Iowa Department of Natural Resources

A snapshot of water resources through February 2016

WATER SUMMARY UPDATE

No. 61

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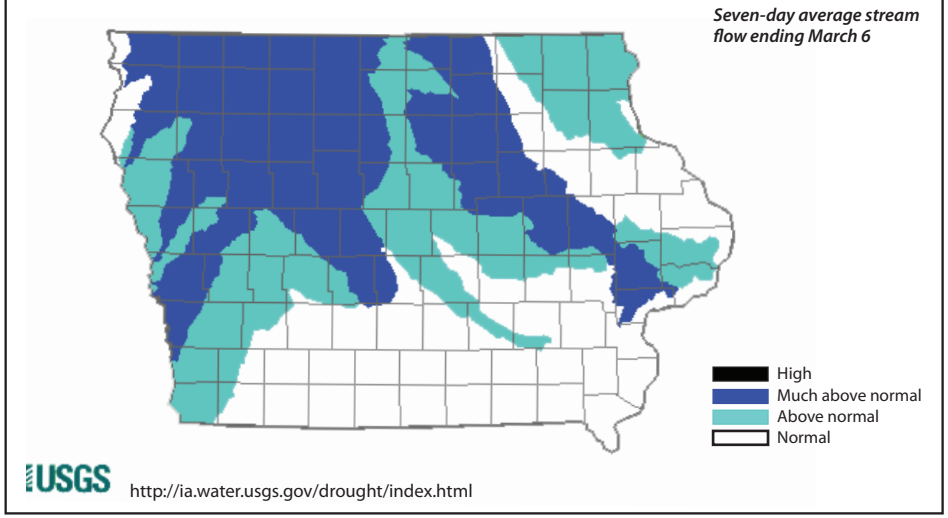
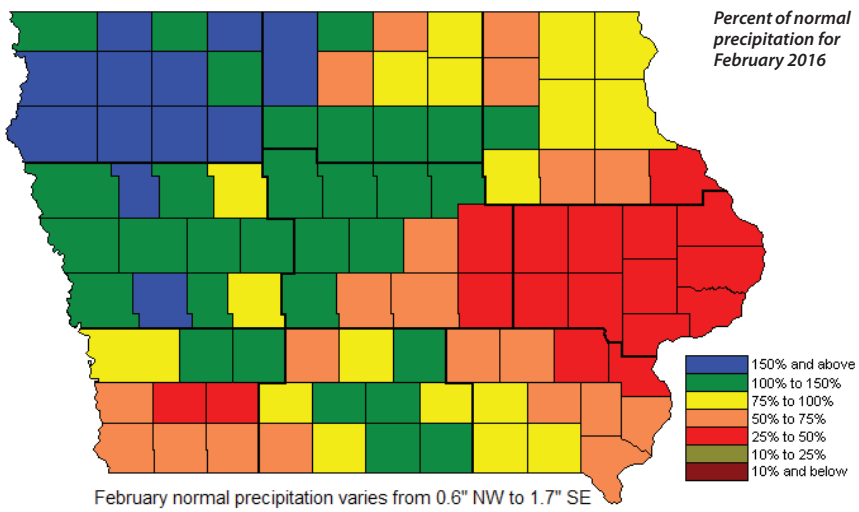
Stream Flow

US Geological Survey



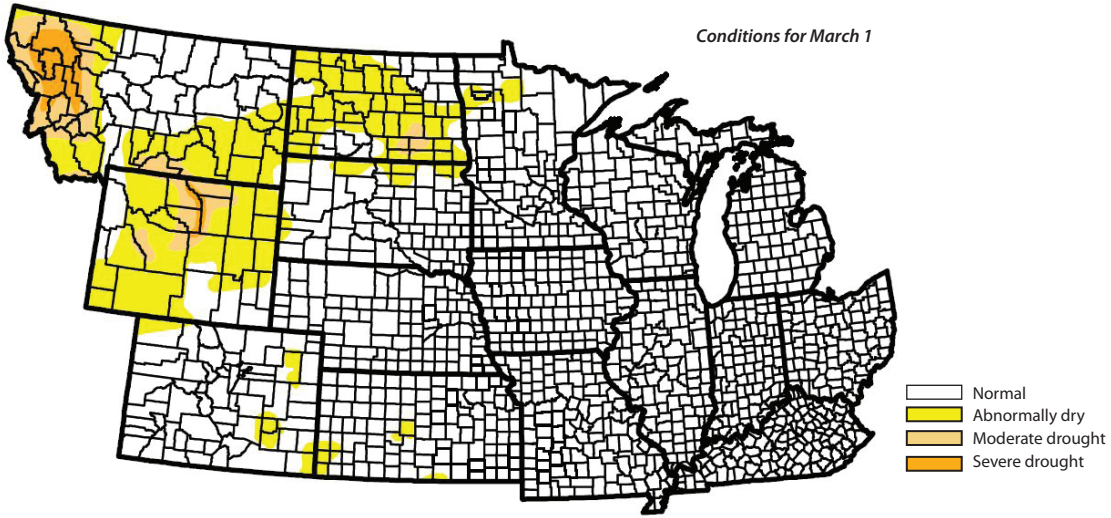
Precipitation

State Climatologist



Drought Monitor

National Drought Mitigation Center and partners



Drought Monitor

The National Drought Monitor continues to indicate that all of Iowa is drought free – which is consistent with the wet conditions of late fall and early winter.

The nearest state that shows any significant level of drought conditions is North Dakota, where about 70 percent of that state is rated as abnormally dry, and about 4 percent is rated as moderate drought.

These conditions have some importance to Iowa as they can affect long term conditions in the Missouri River basin.

http://droughtmonitor.unl.edu

Recent Developments and Changes

Current Stream Flow
Streamflow conditions are above or normal for approximately half of the state. Since the last water summary update, streamflow conditions have decreased across the majority of the state. The Raccoon, Boyer, Little Sioux, Floyd, Rock and Cedar Rivers have high streamflow conditions. During the last few weeks, the streams have become ice free.

February Precipitation
February precipitation was above normal over about the northwest one-half of Iowa and well below normal over east central and far southwest sections of the state. The statewide average precipitation was 0.92 inches, 0.13 inches less than normal. January and February are typically the driest months of the year in Iowa, so while portions of northwest Iowa saw double the normal monthly precipitation and some locations in east central Iowa were barely 25 percent of normal, these recent precipitation surpluses and deficits are largely inconsequential over the year.

Generally, the first half of the month was cooler and wetter than normal, while the second half was drier and much warmer. The statewide average precipitation for the winter season (Dec-Jan-Feb) was a record high among 143 years of record, thanks mostly to the record wet December 2015. Soils remain very wet with the USDA NASS summary noting that only 1 percent of the state's top soils were rated "short" of moisture at the end of February. Recent sub soil moisture ratings are not available, but for the state as a whole, the average is probably at the highest for this time of year since 1994.

Flooding Outlook
The National Weather Service (NWS) issued the second of its Spring Flood Outlooks on March 3. Elevated flood risks this year are due to much above normal streamflows and abnormally high soil moisture. Snowmelt will not be a main contributor to spring flooding as snowfall has been below normal for much of the Upper Mississippi River Basin. Spring rains will be needed for flooding and area rivers will be very susceptible to any early rains in March and April.

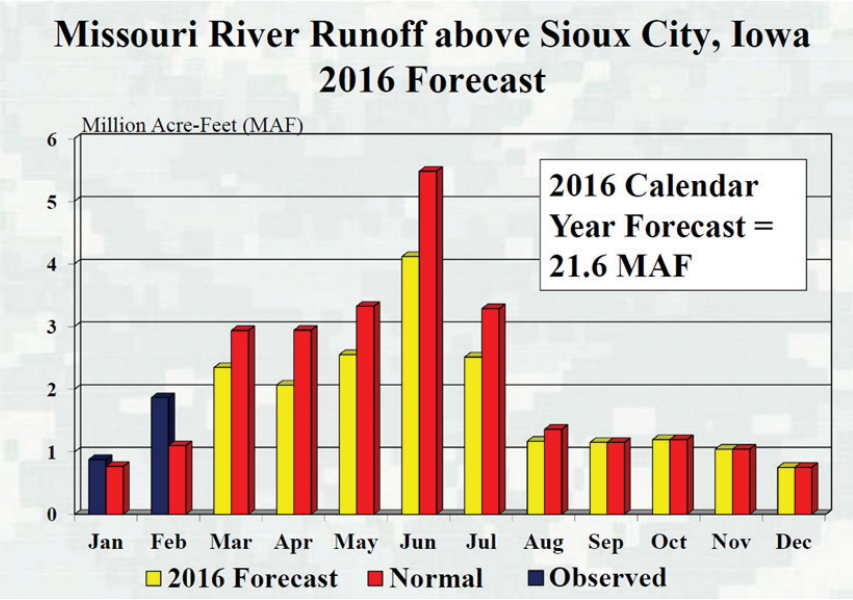
NWS staff point out that a heightened risk for flooding is not an indicator of severity. The highest probabilities are for widespread minor to moderate flooding. Detailed information is available on the NWS website at www.weather.gov/dmx/SpringFloodOutlook

The U.S. Army Corps of Engineers provided a Water Management Monthly Update late last week for the Missouri River Basin, and indicated that:

- Mountain snowpack is below normal.
- Plains snowpack is limited and very shallow.
- Frozen ground and river ice should not be factors this spring.
- No significant flooding expected in mountainous or in northern plains regions.
- Typical thunderstorm-driven flooding expected in southeastern third of the basin, which includes parts of southwest Iowa.

Shallow Groundwater
Shallow groundwater conditions remained well above normal across all of Iowa. The wet November and December of 2015 provided abundant recharge to Iowa's shallow aquifers. This additional recharge has replenished groundwater storage for 2016, especially in the shallow alluvial aquifers of northwest Iowa.

Frost
The seasonal maximum frost depth came about mid-February over most of Iowa with the topsoil beginning to thaw across the southern half of the state on Feb. 19. By month's end, soils were completely thawed over most of the southern one-third of the state with topsoils thawed elsewhere. However, a return to much colder weather refroze soils to some extent over all but far southern and southwest Iowa in the first few days of March.



Source: Roger Kay, USACE Missouri River Basin Water Management, March 4, 2016

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