



# North Dakota Monthly Climate Summary

October 2021

Volume 15, No. 10

## Precipitation

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



North Dakota State University

College of Agriculture, Food Systems, and Natural Resources

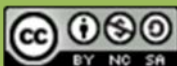
304 Morrill Hall  
Fargo, ND 58108-6050

[www.ndsu.edu/ndSCO](http://www.ndsu.edu/ndSCO)

[Adnan.Akyuz@ndsu.edu](mailto:Adnan.Akyuz@ndsu.edu)

701-231-6577

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Based on the National Centers for Environmental Information (NCEI), the statewide average October precipitation was 3.12 inches, which was 1.92 inches more than last month and 2.55 inches more than October 2020. It was 1.62 inches more than the 1991-2020 average, making it the sixth wettest October in the 127-year period of record (Table 1).

The counties shaded in green in Figure 1 indicate wetter-than-average conditions in October 2021. White shading indicates near-average conditions. The numbers inside the counties are the precipitation rankings with one being the lowest (driest) and 127 being the highest ranking (the wettest).

The greatest monthly precipitation accumulation was 6.89 inches, recorded in Valley City, Barnes County. The greatest monthly snowfall accumulation was 2.5 inches, recorded in Beach, Golden Valley County. Based on historical records, statewide October precipitation showed a sharp positive long-term trend of 0.56 inches during the last century. The lowest and highest October precipitation for the state during this period ranged from 0.09 inches in 1952 to 4.61 inches in 1982 (Figure 2 and Table 1).

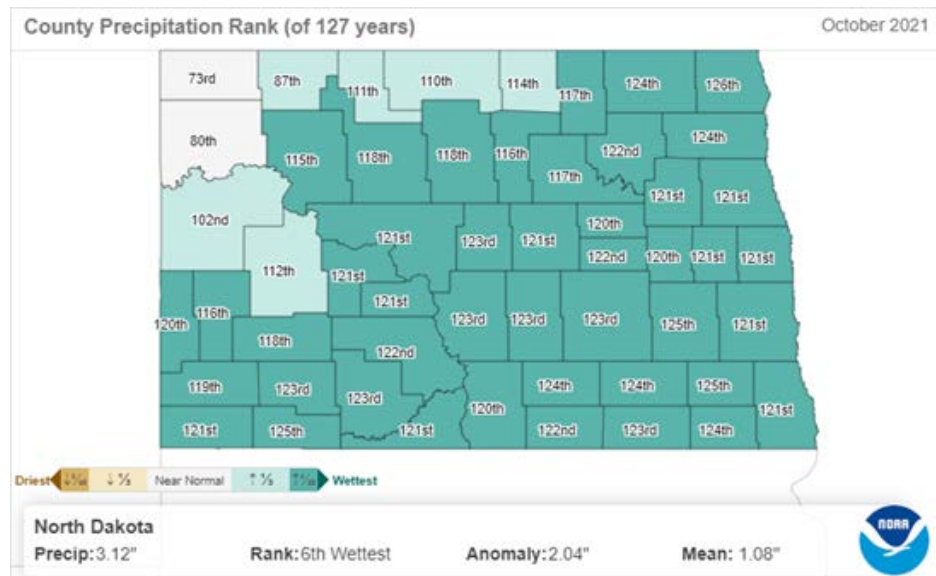


Figure 1. October 2021 county precipitation ranking map of North Dakota. (NCEI, NOAA)



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## North Dakota Precipitation

October

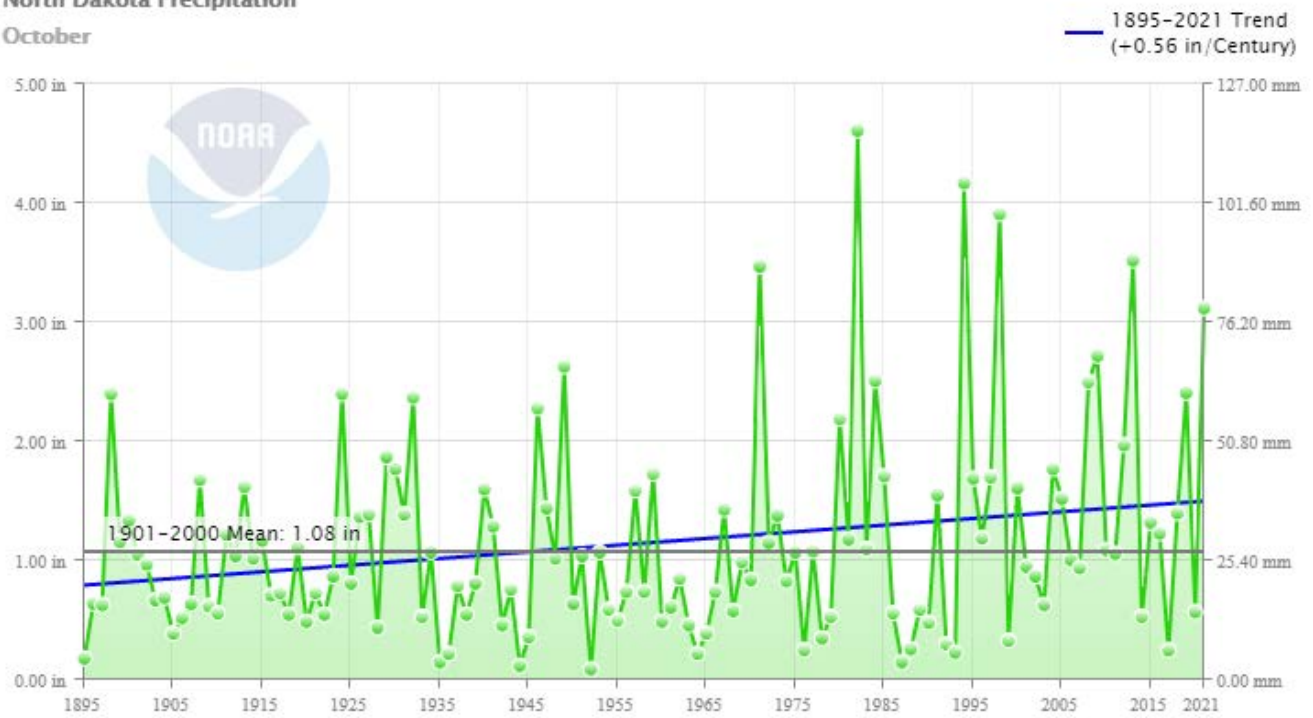


Figure 2. Historical October precipitation time series for North Dakota. (NCEI, NOAA)

Table 1. North Dakota October Precipitation Ranking Table.

Period	Value	Normal	Anomaly	Rank	Wettest/Driest Since	Record Year
October 2021	3.12"	1.5"	1.62"	122nd driest 6th wettest	Driest since 2020 Wettest since 2013	0.09" (1952) 4.61" (1982)



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## Temperature

The official state average October temperature was 48.8 F, which is 13.4 degrees cooler than last month but 11 degrees warmer than in October 2020. Furthermore, the average October temperature was 5.5 degrees warmer than the 1991-2020 average, making it the eighth warmest October in the 127 years of record (Table 2).

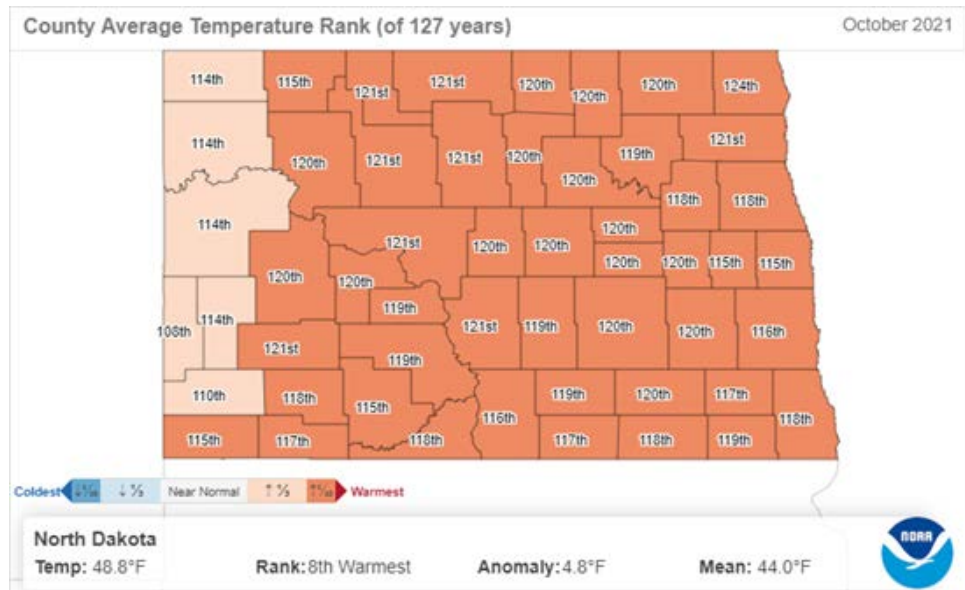


Figure 3. October 2021 county temperature ranking map of North Dakota. (NCEI, NOAA)

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

The state's highest and lowest daily temperatures ranged from 94 F on Oct. 6 in Killdeer, Dunn County, to 8 F on Oct. 30 in Center, Oliver County. Based on the historical records, the state average October temperature showed a positive long-term trend of 0.6 degrees during the last century. The lowest and highest monthly state October average temperatures during this period ranged from 32.6 F in 1925 to 54.8 F in 1963 (Figure 4 and Table 2).



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## North Dakota Average Temperature

October

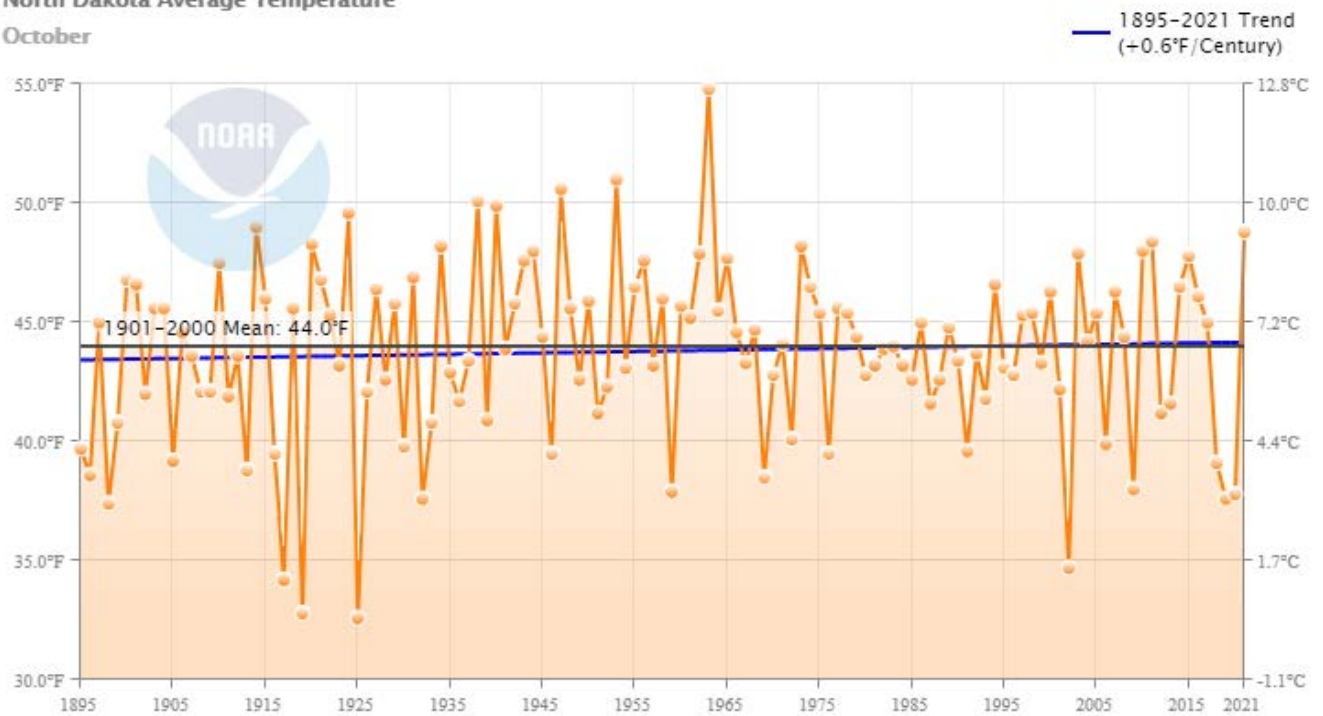


Figure 4. Historical October temperature time series for North Dakota. (NCEI, NOAA)

Table 2. North Dakota October Temperature Ranking Table.

Period	Value	Normal	Anomaly	Rank	Warmest/Coollest Since	Record Year
October 2021	48.8°	43.3°	5.5°	120th coolest 8th warmest	Coollest since 2020 Warmest since 1963	32.6 F (1925) 54.8 F (1963)



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

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

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

<b>Category</b>	<b>Number of Reports</b>
<i>Tornado reports</i>	4
<i>Hail reports</i>	0
<i>Wind reports</i>	2
<b>Total</b>	<b>6</b>



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



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**Daily Record Events in October:** Across the observation network of weather stations with at least 30 years of history, 81 daily high- and only one 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 October. (NCEI Daily Weather Records)*

<i>Category</i>	<b>Number of Records</b>
<i>Highest daily max. temp.</i>	23
<i>Highest daily min. temp.</i>	32
<i>Lowest daily max. temp.</i>	0
<i>Lowest daily min. temp.</i>	0
<i>Highest daily precipitation</i>	62
<i>Highest daily snowfall</i>	1
<b>Total</b>	<b>118</b>

## The Highlight of the Month\*

A highest daily precipitation record of **2.71 inches** was broken in **Lisbon on Oct. 10**, exceeding the previous record that was set in 1949 by **1.75 inches** (years on record: 118).

*\*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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