



North Dakota Monthly Climate Summary

May 2024

Volume 18, No. 5

North Dakota State
Climate Office: Your
Resource for
Climate Information

North Dakota State University
School of Natural Resource
Sciences

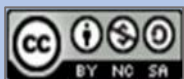
174 Van Es Hall
Fargo, ND 58108

www.ndsu.edu/ndSCO

cassidy.holth@ndsu.edu



This publication can be made
available in alternative formats
upon request.



Precipitation

Based on data from 152 stations* across the North Dakota Agricultural Weather Network (NDAWN) Average precipitation varied greatly throughout the state. Active weather patterns across the U.S. persistently brought severe weather to the Southern and Central Plains, while the Northern Plains received frequent non-severe showers as a result. Precipitation targeted Northeastern North Dakota and gave excessive moisture as planting season was underway. Western North Dakota saw average to slightly below average precipitation throughout the month of May.

the statewide average precipitation in May 2024 was 3.7 inches, about one inch above normal precipitation in North Dakota. The maximum rainfall in May fell at the Adams (5N) NDAWN station in Walsh County with 3.88 inches of precipitation. The least precipitation fell at the Sunny Slope (3W) NDAWN station in Bowman County, with 1.65 inches (Figure 1).

The historical maximum statewide-averaged May precipitation occurred in 1927 with 5.96 inches, and minimum precipitation in 1901 with 0.23 inches. Average May precipitation was 1.9 inches more than the previous month and ranks as the 21st wettest May out of 130 years. (NCEI).

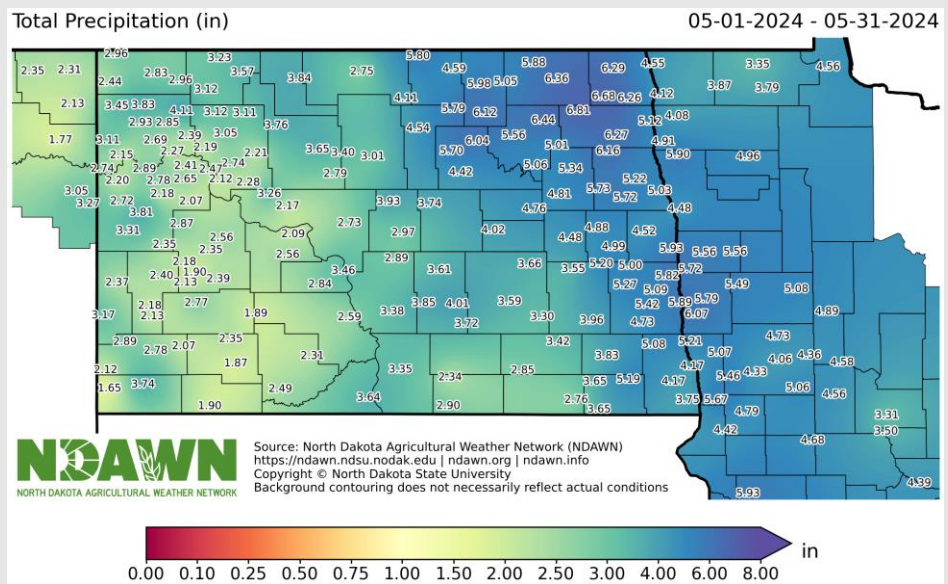


Figure 1: Total precipitation 5/1/2024 – 5/31/2024 at all NDAWN stations (NDAWN)

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



North Dakota

Monthly Climate Summary

May 2024

Volume 18, No. 5

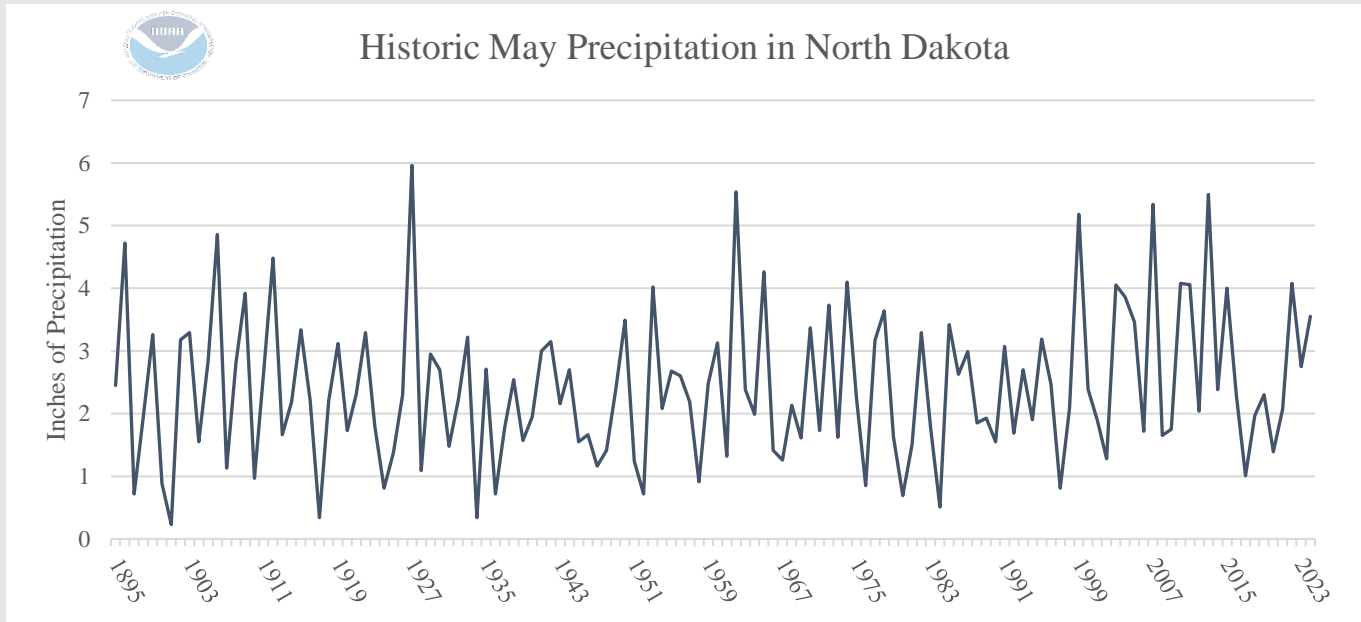


Figure 2: Historical statewide average precipitation in May 1895-2024 (NCEI, NOAA)

North Dakota May Precipitation Summary

	Precipitation	Normal	Anomaly	Rank	Wettest/Driest Since	Record Year
May 2024	3.69"	2.71"	+0.98"	21 st Wettest	Wettest since 2022	1927
				110 th Driest	Driest since 2023	1901

Table 1: Ranking from NCEI NOAA based on data from May 1885-2024. Precipitation amounts averaged from records at NDAWN stations in North Dakota.

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

Temperature

The average temperature in North Dakota for the month of May was 54°F making it the 56th warmest May within the period of record (130 years) (NCEI). Normal temperatures average 53.9°F; making 2024 a very average year (NDAWN, Figure 3). Maximum temperatures reached the low to mid 80s across the state with the Red River Valley reaching upper 80s, likely due to the rich dark soil. The maximum temperature recorded by NDAWN was 89°F at at four stations in the Southwest: Oakes (4S), Mooreton (3SW), Leonard (5N), and Casselton (1SW). The minimum temperature recorded in North Dakota in May was 21°F at the Sunny Slope (3W) NDAWN station in Bowman County (Figure 4). High temperatures did not dip below the upper 40s this month, signaling an end to the North Dakota spring and ushering in the summer weather.

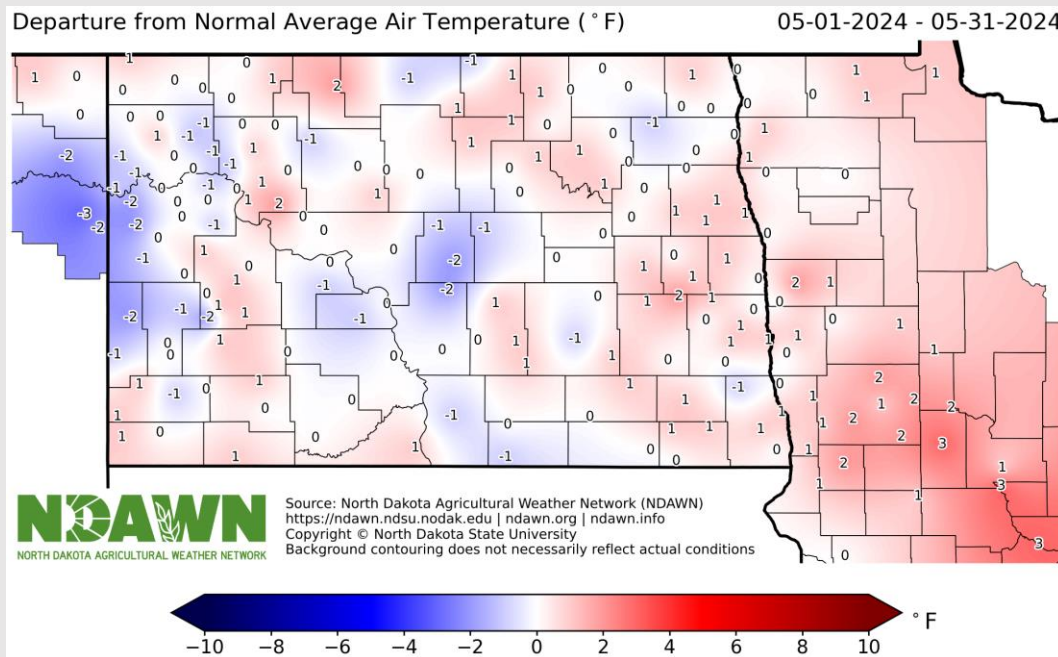


Figure 3: May 2024 departure from normal average temperature. (NDAWN)

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

Statewide Maximum and Minimum Air Temperature

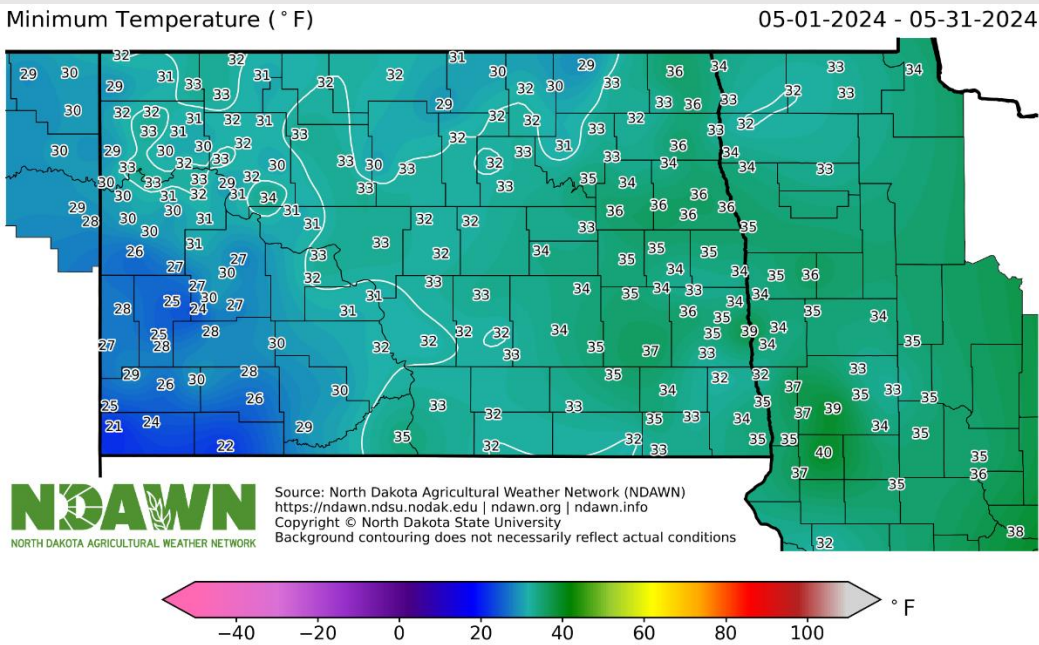
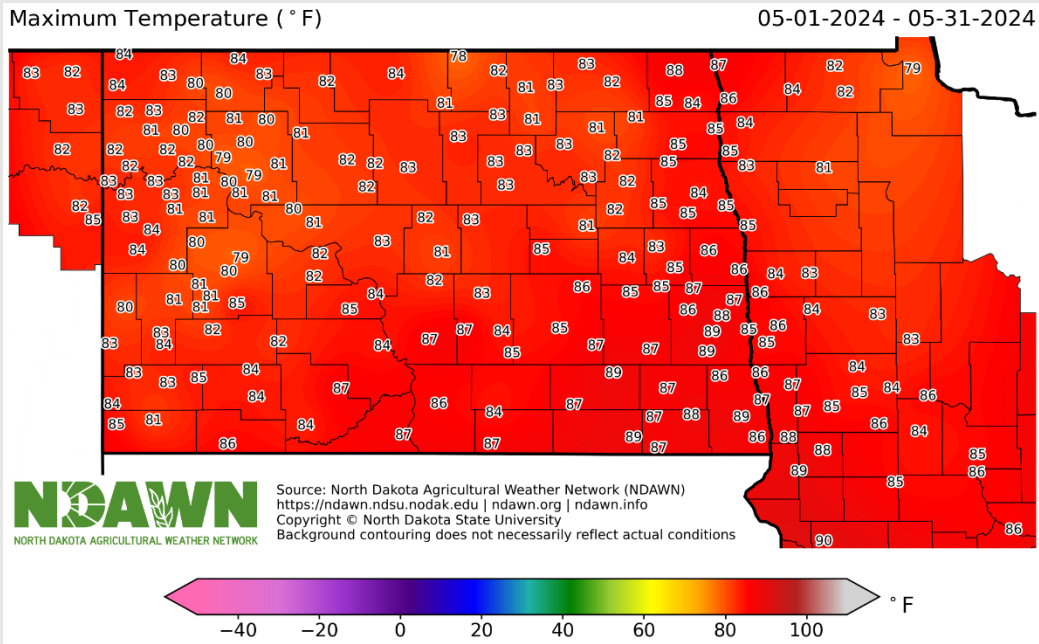


Figure 4: Maximum (Top) and Minimum (Bottom) air temperatures (°F) for May 2024 at all NDAWN Stations

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



North Dakota

Monthly Climate Summary

May 2024

Volume 18, No. 5

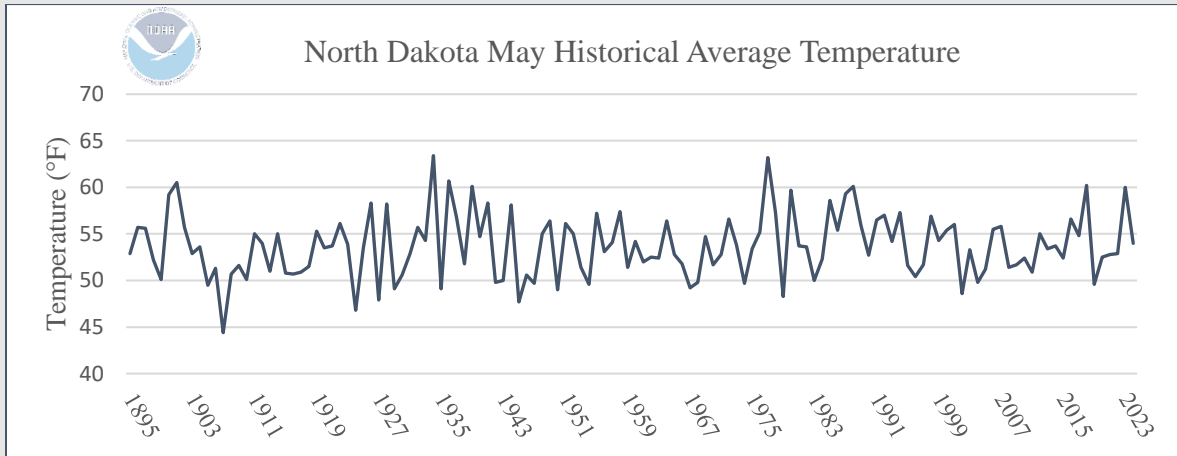


Figure 5: May historic average temperatures by year in North Dakota (NCEI) Note the scale of the Y-axis as temperatures become less variable throughout the season.

The warmest May on record was 1934 where average temperature was recorded at 63.4°F, 10°F warmer than May 2024. The coolest May on record averaged 44.4°F back in 1907. Average minimum and maximum temperatures in May 2024 were similarly average. This month's average maximum temperature differed from normal by about half of a degree at 65.8°F. Average minimum temperature of 42.2°F was warmer than normal by 1°F. May temperatures are typically less variable compared to March and April spring temperatures, with the highest and lowest historical average temperatures only differing by 19°F.

North Dakota May Temperature Summary

May 2024 Temperature Summary	Average T	Avg max T	Avg min T	Maximum	Minimum
	54.0°F	65.8°F	42.2°F	89°F	21°F
Anomaly	-0.65°F	-0.05°F	+0.84°F		
Rank					
Warmest	56 th warmest	67 th warmest	46 th warmest		
Coolest	75 th coolest	64 th coolest	85 th coolest		
Record					
Warmest	63.4°F (1934)	80.3°F (1934)	49.3°F (1977)	111°F (Langdon 1934)	
Coolest	44.4°F (1907)	56.9°F (1927)	31.2°F (1907)		-3°F (Larimore 1967)

Table 2: May temperature summary for North Dakota. 2024 statistics from NDAWN station data. Ranking and records based on NCEI climate data (1885-2024) (NOAA).

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

Significant Weather

Though winter passed and the new season has been welcomed, North Dakota still persisted with a classic late spring snow event. A potent low pressure system passed through North Dakota on May 24 and brought with it a variety of precipitable events. Cold and moist air from the north allowed temperatures to drop to near freezing on the western portion of the low pressure system (Figure 6). A few locations were able to see snow! With the highest snow totals being the result of the deformation zone centering around the International Peace Gardens (Figure 7). NDAWN Peace Garden Station measured up to 8 inches of snow, with more central areas seeing some accumulation as well. Alternatively, the other side of the low in Southeastern North Dakota had temperatures in the 60s and saw a few pop-up thundershowers that were able to produce a funnel cloud and preliminary tornado just south of Fargo (Figure 8). Strong gusty winds and cool temperatures followed after the event.

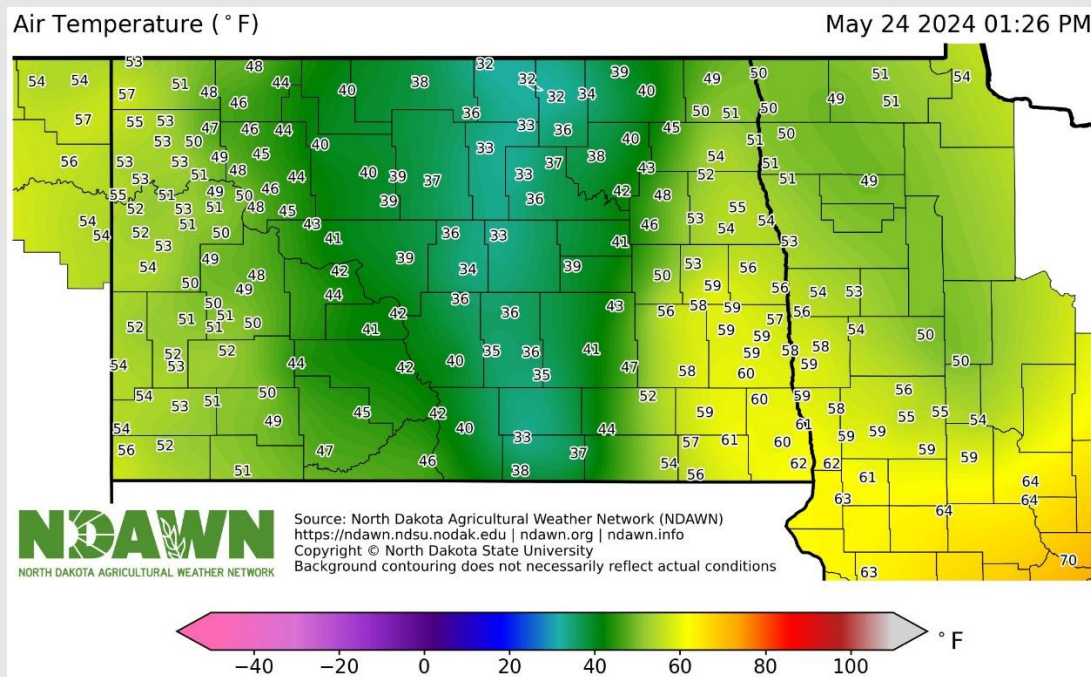


Figure 6: Afternoon air temperatures during a heavy snow event in North Central North Dakota on 5/24/2024 (NDAWN)

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



Figure 7: NDAWN Director Daryl Ritchison post on X describing heavy snow totals from the snow event on 5/24/2024 (X, Daryl Ritchison, NDAWN)

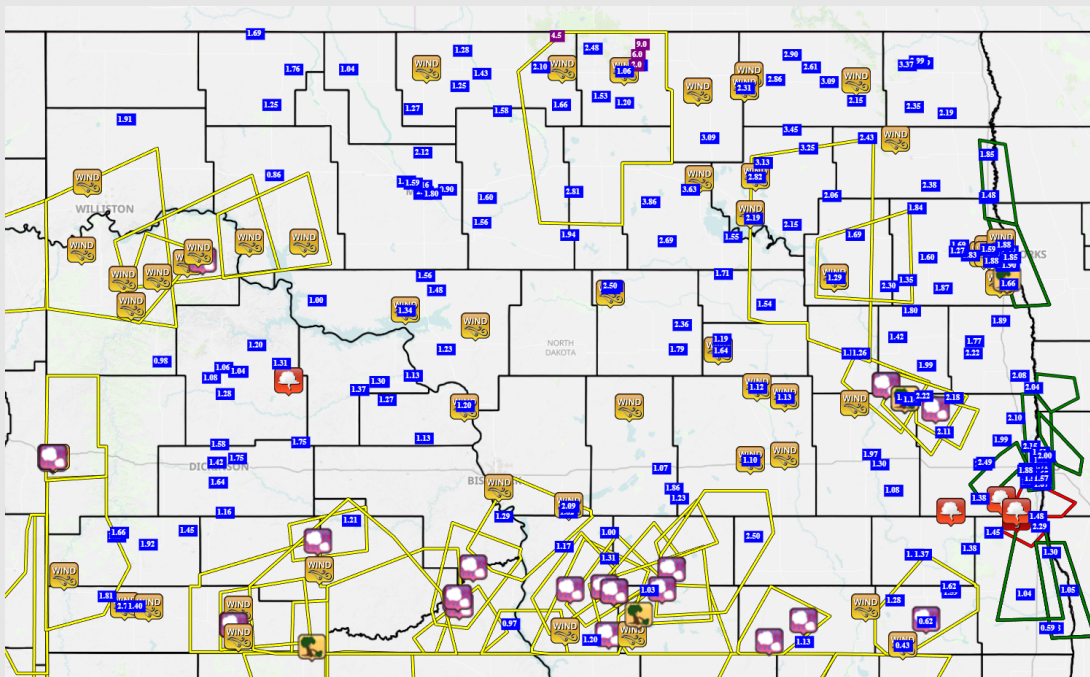


Figure 8: Local storm reports and severe warnings issued during the month of May in 2024 (NWS, IEM)

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



North Dakota

Monthly Climate Summary

May 2024

Volume 18, No. 5

Image/Data Sources

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

NDAWN current conditions

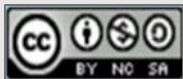
NDAWN Weather

SPC Storm Reports

NCEI Storm Events Database

XMACIS2

X



Feel free to use and share this content, but please do so under the conditions of our [Creative Commons](#) license and our [Rules for Use](#).

NDSU does not discriminate in its programs and activities on the basis of age, color, gender expression/identity, genetic information, marital status, national origin, participation in lawful off-campus activity, physical or mental disability, pregnancy, public assistance status, race, religion, sex, sexual orientation, spousal relationship to current employee, or veteran status, as applicable. Direct inquiries to Vice Provost, Title IX/ADA Coordinator, Old Main 201, 701-231-7708, nds.u.eoaa@nds.u.edu.