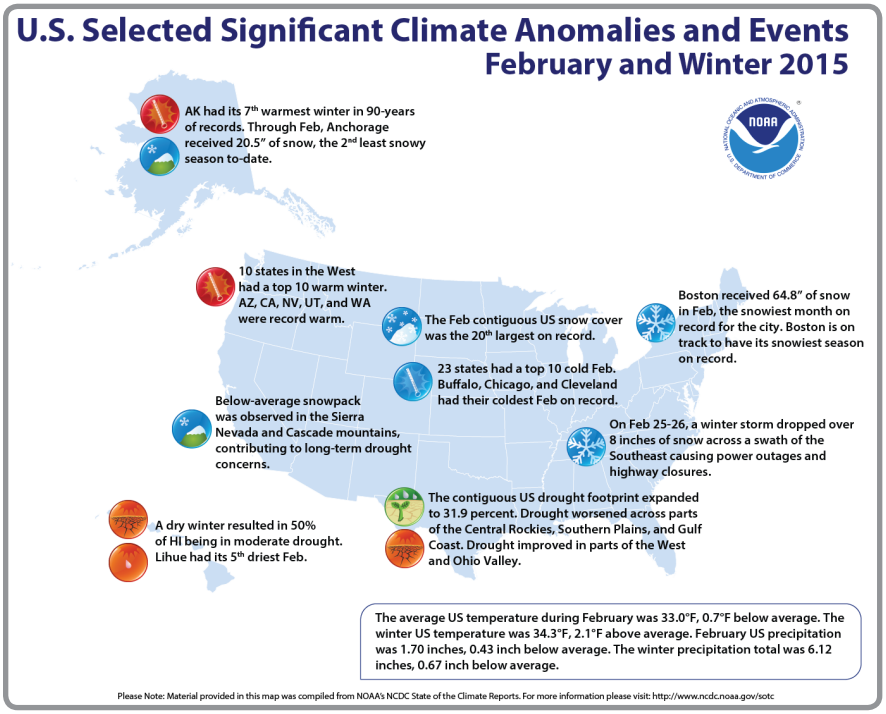
Quarterly Climate Impacts and Outlook

Midwest Region

March 2015

National - *Significant Events for December 2014–February 2015*



Highlights for the Midwest

All nine Midwestern states had February average temperatures that ranked in the top 20 coldest. Seven of nine Midwestern states experienced a February that ranked in the top 10 coldest, with Michigan, Indiana, Ohio, and Kentucky in the top five. For the region as a whole, it was the seventh coldest February on record since 1895. Chicago had its coldest February on record.

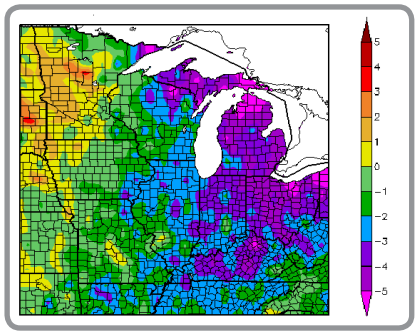
On January 31–February 2, 2015, a snowstorm with blizzard conditions affected the central Midwest, dropping a storm total of 19.3 inches of snow at Chicago's O'Hare International Airport. The total at O'Hare was the fifth highest storm total snowfall for Chicago. The 16.2 inches that fell on February 1 was the highest total for any February day in Chicago and was the second highest single day snowfall for the city all time.

Snowfall was below normal across much of Minnesota and Wisconsin. The season's snowfall in Minneapolis at the end of February totaled 25.3 inches, 16.4 inches below normal. The greatest depth of snow on the ground in Minneapolis was 4 inches on December 27.

Regional - *Climate Overview for December 2014–February 2015*

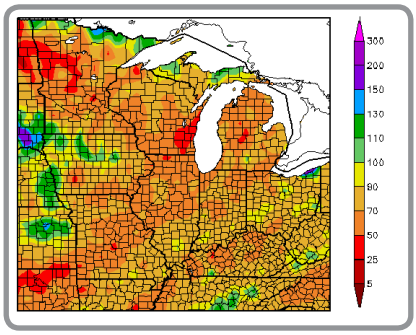
Temperature and Precipitation Anomalies

Departure from Normal Temperature (° F)
December 1, 2014–February 28, 2015



Average temperatures for the three-month period were below normal except for much of Minnesota and northwestern Iowa. However, the temperature pattern was dominated by an extremely cold February, with temperature departures ranging from 3°F to 6°F below normal in the western portions of the region to 9°F to 12°F below normal over much of the central and eastern Midwest. December, in contrast, was above normal across the entire region. January temperatures were above normal from northwestern Iowa through Minnesota, near normal in the central Midwest, and below normal in the east.

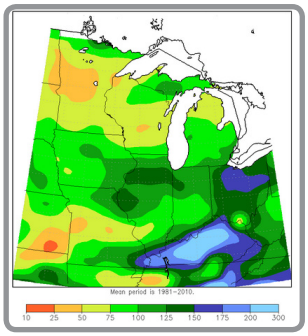
Percent of Normal Precipitation (%)
December 1, 2014–February 28, 2015



While snowfall was above normal across the central and southern Midwest, precipitation for the three-month period was below normal across the entire region. Precipitation was only 25% to 50% of normal across portions of Minnesota and Wisconsin. All of Minnesota, much of Wisconsin, extreme northern Iowa, and southwestern Missouri are depicted in D0 (Abnormally Dry) on the U.S. Drought Monitor, and small portions of northwestern Minnesota are in D1 (Moderate Drought). Dry conditions that had developed across Kentucky were eliminated by the heavy rain and snow at the end of February.

Snowfall

Departure from Mean Accumulated Snowfall (inches) December 1, 2014–February 28, 2015



Most of this winter's snow fell during the month of February. The northern halves of Illinois and Indiana, Ohio, Kentucky, northeast Missouri, east-central Iowa, and areas of far southern Illinois and southeast Missouri along and near the Ohio River experienced accumulated snowfall amounts up to 10 inches above normal while all other areas were below normal by up to 20 inches. Lake-effect regions in northern Michigan, the Upper Peninsula, and far northern Wisconsin were up to 40 inches below normal. Snowfall was less than 50% to 75% of normal across most of Minnesota and Wisconsin.

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

Regional Impacts *for December 2014–February 2015*

Transportation and Infrastructure

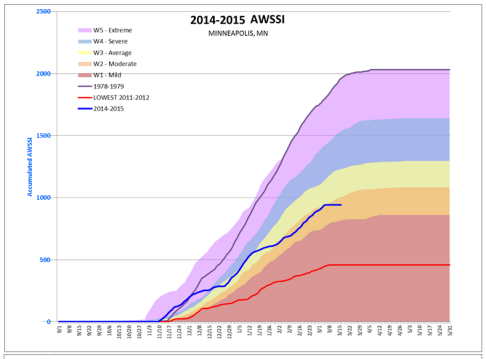
On January 9, 2015, lake-effect snow in southern Michigan caused a 190 vehicle pileup in Kalamazoo and Calhoun Counties. There was one fatality, numerous injuries, fires and spilled cargo, evacuations of homes, and closure of Interstate 94 in both directions for much of the day.

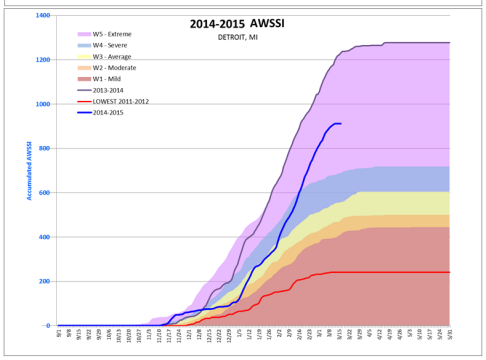
The snowstorm that produced blizzard conditions across the central Midwest on January 31–February 2 resulted in 1,300 flight cancellations and numerous delays across the region.

Six to 12 inches of snow followed by more than 2 inches of rain in Kentucky the last week of February resulted in numerous roof collapses and other damage.

Recreation

Early season warm weather and an overall lack of snow significantly impacted the snowmobile season across Minnesota and much of Wisconsin. The lack of snowmobile traffic negatively impacted bars, restaurants, gas stations, and resorts. On the plus side, the lack of snow days reduced municipal snow removal costs, eased travel, and benefitted outdoor construction activities.





These charts show the plot of the Accumulated Winter Season Severity Index (AWSSI) for Minneapolis, Minnesota and Detroit, Michigan. The lack of snow and extreme cold weather is reflected in the Minneapolis plot, showing the winter in the moderate to average category. In contrast, Detroit experienced its second extreme winter in a row with the third highest AWSSI since 1950. Detroit's highest score came during the winter of 2013–2014. More information can be found at the AWSSI web page: [http://mrcc.isws.illinois.edu/research/awssi/indexAwssi.jsp]

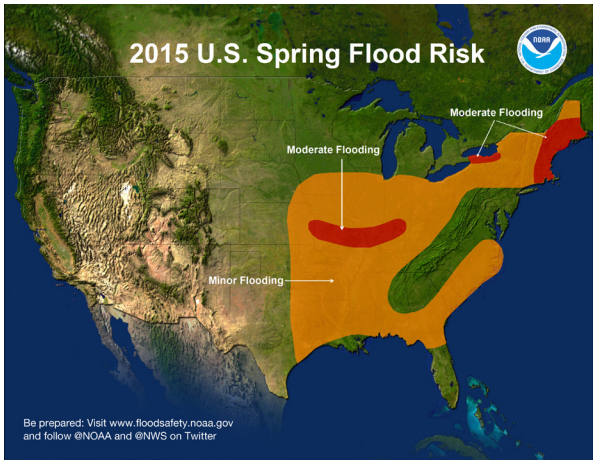
Regional Outlook - *for Spring 2015*

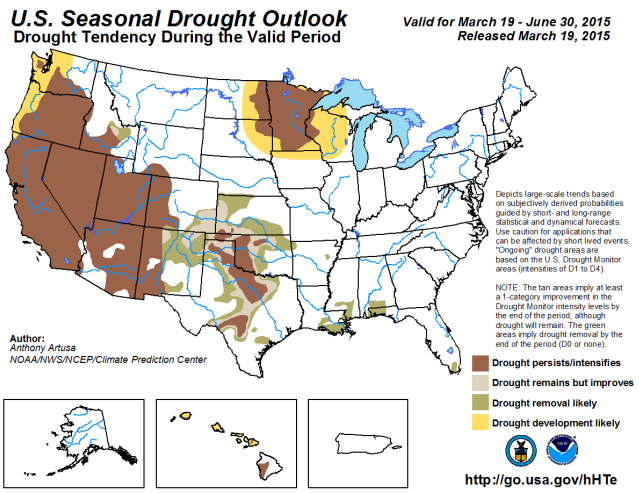
Dry Winter a Two-Sided Coin

The below-normal precipitation during the winter months is generally good news for spring flooding potential. The risk of moderate flooding is low across most of the region except in a band from southern Missouri through the Ohio Valley. Moderate flooding was occurring at the beginning of March along the Wabash River in southern Illinois and Indiana and along the lower Ohio River. This flooding is due to the heavy rain and melting of heavy snow that occurred at the end of February and early March. Saturated soils and high streamflows are favorable for flooding to persist in Kentucky, southern Illinois, and southwest Indiana with the typical heavy spring rains seen in this area.

The seasonal U.S. Drought Outlook expects existing drought conditions to persist and further develop across Minnesota and far southern Wisconsin. No drought development is expected in the remainder of the Midwest though the spring.

A weak El Niño developed in the Pacific during February and there is a 50% to 60% chance that El Niño conditions will continue through the summer. Little impact is expected on Midwestern weather.





Midwest Region Partners

Climate Science Program, Iowa State University
climate.engineering.iastate.edu
High Plains Regional Climate Center
www.hprcc.unl.edu
Midwestern Regional Climate Center
mrcc.isws.illinois.edu
Missouri Basin River Forecast Center
www.crh.noaa.gov/mbrfc
National Climatic Data Center
www.ncdc.noaa.gov
National Drought Mitigation Center
drought.unl.edu
National Integrated Drought Information System
www.drought.gov
National Weather Service Central Region
www.crh.noaa.gov/crh
North Central River Forecast Center
www.crh.noaa.gov/ncrfc
NWS Climate Prediction Center
www.cpc.ncep.noaa.gov
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