



North Dakota Monthly Climate Summary

March 2023

Volume 17, No. 3

Precipitation

North Dakota State Climate Office: Your Resource for Climate Information.



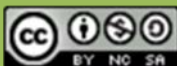
North Dakota State University

College of Agriculture, Food Systems, and Natural Resources

304 Morrill Hall
Fargo, ND 58108-6050
www.ndsu.edu/ndSCO

Adnan.Akyuz@ndsu.edu
701-231-6577

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



Based on the National Centers for Environmental Information (NCEI), the statewide average March precipitation was 0.96 inches, which was 0.65 inches more than last month and 0.75 inches more than March 2022. It was also 0.22 inches more than the 1991-2020 average, making it the 32nd driest March in the 129-year period of record (Table 1).

The counties shaded in brown indicate drier-than-average conditions in March 2023. The counties shaded in green indicate wetter-than-average conditions in March 2023. White shading indicates near-average conditions. The numbers inside the counties are the precipitation rankings, with 1 being the lowest (driest) and 129 being the highest (the wettest) ranking.

The greatest monthly precipitation accumulation was 3.08 inches, recorded in Dickinson, Stark County. The greatest monthly snowfall accumulation was 42.5 inches, recorded in Elgin, Grant County. Based on historical records, statewide March precipitation showed a slight negative long-term trend of 0.05 inches during the last century. The lowest and highest March precipitation for the state during this period ranged from 0.11 inches in 1930 to 2.31 inches in 1902 (Figure 2 and Table 1).

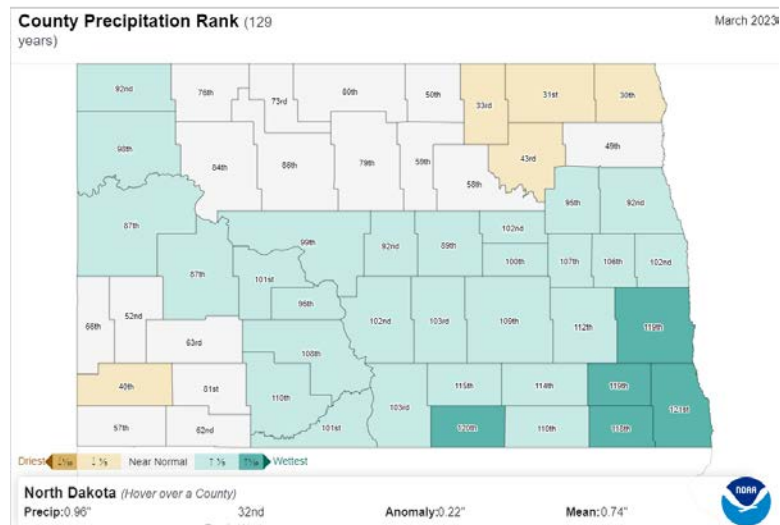


Figure 1. March 2023 county precipitation ranking map of North Dakota. (NCEI, National Oceanic and Atmospheric Administration [NOAA])



North Dakota Monthly Climate Summary

March 2023

Volume 17, No. 3

North Dakota Precipitation

March

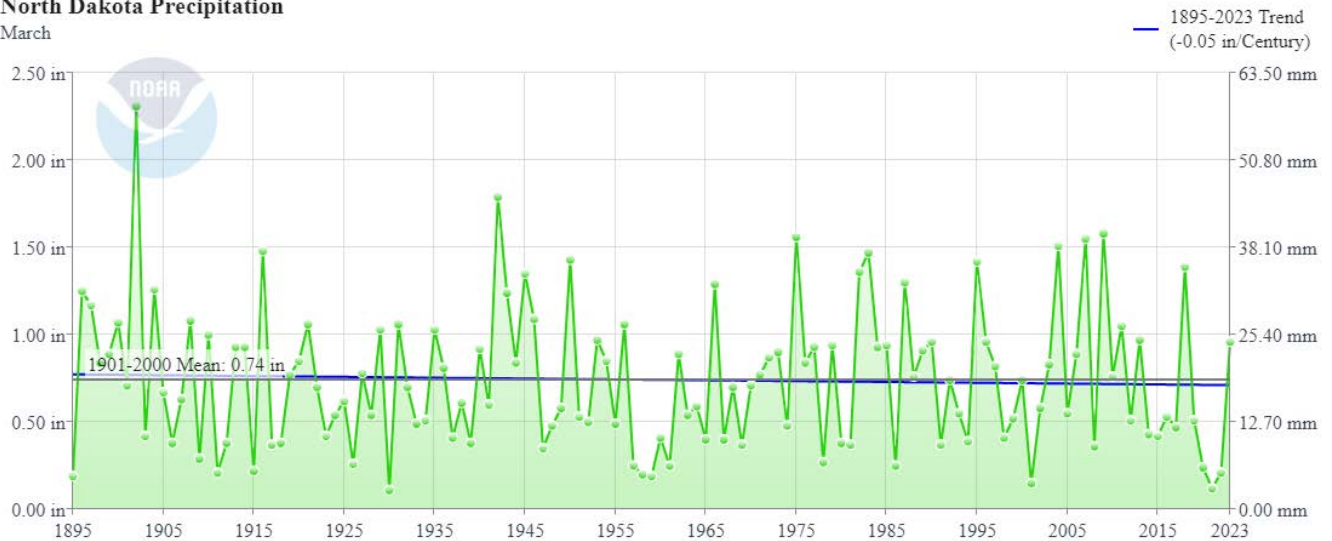


Figure 2. Historical March precipitation time series for North Dakota. (NCEI, NOAA)

Table 1. North Dakota March Precipitation Ranking Table.

Period	Value	Normal	Anomaly	Rank	Wettest/Driest Since	Record Year
March 2023	0.96"	0.74"	0.22"	98th driest 32nd wettest	Driest since 2022 Wettest since 2018	0.11" (1930) 2.31" (1902)



North Dakota Monthly Climate Summary

March 2023

Volume 17, No. 3

Temperature

The official state average March temperature was 14.3 F, which is 0.3 degrees cooler than last month and 12.6 degrees cooler than in March 2022. Furthermore, the average March temperature was 12.7 degrees colder than the 1991-2020 average, making it the 5th coldest March in the 129 years of record (Table 2).

The counties shaded in blue in Figure 3

indicate cooler-than-average conditions. The numbers inside the counties are the temperature rankings, with one being the lowest (coldest) and 129 being the highest (warmest).

The state's highest and lowest daily temperatures ranged from 89 F on March 11 in Hettinger, Adams County, to -7 F on March 8 in Cavalier, Pembina County. Based on the historical records, the state average March temperature showed a strong positive long-term trend of 4.7 degrees during the last century. The lowest and highest monthly state March average temperatures during this period ranged from 7 F in 1899 to 40.6 F in 2012 (Figure 4 and Table 2).

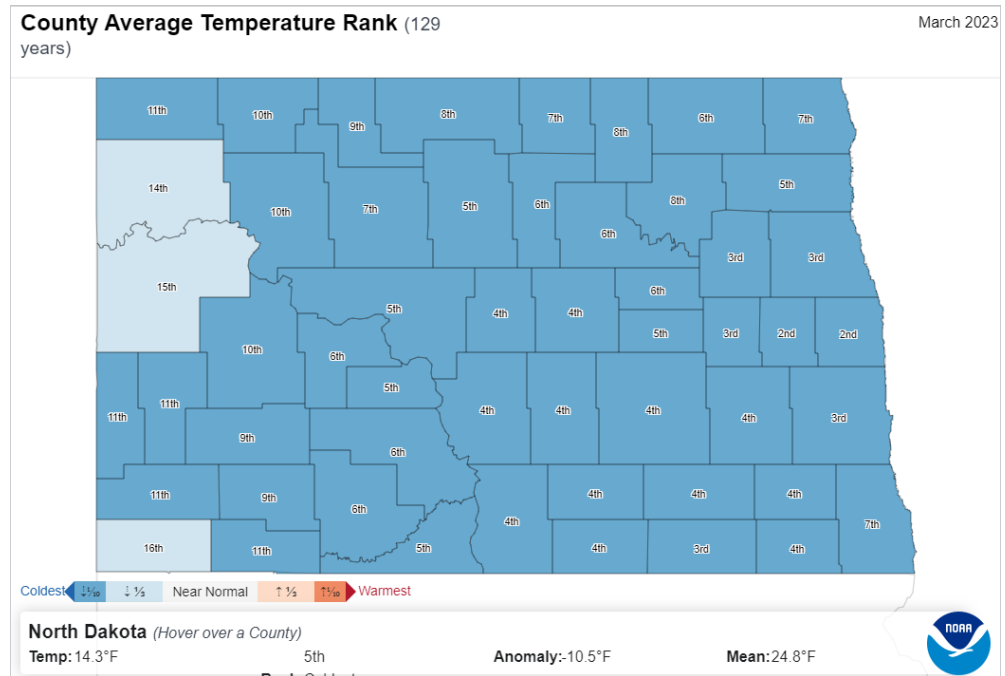


Figure 3. March 2023 county temperature ranking map of North Dakota. (NCEI, NOAA)



North Dakota Monthly Climate Summary

March 2023

Volume 17, No. 3

North Dakota Average Temperature
March

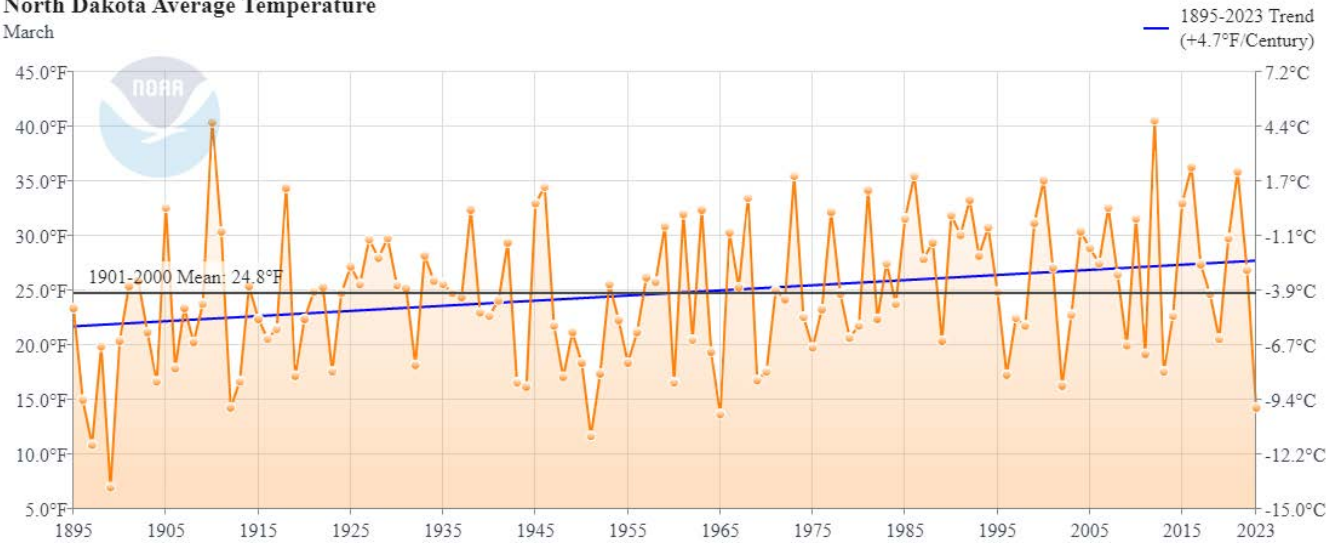


Figure 4. Historical March temperature time series for North Dakota. (NCEI, NOAA)

Table 2. North Dakota March Temperature Ranking Table.

Period	Value	Normal	Anomaly	Rank	Warmest/Coollest Since	Record Year
March 2023	14.3 F	27 F	-0.3 F	5th coolest 125th warmest	Coollest since 1965 Warmest since 2022	7 F (1899) 40.6 F (2012)



North Dakota Monthly Climate Summary

March 2023

Volume 17, No. 3

Storm Reports: Table 3 below shows the summary of March severe storm reports in North Dakota (Storm Prediction Center, NOAA).

The NOAA Storm Report recorded no tornado, hail or damaging wind events reported. Table 3 summarizes the number of tornado, hail and damaging wind reports in March, while Figure 5 geographically displays the locations of these storms.

Table 3. Summary of March Severe Storm Reports in North Dakota. (Storm Prediction Center, NOAA)

Category	Number of Reports
<i>Tornado reports</i>	0
<i>Hail reports</i>	0
<i>Wind reports</i>	0
Total	0

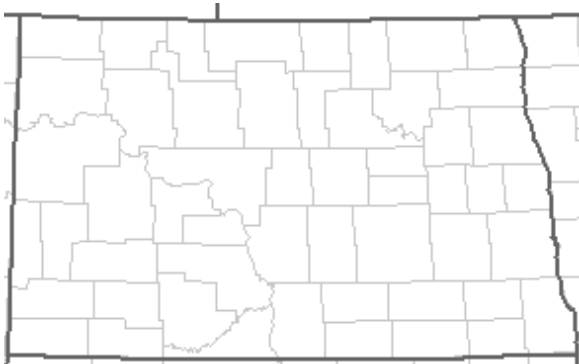


Figure 5. Map of March 2023 North Dakota storm events (red: tornado; blue: wind; green: hail). (Storm Prediction Center, NOAA)



North Dakota Monthly Climate Summary

March 2023

Volume 17, No. 3

Daily Record Events in March: Across the observation network of weather stations with at least 30 years of history, no daily high but 65 daily low-temperature records were set or tied. In addition, a total of 68 highest daily precipitation-related records were set or tied. Details of the records are in Table 4.

Table 4. Summary of daily records broken or set in North Dakota in March. (NCEI Daily Weather Records)

Category	Number of Records
Highest daily max. temp.	0
Highest daily min. temp.	0
Lowest daily max. temp.	36
Lowest daily min. temp.	29
Highest daily precipitation	30
Highest daily snowfall	38
Total	133

The Highlight of the Month*

A highest daily maximum snow depth record of **50 inches** was broken in **Napoleon on March 12**, exceeding the previous record that was set in 1978 by 8 inches (years on record: 122).

**The records in this box may differ from those on pages 1 and 3 because this page only includes records for stations with at least 30 years of history.*



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, ndsu.eoaa@ndsu.edu.

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](#).

This work is supported by the USDA National Institute of Food and Agriculture, Hatch/Multi State project ND1005365.