



North Dakota Monthly Climate Summary

July 2020

Volume 14, No. 7

Precipitation

North Dakota State Climate Office: Your Resource for Climate Information

NDSU NORTH DAKOTA STATE UNIVERSITY

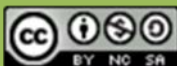
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Based on the National Centers for Environmental Information (NCEI), the statewide average July precipitation was 3.85 inches, which was 1.3 inches more than last month and 0.45 inch more than in July 2019. It also was 0.98 inch more than the 1981-2010 average, making it the 13th wettest July in the 126-year period of record (Table 1). It was the wettest July since 2016. The values less than 100 in Figure 1 below are shaded in yellow, orange and red to depict the region with below-average rainfall. In contrast, the values that are greater than 100 in the same figure are shaded in green, blue and purple to depict the region with above-average rainfall in July. The greatest monthly precipitation accumulation was 9.96 inches, recorded in Courtenay, Stutsman County. Based on historical records, statewide July precipitation showed a slight positive long-term trend of 0.33 inch per century since 1895. The lowest and highest July precipitation for the state ranged from 0.64 inch in 1936 to 7.97 inches in 1993 (Figure 2).

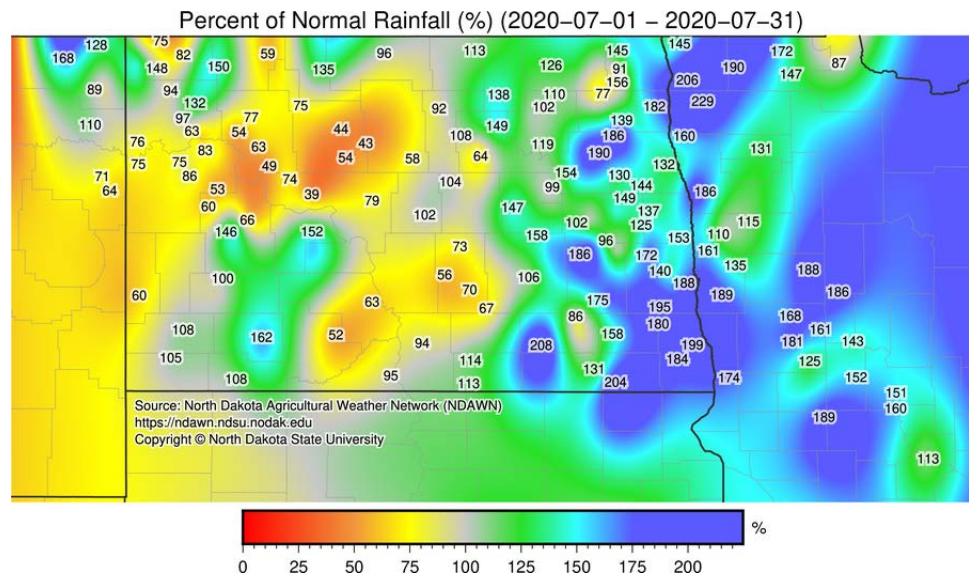


Figure 1. July 2020 precipitation percent of normal for North Dakota. (North Dakota Agricultural Weather Network, NDSU)



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North Dakota Precipitation

July

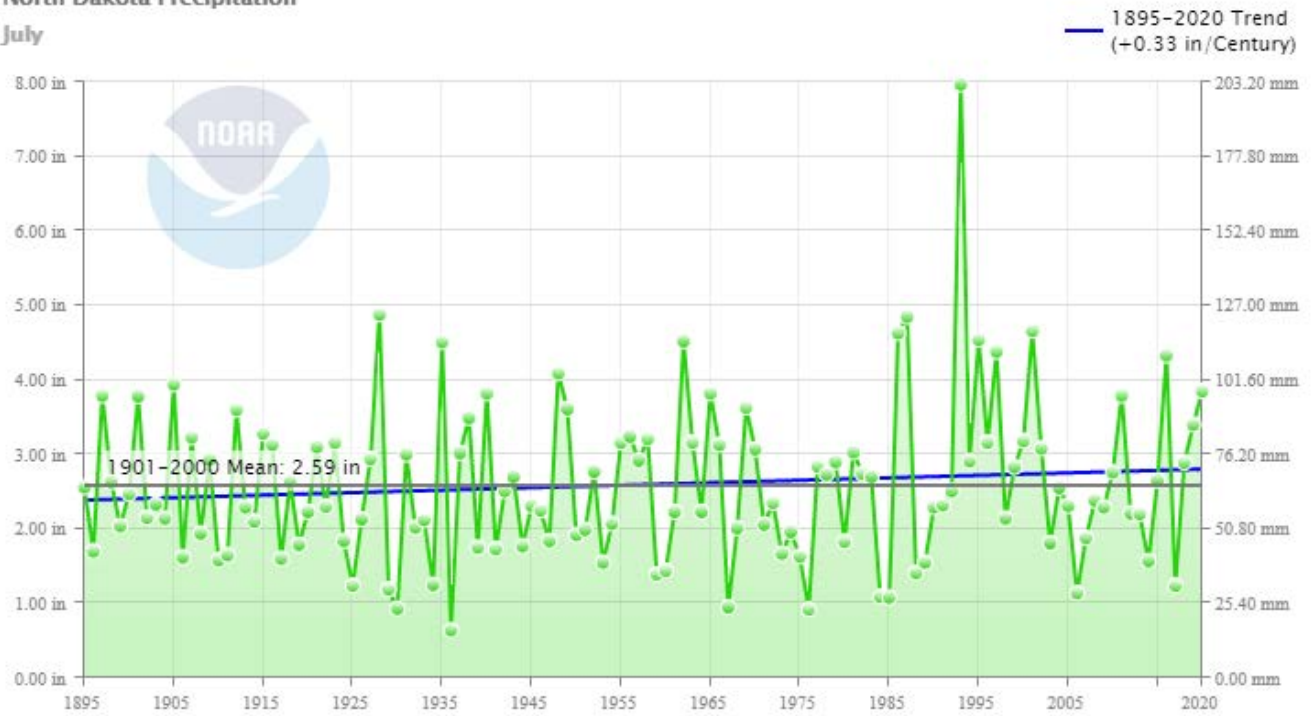


Figure 2. Historical July precipitation time series for North Dakota. (NCEI, NOAA)

Table 1. North Dakota July Precipitation Ranking Table.

Period	Value	Normal	Anomaly	Rank	Wettest/Driest Since	Record Year
July 2020	3.85"	2.87"	1.3"	114th driest 13th wettest	Driest since 2019 Wettest since 2016	0.64" (1936) 7.97" (1993)



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Temperature

The official state average July temperature was 70.4 F, which is 3.4 degrees warmer than last month and 1.1 degrees warmer than in July 2019. The average July temperature also was 1.3 degrees warmer than the 1981-2010 average, which made it the 40th warmest July in the 126 years of record (Table 2). The negative numbers in Figure 3 are shaded in green and blue to depict the region with cooler-than-average temperatures in July. In contrast, the positive numbers in the same figure are shaded in red and orange to illustrate the region with warmer-than-average temperatures in July. The state's lowest and highest daily temperatures ranged from 39 F on July 27 in Dunn Center, Dunn County, to 99 F on July 18 in Bowman, Bowman County. Based on the historical records, the state average July temperature showed a slight positive long-term trend of 0.1 degree per decade since 1895. The lowest and highest monthly state July average temperatures ranged from 61.8 F in 1992 to 80.1 F in 1936 (Figure 4).

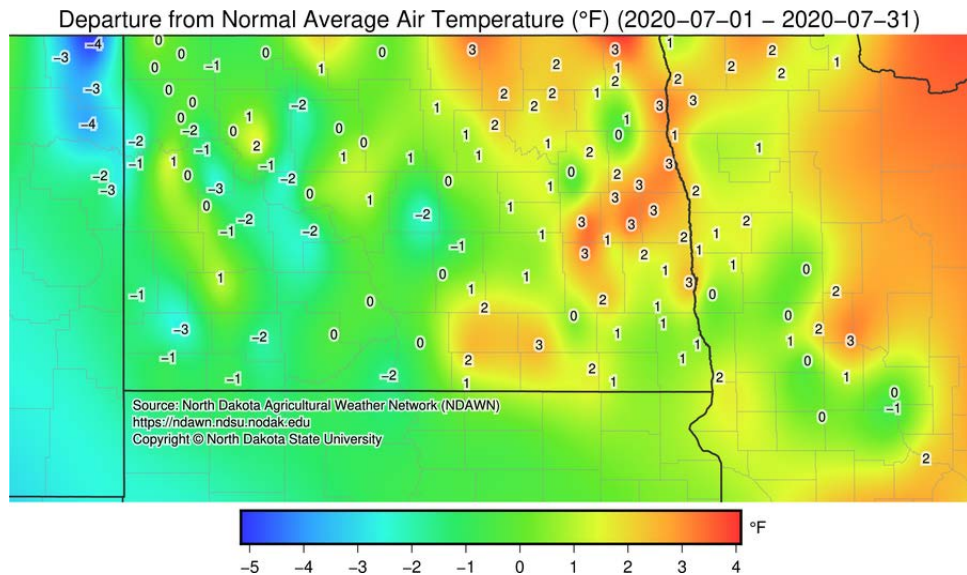


Figure 3. July 2020 temperature departure from normal for North Dakota. (North Dakota Agricultural Weather Network)



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North Dakota Average Temperature
July

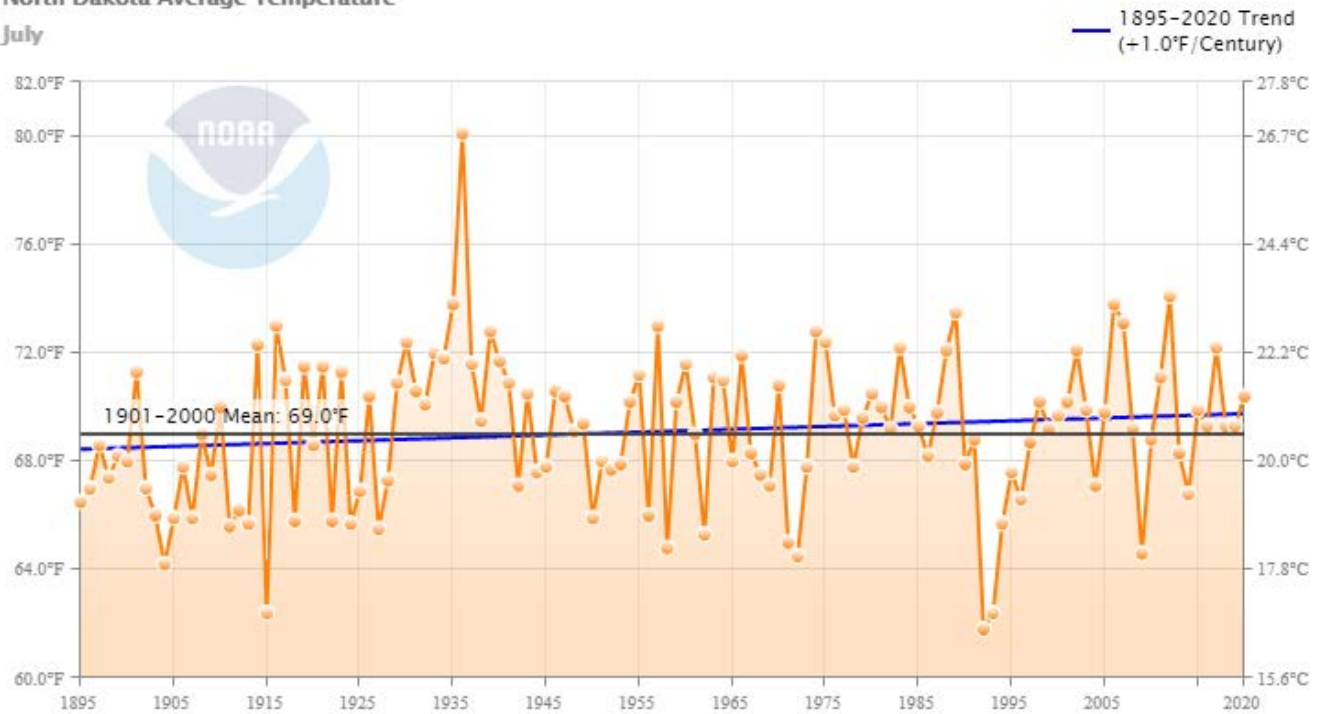


Figure 4. Historical July temperature time series for North Dakota. (NCEI, NOAA)

Table 2. North Dakota July Temperature Ranking Table.

Period	Value	Normal	Anomaly	Rank	Warmest/Coollest Since	Record Year
July 2020	70.4°	69.4°	3.4°	87th coolest 40th warmest	Coollest since 2019 Warmest since 2017	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 five tornadoes, and 66 hail and 132 damaging wind reports, with a total of 203 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>	5
<i>Hail reports</i>	66
<i>Wind reports</i>	132
Total	203

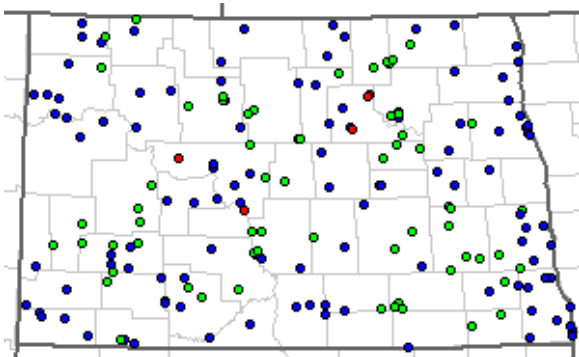


Figure 5. Map of July 2020 North Dakota storm events (red: tornado; blue: wind; green: hail). (Storm Prediction Center, NOAA)



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Daily Record Events in July: Across the observation network of weather stations with at least 30 years of history, 12 daily high- and two daily low-temperature records were set or tied. A total of 34 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>	1
<i>Highest daily min. temp.</i>	11
<i>Lowest daily max. temp.</i>	2
<i>Lowest daily min. temp.</i>	0
<i>Highest daily precipitation</i>	34
<i>Highest daily snowfall</i>	0
Total	48

The Highlight of the Month*

A highest daily precipitation record of **2.93** inches was broken in **Cavalier** on **July 14**, exceeding the previous record that was set in **1999** by 1.23 inches. (years on record: 129).

**The records in this box may be different 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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