



# North Dakota Monthly Climate Summary

July 2022

Volume 16, No. 7

## Precipitation

North Dakota State Climate Office: Your Resource for Climate Information



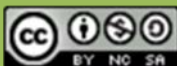
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Based on the National Centers for Environmental Information (NCEI), the statewide average July precipitation was 2.86 inches, which was 0.66 inch more than last month and 1.59 inches less than in July 2021. It was 0.11 inches less than the 1991-2020 average, making it the 47<sup>th</sup> wettest July in the 127-year period of record (Table 1).

The counties shaded in brown in Figure 1 indicate drier-than-average conditions in July 2022. In contrast, counties shaded in green in the same figure indicate wetter-than-average conditions. A white shading indicates near-average conditions. The numbers inside the counties are the precipitation rankings, with 1 being the lowest ranking (driest) and 128 being the highest ranking (the wettest)

The greatest monthly precipitation accumulation was 7.38 inches, recorded in Hebron, Mercer County. The greatest monthly snowfall accumulation, on the other hand, was only a trace, recorded in Williston, Williams County. Based on historical records, statewide July precipitation showed a slight positive long-term trend of 0.28 inch during the last century. The lowest and highest July precipitation for the state during this period ranged from 0.64 inch in 1936 to 7.97 inches in 1993 (Figure 2).

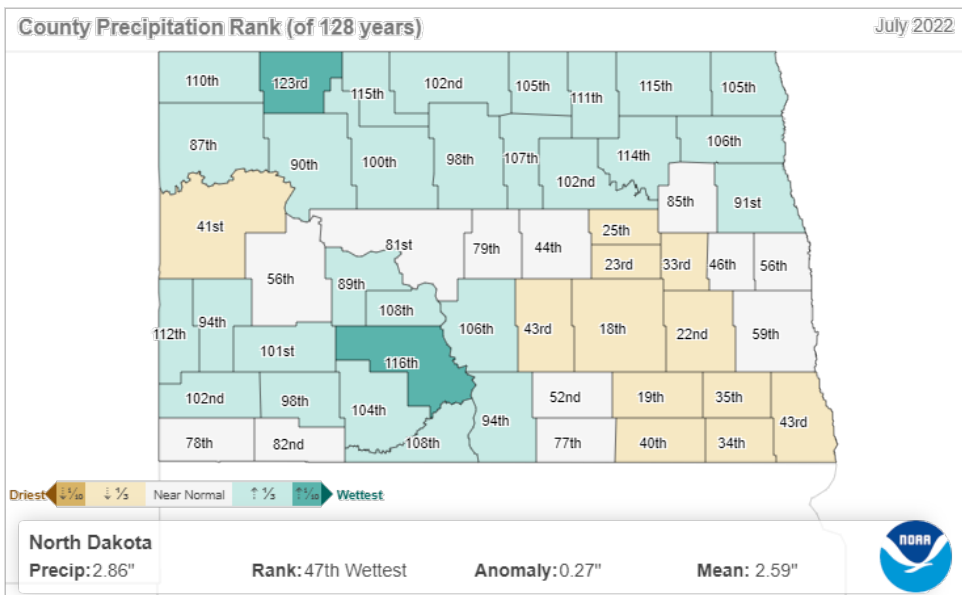


Figure 1. July 2022 county precipitation ranking map of North Dakota. (National Centers for Environmental Information, NOAA)



# North Dakota Monthly Climate Summary

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Volume 16, No. 7

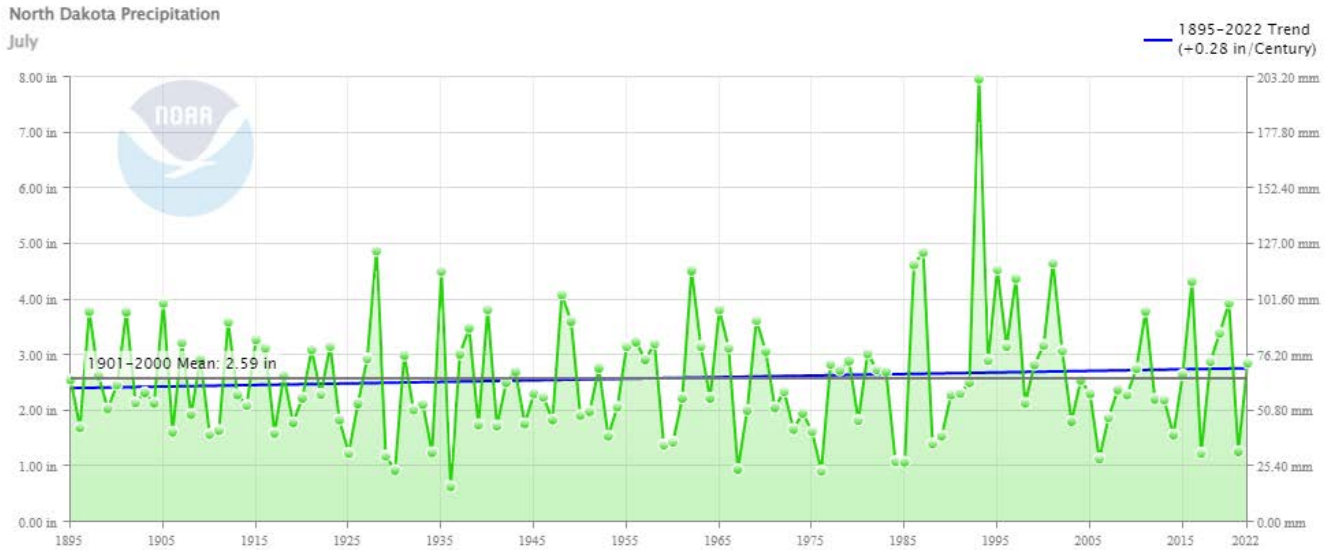


Figure 2. Historical July precipitation time series for North Dakota. (NCEI, NOAA)

Table 1. North Dakota July Precipitation Ranking Table.

Period	Value	Normal	Anomaly	Rank	Wettest/Driest Since	Record Year
July 2022	2.86"	2.97"	-1.11"	82nd driest 47th wettest	Driest since 2021 Wettest since 2020	0.64" (1936) 7.97" (1993)



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## Temperature

The official state average July temperature was 70.6 F, which is 6.2 degrees warmer than last month but 3.2 degrees cooler than in July 2021. Furthermore, the average July temperature was 1.6 degrees warmer than the 1991-2020 average, making it the 32nd warmest July in the 128 years of record (Table 2).

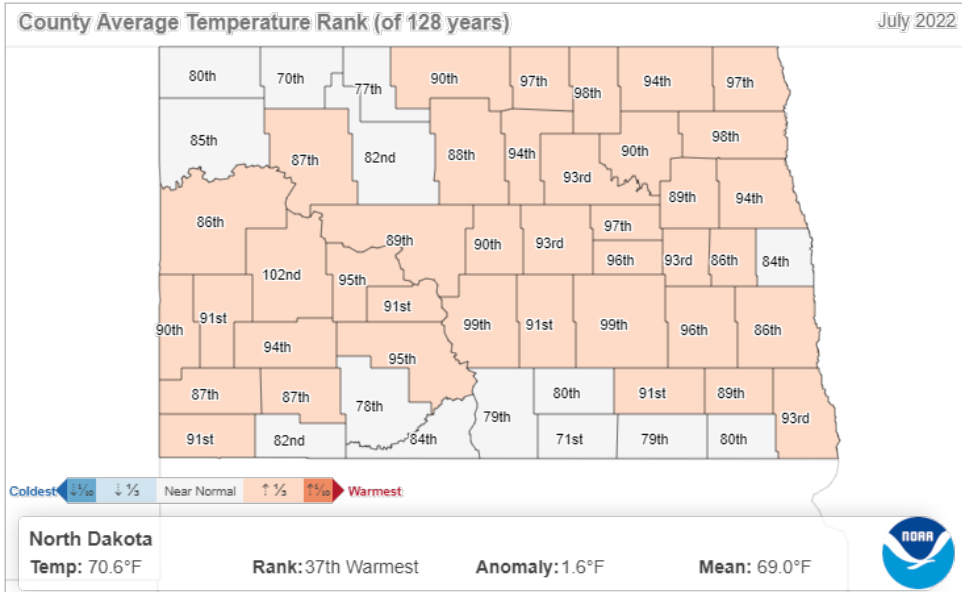


Figure 3. July 2022 county temperature ranking map of North Dakota. (NCEI, NOAA)

The counties shaded in peach in Figure 3 indicate warmer-than-average conditions. A white shading indicates near-average conditions. The numbers inside the counties are the temperature rankings, with 1 being the lowest ranking (coldest) and 128 being the highest ranking (the warmest).

The state’s lowest and highest daily temperatures ranged from 41 F on July 28 in Hettinger, Adams, and Pretty Rock, Grant Counties, to 101 F on July 17 in Bismarck, Burleigh County. Based on the historical records, the state average July temperature showed a positive long-term trend of 1.2 degrees during the last century. The lowest and highest monthly state July average temperatures during this period ranged from 61.8 F in 1992 to 80.1 F in 1936 (Figure 4).



# North Dakota Monthly Climate Summary

July 2022

Volume 16, No. 7

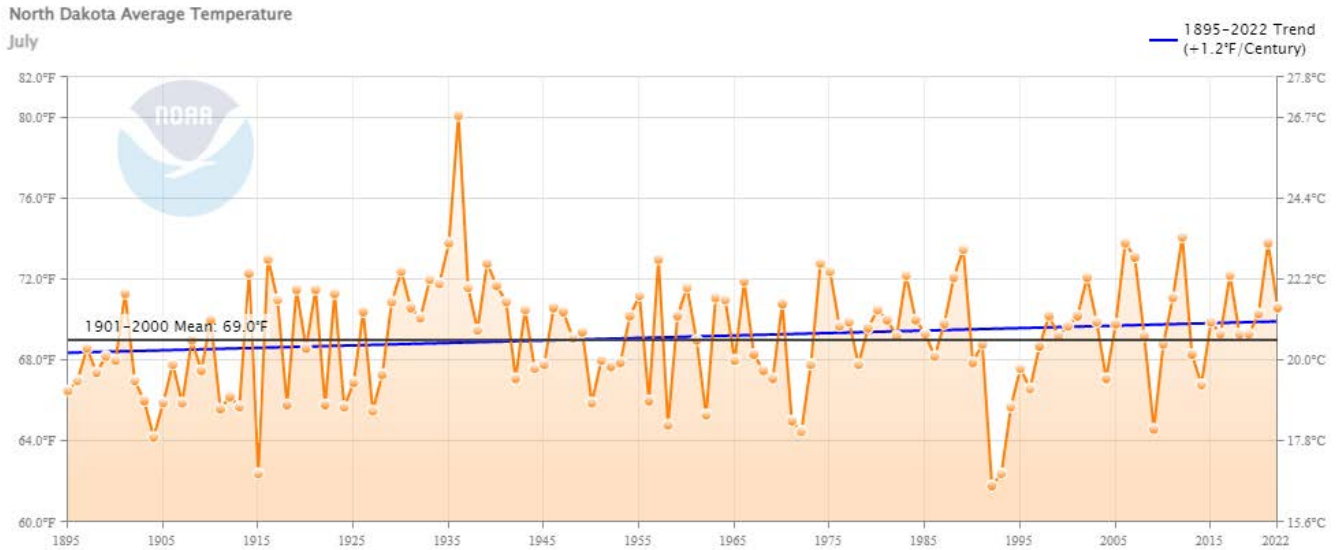


Figure 4. Historical July temperature time series for North Dakota. (NCEI, NOAA)

Table 2. North Dakota July Temperature Ranking Table.

Period	Value	Normal	Anomaly	Rank	Warmest/Coollest Since	Record Year
July 2022	70.6°	69°	1.6°	92nd coolest 37th warmest	Coollest since 2020 Warmest since 2021	61.8 F (1992) 80.1 F (1936)



# North Dakota Monthly Climate Summary

July 2022

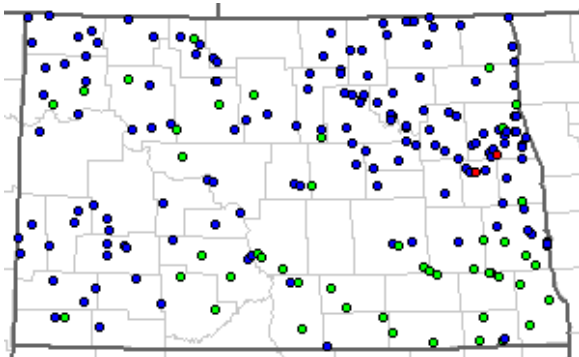
Volume 16, No. 7

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

The NOAA Storm Report recorded two tornados and 57 hail and 176 damaging wind reports, with a total of 235 significant storm events in July. Table 3 summarizes the number of tornado, hail and damaging wind reports in July, while Figure 5 geographically displays the locations of these storms.

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

<b>Category</b>	<b>Number of Reports</b>
<i>Tornado reports</i>	2
<i>Hail reports</i>	57
<i>Wind reports</i>	176
<b>Total</b>	<b>235</b>



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



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July 2022

Volume 16, No. 7

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

Category	Number of Records
Highest daily max. temp.	4
Highest daily min. temp.	17
Lowest daily max. temp.	2
Lowest daily min. temp.	5
Highest daily precipitation	10
Highest daily snowfall	0
<b>Total</b>	<b>38</b>

### The Highlight of the Month\*

A highest daily maximum temperature record of **98 degrees** was broken in **Jamestown** on **July 17**, exceeding the previous record that was set in 2020 by **1** degree. (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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