



North Dakota Monthly Climate Summary

September 2025

Volume 19. No. 9

NORTH DAKOTA STATE CLIMATE OFFICE



September 2025



The Aurora was Visible for Several Nights at the end of September with this example from NDAWN Hirschville.

September begins the transition to autumn in North Dakota. Temperatures begin to cool and the autumn leaves change and the growing season often comes to an end as the first freeze of often occurs during the month.

September is often the month when the last severe weather of the season occurs. September 2025 recorded a lot of tornadoes, mainly on September 14 when a mesoscale-convective vortex (MCV) helped produced numerous tornados as MCV moved from southcentral to northcentral North Dakota. That one day alone made the month one of the most active on record for any September on record.



Figure 1: A Multi-vortexed Tornado passing by the Denhoff NDAWN Station. It was one of many tornadoes that day.

Precipitation

North Dakota lived up to its standards of high variability of precipitation during a given period of time in September. The month ranged from extremely wet to extremely dry. There were two main rain makers during the month, both of which impacted the southcentral and northeastern part of the state, whereas other locations recorded minimal amounts from those storms. The excess rain, especially in the northeast slowed down the harvest.

Percent of Normal Precipitation (%)

09-01-2025 - 09-30-2025

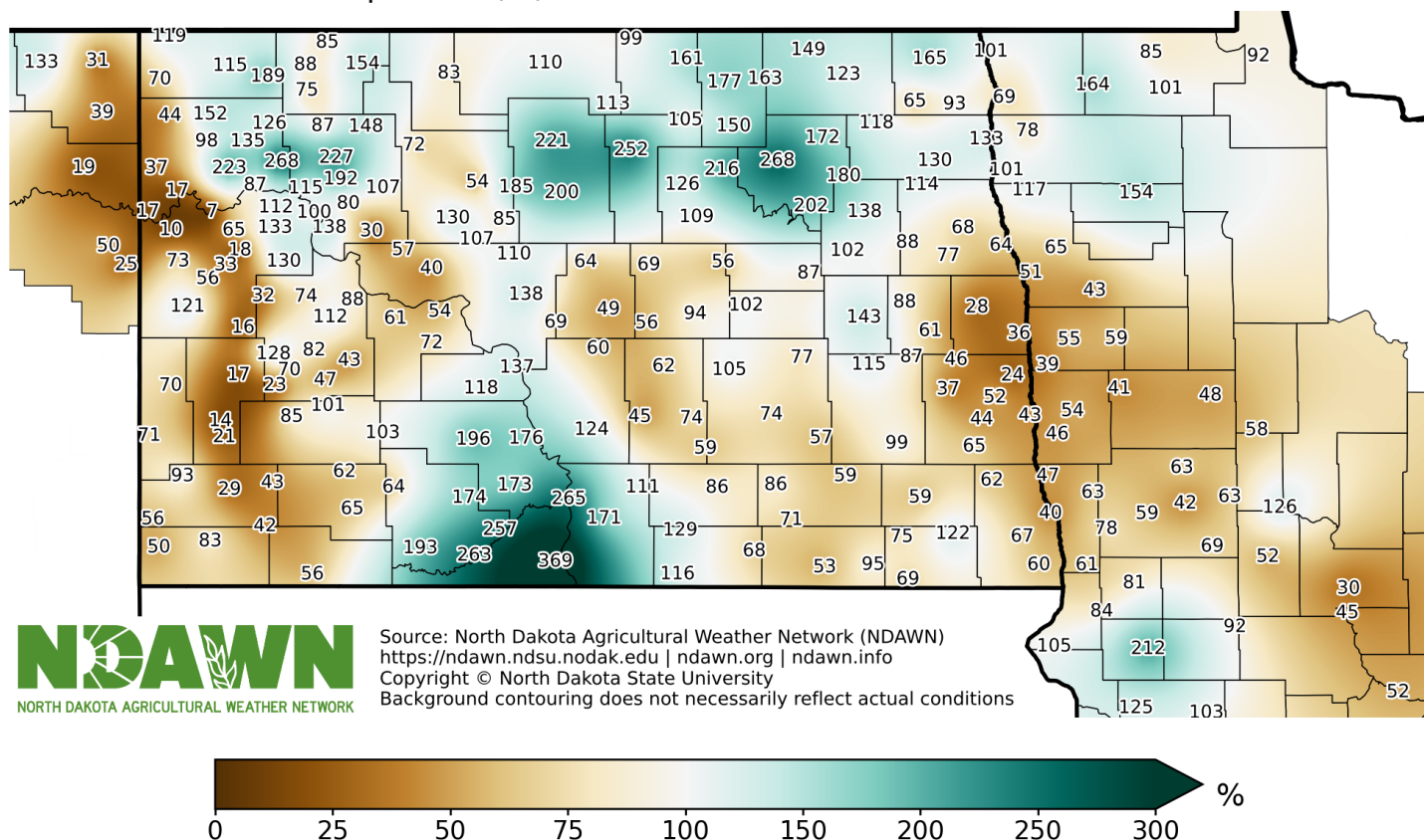


Figure 2: Percent of Average Precipitation measured at NDAWN stations in September 2025

Precipitation

The maximum monthly precipitation recorded by NDAWN in North Dakota during the month of September was 5.61 inches at the Fort Yates station in eastern Sioux County. That was 369% of average. On the dry side of things, in northern McKenzie County, North Dakota, the Arnegard NDAWN station recorded only 0.09 inches of precipitation, 7% of normal (Figure 3).

Total Precipitation (in)

09-01-2025 - 09-30-2025

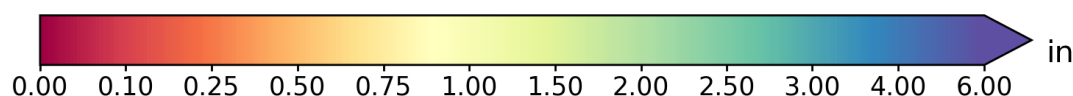
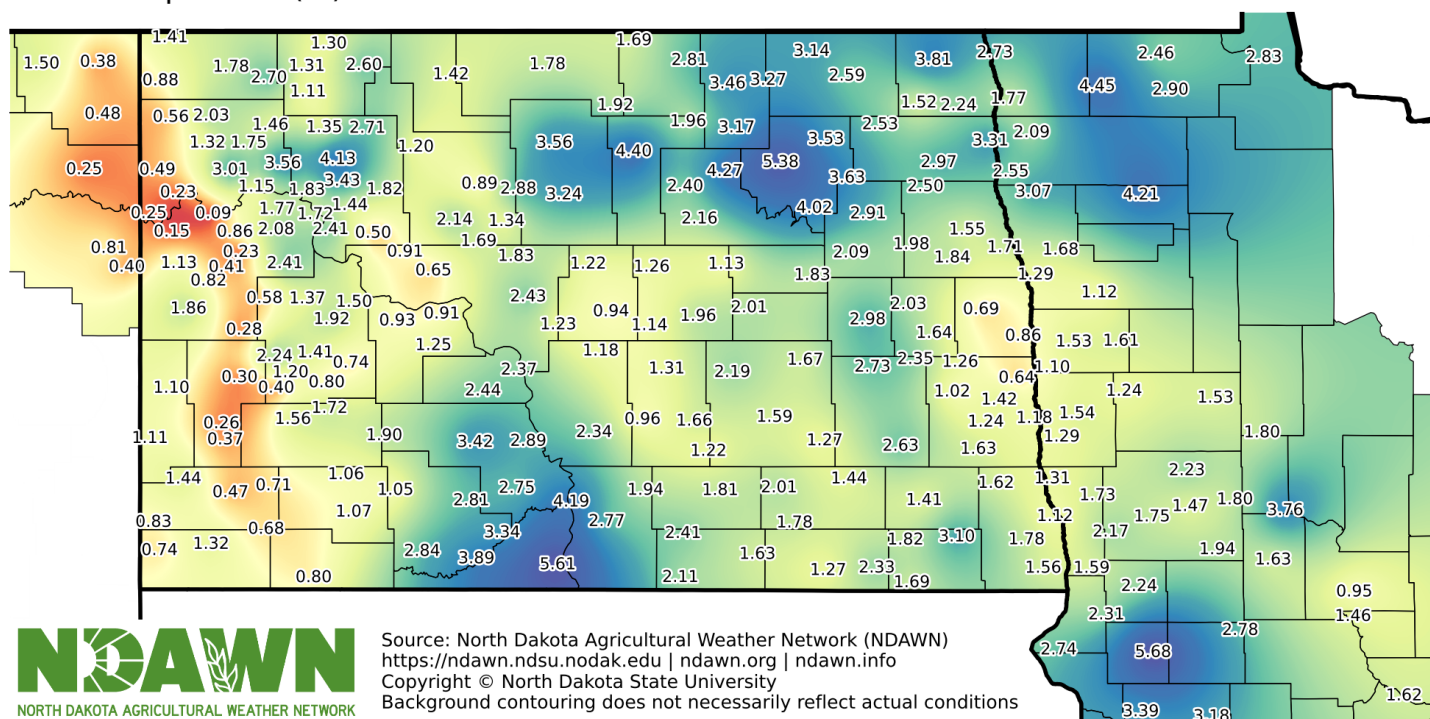


Figure 3: Total Precipitation measured at NDAWN stations in September 2025

Precipitation

Northern North Dakota and the Red River Valley recorded below average precipitation for the previous water year, while South-Central North Dakota saw above average precipitation (Figure 4).

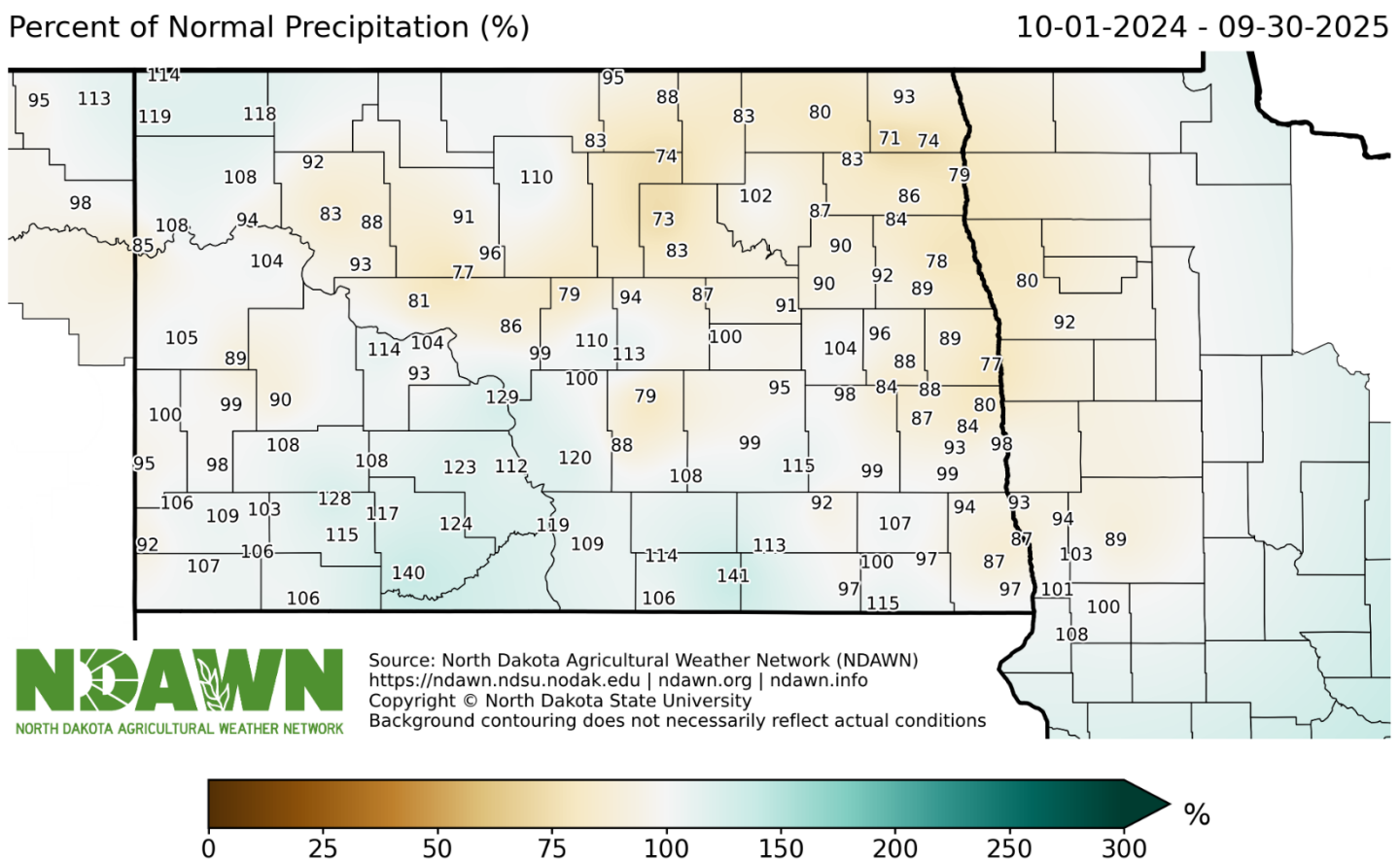


Figure 4: Percent of Average Precipitation measured at NDAWN stations with all-season gauges for the previous water year (October 1, 2024 – September 30, 2025)

Precipitation

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The Drought Monitor didn't see many changes in September. Northeastern North Dakota received enough rain to resolve the abnormally dry conditions, while Western North Dakota's dry month placed it in the abnormally dry category. (Figure 5).

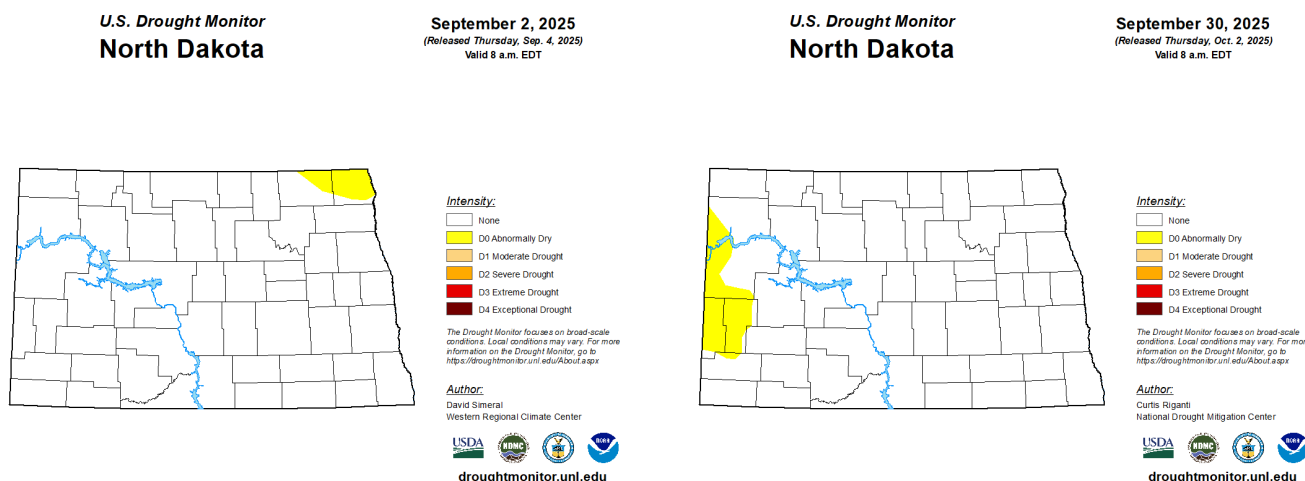


Figure 5: U.S. Drought Monitor conditions change between September 2, 2025 (left) to September 30, 2025 (right)

North Dakota Precipitation September

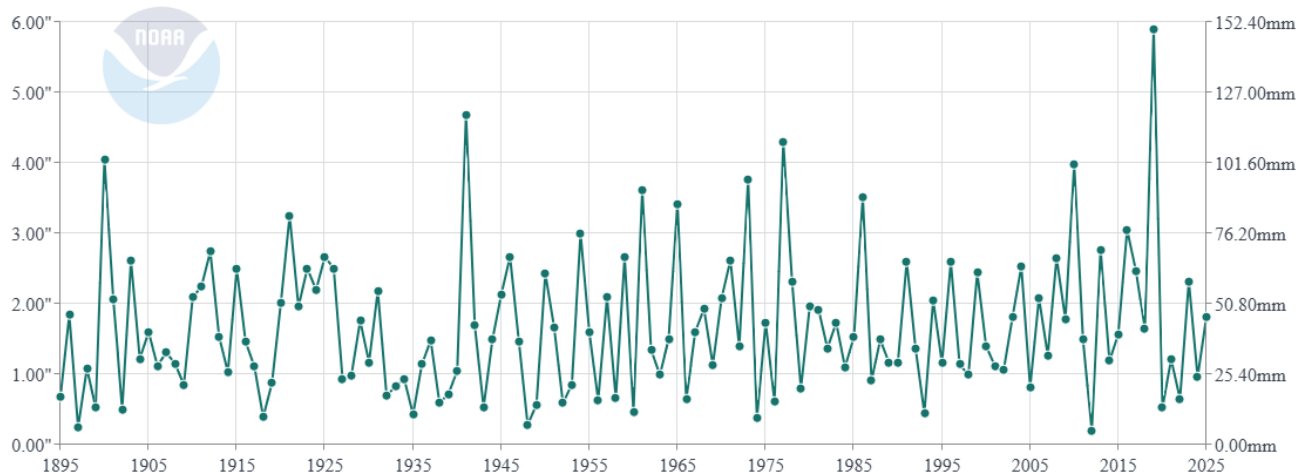


Figure 6: Average Precipitation in North Dakota for the month of September (via NCEI)

Precipitation

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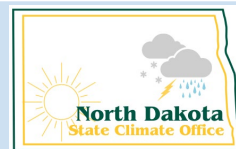


Figure 7: A rainbow at the NDAWN Turtle Lake station.

North Dakota September Precipitation Summary

| | Precipitation | Normal | Anomaly | Rank | Record Year |
|----------------|---------------|--------|---------|--------------|-------------|
| September 2025 | 1.83" | 1.88" | -0.05" | 48th Wettest | 2019 5.9" |
| | | | | 84th Driest | 2012 0.2" |

Table 1: September precipitation summary for North Dakota. 2025 statistics from NDAWN station data. Ranking and records based on NCEI climate data (1895-2025) (NOAA).

Temperature

September overall was well above average at NDAWN, with 90°F+ temperatures in the last few days. (Figure 8). North Dakotan NDAWN stations averaged an air temperature of 62.2°F, which is 4.1°F above normal. This is the 5th September in a row that has been above average temperature-wise (2021-2025).

Departure from Normal Average Air Temperature (° F)

09-01-2025 - 09-30-2025

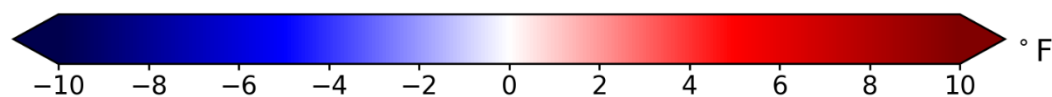
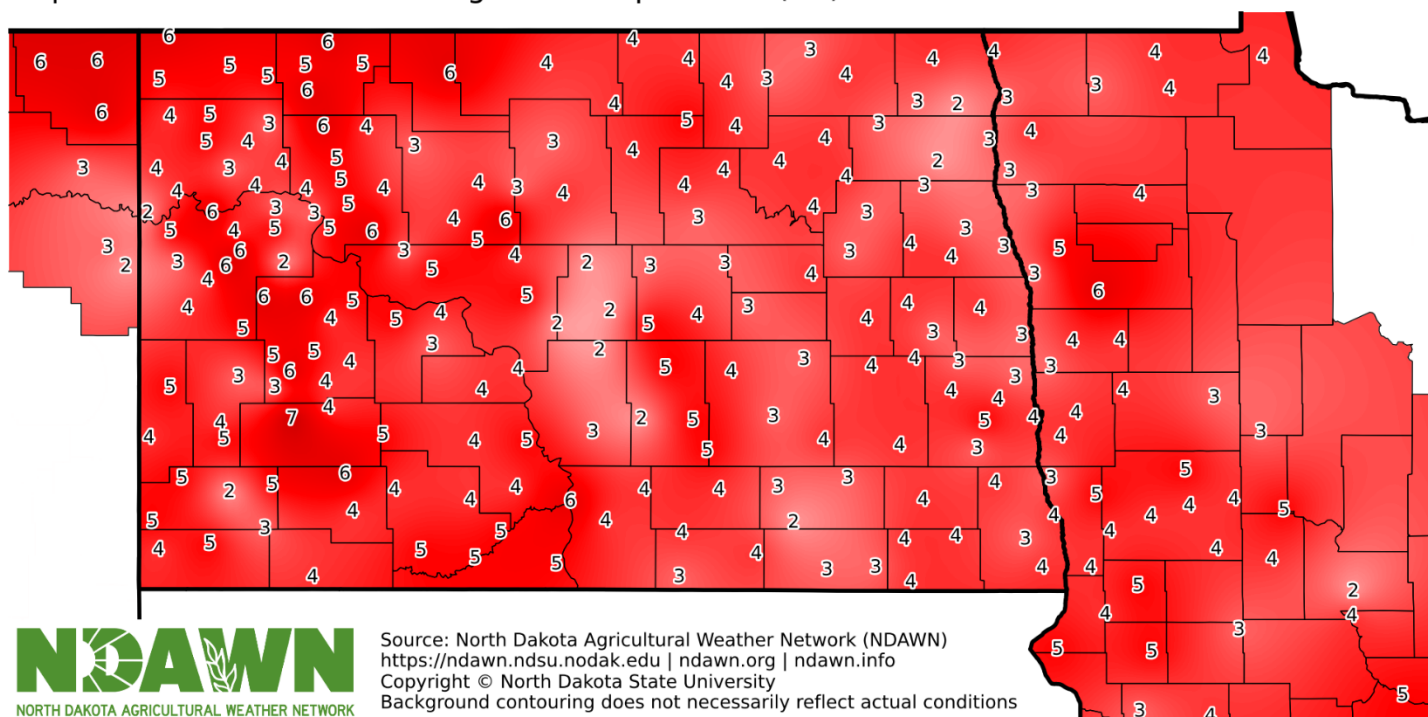


Figure 8: Departure from Normal Average Air Temperature measured at NDAWN stations in September 2025

Temperature



The Wahpeton NDAWN station recorded a maximum of 95°F on September 29 (Figure 9). Temperatures in the 90s had been rare since May, but the end of the month served some up.

Maximum Temperature (° F)

09-01-2025 - 09-30-2025

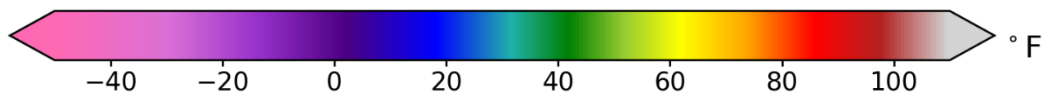
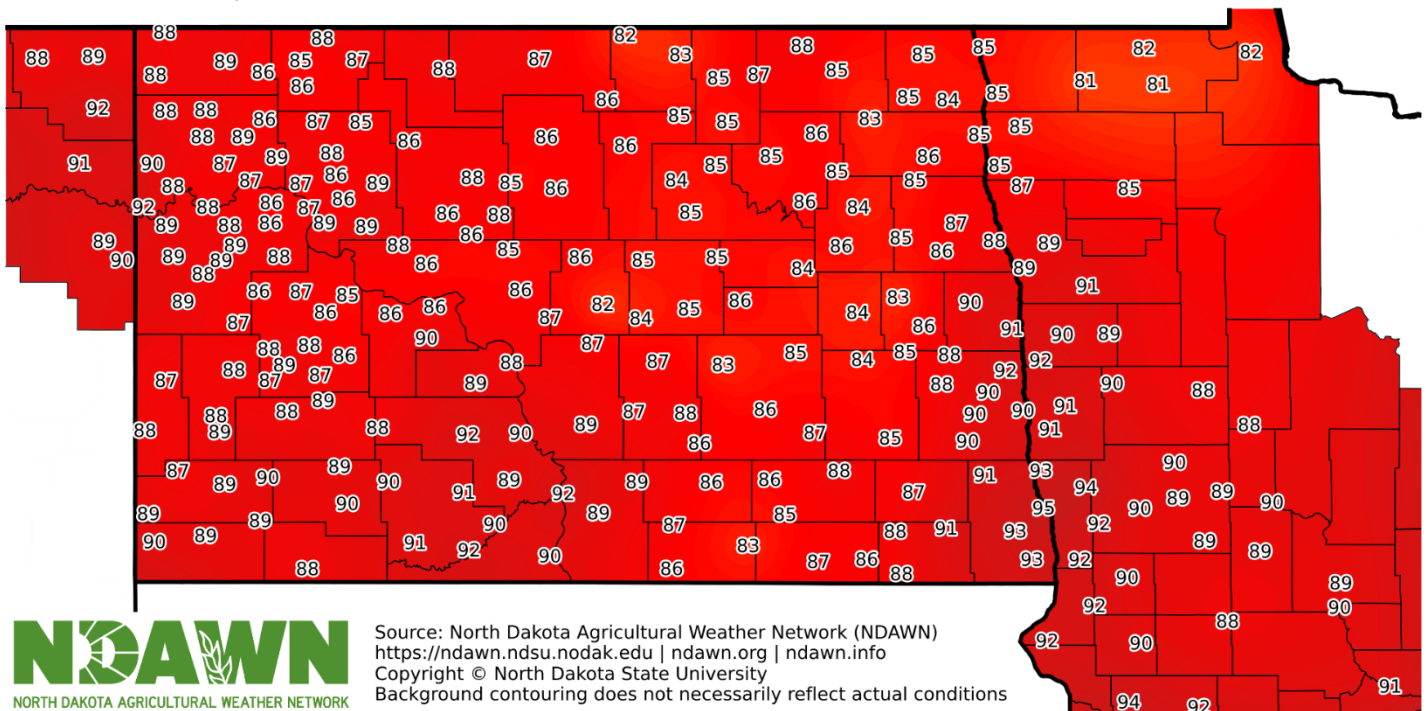


Figure 9: Maximum Air Temperature measured at NDAWN stations in September 2025

Temperature

The lowest temperature recorded during September at NDAWN stations was 26°F at the New Hradec, Powers Lake, Tioga, and Willow City stations (Figure 10). September 2025's average minimum temperature finished as the 2nd warmest September in NCEI history, with an average minimum of 49.3°F, behind only September 2024. Yet, on September 6, many areas recorded a very early first freeze. In fact, Fargo recorded the 5th earliest freeze on record for that location. It greatly reduced the overall soybean yields in the region.

Minimum Temperature (° F)

09-01-2025 - 09-30-2025

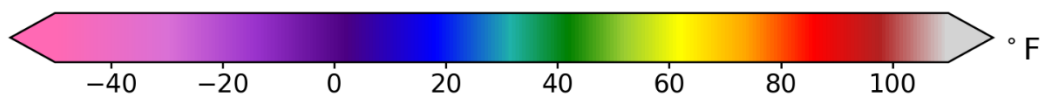
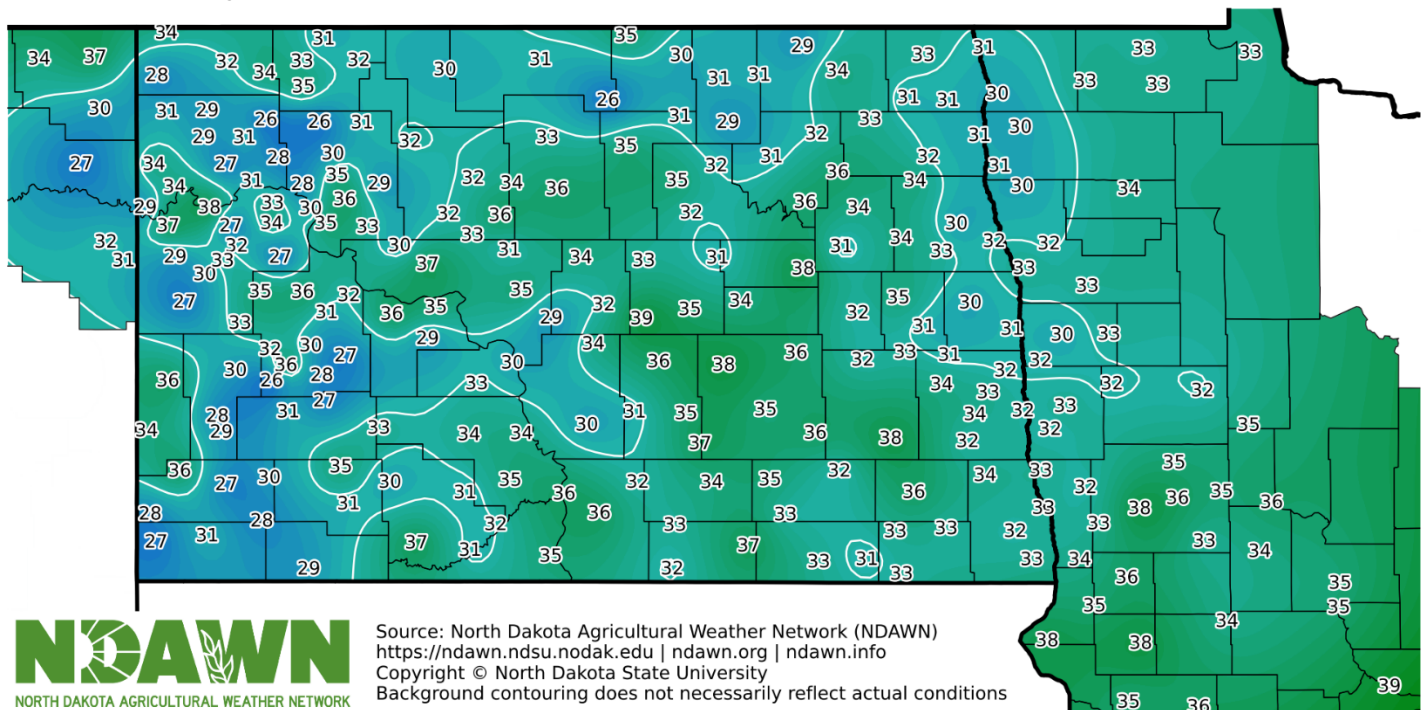


Figure 10: Minimum Air Temperature measured at NDAWN stations in September 2025

North Dakota September Temperature Summary

| September 2025 | Average T | Avg max T | Avg min T | Maximum | Minimum |
|----------------|---------------|---------------|---------------|---------|---------|
| | 62.2°F | 75.0°F | 49.8°F | | |
| Anomaly | +4.1°F | +3.5°F | +5.0°F | 95°F | 26°F |
| Rank | | | | | |
| Warmest | 8th warmest | 18th Warmest | 2nd warmest | | |
| Coollest | 125th Coldest | 113th Coldest | 130th Coldest | | |
| Record | | | | | |
| Warmest | 64.6°F (2024) | 79.7°F (2024) | 50.1°F (2024) | | |
| Coollest | 45.4°F (1965) | 55.7°F (1965) | 35.2°F (1965) | | |

Table 2: September temperature summary for North Dakota. 2025 statistics from NDAWN station data. Ranking and records based on NCEI climate data (1895-2025) (NOAA).

North Dakota Average Temperature
September

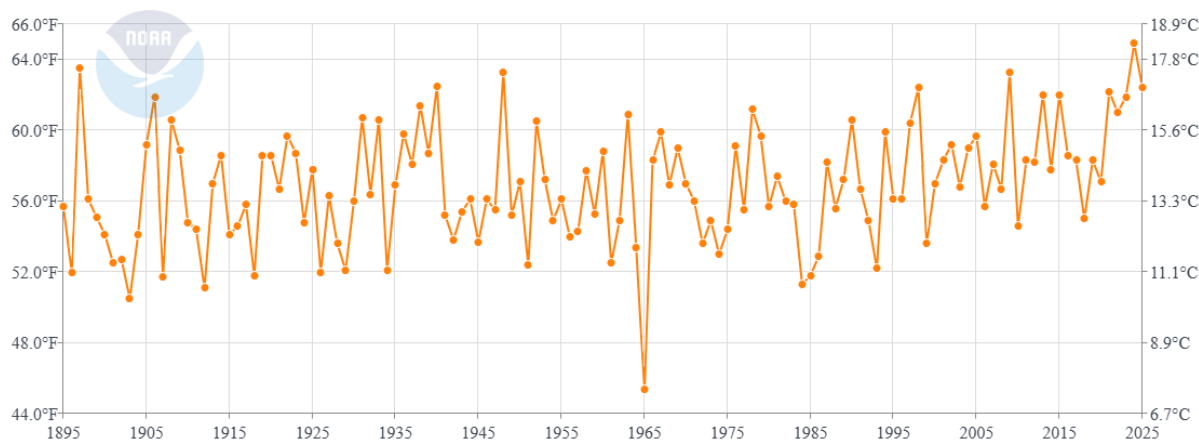


Figure 11: Average Temperature in North Dakota for the month of September (via NCEI)