

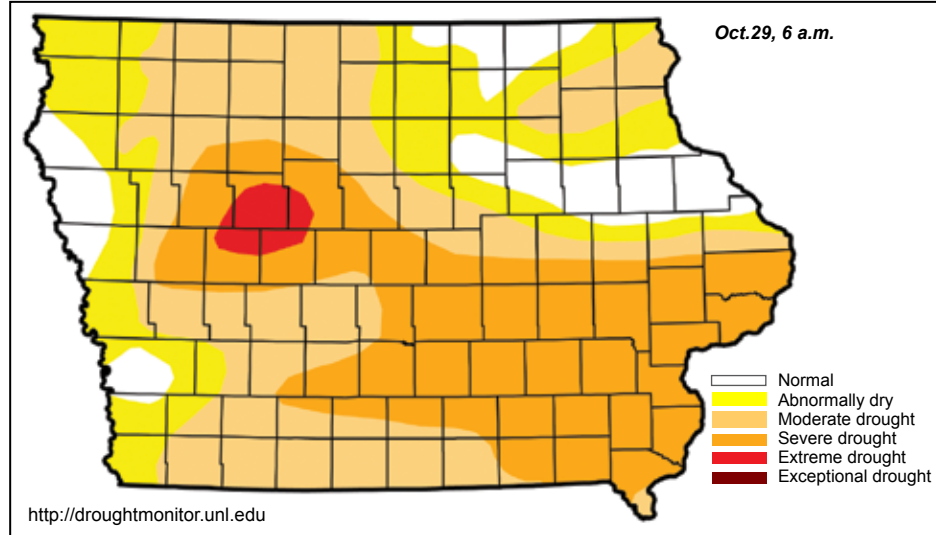
# WATER SUMMARY UPDATE

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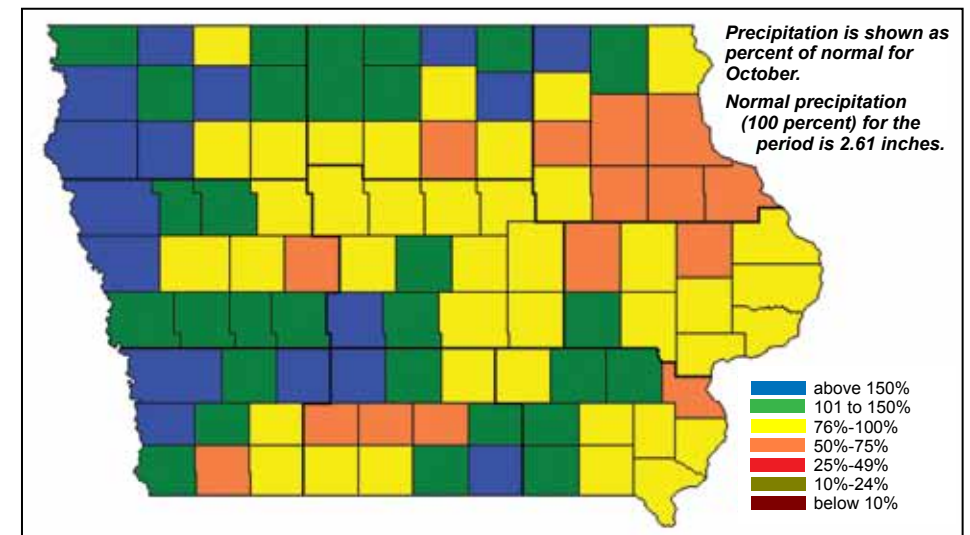
## Drought Monitor

National Drought Mitigation Center and partners



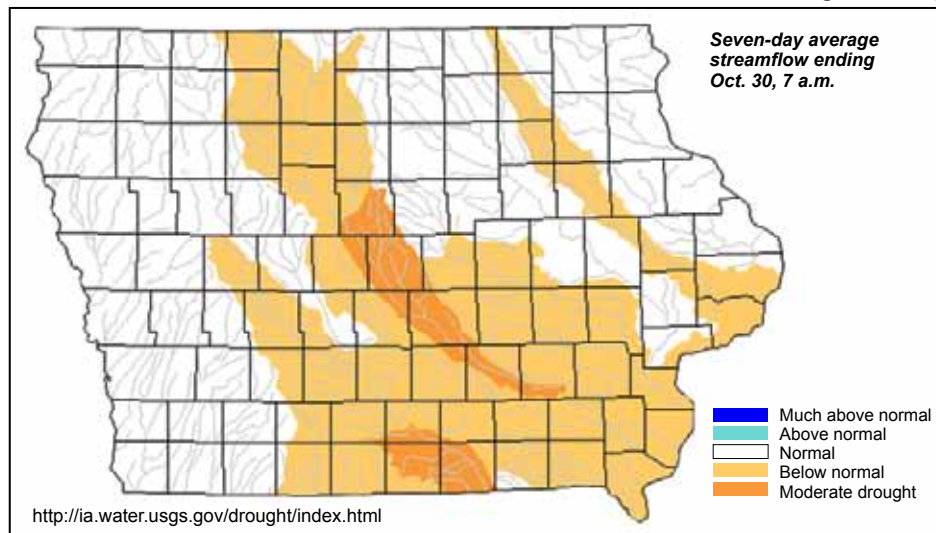
## Precipitation

State Climatologist



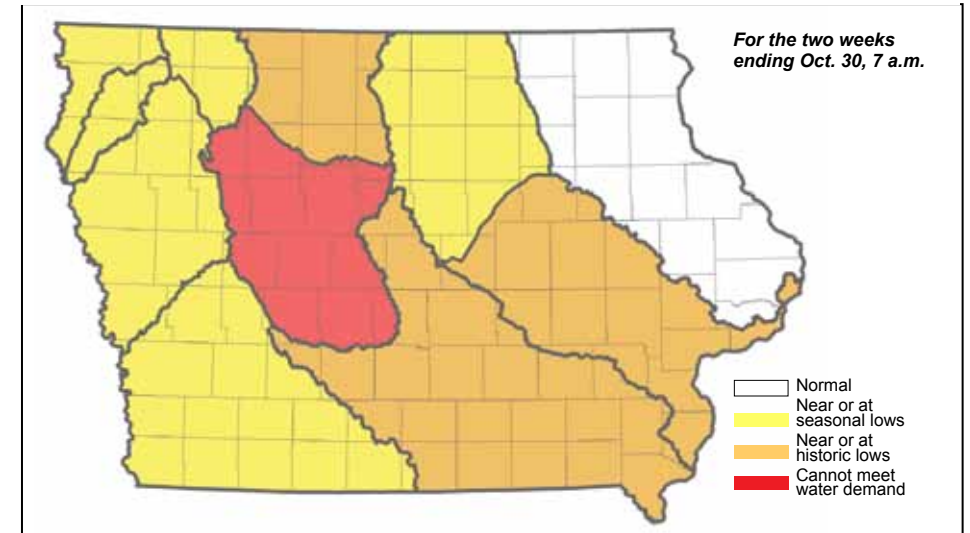
## Stream Flow

US Geological Survey



## Shallow Groundwater

Iowa DNR



## Recent Developments and Changes

### Overall Conditions

During October Iowa saw stable to slightly improving drought conditions. The rain yesterday evened out statewide rain distribution for October a great deal. This moisture helps the situation, but more months of consistently above normal rainfall are needed to greatly reduce drought conditions before the 2014 growing season.

Stream flows in nearly half the state are rated as below normal, and groundwater concerns remain most significant in a band through the middle of the state with the driest areas in Boone, Calhoun and Webster counties.

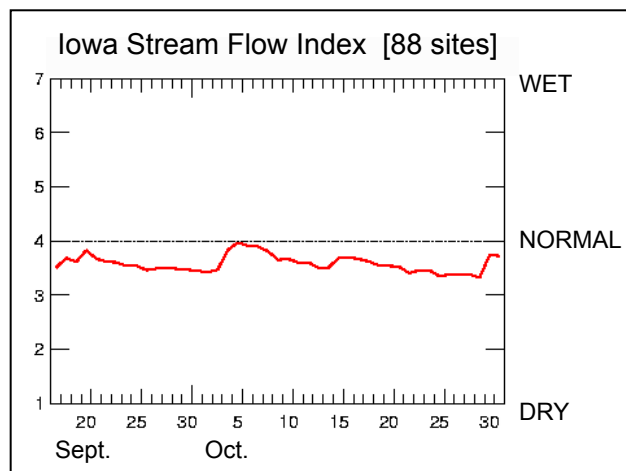
Topsoil moisture levels reported by the USDA in *Iowa Crops and Weather* were 21 percent very short, 32 percent short, 47 percent adequate and 0 percent surplus. Subsoil moisture levels are rated 31 percent very short, 36 percent short, 33 percent adequate and 0 percent surplus.

### Shallow Groundwater

Dry conditions continued across most of eastern and southern Iowa during October. Shallow groundwater in parts of western Iowa benefited from normal to slightly above normal rainfall. Boone, Calhoun and Webster counties continue to have much below normal shallow groundwater levels. The DNR is assisting communities with investigating alternatives to improve the long-term reliability of their drinking water supplies.

### Stream Flow

The streamflow map shows the average flow over the past seven days compared to historical streamflow levels. Streamflow conditions have declined over the past month. Streamflow conditions across approximately half of the state have below normal conditions with the remainder having normal levels. The lowest streamflow conditions are in the Skunk and Chariton River watersheds.



*This chart provided by the U.S. Geological Survey shows the increased average stream flow that occurred as a result of recent rain.*

### Precipitation

October has exhibited a split personality this year with a warm and relatively wet first half and much colder and mostly dry second half. Heavy precipitation fell in some areas (especially north and west) from Oct. 2 - 4, with another wet period Oct. 13 - 14, with parts of far western Iowa seeing one to two inches of rain.

The season's first accumulating snow occurred Oct. 22 with a short-lived fall of one to inches over portions of central and east central Iowa. Month-to-date precipitation has been above normal over much of far western and far northern Iowa, but has been well below normal across the southeast. The preliminary Iowa statewide average precipitation for October is 2.79 inches or 0.18 inches above normal. This is the highest monthly total since June 2013. The rain yesterday significantly evened out the statewide precipitation for October. Fairfield, which had been the dry spot in October, was one of the wettest locations Wed. It received 2.85 inches.

Freezes were nearly a daily occurrence from Oct. 17 - 27 with temperatures falling as low as 18 degrees in parts of Iowa. Much lower temperatures, as well as the end of the growing season, have greatly reduced evaporation. Thus precipitation received from now on can recharge soil moisture levels until the ground freezes for the winter—usually in the first week or two of December.

### Drought Monitor

Drought conditions stabilized in October, improving slightly. Roughly one-third of the state is classified in severe drought, one-third is classified as in moderate drought, and one-third is either abnormally dry or has no drought conditions. A small area in west central Iowa, between Carroll and Ft. Dodge, remains in severe drought.

### Notable Events for the Period

- Customers of at least five water utilities are under voluntary or mandatory water conservation measures.

*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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