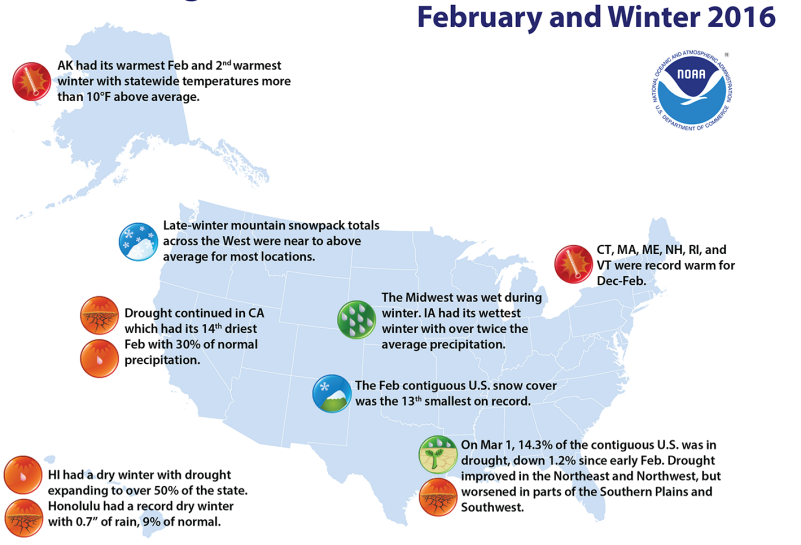
Quarterly Climate Impacts and Outlook

Midwest Region

March 2016

National - *Significant Events for December 2015 - February 2016*

U.S. Selected Significant Climate Anomalies and Events
February and Winter 2016



The average U.S. temperature during February was 39.5°F, 5.7°F above average, the seventh warmest on record. The winter U.S. temperature was 36.8°F, 4.6°F above average, and the warmest on record. February U.S. precipitation was 1.93 inches, 0.20 inch below average. The winter U.S. precipitation as 8.05 inches, 1.26 inches above average.

Please Note: Material provided in this map was compiled from NOAA's State of the Climate Reports. For more information please visit: http://www.ncdc.noaa.gov/sotc

Highlights for the Midwest

December was the warmest on record for each of the nine Midwestern states and for the region as a whole.

A highly unusual cold season heavy rainfall event from 26-29 December in Missouri dropped 7 to 10 inches of rain along a 60-mile wide corridor extending from just south of Joplin to St. Louis. Flash flooding was widespread with hundreds of water rescues reported, especially over the southern half of the state.

The early stages of the storm that became the Blizzard of 2016 on the east coast produced from 4 to 18 inches of snow across Kentucky and southeastern Ohio 21-23 January.

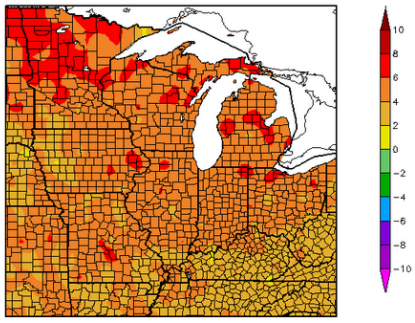
Iowa recorded its wettest winter on record with more than twice the average precipitation.

An intense low pressure system on 19 February generated sustained winds of 40 to 50 mph across the region with gusts to 70 mph. Damage was reported across the region. High-rise buildings in Chicago were evacuated as windows blew out, a building under construction toppled over, and high profile vehicles were tipped over across Iowa, northern Illinois, and Indiana. Power outages were also widespread.

Regional - *Climate Overview for December 2015 - February 2016*

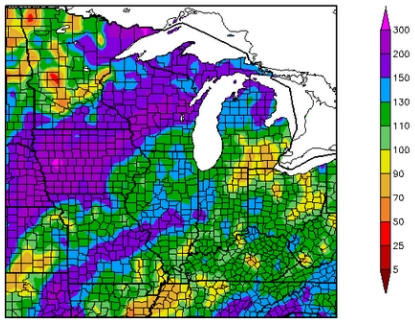
Temperature and Precipitation Anomalies

Departure from Normal Temperature (° F)
12/1/2015 - 2/29/2016



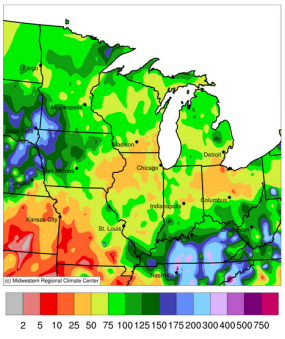
It was a very warm winter season across the Midwest, even warmer than might be expected with a strong El Niño. Temperature departures ranged from 1°F to 2°F above normal in Kentucky to 8°F above normal in northern Minnesota. Most of the region experienced temperatures at least 4°F above normal. All nine states recorded at least their 7th warmest winter, with Michigan having its 3rd warmest winter. December was the warmest month with temperatures 9°F to 12°F above normal. It was the warmest December on record for each of the nine states and the warmest on record for the region as a whole.

Percent of Normal Precipitation (%)
12/1/2015 - 2/29/2016



The Midwest did not see the typical dry pattern associated with a strong El Niño. Precipitation was normal to well above normal across the region, with the exception of much of Minnesota and in southeast Michigan. Again, the big contribution was December precipitation. It was the wettest December on record for the Midwest. Iowa and Wisconsin had their wettest December on record, Illinois, Minnesota, and Missouri their 2nd wettest, and Michigan its 3rd wettest, with the remaining states placing in the top eight wettest. January was very dry, and February was dry except in the far eastern portion.

Percent of Normal Snowfall (%)
12/1/2015 - 2/29/2016



Snow was below normal across much of the region, with the largest departures from southwestern Missouri across northern Illinois into northern Ohio. Snowfall was much above normal in a small portion of southwest Minnesota and northwest Iowa. This was largely the result of two storms in December. Snowfall was also above normal across Kentucky. The major contributor to this was 10 to 20 inches of snow from a storm in the middle of January and another in mid February. Many areas around the lakes received significant lake-effect snowfall in mid February that boosted seasonal totals to near normal.

Contact: Doug Kluck (doug.kluck@noaa.gov)

Regional Impacts *for December 2015 - February 2016*

Recreation

Lack of snow and cold weather impacted winter recreation activities especially in Minnesota, Wisconsin, and Michigan. The U.S. Pond Hockey Championship in January was postponed two weeks due to ice safety concerns.

Thin and unstable ice on lakes resulted in a poor ice fishing season. In Lake Geneva, WI 15 vehicles parked on the ice for Winterfest fell through the ice. Ten of the 15 vehicles were a total loss.

Transportation

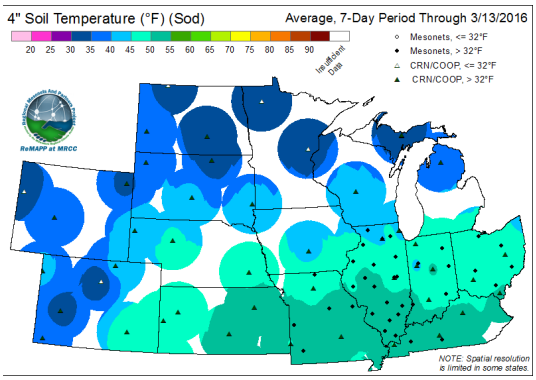
High winds on February 19th affected both highway and air travel. High-profile vehicles were toppled by the wind, and 160 flights were cancelled at Chicago's O'Hare Airport along with numerous delays of up to 60 minutes. The high winds even affected commuter trains.

Although snow was infrequent, storms that did occur had significant travel impacts, especially around the Great Lakes. In January two separate storms closed interstates for several hours. On January 17th, I-94 was closed for most of the day due to an accident that involved nearly 200 vehicles, injured more than 20 people, and caused one fatality. The highway was not completely reopened for 2 days. A mid-February LES event in Lake County, OH caused a fatal multi-vehicle accident and shut down a major interstate for several hours.

December flooding in Missouri severely impacted transportation, with portions of major interstates closed for a period of time. Amtrak service was suspended, and barge traffic along the Mississippi River at St. Louis was shutdown.

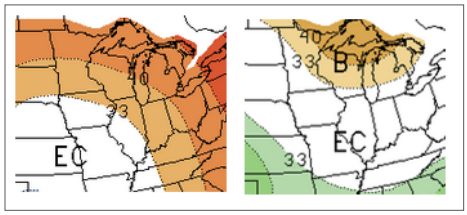
Agriculture

Soil temperatures in the early part of March were already in the low 50s across the southern third of the region thanks to the warm winter. There was a report of some corn being planted in southern Illinois the first week of March.



Regional Outlook - *for March - May 2016*

Warm and Dry



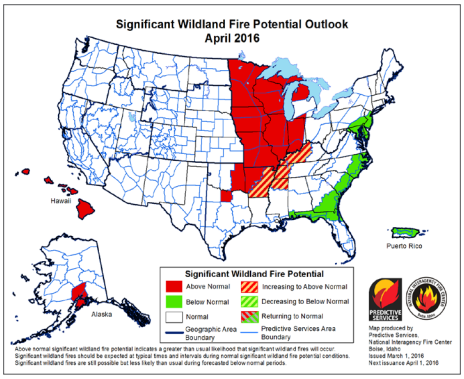
The Climate Prediction Center temperature outlook (L) and precipitation outlook (R) for April through June 2016.

The temperature outlook for the remainder of spring and early summer, April through June, is for a higher probability for temperatures to be above normal across much of the Midwest. There are equal chances for above-normal, normal, or below-normal temperatures across southern Iowa, western Illinois, and Missouri.

There is a slightly higher probability of drier-than normal weather across the upper Midwest. There are equal chances for above-normal, normal, or below-normal precipitation across the remainder of the Midwest.

There is a chance of moderate flooding on the middle Mississippi River due to high soil moisture and streamflows throughout much of the region. Locations in Iowa, southern Wisconsin, and northwest Illinois have experienced recent snowmelt and rainfall, and saturated soils, bringing a threat of exceeding minor flooding on tributaries to the Mississippi in that area. Moderate flooding is also possible across much of Missouri. Minor spring flooding is possible across the remainder of the region with the exception of Michigan and Ohio.

Warm and dry weather is expected to boost the wildfire potential to above normal across the Midwest in April. The one exception could be the Ohio Valley which has received above-normal rainfall so far in March. Wildfire potential is expected to gradually return to normal levels in May and June.



Midwest Region Partners

High Plains Regional Climate Center
www.hprcc.unl.edu

Midwestern Regional Climate Center
mrcc.isws.illinois.edu

Missouri Basin River Forecast Center
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National Centers for Environmental Information
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National Weather Service Central Region
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North Central River Forecast Center
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NWS Climate Prediction Center
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South Dakota State University and SDSU Extension
www.igrow.org

State Climatologists
www.stateclimate.org

WaterSMART Clearinghouse, U.S. Dept. of Interior
www.doi.gov/watersmart/html/index.php

Western Governors' Association
westgov.org

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