USDA Midwest Climate Hub
U.S. DEPARTMENT OF AGRICULTURE

Midwest Ag-Focus Climate Outlook

February 7, 2025

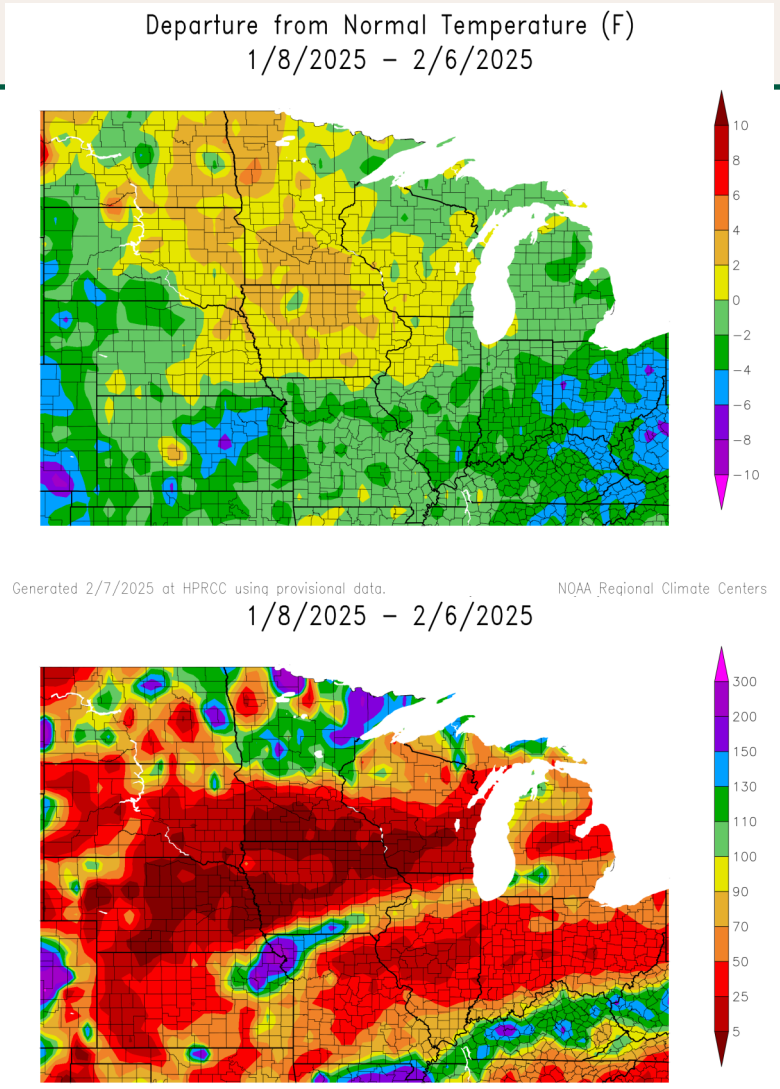
Main Points

- Much of the region has experienced drier-than-normal conditions over the last 30 days.
- Southern parts of the Midwest and lake effect snows have been the main precipitation areas.
- The upper Midwest has received less than 50% of normal snowfall this year to date, and much of the region remains snow-free.
- Frost depth has increased quickly in snow free regions.

Current Conditions

Over the past month conditions have been relatively dry across the region, with much of the Corn Belt receiving less than 0.5 inches of precipitation. Higher amounts of precipitation fell in the southeastern portion of the region, with Missouri to Ohio receiving 1 to 2 inches of precipitation over the last month. Additionally, portions of southern Missouri and Kentucky received over 4 inches of precipitation in the last month where the storm track had been more active. Outside of the southeastern region, parts of eastern Nebraska, South Dakota into Minnesota and Iowa across into Wisconsin have received less than 25% of normal precipitation, amounting to less than 0.1 inches of precipitation in the past month. The largest departures from normal precipitation remain in Illinois through Ohio and Michigan, currently at a 1.5-to-2.25-inch precipitation deficit over the past month. This manifested itself in large snow deficits and snow on the ground.

Temperatures have varied across the region over the past month, with a general trend of near to above normal temperatures in the northern portion of the region and below normal temperatures in the southern portion of the region. North-central portions of the Corn Belt, including Minnesota, Iowa, and the Dakotas, experienced temperatures 0 to 2°F above normal, with small pockets sitting at 2 to 4°F above normal. However, further south, temperatures were considerably below normal. Specifically, the



Images from High Plains Regional Climate Center (HPRCC), Online Data Services: ACIS Climate Maps. Generated: 02/07/2025.

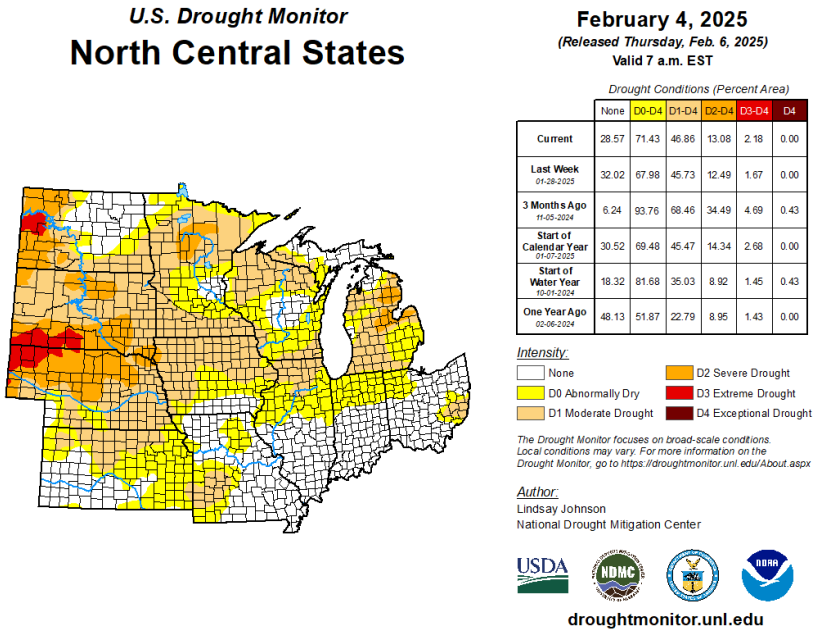
southeastern portion of the Corn Belt experienced temperatures 4 to 6°F below normal, and some pockets fell 8 to 10°F below normal over the past month.

Impacts

Drought

Currently, the US Drought Monitor (USDM) classifies most of the North Central region as abnormally dry (D0) or in moderate drought (D1). However, pockets of severe (D2) and extreme drought (D3) persist in western portions of the Plains, Minnesota, and Michigan. Notably, the southern portions of Missouri, Illinois, Indiana, and much of Ohio remain drought free – where the more active precipitation pattern has occurred this winter.

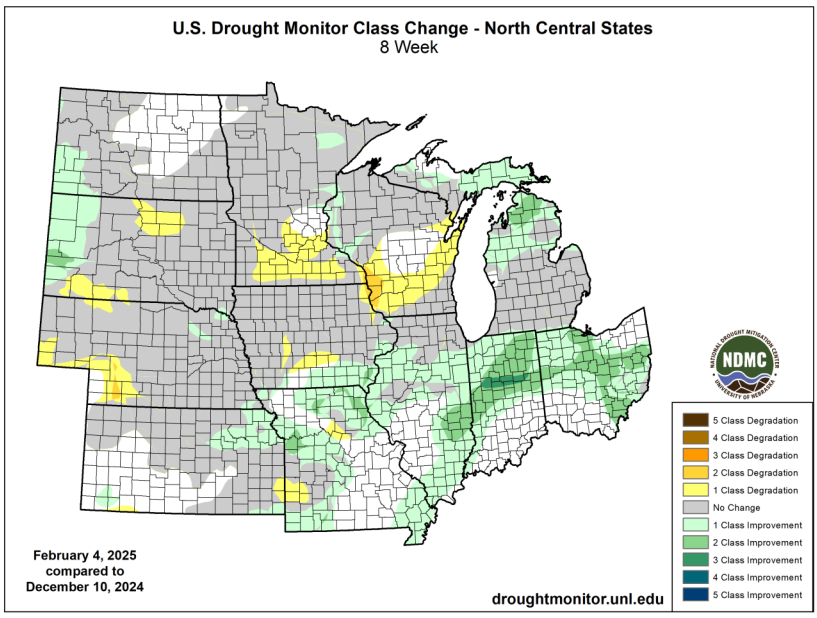
There has been minimal change in drought status over the past month, an artifact in part due to frozen soils in the northern regions and overall lack of major precipitation. A few pockets scattered across the southeastern and western portions of the region have experienced one-class drought improvements, which contrast the small pockets in Missouri and Nebraska that experienced a one-class degradation of drought.



Snow

Midwestern Regional Climate Center's data on accumulated snowfall show that much of the Midwest is lacking snow, only receiving 25 to 50% of normal season amounts. This trend has continued over the last month, with Iowa and southern Minnesota receiving less than 1 inch of snow (less than 5% of their monthly normal). Regions near the Great Lakes have experienced larger lake effect snows, amounting to larger totals. The western Plains have seen near-normal monthly and seasonal snowfall accumulations, while portions of Kansas through Ohio have experienced snowfall accumulations near 200% of the monthly normal (between 5 to 15 inches of snowfall for the region).

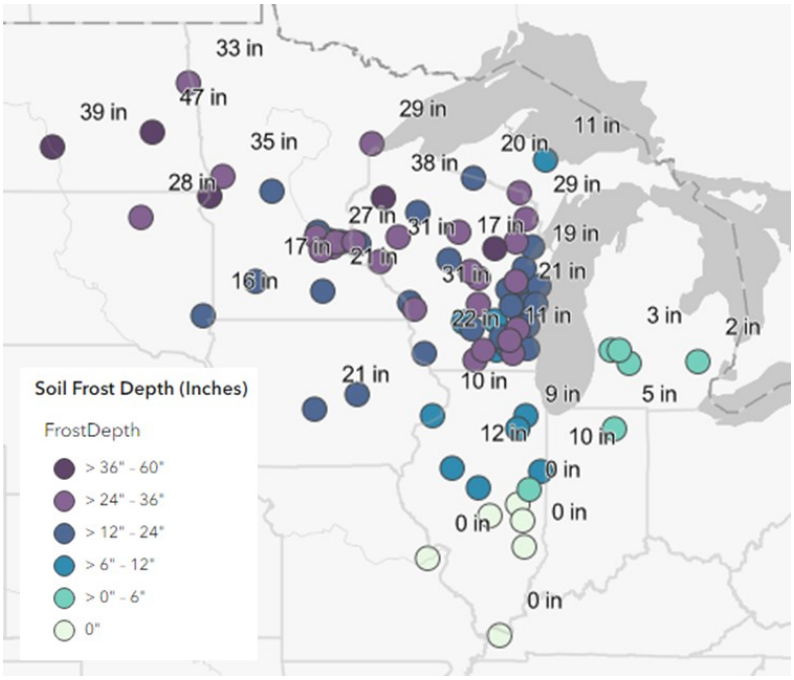
Despite the snowfall in the southern portions of the region, much of the region currently has minimal to no snow cover. Only northern portions of South Dakota across Minnesota into northern Wisconsin and the majority of Michigan are reporting snow depth greater than 2 inches.



Maps generated by the National Drought Mitigation Center.

Soils, Crops and Livestock

Vulnerability of fall-planted and overwintering crops to cold damage continues to increase due to the lack of snowfall and snow cover through much of the Midwest. These conditions may also reduce weed seed banks and some overwintering pests. Recent observations of frost depth show some stations reporting frost depths approaching and surpassing 20 inches in Nebraska, Iowa, and South Dakota, and 30 inches in Wisconsin, Minnesota, and North Dakota. As frost depth continues to increase in various locations, frozen water supplies and pipes may increase the vulnerability of dependent livestock. The lack of snow as insulation and drier soils allows colder temperatures to freeze soils more quickly, allowing for deeper frost depths. Southern portions of the region are reporting minimal frost depth, which likely aided snowmelt. The deeper frost depths in the north should not be a problem for spring planting.



Frost depths across the North Central US. Map generated on 01/10/2025 from the National Weather Service website.

Fire

The Corn Belt is expected to have normal fire weather potential through February. However, the lack of snow cover could increase the possibility of fire activity in the region.

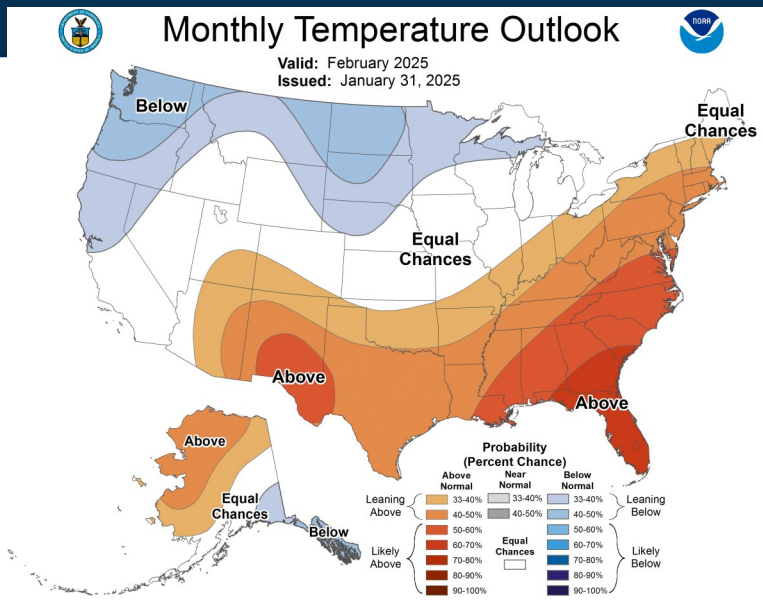
Outlook

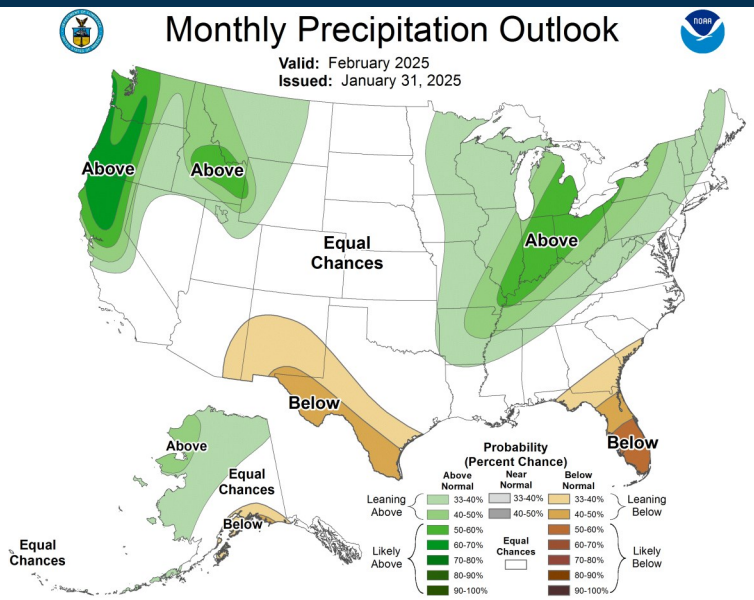
Over the next month, much of the Midwest region has an equal chance of experiencing above or below normal temperatures. Minnesota and the Plains may lean cooler than normal, while the southeastern edges of the region may lean warmer than normal. In terms of precipitation, the next month could bring wetter than normal conditions for much of the eastern portions of the Midwest. However, the Plains remain a bit of a toss-up, with equal chances of below or above normal precipitation.

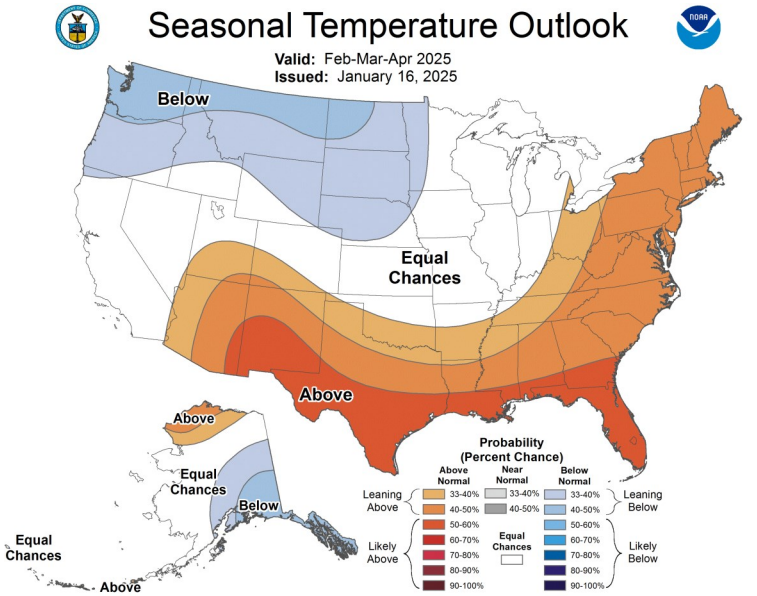
Looking forward over the next 3 months, much of the region has equal chances of experiencing above- or below-normal temperatures. However, the Plains lean toward below-normal temperatures, and Ohio is leaning toward above-normal temperatures. The seasonal precipitation outlook is leaning above-normal for eastern portions of the region. More specifically, a swath of Illinois and Indiana will likely experience above-normal precipitation. The southwestern portion of the region is leaning towards below-normal precipitation, sandwiching a swath of above- or below-normal precipitation between.

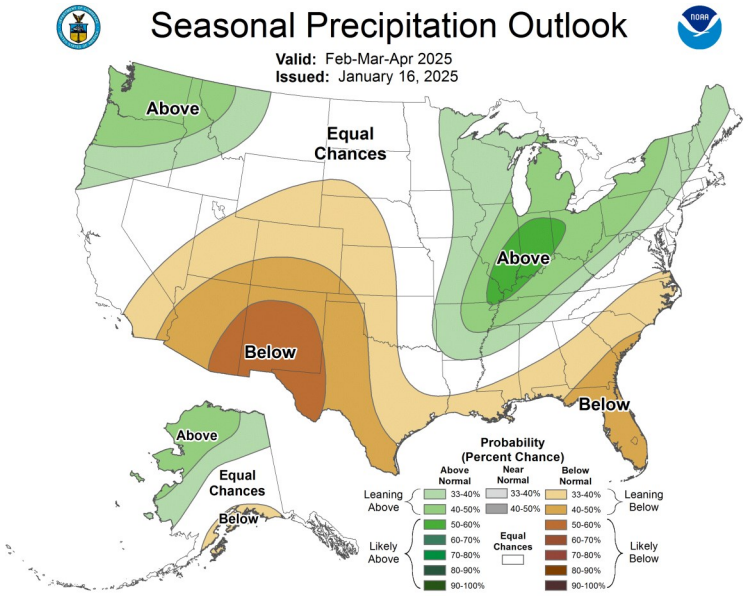
During early January, the La Niña Watch transitioned into a La Niña Advisory as sea surface temperatures in the central and east-central equatorial zone of the Pacific Ocean remain below average. This La Niña has remained weak but continues to influence seasonal outlooks with cooler temperatures in the west and warm-wet conditions through the Ohio River Valley. La Niña is expected to remain into the February-to-April period; however, it will likely transition into ENSO-neutral during the March-to-May period.

The increased wetness in the east is not an overall concern yet, but it could lead to some potential planting delays with soil wetness. In other locations, soils are dry enough and do not have large enough precipitation potential at this point to be concerned with wet soils and delays. Cooler temperatures in the northern Plains could lead to persistent cool soils, but that is not a major risk yet. The lack of snow for spring melt will also lead to more limited spring runoff unless conditions change quickly.









Outlooks provided by the Climate Prediction Center.

Partners and Contributors

United States Department of Agriculture (USDA)

National Oceanic and Atmospheric Administration (NOAA)

Climate Prediction Center (CPC)

National Weather Service (NWS)

National Center for Environmental Information (NCEI)

National Drought Mitigation Center (NDMC)

National Integrated Drought Information System (NIDIS)

Midwestern Regional Climate Center (MRCC)

Midwest State Climatologists

High Plains Regional Climate Center (HPRCC)

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