



North Dakota Monthly Climate Summary

November 2023

Volume 17, No. 11

North Dakota State Climate Office: Your Resource for Climate Information

North Dakota State University
School of Natural Resource Sciences

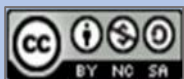
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Precipitation

Based on data from 149 stations* across the North Dakota Agricultural Weather Network (NDAWN) the statewide average precipitation in November 2023 was 0.14 inches, which is 0.56 less than normal average precipitation for the month. The greatest measured precipitation was recorded at the Mooreton (3SW) NDAWN station in Richland County with 0.39 inches. The least precipitation fell in Hettinger County, where the Mott (1N) NDAWN station measured just 0.03 inches (Figure 1).

Maximum average November precipitation occurred in 1982 with 4.61 inches, and minimum precipitation in 1952 with 0.09 inches. Historical climate data indicates a 0.06 inch increase over a century long trend (NCEI) for the month of November (Figure 2).

Average November precipitation was 1.33 inches less than the previous month and ranks as the 11th driest November over 129 years of precipitation data (NCEI).

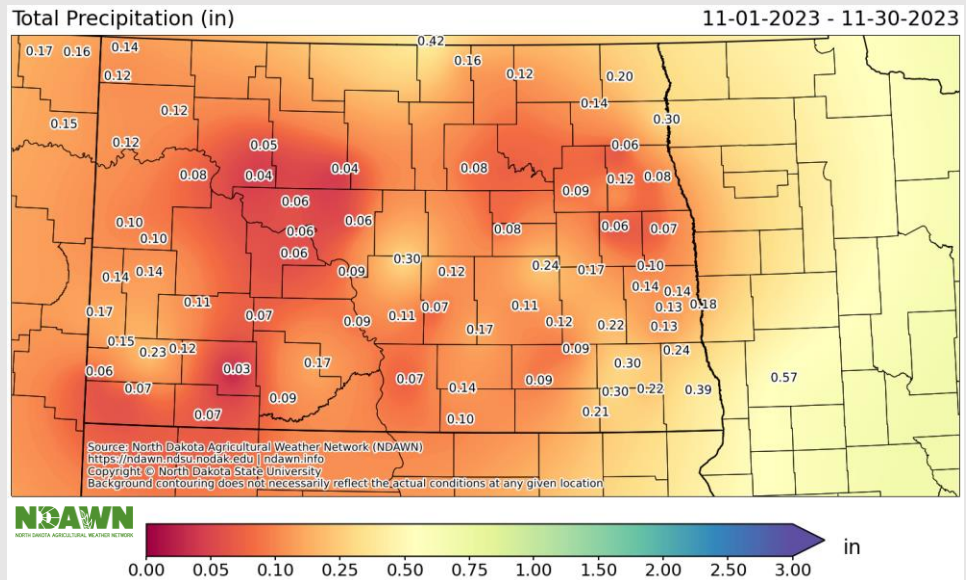


Figure 1: Total precipitation 11/1/2023 – 11/30/2023 at all NDAWN stations (NDAWN)

*Only North Dakota stations used for NDAWN data. All MN and MT stations omitted.

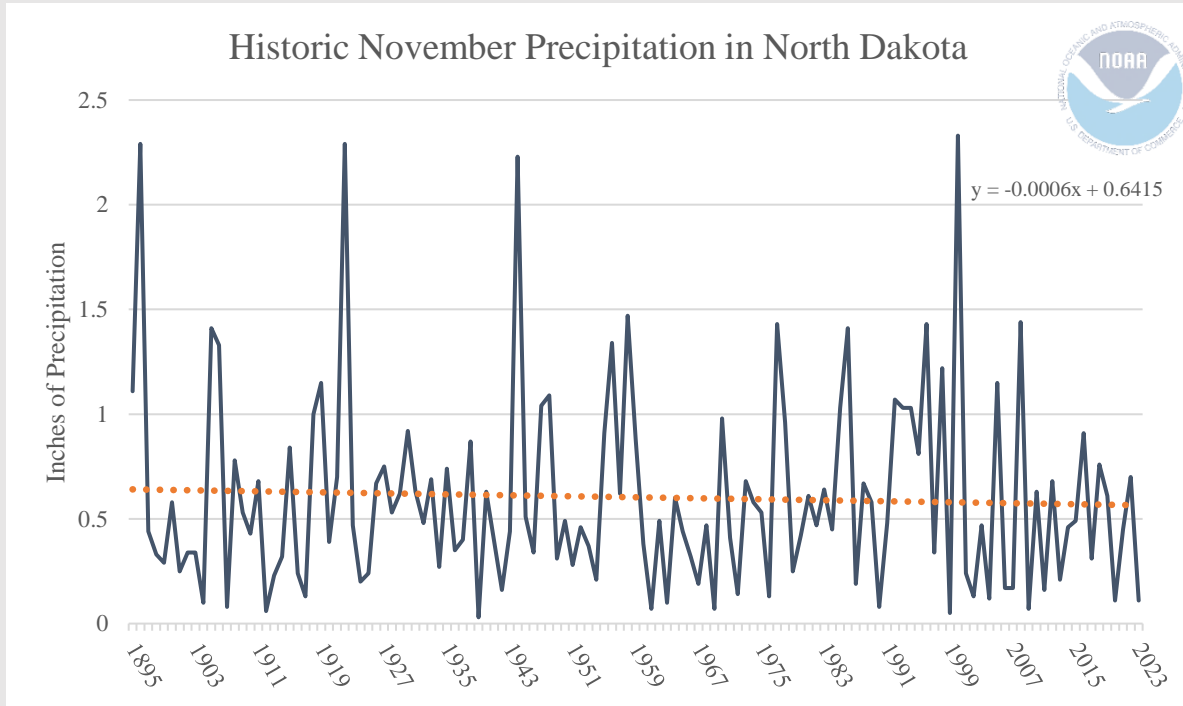


Figure 2: Historic average November precipitation 1895-2023 (NCEI, NOAA) with trendline representing average change per century.

North Dakota November Precipitation Summary

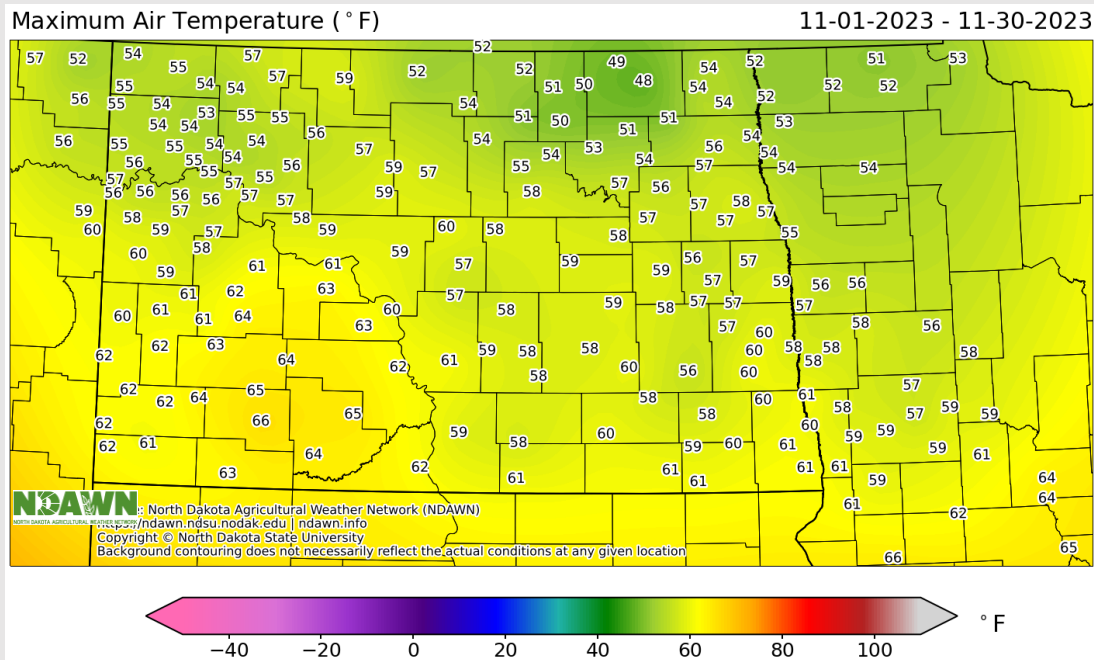
	Precipitation	Normal	Anomaly	Rank	Wettest/Driest Since	Record Year
November 2023	0.14"	0.70"	-0.56"	119 th Wettest	Wettest since 2022	2000
				11 th Driest	Driest since 2020	1939

Table 1: Ranking from NCEI NOAA based on data from November 1885-2023. Precipitation amounts averaged from records at NDAWN stations in North Dakota.

Temperature

The North Dakota November 2023 average temperature was 31.0°F making it the 25th warmest November within the period of record (129 years) (NCEI). Normal November temperatures average 27.9°F; making November 2023 about 3.1°F above normal (NDAWN, Figure 5). The maximum temperature recorded by NDAWN was 66°F at the Mott (1N) station in Hettinger County. Though November was much cooler than October, low temperatures did not drop below -6°F. This minimum temperature was recorded at six NDAWN stations: Grenora (8N), Alamo (2S), Tioga (7NW), Hofflund, Bottineau (14W), Hillsboro (7SE), and Wahpeton (6N) (Figure 3).

Statewide Maximum and Minimum Air Temperature



*Only North Dakota stations used for NDAWN data. All MN and MT stations omitted.

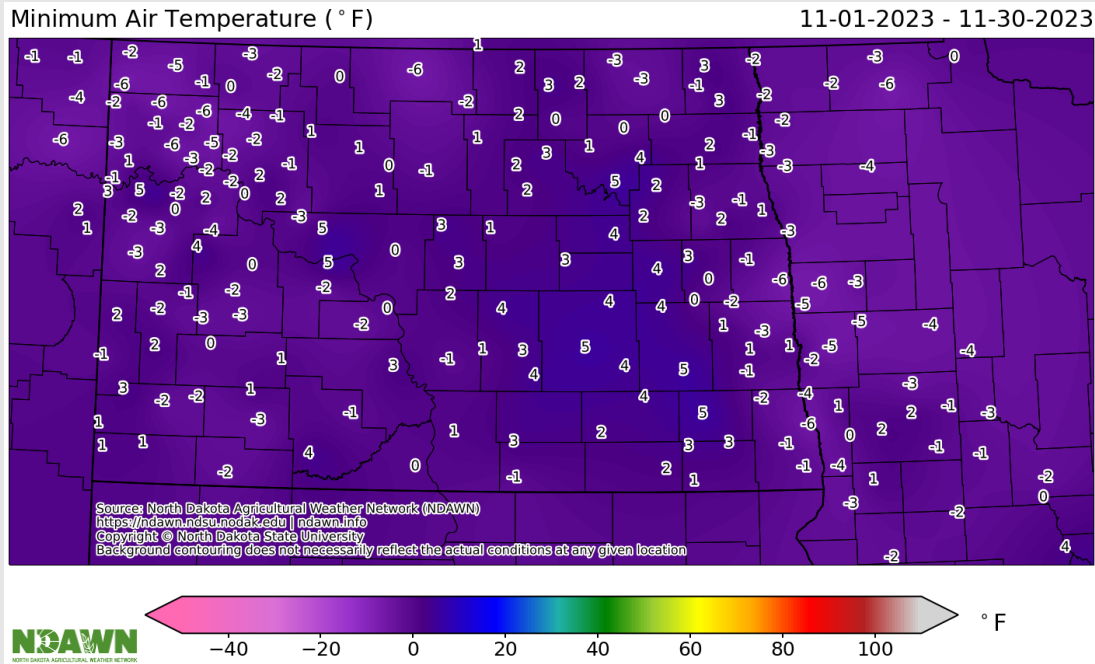


Figure 3: Maximum (Top) and Minimum (Bottom) air temperatures (°F) for November 2023 at all NDAWN Stations

Temperatures in November 2023 were above average, but continued a chilly trend into winter. October 2023 had an average temperature of 42.8°F, differing by 11.8°F. Maximum temperatures in November stayed below average, with maximum temperatures averaging 41.1°; 3.5°F warmer than normal temperatures for the month. Daily minimum temperatures for November averaged 20.9°F; 2.7°F above normal (NDAWN). NCEI 129-year climate database indicates a 2.7°F increase per century (Figure 4).

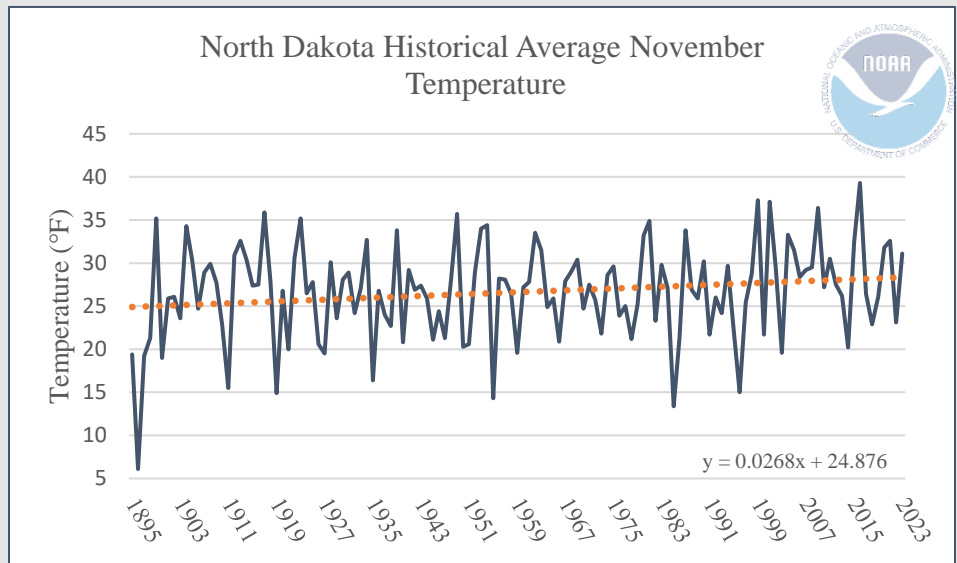


Figure 4: November historic average temperatures in North Dakota with trendline representing change per century. (NCEI)

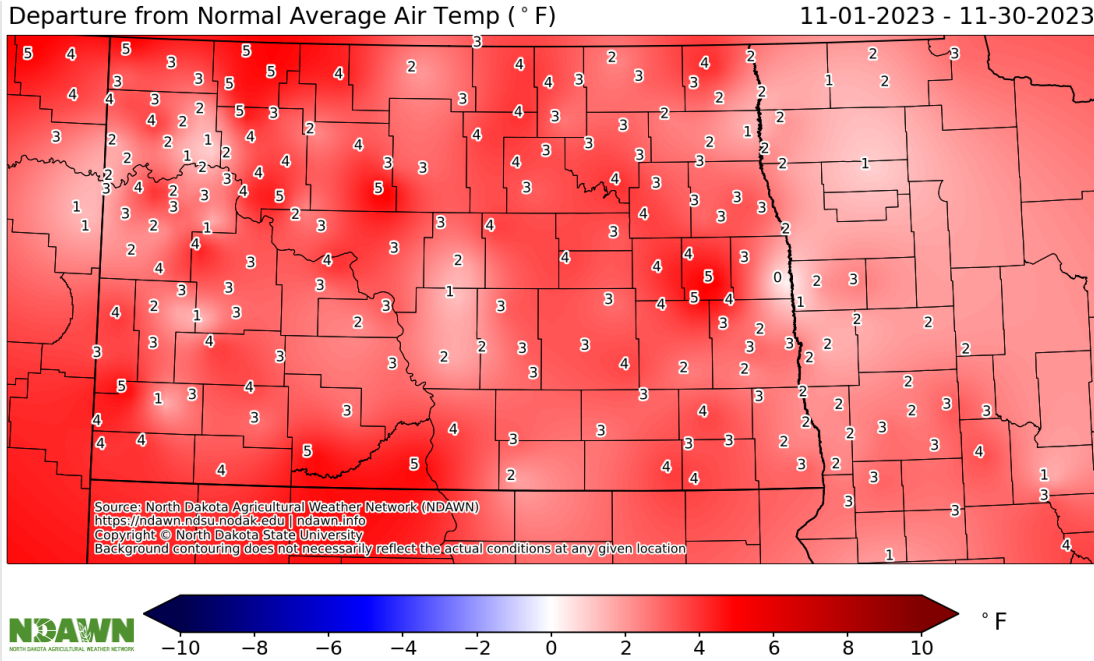


Figure 5: Departure from normal average air temperature for November 2023 at all NDAWN stations.

North Dakota November Temperature Summary

<i>November 2023 Temperature Summary</i>	Average T	Avg max T	Avg min T	Maximum	Minimum
	31.0°F	41.1°F	20.9°F	66°F	-6°F
Anomaly	+3.1°F	+3.5°F	+2.7°F		
Rank					
Warmest	25 th Warmest	28 th Warmest	25 th Warmest		
Coolest	105 th Coolest	102 nd Coolest	105 th Coolest		
Record					
Warmest	39.3°F (2016)	50°F (1999)	28.9°F (2016)	92°F (Grenora, 1926)	
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. 2023 statistics from NDAWN station data. Ranking and records based on NCEI climate data (1885-2023) (NOAA)

*Only North Dakota stations used for NDAWN data. All MN and MT stations omitted.

Storm Reports

November 2023 was a mild and quiet month for North Dakota. No severe weather due to dry and cool conditions, and no significant snow events occurred during this time. By November 30th 2023, there was little to no snow covering the ground despite a late October snow storm and few days of precipitation (Figure 6).



Figure 6: Map of snow depth on November 30th 2023 courtesy of Grand Forks NWS



North Dakota Monthly Climate Summary

November 2023

Volume 17, No. 11

Image/Data Sources

Climate at a Glance | National Centers for Environmental Information (NCEI).

NDAWN current conditions

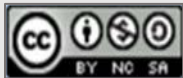
NDAWN Weather

SPC Storm Reports

NCEI Storm Events Database

NWS Heavy Snow Event

XMACIS2



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North Dakota Monthly Climate Summary

November 2023

Volume 17, No. 11

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