



North Dakota Annual Climate Summary

Annual: 2021

Volume 15, No. 13

Precipitation

North Dakota State Climate Office: Your Resource for Climate Information



North Dakota State University

College of Agriculture, Food Systems, and Natural Resources

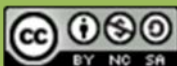
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Based on the National Centers for Environmental Information (NCEI), the statewide average annual precipitation accumulation for 2021 was 15.63 inches, which was 2.71 inches more than in 2020. It was; however, 3.22 inches less than the 1981-2010 average, making it the 33rd driest January through December period in the 127-year period of record (Table 1).

The counties shaded in brown in Figure 1 indicate drier-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 127 being the highest ranking (the wettest).

The greatest annual precipitation accumulation in 2021 was 26.23 inches, recorded in Litchville, Barnes County. The greatest annual snowfall accumulation in 2021 was 62.2 inches, recorded in Larimore, Grand Forks County. Based on historical records, statewide annual precipitation showed a positive long-term trend of 1.17 inches during the last century. The lowest and highest annual precipitation for the state during this period ranged from 8.81 inches in 1936 to 24.41 inches in 2019 (Figure 2).

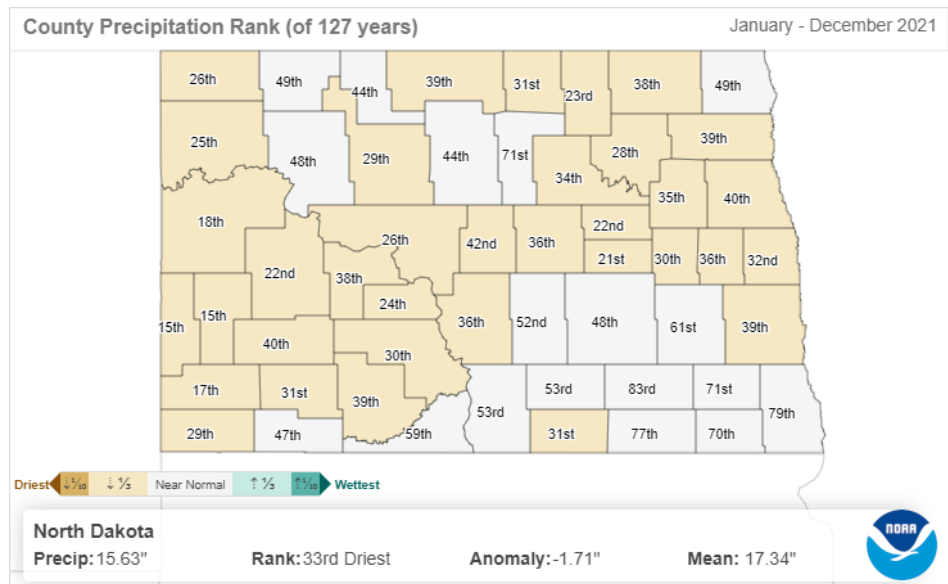


Figure 1. County precipitation ranking map for 2021. (National Centers for Environmental Information, NOAA)



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North Dakota Precipitation
January–December

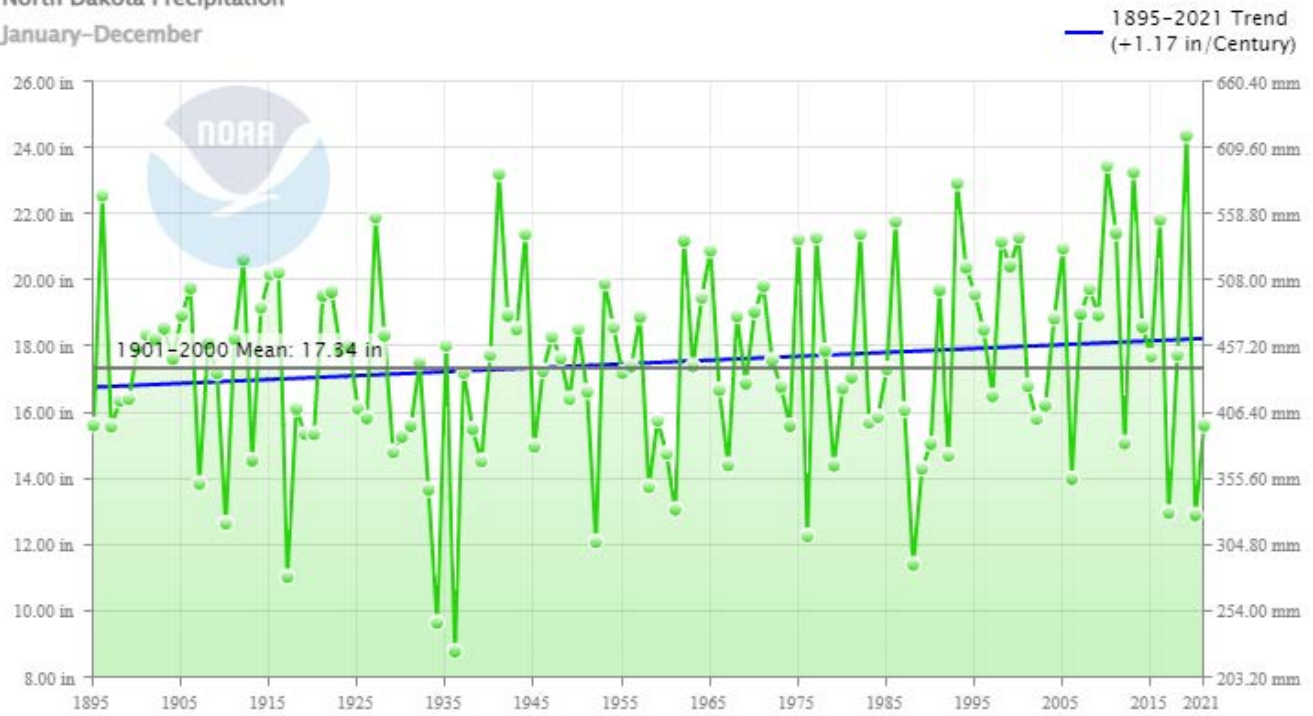


Figure 2. Historical annual precipitation time series for North Dakota. (NCEI, NOAA)

Table 1. North Dakota 2021 Annual Precipitation Ranking Table.

Period	Value	Normal	Anomaly	Rank	Wettest/Driest Since	Record Year
2021	15.63"	18.85"	-3.22"	33rd driest 95th wettest	Driest since 2020 Wettest since 2019	8.81" (1936) 24.41" (2019)



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Temperature

The official state annual average temperature of 2021 was 43.8 F, which is 1.5 degrees warmer than in 2020. The average January through December temperature for the state was 2.8 degrees warmer than the 1981-2010 average, making it the fifth warmest year in the 127 years of record (Table 2).

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 minus 51 F on Feb. 13 in Bottineau, Bottineau County, to 108 F on July 27 in Hettinger, Adams County in 2021. Based on the historical records, the state average annual temperatures showed a positive long-term trend of 2.5 degrees during the last century (the eighth steepest trend in the U.S.).

The lowest and highest monthly state annual average temperatures during this period ranged from 34.9 F in 1950 to 45 F in 1987 (Figure 4).

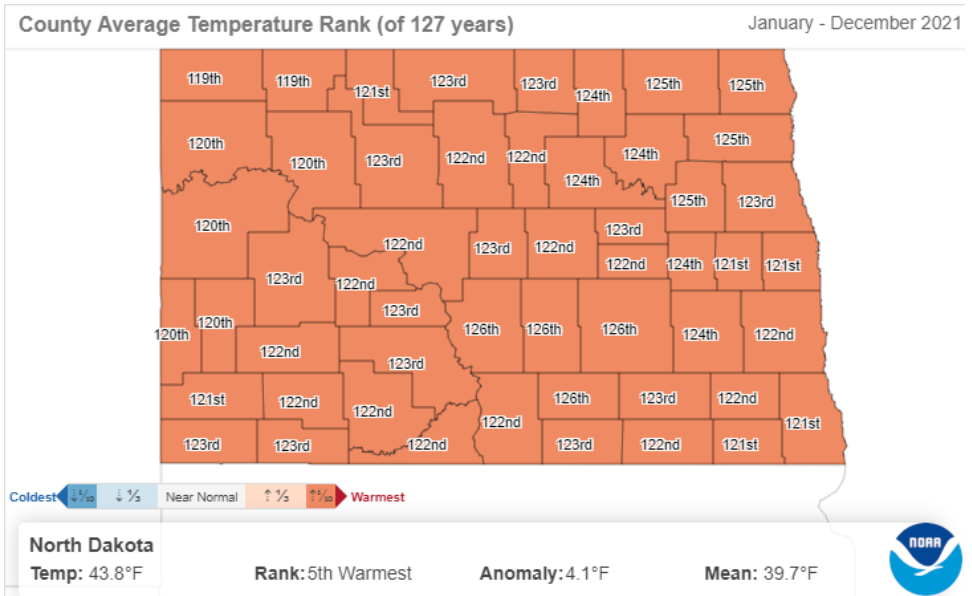


Figure 3. County average temperature ranking map for 2021. (National Centers for Environmental Information, NOAA)



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North Dakota Average Temperature
January–December

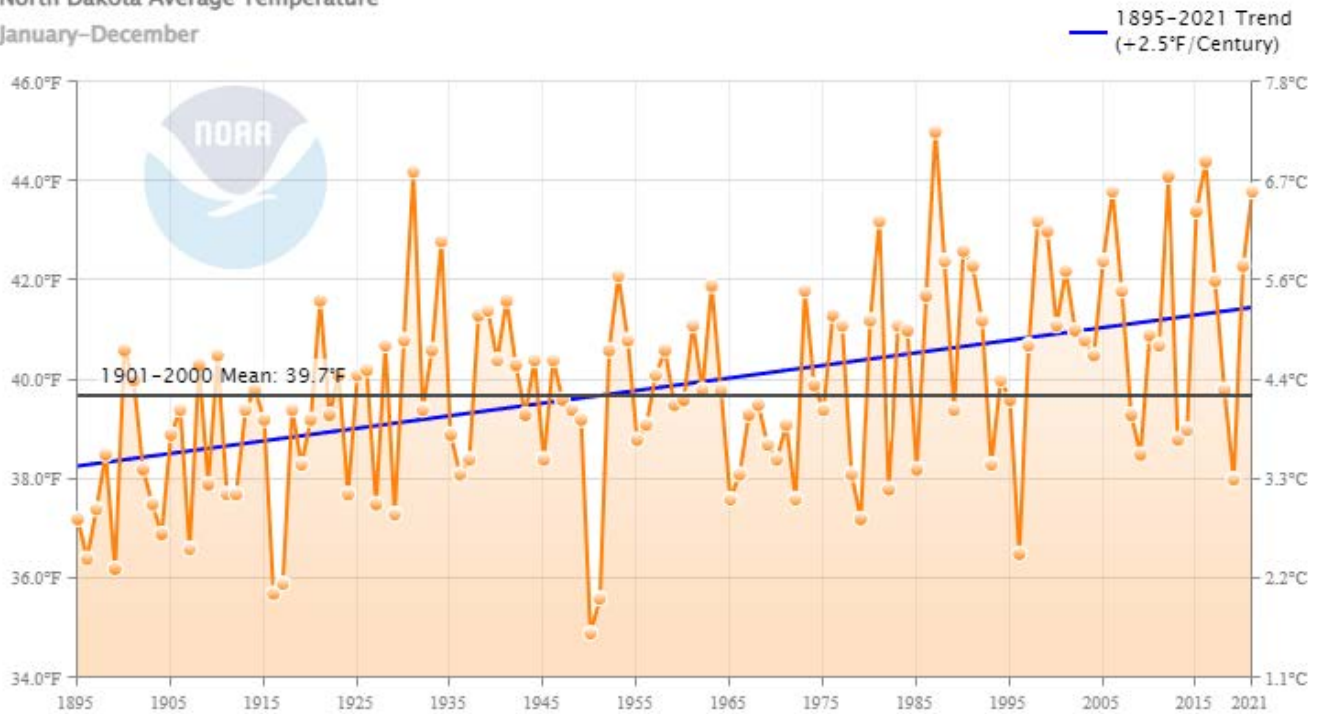


Figure 4. Historical annual temperature time series for North Dakota. (NCEI, NOAA)

Table 2. North Dakota Annual Temperature Ranking Table.

Period	Value	Normal	Anomaly	Rank	Warmest/Coollest Since	Record Year
2021	43.8°	41°	2.8°	123rd coolest 5th warmest	Coollest since 2020 Warmest since 2016	34.9 F (1950) 45 F (1987)

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This work is supported by the USDA National Institute of Food and Agriculture, Hatch/Multi State project ND1005365.