WATER SUMMARY UPDATE

No. 14

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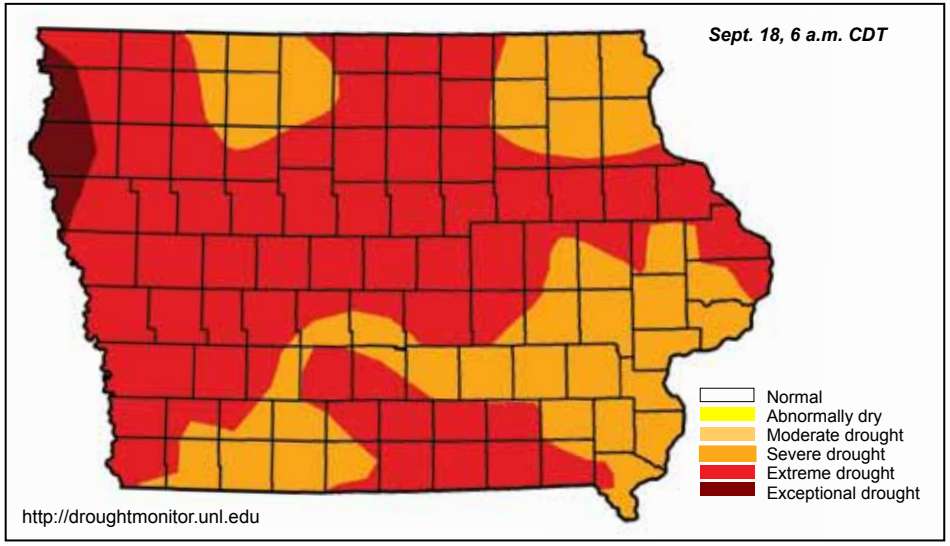
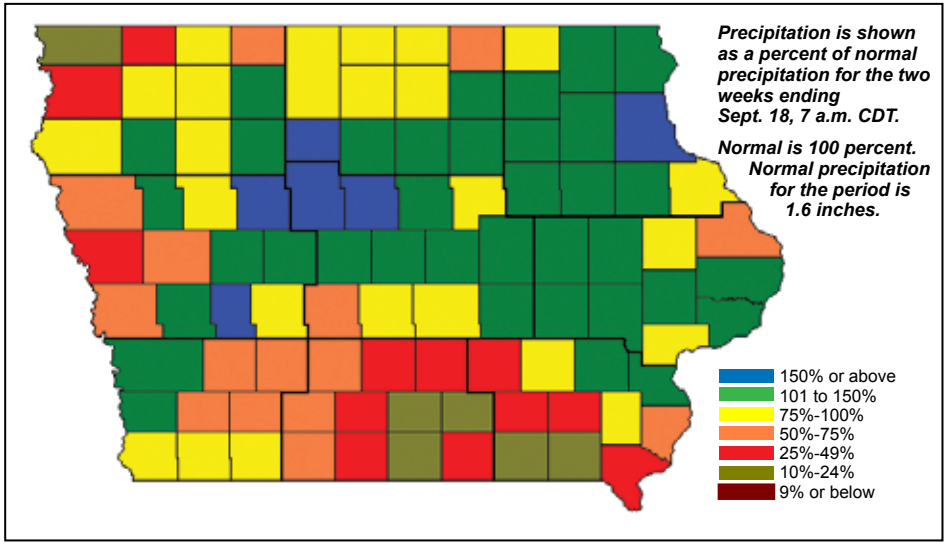
Drought Monitor

National Drought Mitigation Center and partners



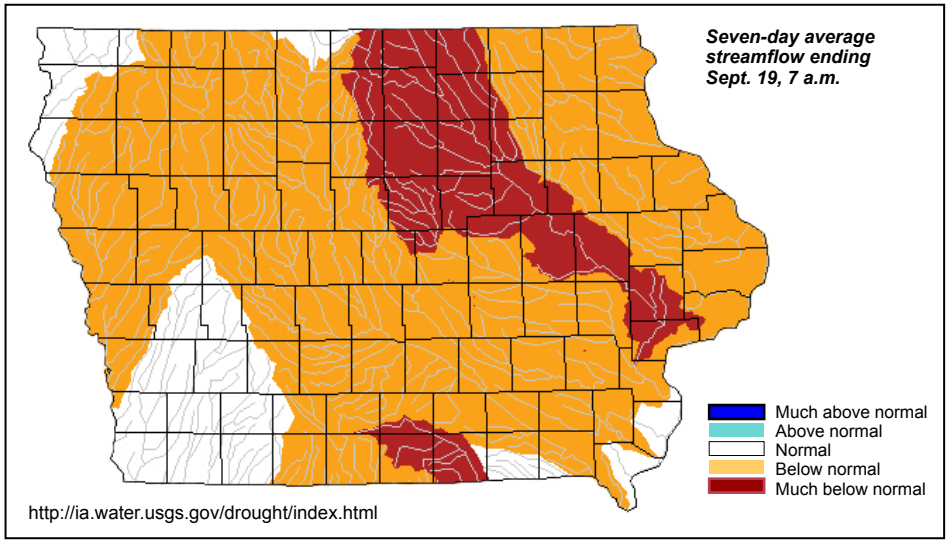
Precipitation

State Climatologist



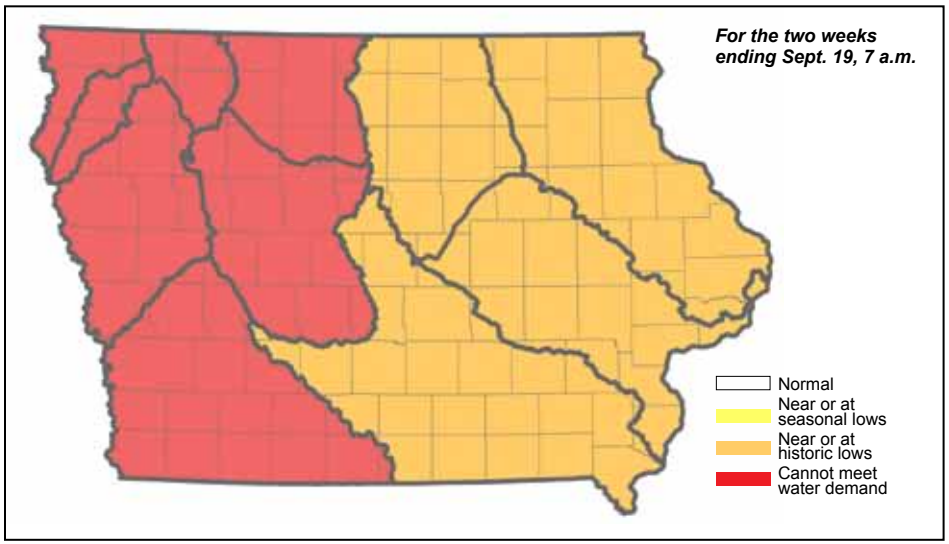
Streamflow

US Geological Survey



Shallow Groundwater

Iowa DNR



Recent Developments and Changes

Overall Conditions
Statewide rainfall over the past two weeks was the greatest in three months — but still less than average. In order to realize improvements in overall drought conditions, consistent above normal rainfall is needed. As a result of continued below normal precipitation, streamflow remains very low in much of the state and some water utilities still struggle to meet demand. The cooler weather has lessened the overall water demand, which helps in some places.

The Iowa Crops and Weather report released September 17 notes that 84 percent of topsoil moisture levels are rated short or very short, and 16 percent are rated as adequate. Subsoil moisture ratings are 93 percent short or very short, and 7 percent adequate. There is no topsoil or subsoil moisture rated as surplus.

Precipitation
Precipitation for the two weeks ending 7 a.m. Tuesday, Sept. 18, averaged 1.5 inches across Iowa, or just under than the normal 1.6 inches for the period. This was Iowa's largest two-week total since mid-June. Rain totals varied from 0.38 inches at Bloomfield to 4.08 inches at Elkader.

Meanwhile, temperatures were highly variable through the period. Cooler than normal weather prevailed for most of the past two weeks. The season's first freeze impacted a very small area of far northwest Iowa on the morning of Sept. 18 with Sibley reporting a low of 30 degrees. Lower evaporation rates, along with near normal rainfall, allowed soil moisture levels and pasture conditions to improve slightly over the past two weeks.

Shallow Groundwater
There has been very little change in shallow groundwater conditions across Iowa over the past two weeks. Shallow groundwater levels throughout the state continue to be at or near historic lows. Shallow groundwater conditions have worsened along the west fork of the Des Moines, Ocheyedan and Upper Little Sioux rivers. Many water utilities in southwest and northwest Iowa are under mandatory and voluntary water restrictions.

Pumping water levels are at or slightly above pump settings in many locations in western Iowa. Spotty rainfall has improved shallow groundwater levels in isolated areas of western and southeast Iowa, but most areas remain extremely dry.

Many improvements in water utility conditions are due to a decrease in water demand and not an increase in the water supply.

Streamflow
Streamflow conditions are below normal for the majority of the state. The lowest streamflows are in the Iowa River and Cedar River basins, which have less than 10 percent of normal streamflow. Streamflow conditions in northeast Iowa have moved to the below normal condition. Streamflow conditions in the southwest corner of the state, as well as a small area in the southeast, have improved to "normal." The extreme northwestern corner of the state continues to have normal streamflows.

Thirty-six stream reaches are below protected flow this week — up from 32 reported last week. This is a record for largest number of streams below protected flow in Iowa. Iowa law requires that irrigation for general farm crops has to stop by Sept. 30, but the DNR monitors stream flow conditions throughout the year.

Notable Events for the Period

Field observations show little change since the last report. Water levels in large natural lakes continue to drop. For example, Clear Lake is 27 inches below crest. Most shallow marshes remain dry. Recent rains have been mostly light and have done little to raise lake or wetland water levels in NW Iowa.

Fish kills continue to diminish as water temperatures drop.

Conditions in northeast Iowa trout streams have improved due to decreases in water temperatures. Flows have not improved. Even heavy rains in some northeastern counties did little to raise water levels.

There are still many streams with no flow in NW Iowa as the rains have been light and scattered. The flows in the larger streams and rivers continue to drop.

Some water utilities have shifted from mandatory conservation restrictions to voluntary measures, but others have moved from voluntary to mandatory restrictions.

The National Weather Service is indicating that the seasonal outlook for October through December points to the possibility of warmer than normal temperatures and average rainfall.

Water Summary Updates will be published on the first Thursday of each month beginning Oct. 4, unless conditions change significantly and a more frequent edition is needed. Biweekly publication will resume in spring 2013.

Drought Monitor
The Drought Monitor for Sept. 18 has changed little from two weeks ago. The area of the state that is designated extreme drought (D3) has grown from 62 to 66 percent, but the area designated as exceptional drought (D4) is unchanged at 2 percent. These past two weeks are the only time that the D4 designation has been used in Iowa. On a regional level, the D4 designation in the High Plains Region (states located west of Iowa) has been reduced slightly, and in the Midwest Region (states located from Iowa eastward through Ohio) the D4 designation is found only in the small area of northwest Iowa.

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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.