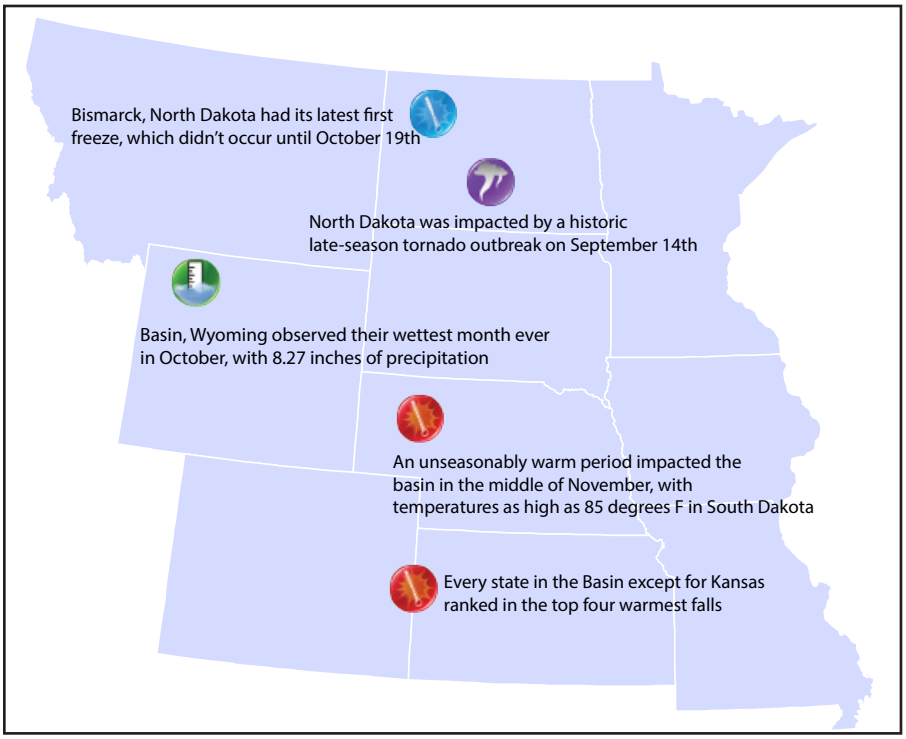
Quarterly Climate Impacts and Outlook

Missouri River Basin

December 2025

Regional – *Significant Events for September - November 2025*



Highlights for the Basin

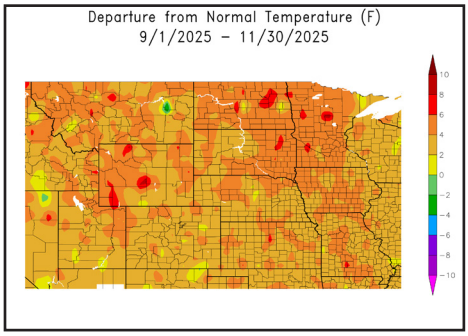
After a thorough review, the June 20th tornado near Enderlin, North Dakota was upgraded to an EF5 in October. Initially rated an EF3, the upgrade was prompted by extreme damage done to several train cars. This would mark the first EF5 since May 20, 2013, and only the third F5/EF5 in North Dakota history. For the year, the state has recorded 80 tornadoes, and if verified, would be the most in a calendar year by a large margin.

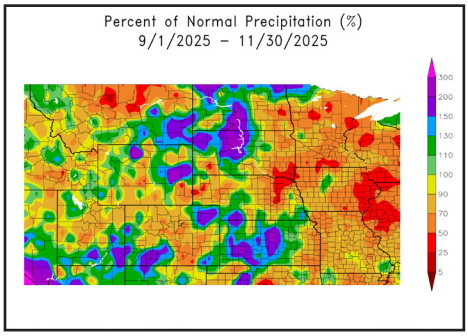
The majority of the basin dealt with an impactful winter storm over Thanksgiving weekend. Up to 11 inches of snow fell in the Dakotas, while freezing rain and sleet fell as far south as Kansas. Between the slick roads and low visibility from wind gusts over 40 mph, travel was significantly hampered across the eastern portions of the basin.

Regional – *Climate Overview for September - November 2025*

Temperature and Precipitation Anomalies

Departure from Normal Temperature (°F) (left) and Percent of Normal Precipitation (right) for Fall 2025



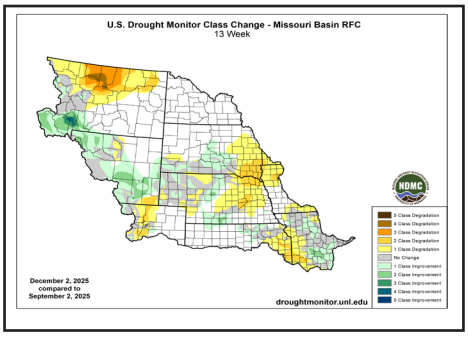


Primarily driven by warmer low temperatures, it was exceptionally hot this fall throughout the entire Basin. A total of 144 counties ranked in the top three warmest falls, while 40 of those ranked as the warmest. September was abnormally hot in Montana, with 18 counties ranking as the warmest on record. The heat shifted to the eastern half of the Basin in October, while November brought record warmth to Montana and Wyoming.

Precipitation this fall was hit or miss across the Basin. September featured record wetness in southwest Kansas and northern South Dakota. These same areas were dry in October, while parts of Wyoming recorded their overall wettest month. In November, most of Nebraska and Wyoming were bone dry.

Changes in Drought Conditions

September 2 to Dec. 2, 2025



The map above shows the areas of increasing (yellow shading) and decreasing (green shading) categories of drought. Montana had both ends of the spectrum, with up to four classes of degradation in the north-central portion of the state and 4 classes of improvement in the south-central parts. The dryness and warmth this fall in eastern South Dakota and Nebraska led drought to reemerge.

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Regional – *Impacts for September - November 2025*

Agriculture

Wetter weather this fall led to harvest delays but was helpful for those planting winter wheat in Kansas and Nebraska. Corn yields in South Dakota were at a record high this year, leading to storage issues in the state. An early frost on the first weekend of September damaged corn and soybeans in the western half of the Dakotas and into central South Dakota, leading to some yield loss in the hardest hit areas.

Water Resources

According to the U.S. Army Corps of Engineers, runoff in the Upper Missouri Basin above Sioux City, Iowa is projected to be 76 percent of normal for the calendar year. Drought conditions in north-central Montana have led to near-record low streamflow, while Bureau of Reclamation reservoirs are slightly lower than normal levels due to summertime irrigation. Between the winter storm over Thanksgiving and several smaller events, snowpack on the plains was off to a great start.

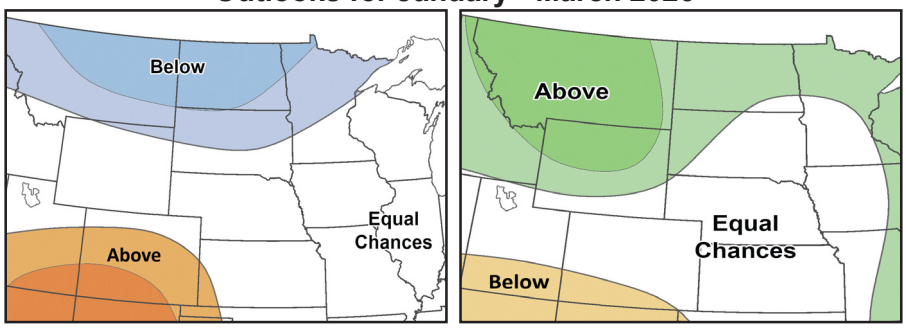
Above: Aurora Borealis visible from Kansas, credit Garrett Flax (left); Cows being watered and fed in Kansas, credit Gannon Rush (center); Large corn pile near Duncan, Nebraska, credit Doug Kluck (right)

Regional – *Outlook for January - March 2026*

Temperature

Precipitation

Outlooks for January - March 2026



EC: Equal chances of above, near, or below normal

A: Above normal, B: Below normal

According to NOAA's Climate Prediction Center, the outlook for the upcoming season indicates increased chances of below-normal temperatures across Montana, North Dakota, and the majority of South Dakota. There are elevated chances of above-normal precipitation in Montana, North Dakota, Wyoming, and western South Dakota. The rest of the Basin has equal chances of above, below, and near-normal precipitation.

Above-normal precipitation this winter across the northern Rockies would be beneficial for mountain snowpack and recreational activities. La Niña is likely to continue through most of winter, but will shift to ENSO-neutral closer to springtime.

MO River Basin Partners

- High Plains Regional Climate Center
- National Drought Mitigation Center
- National Integrated Drought Information System
- National Centers for Environmental Information
- National Weather Service- Central Region
- NOAA Climate Prediction Center
- NWS Missouri Basin River Forecast Center
- American Association of State Climatologists
- U.S. Army Corps of Engineers
- U.S. Bureau of Reclamation
- USDA Northern Plains Climate Hub
- Bureau of Indian Affairs – Great Plains Region

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