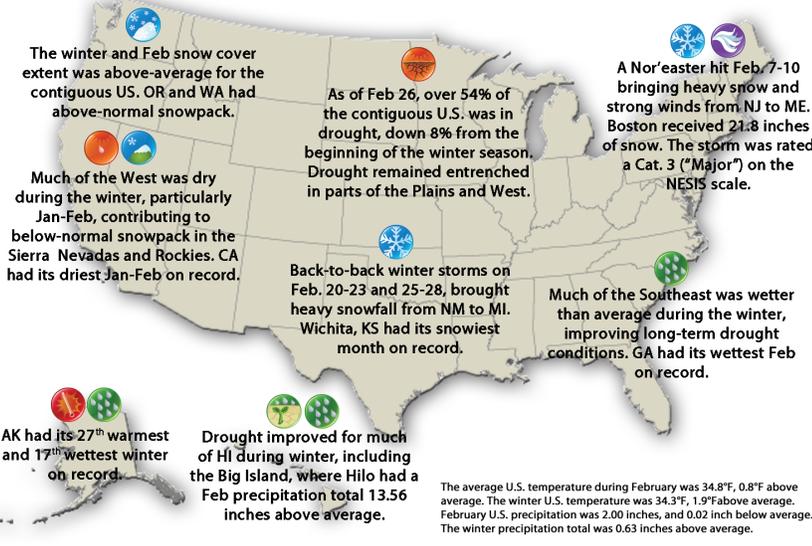


## National - Significant Events for December 2012 - February 2013

### Significant Events for Winter and February 2013



### Highlights for the Central Region

A normal to wet winter in the eastern half of the region substantially improved moisture conditions. Michigan, Wisconsin, and Illinois had winter precipitation totals ranking among the 10 wettest.

Two major winter storms in late February produced a swath of snow from Texas through Missouri and into the southern Great Lakes. Many locations picked up more than 6 inches from both systems, and totals reached 20 – 24 inches in northern Missouri.

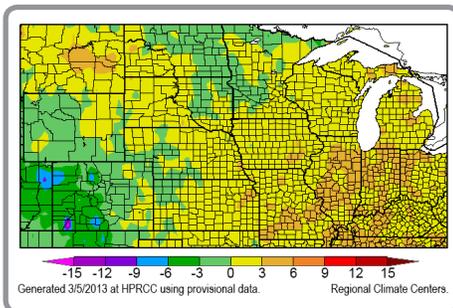
The storms brought Wichita, Kansas a new February snowfall record. Wichita's February total was 21.2 inches, which exceeded the old record of 20.5 inches set back in 1913. Not only was this the snowiest February in Wichita, it was also the snowiest month ever recorded.

Water levels on the Great Lakes were up slightly at the end of February, but still remain just above record lows. Lakes Michigan and Huron reached record lows in January.

## Regional - Climate Overview for December 2012 - February 2013

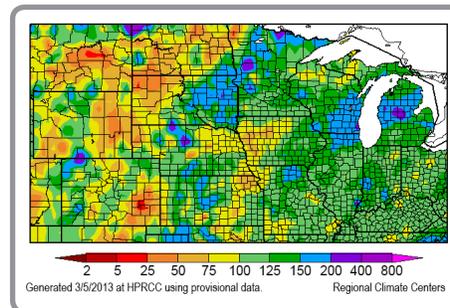
### Temperature and Precipitation Anomalies

Departure from Normal Temperature (° F)  
12/1/2012 - 2/28/2013



Cool west, warm east was the general temperature departure pattern through the winter, a pattern established during December and continuing through January. December-January temperatures were 1°F to 3°F above normal from eastern Kansas to Iowa to Wisconsin and eastward. Temperatures were near normal in the Plains and below normal west of the Divide. February temperatures were near to below normal across the entire region except for the western half of the Dakotas. There, temperatures were as much as 3°F to 5°F above normal.

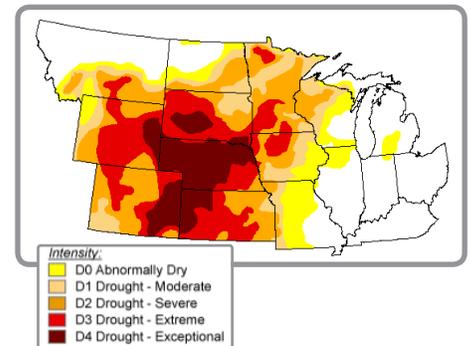
Percent of Normal Precipitation (%)  
12/1/2012 - 2/28/2013



Precipitation this winter was highly variable both in time and space. December precipitation was the most spatially variable. Precipitation in January was abundant in the eastern half of the region contrasting with increasing dryness in the west. Seasonal snowfall was well above normal in Kansas, northern Missouri, northern North Dakota, northern Minnesota, and the Ohio Valley. There were significant snowfall deficits in Colorado, Wyoming, eastern Nebraska, northwestern Iowa and southern Minnesota, central Illinois, northern Indiana, and much of Kentucky.

### Drought in Central Region

U.S. Drought Monitor  
02/26/2013



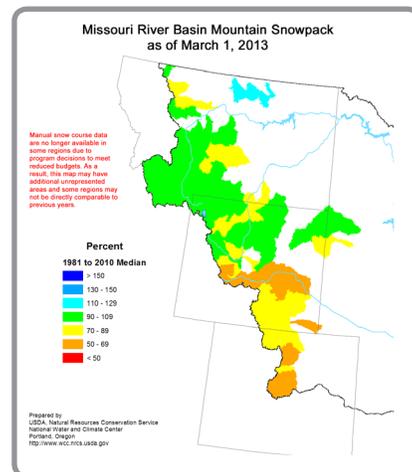
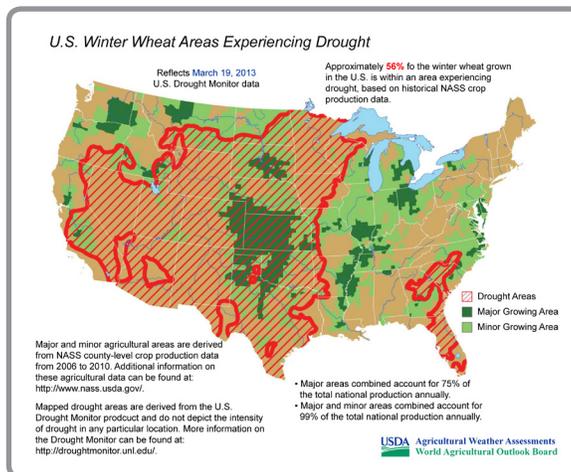
Most of the Plains remains in severe to exceptional drought going into the spring. While February storms did bring significant precipitation to Kansas, western Nebraska, and the eastern Dakotas the precipitation provided only short-term relief. Drought conditions in the High Plains Region changed little this winter, although some areas improved. At the end of the winter 91 percent of the region was still in moderate to exceptional drought. This is down only slightly since the beginning of winter, when 93 percent was in that range of designations.



# Regional Impacts for December 2012 - February 2013

## Agriculture

Soils continue to be very dry in the Plains states into western Iowa and southern Minnesota. Tile lines being installed in these areas are reaching dry ground. Winter wheat condition is very poor in Kansas and South Dakota. Limited snow cover in South Dakota has probably allowed some freeze damage. The price of hay is expected to remain at very high levels through the year due to shortages caused by the widespread drought and a long production cycle. It may take several months to over a year for the market to see any relief.



## Energy

In February 10 percent of the nation's ethanol plants were idle because the price of corn was above the price of ethanol. Corn prices were driven higher by the drought across the central United States. Almost 40 percent of all U.S. corn is used to make the gasoline additive.

## Transportation, Recreation

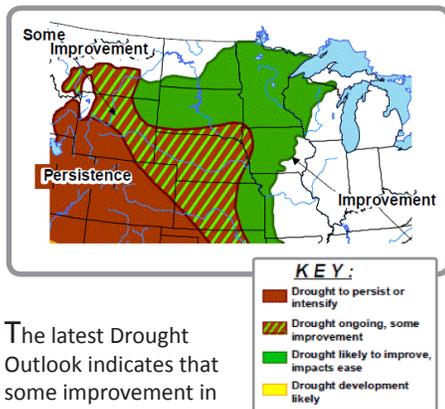
Water levels on the mid and lower Mississippi River are back to normal after flirting with record lows at the beginning of January. Barges are reported to be back to carrying full loads. Water levels in the upper Mississippi River remained low. Two years of lower than normal snowpack in the Rockies and resulting low runoff have had impacts on water supplies, navigation, and recreation.

## Regional Outlook - for Spring 2013

## Central Region Partners

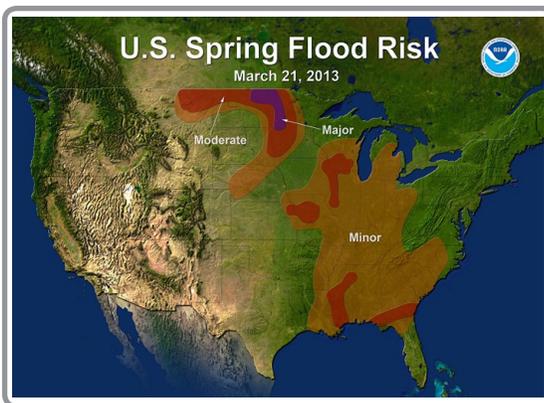
### Some Improvement Expected, but Drought Will Persist

U.S. Seasonal Drought Outlook  
Drought Tendency During the Valid Period  
Valid for March 7 – May 31, 2013  
Released March 7, 2013



The latest Drought Outlook indicates that some improvement in drought conditions is expected in the eastern and northern portions of the region. A one-category improvement is expected from South Dakota through Minnesota and south into northwestern Missouri and eastward into the northeast half of Wisconsin. While some improvement is expected in Nebraska and Kansas, drought conditions in the western half of the region will persist into the summer without persistent and significant rainfall.

### Central Region Spring Flood Risk



The 2013 Spring Flood Risk indicates that a moderate to major flood risk exists for the Red River in Minnesota and North Dakota. There is a 50% chance of Devils Lake and Stump Lake in North Dakota rising approximately 2 feet due to above normal topsoil wetness and above normal snowpack. The immediate impact of a 1.5 to 2.5 foot rise is the loss in ground recovered over the past two years from a decrease in lake levels. A potential for exceeding minor and moderate river flood levels exists in the Upper Mississippi River basin, including southern Wisconsin, northern Illinois, and northern Missouri. The potential for exceeding minor river flood levels exists in the middle Mississippi, the smaller tributary streams in the lower Missouri basin, and the Ohio River basin. This would include portions of Kansas, Missouri, eastern Iowa, Illinois, Indiana, Ohio, Kentucky, and Tennessee.

- Midwestern Regional Climate Center [mrcc.isws.illinois.edu](http://mrcc.isws.illinois.edu)
- High Plains Regional Climate Center [www.hprcc.unl.edu](http://www.hprcc.unl.edu)
- National Drought Mitigation Center [drought.unl.edu](http://drought.unl.edu)
- National Integrated Drought Information System (NIDIS) [www.drought.gov](http://www.drought.gov)
- State Climatologists [www.stateclimate.org](http://www.stateclimate.org)
- National Weather Service Central Region [www.crh.noaa.gov/crh](http://www.crh.noaa.gov/crh)
- North Central River Forecast Center [www.crh.noaa.gov/ncrfc](http://www.crh.noaa.gov/ncrfc)
- Missouri Basin River Forecast Center [www.crh.noaa.gov/mbrfc](http://www.crh.noaa.gov/mbrfc)
- National Climatic Data Center [www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)
- NWS Climate Prediction Center [www.cpc.ncep.noaa.gov](http://www.cpc.ncep.noaa.gov)
- Climate Science Program, Iowa State University [climate.engineering.iastate.edu](http://climate.engineering.iastate.edu)
- WaterSMART Clearinghouse, U.S. Dept. of Interior [www.doi.gov/watersmart/html/index.php](http://www.doi.gov/watersmart/html/index.php)
- Western Governors' Association [westgov.org](http://westgov.org)

