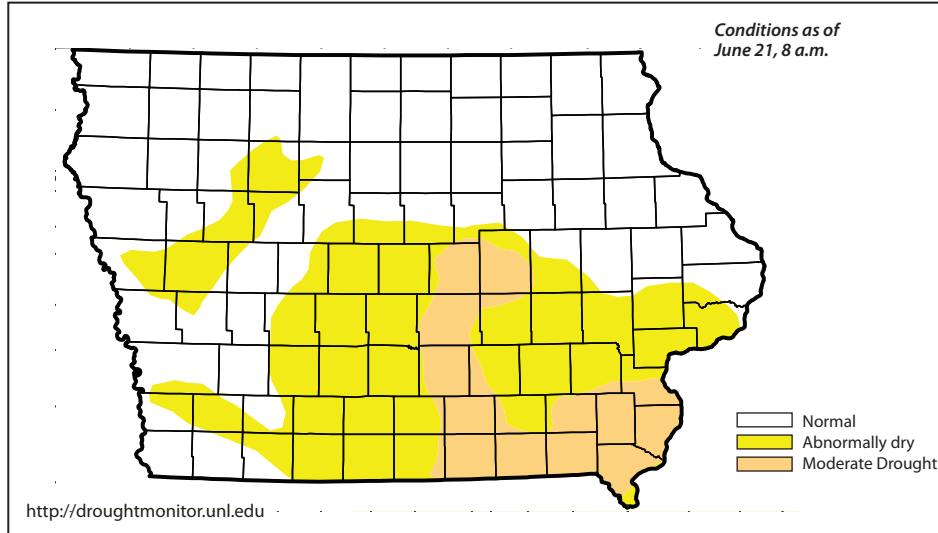


# WATER SUMMARY UPDATE

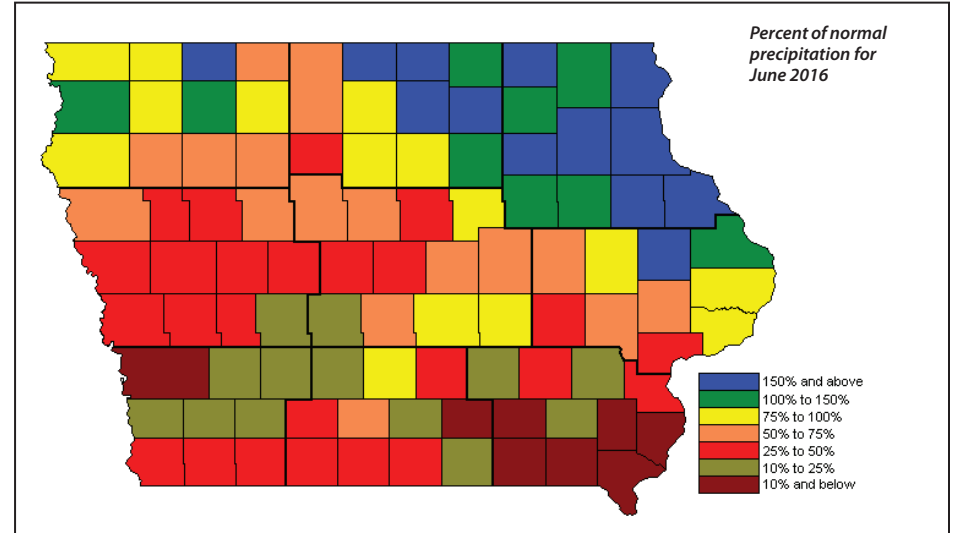
## Drought Monitor

National Drought Mitigation Center and partners



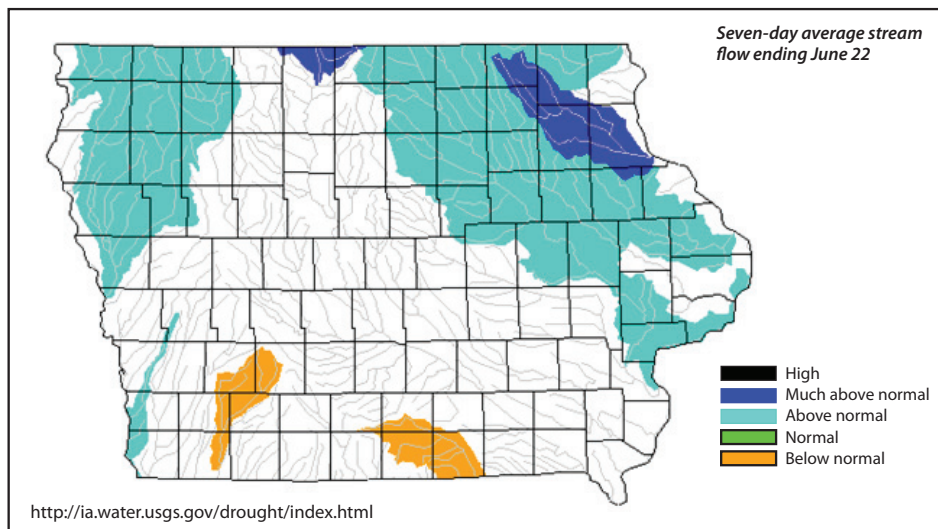
## Precipitation

State Climatologist



## Stream Flow

US Geological Survey



## Shallow Groundwater

Iowa DNR and IHR-Hydroscience and Engineering



## Recent Developments and Changes

### Summary:

Precipitation patterns continue to be highly variable across the state, but in general northern Iowa is wetter than southern Iowa. The National Drought Monitor shows the first indication of Moderate Drought conditions that Iowa has seen since November 2015. The area of dryness is approaching half of the state. Groundwater levels remain good across the state, especially in northwestern parts of Iowa that have experienced lower groundwater levels over the past several years.

The latest Iowa Crops and Weather report released by the USDA National Agricultural Statistical Service indicates that about one quarter of the state has topsoil moisture levels that are short or very short, with about three quarters of the state with adequate or surplus topsoil moisture levels. Subsoil moisture levels are even better, with over 85% of the state with adequate or surplus moisture levels. Soil moisture levels are the driest in south central and southeast Iowa. Those regions have reported more than soil moisture shortages in half of their area.

### Drought Monitor:

The National Drought Monitor shows an expanding area of dryness in Southeast Iowa. The area of D0 (Abnormally Dry) has increased from 26% to 44% of the state, and an area of D1 (Moderate Drought) now covers almost 12% of Iowa. This is the first showing of D1 in Iowa since November 2015, and the last time there was a greater D1 area was June 2014. The rain which fell across some areas of eastern Iowa is not shown in this week's drought monitor, so some improvement may come when the National Drought Mitigation Center issues their next Drought Monitor on June 30. U.S. Seasonal Drought Outlook issued on June 16 (valid through September 30, 2016) does not indicate the development of drought in Iowa, so these conditions may not be long-term.

### Current Stream Flow:

Streamflow conditions are above normal for approximately one third of the state. Since the last water summary update, streamflow conditions across the state have decreased from above normal to normal conditions. Streams in the northwest and northeast portion of the state have remained in the much above normal. Due to the heavy rains on June 21 in the Iowa City area, field crews made several extra discharge measurements to verify real-time data and update emergency managers.

### Precipitation and Temperature:

Precipitation amounts varied greatly over the period with the northeast one-third of the state receiving abundant rainfall while southern and southwestern Iowa were very dry. Rain totals varied from only a trace (less than 0.01 inch) at Bloomfield and Keosauqua in southeast Iowa to 7.01 inches near Nora Springs in Floyd County. The statewide average rainfall was 1.68 inches while normal for the period is 2.36 inches. Nearly half of the period's rain fell on June 14 with only a few areas in the northwest and southwest corners of the state seeing more than an inch of moisture after that date. Heavy rain fell from Mason City to Muscatine on Tuesday night into Wednesday morning (June 21-22) but fell too late to be reflected in the current U.S. Drought Monitor.

The past two weeks have been unseasonably hot across Iowa with only the first day of the period bringing below normal temperatures. Temperatures over this two week period have averaged from three degrees above normal in far northeast Iowa to ten degrees above normal in the southwest with a statewide average of 6.0 degrees higher than normal for mid-June.

### Shallow Groundwater:

Shallow groundwater conditions are normal in Southeastern and Northeastern Iowa to above normal in the western one-half of Iowa for early June 2016. Southeast Iowa has received below normal precipitation in June, but this has not, so far, resulted in lower groundwater levels.

## Contacts

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