



# North Dakota Monthly Climate Summary

August 2021

Volume 15, No. 8

## Precipitation

North Dakota State Climate Office: Your Resource for Climate Information



North Dakota State University

College of Agriculture, Food Systems, and Natural Resources

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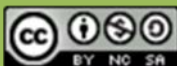
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Based on the National Centers for Environmental Information (NCEI), the statewide average August precipitation was 2.42 inches, which was 1.2 inches more than last month and 0.33 inches more than in August 2020. It was 0.25 inches more than the 1991-2020 average, making it the 42nd wettest August in the 127-year period of record (Table 1). It was the first wetter-than-normal month since August 2020.

The counties shaded in brown in Figure 1 indicate drier-than-average conditions in August 2021. On the other hand, the counties shaded in green in the same figure indicate wetter-than-average conditions in August 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 6.57 inches, recorded in Rugby, Pierce County. Based on historical records, statewide August precipitation showed a slight positive long-term trend of 0.09 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).

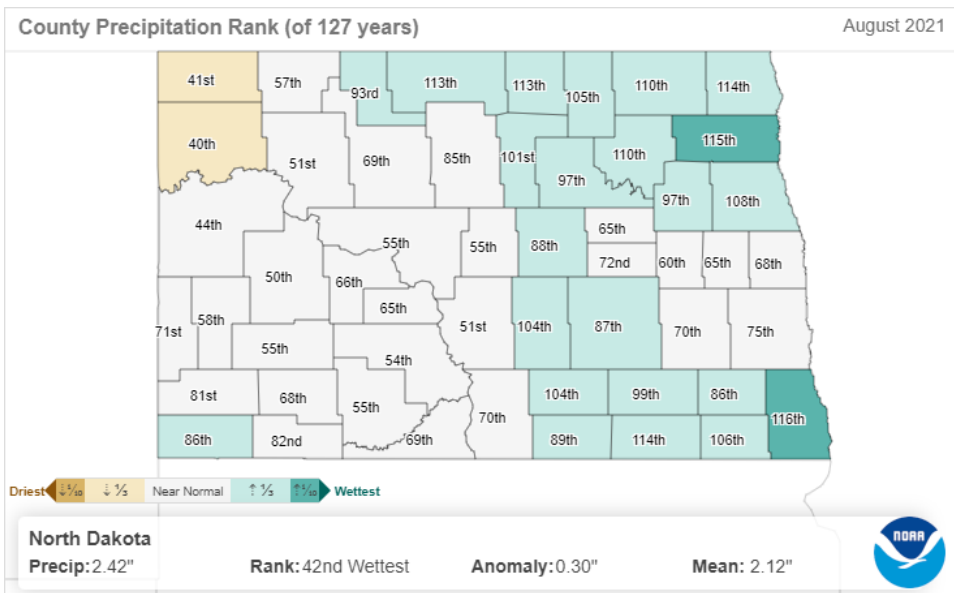


Figure 1. August 2021 county precipitation ranking map of North Dakota. (National Centers for Environmental Information, NOAA)



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## North Dakota Precipitation

August

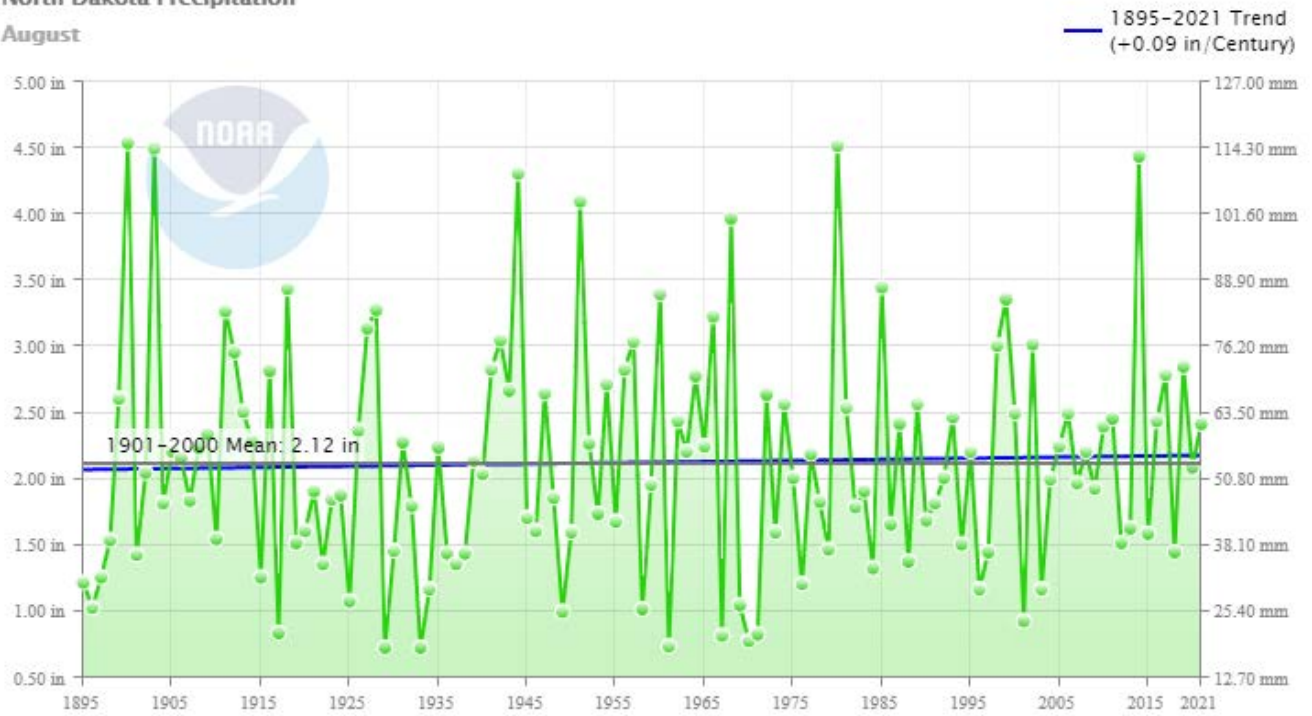


Figure 2. Historical August precipitation time series for North Dakota. (NCEI, NOAA)

Table 1. North Dakota August Precipitation Ranking Table.

| Period      | Value | Normal | Anomaly | Rank                        | Wettest/Driest Since                    | Record Year                         |
|-------------|-------|--------|---------|-----------------------------|---|-------------------------------------|
| August 2021 | 2.42" | 2.17"  | 0.25"   | 86th driest<br>42nd wettest | Driest since 2020<br>Wettest since 2019 | 0.73" (1929 & 1933)<br>4.54" (1900) |



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## Temperature

The official state average August temperature was 68.9 F, which is 5 degrees cooler than last month and 0.3 degrees cooler than in August 2020. Furthermore, the average August temperature was 1.4 degrees warmer than the 1991-2020 average, making it the 31st warmest August in the 127 years of record (Table 2).

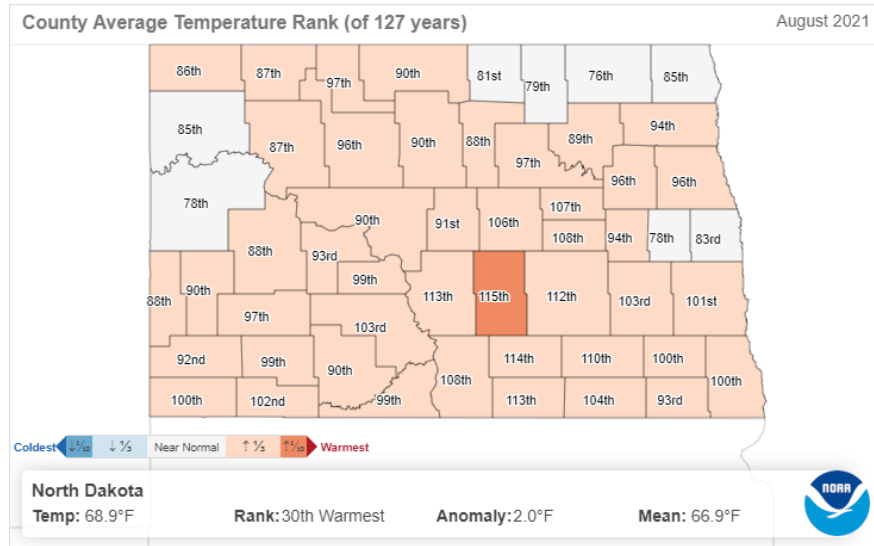


Figure 3. August 2021 county temperature ranking map of North Dakota. (NCEI, NOAA)

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 127 being the highest (warmest).

The state’s lowest and highest daily temperatures ranged from 31 F on Aug. 25 at Dunn Center, Dunn County, to 105 F on Aug. 17 in Hettinger, Adams 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).



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North Dakota Average Temperature  
August

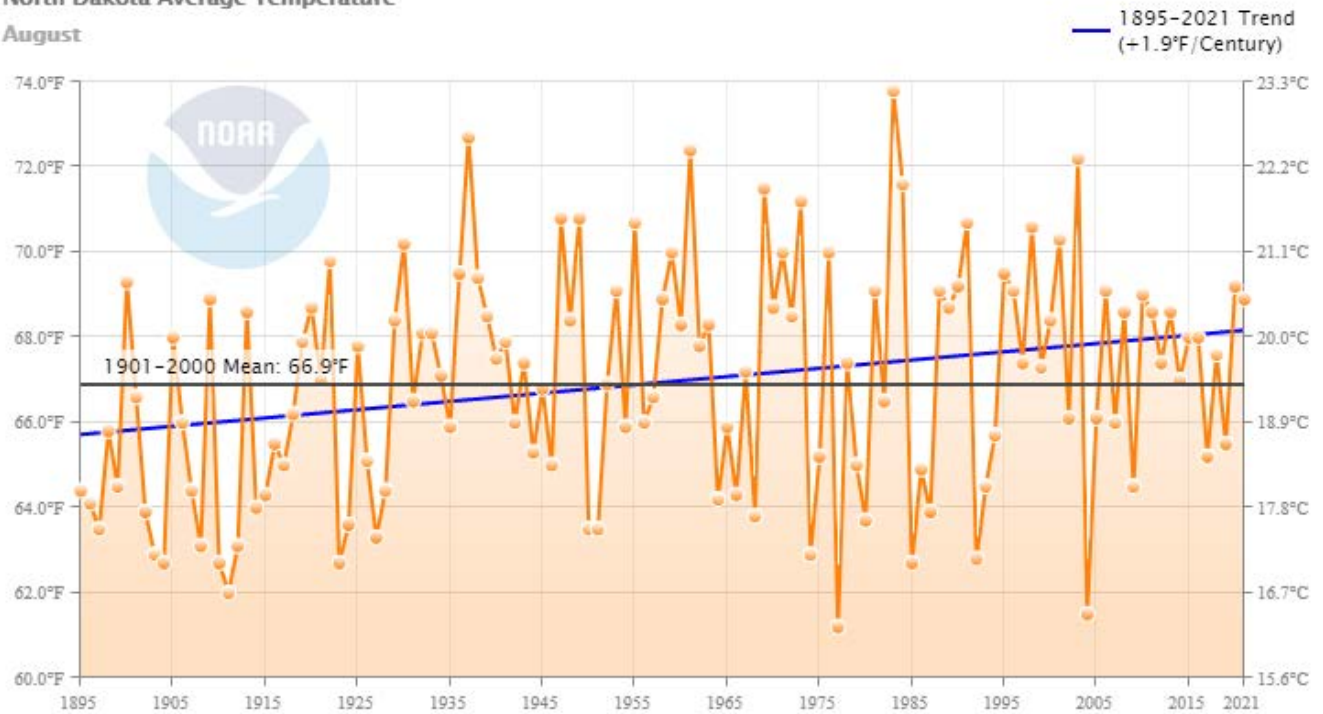


Figure 4. Historical August temperature time series for North Dakota. (NCEI, NOAA)

Table 2. North Dakota August Temperature Ranking Table.

| Period      | Value  | Normal | Anomaly | Rank                         | Warmest/Coollest Since                    | Record Year                    |
|-------------|--------|--------|---------|------------------------------|---|--------------------------------|
| August 2021 | 68.9 ° | 67.5°  | 1.4°    | 97th coolest<br>31st warmest | Coollest since 2019<br>Warmest since 2020 | 61.2 F (1977)<br>73.8 F (1983) |



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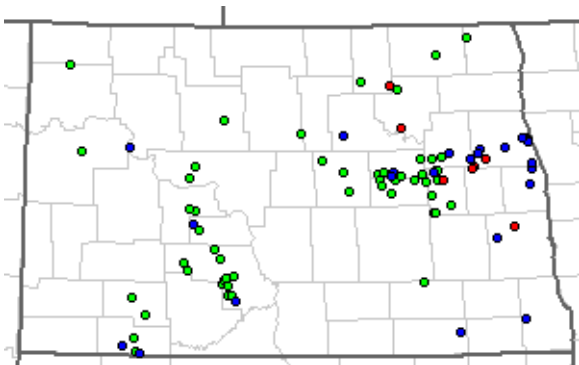
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**Storm Reports:** Table 3 below shows the summary of August severe storm reports in North Dakota (Storm Prediction Center, NOAA).

The NOAA Storm Report recorded ten tornados and 58 hail and 24 damaging wind reports, with 92 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)*

| <b>Category</b>        | <b>Number of Reports</b> |
|------------------------|--------------------------|
| <i>Tornado reports</i> | 10                       |
| <i>Hail reports</i>    | 58                       |
| <i>Wind reports</i>    | 24                       |
| <b>Total</b>           | <b>92</b>                |



*Figure 5. Map of August 2021 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, 47 daily high- and only 11 daily low-temperature records were set or tied. In addition, a total of 22 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)

| Category                    | Number of Records |
|-----------------------------|-------------------|
| Highest daily max. temp.    | 32                |
| Highest daily min. temp.    | 15                |
| Lowest daily max. temp.     | 10                |
| Lowest daily min. temp.     | 1                 |
| Highest daily precipitation | 22                |
| Highest daily snowfall      | 0                 |
| <b>Total</b>                | <b>80</b>         |

### The Highlight of the Month\*

A highest daily maximum temperature record of **104 degrees** was broken in **Minot** on **Aug. 16**, exceeding the previous record that was set in 1971 by **5** degrees. (years on record: 73).

\*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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