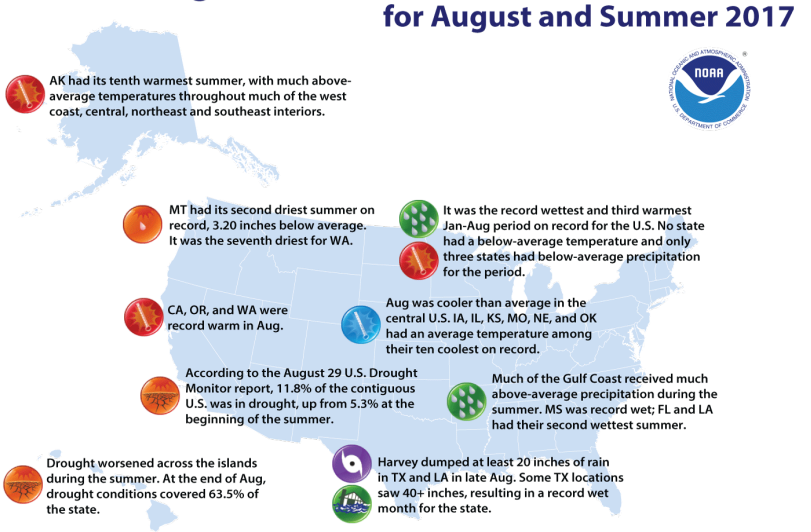
Quarterly Climate Impacts and Outlook

Midwest Region

September 2017

National – *Significant Events for June–August 2017*

U.S. Selected Significant Climate Anomalies and Events for August and Summer 2017



The average U.S. temperature during August was near the long-term average. The summer U.S. temperature was 72.7°F, or 1.3°F above average and the 15th highest on record. August U.S. precipitation was 3.34 inches, 0.7 inch above average, and seventh wettest. The summer precipitation total was 9.19 inches, the 16th wettest on record.

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

After a drought-free May, areas of moderate drought were introduced in Minnesota, Iowa, and Missouri on the U.S. Drought Monitor in June. Drought continued to intensify across Iowa and to a lesser extent eastern Missouri and west-central Illinois during the summer. Ames, Iowa experienced its driest June–July on record.

The two-week period from, July 11–23 saw two major thunderstorm complexes bring heavy rain and flooding to parts of Iowa, Wisconsin, Illinois, Indiana, and northwestern Ohio. Major flooding and even record flood crests were reached on several rivers.

July was the 9th wettest on record for both Indiana and Ohio.

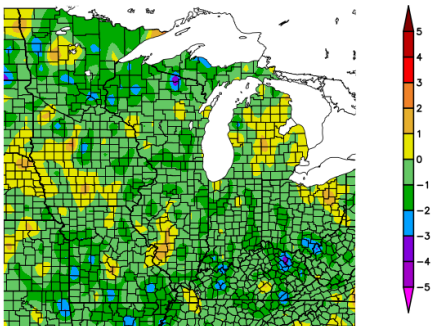
The Kansas City metro area experienced three separate severe flash flooding events during the summer on July 26–27, August 5–6, and August 21–22. Each recorded widespread amounts in excess of six inches of rain in a short amount of time.

August was the 7th coolest on record for Missouri, 8th coolest for Iowa, and 10th coolest for Illinois.

Regional – *Climate Overview for June–August 2017*

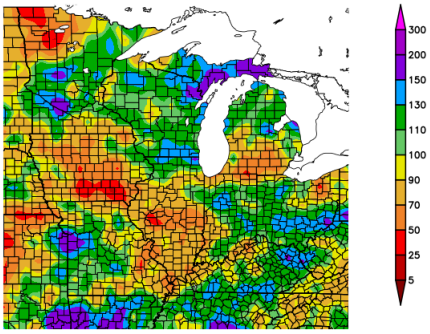
Temperature and Precipitation Anomalies

Departure from Normal Temperature (°F)
6/1/2017–8/31/2017



Temperatures across the entire region were near normal for the June–August period. There were a few spots in central Minnesota and Wisconsin where departures were around 2°F below normal. June was near normal across most of the Midwest, but characterized by a very warm first half and a very cool second half. July temperatures were near to slightly above normal with the warmest areas (+2°F to +3°F) in western Iowa and in eastern Missouri. Temperatures were below normal region-wide in August, from 1°F to 3°F below normal east of the Mississippi River, to 3°F to 5°F below normal west of the Mississippi River.

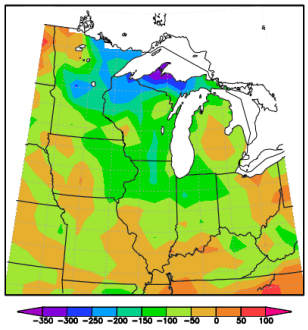
Percent of Normal Precipitation (%)
6/1/2017–8/31/2017



Precipitation varied widely across the region. The Michigan Upper Peninsula, west-central Missouri, and the eastern Ohio Valley received from 150 to 200 percent of normal precipitation during the summer. Northwestern Minnesota, much of Iowa, and central Illinois had less than 75 percent of normal rainfall. South-central Iowa received only 25–50 percent of normal rainfall. June and July were consistently wet across northern portions of the Midwest from Wisconsin southeast to Ohio. August rainfall was much above normal in Minnesota through the Michigan U.P., western Iowa, and Missouri, and eastern Kentucky.

Growing Degree Days

Departure from Normal
5/1/2017–8/31/2017



Modified Growing Degree Days (MGDD) were near to below normal across most of the Midwest. MGDDs were much below normal across the northern half of Minnesota, Wisconsin, and the Michigan Upper Peninsula MGDDs were near to above normal only in the Ohio Valley and in eastern Ohio. The largest departures from normal coincided with areas that received much above normal precipitation this summer in the northern half of the region. The lower-than-normal accumulation of MGDD will have an impact on the development of late-planted and replanted crops.

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Regional Impacts *for June–August 2017*

Agriculture

Three separate incidents in Ohio resulted in 66,000 fish deaths in tributaries to Lake Erie. These were likely the result of manure improperly applied or applied just before rain arrived.

Moderate drought in Iowa and eastern Missouri resulted in very poor pasture conditions in July. Pasture condition in Iowa at the end of August was 40 percent poor to very poor.

Drought-stressed pasture, Washington County, near Potosi, Missouri, July 2017.
Photo courtesy of Rachel Hopkins, Missouri state climatologist.

Flooding

Heavy thunderstorms late July 11 through the morning of July 12 caused flash flooding and flooding in Lake and McHenry counties, Illinois and Racine, Kenosha, and Walworth counties, Wisconsin. More than four inches of rain fell in several locations and caused most of the city of Burlington, Wisconsin, to flood. A record crest was observed on the Fox River at both Burlington and New Munster, Wisconsin. Further south, the Des Plaines River reached a record crest at Gurnee and Russell, Illinois. The major flooding lasted throughout the week. Six Flags Great America in Gurnee, Illinois, was forced to close due to the flooding.

Three to more than nine inches of rain fell across Iowa, southern Wisconsin, and northern Illinois on July 20–23 causing major flooding on many smaller rivers. Seventeen Wisconsin counties were declared in a state of emergency from the flooding during the week while seven Illinois counties were named in a disaster proclamation.

Three separate flash flood events in the Kansas City area, each with more than 6 inches of rain, produced catastrophic flooding of roads, homes, and businesses. On August 22 Indian Creek crested at 28.22 feet, surpassing the previous record of 27.96 feet, set only three weeks earlier on July 27. The July 27 crest broke the old record by two feet. There were numerous water rescues during these flood events. There was one fatality when a man drove his car into flood waters on August 22.

Flooding in Kansas City, Missouri, on July 27, 2017.
Photo credit: KMBC, National Weather Service, Kansas City.

Transportation

Major flooding in northeastern Illinois and southeastern Wisconsin on July 11–12 caused Amtrak to suspend service between Chicago and Milwaukee for much of the day on July 12. In addition, Metra's Milwaukee North Line service was suspended between Fox Lake and Libertyville because of flooding.

Regional Outlook *for Fall 2017*

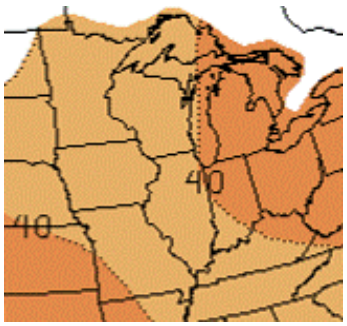
A Warm Autumn

The latest outlook issued by the Climate Prediction Center (CPC) indicates that there is an increased probability of warmer than normal weather, on average, for the period October through December in the Midwest. The highest probabilities for warmer than normal weather are in the eastern half of the region.

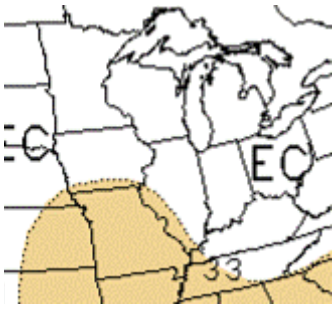
A warm fall will be favorable for harvest as it will aid in drying of corn and soybeans prior to harvest, especially in areas with late-planted or replanted crops. The outlook for warm weather says nothing about the chances for an early or late freeze. Median first freeze dates range from the first week of September in northern Minnesota to the first week of November in the Ohio Valley. Crop progress is near to below the 5-year average in most of the region.

The precipitation outlook indicates slightly elevated probabilities of drier than normal weather in Missouri, but equal chances for above, normal, or below normal precipitation in the remainder of the region.

ENSO-neutral conditions currently exist in the equatorial Pacific but sea-surface temperatures have been decreasing in the eastern half of the region. There are increasing probabilties for a La Niña to develop perhaps by late fall or early winter. On September 14 CPC and the International Research Institute for Climate and Society issued a La Niña Watch. A La Niña Watch is issued when conditions are favorable for the development of La Niña conditions within the next six months.



Temperature outlook for October through December 2017



Precipitation outlook for October through December 2017

EC = Equal chances

Midwest Region Partners

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mrcc.isws.illinois.edu

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USDA Midwest Climate Hub
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www.doi.gov/watersmart/html/index.php

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