



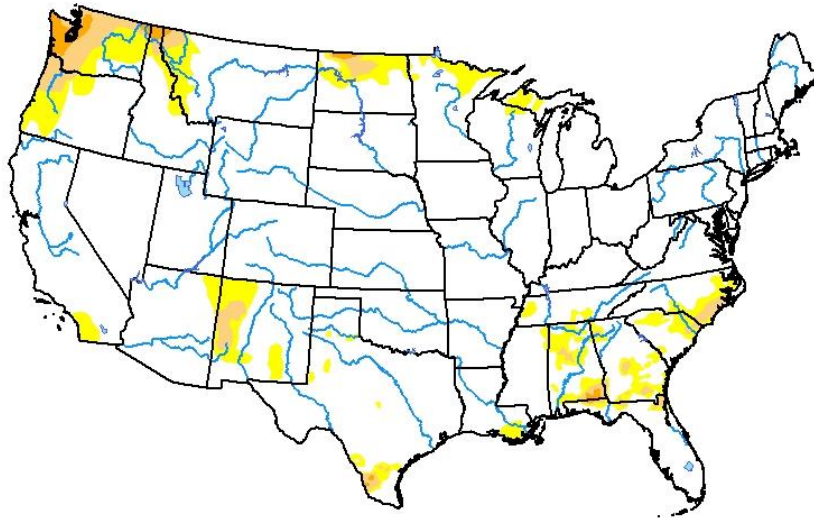
WATER SUMMARY UPDATE

Published Date July 11, 2019 | Issue 97

A snapshot of water resource trends for the month of June 2019

Drought Monitor - Conditions as of July 9, 2019

National Drought Mitigation Center and partners

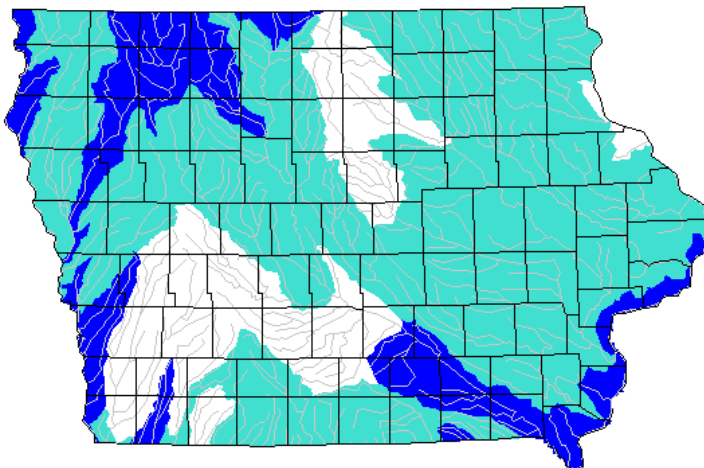


Intensity:

- 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.

Stream Flow – June 2019

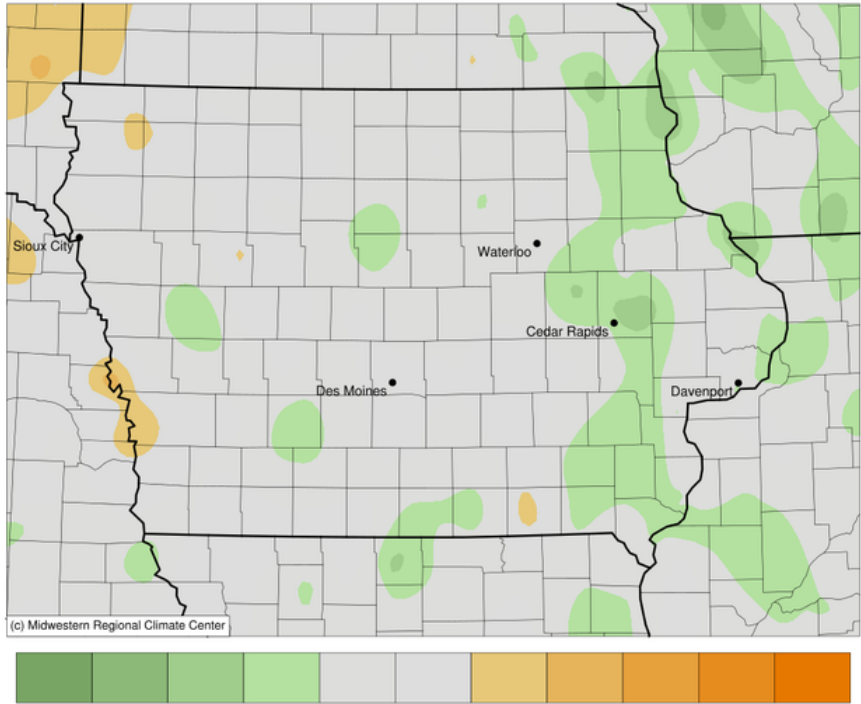


Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	



Average Temperature (°F): Departure from 1981-2010 Normals

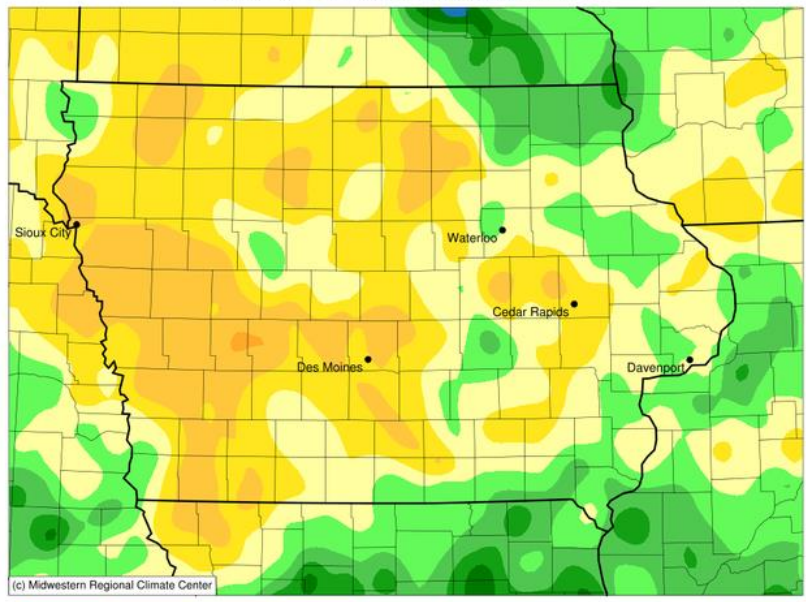
June 01, 2019 to June 30, 2019



-4 -3 -2 -1 0 1 2 3 4 5
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: 7/11/2019 9:07:15 AM CDT

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

June 01, 2019 to June 30, 2019



-3 -2 -1 0 1 2 3 4
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: 7/11/2019 9:09:24 AM CDT

RECENT DEVELOPMENTS AND CHANGES

SUMMARY

June is typically the wettest month of the year in Iowa, but this year precipitation was 3.86 inches, more than an inch less than normal. For the combined months of May and June, however, the state has received above normal rainfall, and the previous 12 months are the second wettest 12 months on record. During the past year the state has received 15 inches more than its normal 32 inches of rain. The drier than normal June has resulted in some stream flows diminishing, but higher than normal flows continue on the Missouri and Mississippi Rivers.

DROUGHT MONITOR

Drought and abnormally dry conditions have been absent from the state since November of last year. While Iowa currently has no drought, to our north, about 17 percent of Minnesota is currently rated as abnormally dry, while much of the northern half of North Dakota is rated as abnormally dry, or in some form of drought. Nationally, almost 90 percent of the continental US is free from drought or dryness. The states of Washington and Oregon are in the worst condition at this time.

CURRENT STREAM FLOW

Streamflow conditions in much of the state decreased from much above normal and high conditions in May to above normal conditions across the majority of the state in June. There are a few areas that remain in the much above normal condition, and few areas that have decreased to normal conditions. Streamflow conditions across the majority of the state remain above normal.

JUNE PRECIPITATION AND TEMPERATURE

Iowa temperatures averaged 69.3 degrees or 0.4 degrees below normal. Average temperatures for June were near the 30-year climatological normal. There were 15 days in which temperatures were below average across Iowa with two periods of extended coolness. There were 10 days of above average temperatures across Iowa spanning two five day periods. Spencer Municipal Airport (Clay County) reported the month's high temperature of 99 degrees on June 30. The Guttenberg Lock and Dam (Clayton County) reported the month's low temperature of 39 degrees on June 13, 21 degrees below average.

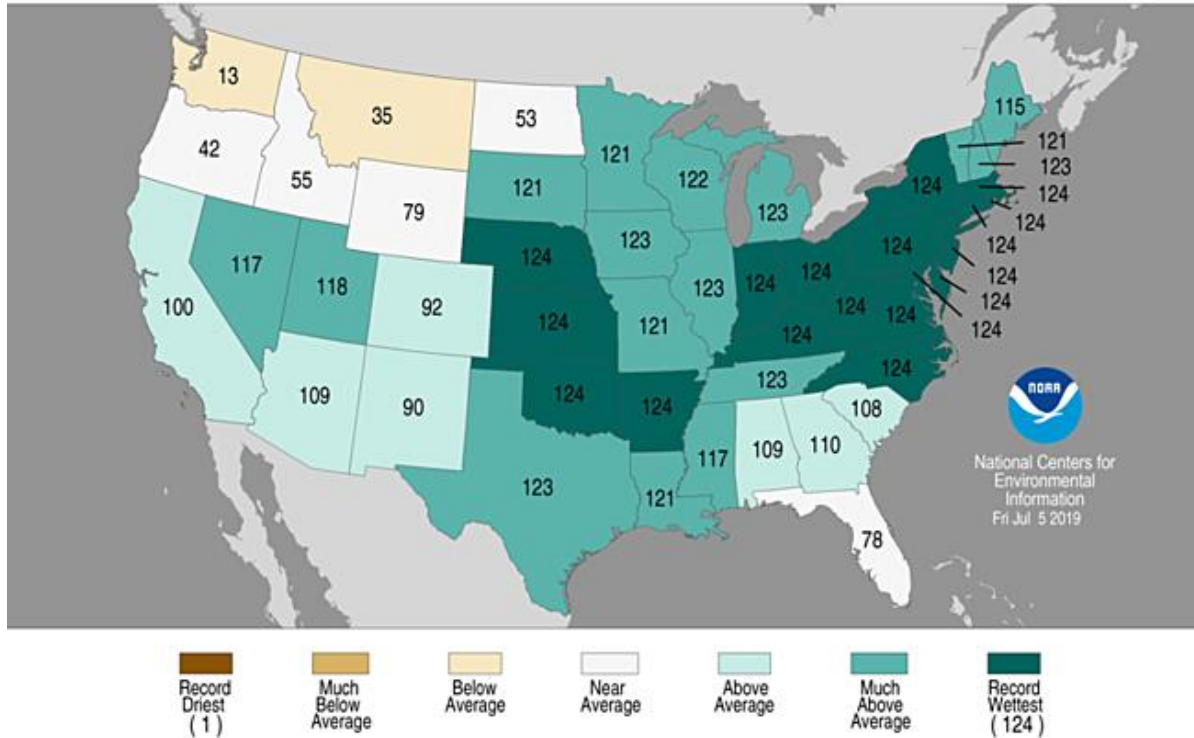
June is climatologically the wettest month of the year in Iowa, and during June 2019, much of Iowa experienced drier than normal conditions. Iowa precipitation totaled 3.86 inches or 1.16 inches below normal in June. Portions of west-central Iowa had rainfall deficits between two and three inches. Sections of southeastern and northeastern Iowa had above average rainfall, ranging from one to two inches. Rainfall totals for the month varied from 1.48 inches in Audubon (Audubon County), to 7.66 inches in New Hampton (Chickasaw County). Severe weather was reported on 14 days during June, mainly attributed to severe straight-line winds.

Despite a below average month for rainfall, over the last 12 months, Iowa and nearly all of the surrounding states have experienced record or near record wet conditions.

Statewide Precipitation Ranks

July 2018–June 2019

Period: 1895–2019



SHALLOW GROUNDWATER

Shallow groundwater conditions remain good across the entire state. It would take several weeks of dry weather to cause the first signs of stress in some areas, but the continued wet conditions have resulted in continued recharge to shallow groundwater systems across the state. Cooler weather earlier in the summer has also resulted in lower water demand.

MISSOURI RIVER BASIN

The US Army Corps of Engineers is reporting that the last of the mountain snowpack melted on July 8. On July 1 the Corps of Engineers updated their forecast of annual in the Missouri River (above Sioux City, Iowa) at 49.9 million acre feet (MAF). This is nearly twice the average annual runoff of 25.3 MAF. This would be the second highest runoff in 121 years of recordkeeping, exceeding 1997's 49.0 MAF, but still well below the 2011 record of 61.0 MAF.

The reservoir system is currently storing 68.1 MAF of water, with about 26% of the flood control storage remaining to store additional runoff. Gavins Point dam is currently releasing 70,000 cubic feet per second (cfs) of water, which is about double the amount normally released at this time of the year. This discharge rate is expected to remain at this level through most of the summer.

ADDITIONAL INFORMATION

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

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