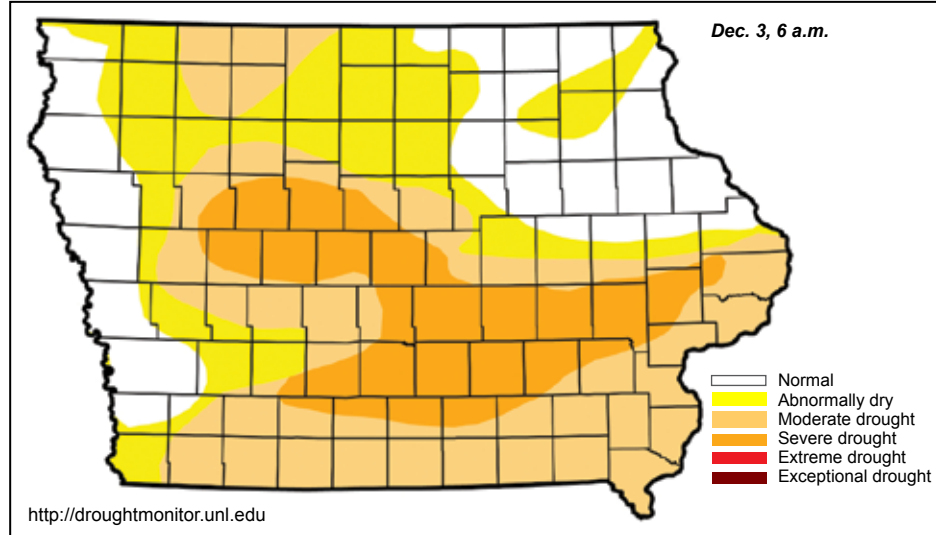


WATER SUMMARY UPDATE

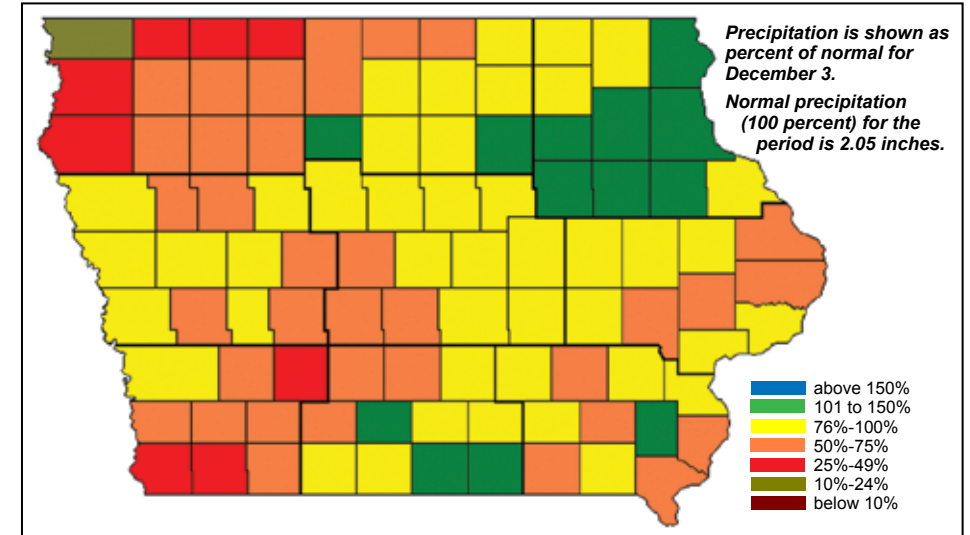
Drought Monitor

National Drought Mitigation Center and partners



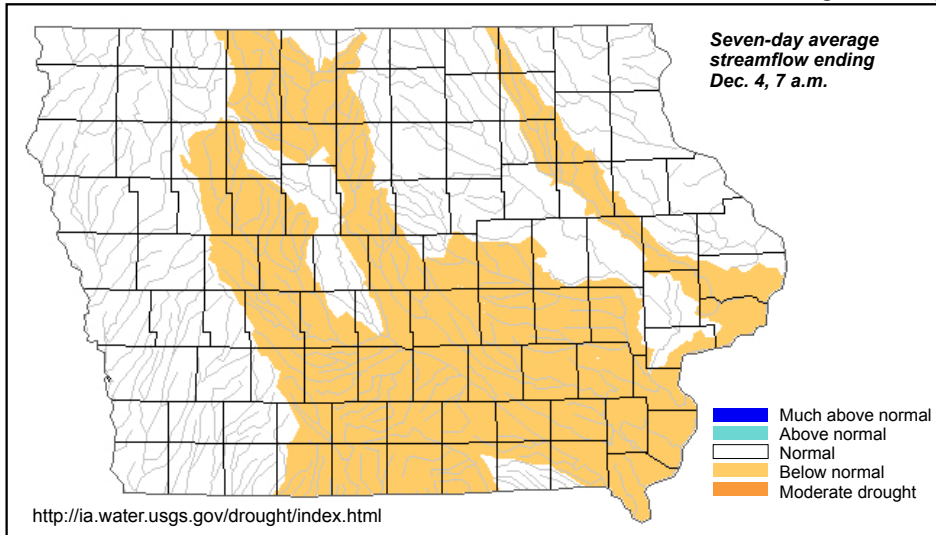
Precipitation

State Climatologist



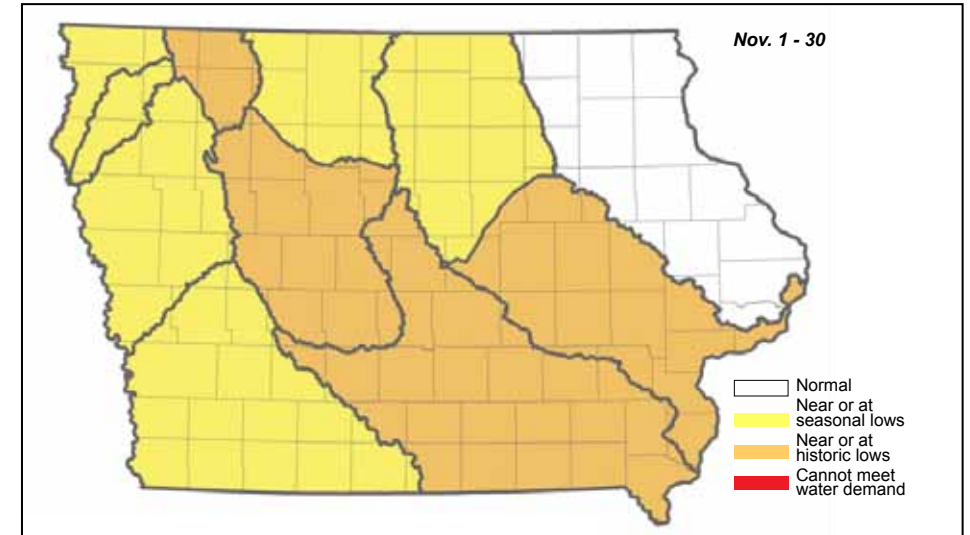
Stream Flow

US Geological Survey



Shallow Groundwater

Iowa DNR



Recent Developments and Changes

Overall Conditions

“Stable but dry” seems to describe Iowa’s November. In some places and by some measures, conditions are slightly improved since late October, but the state remains in need of additional moisture. November precipitation was below normal over most of Iowa, with a statewide average precipitation of 1.6 inches, about 0.4 inches less than the 30-year normal. A little more than one-half of the monthly precipitation total came from a statewide event Nov. 5-6, with very little falling late in the month. November through February is typically the driest four months in the state, so the important wet months are a season away.

Average stream flow in Iowa has been stable for the past three months, but remains below normal. Shallow groundwater levels in most of Iowa are slightly better than they were a year ago, with water levels in some places two feet greater than this time last year.

Drought Monitor

During November overall drought conditions improved in Iowa. At the beginning of the month there was a small area of the state rated as extreme drought – but that is now gone. Nearly half of the state is now rated as dry or drought-free, up from only a third of the state a month ago. About 20 percent of the state is considered to be in a severe drought, compared to 35 percent at the start of November. This continues a trend of improvement that began in September.

Precipitation

November precipitation was below normal over most of Iowa. The statewide average precipitation was 1.63 inches or 0.42 inches less than the 30-year normal.

With the end of the growing season and seasonably low temperatures there was a general increase in soil moisture levels during the month. Soil moisture levels remain lower than is typical for this time of year; but according to USDA National Agricultural Statistics Service Information, subsoil moisture levels are much better than this time one year ago over northern and western Iowa and are slightly better than year-ago levels over south central and southeast Iowa where the driest conditions are. Little change is anticipated in soil moisture levels over the winter as soils are likely to be frozen statewide by now, and are unlikely to thaw until early next spring.

Statewide, year-to-date precipitation is running nearly 10 inches greater than in 2012. Three counties — Dickinson, Montgomery and Page — have seen less precipitation this year than last.

Shallow Groundwater

Dry conditions continued across most of central, south-central, and southeast Iowa during November. Shallow groundwater levels in most of Iowa slightly improved in November 2013 compared to November 2012, with water levels in

some places two feet greater than this time last year. The only exceptions are the city of Boone and Osceola Rural Water (Osceola County), which are seeing water levels about a foot lower than this time last year. Much lower water demand over the next few months should continue to improve the situation.

Stream Flow

The stream flow map shows historical average flow for the past seven days compared. Stream flow conditions have stabilized across the state over the past month. The central part of Iowa – the Raccoon, Des Moines, Skunk, and Wapsipinicon river watersheds are below the 25th percentile. In the western quarter of the state, stream flows are normal for this time of the year, as well as in the Cedar River watershed and the northeastern corner. It is important to remember that stream flow levels are typically low during the winter months, so below normal flows for this time of year can be particularly low.

The DNR continues to work with communities investigating alternatives to improve the long-term reliability of their drinking water supplies.

Notable Events for the Period

An extended period of unseasonably cold weather froze soils over much of Iowa in late November (some areas had thawing the last day or two in early December). Similar cold did not arrive until much later last winter. Thus, many smaller streams have seen flows greatly reduced owing to freezing weather this year while stream flows were unimpeded by frozen ground until well into the second week of December last year.

The USGS streamflow index shows that average streamflow in Iowa has been consistent over the past three months. Since early September the average streamflow has been somewhat below normal, but not exceptionally low.

Fourteen stream reaches are now below protected flows, up from six the prior week. The flow in many smaller streams is hovering either above or below the protected flow level. The DNR will continue to monitor stream trends through the end of the year because of the dry situation.

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 Department.

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