



# WATER SUMMARY UPDATE

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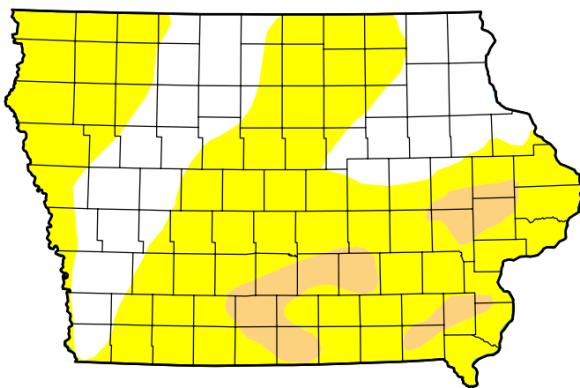
## A review of water resource trends from 2018

2018 in Iowa was a wet year, but with some dryness in the southeastern part of the state. This past year was second only to 1993 for average statewide precipitation. Iowa received 45 inches of rainfall for the year; nearly 10 inches above normal. Twenty seven counties across northern Iowa experienced their wettest year on record. Streamflow was above normal for most of the year, while shallow groundwater levels recovered from low levels in southern Iowa to become normal to above normal for the entire state

### DROUGHT MONITOR FOR 2018

Over the past year the conditions in Iowa have steadily improved, with no designation of dryness or drought at the end of 2018. For most of the year the drought concerns were concentrated in the southeast corner of the state. In August of this past year, conditions were the most severe, with over two percent of the state rated as being in extreme drought. This included all of Davis County, nearly all of Appanoose County, and portions of Monroe, Van Buren, and Wapello Counties. Since that time, however, rainfall conditions have improved, and all of the state is free from dryness and drought.

Early in 2018 drought conditions existed over much of the Mississippi River Valley and the east coast states, but by the end of 2018 drought and dryness has disappeared from nearly all of the United States east of the Rocky Mountains



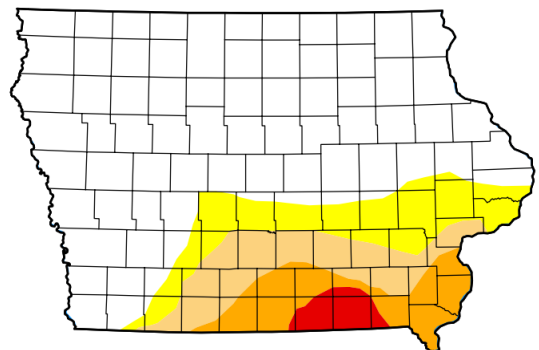
January 2018 – Start of the year conditions

*Intensity:*

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

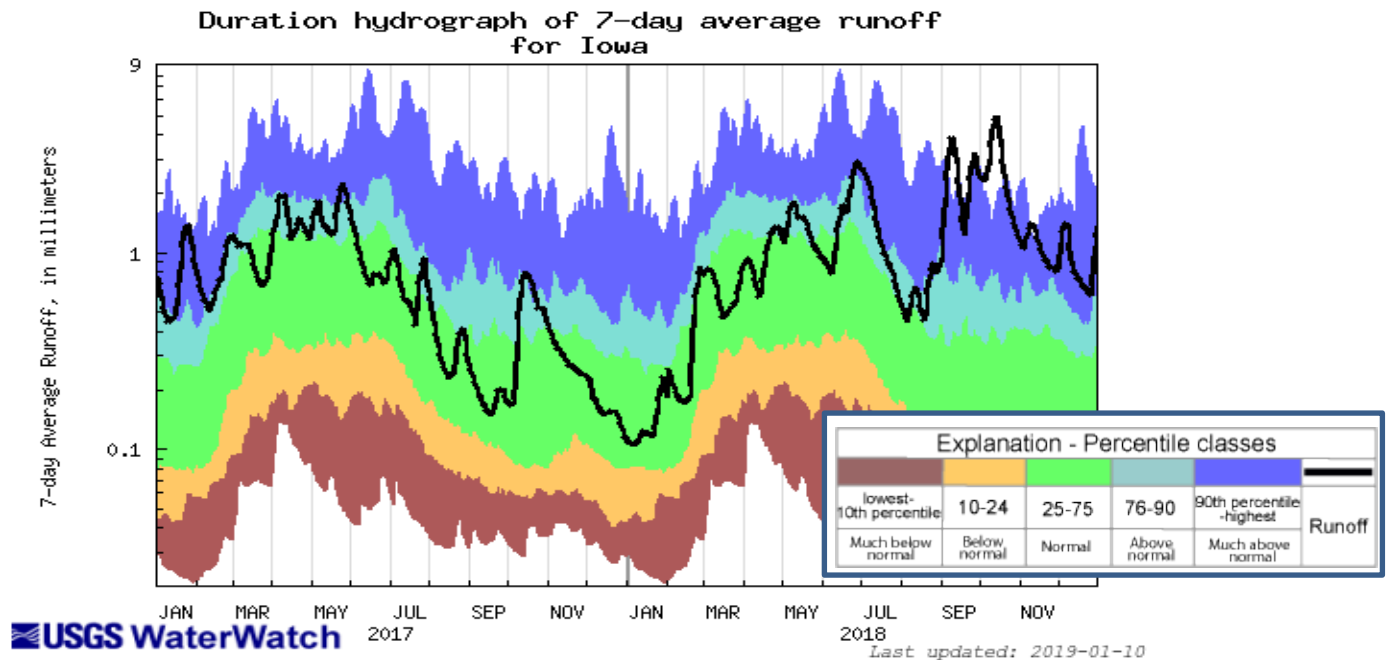
*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.*

Most Severe Conditions in 2018 – August 21



## 2018 RUNOFF AND STREAM FLOW

The figure below shows how average runoff peaks during spring and early summer, and is normally lower in the fall and winter months. 2018 began with statewide average runoff in the normal range, with runoff rising into the “Above Normal” and even “Much Above Normal” range in late June, thanks to a few very significant rainfall events. Beginning in early August, when runoff should be slowly decreasing, runoff spiked into the “Much Above Normal” range, where it remained for the rest of the year. At no point during both 2017 and 2018 did the runoff dip down into the “Below Normal” range. There were areas of the state that experienced low stream flow during this time period, but the average across the state remained normal or above.

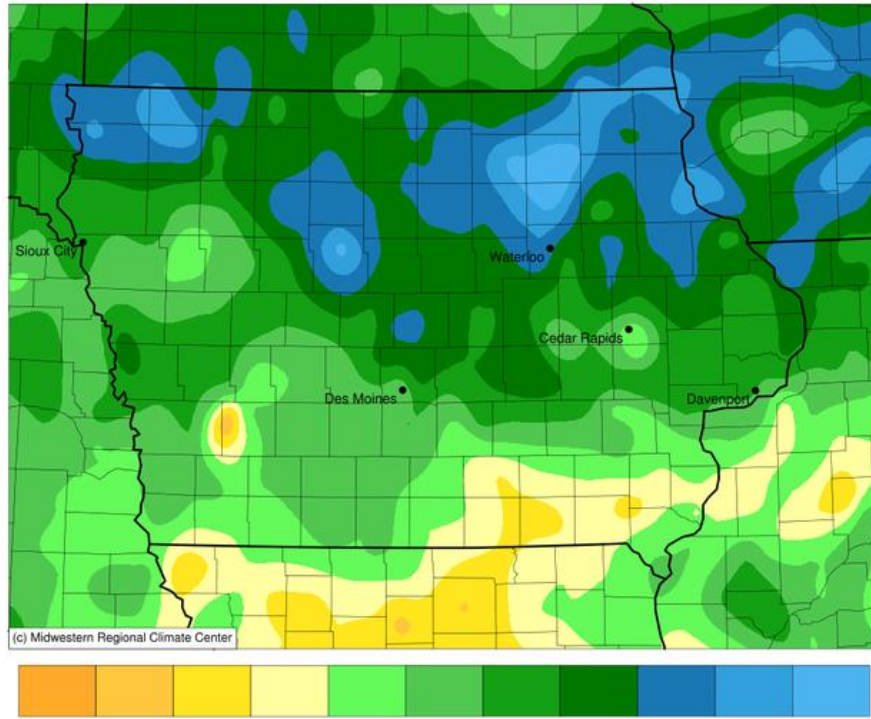


## YEAR IN REVIEW PRECIPITATION AND TEMPERATURE

Iowa experienced its second wettest year on record in 2018 with a preliminary statewide average precipitation accumulation of 45.00 inches, 9.73 inches above normal. This ranks as the wettest year since the Great Flood year of 1993, where 47.88 inches of precipitation was recorded. Twenty seven counties across northern Iowa experienced their wettest year on record, receiving 12 to 20 inches more than normal rainfall. Across the state the spring was drier than normal while during the summer months, statewide rainfall totals were above average, especially northern Iowa. June and August recorded unseasonably wet conditions and the fall was extremely wet across Iowa, ranking as the 3rd wettest fall, with 14.48 inches of precipitation, 6.48 inches above normal. These very wet conditions helped significantly in south-central and southeastern Iowa, where drought and abnormally dry conditions were returned to normal.

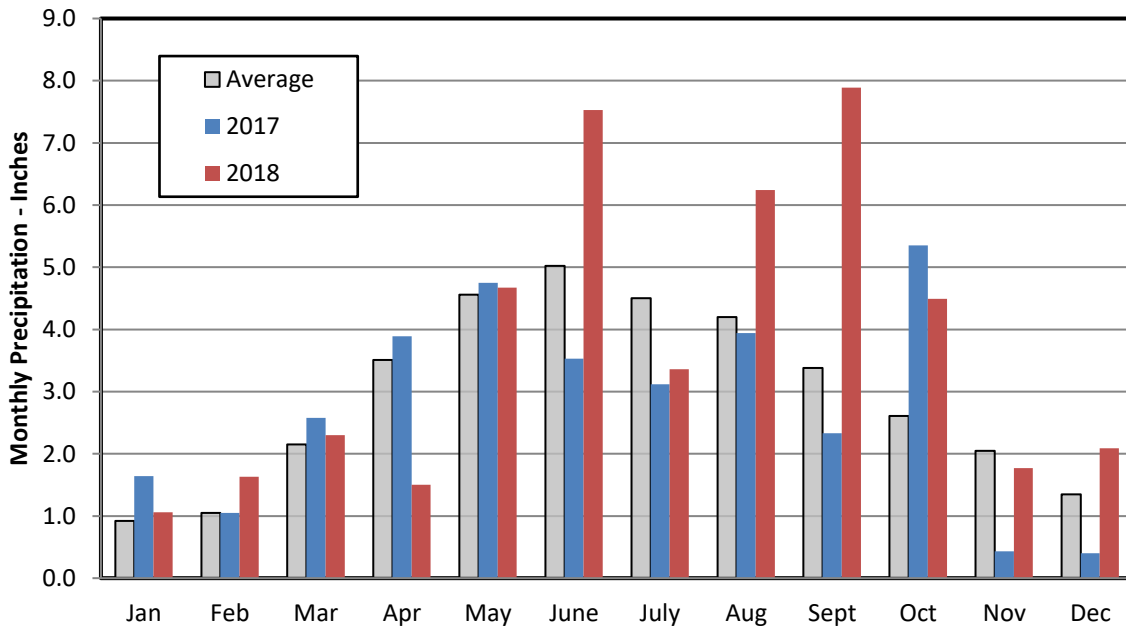
Iowa experienced some extremely variable temperatures during 2018. April was the coldest on record, while May’s temperature behavior was the opposite of the previous month, with the average temperature across Iowa seven degrees above normal, making it the third warmest May on record. Spring into early summer was generally near normal, until unseasonably warm conditions moved into the state during the 10th warmest June. Fall was generally cooler than average with temperatures around 2.1 degrees below average. The end of 2018 was a temperature seesaw as November was 6.4 degrees below average and December was 5.1 above average. In terms of historical ranking, 2018 will be the 51st coolest on record at 47.4 degrees, 0.7 degrees below normal.

**Accumulated Precipitation (in): Departure from 1981-2010 Normals**  
 January 01, 2018 to December 31, 2018



-12 -8 -4 0 4 8 12 16 20 24  
 Stations from the following networks used: WBAN, COOP, FAA, GHCN, ThreadEx, CoCoRaHS, WMO, ICAO, NWSLI, Midwestern Regional Climate Center  
 cli-MATE: MRCC Application Tools Environment  
 Generated at: 1/10/2019 8:48:58 AM CST

**2017/2018 Statewide Monthly Precipitation**



## 2018 SHALLOW GROUNDWATER

Shallow groundwater conditions varied considerably across Iowa during 2018, and most of the state had normal to above normal shallow groundwater levels. The one exception was south central and southeast Iowa, where dry conditions were present at the start of the year, and intensified during the summer months across the southern-most tier of counties. Extremely wet conditions occurred statewide, and especially in southern Iowa, throughout the fall of 2018. Shallow groundwater conditions are currently normal to above normal across the entire state.



## ADDITIONAL INFORMATION

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

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