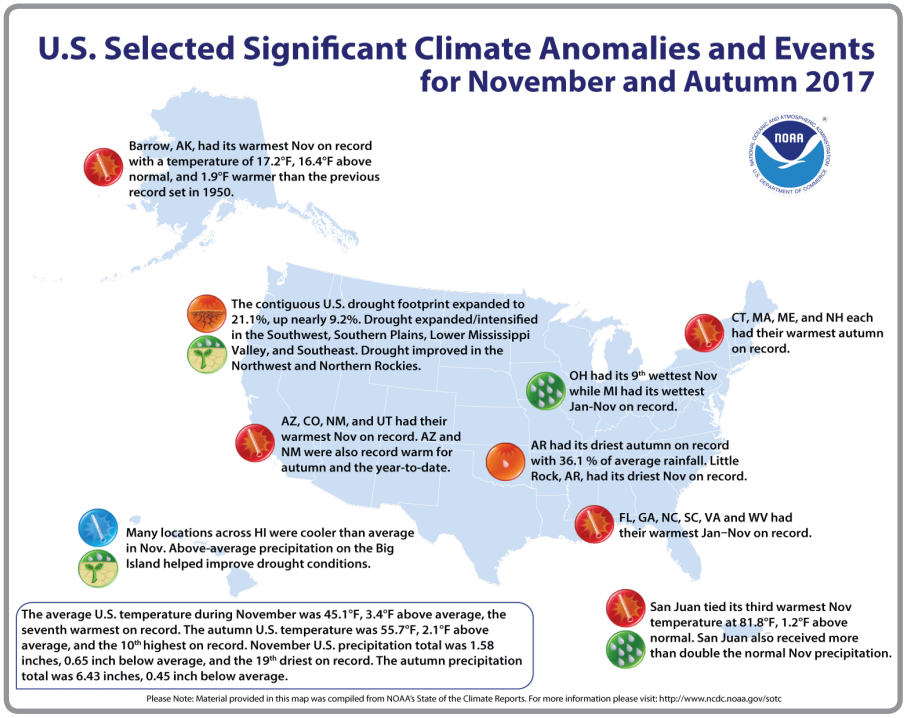
Quarterly Climate Impacts and Outlook

Midwest Region

December 2017

National – *Significant Events for September–November 2017*



Highlights for the Midwest

Temperatures were well above average for a two-week period in September. More than 2,000 record highs occurred in the latter half of September, with Chicago setting new record high maximum temperatures for seven straight days from the 20th to the 26th.

September was the fifth driest on record in Illinois and Missouri and seventh driest on record in Michigan.

October was the wettest on record in Michigan, the 4th wettest in Iowa, 8th wettest in Wisconsin, and 9th wettest in Kentucky. The Midwest as a whole experienced its 5th wettest October on record.

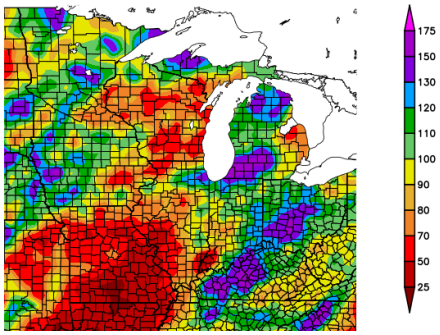
The first freeze of the season came in October for the vast majority of the Midwest, which was generally two weeks later than average. A few northern stations had an early freeze this year, and some stations, mostly near the Great Lakes or along the Ohio River, made it through October without a freeze.

A significant fall severe weather event occurred from the St. Louis, Missouri, area through northwestern Ohio on November 5. There were 21 confirmed tornadoes, and a total of eight injuries were reported in Indiana and Ohio.

Regional – *Climate Overview for September–November 2017*

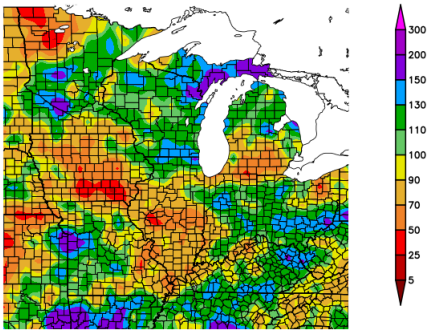
Temperature and Precipitation Anomalies

Departure from Normal Temperature (°F)
9/1/2017–11/30/2017



Fall temperatures were slightly above normal for most of the Midwest. Much of the region was 1°F to 3°F above normal with some areas, from Missouri to Michigan, reporting up to 5°F above normal. A few pockets in Kentucky and Minnesota were a degree or two below normal. The warmest period in the fall was mid-to late September with cool periods in early September, late October, and early to mid-November. October ranked as the 8th warmest in Michigan and the 9th warmest in Ohio. For the region as a whole, September and October were warmer than normal, and then November was the coolest month with slightly below-normal temperatures.

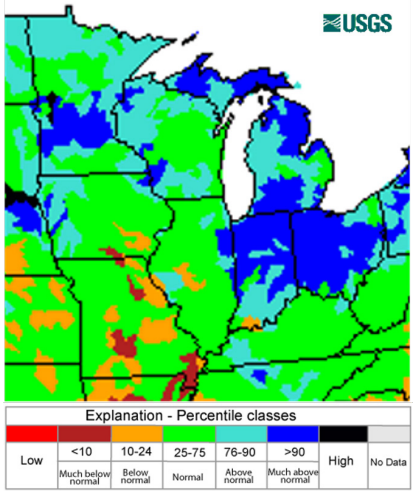
Percent of Normal Precipitation (%)
9/1/2017–11/30/2017



Fall precipitation in the Midwest was mixed. Drier-than-normal conditions stretched from Missouri to Wisconsin, and mostly wetter than normal conditions were observed elsewhere. For the region, September was the 13th driest, then October was the 5th wettest, before returning to drier conditions in November. Illinois and Missouri ranked 5th driest, and Michigan ranked 7th driest in September. Then Michigan had its wettest October with Iowa (4th), Wisconsin (8th), Kentucky (9th), and Illinois (10th) also ranking among the wettest in their histories. November, while drier than normal in seven states, was wet in Indiana and especially Ohio (ranked 9th wettest).

Average Streamflow

November 2017



Streamflow in November was well above normal for much of Indiana and Ohio as well as parts of the upper Midwest. These higher streamflows increase the risk of flooding in early 2018 if rainfall is above average. Because there is a chance of increased winter rainfall in the forecast, consistent with La Niña conditions, this will be an area to watch to see how the rainfall actually develops.

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

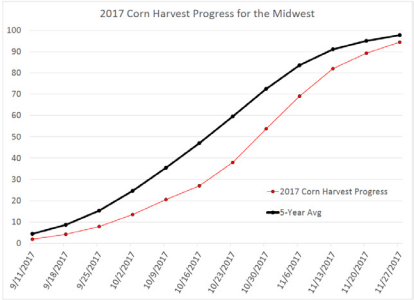
Regional Impacts *for September–November 2017*

Agriculture

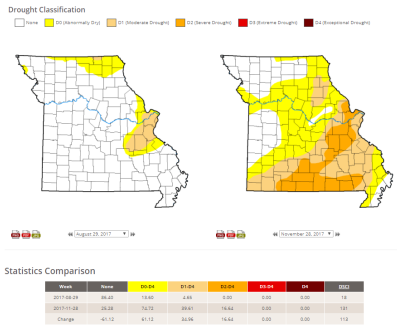
Rains and wet fields contributed to a delayed corn harvest in the Midwest. For much of the fall, this year's corn harvest was running about two weeks behind the 5-year average. In the Midwest, harvest of both corn and soybeans was nearly complete by the end of November.

Drought

Drought expanded and intensified across southern Missouri during the fall. By the end of November, severe drought (D2) was depicted across southern and east-central parts of the state. Ponds were drying up, causing concerns about the need to water livestock. Forage normally stockpiled during the fall is not available due to limited growth. Many producers were feeding hay in October, much earlier than usual. Producers were also reported to be culling herds to reduce the number of animals they will need to feed through the winter.



Corn harvest progress for 2017 and the 5-year average. Source: USDA NASS.



Week	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	D0-D2
2017-08-29	86.43	13.60	4.65	0.00	0.00	0.00	18
2017-11-28	25.28	74.72	39.61	14.44	0.00	0.00	181
Change	-61.15	61.12	34.96	14.44	0.00	0.00	112

Missouri drought at the end of August and November. Source: US Drought Monitor.

Infrastructure

A rapidly intensifying storm system moving through the upper Midwest on October 27-28 brought up to a foot of snow and damaging winds to northeast Minnesota and the western Michigan Upper Peninsula. The heavy snow and wind caused trees to come down on power lines resulting in power outages. The wind also caused significant shore erosion on both the northern and southern shores of Lake Superior. Duluth, Minnesota, received 10.6 inches of snow on October 27, the highest single day snowfall accumulation for October.

Low water levels in a stock pond in Missouri. Photo courtesy of Kendra Graham, Missouri Extension.

Regional Outlook *for Winter 2017/2018*

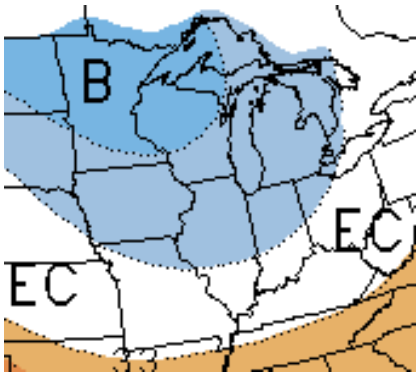
Outlook for January–March

There is an increased chance of below-normal temperatures for the central and northern Midwest, especially in the northwestern parts of the region. The southern third of the region has equal chances of above- or below-normal temperatures for January through March.

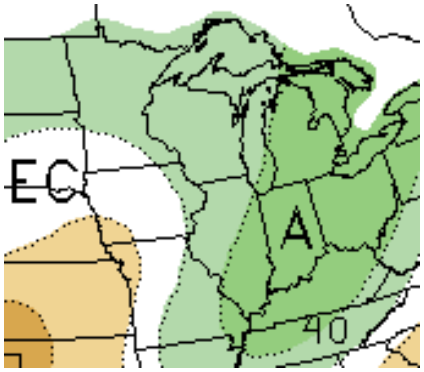
Most of the Midwest has an increased risk of above-normal precipitation, especially from the Ohio River Valley to the eastern Great Lakes for January through March. There is an increased risk of drier than normal conditions in southwestern Iowa and northwestern Missouri and a narrow band of equal chance stretching from southwestern Missouri to southwestern Minnesota.

The weak La Niña across the central and eastern Pacific is expected to persist through February and into early spring. While the current La Niña may have some effect on Midwest weather, the signal is typically weak and is often dominated by other climate effects such as the Arctic Oscillation or North Atlantic Oscillation.

Drought conditions are expected to persist from southwestern Missouri to west central Illinois and small areas of Iowa and Minnesota, while conditions are expected to improve in southeastern Missouri.



Temperature outlook for January through March 2018



Precipitation outlook for January through March 2018

EC = Equal chances

A = Above normal precipitation

B = Below normal temperature

Midwest Region Partners

Midwestern Regional Climate Center
mrcc.isws.illinois.edu

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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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