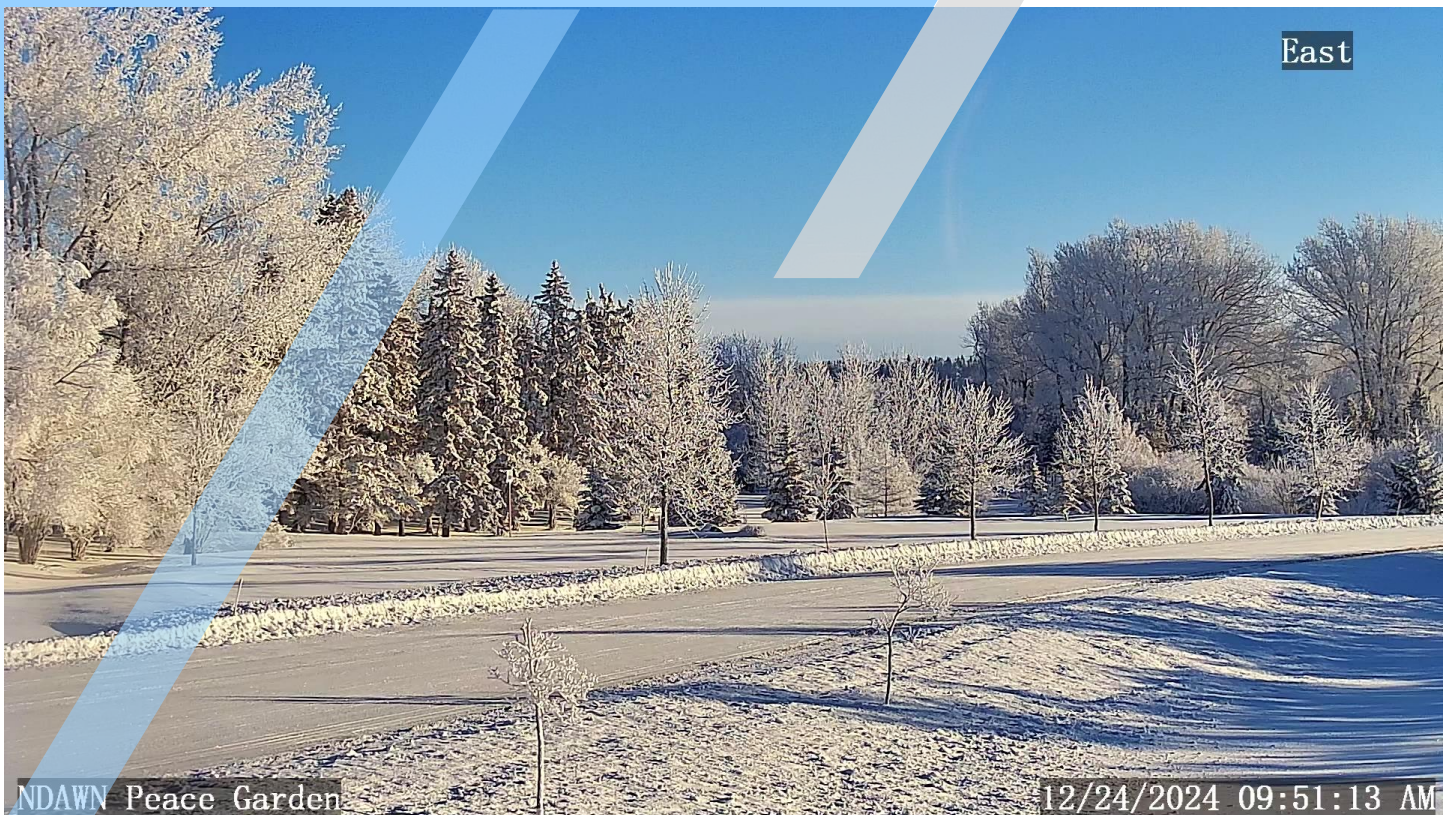


North Dakota Monthly Climate Summary

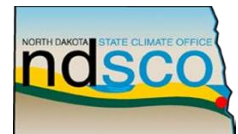
December 2024

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North Dakota State Climate Office:
Your Resource for Climate Information



North Dakota State University
School of Natural Resource Sciences

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Precipitation

December 2024

The tail end of 2024 brought a decent amount of precipitation to certain parts of North Dakota, but not all. Areas lacking in moisture before the ground froze, like Southwestern and Southeastern North Dakota, saw below average precipitation for the month. These areas without snow cover measured warmer than normal, whereas Northern and Central North Dakota are slightly nearer average.

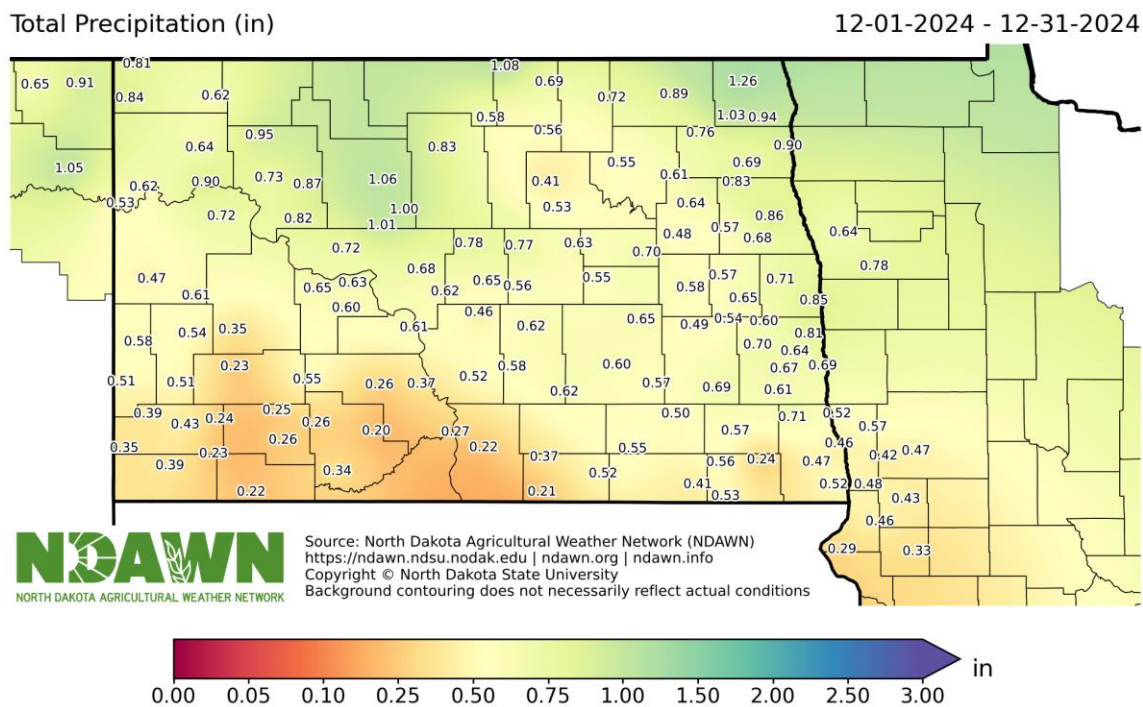


Figure 1: Total Precipitation measured by all NDAWN stations from 12/1/2024-12/31/2024

The highest precipitation totals occurred in the North, especially Ward County through Pembina County, with amounts up to an inch, with the highest December Precipitation measured at the Cavalier NDAWN station. 1.26 inches is an abundant amount of moisture for December, and over 250% of normal. In the Southwest where less precipitation fell, Carson had just 0.20 inches throughout the month, 34% of normal.

Precipitation

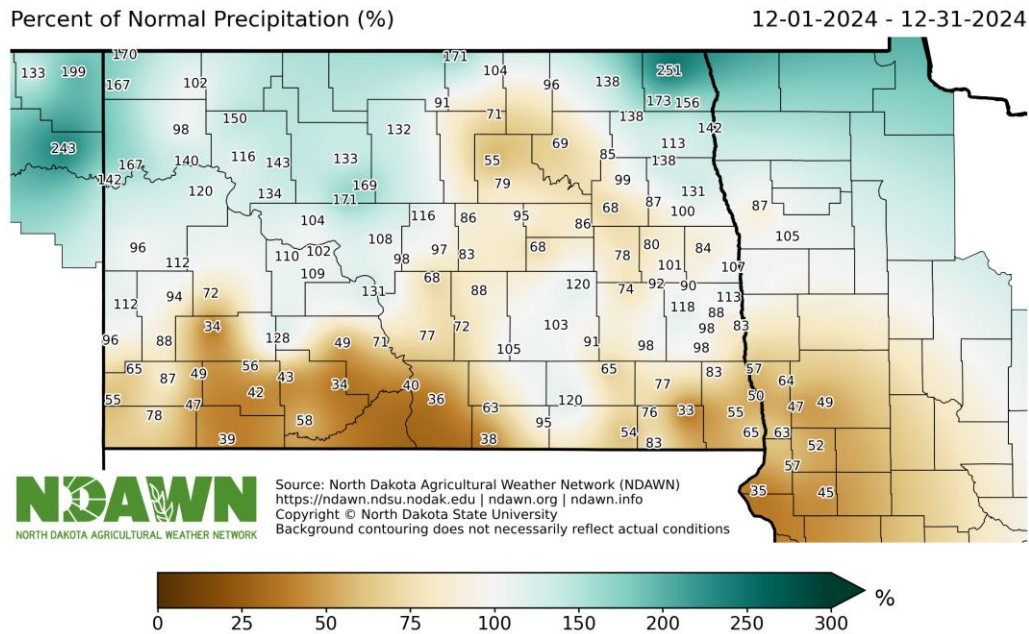
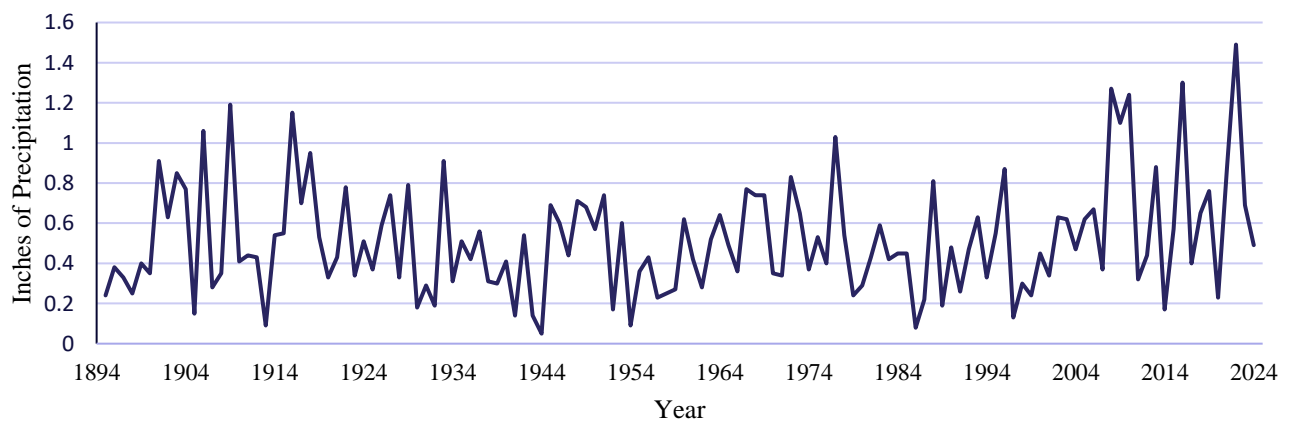


Figure 2: Percent of Normal precipitation at each NDAWN station

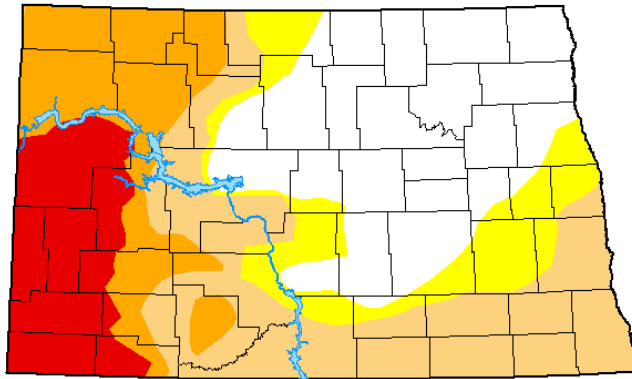
It was certainly drier than the extremely wet November, the statewide average precipitation was 0.49 inches, about 0.14 inches below normal. Though many areas received normal precipitation, a large chunk of the state saw below optimal conditions. Historically, December precipitation has varied greatly, especially in the last 10 or so years. The wettest December on record occurred in 2022 with a statewide average of 1.49 inches.

Historical December Precipitation in North Dakota



Precipitation

U.S. Drought Monitor North Dakota



December 31, 2024

(Released Wednesday, Jan. 1, 2025)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0	D1	D2	D3	D4
Current	32.88	12.21	26.13	15.79	12.99	0.00
Last Week 12-24-2024	32.85	12.23	26.13	15.79	12.99	0.00
3 Months Ago 10-01-2024	47.89	26.94	12.49	9.30	3.39	0.00
Start of Calendar Year 01-02-2024	70.11	14.17	8.94	6.78	0.00	0.00
Start of Water Year 10-01-2024	47.89	26.94	12.49	9.30	3.39	0.00
One Year Ago 01-02-2024	70.11	14.17	8.94	6.78	0.00	0.00

Intensity:

None	D2 Severe Drought
D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate 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>

Author:

Rocky Bilotta
NCEI/NOAA



droughtmonitor.unl.edu

Figure 3: U.S. Drought Monitor conditions as of December 31 2024.

At the beginning of December, slight changes were made to the Drought Monitor to reflect the heavy precipitation in November. No changes were made in December, as the temperatures finally dropped to normal winter temperatures and the ground is frozen. Precipitation in the Western portion of the state will help to alleviate drought conditions after the spring thaw, although that is dependent on conditions for the rest of the winter.

Temperature

December, despite the cold snap that reached air temperatures into the minus teens and 20s, was a warmer than average month. Statewide, the average temperature was 18.6°F, an average of 3°F warmer than normal. The lack of snow on the ground is contributing to the warmer than average temperatures. December had large temperature swings across the state, with the maximum temperature measuring 59°F at the Marmarth, Sunny Slope, and Bowman NDAWN stations in Slope and Bowman Counties. The minimum temperature was a CHILLY -27°F measured at the Peace Garden NDAWN station in Rolette County.

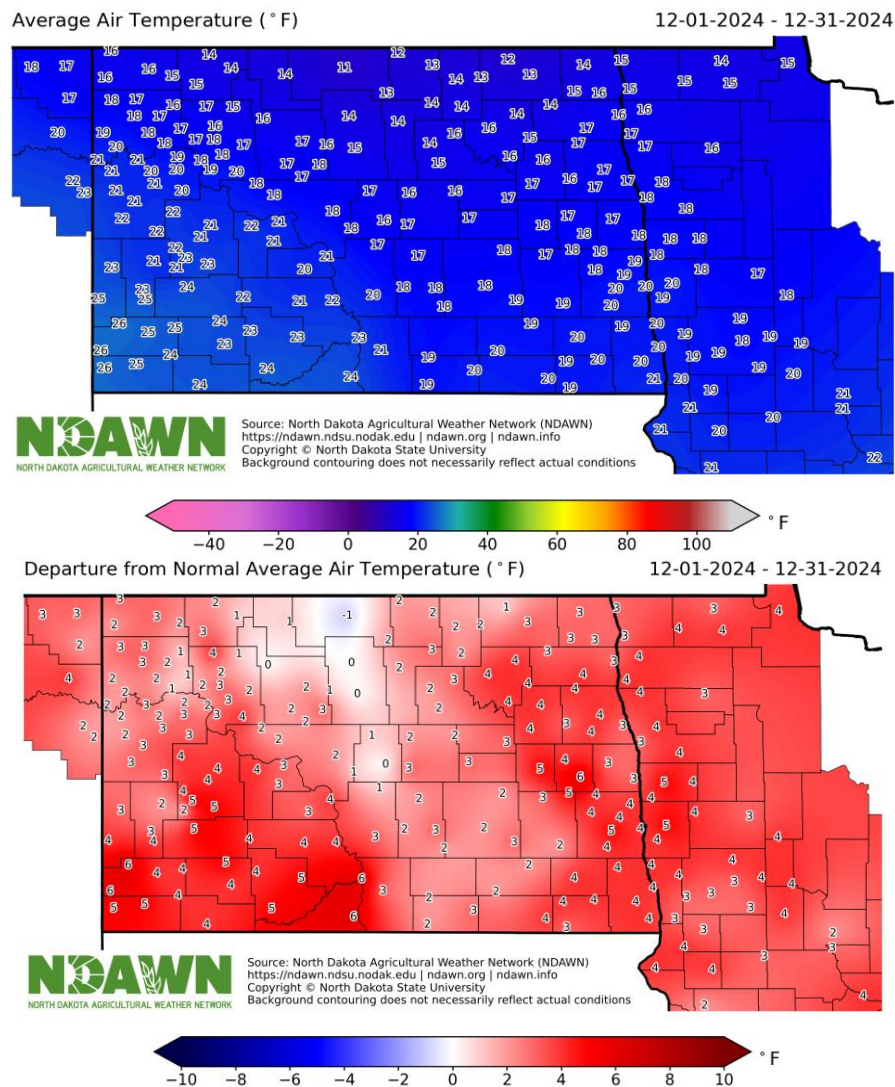
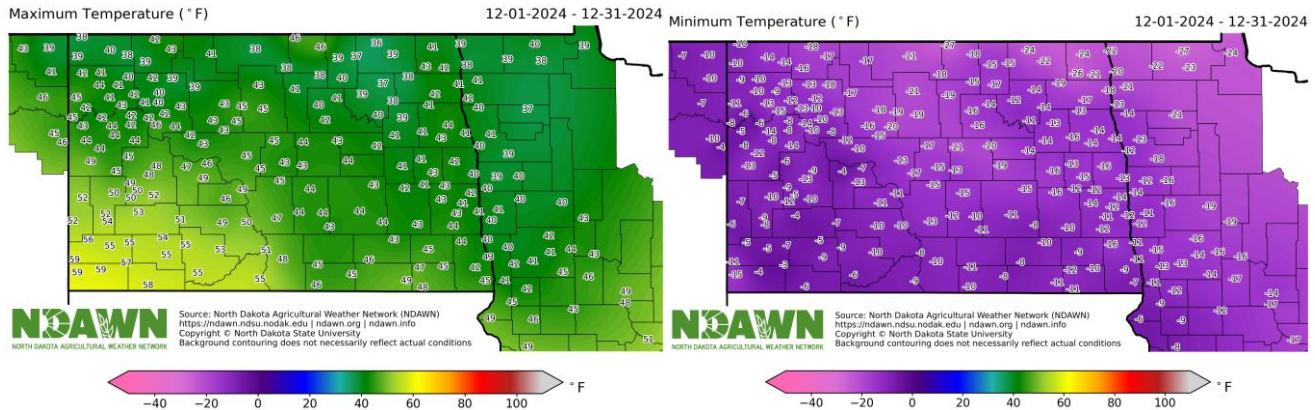
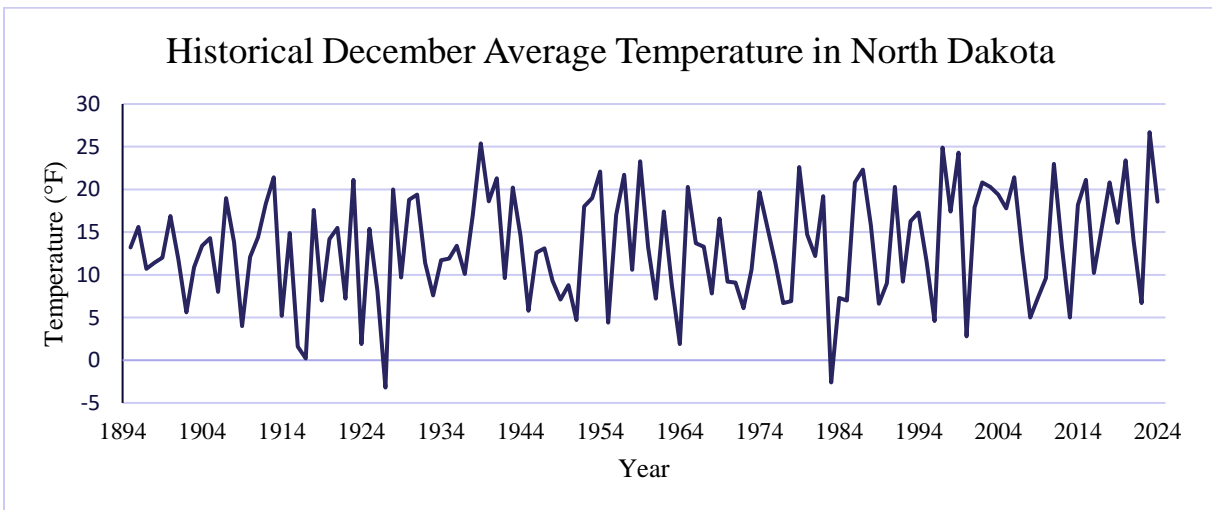


Figure 4: Average Air Temperature (Top) and Departure from Normal Average Air Temperature (Bottom) at all NDAWN stations

Temperature



December 2024 ranks as the 33rd warmest in 130 years of climate data. Though it was warmer than average, the decreasing temperatures associated with a cold snap ensured that that temperatures stayed more mild on average.



North Dakota December Precipitation Summary

	Precipitation	Normal	Anomaly	Rank	Record Year
<i>December 2024</i>	0.49"	0.63"	-0.13"	58 th Wettest	2022
				73 rd Driest	1944

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

North Dakota December Temperature Summary

<i>December 2024 Temperature Summary</i>	Average T	Avg max T	Avg min T	Maximum	Minimum
	18.6°F	27.3°F	9.9°F	59°F	-27°F
Anomaly	+3.0°F	+2.6°F	+3.4°F		
Rank					
Warmest	33 rd warmest	54 th Warmest	41 st warmest		
Coolest	98 th Coldest	77 th Coldest	89 th Coldest		
Record					
Warmest	26.5°F (2023)	35.9°F (2023)	17.2°F (2023)	74°F (Haley, 1911)	
Coolest	-3.2°F (1927)	5.8°F (1927)	-12.2°F (1927)		-50°F (Tioga, 1985)

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