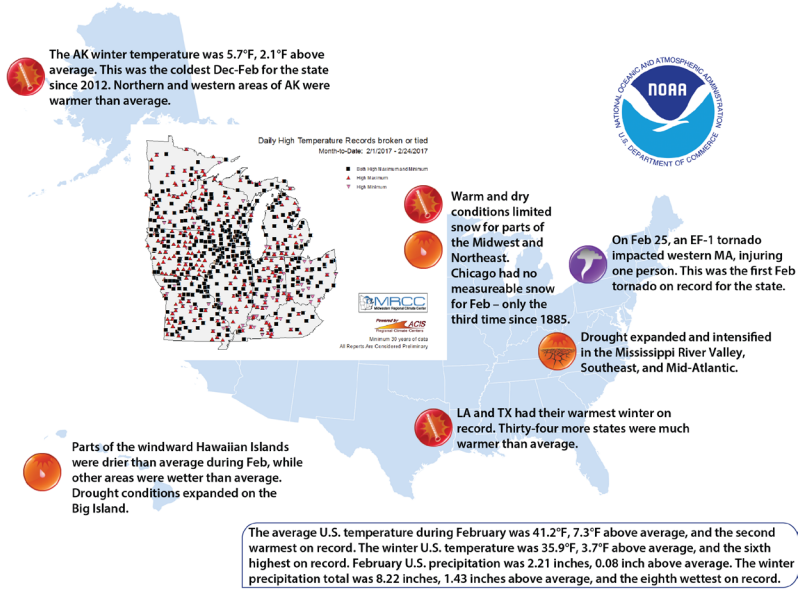
Quarterly Climate Impacts and Outlook

Midwest Region

March 2017

National - *Significant Events for December 2016–February 2017*

U.S. Selected Significant Climate Anomalies and Events for February 2017



Highlights for the Midwest

A stationary boundary coupled with freezing surface temperatures produced a widespread freezing rain event in the southern and central Midwest January 13–17. Some of the worst conditions were in Missouri and southern Illinois, where .25 to .50 inch of ice was common, causing widespread damage to trees and power lines. Parts of southwest Missouri received up to three-quarters of an inch of ice.

Chicago did not have any snow cover in January or February for the first time in 146 years.

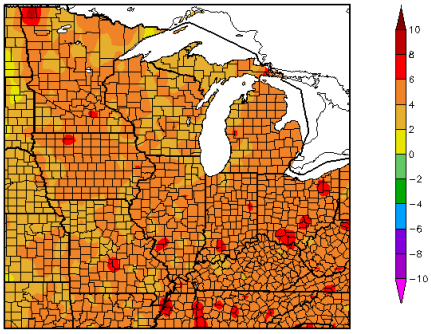
February was the warmest on record in Illinois, Indiana, Missouri, Ohio, and Kentucky, and second warmest for the region as a whole. Thousands of daily highest maximum and highest minimum temperature records were broken in the region. Many monthly records for warmest one-day February temperature were also broken, sometimes on multiple occasions, between February 17–23.

A severe weather outbreak across the Midwest on February 28 produced 20 tornadoes, including four EF-3 tornadoes, causing significant damage and four fatalities.

Regional - *Climate Overview for December 2016–February 2017*

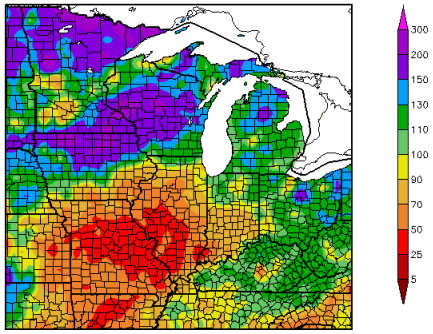
Temperature and Precipitation Anomalies

Departure from Normal Temperature (°F)
12/1/2016–2/28/2017



Temperatures for the period ranged from 2°F to 6°F above normal across the region, making this the 2nd warmest winter season on record. December was generally near normal, but with some wide temperature swings. A mid-month Arctic blast resulted in hundreds of daily record lows set during the cold snap. Later in December hundreds of daily record highs were set or tied in the Midwest. January temperatures ranged from 2°F to 8°F above normal It was the 9th warmest January for the region. February temperatures were 6°F to 12°F above normal, and for many locations this was the warmest February on record.

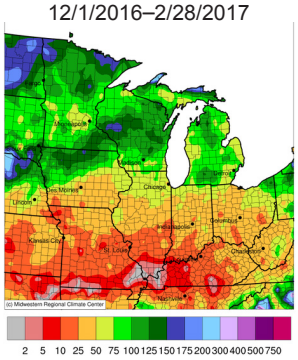
Percent of Normal Precipitation (%)
12/1/2016–2/28/2017



Precipitation for the period was normal to much above normal in the northern half of the region, and normal to much below normal in the southern half. Precipitation was 50 percent of normal or less across much of Missouri and southwestern Illinois. December precipitation was up to 200 percent of normal in the Northwest third of the region, as well as in Kentucky and much of Ohio, with the middle third very dry. January precipitation was more evenly distributed, except for persisting dryness in eastern Missouri and western Illinois. February precipitation was much below normal across most of the region.

Snowfall

Percent of Normal
12/1/2016–2/28/2017



Few areas in the Midwest received anything close to normal snowfall this winter. There was little or no snow across southern Missouri eastward into the Ohio Valley. Snowfall was above normal across northern Minnesota and the lake-effect areas along Lake Superior in the Michigan Upper Peninsula In areas north of Interstate 80 snowfall was above normal in December, while areas to the south were much below normal. Although the Great Lakes were not ice-covered, lake-effect snow events were limited by a lack of cold air outbreaks. Outside of parts of the northern Midwest, February snowfall ranged from 0 to 50 percent of normal.

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Regional Impacts *for December 2016–February 2017*

Agriculture

Southeast and southern portions of the Midwest already experienced the onset of spring in February, as much as three weeks ahead of normal (see NPN map). An early spring in the Midwest means an increase in the likelihood that plants will emerge from dormancy prematurely and be at a risk for damage from spring freezes.

Tourism and Recreation

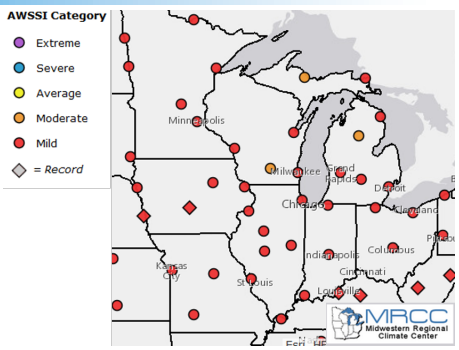
The lack of snow in the northern half of the Midwest impacted outdoor activities and tourism dependent on the snow. Many winter-related events were cancelled, and snowmobile trails in Wisconsin and Michigan were often in poor condition if not closed. Record warm weather in mid-January resulted in almost no snowmobile season up to that point, and the lack of winter tourism is expected to trickle down through the local economy. The 2017 American Birkenbeiner ski race in Hayward, Wisconsin, was cancelled due to warm weather and lack of snow for only the second time since 1973. The economic impact from this race alone was estimated at $4 million.

Drought

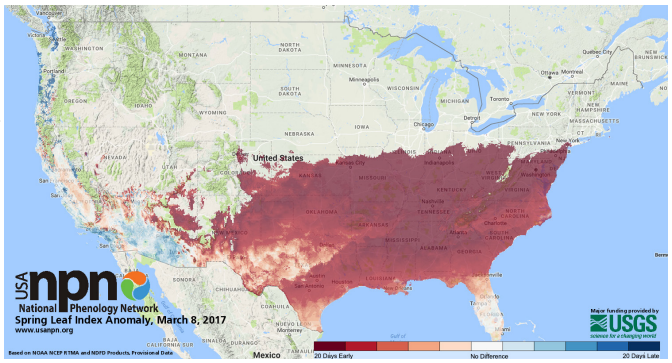
A very dry winter has left most of Missouri in Moderate drought, with abnormally dry conditions extending east through the southern half of Illinois. This raises the potential for wildfires in the spring if there is no substantial precipitation.

At the end of February streamflows across the southern third of the Midwest were below to much below normal.

Soil moisture deficits at the end of February were highest across Missouri, the southern half of Illinois, southeastern Iowa, and portions of central Ohio.



The Accumulated Winter Season Severity Index (AWSSI) map as of March 8, 2017, shows the extent of the mild winter in the Midwest.

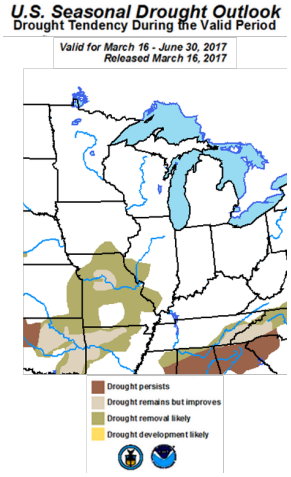


Regional Outlook *for Spring 2017*

Warm Spring Expected

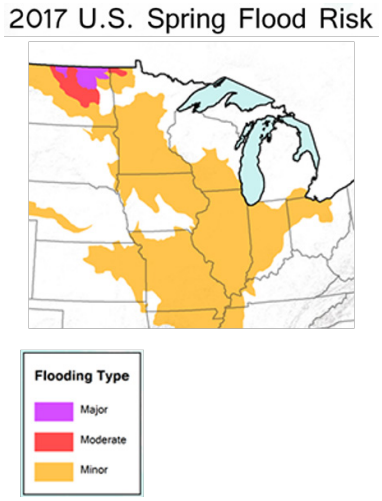
There is a higher probability for warmer than normal temperatures across the Midwest through June, with probabilities increasing from northwest to southeast. There is a slightly higher probability for wetter than normal conditions across Minnesota. The remainder of the region has equal chances of normal, below normal, and above normal precipitation.

The latest Drought Outlook indicates that the Midwest should be largely drought-free through June. Drought ongoing across Missouri, southwest Illinois, and southeast Iowa is likely to diminish through June.



ENSO neutral conditions are favored to continue through at least the Northern Hemisphere during spring 2017, with increasing chances for El Niño development into the fall.

Streamflows in the upper Midwest were above to much above normal at the end of February. However, snow cover was below normal as was ice on rivers. There is a minor spring flood risk in the Upper Mississippi River basin and in the lower Ohio Valley.



Midwest Region Partners

High Plains Regional Climate Center
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Midwestern Regional Climate Center
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National Weather Service Central Region
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North Central River Forecast Center
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State Climatologists
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WaterSMART Clearinghouse, U.S. Dept. of Interior
www.doi.gov/watersmart/html/index.php

Western Governors' Association
westgov.org

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