

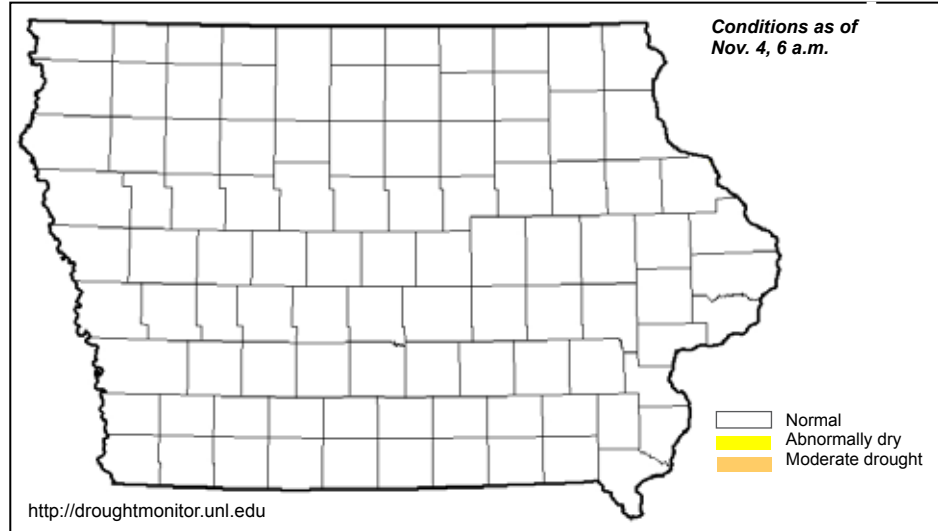
# WATER SUMMARY UPDATE

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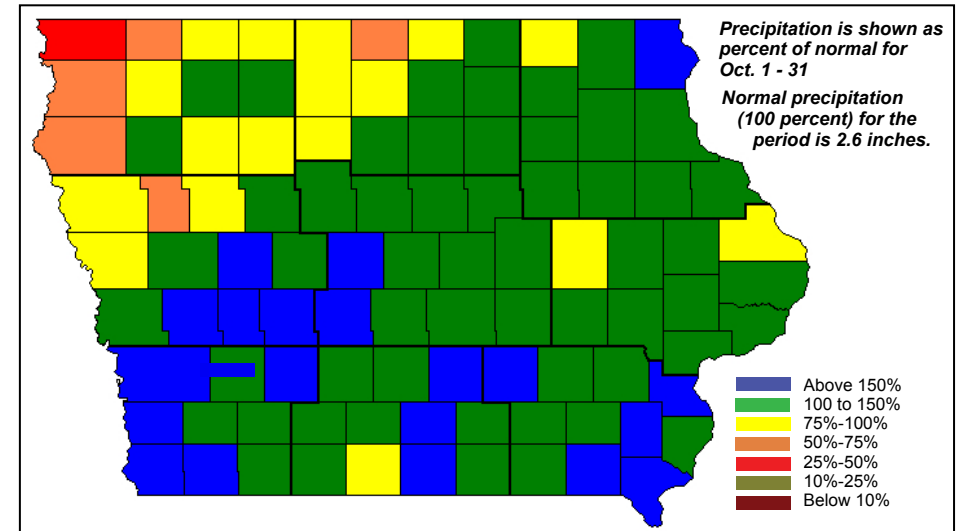
## Drought Monitor

National Drought Mitigation Center and partners



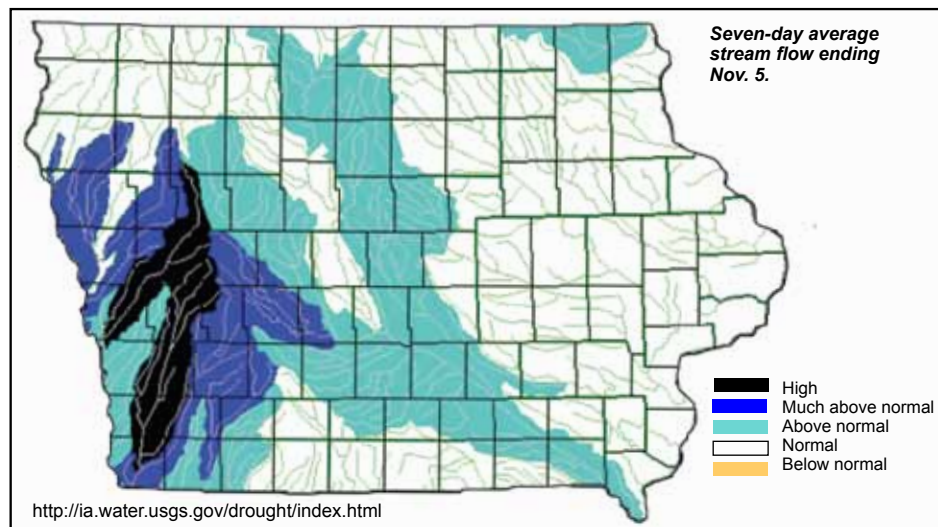
## Precipitation

State Climatologist



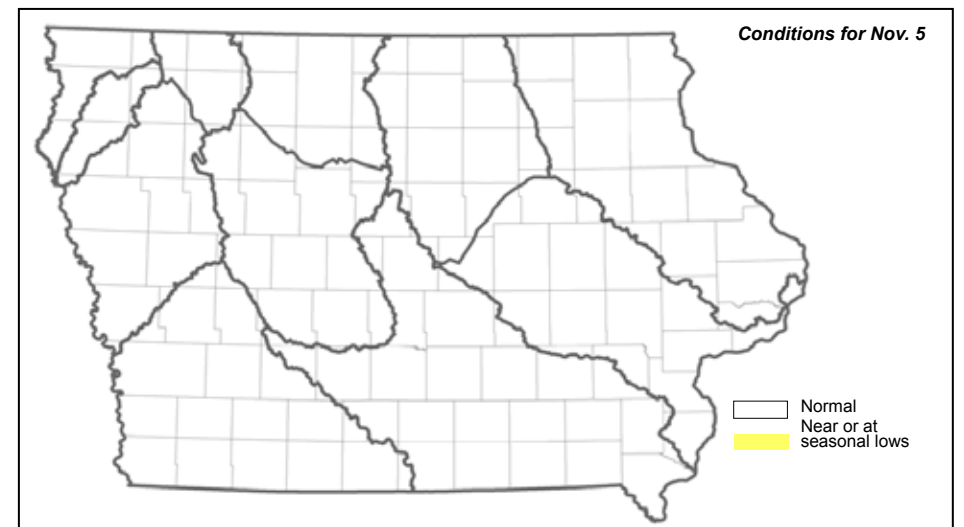
## Stream Flow

US Geological Survey



## Shallow Groundwater

Iowa DNR and IHR-Hydroscience and Engineering



## Recent Developments and Changes

### Overall Conditions

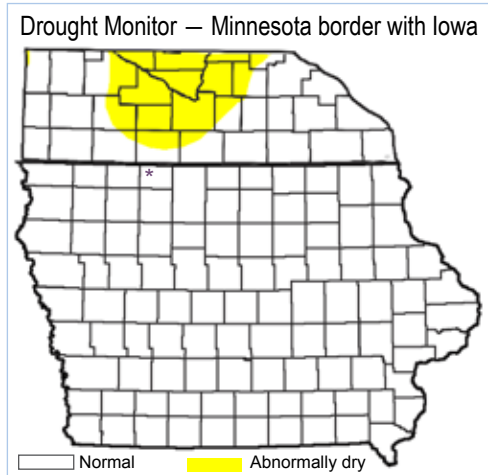
October left hydrologic conditions in Iowa in good shape. Rainfall remains plentiful and stream flow levels are normal or above normal. This is especially encouraging as we continue to move into the drier months of the year. In general groundwater levels are where they should be for this time of year, and recharge can continue as long as the ground remains unfrozen.

### Drought Monitor

This week's Drought Monitor continues to show all of Iowa in droughtfree condition. However, Minnesota shows an area of abnormal dryness that has doubled since last week to more than 50 percent of that state, and extends down into the southern tier of Minnesota counties, within 15 miles of the Iowa border near Estherville.

### Precipitation

October began very wet over the southeast two-thirds of Iowa, and harvest progress at the beginning of the month was the slowest in over 30 years. However, much drier weather prevailed for the second half of the month with the harvest pace greatly accelerating by the end of October. The statewide average precipitation was 3.2



inches or 0.6 inches above normal, and ranged from only 0.75 inches at Rock Rapids to 6.41 inches at Oakland.

The past three months have been exceptionally wet across much of west central, southwest and south central Iowa. Meanwhile, the northwest quarter of the state has been relatively dry since the flooding rains of June. The statewide average year-to-date precipitation total stands at almost 38 inches or nearly 6 inches above normal to rank as the 11th highest total at this point of the year. October, at 0.4 degrees above average, was only the second month over the past year to average warmer than normal.

### Stream Flow

Stream flow conditions are above normal for the majority of the state. Since the last Water Summary Update, flows in the eastern half of Iowa have decreased and moved into the normal range. Flows in the western half of the state remain above normal or much above normal, and a few areas are in high condition. Flows in the northwest corner of the state remain normal.

### Shallow Groundwater

Based on available shallow groundwater level data and the normal to above normal streamflow values, shallow groundwater levels remain normal to above normal across Iowa. Additional precipitation during November is needed in northwest Iowa to avoid potential drought conditions from reoccurring next spring and summer.

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

## Are there ways to increase the supply of water where it is needed?

While there is no way to increase precipitation, there are methods used in Iowa to increase water availability. Excess rainfall and runoff is captured during wet periods so more water can infiltrate into shallow aquifers for use during dry periods. This is similar to the way a reservoir captures and stores surface water. However in this case, the goal is to move more water into shallow aquifers.

One method is the construction of a low head dam across a stream or river. A low head dam is designed to hold back water in a stream channel without causing an increased flooding risk to neighboring property. These dams are typically only a few feet high, but create a pool of water within the stream channel that can then infiltrate into the surrounding shallow aquifer. Low head dams are usually man-made structures, but beaver dams also provide the same type of benefit.

Another method that has been successful is the use of recharge basins near a stream. A recharge basin may be an excavated area, or simply an abandoned sand and gravel pit. During periods of high stream flow, surface water enters the recharge basin, infiltrates into the aquifer, and is then stored for later use.

Both of these methods have been used successfully in Iowa, and the DNR and the Iowa Geological Survey (IGS) work with communities to determine how best to implement these strategies. The Iowa DNR determines if any permits are required, and assists in securing those permits. The IGS provides technical assistance to help predict how beneficial these strategies might be in a specific location.

## Contacts

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