



WATER SUMMARY UPDATE

Published Date Oct. 18, 2018 | Issue 90

A snapshot of water resource trends for the 2018 Water Year

2018 Water Year Summary

OVERVIEW – WATER YEAR ENDS ABOVE NORMAL FOR RAINFALL AND NORMAL FOR TEMPERATURE

The “Water Year” is defined as the period between Oct. 1 and Sept. 30. This period of time is used because accumulating snow is the primary source of water runoff into streams during the next calendar year for many parts of the United States.

Iowa’s 2018 Water Year, ending Sept. 30, 2018, averaged 42.38 inches of precipitation, 7.11 inches above normal. Temperatures averaged 48.1 degrees, average for Iowa. This was the sixth wettest and 45th warmest Water Year among observational records. April 2018 was the coldest on record, while May and June were the third and 10th warmest on record, respectively.

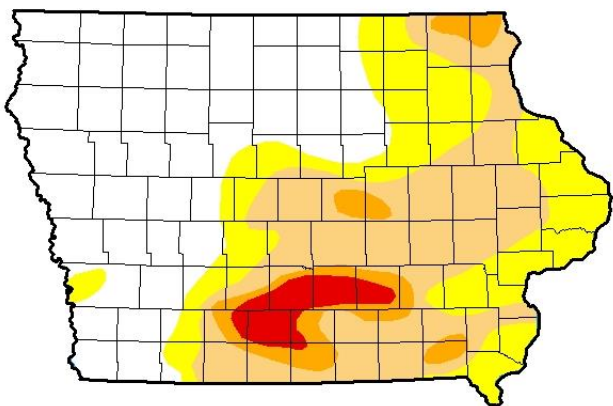
Regionally, however, it was not wet across all of the state. Southern Iowa saw very dry conditions for much of the summer, with fall rains finally improving drought conditions. The resulting shallow groundwater conditions have improved across the entire state.

DROUGHT MONITOR

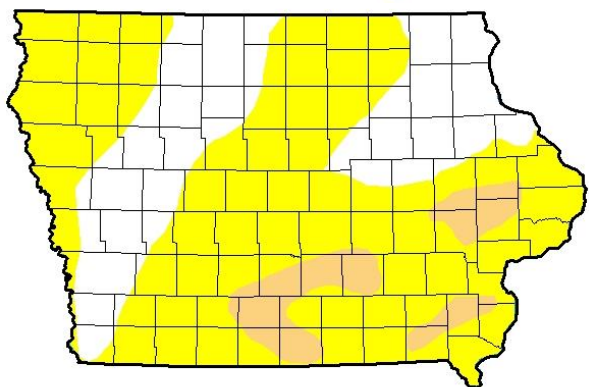
The National Drought Monitor (NDM) provides a good way to see national, regional and statewide trends in drought conditions. At the start of the water year, more than half the state was rated in some level of dryness or drought, including more than a third of the state rated as Moderate Drought (D1) or worse. The area of significant dryness was centered over south central Iowa. By January 2018, the severity of drought had lessened, but more than 70 percent of the state was in some condition of drought or dryness. Throughout the summer months drought conditions shifted to southeast Iowa and became more severe. However, fall rains helped to reduce these conditions, leaving the state with only 6 percent of its area in dryness or drought by the end of the water year.

To the south of Iowa in northern Missouri, drought conditions were quite severe by mid-August with much of the area north of the Missouri River rated as Extreme or Exceptional Drought (D3 or D4). However, those conditions have also improved, with northern Missouri showing only small areas of Moderate Drought.

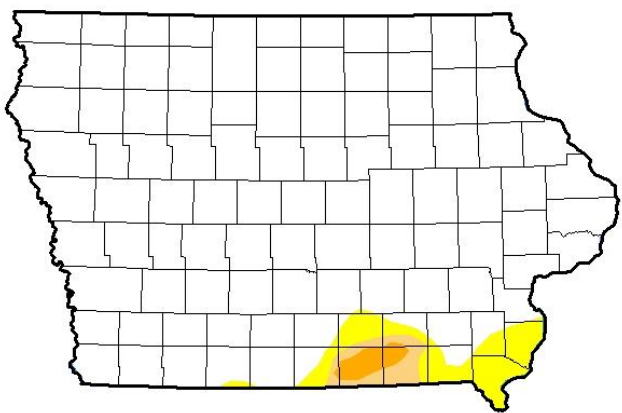
Drought Monitor - National Drought Mitigation Center and partners



October 3, 2017



January 2, 2018



October 2, 2018

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

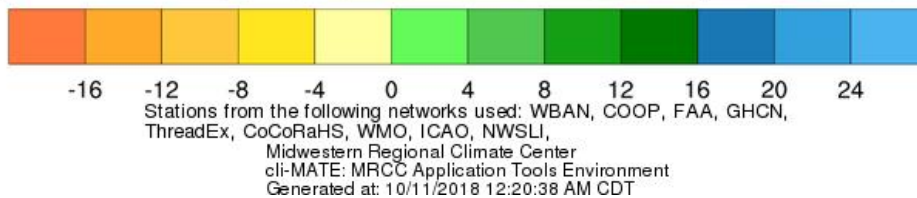
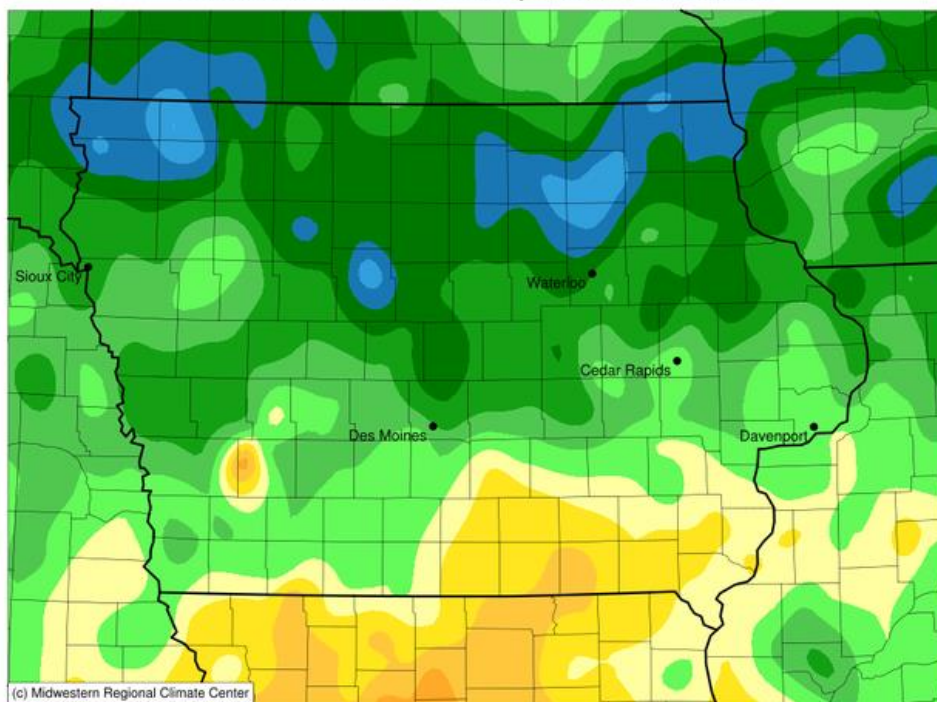
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

PRECIPITATION

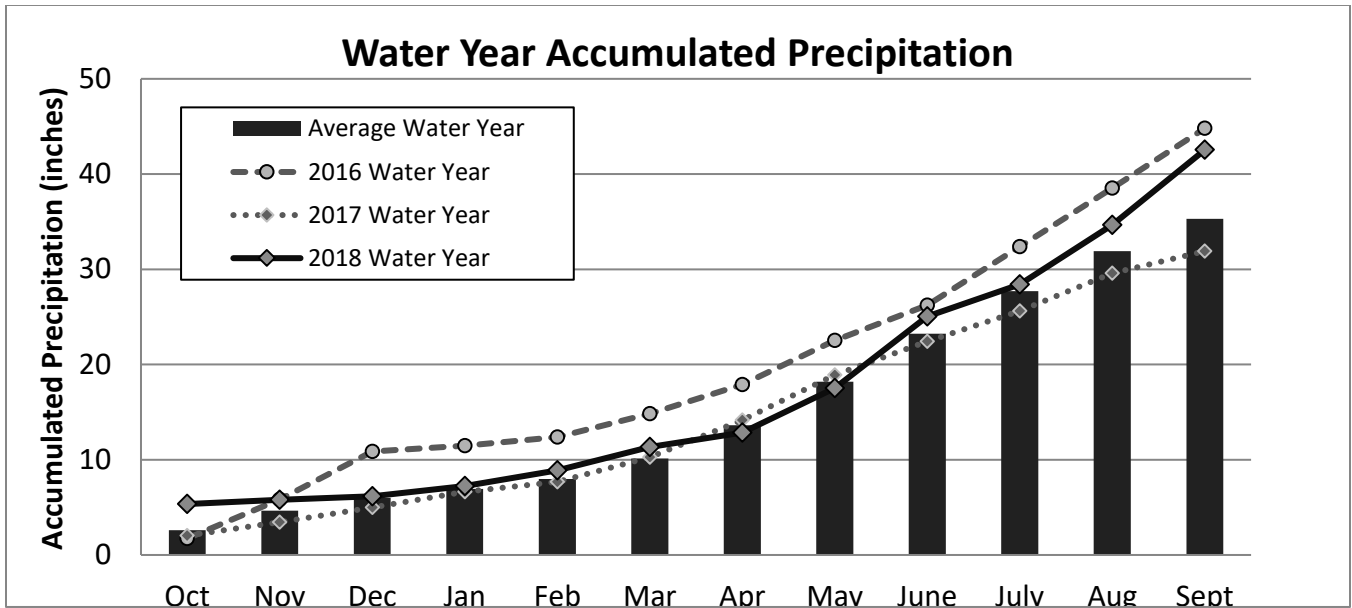
A majority of Iowa received above normal precipitation during the 2018 Water Year, with only parts of southern Iowa in precipitation deficits. The border region between Iowa and Missouri saw minor rainfall deficits compared to southeastern Iowa, where some counties were between 4 to 8 inches below normal. Northern Iowa was extremely wet with some counties in northwestern and northeastern Iowa receiving precipitation between 16 to 20 inches above normal. Many locations in north-central Iowa also had abnormally high rainfall accumulations between 8 to 16 inches above average. May and June continued the pattern of higher than expected rainfall across northern Iowa. This abnormal behavior expanded south in June and then reversed in July, with most of the state having below average rainfall that contributed to drought conditions in south-central Iowa. In mid-August drought and abnormal dryness reached its maximum extent, covering almost 36 percent of the state. As a wetter-than-normal weather pattern developed later in August into September, drought conditions significantly improved. August-September 2018 was the wettest August-September period on record.

Accumulated Precipitation (in): Departure from 1981-2010 Normals

October 01, 2017 to September 30, 2018

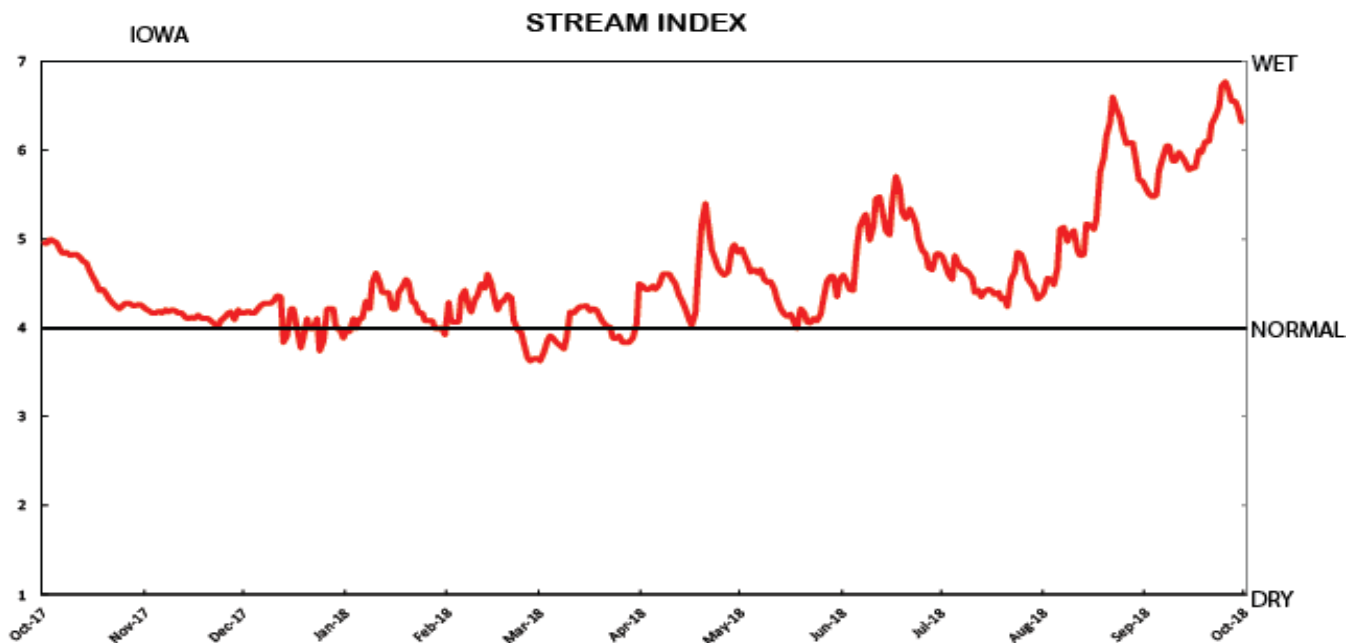


The graph below shows the contrast between the 2016, 2017 and 2018 water years. In 2018, the accumulated precipitation was nearly normal until late spring when above normal precipitation pushed the statewide averages above the expected level, with the water year ending well above the normal 36 inches for the state.



STREAMFLOW

The U.S. Geological Survey (USGS) streamflow index is an average of streamflows at all USGS stream gauges across the state compared to the average streamflow at all those points at that time. Average streamflow is typically much lower in the winter than in the spring and early summer. Streamflow began the 2018 water year (WY) (October 2017 to September 2018) slightly above normal, and ended the WY much above normal to high conditions. Streamflows across the state were high in June and approaching normal in July. Streamflows increased again from August to October. Record streamflows were recorded at several locations including on the Little Sioux and Floyd Rivers and Fourmile Creek. At least once in the 2018 WY, 87 stream gauges exceeded the National Weather Service (NWS) flood stage. USGS field crews made several streamflow measurements during the high streamflow events to verify and report real-time data to the NWS, U.S. Army Corps of Engineers, and many other emergency-related agencies.



ADDITIONAL INFORMATION

For additional information on the information in this Water Summary Update please contact any of the following:

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