



North Dakota Monthly Climate Summary

December 2019

Volume 13, No. 12

Precipitation

North Dakota State Climate Office: Your Resource for Climate Information



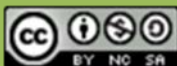
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Based on the National Centers for Environmental Information (NCEI), the statewide average December precipitation was 0.8 inch, which was 0.21 inch more than last month and 0.15 inch more than in December 2018. It also was 0.28 inch more than the 1981-2010 average, making it the 17th wettest December in the 125-year period of record (Table 1). 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 December. The greatest monthly precipitation accumulation was 3.95 inches, recorded in Grand Forks, Grand Forks County. The greatest monthly snowfall accumulation was 38.2 inches, recorded in Grand Forks, Grand Forks County. Based on historical records, statewide December precipitation showed a slight positive long-term trend of 0.07 inch per century since 1895. The highest and lowest December precipitation for the state ranged from 1.3 inches in 2016 to 0.05 inch in 1944 (Figure 2).

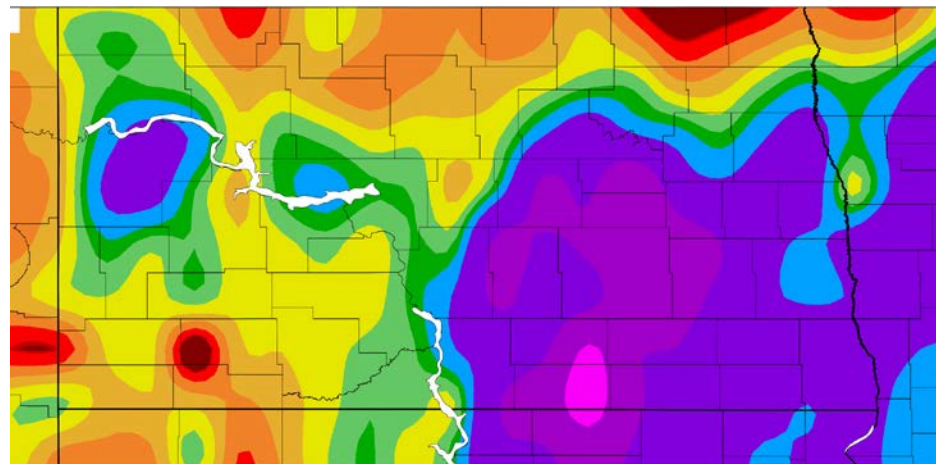


Figure 1. December 2019 precipitation percent of normal for North Dakota. (High Plains Regional Climate Center)



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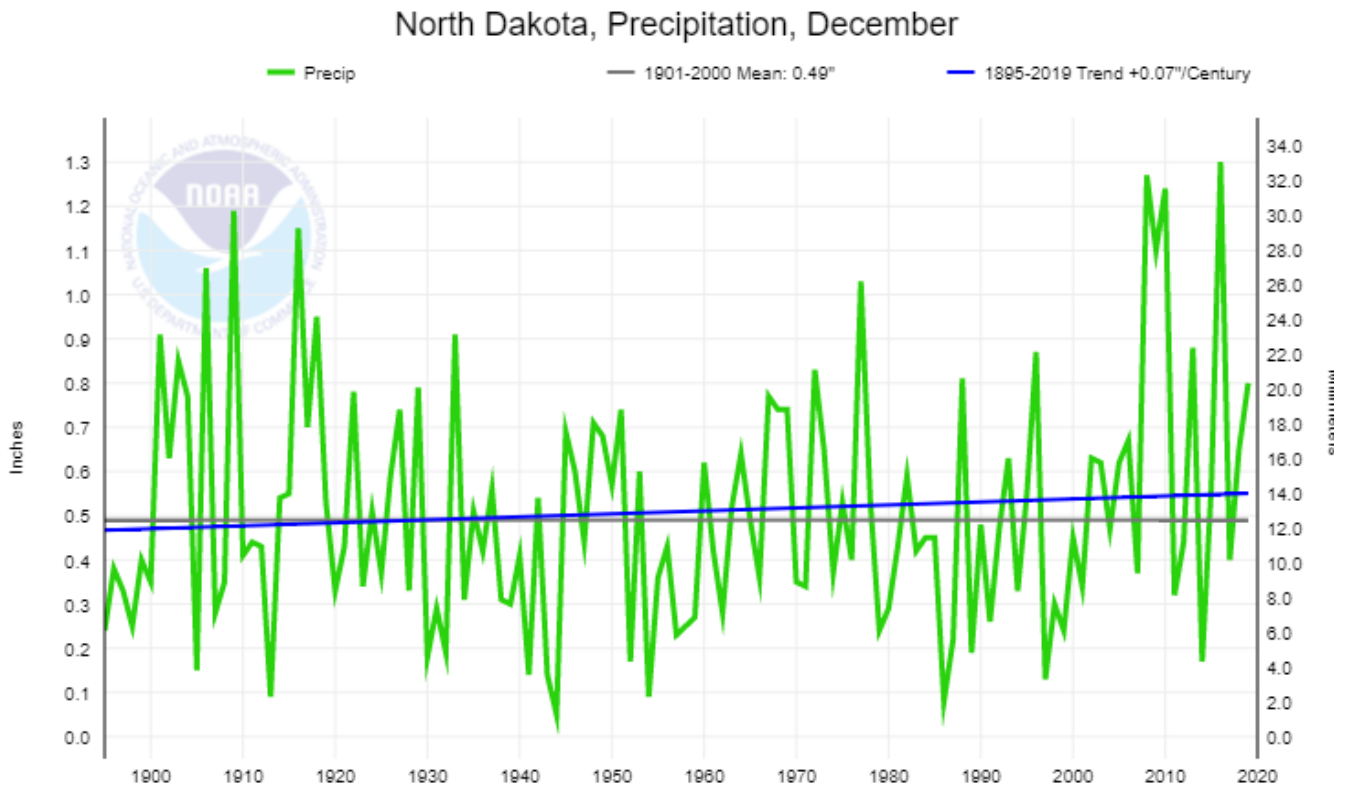


Figure 2. Historical December precipitation time series for North Dakota. (NCEI, NOAA)

Table 1. North Dakota December Precipitation Ranking Table.

Period	Value	Normal	Anomaly	Rank	Wettest/Driest Since	Record Year
December 2019	0.80"	0.52"	0.28"	109th driest 17th wettest	Driest since 2018 Wettest since 2016	0.05" (1944) 1.30" (2016)



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Temperature

The official state average December temperature was 16.2 F, which is 9.9 degrees cooler than last month and 4.6 degrees cooler than in December 2018. However, the average December temperature was 2.2 degrees warmer than the 1981-2010 average, which made it the 45th warmest December in the 125 years of record. It was the warmest December since 2017 (Table 2). The negative numbers in Figure 3 are shaded in green and blue to depict the region with cooler-than-average temperatures in December. In contrast, the positive numbers in the same figure are shaded in red and orange to depict the region with warmer-than-average temperatures in December. The state's highest and lowest daily temperatures ranged from 52 F on Dec. 8 in Kildeer, Dunn County, to minus 28 F on Dec. 10, in Bottineau, Bottineau County. Based on the historical records, the state average December temperature showed a slight positive long-term trend of 0.3 degree per decade since 1895. The highest and lowest monthly state December average temperatures ranged from 25.4 F in 1939 to minus 3.2 F in 1927 (Figure 4).

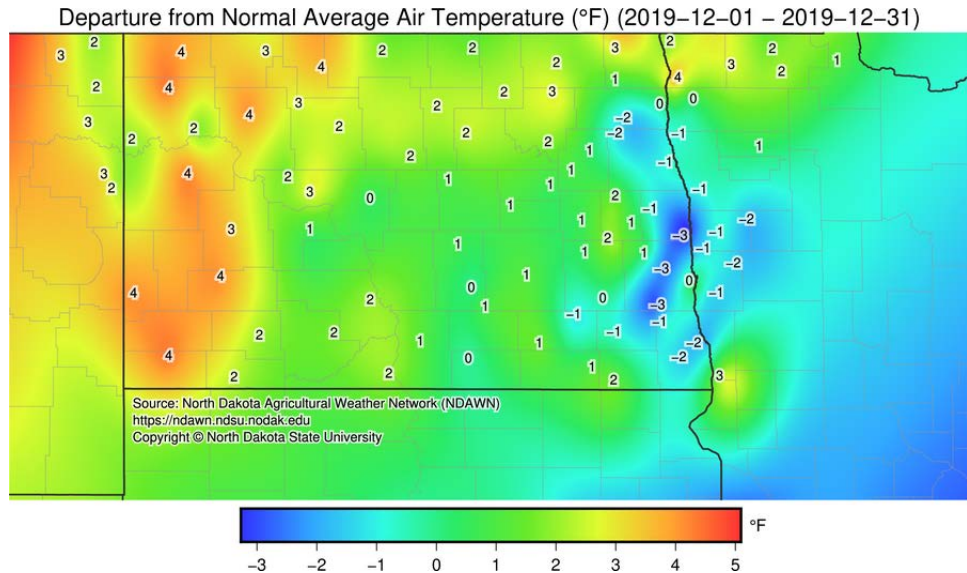


Figure 3. December 2019 temperature departure from normal for North Dakota. (North Dakota Agricultural Weather Network)



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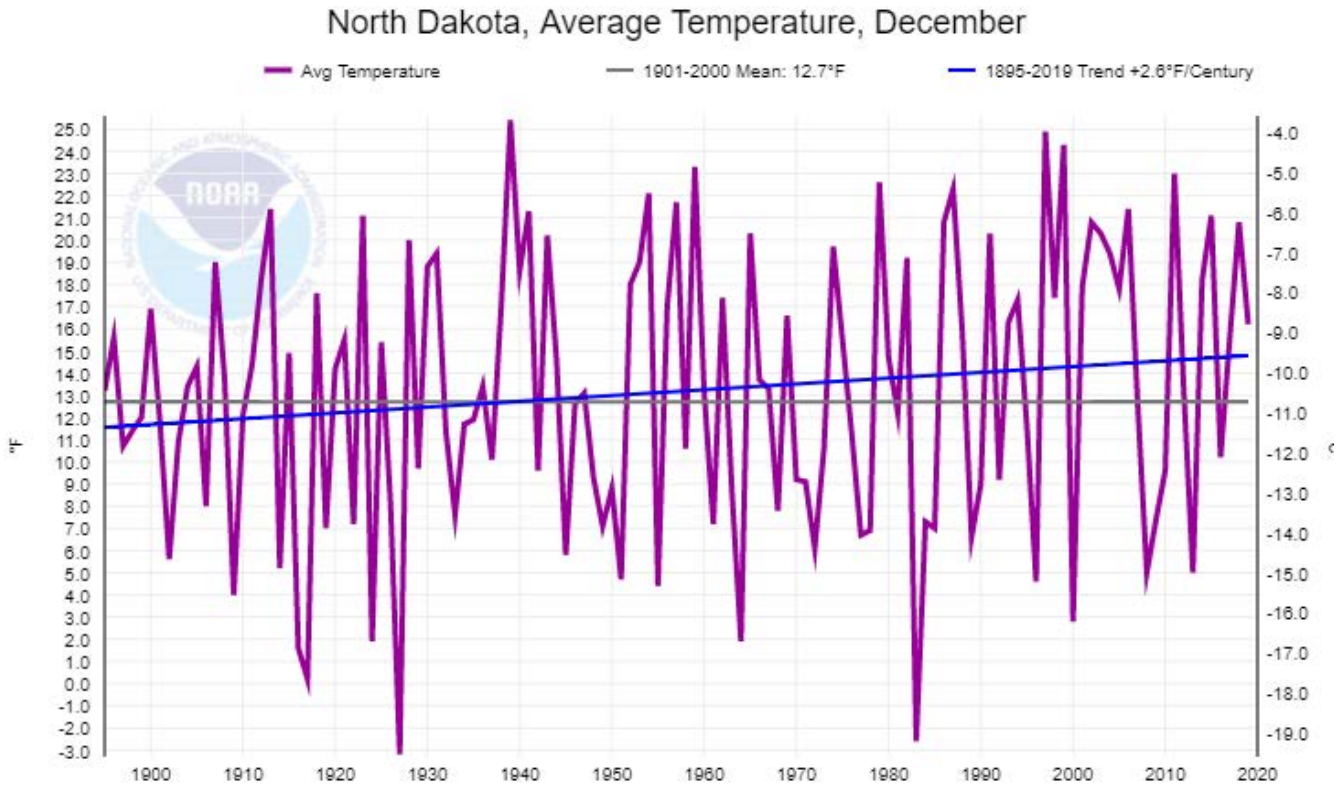


Figure 4. Historical December temperature time series for North Dakota. (NCEI, NOAA)

Table 2. North Dakota December Temperature Ranking Table.

Period	Value	Normal	Anomaly	Rank	Warmest/Coollest Since	Record Year
December 2019	16.2°	14°	2.2°	81st coolest 45th warmest	Coollest since 2017 Warmest since 2018	-3.2 F (1927) 25.4 F (1939)



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Storm Reports: Table 3 below shows the summary of December Severe Storm Reports in North Dakota (Storm Prediction Center, NOAA).

The NOAA Storm Report showed no significant storm events in December. Table 3 summarizes the number of tornado, hail and damaging wind reports in December, while Figure 5 geographically displays the locations of these storms.

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

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

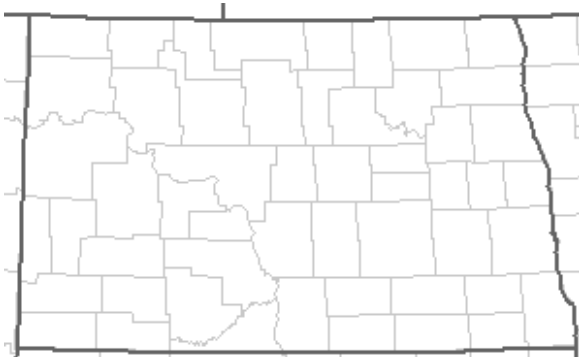


Figure 5. Map of December 2019 North Dakota storm events (red: tornado; blue: wind; green: hail). (Storm Prediction Center, NOAA)



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Daily Record Events in December: Across the observation network of weather stations with at least 30 years of history, seven daily high- and three daily low-temperature records were set or tied. A total of 83 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 December. (NCEI Daily Weather Records)

<i>Category</i>	Number of Records
<i>Highest daily max. temp.</i>	3
<i>Highest daily min. temp.</i>	4
<i>Lowest daily max. temp.</i>	2
<i>Lowest daily min. temp.</i>	1
<i>Highest daily precipitation</i>	43
<i>Highest daily snowfall</i>	40
Total	93

The Highlight of the Month*

A highest daily snowfall record of **13 inches** was set in **Ashley** on **Dec. 1**, exceeding the previous record that was set in **1929** by **10 inches** (years on record: 122).

**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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