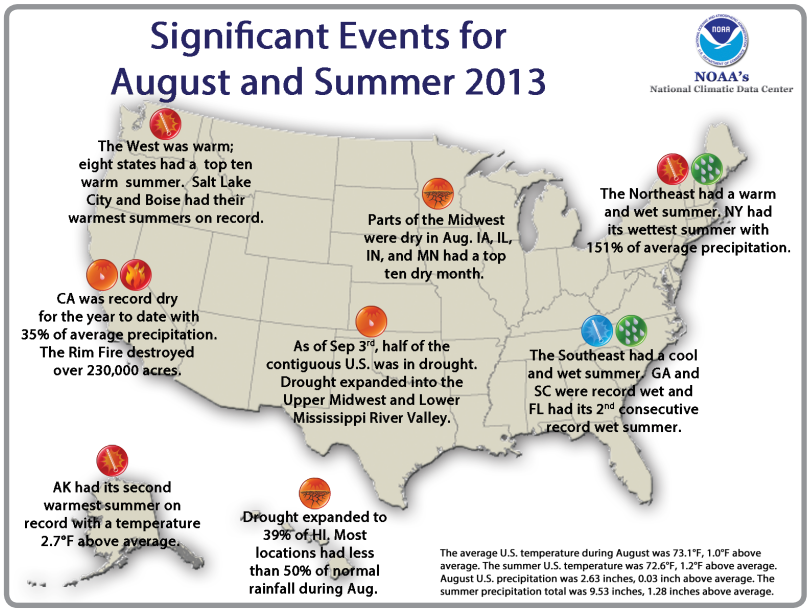
Quarterly Climate Impacts and Outlook

Central Region

September 2013

National - *Significant Events for June–August 2013*



Highlights for the Central Region

Above-normal rainfall across much of the region in June eliminated drought from the eastern half of the region. June rainfall brought Illinois, Iowa, Michigan, and Wisconsin a record wet first half of the year. The rain resulted in major to near-record flooding in northern Indiana.

According to the U.S. Drought Monitor, increasingly drier conditions in July and August resulted in abnormally dry conditions expanding back as far east as Indiana, and to the return of moderate to severe drought to the Dakotas, Minnesota, Iowa, and Missouri. Iowa experienced its 10th driest July on record and Wisconsin its 12th driest. August rainfall ranked in the top ten lowest in Iowa, Illinois, Indiana, and Minnesota.

Monsoonal rains in Colorado resulted in flooding in some areas, particularly those that were severely burned by last season's wildfires.

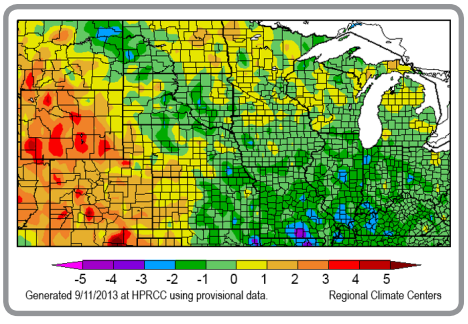
A heat wave resulted in temperatures 10°F to 12°F above normal throughout the northern Plains and upper Midwest during the last week of August into early September.

This year's summer weather pattern resulted in a significant reduction in severe weather and a record low number of tornadoes through the end of August.

Regional - *Climate Overview for June–August 2013*

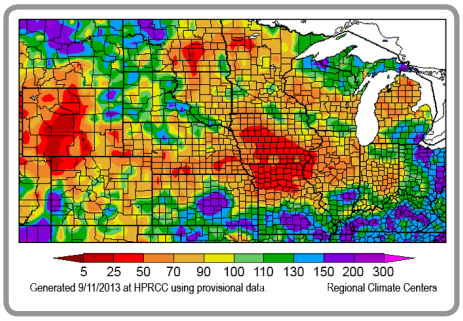
Temperature and Precipitation Anomalies

Departure from Normal Temperature (°F)
June 1–August 31, 2013



Temperatures for June through August were generally 1°F to 2°F below normal across the eastern two-thirds of the region. The largest departures of -2°F to -4°F were found from southern Missouri into western Kentucky. Summer temperature departures in Wyoming and Colorado were 1°F to more than 3°F above normal for the summer. Warmer than normal temperatures also occurred in western Kansas and Nebraska and in northeastern North Dakota through Northwestern Minnesota.

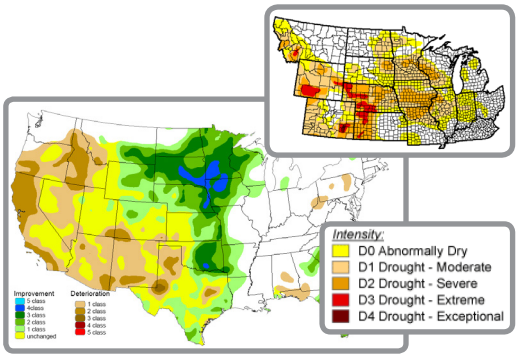
Percent of Normal Precipitation (%)
June 1–August 31, 2013



Much of the region received below-average summer precipitation, but a band from south-central Kansas through southern Missouri and eastward through Kentucky received from 125 to 200 percent of average summer precipitation. Rainfall was less than 50 percent of normal in the northern half of Missouri into central Iowa, eastern North Dakota and northwestern Minnesota. Rainfall was less than 25 percent of normal in central Wyoming.

Drought in Central Region

US Drought Monitor
September 19, 2013



Rainfall through June erased drought in the region east of the Mississippi River, but a dry weather pattern during July and August in the northeastern half of the region brought the rapid redevelopment of drought across northern Missouri, Iowa, and Minnesota, as well as abnormally dry conditions to Illinois, Indiana, and Michigan. July-August rainfall was less than 50 percent of normal from central Illinois northwestward into North Dakota, and less than 25 percent of normal in northern Missouri and central Iowa.

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Regional - *for June–August 2012*

Agriculture

There was unusually late development of corn following late planting and slow development because of the cool summer. Soybean crops were also compromised due to the lack of rain in August, which affected pod fill. A heat wave the last week of August further stressed corn and soybeans, and the return of drought conditions to parts of the corn and soybean belt in July and August is expected to reduce yields for both crops.

Heavy summer rainfall in Kentucky could result in a 25 percent loss of the burley tobacco crop.

Cool weather during the summer slowed recovery of pasture from drought, despite adequate rainfall in some areas.

Transportation

In early June, a second wave of spring flooding hit the Midwest, forcing the Coast Guard to close the Port of St. Louis on the Mississippi River over a five-mile stretch due to high water and increased debris in the river. Seven locks on the river were closed for about a week, halting barge transportation on the waterway. This came only five months after record low water levels threatened to halt barge traffic on the river.

Wildfire

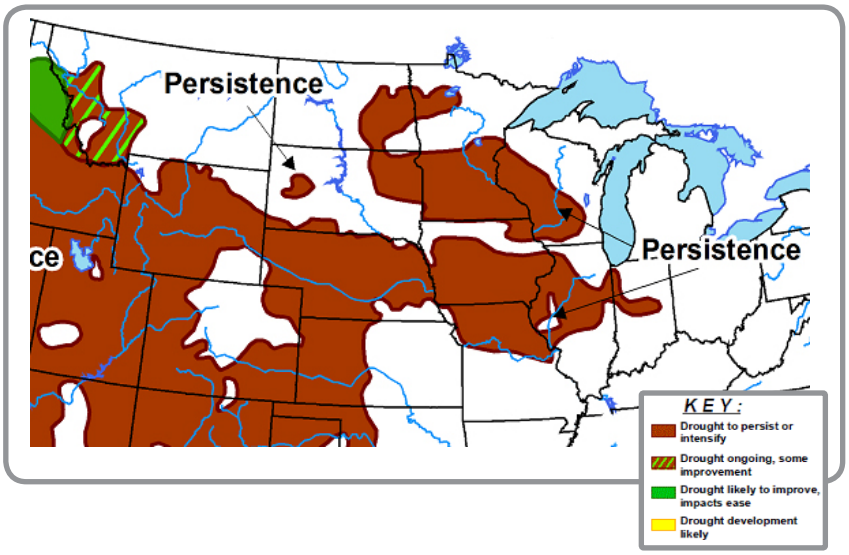
The Black Forest Fire located northeast of Colorado Springs, CO started on June 11th due to unknown causes. The fire spread quickly due to high winds, and thousands of people had to evacuate from the area. Ultimately, this fire became the most destructive in Colorado history, in terms of structures burned, with over 500 homes destroyed. Just last year, the Waldo Canyon Fire had been deemed the most destructive with 346 homes destroyed.

Nowhere was there more rainfall disparity than in Missouri, where only 120 miles separated areas of extreme drought from areas with excessive rain. Contrast pasture in northern Missouri in late August (top) with flash flooding at Roaring River State Park in southwestern Missouri, early August (bottom).

Extreme flash flooding and mudslides occurred near Manitou Springs, CO on August 9th as a result of heavy rain falling over terrain that was previously burned out in the Waldo Canyon Fire. The flooding caused two deaths, destroyed 40 vehicles, and destroyed or damaged several buildings.

Regional - *Outlook for Fall 2013*

U.S. Seasonal Drought Outlook
Drought Tendency During the Valid Period
September 19–December 31, 2013
Released September 19, 2013



Wet and cool spring weather delayed planting while cool summer weather slowed maturity of the crops in the region. The crop is several weeks behind normal in some areas, and the occurrence of an early freeze will concern producers. With equal chances of near-normal, above-normal, and below-normal precipitation across the region, the next season will be an important indicator for continued drought. The latest Drought Outlook shows likely persistence of drought across the heart of the corn and soybean belt through the fall. This could favor field harvest later in the season. However, without an El Niño or La Niña oscillation, there is some uncertainty for this season's temperature and precipitation forecasts. The latest October outlook from NOAA's Climate Prediction Center shows increased likelihood of warmer than average temperatures across the entire region.

Central 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
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