Iowa Department of Natural Resources

A snapshot of water resource trends from August 31 through October 10, 2016

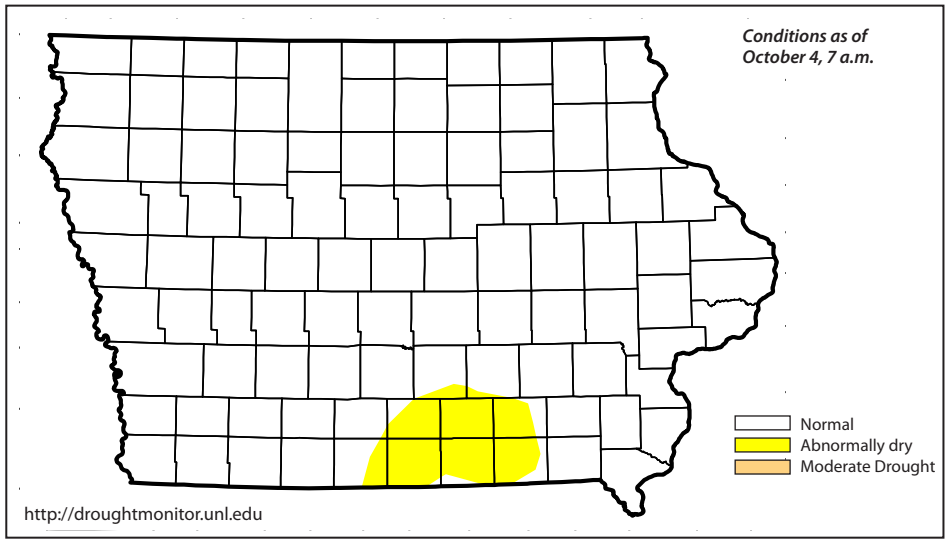
WATER SUMMARY UPDATE

No. 69

Published Date
October 10, 2016

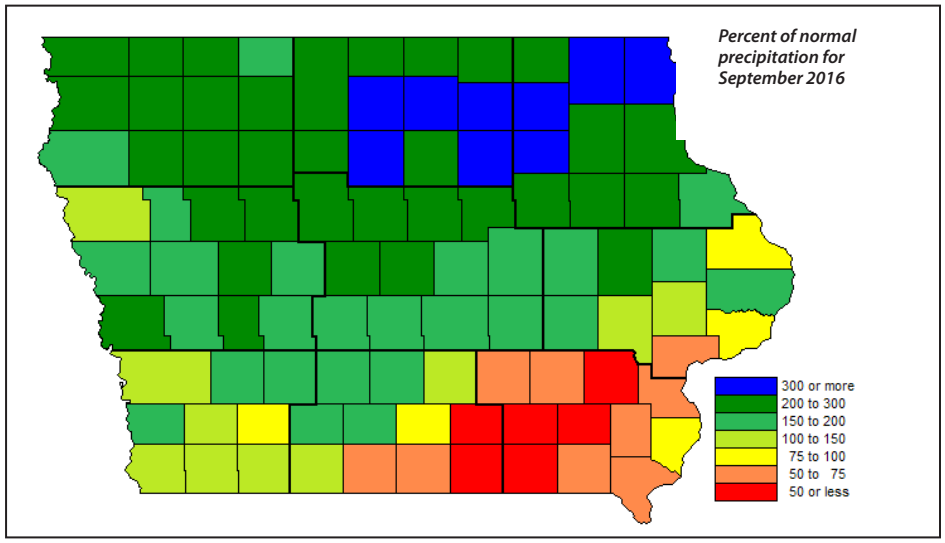
Drought Monitor

National Drought Mitigation Center and partners



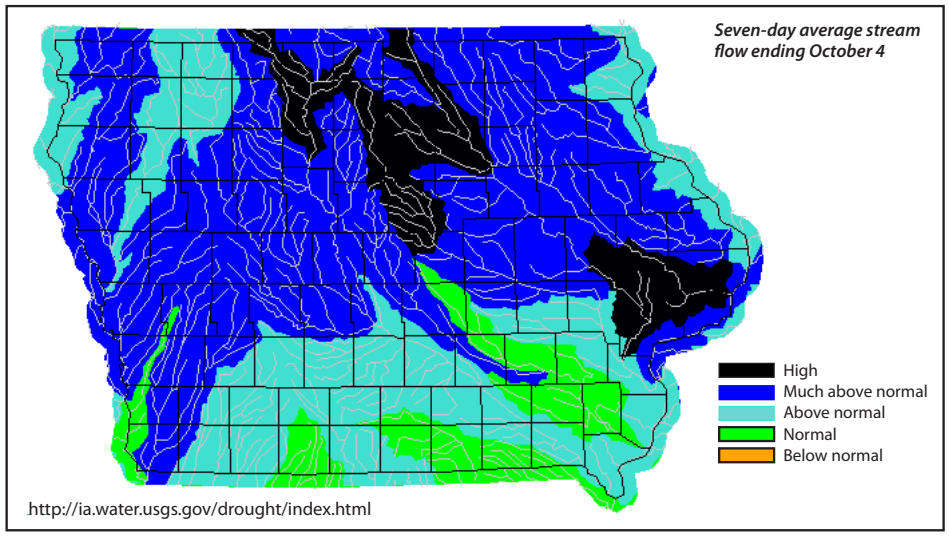
Precipitation

State Climatologist



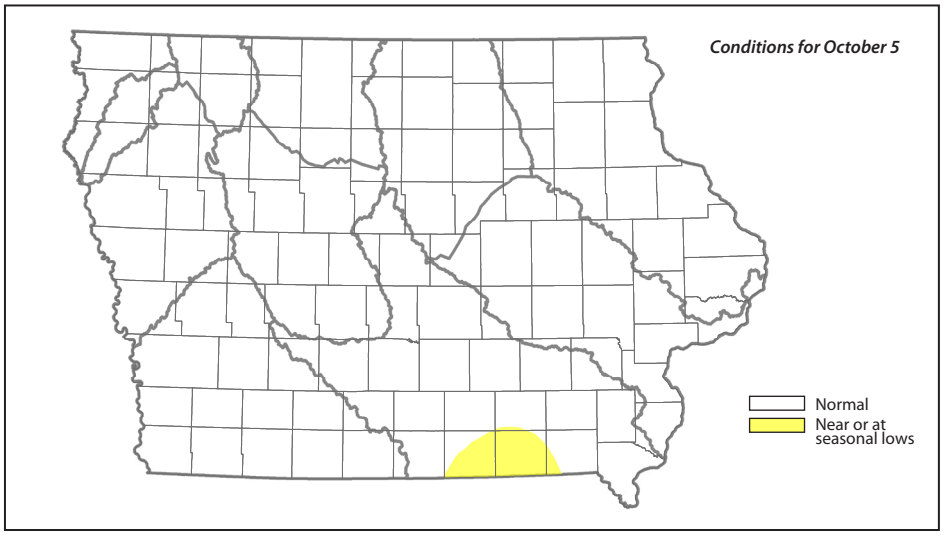
Stream Flow

US Geological Survey



Shallow Groundwater

Iowa DNR and IIHR-Hydroscience and Engineering



Recent Developments and Changes

Summary:
The big weather event for Iowa in September was the excessive rains over north central and northeast Iowa, which resulted in a record crest along the Shell Rock River and the second highest crest of record along the Cedar River. The flooding was largely in response to torrential rains September 21-22, but aggravated by very wet conditions which prevailed earlier in the month and throughout the summer. Streamflow conditions are high in nearly the entire state, and other than a small area of dryness in SE Iowa, conditions are fairly wet heading into the usually dry fall and winter months.

Precipitation:
Heavy rains fell over the entire Cedar River watershed upstream of Cedar Rapids with the largest storm-total rain measurement of 10.56 inches near Nora Springs in Floyd County. Meanwhile, parts of southeastern Iowa recorded an unusually dry September with monthly rain totals less than one-third of normal at Fairfield and Ottumwa. September rain totals varied from 0.90 inches at Fairfield to 17.25 inches near Nora Springs. The statewide average was 6.29 inches or 2.91 inches above normal to rank as the wettest September since 1986.

Groundwater:
Moderate to heavy rainfall occurred across much of Iowa during the last tow weeks of September. However, the far southeast corner of Iowa (primarily Appanoose and Davis counties) has experienced below normal rainfall, and shallow groundwater levels are slightly below normal.

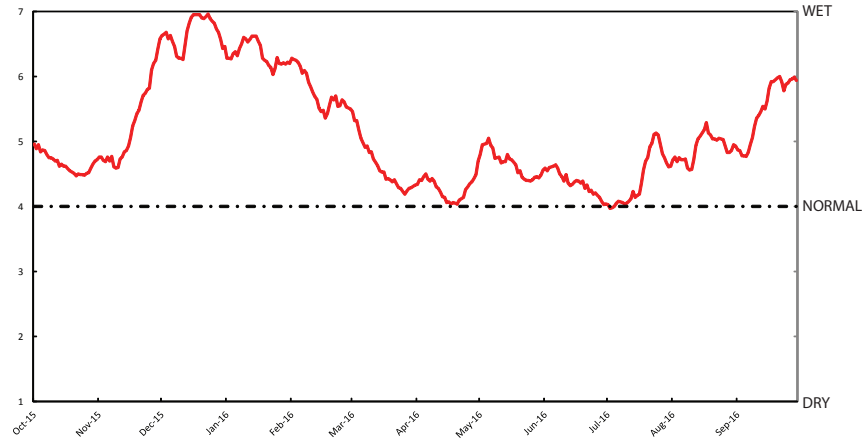
Streamflow:
Streamflow conditions are above normal for the majority of the state, having increased since the last water summary update. USGS crews have been making additional streamflow measurements as a result of rain events, especially September 22 to 30 due to the heavy rain events in the Cedar and Wapsipinicon River basins. Peak streamflow values at several locations on the Shell Rock, Cedar, and Wapsipinicon Rivers were found to be the second highest ever recorded, with only the 2008 peak values being higher.

Drought Monitor:
Nearly all of the state is free from any dryness or drought – as might be expected given the wet month and wet water year. The only exception to this trend is an area of about 5 percent of Iowa that is rated as being abnormally dry. This is the area that received very little rain during September.

Contacts

General Information ..... Tim.Hall@dnr.iowa.gov 515-725-8298
Drought Monitor..... Harry.Hillaker@iowaagriculture.gov 515-281-8981
Precipitation..... Harry.Hillaker@iowaagriculture.gov 515-281-8981
Stream Flow .....Daniel Christiansen, dechrist@usgs.gov 319-358-3639
Stream Flow .....Michael.Anderson@dnr.iowa.gov 515-725-0336
Shallow Groundwater..... Michael.Anderson@dnr.iowa.gov 515-725-0336

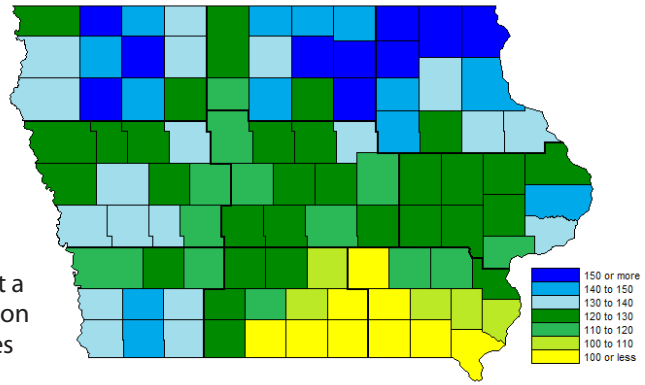
2016 Iowa Streamflow Water Index



The streamflow index reflects an average of streamflow across the state compared to normal flows for that date. The index shows flows were higher than normal for the entire year, with very high flows during the winter months, more normal flows during the summer, and a return to very high flows toward the end of the water year.

The 2016 Water Year: Much wetter than average

Percent of normal precipitation, Water Year 2016 (Oct. 1, 2015 - Sept. 30, 2016)



October 1 through September 30 is known as the "water year". This time period is used because snow accumulation after October 1 is the primary source of runoff to streams during the following calendar year in many parts of the country. The 2016 Water Year (ending September 30, 2016) brought a statewide average precipitation of almost 45 inches, 9.6 inches more than normal. This ranks as the third wettest water year among 144 years of record. Precipitation was below normal in southeastern Iowa, as shown below. Charles City had the highest water year precipitation total with over 60 inches. This was easily a record high water year total at that location.

Prepared by the Iowa DNR in collaboration with the Iowa Department of Agriculture and Land Stewardship, the U.S. Geological Survey, IIHR–Hydroscience and Engineering and The Iowa Homeland Security and Emergency Management Department.