDATE

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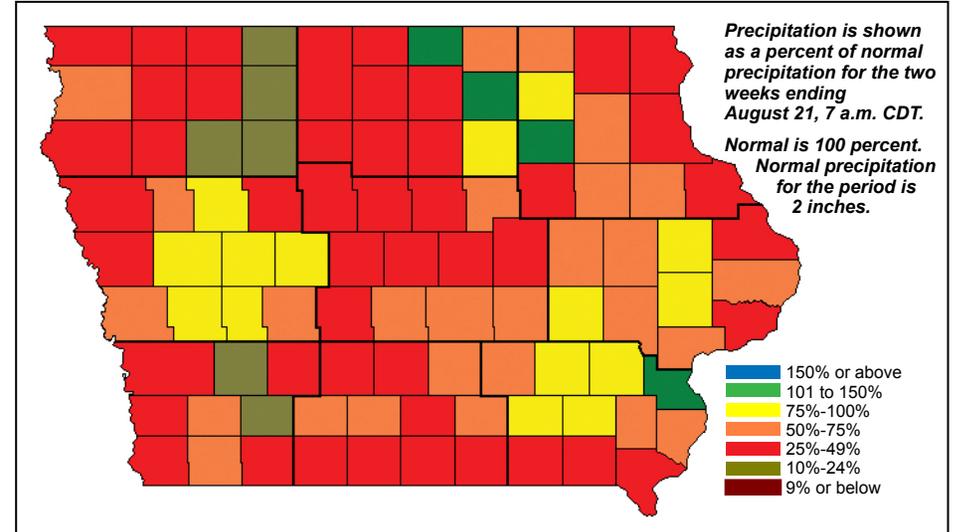
## Drought Monitor

National Drought Mitigation Center and partners



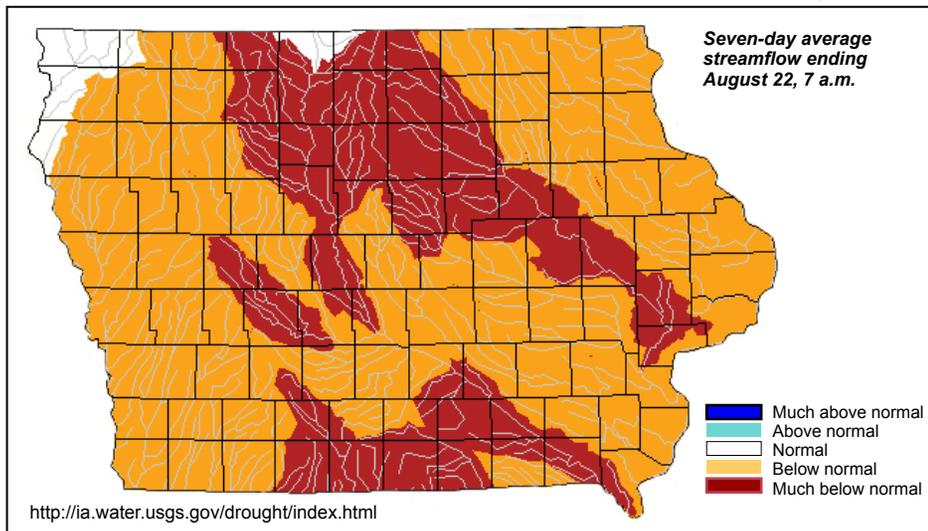
## Precipitation

State Climatologist



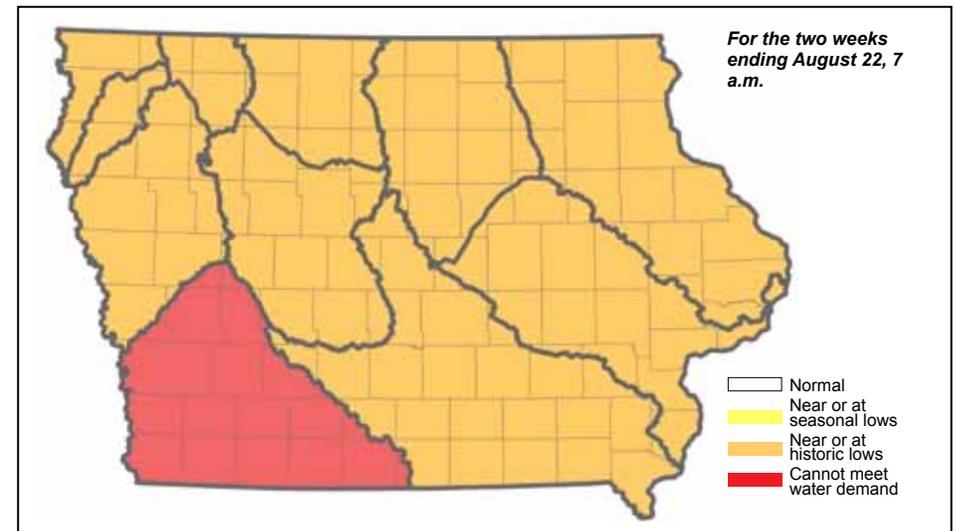
## Streamflow

US Geological Survey



## Shallow Groundwater

Iowa DNR



## Recent Developments and Changes

### Overall Conditions

The previous two weeks have seen some relief from the heat, but no real improvement in rainfall. The state received an average of one inch of rain during the past two weeks, this is only half of normal precipitation. In fact, rainfall across Iowa has been below average for the last nine weeks. Stream flows continue to be a major area of concern, with some river levels so low that irrigators are prohibited from taking water for the time being. The cooler weather has decreased demand for water, which has helped water utilities maintain water supplies despite low rainfall and low stream flows.

Bill Northey, Iowa Secretary of Agriculture, commenting on the most recent USDA Iowa Crops and Weather report released by the USDA National Agricultural Statistical Service, stated that “the cooler temperatures and scattered rains have allowed crops to mostly maintain their condition and prevent further deterioration for the most part. The entire state remains dry and in need of more rain, especially as the bean crop continues to set and fill pods.” The USDA indicates that topsoil and subsoil moisture levels in more than 90 percent of the state are short or very short, and there are no areas that show surplus moisture.

### Drought Monitor

The Drought Monitor for August 21 shows conditions remaining about the same from two weeks ago, but slightly worse than last week. Nearly 70 percent of the state is rated as extreme drought (D3), with the remaining portions of the state rated as severe drought (D2).

### Precipitation

Iowa has enjoyed a welcome break from the excessive mid-summer heat. Temperatures have averaged below normal nearly all of the past 14 days. Temperatures statewide have averaged 4.6 degrees below normal over the past two weeks, which has greatly reduced evaporation rates. Meanwhile precipitation, while more frequent than in July, averaged only about one inch (half of the normal two inches) for this period. Rain totals were as little as 0.20 inches at Underwood in Pottawattamie County; up to 3.36 inches at Ionia in Chickasaw County. Precipitation has now been below normal for nine consecutive weeks.

### Streamflow

Streamflow conditions remain below normal for the majority of the state. The lowest streamflow conditions are in the Des Moines, Iowa and Cedar river basins. These areas have less than 10 percent of their normal streamflow. Streamflow conditions in the extreme northwestern corner of Iowa have normal flows.

Of the 65 river stretches that have protected flow levels, 33 are currently low enough to require irrigation restrictions.

### Shallow Groundwater

Shallow groundwater levels throughout Iowa continue to be at or near historic lows. Cooler temperatures over the last few weeks have lowered water use, which has allowed water levels in some wells to recover slightly. Several water utilities in southwest Iowa remain under mandatory and voluntary water restrictions. Rainfall in some areas has reduced water usage, but has had little impact on static groundwater levels. Long-term improvement will come with above normal rainfall over a long time period.

## Notable Events for the Period

DNR field biologists report that water temperatures have dropped across the state, and as a result, widespread fish kills have ended. Rivers and streams are at the lowest levels of the summer, with some streams and small rivers only having water in pools. Some lake levels continue to drop, with some dropping an inch every four to seven days. Some lake levels are down 12 to 16 inches.

### Year in Review

Drought conditions began in Iowa in July 2011, putting us one year into the current situation. Here are some observations to put this past year in perspective:

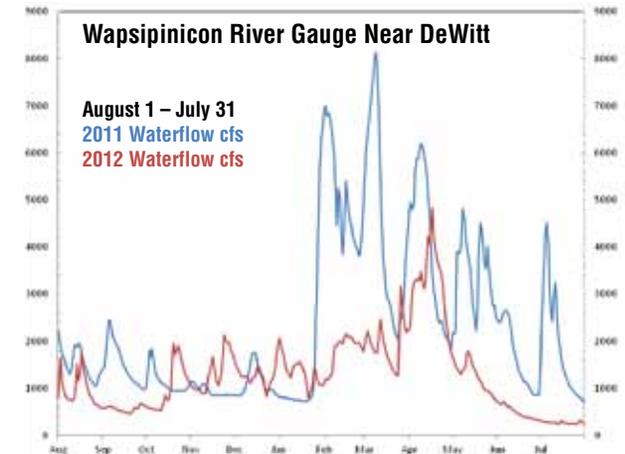
The past 12 calendar months (August 2011 through July 2012) saw temperatures that averaged 52.4 degrees, more than four degrees above normal. While four degrees may not sound significant, this past year has been the warmest August-July period on record in Iowa — breaking the old record for the same months in 1921-1922. Only one month in the period, September 2011, had cooler than normal temperatures.

Meanwhile, precipitation totaled 26 inches, or about seven inches less than the 140-year average for the period. This ranks as the 16th driest August-July overall, and the driest such period since August 1988 — July 1989 when Iowa received about one-quarter inch less rain.

These above normal temperatures and below normal rainfall amounts have resulted in streamflows that have deteriorated over the past 12 months. These low streamflows have led to reduced supplies of shallow groundwater in some areas of Iowa.

## Contacts

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*Prepared by the Iowa DNR in collaboration with the Iowa Department of Agriculture and Land Stewardship, the U.S. Geological Survey, and The Iowa Homeland Security and Emergency Management Division.*