

North Dakota Monthly Climate Summary

November 2024

Volume 18, No. 11

November



North Dakota State Climate Office:
Your Resource for Climate Information



North Dakota State University
School of Natural Resource Sciences

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Precipitation

November 2024

November provided great relief to the ongoing drought conditions in the Southeast, with higher precipitation totals in the Eastern portion of the state. The West, especially Southwest, had below average precipitation, which further cemented the D3 level drought as winter settled in and the ground froze by late November. The North Dakota Agricultural Weather Network, which operates 178 weather stations across North Dakota, averaged 1.13 inches of precipitation throughout the state. This is nearly a half inch above average, however amounts varied greatly between Eastern and Western ND.

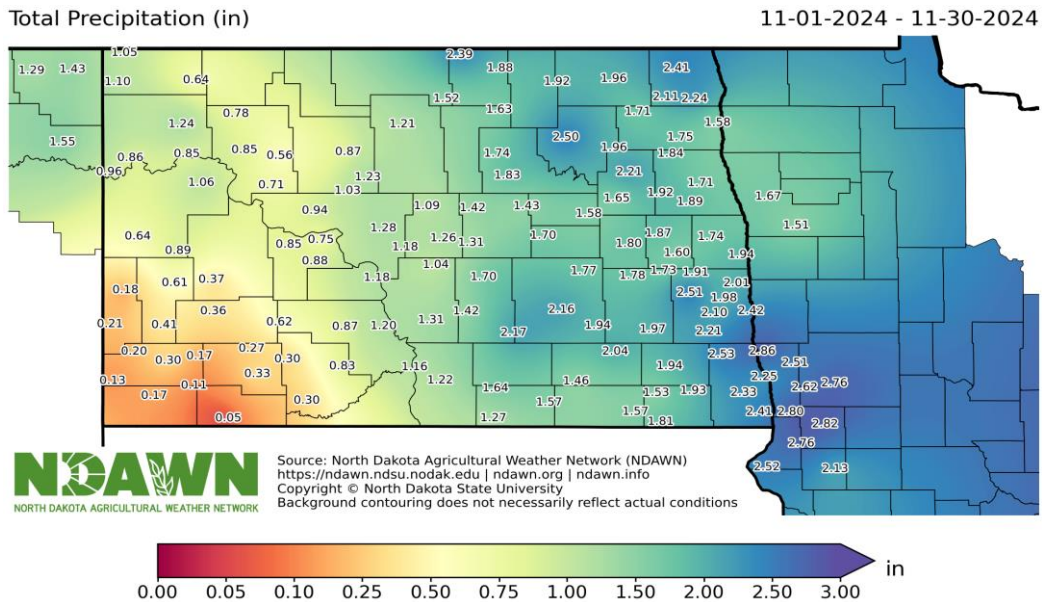


Figure 1: Total Precipitation measured by all NDAWN stations

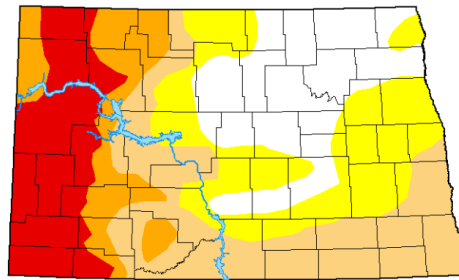
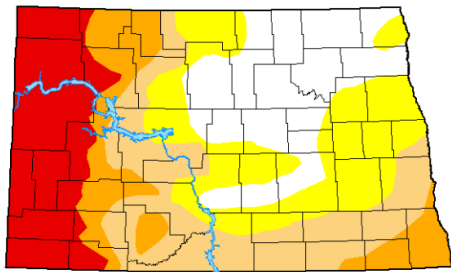
In Eastern ND where the highest precipitation totals were measured, the most precipitation fell at the Ekre NDAWN station in Richland County where it received 2.53 inches, over 300% of normal. Contrarily, in Western ND the Hettinger NDAWN station in Adams County received 0.05 inches of precipitation, just 10% of normal precipitation. The area continues in D3 level drought. Though totals in NW ND were above normal by 40-80%, that amount of precipitation did not ease soil or vegetative conditions.

Precipitation

U.S. Drought Monitor
North Dakota
November 5, 2024

U.S. Drought Monitor
North Dakota

November 26, 2024
(Released Wednesday, Nov. 27, 2024)
Valid 7 a.m. EST



Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

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Figure 3: U.S. Drought Monitor conditions at the beginning of November 11/5/2024 (Left) and the end of November 11/26/2024 (Right)

Drought conditions persisted throughout the month of November, what little precipitation was received slightly improved conditions in the Northwest where Extreme Drought conditions improved to Severe Drought with a bought of precipitation on November 16-17. The same North system brought almost an inch of rain to the Southeast on November 18-19, easing the Severe Drought to Moderate.

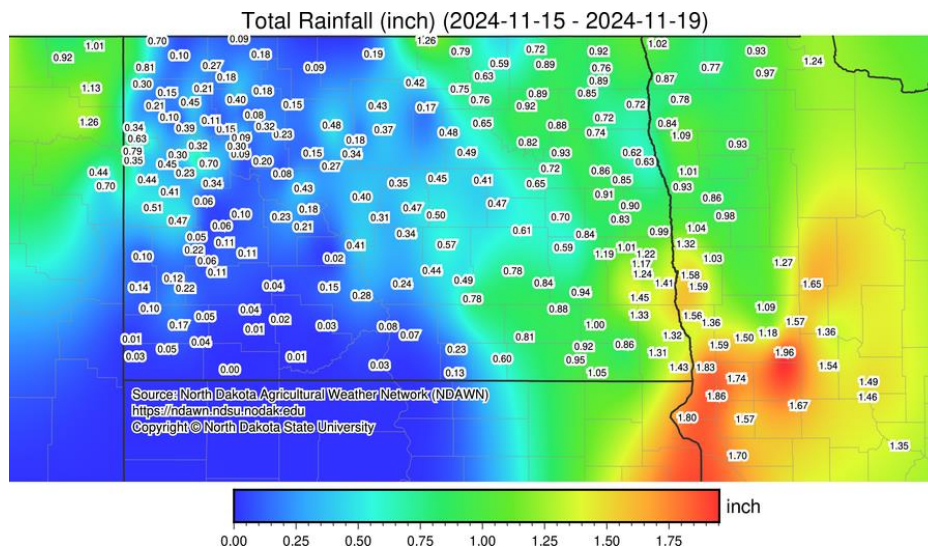


Figure 4: Total precipitation between 11/15-11/19/2024 This system brought much needed rain to parts of North Dakota

Temperature

November started off with well above average temperatures, with many areas in ND +10-20°F above normal day-to-day. This switched mid-month as a strong system brought south chilly arctic air. Snow found Western North Dakota and helped to decrease temperatures further. In late November, cold air took over for good. Despite the well-above average temperatures, the statewide average temperature in November was just 0.4°F above average at 28.4°F.

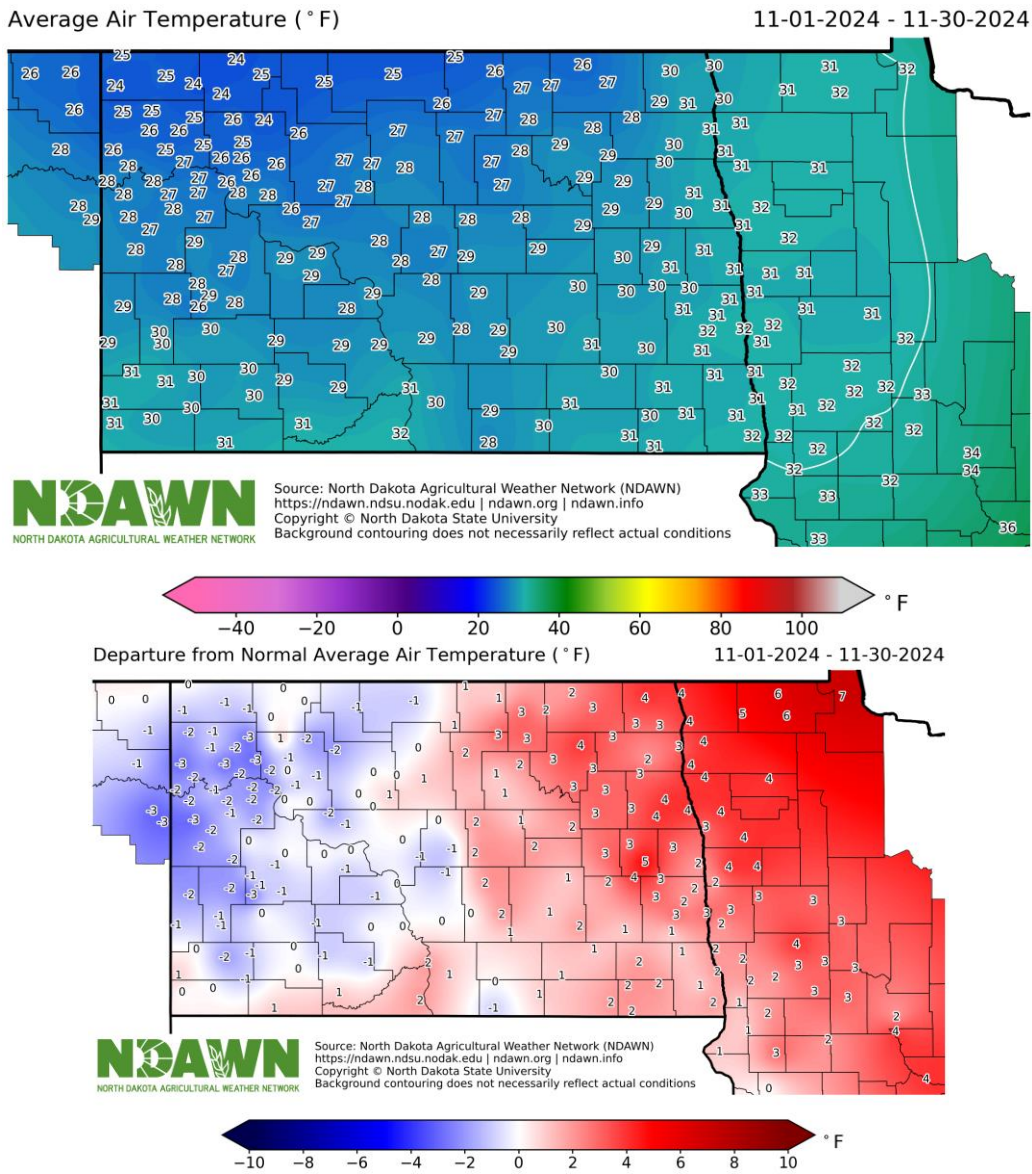


Figure 5: Average Air Temperature (Top) and Departure from Normal Average Air Temperature (Bottom) at all NDAWN stations

Temperature

The minimum and maximum November temperatures show the abrupt transition between fall and winter seasons. The maximum temperature recorded during the month was 65°F at the Big Bend (5NE), Bantry (3SW), and Minot (4S) NDAWN stations in Mountrail, McHenry, and Ward County. That is scorching compared to the minimum temperature of -22°F recorded at the Epping (2SE) NDAWN station in Williams County.

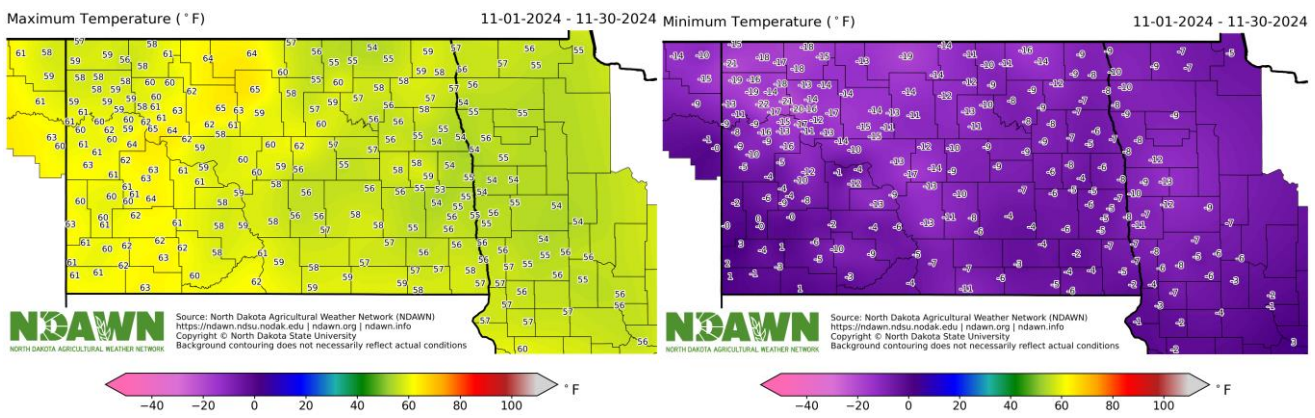
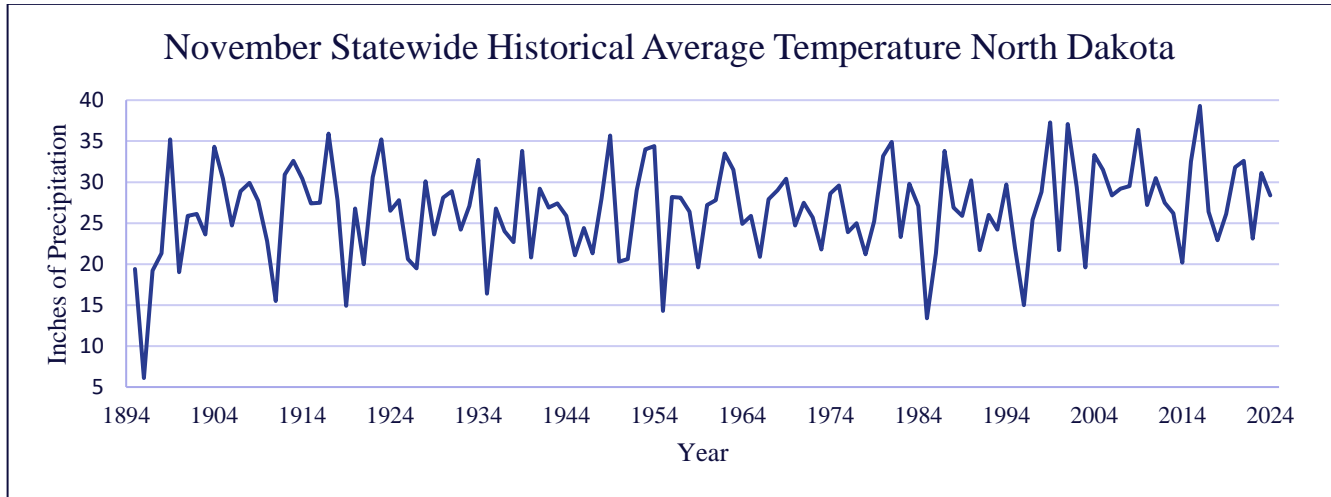


Figure 6: Maximum Temperature (Left) and Minimum Temperatures (Right) recorded at each NDAWN Station

In 130 years of climate data in North Dakota, 2024 ranks as the 48th warmest despite the warm start and abrupt cool down. Maximum temperatures measured slightly below normal, at 37.1°F, however minimum temperatures averaged 1.5°F above normal. Historically, the coldest November on record occurred in 1896, with an average temperature of 6.1°F. The warmest November was just eight years ago in 2016, averaging 39.3°F.



Significant Weather

With the passage of a strong cold front came rapid drops in temperature, wind, and precipitation. Widespread Winter Weather Advisories were issued by both the Grand Forks and Bismarck National Weather Service. Wind Advisories were issued where precipitation was not actively falling, along the SD border in the Southwest and South Central. Poor visibility and the duration of winds well into the 40mph range prompted a Blizzard Warning in 19 counties in North Central North Dakota.

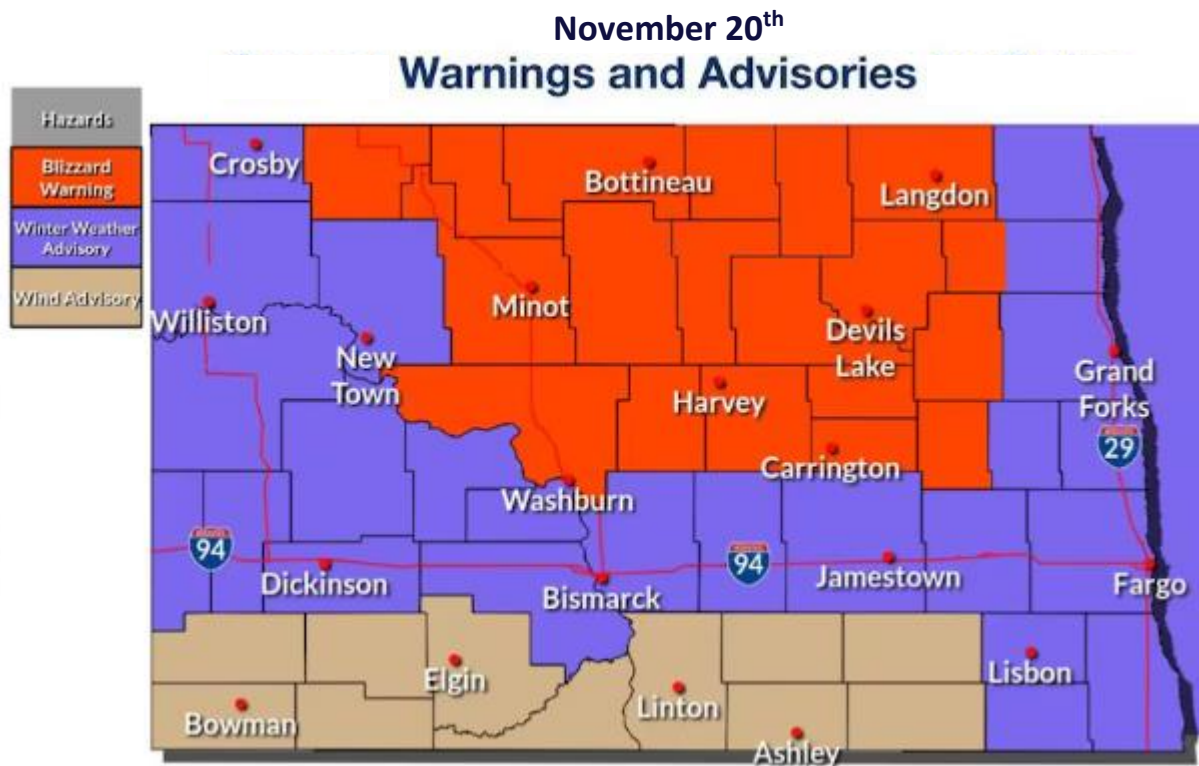


Figure 7: Blizzard Warnings, Winter Weather Advisories, and Wind Advisories issued on November 20th

North Dakota November Precipitation Summary

	Precipitation	Normal	Anomaly	Rank	Record Year
<i>November 2024</i>	1.13"	0.70"	+0.43"	16 th Wettest	2000
				115 th Driest	1939

Table 1: Ranking from NCEI NOAA based on data from November 1895-2024. Precipitation amounts averaged from records at NDAWN stations in North Dakota.

North Dakota November Temperature Summary

<i>November 2024 Temperature Summary</i>	Average T	Avg max T	Avg min T	Maximum	Minimum
	28.4°F	37.1°F	19.7°F	65°F	-22°F
Anomaly	+0.4°F	-0.6°F	+1.5°F		
Rank					
Warmest	48 th warmest	54 th Warmest	41 st warmest		
Coolest	83 rd coolest	77 th Coldest	89 th Coldest		
Record					
Warmest	39.3°F (2016)	50°F (1999)	28.9°F (2016)	92°F (Grenora, 2016)	
Coolest	6.1°F (1896)	13.0°F (1896)	--0.9°F (1896)		-39°F (Pembina, 1985)

Table 2: November temperature summary for North Dakota. 2024 statistics from NDAWN station data. Ranking and records based on NCEI climate data (1895-2024) (NOAA).