IOWA DEPARTMENT OF NATURAL RESOURCES

WATER SUMMARY UPDATE

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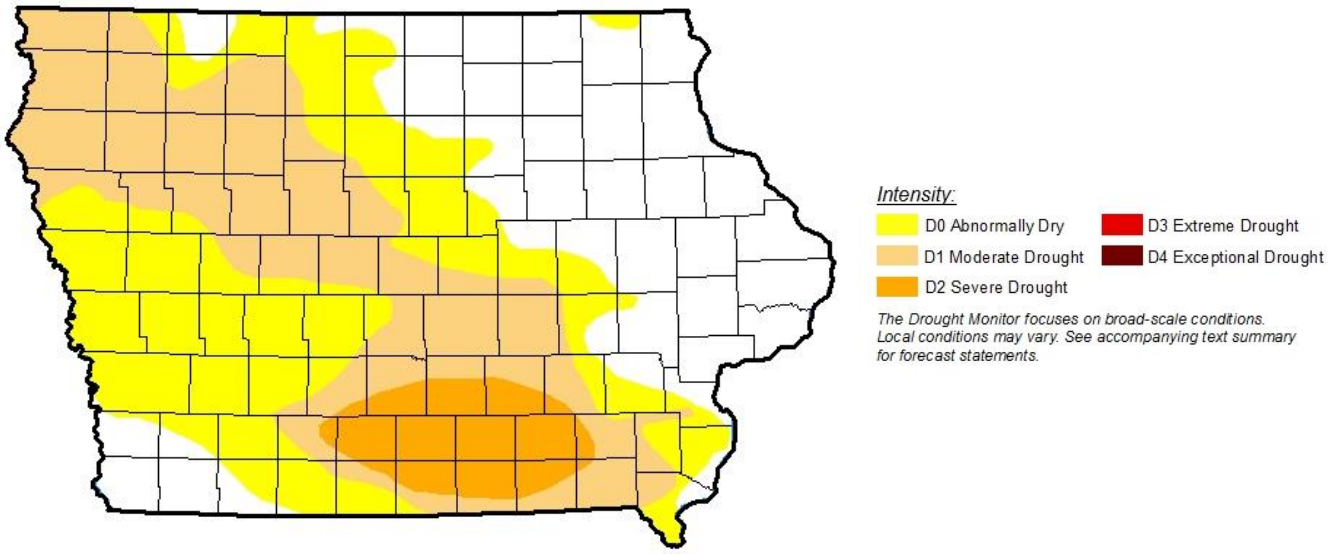
A snapshot of water resource trends from July, 2017

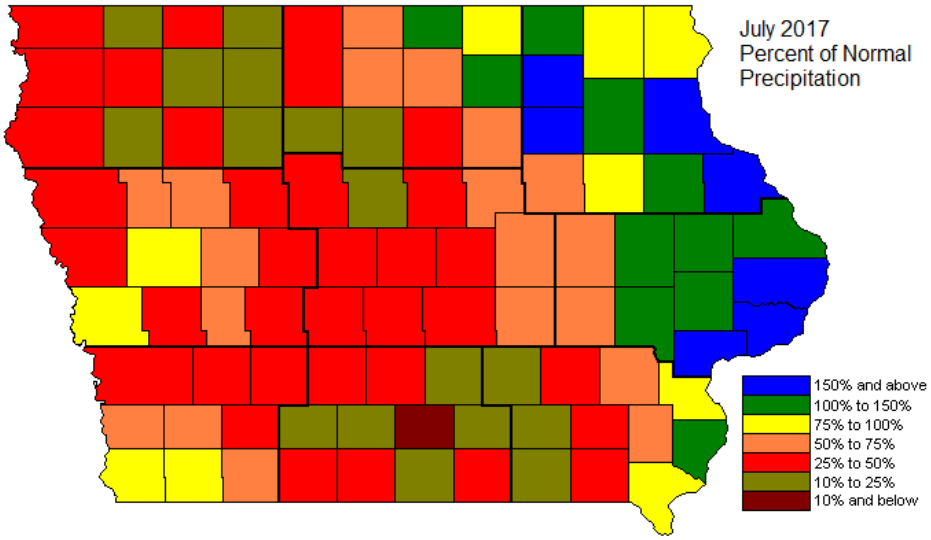
Drought Monitor - Conditions as of July 11, 7 a.m.

National Drought Mitigation Center and partners



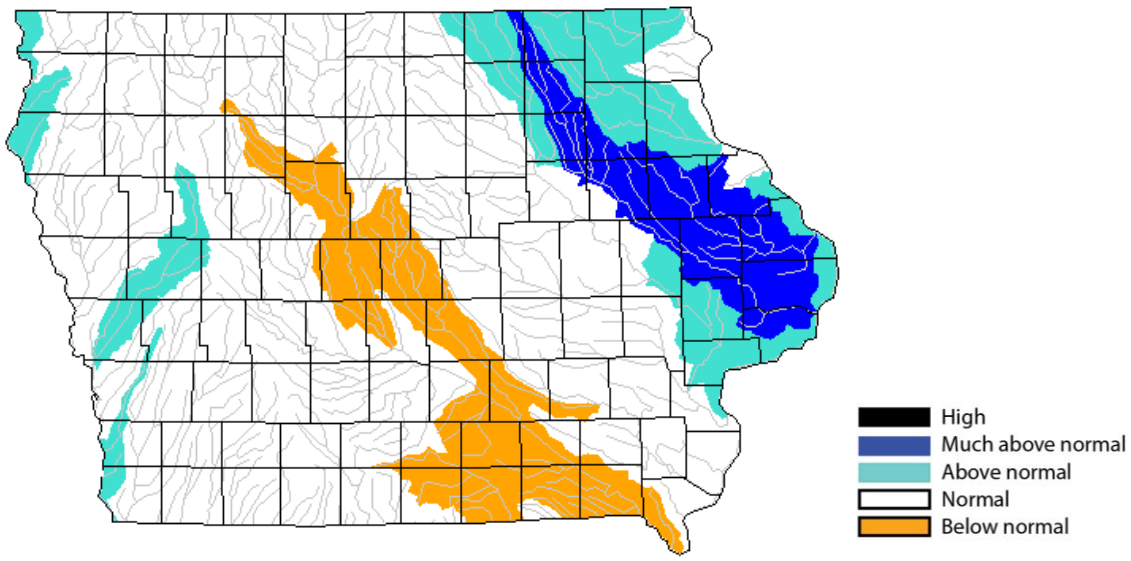
Precipitation - Percent of normal precipitation for June 1 through June 30, 2017.

State Climatologist



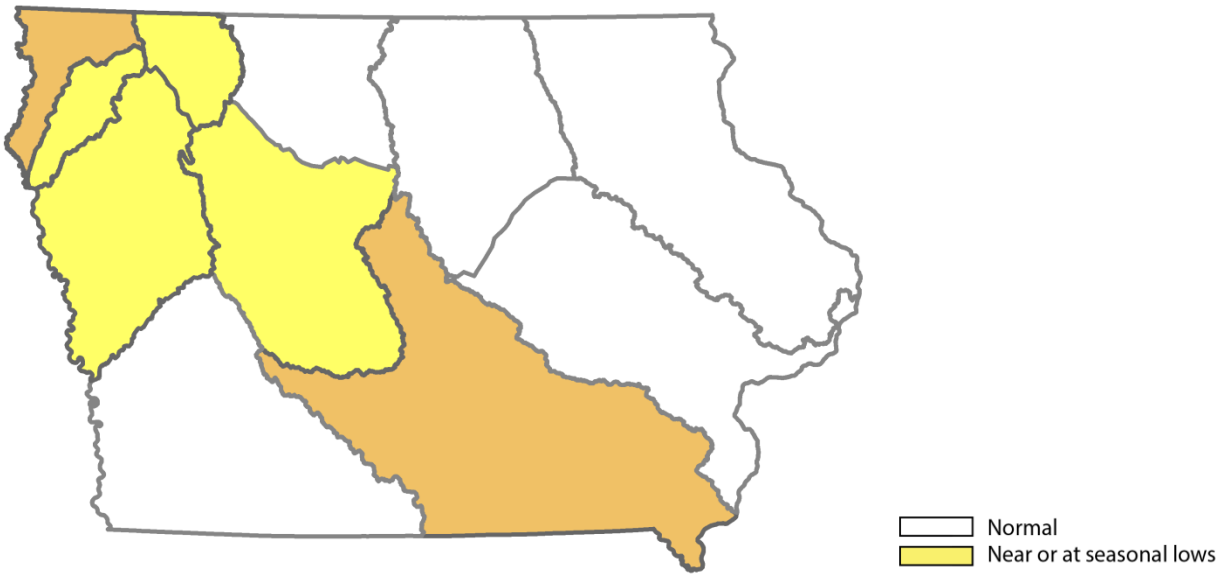
Stream Flow - Seven-day average stream flow ending July 12.

US Geological Survey



Shallow Groundwater - Conditions for June 2017

Iowa DNR and IIHR-Hydroscience and Engineering



Recent Developments and Changes

SUMMARY

During the month of July the contrast in conditions in Iowa has continued to grow. The Northeast corner of Iowa received significant rainfall during the month, while other parts of Iowa have continued to dry out. The area of the state covered by the National Drought Monitor has grown to two thirds, which is the highest area of state coverage in over three years. Average rainfall in July was 1.3 inches below normal, but large areas of central and southeast Iowa were three to four inches below normal for rainfall for the month. Streamflow and groundwater conditions mirror the rainfall amounts.

DROUGHT MONITOR

Conditions have continued to deteriorate across much of the state over the last month. In early June about half the state was affected by dryness or drought. That area has grown to two thirds, with seven percent of Iowa now rated as being in D2 - Severe Drought. This area covers some or all of 16 counties in south central Iowa. The last time conditions were similar to this in Iowa was in early May of 2014. Conditions remain extremely dry in the Dakotas and Montana, with almost half of North Dakota and a third of Montana rated as Extreme or Exceptional Drought – the worst categories of drought.

CURRENT STREAM FLOW

During the month of July, streamflow conditions across the majority of the state remained in the normal range. Portions of the Skunk, Des Moines, and Chariton River basins have below normal flows, while in the northeast corner of the state the streams have above normal and even much above normal flows. The western third of the state there are a few basins of the Boyer and Big Sioux Rivers that have above normal flows, but the majority of streams have normal flows.

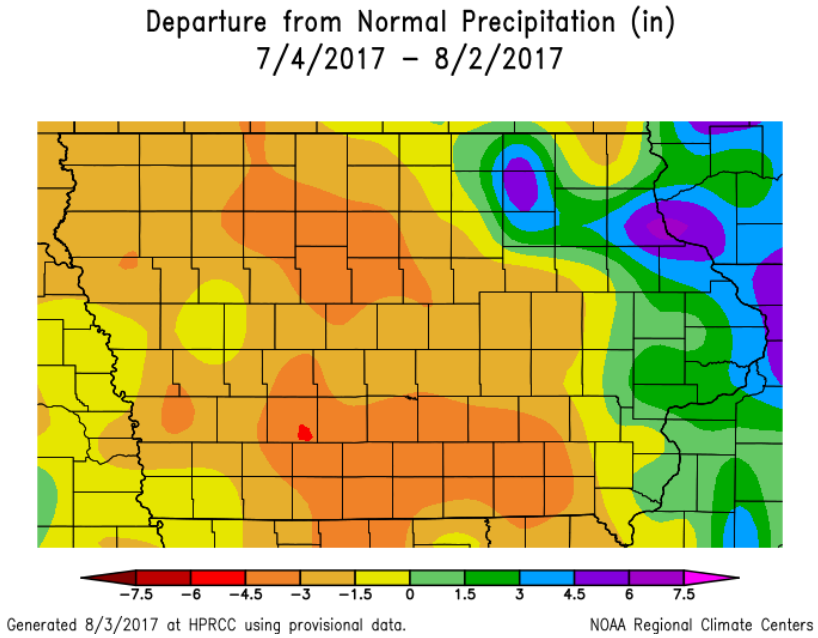
JUNE PRECIPITATION

July temperatures averaged 74.9° or 1.3° above normal while precipitation totaled 3.19 inches or 1.31 inches less than usual. However, these statewide averages fail to indicate the wide range of weather conditions impacting Iowa. Most of the southwest two-thirds of the state are very dry while sections of northeast Iowa are extremely wet. This is much the same pattern seen across the state in June. Very heavy rain fell on July 21-22 from Charles City southeastward to Dubuque and then southward to the Quad Cities with major flooding along many northeast Iowa rivers. Meanwhile less than one inch of rain fell during the month over much of the northwest one-quarter of the state as well as parts of south central and southeast Iowa. July rain totals varied from 0.41 inches at Pocahontas, their lowest July total since 1947, to 13.88 inches at Guttenberg, their highest calendar-month total among 86 years of records. At the Ottumwa Airport the months of June and July provided a combined rain total of only 1.64 inches, 7.92 inches less than normal - their lowest rain total for the period since 1911. Meanwhile, temperatures were substantially higher in the drier areas of Iowa than elsewhere. At Osceola there were 19 days with temperatures reaching or exceeding 90° during July while some locations in the much wetter areas of northeast and extreme east Iowa have not reached 90° since mid-June.

Shallow Groundwater

Shallow groundwater conditions during the month of July deteriorated in parts of central, southeast, south central, and northwest Iowa. Static water levels dropped 4 to 6 feet in many locations during the month of July. The Rock River, southern Des Moines River, southern Raccoon River, and Skunk River watersheds have been placed in a moderate drought classification, and the remaining parts of central and

northwest Iowa have been placed in a slight drought classification. Additional precipitation is needed in the month of August to prevent further deterioration in shallow groundwater conditions.



NORTHWEST IOWA CONCERNS

The Iowa DNR coordinated a meeting in Cherokee, Iowa on July 31 that highlighted the growing concern for that part of the state. The shallow aquifers in that part of the state are sensitive to drought conditions, and there are limited alternative water supplies available. These factors are a cause for concern, and the DNR, the Department of Agriculture and Land Stewardship, the National Weather Service, USDA, and the Iowa Geological Survey all provided information attendees. It was also noted that Iowan's in areas affected by drought or dryness should carefully monitor conditions as the dry weather continues.