Quarterly Climate Impacts and Outlook

Midwest Region

June 2019

National – *Significant Events for March–May 2019*

Highlights for the Midwest

It was very wet in the Midwest with both high rainfall totals and above-normal numbers of days with rain during the spring. The heavy spring rains followed a record precipitation year in 2018 for the Midwest.

All periods ending in May, from 5 to 12 months, set new precipitation records for the Midwest. For the Midwest, spring was the 7th wettest in history and May was the 3rd wettest. It was the wettest May on record for Missouri.

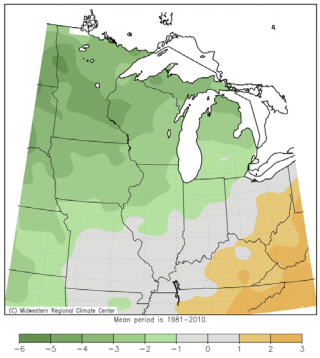
Long-lasting flooding resulted from the rains on top of wet, and in some locations frozen, soils, melting of significant snow packs in the upper Midwest, and already full streams and rivers.

Freezing temperatures persisted well into May in the upper Midwest. Snow also affected the region with large snows in March and into April and there was even a record-setting snow (10.9") on May 8th–9th at Duluth, Minnesota.

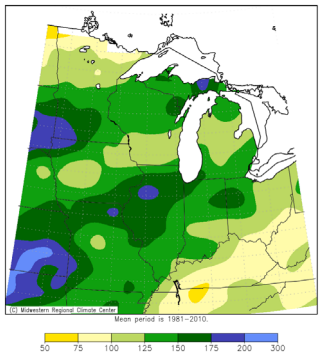
Flooding in downtown Davenport, Iowa. Flooding was a widespread and significant issue for the region throughout spring 2019. Rivers rose to major stage and levees failed in many locations. Photo credit: NWS storm survey.

Regional – *Climate Overview for March–May 2019*

Spring Temperature
Departure from Normal



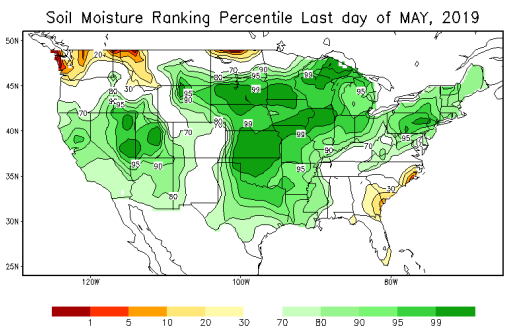
Spring Precipitation
% of Normal



Spring temperatures ranged from several degrees below normal in Minnesota to just above normal in eastern Kentucky. The cool temperatures across much of the region delayed both the drying of fields and warming soil temperatures.

Precipitation was above normal for a large majority of the Midwest. Slightly below-normal precipitation was reported in northern Minnesota and Kentucky while large swaths of the region had well above-normal precipitation. May precipitation in Missouri set a new record. The regionwide spring precipitation ranked as the 7th wettest in history (1895–present). Each period ending in May, from 5-month to 12-month, set a new record. Five Midwest states also set new records with June 2018 to May 2019 totals (IN, IA, KY, OH, WI). May was the 6th straight month to establish a new 12-month record with June 2018 to May 2019 in the Midwest (47.50") and Wisconsin (44.04") establishing new records for any 12-month period.

Soil Moisture Ranking



The number of days with precipitation has also been above normal in the region. The frequent and plentiful rainfall over the past 12+ months, along with cooler spring temperatures have led to very high soil moisture across much of the Midwest. In many parts of the region, soil moisture readings at the end of May ranked among the top 10%, and even top 1%, according to the CPC soil moisture models.

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Regional Impacts – *March–May 2019*

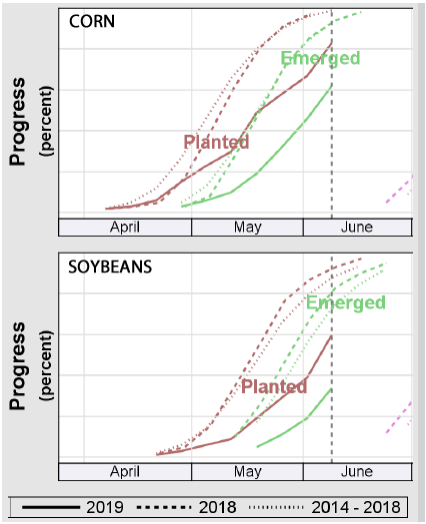
Major Flooding

Major flooding impacted the region for an extended period with record flows at locations in Iowa, Missouri, and Illinois. Barge traffic on the Mississippi River was halted for weeks and numerous bridges were closed, affecting both rail and road traffic. There were multiple levee failures including a temporary levee that led to sudden inundation of downtown Davenport, Iowa. Flooding in the Quad Cities remained above major flood stage for a record 40+ days. The flood crest topped the 1993 record. The closing of the river to barge traffic affected both the delivery of agricultural inputs upstream and shipments of grain to market downstream. Bridge closures led to rerouting of significant rail and vehicle shipments.

Grain bins destroyed by flooding in southwestern Iowa. Credit: Iowa Dept. of Agriculture and Land Stewardship.

Agriculture

The wet spring weather led to the slowest planting season in the US for both corn and soybeans since 1992 when records began. Both crops were behind the previous record slow planting in 1995. Other crops were similarly delayed. The late start to the season raises concerns for corn achieving maturity and having time to dry down in the field, particularly if the summer is cool, further slowing development. The wet conditions increase the risk of disease and pest issues. With the persistent and plentiful rains, pasture conditions were in good to excellent condition at a higher than average level this spring and the region remained free of drought throughout 2019.



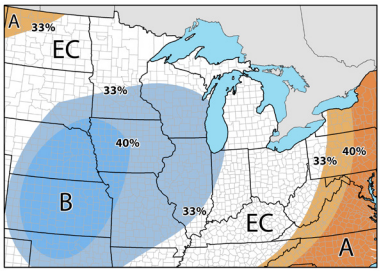
Crop progress, planting, and emergence, per USDA NASS. 2019 (solid line) plotted vs. 2018 and 5-year average (dashed).

Regional Outlook – *July–September 2019*

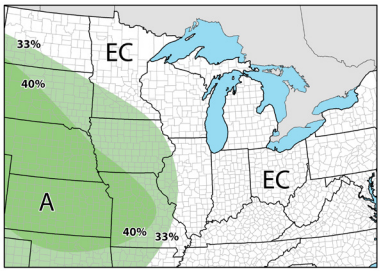
The outlook for July through September shows an increased chance of below-normal temperatures for about half of the Midwest with the other half of the region having equal chances of above- or below-normal conditions. The areas with increased risk of below-normal temperatures include Iowa, most of Missouri, Illinois, and Wisconsin, southern Minnesota, and northwestern Indiana.

The precipitation outlook shows an increased risk of above-normal rains in the western parts of the region, including southwestern Minnesota, all of Iowa, western Illinois, and nearly all of Missouri. The remainder of the region has equal chance of above- or below-normal rains. The risk of flooding will remain high throughout the region with water in the soils, rivers, and lakes all remaining above normal. Even normal rainfall will lead to significant runoff into waterways that are already above normal. The Great Lakes remain very high with record or near-record levels.

Temperature



Precipitation



A = Above normal N = Normal
B = Below normal EC = Equal chances

Midwest Region Partners

- Midwestern Regional Climate Center
- American Association of State Climatologists
- National Oceanic and Atmospheric Administration
- NWS Climate Prediction Center
- National Centers for Environmental Information
- National Weather Service Central Region
- North Central River Forecast Center
- Ohio River Forecast Center
- National Drought Mitigation Center
- National Integrated Drought Information System
- USDA Midwest Climate Hub

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