IOWA DEPARTMENT OF NATURAL RESOURCES

WATER SUMMARY UPDATE

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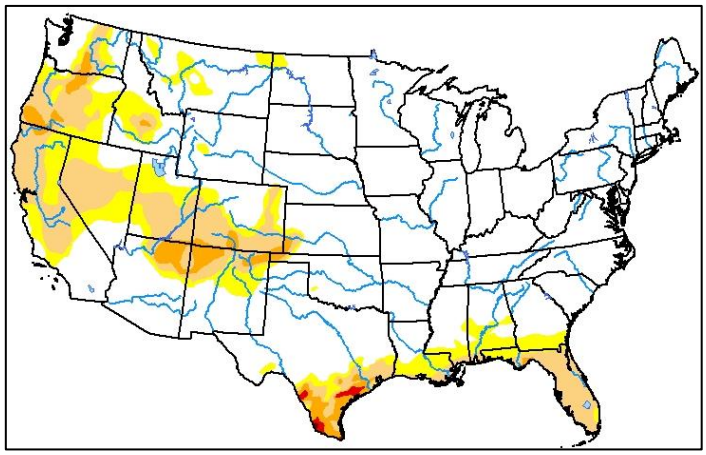
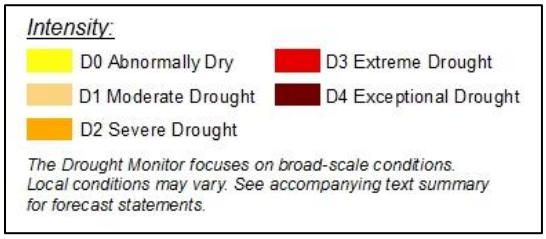
A snapshot of water resource trends for the month of March 2020

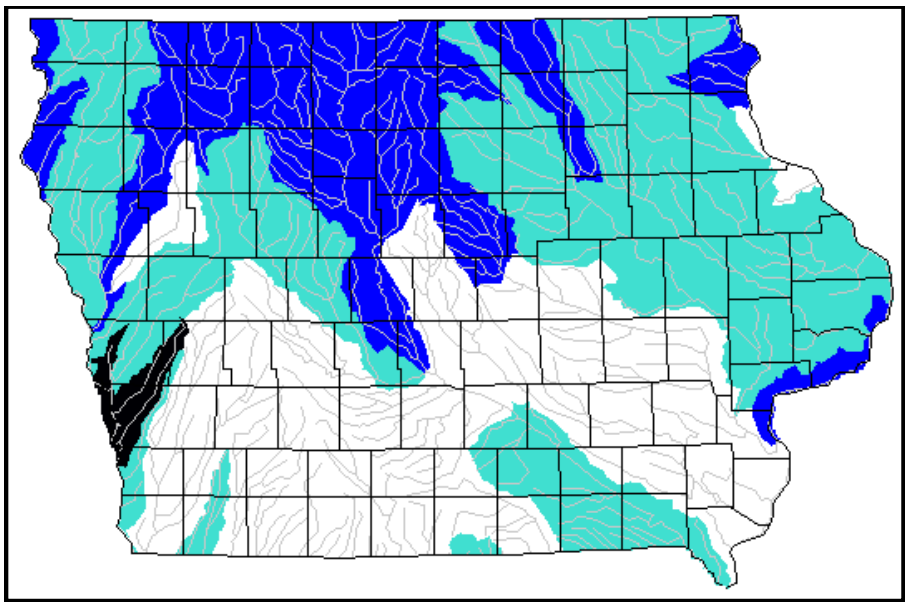
Drought Monitor - Conditions as of April 7, 2020

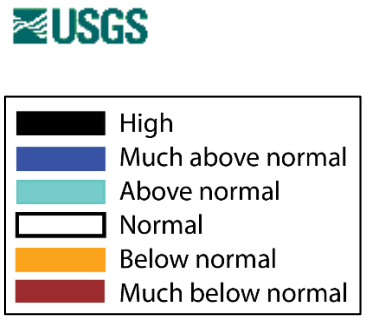
National Drought Mitigation Center and partners





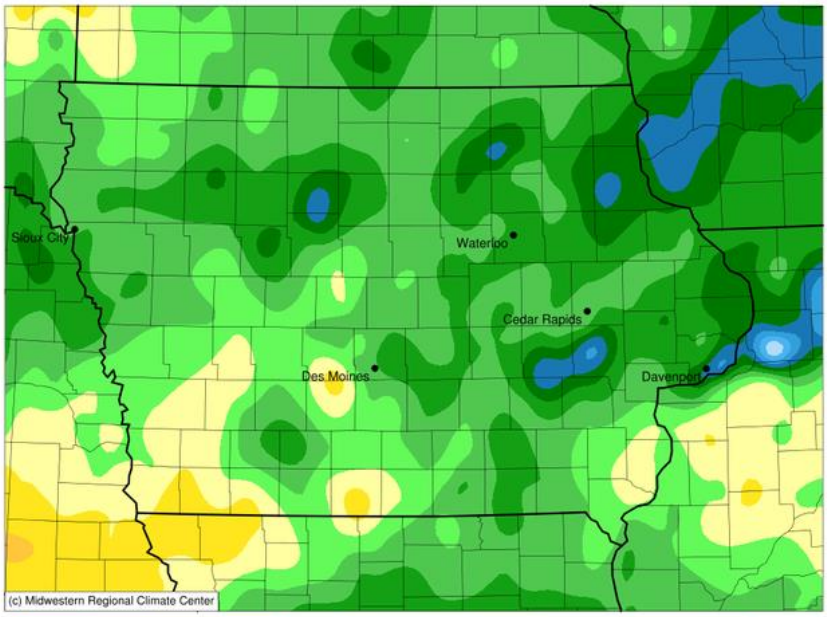
Stream Flow – March 2020





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

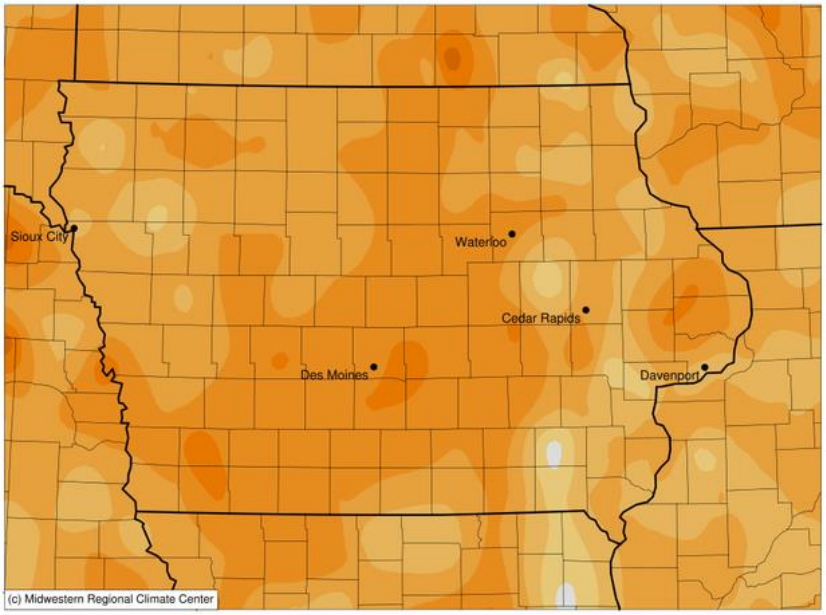
March 01, 2020 to March 31, 2020



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: 4/9/2020 8:23:52 AM CDT

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

March 01, 2020 to March 31, 2020



Stations from the following networks used: WBAN, COOP, FAA, GHCN, ThreadEx, CoCoRaHS, WMO, ICAO, NWSLI,
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RECENT DEVELOPMENTS AND CHANGES

SUMMARY

March was warmer and wetter than normal, as Iowa received 2.73" of precipitation, or 0.58" above normal. Soil moisture levels and average streamflow levels remain high across the state. Projections for Missouri River Basin runoff for 2020 are about 140% or normal, but well below the levels experienced in 2019. Nearly the entire eastern half of the United States is free from drought conditions.

DROUGHT MONITOR

Iowa continues to be drought and dryness free. With the exception of the gulf coast areas and southern Texas, nearly all of the United States east of a line from the Dakotas to Texas are also drought free. There are large areas of dryness and moderate drought developing on the west coast and in the Rocky Mountain states.

CURRENT STREAM FLOW

Streamflow conditions across the majority of the state have increased since the last water summary from normal streamflow conditions, to above and much above normal conditions. The upper reaches of the Iowa and Des Moines River basins along with the Upper Iowa, Wapsipinicon, Little Sioux, Floyd and Maquoketa are in above and much above normal conditions. There are no areas of Iowa experiencing below normal stream or river flows.

MARCH PRECIPITATION AND TEMPERATURE

Iowa's statewide average precipitation totaled 2.73" or 0.58" above normal. This ties 1982 as the 29th wettest March among 148 years of statewide records. Almost all observing stations across Iowa reported above average precipitation with some locations reporting 2.00" to 2.50" above normal rainfall. March precipitation totals ranged from 1.50" in Shenandoah (Page County) to 5.92" at Le Claire Lock and Dam (Scott County).

Most of Iowa experienced below normal snowfall with the preliminary average statewide total of 2.0", 2.7" below average. This ties 1974 as the 21st lowest snow total for March, based on 133 years of records; Rock Rapids (Mitchell County) reported the highest total of 7.5 inches.

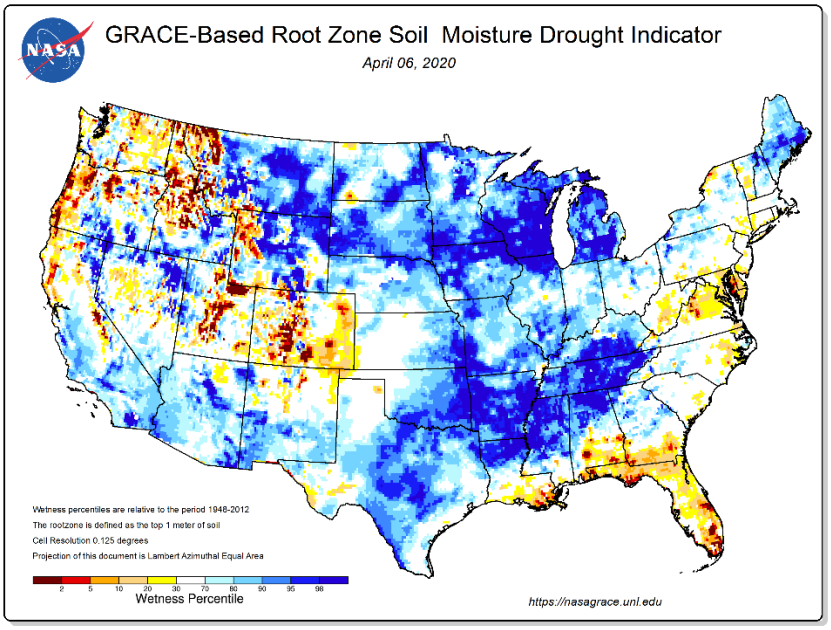
March statewide temperatures averaged 40.4 degrees, 4.5 degrees warmer than the 30-year climatological normal. This ranks March 2020 as the 20th warmest in 148 years of statewide records. Positive temperature departures were generally uniform across the state, anywhere from three to five degrees above normal. March's statewide average maximum temperature was 49.6 degrees, 4.2 degree above normal while the average minimum temperature was 31.2 degrees, 4.6 degree above normal. In terms of monthly temperature extremes, the warmest daytime high of 77 degrees was reported on the 28th at Bloomfield (Davis County) and Centerville (Appanoose County); this reading was on average 21 degrees above normal. Primghar (O'Brien County), Sanborn (O'Brien County) and Sibley (Osceola County) observed the coldest morning low of 10 degrees on the 20th. This reading was on average 14 degrees below normal.

SHALLOW GROUNDWATER

Groundwater conditions are normal; largely unchanged from February to March. The western half and parts of central Iowa had below normal precipitation for March, but this was offset by snow melt. South central, north central, and southeast Iowa had near normal precipitation which maintains the normal conditions. Included in

this WSU is a map of a tool developed by NASA researchers that provides weekly global maps of soil moisture and groundwater wetness conditions along with short-term pone- to three-month U.S. forecasts of each product. The maps are distributed online by the National Drought Mitigation Center at the University of Nebraska-Lincoln (UNL) to support U.S. and global drought monitoring. 90-day forecasts show drying across most of Iowa, with the northern tiers of counties remaining wetter than normal.

https://yubanet.com/scitech/nasa-university-of-nebraska-release-new-global-groundwater-maps-and-u-s-drought-forecasts/



MISSOURI RIVER BASIN

The April 7, 2020 summary provided by the Corps of Engineers shows that about 85% of the designated flood control storage in the Missouri River System is available to store runoff from spring rainfall events. The system is designed for water to be stored in the flood control storage zone during the wetter spring and early summer months, then evacuated during the drier late summer and fall months. The upper plains area did receive an early spring snowfall late last week. Most of that snow has melted. Mountain snowpack is slightly above average, but well below the heavy snowpack years of 2001 and 2011. Snowpack normally reaches its peak for the season in mid-April. The current release rate from Gavins Point is 35,000 cfs. As of April 1, the Corps projects the annual runoff in the basin to be 35.5 Million Acre Feet (MAF). This is nearly 40% higher than the historic annual runoff of 25.8 MAF, but well below the near record 60.9 MAF runoff of 2019.

ADDITIONAL INFORMATION

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

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