



North Dakota Monthly Climate Summary

July 2021

Volume 15, No. 7

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

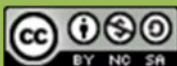
Fargo, ND 58108-6050

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 July precipitation was 1.22 inches, which was 0.88 inch less than last month and 2.72 inches less than in July 2020. It was 1.75 inches less than the 1991-2020 average, making it the ninth driest 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 2021. A white shading indicates near-average conditions. The numbers inside the counties are the precipitation rankings, with 1 being the lowest ranking (driest) and 127 being the highest ranking (the wettest)

The greatest monthly precipitation accumulation was 4.06 inches, recorded in Minot, Ward County. The greatest monthly snowfall accumulation, on the other hand, was only a trace, recorded in Grassy Butte, McKenzie 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).

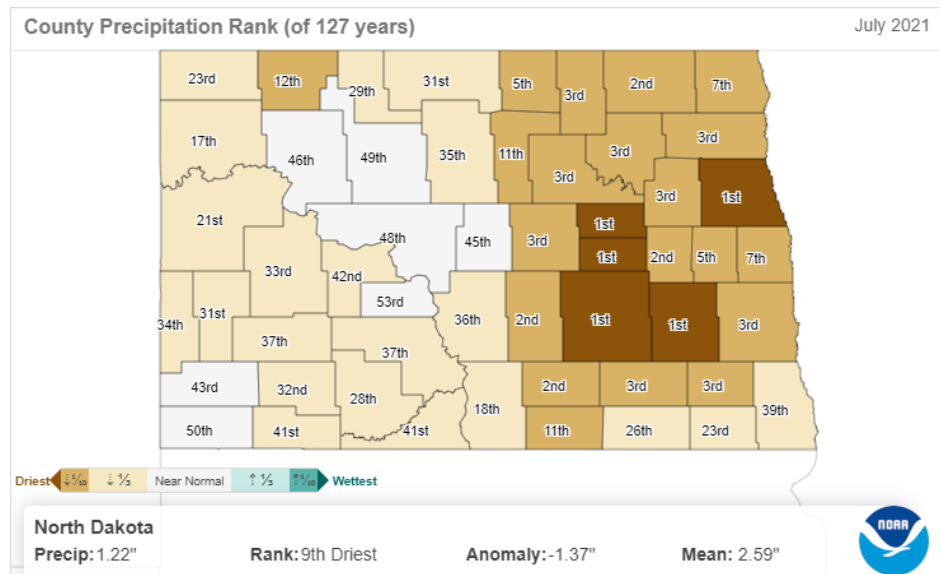


Figure 1. July 2021 county precipitation ranking map of North Dakota. (National Centers for Environmental Information, NOAA)



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North Dakota Precipitation

July

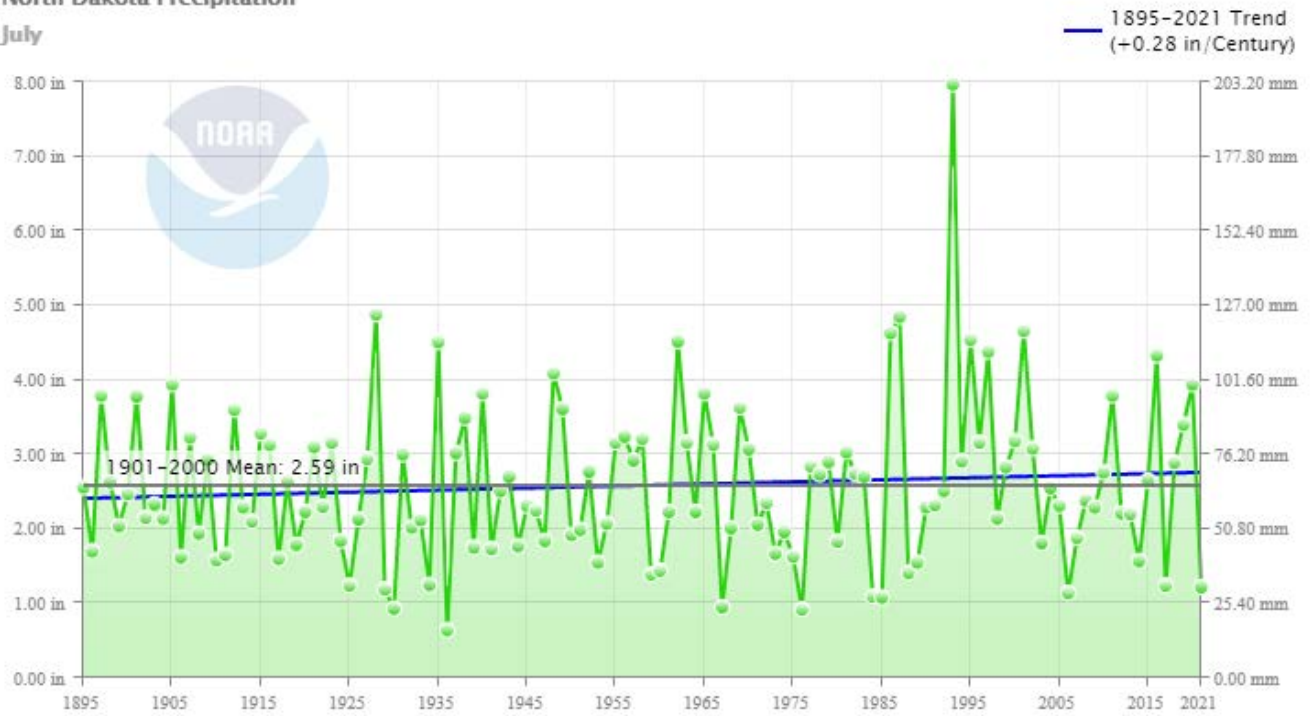


Figure 2. Historical July precipitation time series for North Dakota. (NCEI, NOAA)

Table 1. North Dakota July Precipitation Ranking Table.

Period	Value	Normal	Anomaly	Rank	Wettest/Driest Since	Record Year
July 2021	1.22"	2.97"	-1.75"	9th driest 119th wettest	Driest since 2006 Wettest since 2020	0.64" (1936) 7.97" (1993)



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Temperature

The official state average July temperature was 73.9 F, which is 4.8 degrees warmer than last month and 3.5 degrees warmer than in July 2020. Furthermore, the average July temperature was 4.9 degrees warmer than the 1991-2020 average, making it the third warmest July in the 127 years of record (Table 2).

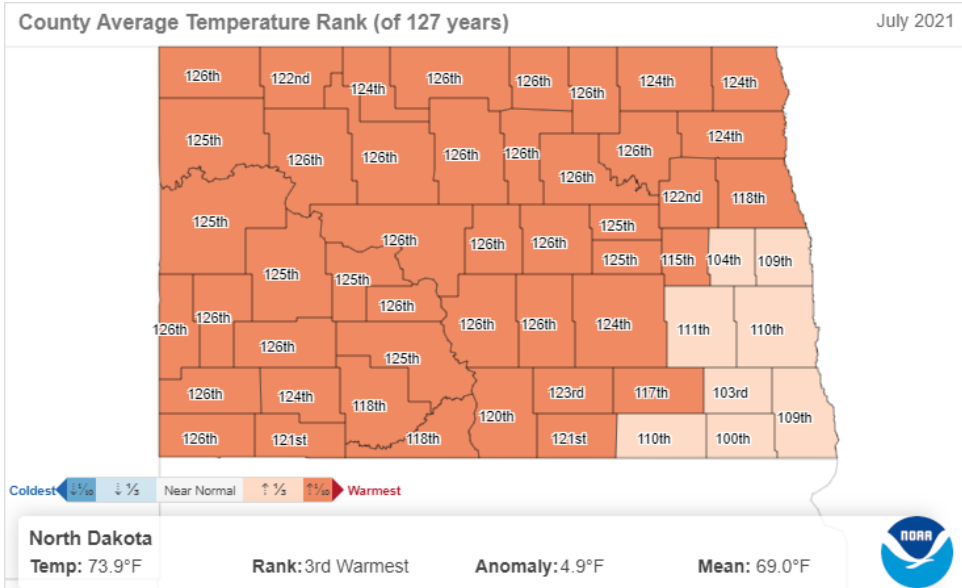


Figure 3. July 2021 county temperature ranking map of North Dakota. (NCEI, NOAA)

The counties shaded in peach in Figure 3 indicate warmer-than-average conditions. The numbers inside the counties are the temperature rankings, with 1 being the lowest ranking (coldest) and 127 being the highest ranking (the warmest).

The state's lowest and highest daily temperatures ranged from 37 F on July 22 in Harvey, Wells County, to 108 F on July 27 in Hettinger, Adams 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).



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North Dakota Average Temperature
July

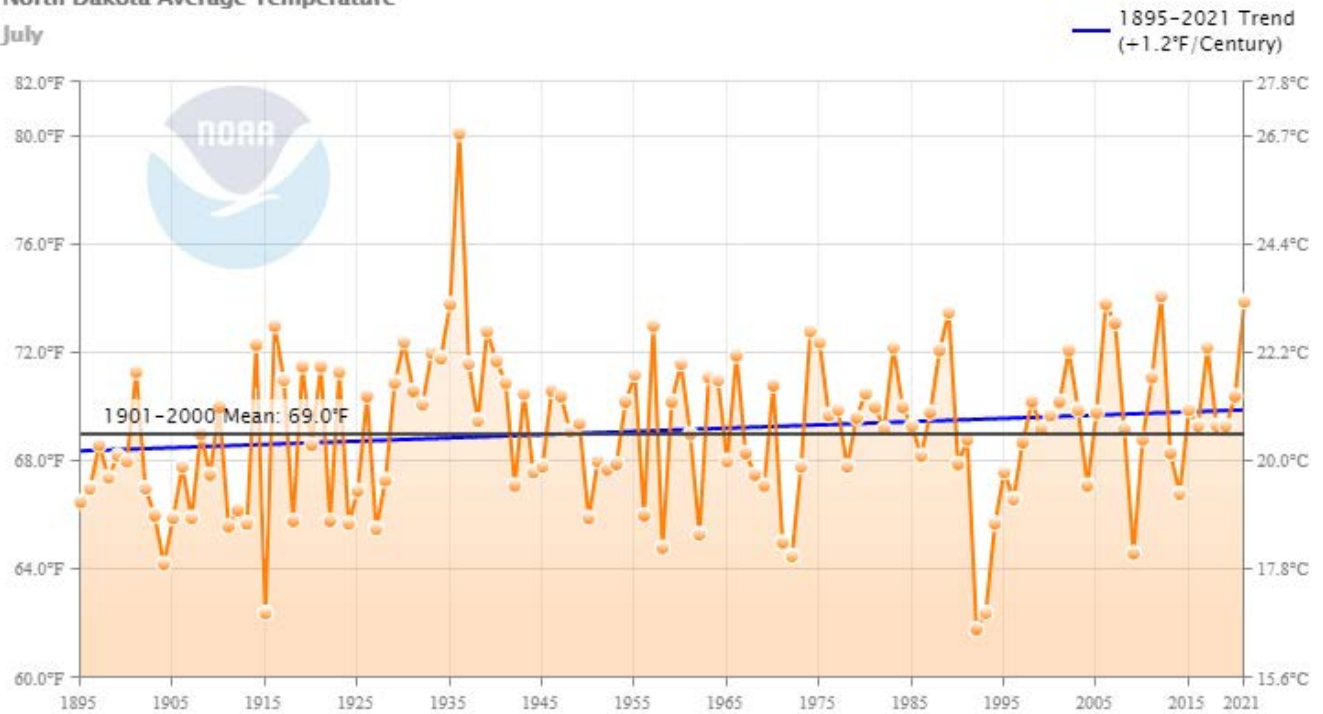


Figure 4. Historical July temperature time series for North Dakota. (NCEI, NOAA)

Table 2. North Dakota July Temperature Ranking Table.

Period	Value	Normal	Anomaly	Rank	Warmest/Coollest Since	Record Year
July 2021	73.9°	69°	4.9°	125th coolest 3rd warmest	Coollest since 2020 Warmest since 2012	61.8 F (1992) 80.1 F (1936)



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

The NOAA Storm Report recorded no tornados and 34 hail and 50 damaging wind reports, with a total of 84 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)

Category	Number of Reports
<i>Tornado reports</i>	0
<i>Hail reports</i>	34
<i>Wind reports</i>	50
Total	84

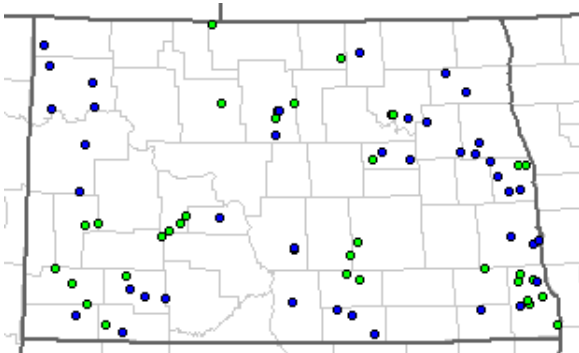


Figure 5. Map of July 2021 North Dakota storm events (red: tornado; blue: wind; green: hail). (Storm Prediction Center, NOAA)



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Daily Record Events in July: Across the observation network of weather stations with at least 30 years of history, 95 daily high- and only four daily low-temperature records were set or tied. In addition, a total of five 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)

<i>Category</i>	Number of Records
<i>Highest daily max. temp.</i>	42
<i>Highest daily min. temp.</i>	53
<i>Lowest daily max. temp.</i>	4
<i>Lowest daily min. temp.</i>	0
<i>Highest daily precipitation</i>	5
<i>Highest daily snowfall</i>	0
Total	104

The Highlight of the Month*

A highest daily maximum temperature record of **107 degrees** was broken in **Bowman** on **July 4**, exceeding the previous record that was set in 1936 by **5** degree. (years on record: 106).

**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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