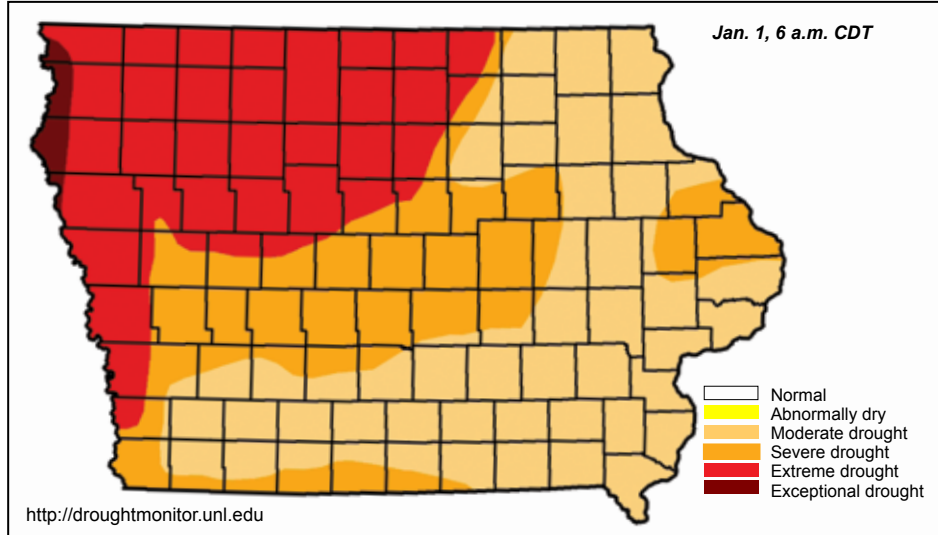


WATER SUMMARY UPDATE

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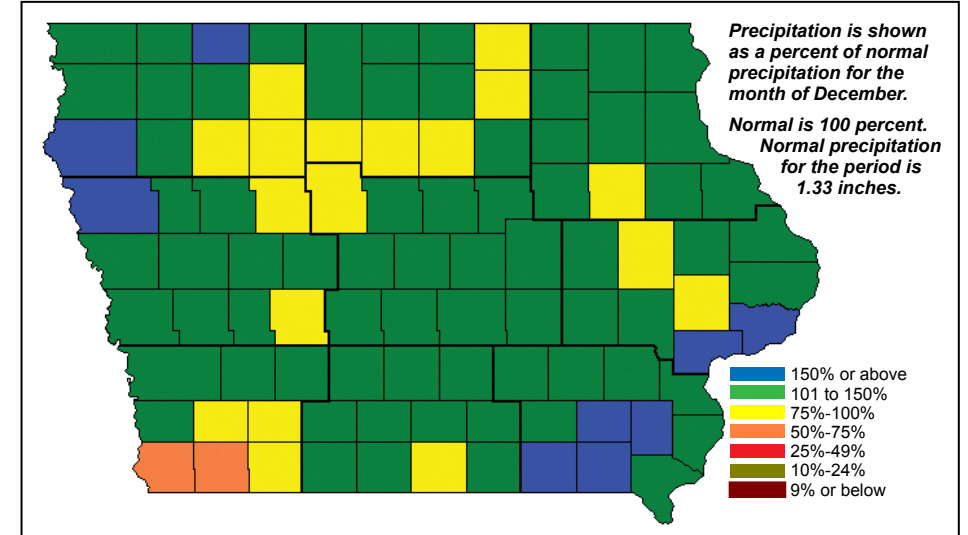
Drought Monitor

National Drought Mitigation Center and partners



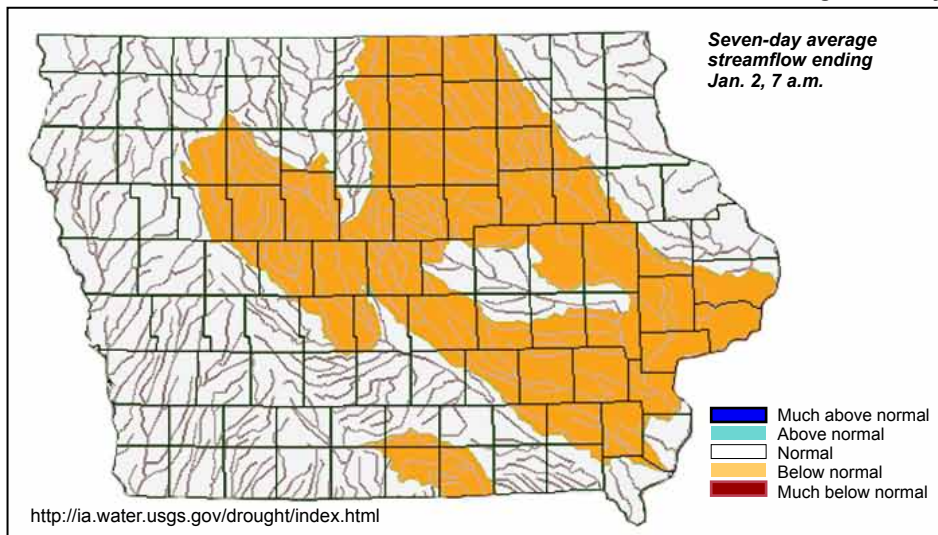
Precipitation

State Climatologist



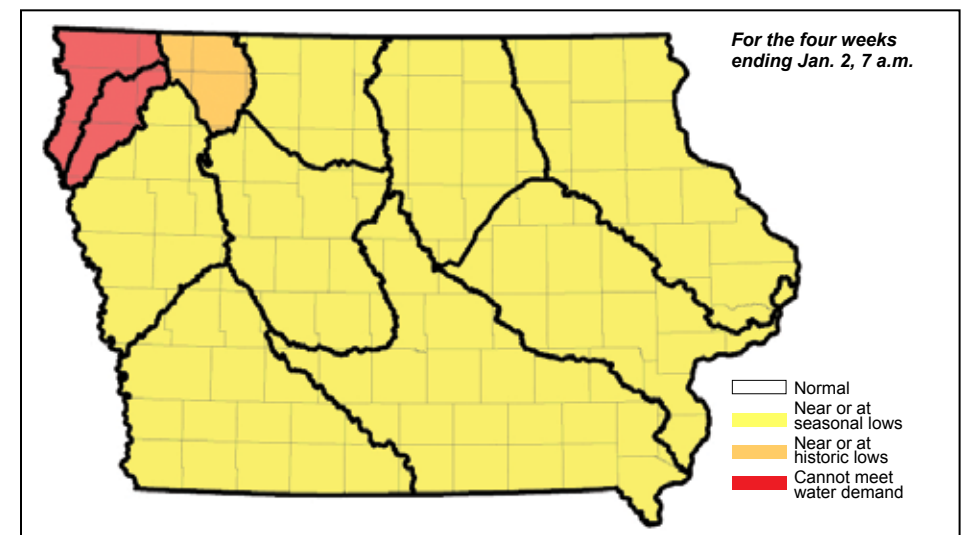
Streamflow

US Geological Survey



Shallow Groundwater

Iowa DNR



Recent Developments and Changes

Overall Conditions

After a drier than normal November, the state saw a wetter than normal December. Rainfall was about a quarter of an inch above normal for the month, with some streams now showing normal flow. Reduced demand has led to general improvement in groundwater conditions, but more precipitation is still needed.

Drought Monitor

Over the past month conditions as reported on the drought monitor have improved overall. While the area designated in exceptional drought remains unchanged over the past month, the area designated as extreme drought has dropped from over 40 percent to just over 30 percent since early December. The area designated as severe drought has dropped from about 70 percent to under 60 percent during this same time period. All of the state, however, remains in at least the category of D1—Moderate Drought.

Streamflow

Streamflow conditions remain below normal for approximately one third of the state, but have improved over the past month. Many areas that were rated much below normal or below normal have improved to the next best category. The lowest streamflow conditions are within the Cedar River, Raccoon River and Skunk River basins which are less than 24 percent of normal streamflow.

Streamflow conditions in the western portion of the state have remained in the normal streamflow conditions category since the last month's water summary.

It should be noted that during the winter season, USGS streamflow data may be impacted by ice formation and backwater. This information should be used as preliminary information only.

Precipitation

December precipitation averaged 1.57 inches across Iowa or almost a quarter inch greater than normal. This ranks as the 34th wettest December among 140 years of records. The bulk of the precipitation came from two events: a Dec. 14-16 storm that came mostly in the form of rain, and the storm Dec. 19-20 that brought blizzard conditions to much of the state but was preceded by unseasonably heavy precipitation over the southeast.

Shallow Groundwater

Most shallow groundwater levels across the state improved slightly during the month of December. Most of this improvement can be attributed to lower demand and less pumping stress. It is unrelated to precipitation and groundwater recharge.

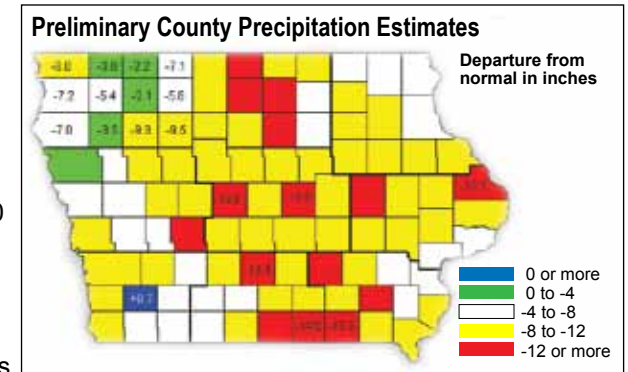
Increases in static water levels range from 0.4 feet along the Ocheyedan River in northwest Iowa, to approximately one foot in Oxford Junction in eastern Iowa. Static water levels along the Skunk River near Newton dropped approximately 0.55 feet in December (compared to November), but were still 0.45 feet higher than in August 2012.

The next Water Summary Update will be published Feb. 7, 2013. Biweekly publication will resume this spring.

2012 in Review

Precipitation. The year of 2012 averaged just over 26 inches of precipitation for the state — almost nine inches less than normal. This is the lowest annual total since 1989 but ranks only 19th lowest among 140 years of state records.

Red Oak was the only reporting point with above normal precipitation (39.28 inches) while some locations scattered over the northern one-third of Iowa saw totals only in the 21 to 22 inch range.



Many areas of the state saw normal rainfall during the fall season prior to the freezing of the ground, but areas of northwest Iowa were drier than normal during this time period. Conditions generally improved toward southeast Iowa. Rainfall prior to freezing soil will impact soil moisture in spring 2013.

Drought Monitor. The drought monitor has shown significant deterioration in 2012. At the start of 2012 only 39 percent of the state was designated in any form of drought, with the worst conditions being the 24 percent of Iowa rated as D2, or severe drought. That compares to nearly 60 percent of the state rated in that same category at the end of 2012.

Streamflow and Lake Levels. Over the past year the water levels in West Okoboji and Big Spirit lakes have dropped about seven inches, while the level in Clear Lake has dropped over 15 inches. Average streamflow in the state for the 2012 water year (Oct. 2011 through Sept. 2012) was only about 60 percent of normal flow — reflecting the overall dry conditions statewide.

Shallow Groundwater. Shallow groundwater levels measured in all nine of the USGS system of climate wells in Iowa have decreased in 2012. Water levels in two of the wells have decreased by a foot, while the well located in Marshall County shows a drop of almost seven feet in water level over the past year.

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.

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