



North Dakota Monthly Climate Summary

August 2022

Volume 16, No. 8

Precipitation

North Dakota State Climate Office: Your Resource for Climate Information



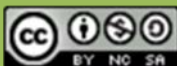
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Based on the National Centers for Environmental Information (NCEI), the statewide average August precipitation was 1.42 inches, which was 1.44 inches less than last month and 1.31 inches less than in August 2021. It was 0.75 inches less than the 1991-2020 average, making it the 25th driest August in the 128-year period of record (Table 1).

The counties shaded in brown in Figure 1 indicate drier-than-average conditions in August 2022. On the other hand, the counties shaded in green in the same figure indicate wetter-than-average conditions in August 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 ranking (the wettest).

The greatest monthly precipitation accumulation was 4.49 inches, recorded in Fargo, Cass County. Based on historical records, statewide August precipitation showed a slight positive long-term trend of 0.07 inches during the last century. The lowest and highest August precipitation for the state during this period ranged from 0.73 inch in 1929 and 1933 to 4.54 inches in 1900 (Figure 2).

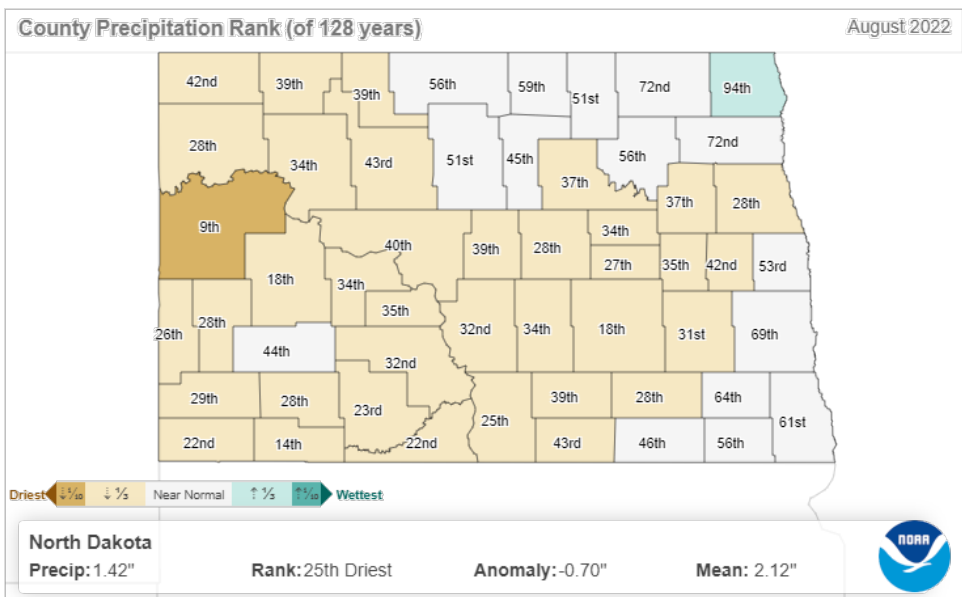


Figure 1. August 2022 county precipitation ranking map of North Dakota. (National Centers for Environmental Information, NOAA)



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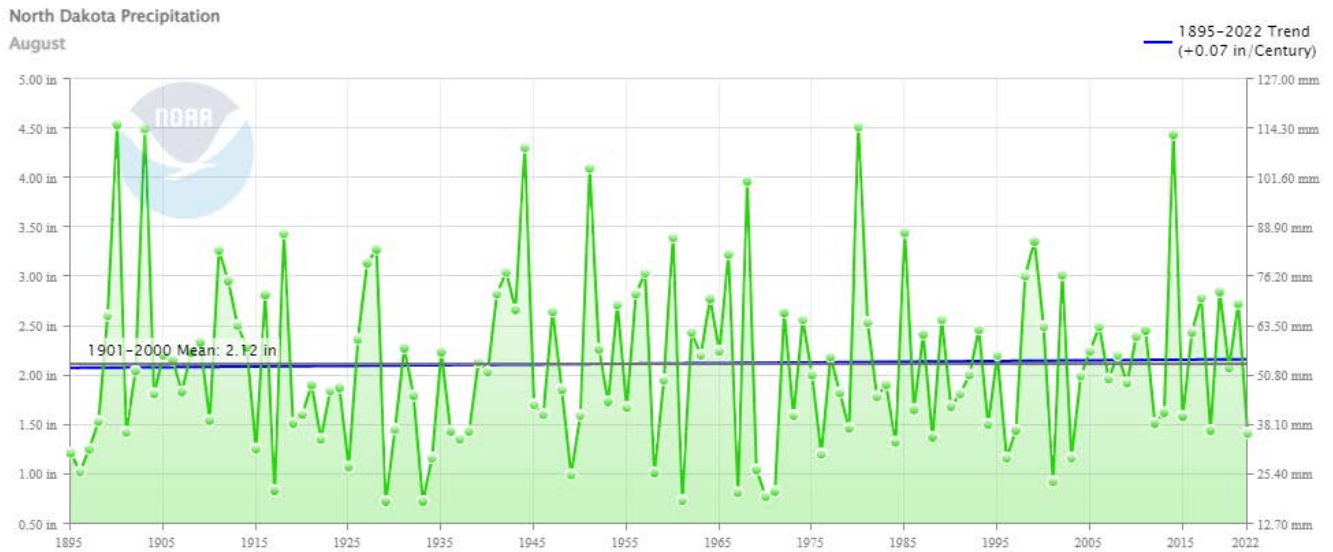


Figure 2. Historical August precipitation time series for North Dakota. (NCEI, NOAA)

Table 1. North Dakota August Precipitation Ranking Table.

Period	Value	Normal	Anomaly	Rank	Wettest/Driest Since	Record Year
August 2022	1.42"	2.17"	-0.75"	25th driest 104th wettest	Driest since 2003 Wettest since 2021	0.73" (1929 & 1933) 4.54" (1900)



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Temperature

The official state average August temperature was 69.5 F, which is 1.1 degrees cooler than last month but 0.6 degrees warmer than in August 2021. Furthermore, the average August temperature was 2 degrees warmer than the 1991-2020 average, making it the 19th warmest August in the 128 years of record (Table 2).

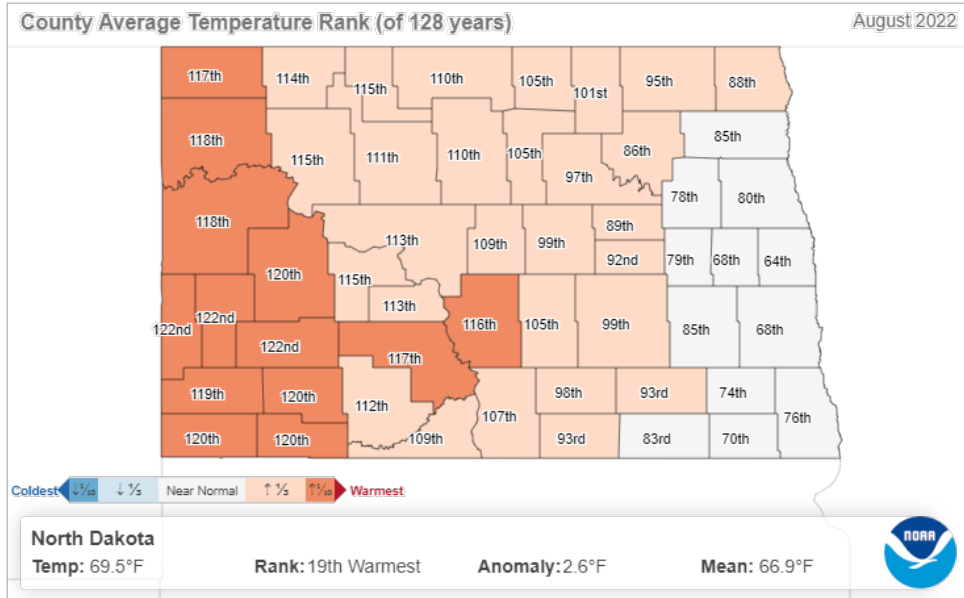


Figure 3. August 2022 county temperature ranking map of North Dakota. (NCEI, NOAA)

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 128 being the highest (warmest).

The state’s lowest and highest daily temperatures ranged from 43 F on Aug. 30 at Hettinger¹, Adams County, to 103 F on Aug. 4 in Bismarck¹, Burleigh County. Based on the historical records, the state average August temperature showed a positive long-term trend of 1.9 degrees during the last century. The lowest and highest monthly state August average temperatures during this period ranged from 61.2 F in 1977 to 73.8 F in 1983 (Figure 4).

¹ Indicates more than one location was involved



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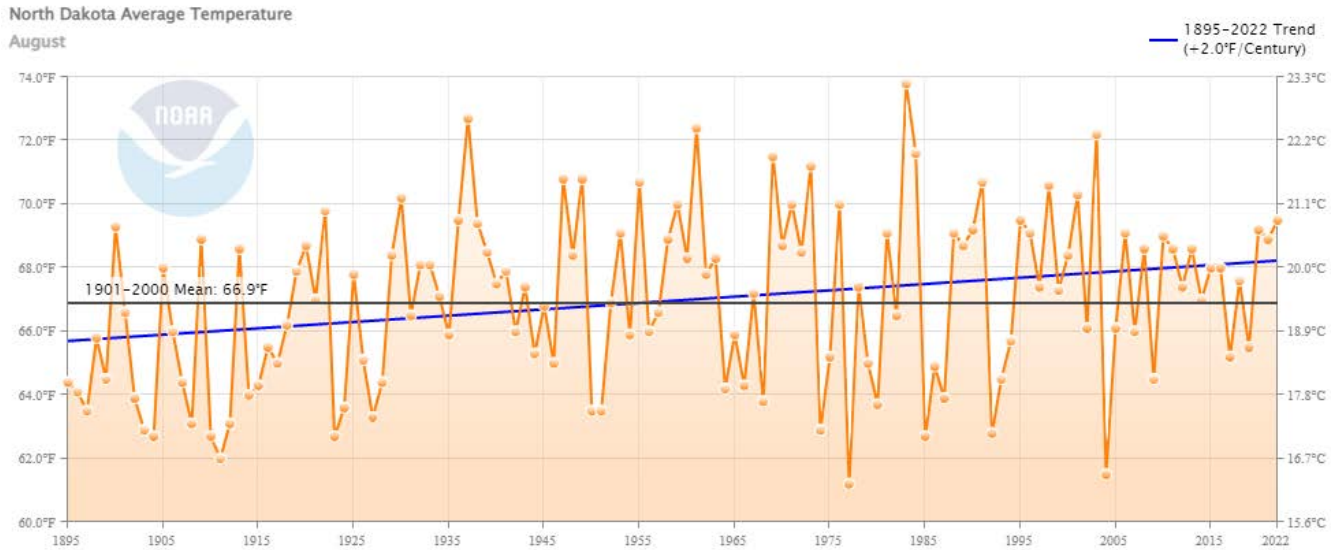


Figure 4. Historical August temperature time series for North Dakota. (NCEI, NOAA)

Table 2. North Dakota August Temperature Ranking Table.

Period	Value	Normal	Anomaly	Rank	Warmest/Coollest Since	Record Year
August 2022	69.5 °	67.5°	-2°	110th coolest 19th warmest	Coollest since 2021 Warmest since 2003	61.2 F (1977) 73.8 F (1983)



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

The NOAA Storm Report recorded five tornados and 12 hail and 12 damaging wind reports, with 29 significant storm events in August. Table 3 summarizes the number of tornado, hail and damaging wind reports in August, while Figure 5 geographically displays the locations of these storms.

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

Category	Number of Reports
<i>Tornado reports</i>	5
<i>Hail reports</i>	12
<i>Wind reports</i>	12
Total	29

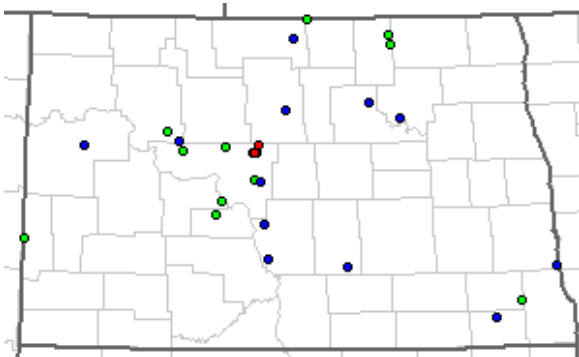


Figure 5. Map of August 2022 North Dakota storm events (red: tornado; blue: wind; green: hail). (Storm Prediction Center, NOAA)



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Daily Record Events in August: Across the observation network of weather stations with at least 30 years of history, eight daily high- and 13 daily low-temperature records were set or tied. In addition, a total of six 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 August. (NCEI Daily Weather Records)

<i>Category</i>	Number of Records
<i>Highest daily max. temp.</i>	4
<i>Highest daily min. temp.</i>	4
<i>Lowest daily max. temp.</i>	13
<i>Lowest daily min. temp.</i>	0
<i>Highest daily precipitation</i>	6
<i>Highest daily snowfall</i>	0
Total	27

The Highlight of the Month*

A highest daily maximum temperature record of **103 F** was broken in **Bismarck** on **Aug. 4**, exceeding the previous record that was set in 1959 by **2** degrees. (years on record: 74).

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

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