



North Dakota Monthly Climate Summary

December 2022

Volume 16, No. 12

Precipitation

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



North Dakota State University

College of Agriculture, Food Systems, and Natural Resources

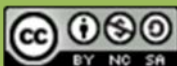
304 Morrill Hall
Fargo, ND 58108-6050

www.ndsu.edu/ndsco

Adnan.Akyuz@ndsu.edu

701-231-6577

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Based on the National Centers for Environmental Information (NCEI), the statewide average December precipitation was 1.43 inches, which was 0.78 inches more than last month and 0.55 inches more than December 2021. It was 0.85 inches more than the 1991-2020 average, making it the wettest December in the 128-year period of record (Table 1).

The counties shaded in green in Figure 1 indicate wetter-than-average conditions in December 2022. White shading indicates near-average conditions. The numbers inside the counties are the precipitation rankings with one being the lowest (driest) and 128 being the highest (the wettest) ranking.

The greatest monthly precipitation accumulation was 3.94 inches, recorded in Jamestown, Stutsman County. The greatest monthly snowfall accumulation was 43.5 inches, recorded in Streeter, Stutsman County. Based on historical records, statewide December precipitation showed a slight positive long-term trend of 0.1 inches during the last century. The lowest and highest December precipitation for the state during this period ranged from 0.05 inches in 1944 to 1. inches in 2022 (Figure 2 and Table 1).

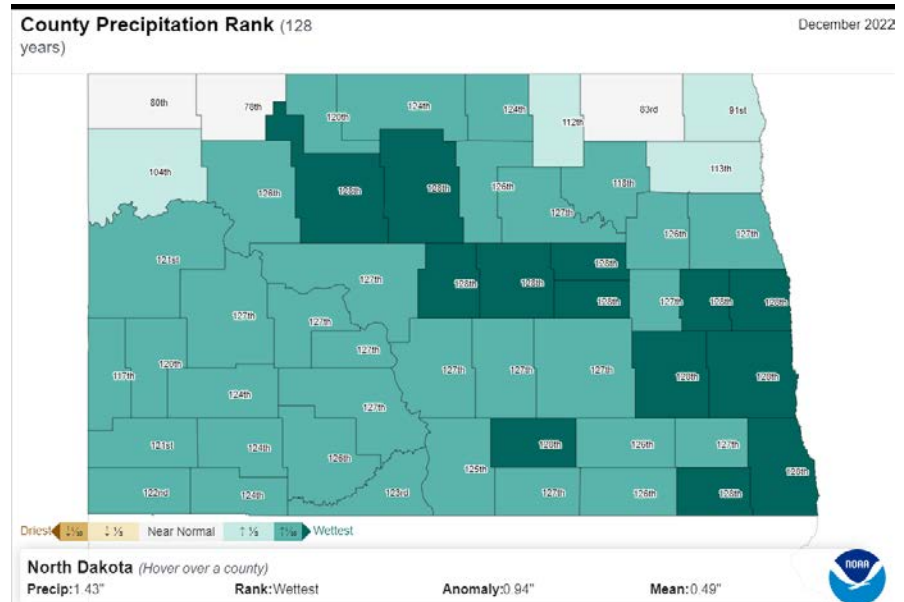


Figure 1. December 2022 county precipitation ranking map of North Dakota. (NCEI, NOAA)



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North Dakota Precipitation December

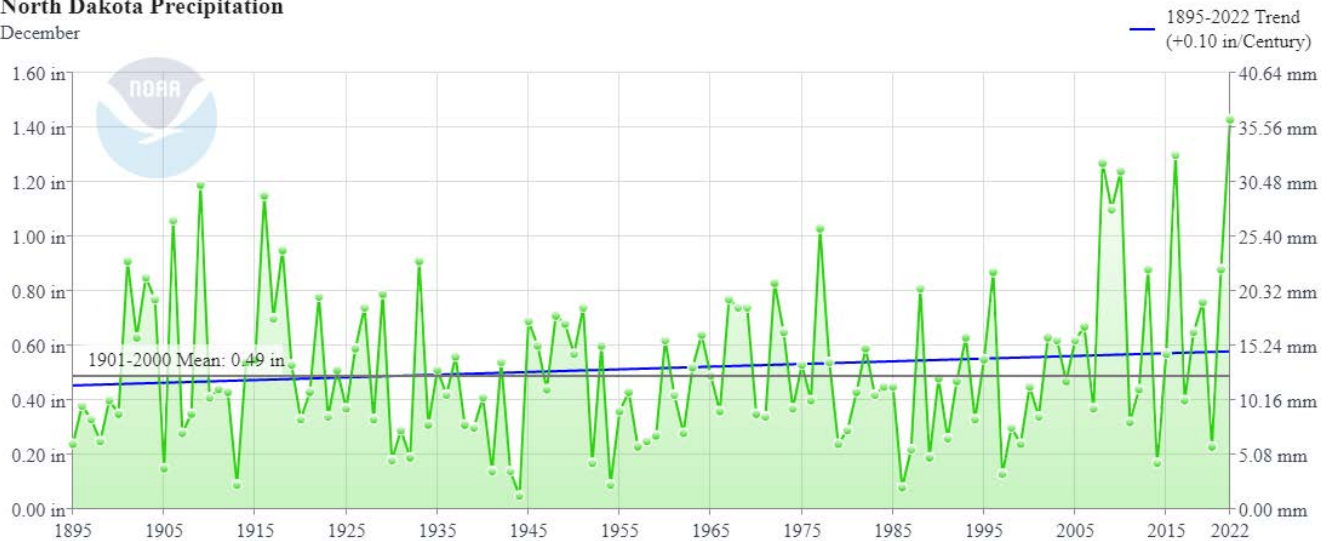


Figure 2. Historical December precipitation time series for North Dakota. (NCEI, NOAA)

Table 1. North Dakota December Precipitation Ranking Table.

Period	Value	Normal	Anomaly	Rank	Wettest/Driest Since	Record Year
December 2022	1.43"	0.58"	0.85"	128th driest The wettest	Driest since 2021 Wettest to date	0.05" (1944) 1.43" (2022)



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Temperature

The official state average December temperature was 6.8 F, 16.8 degrees cooler than last month and 7.2 degrees cooler than in December 2021. Furthermore, the average December temperature was 8.8 degrees cooler than the 1991-2020 average, making it the 20th coolest December in the 128 years of record (Table 2).

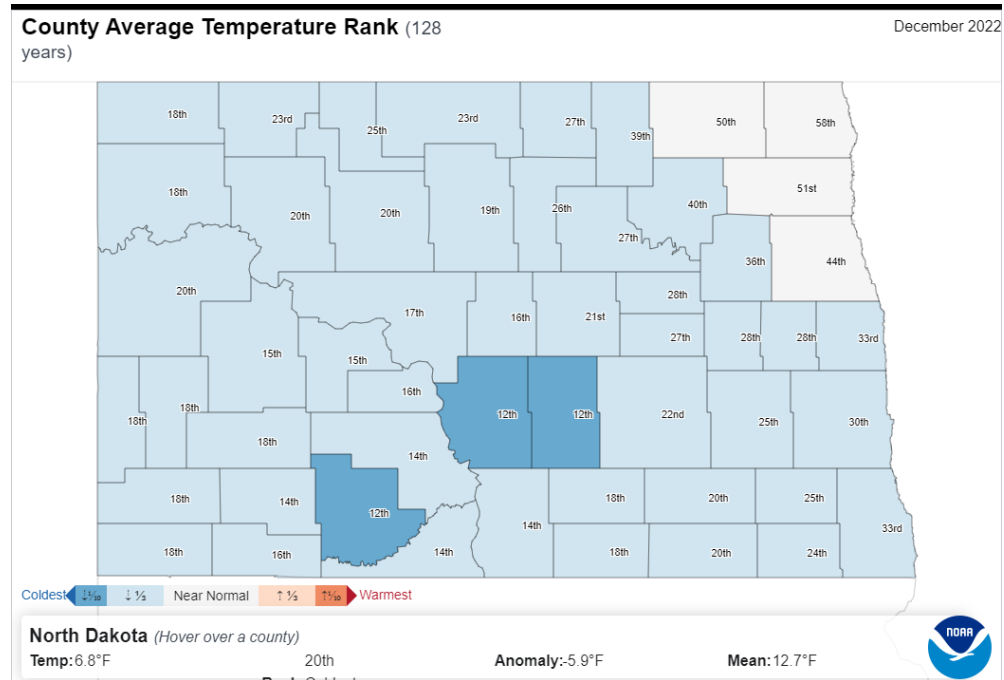


Figure 3. December 2022 county temperature ranking map of North Dakota. (NCEI, NOAA)

The counties shaded in blue in Figure 3 indicate colder-than-average conditions, and white shading indicates near-average conditions. The numbers inside the counties are the temperature rankings, with one being the lowest (coldest) and 128 being the highest (warmest).

The state's highest and lowest daily temperatures ranged from 48 F on Dec. 1 in Sand Creek, Slope County, to -36 F on Dec. 31 in Lake Metigoshe, Bottineau County.

Based on the historical records, the state average December temperature showed a positive long-term trend of 2.6 degrees during the last century. The lowest and highest monthly state December average temperatures during this period ranged from -3.2 F in 1927 to 25.4 F in 1939 (Figure 4 and Table 2).



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North Dakota Average Temperature

December

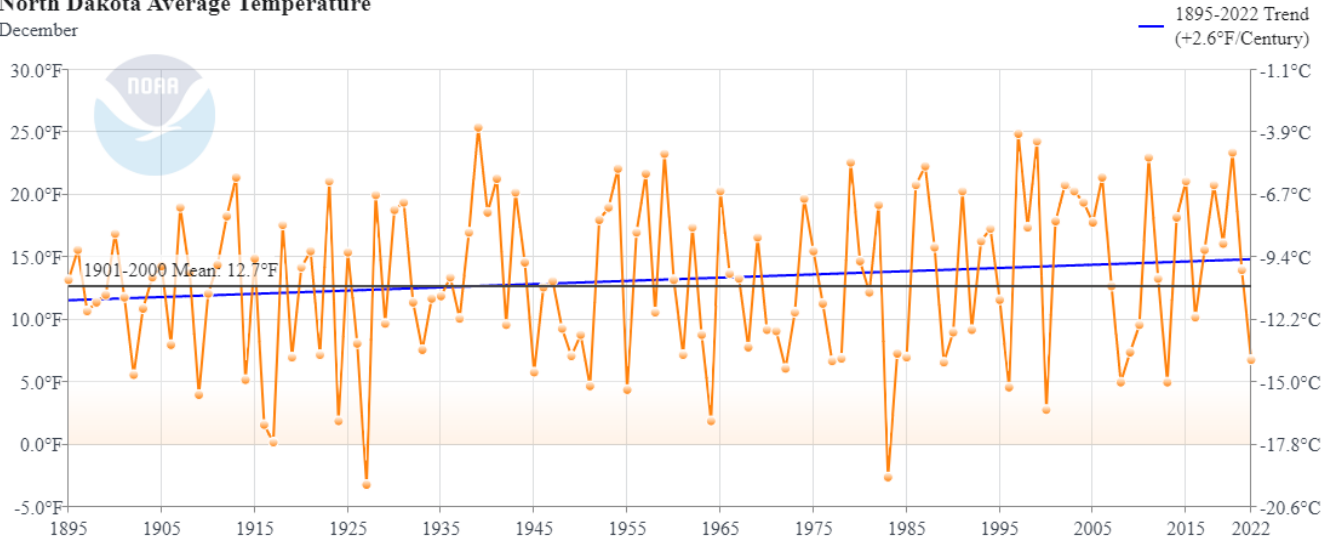


Figure 4. Historical December temperature time series for North Dakota. (NCEI, NOAA)

Table 2. North Dakota December Temperature Ranking Table.

Period	Value	Normal	Anomaly	Rank	Warmest/Colest Since	Record Year
December 2022	6.8°	15.6°	-8.8°	20th coolest 109th warmest	Colest since 2013 Warmest since 2021	-3.2 F (1927) 25.4 F (1939)



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Storm Reports: Table 3 below summarizes the December severe storm reports in North Dakota (Storm Prediction Center, NOAA).

The NOAA Storm Report recorded zero tornado, hail and damaging wind reports, with zero significant storm events in December. Table 3 summarizes the number of tornado, hail and damaging wind reports in December, while Figure 5 geographically displays the locations of these storms.

Table 3. Summary of December 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 December 2022 North Dakota storm events (red: tornado; blue: wind; green: hail). (Storm Prediction Center, NOAA)



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Daily Record Events in December: Across the observation network of weather stations with at least 30 years of history, seven daily high- and 21 daily low-temperature records were set or tied. In addition, a total of 82 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 December. (NCEI Daily Weather Records)

<i>Category</i>	Number of Records
<i>Highest daily max. temp.</i>	0
<i>Highest daily min. temp.</i>	7
<i>Lowest daily max. temp.</i>	15
<i>Lowest daily min. temp.</i>	6
<i>Highest daily precipitation</i>	40
<i>Highest daily snowfall</i>	42
Total	110

The Highlight of the Month*

A highest daily snowfall record of **15.5 inches** was broken in **Lisbon Dec. 14**, exceeding the previous record that was set in 2008 by **7.5 inches** (years on record: 126).

**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.*

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