IOWA DEPARTMENT OF NATURAL RESOURCES

WATER SUMMARY UPDATE

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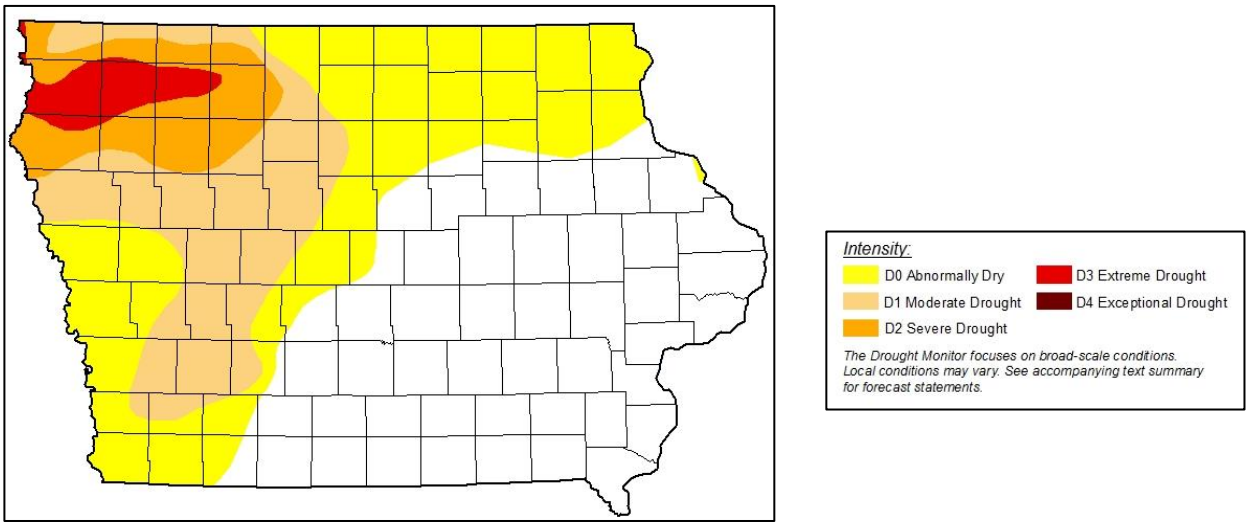
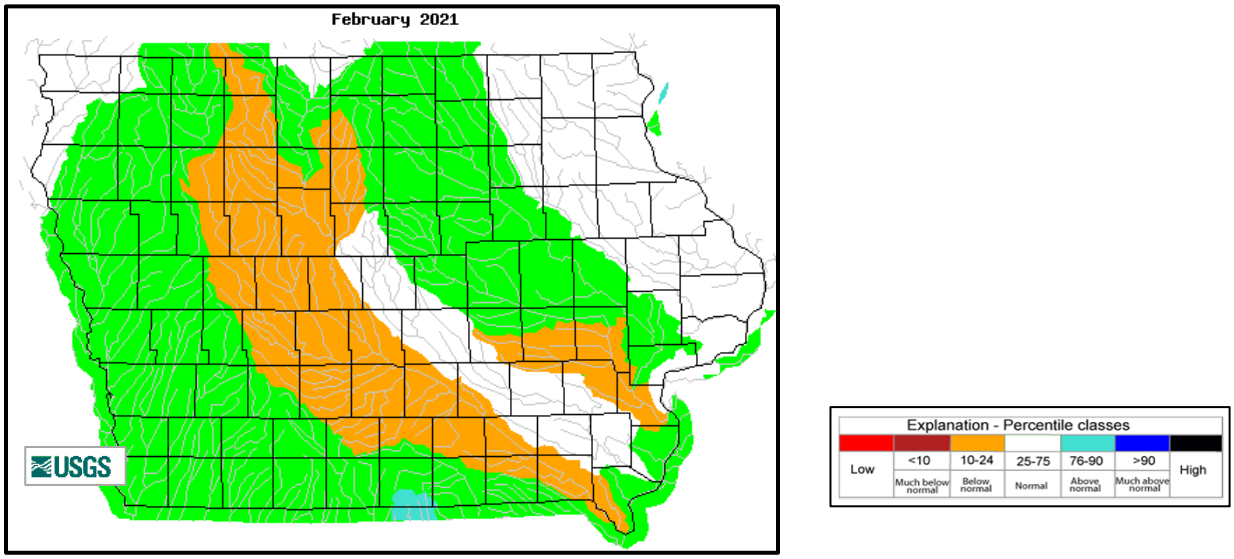
A snapshot of water resource trends for the month of February 2021

Drought Monitor - Conditions as of March 9, 2021

National Drought Mitigation Center and partners

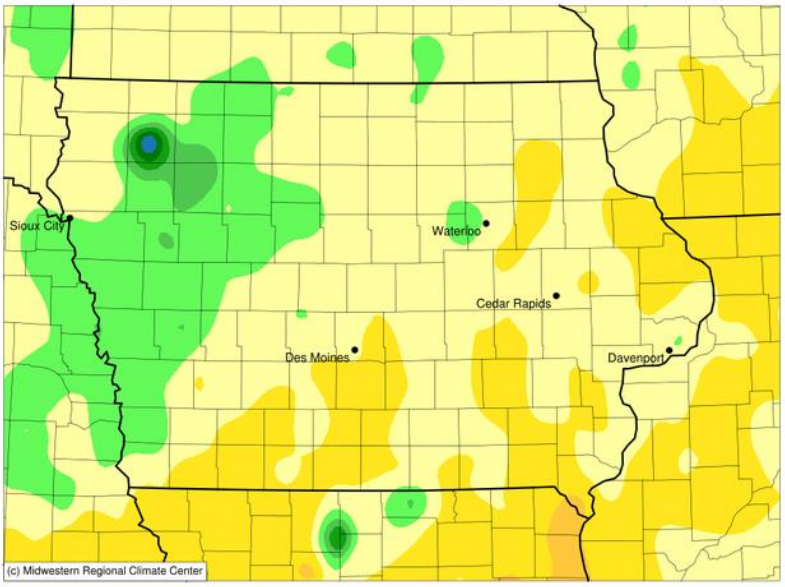


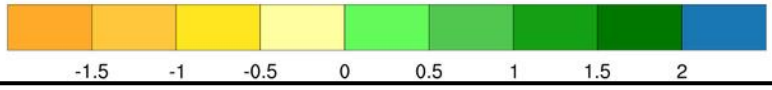
Stream Flow – February 2021



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

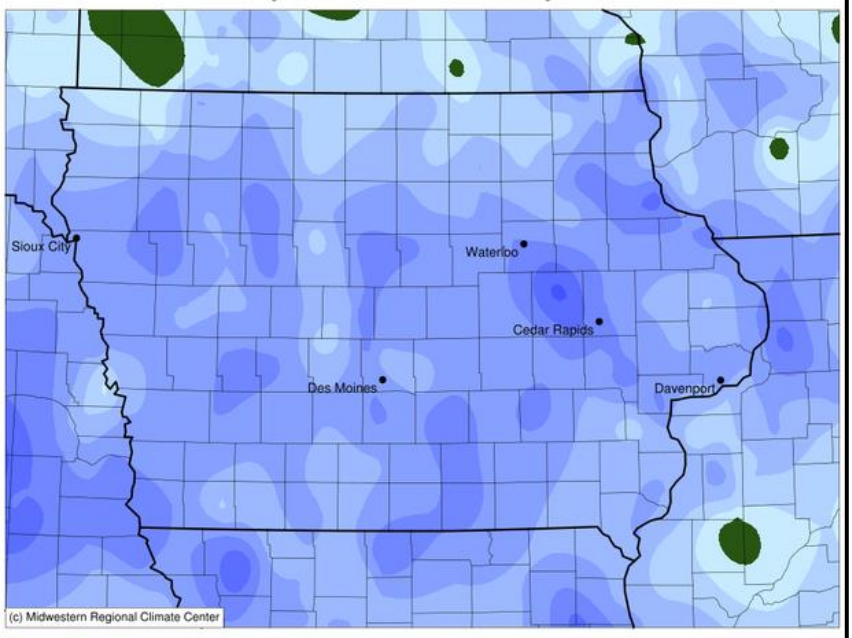
February 01, 2021 to February 28, 2021





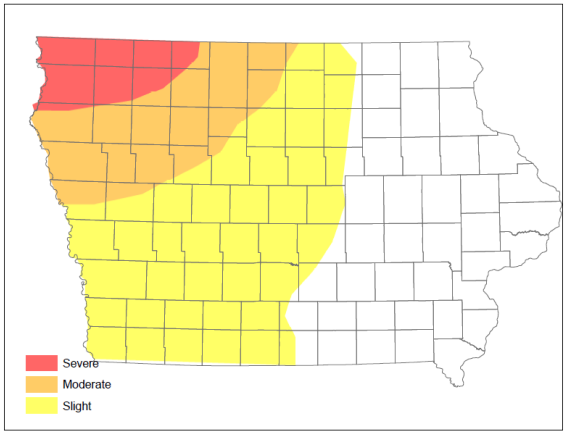
Average Temperature (°F): Departure from 1981-2010 Normals

February 01, 2021 to February 28, 2021



Shallow Groundwater - Conditions for February 2021

Iowa DNR and IIHR-Hydroscience and Engineering



RECENT DEVELOPMENTS AND CHANGES

SUMMARY

A dip in the Polar Vortex in early February resulted in the month being the 8th coldest February on record for Iowa. Precipitation for the month, however, was below normal by 0.33 inches. Streamflow, groundwater, and drought conditions remain mostly unchanged over the last month. For the meteorological winter (Dec.-Jan.-Feb.) statewide temperatures were 0.9 degree below normal while precipitation totaled 2.82 inches, about one half inch below normal. The statewide average snowfall was 32.2 inches, which was more than 9 inches above normal. The upcoming months of March through June typically bring more than 15 inches of rain to the state. If normal precipitation does fall across Iowa, abnormally dry and drought conditions could improve through the spring months.

DROUGHT MONITOR

Dry conditions remained generally unchanged during the first half of February with Abnormal Dryness (D0) to Extreme Drought (D3) continuing to cover more than half of Iowa. Northwest Iowa remains the driest part of the state where D3 was found across several counties, covering nearly 3 percent of Iowa. With additional snowfall and snowpack melt during the middle of February, the small section of D2 (Severe Drought) in southwestern Iowa was improved to D1. Some areas of D1 were also upgraded to D0 along the edges of affected areas. The current Drought Monitor shows that D0-D3 conditions cover nearly 55 percent of Iowa with a recent expansion of D0 in northeastern Iowa. Meanwhile, the southwestern United States is faced with significant drought conditions. Nearly all of the western and southwestern states show complete coverage with drought and dryness, with more than 50 percent of Utah, Arizona, and New Mexico rated as Exceptional Drought (D4) – the most severe of drought conditions.

FEBRUARY PRECIPITATION AND TEMPERATURE

Statewide average precipitation in February totaled 0.72 inches, about one third of an inch below normal. A majority of the state's locations that measure precipitation reported near to slightly below average precipitation during the month. The driest conditions were found across portions of southern and eastern Iowa while many western Iowa stations reported above normal totals. Monthly precipitation (melted snow and sleet plus rain) totals ranged from 0.27 inches in Rock Valley (Sioux County) to 2.06 inches in Augusta (Lee County). Snowier than normal conditions also blanketed much of Iowa with the preliminary statewide average snowfall totaling

11.2 inches, 4.4 inches above normal making it the 22nd snowiest in 134 years of snowfall records. A reporting station in Harrison County measured the highest accumulation for the month of 23.7 inches.

Frigid temperatures blanketed Iowa for a much of the first half of February due to an Arctic air outbreak from a bulge in the Polar Vortex. While there was a rebound in the statewide average temperature at the end of the month, the average temperature for February was anywhere from eight to 16 degrees below normal. Overall, temperatures averaged 12.6 degrees, or 11.4 degree below normal. This ranks February 2021 as the 8th coldest in 149 years of state records. February's statewide average maximum temperature was 20.7 degrees, 12.7 degrees below normal while the average minimum temperature was 4.4 degrees, 14.5 degrees below normal.

WINTER 2020 – 2021 SUMMARY

Temperatures for the three winter months of December, January and February averaged 21.2 degrees or 0.9 degree below normal while precipitation totaled 2.82 inches, 0.49 inch below normal. The statewide average snowfall was 32.2 inches, 9.4 inches above normal making it the 12th snowiest winters in 134 years of records with 2018-2019 experiencing more snow.

CURRENT STREAM FLOW

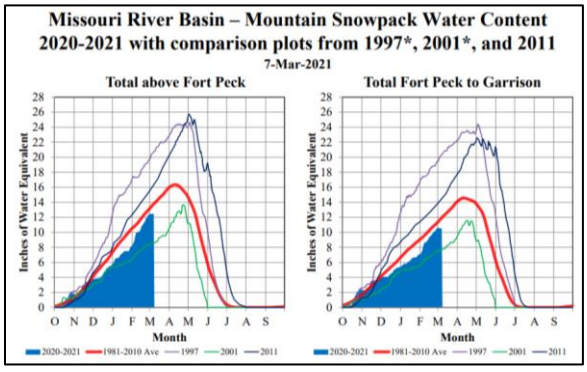
Current streamflow conditions across most of the state are normal, but average flows during the month of February were below normal across much of central Iowa, specifically in the Des Moines River basin. Since the end of February, the melting of the snow across the state has resulted in normal to above normal flows in Iowa, especially in the eastern half of the state. It should be noted that during the winter season, USGS streamflow data may be impacted by ice formation and backwater. This information should be used as preliminary information only.

SHALLOW GROUNDWATER

Shallow groundwater conditions during February have remained steady throughout the winter months. These steady levels are generally expected, as demand for water remains low during the winter months, and recharge of shallow groundwater is also low due to frozen soils. Significant concern for groundwater supply continues to persist in Northwest and parts of Central and West Central Iowa. Consistent normal to above normal rainfall and streamflow during the spring months will help to improve conditions.

MISSOURI RIVER BASIN CONDITIONS

The US Army Corps of Engineers, in their March 9, 2021 conditions summary, indicated that all of the system's flood storage capacity is available for the 2021 runoff season. The calendar year runoff forecast for the Missouri River Basin above Sioux City has been reduced to 21.7 Million Acre Feet, or about 84% of average. Mountain snowpack is below average (see figure below), and plains snowpack in the upper Basin has melted. Drought conditions are present in every state in the Basin, except for Missouri.



DROUGHT CONDITIONS MEETING

A drought conditions webinar was held on March 4, 2021. Experts from the Iowa DNR, IDALS, USDA, the National Weather Service, and the US Geological Survey provided current information and projections for potential drought conditions in Iowa. Information presented during that webinar is available at:

https://www.iowadnr.gov/Environmental-Protection/Water-Quality/Water-Summary-Update

ADDITIONAL INFORMATION

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

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