WATER SUMMARY UPDATE

No. 16

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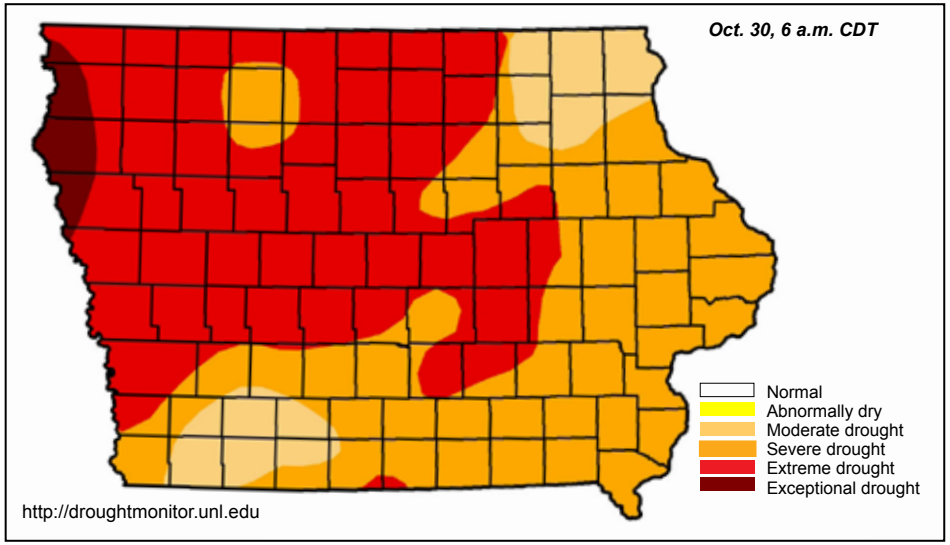
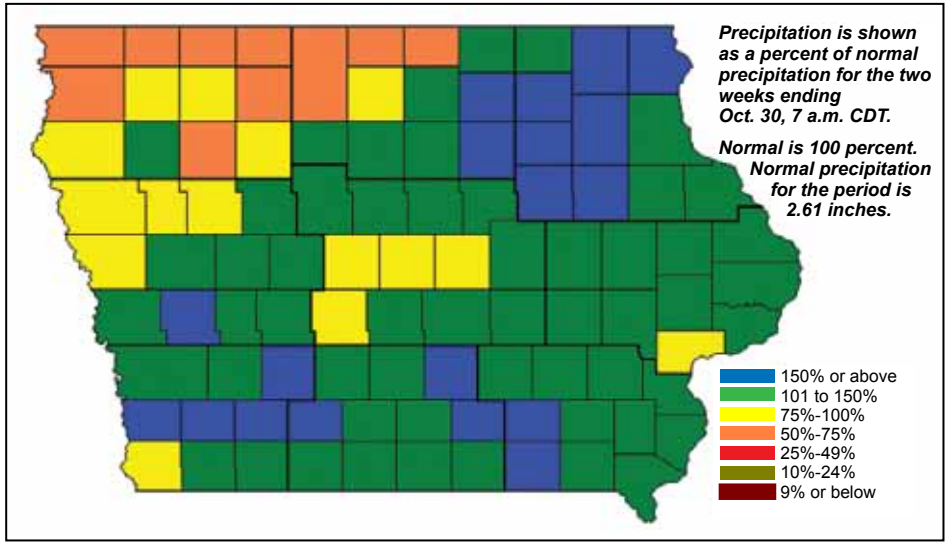
Drought Monitor

National Drought Mitigation Center and partners



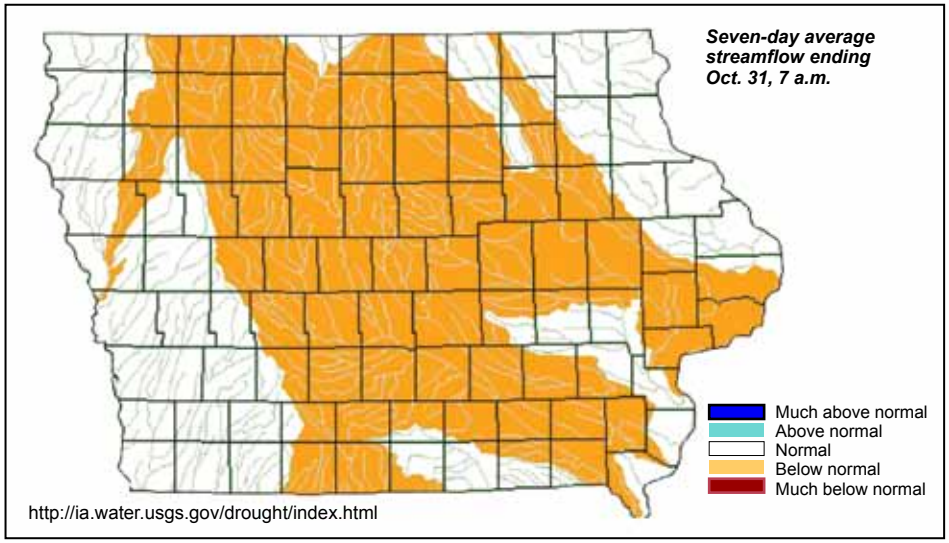
Precipitation

State Climatologist



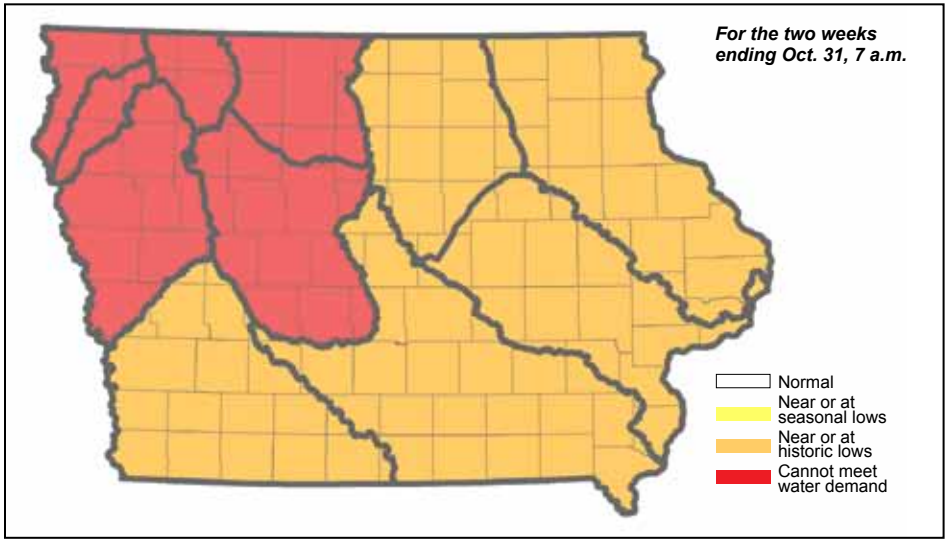
Streamflow

US Geological Survey



Shallow Groundwater

Iowa DNR



Recent Developments and Changes

Overall Conditions
Above normal rainfall for October was encouraging, although October is typically a fairly dry month. The statewide average precipitation deficit for the year is just over eight inches — or about one-quarter of our expected rainfall. Streamflow remains very low in much of the state, and is lower than it was at this time last year. Some water utilities are struggling to meet demand. The National Drought Monitor shows improvement in Iowa over the past month, but all of the state remains in moderate to extreme drought designation with a part of northwest Iowa still in exceptional drought.

Precipitation
October rainfall averaged over 3.1 inches across the state. This was more than one-half inch above normal, and was the highest monthly total since May and the first month with above average rainfall since April. Rain totals were generally below normal over the northwest one-third of the state and above normal elsewhere. Amounts ranged from 1.2 inches at Estherville to nearly 6 inches at Red Oak. Unfortunately, 2012 precipitation is more than 8.2 inches below normal for the state as a whole, the lowest January-October total since 1988. Some parts of north central and southeast Iowa are more than 20 inches short of rainfall since the drought began in 2011.

Shallow Groundwater
Shallow groundwater levels across the state continue to be near historic lows. Some improvement in static water levels has occurred in southwest and south central Iowa due to recent rainfall. Shallow groundwater conditions have worsened along the Ocheyedan and Upper Little Sioux Rivers. The city of Pilot Mound in Boone County is also experiencing water supply concerns.

Several water systems continue to have trouble meeting demand, and are having to use more water from the deeper aquifers since some shallow wells cannot supply enough water. Some systems are considering the construction of new wells to meet demand.

Drought Monitor
The Drought Monitor for October 30 shows noticeable improvement over the past month. While the area of the state designated as exceptional drought (D4) has not changed, the area of the state designated as extreme drought (D3) has decreased from 75 percent to 50 percent since early October. Nearly all of Iowa remains designated as severe drought (D2) or worse.

Streamflow
Streamflow conditions were below normal for 60 percent of the state. Streamflow conditions have improved since the October 4 Water Summary Update and areas that were less than 10 percent normal flow have moved to the below normal condition. Some rivers in southwestern and northeastern portions of the state have improved to normal streamflow conditions. Twenty-three stream reaches are below protected flow this week, up from 17 last week.

The good news is that we are seeing some streams begin to flow in the very northwest corner of the state.

Notable Events for the Period

Average streamflows across the state are lower now than at this time last year — in the 25th percentile compared 37th percentile.

USGS maintains nine monitoring wells in Iowa to observe groundwater levels. Eight of these nine wells have water lower than one year ago — even near Red Oak where rainfall has been close to normal for the year.

The water level at Saylorville Reservoir fell below the normal pool elevation in August of this year, and has been falling ever since. This is the first time levels have dropped to this point since the drought of 1988-89.

Water levels in lakes, ponds, and rivers have rebounded slightly in some areas, but not enough to improve conditions for winter survival of amphibians and fish. In many areas the low water conditions are already taking their toll and if we have a harsh winter, conditions under the ice will get worse.

Shallow natural lakes are most significantly impacted, while the impact to marshes has already occurred — many have no water. The lack of flow from lake inlets and tiles will increase the severity of winter kills in shallow natural lakes as these areas often provide the only refuge during low oxygen conditions. Turtle remains are being found in many areas around dry marsh beds.

Drought conditions have some positive effects for natural lakes and wetlands. A sustained dry period through next spring could allow aquatic plants to germinate in many areas, improving water quality and habitat when water returns.

In northeast Iowa recent heavy rains in some areas did little to improve flow conditions in trout streams and rivers.

The next Water Summary Update will be published December 6. Biweekly publication will resume in spring 2013.

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