North Dakota Monthly Climate Summary

January 2023 **Volume 17, No. 1**

Precipitation

Based on the National Centers for Environmental Information (NCEI), the statewide average January precipitation was 0.19 inches, which was 1.24 inches less than last month and 0.28 inches less than January 2022. It was also 0.28 inches less than the 1991-2020 average, making it the 13th driest January in the 129-year period of record (Table 1).

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

The greatest monthly precipitation accumulation was 0.56 inches, recorded in Kenmare, Ward County. The greatest monthly snowfall accumulation was 6.6 inches, recorded in Pembina, Pembina County. Based on historical records, statewide January precipitation showed a slight negative long-term trend of 0.04 inches during the last century. The lowest and highest January precipitation for the state during this period ranged from 0.09 inches in 1942 (and 1973) to 1.27 inches in 1916 (Figure 2 and Table 1).

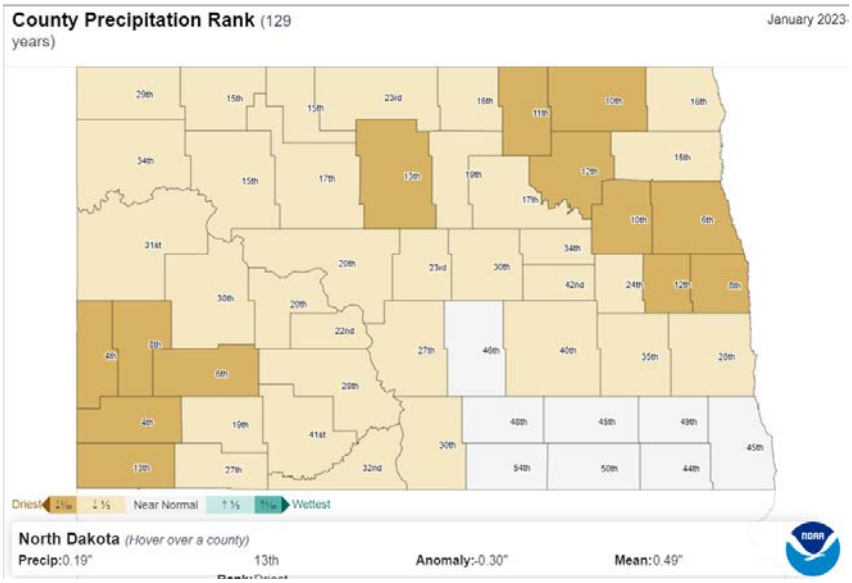

Figure 1. January 2023 county precipitation ranking map of North Dakota. (NCEI, NOAA)

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

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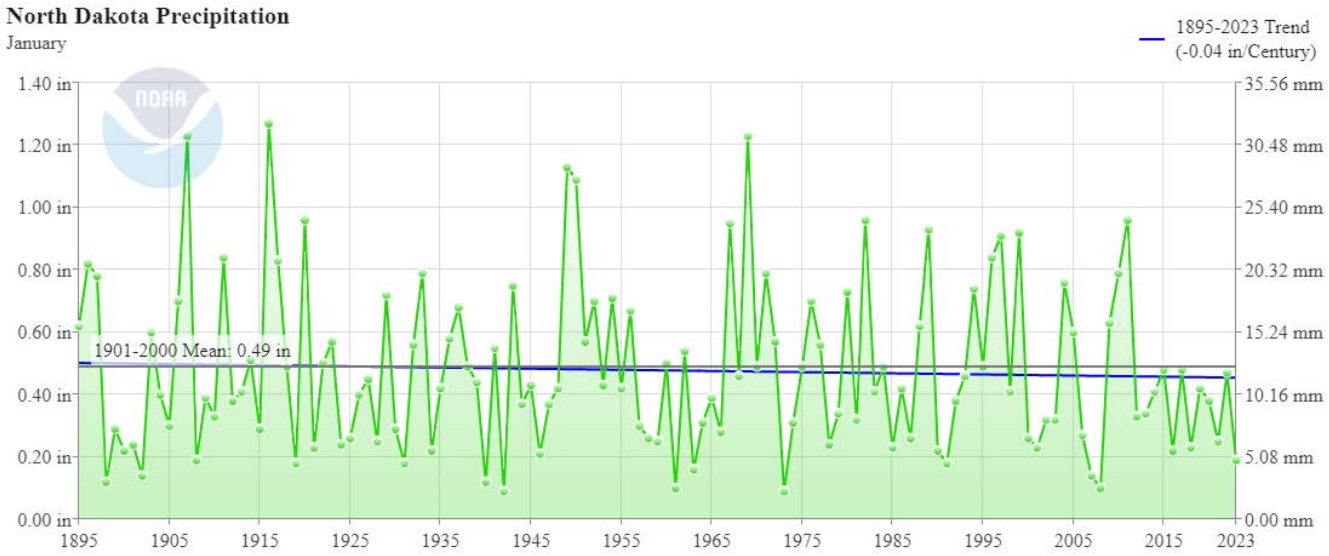

Figure 2. Historical January precipitation time series for North Dakota. (NCEI, NOAA)

Table 1. North Dakota January Precipitation Ranking Table.

Period	Value (in)	Normal (in)	Anomaly (in)	Rank	Wettest/Driest Since	Record (Year)
January 2023	0.19	0.47	-0.28	13th driest 117th wettest	Driest since 2008 Wettest since 2022	0.09” (1942, 1973) 1.27” (1916)

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Temperature

The official state average January temperature was 13.2 F, which is 6.4 degrees warmer than last month, and 4.6 degrees warmer than in January 2022 Furthermore, the average January temperature was 2.7 degrees warmer than the 1991-2020 average, making it the 31st warmest January in the 129 years of record (Table 2).

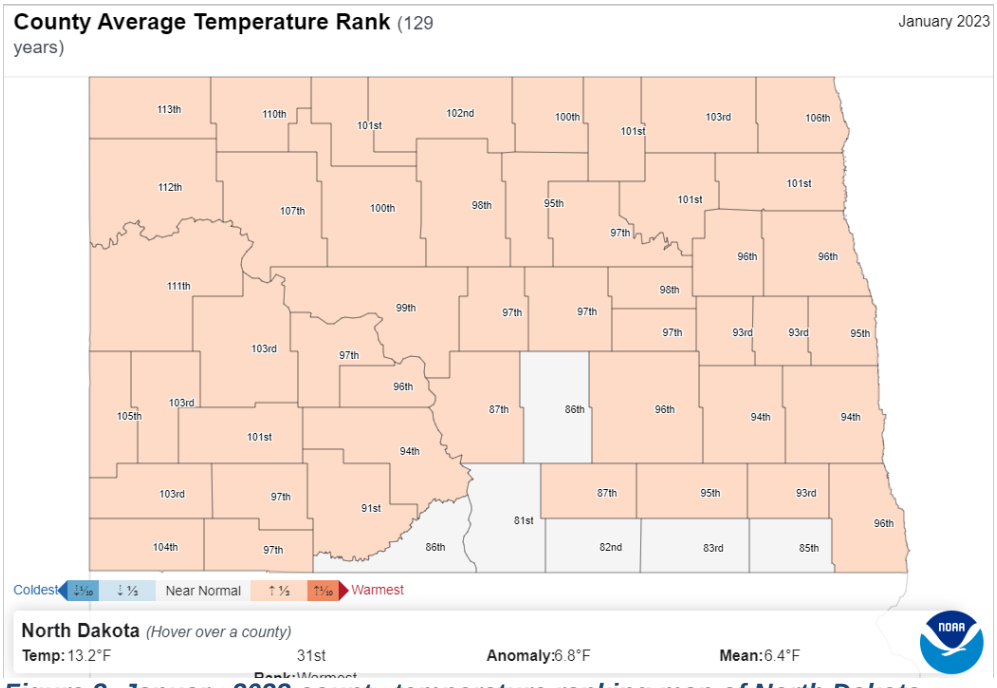

Figure 3. January 2023 county temperature ranking map of North Dakota. (NCEI, NOAA)

The counties shaded in peach in Figure 3 indicate warmer-than-average conditions. White shading indicates near-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 50 F on Jan. 18 in Hettinger, Adams County, to -35 F on Jan. 31 in Willow City and Bottineau, Bottineau County. Based on the historical records, the state average January temperature showed a positive long-term trend of 5.5 degrees during the last century. The lowest and highest monthly state January average temperatures during this period ranged from -11.9 F in 1950 to 25.9 F in 2006 (Figure 4 and Table 2).

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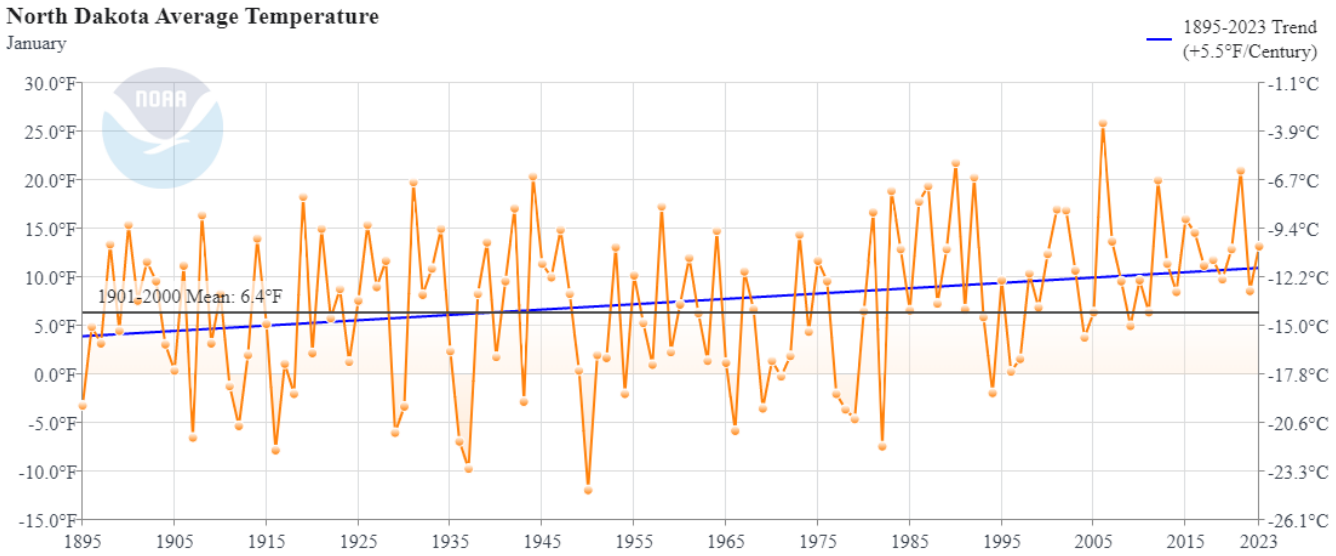

Figure 4. Historical January temperature time series for North Dakota. (NCEI, NOAA)

Table 2. North Dakota January Temperature Ranking Table.

Period	Value (°F)	Normal (°F)	Anomaly (°F)	Rank	Warmest/Coolest Since	Record (Year)
January 2023	13.2	10.5	2.7	99th coolest 31st warmest	Coolest since 2022 Warmest since 2021	-11.9 F (1950) 25.9 F (2006)

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

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

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

Category	Number of Reports
Tornado reports	0
Hail reports	0
Wind reports	0
Total	**0**

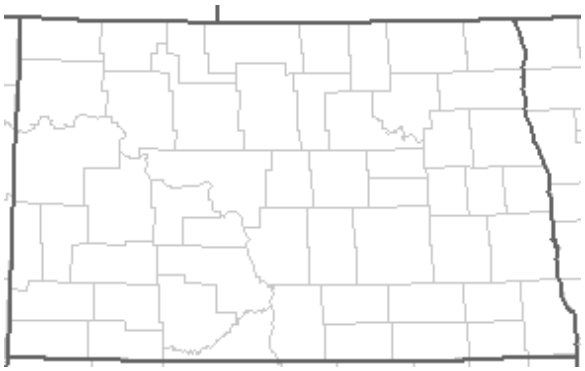

Figure 5. Map of January 2023 North Dakota storm events (red: tornado; blue: wind; green: hail). (Storm Prediction Center, NOAA)

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Daily Record Events in January: Table 4 below shows the summary of daily records broken or set for stations with at least 30 years of history in North Dakota.

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

Category	Number of Records
Highest daily max. temp.	0
Highest daily min. temp.	1
Lowest daily max. temp.	0
Lowest daily min. temp.	0
Highest daily precipitation	6
Highest daily snowfall	2
Total	**9**

The Highlight of the Month*

A highest daily snowfall record of **2.99 inches** was broken in **Montpelier o**n **Jan. 17,** exceeding the previous record that was set in **1979** by **0.5** inches (years on record: 74).

**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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