



North Dakota Monthly Climate Summary

November 2017

Volume: 11, No: 11

Precipitation

North Dakota State Climate Office: Your Resource for Climate Information



North Dakota State University

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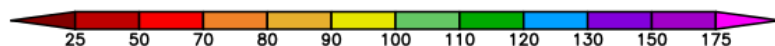
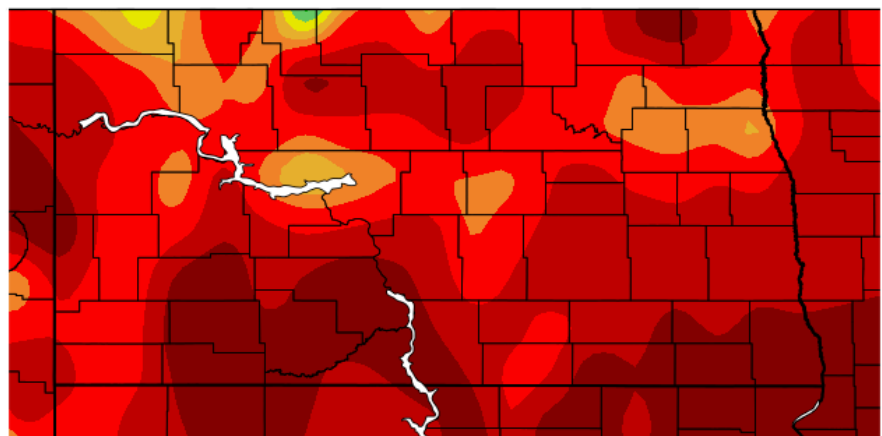
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Based on the National Centers for Environmental Information (NCEI), the statewide total November precipitation was 0.29", 0.01" less than last month, 0.62" less than the last November, and 0.39" less than the 1981-2010 average, making it the 33rd driest November in the 123-year period of record. It was the driest November since 2013. Below-average precipitation was observed commonly in all parts of the state (Figure 1). The greatest monthly precipitation accumulation was 0.86" recorded in Grand Forks, Grand Forks County. The greatest 24-hr precipitation was 0.55" recorded also in Grand Forks, Grand Forks County on November 4. The greatest monthly snowfall accumulation was 12" recorded in Petersburg, Nelson County. The greatest 24-hr Snowfall was 7" recorded also in Petersburg, Nelson County on November 4. Based on historical records, statewide November precipitation showed a slight negative long-term trend of -0.03" per century since 1895. The highest and the lowest November precipitation for the state ranged from 2.33" in 2000 to 0.03" in 1939 (Figure 2).

Percent of Normal Precipitation (%)
11/1/2017 – 11/30/2017



Generated 12/6/2017 at HPRCC using provisional data.

NOAA Regional Climate Centers

Figure 1. November 2017 Precipitation Percent of Normal for North Dakota (High Plains Regional Climate Center, NOAA)



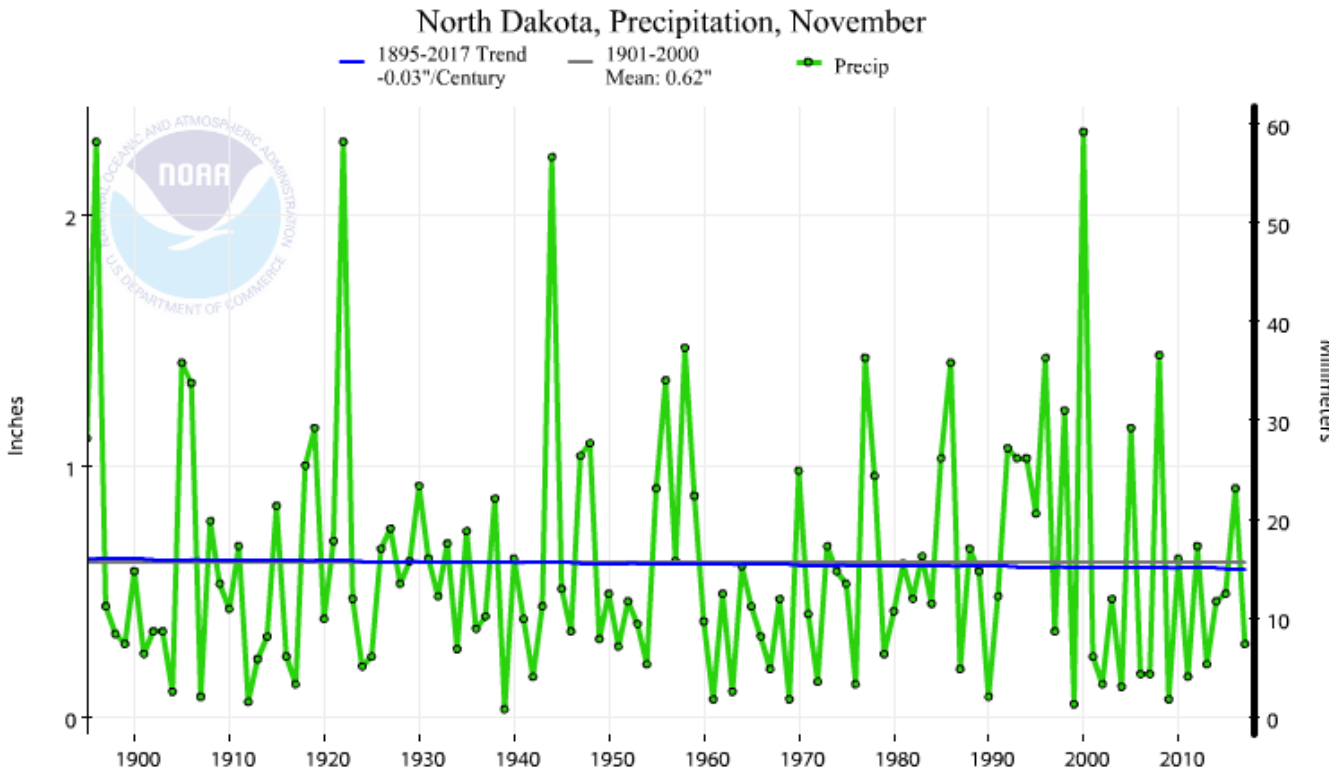
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November Precipitation Statistics

Record High Value: 2.33 inches in 2000
 Record Low Value: 0.03 inches in 1939
 Trend: -0.03" per Century

November 2017 Value: 0.29 inches
 1981-2010 Average: 0.68"
 Monthly Ranking: 33rd Driest
 Record Length: 123 Years

Figure 2. Historical November Precipitation Time Series for North Dakota.



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Temperature

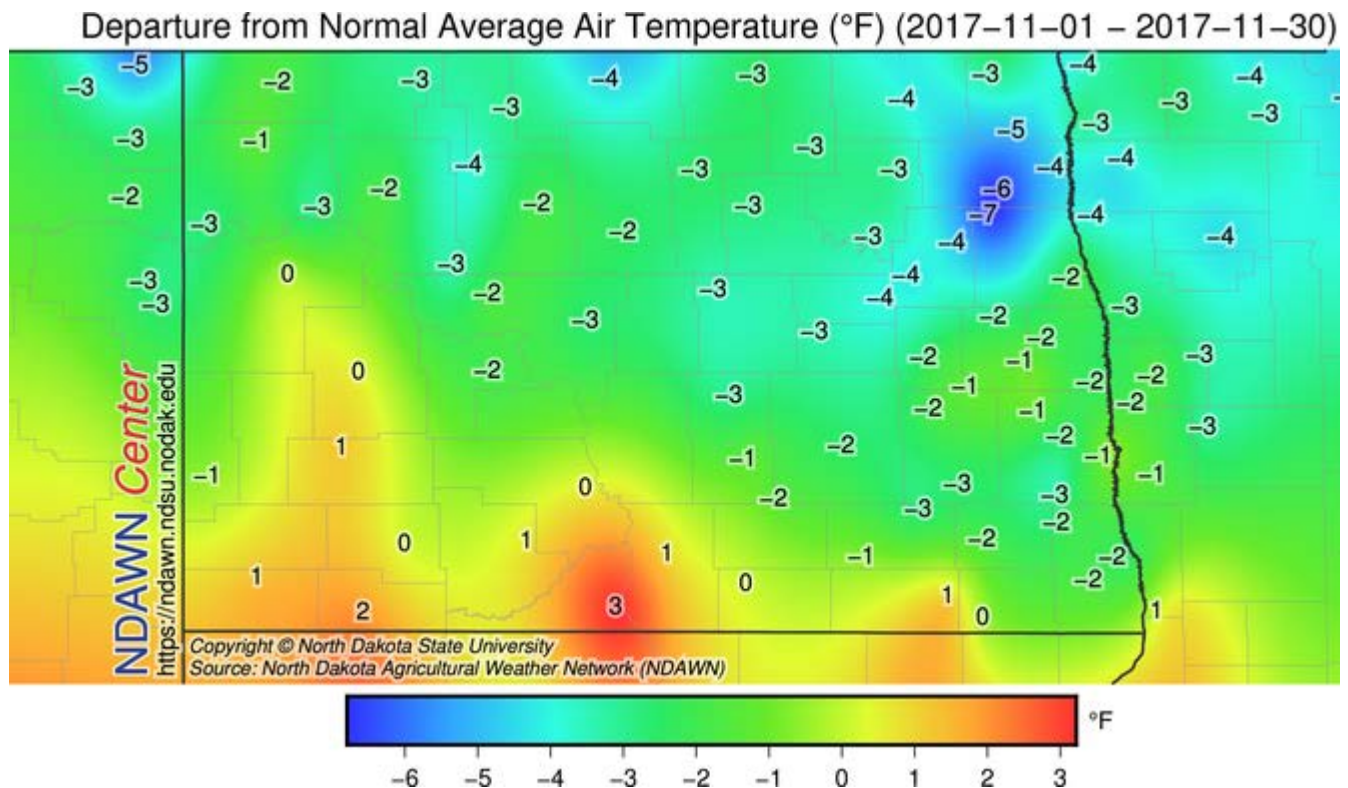


Figure 3. November 2017 Temperature Departure from Normal for North Dakota (NDAWN).

The official state average November temperature was 26.5°F, 18.3° colder than last month, 12.7° colder than the last November, and 0.8° colder than the 1981-2010 average, making it the 55th coldest November in the 123-year period of record. It was the coldest November since 2014. Below-average temperatures were observed commonly in all parts of the state except in southwestern parts of the state, especially in Sioux and Adams Counties where the driest conditions were observed (Fig. 3). The state's highest and lowest daily temperatures ranged from 74° on November 24 in Hettinger, Adams County to -12° on November 10 in Rolette, Rolette County. Based on the historical records, the state average November temperature showed a positive trend of 0.28°F per decade since 1895. The highest and the lowest monthly state November average temperatures ranged from 39.2° in 1999 to 6.1° in 1896 (Figure 4).



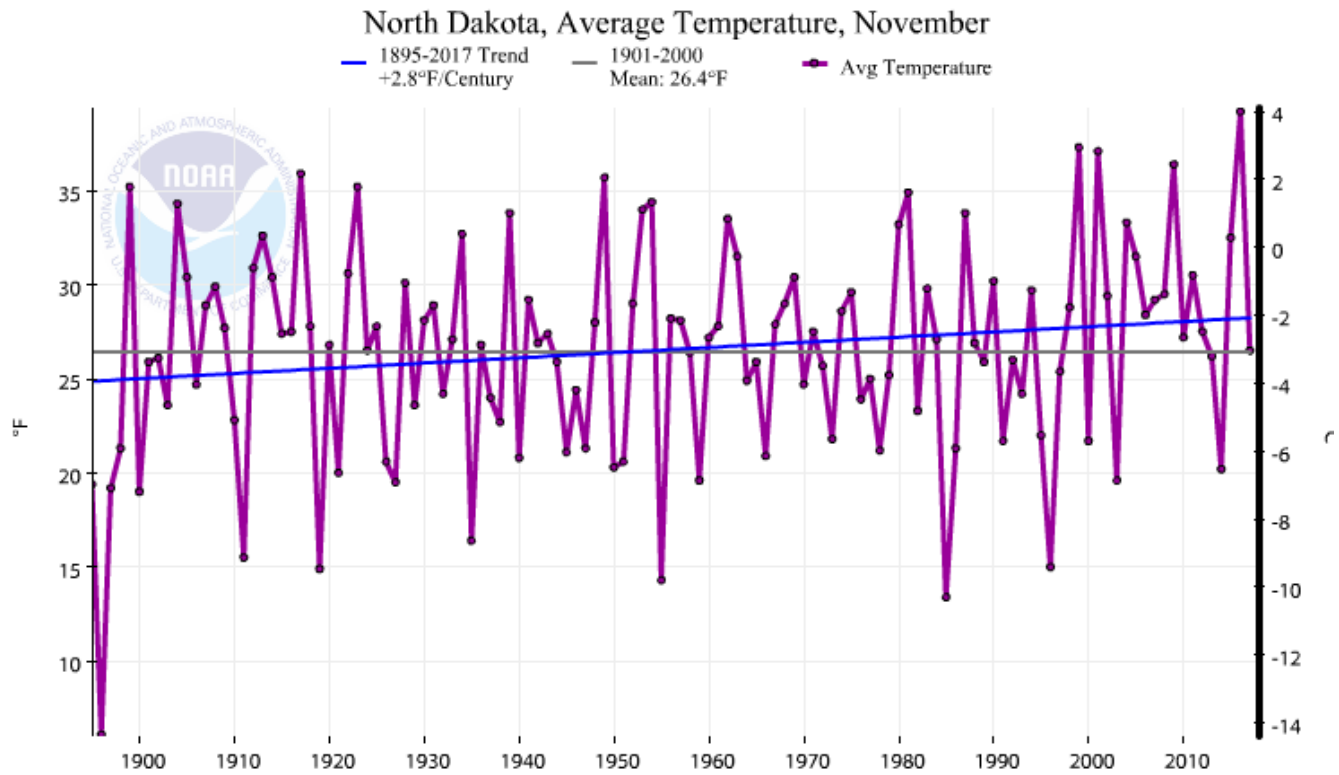
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November Temperature Statistics
 Record High Value: 39.2°F in 19699
 Record Low Value: 6.1°F in 1896
 Trend: 0.28°F per Decade

November 2017 Value: 26.5°F
 1981-2010 Average: 27.3°F
 Monthly Ranking: 55th Coldest
 Record Length: 123 Years

Figure 4. Historical November Temperature Time Series for North Dakota.



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Notable Impacts

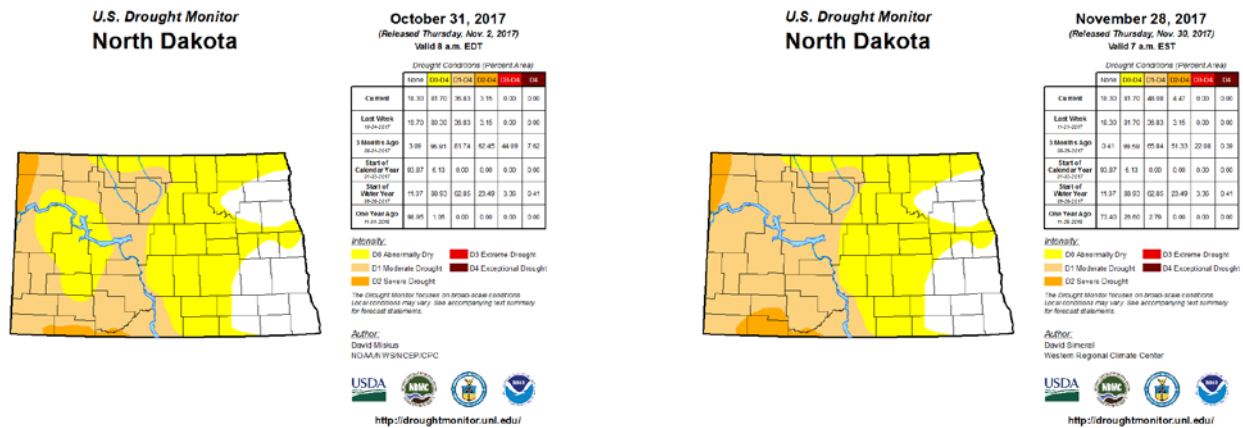


Figure 5. Drought Monitor map comparison for North Dakota in the beginning (on the left) and at the end (on the right) of November 2017.

Drought Monitor: Dry conditions continued from the previous month. In October this provided favorable conditions for accomplishing field work. However, continued dry conditions just before the freeze up raised some concerns about soil being parched down to 4 feet in already drought scarred areas in western North Dakota. Therefore, one category degradation was applied in Drought Monitor in these areas. By the end of the month, the percent of the state experiencing drought was 48%, an 11% increase compared to the previous month. Based on the DM map on November 28, only 5% of the state was in Severe Drought (D2). Figure 5 shows a comparison of the drought conditions across the state between the beginning and the end of the month. Figure 6 on the right shows the statewide drought coverage in % and intensity (i.e. DO, and D1) in time scale representing the state from the beginning to the end of the month with one-week resolution.

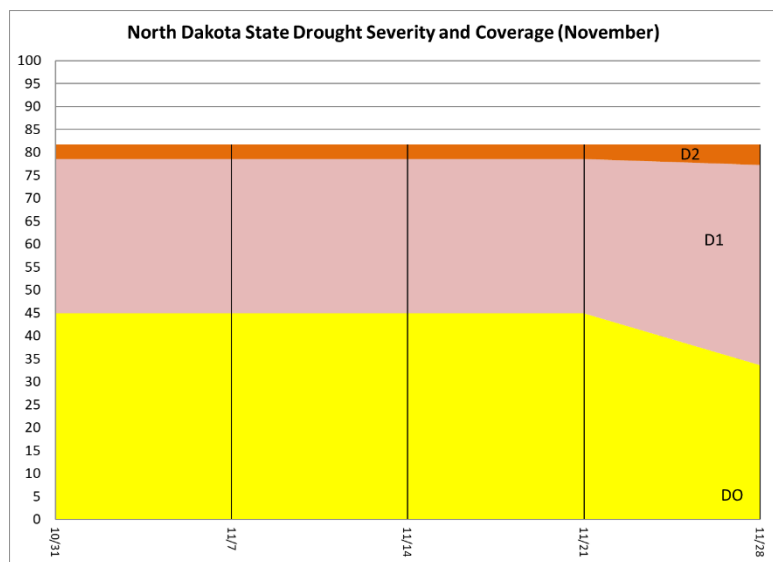


Figure 6. North Dakota State Drought Severity and Coverage Graph for November 2017.



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Storm Reports: NDAWN's highest peak gust in November was 57 mph, recorded at the Linton weather station in Emmons County on November 29, 2017. Carson, Edgeley, Bowman, Wishek, McHenry, Mott, Mandan, and Oakes stations also recorded wind speeds in excess of 50mph on the same day. The NOAA Storm Report reported no significant storm events in November.

Daily Record Event in November: Across the observation network of weather stations with at least 30 years of history, a total of 27 daily high-temperature related and 16 daily low-temperature related records were set or tied. A total of 8 highest daily precipitation related records were set or tied. Details of the records are in Table 1 below.

Table 1. Summary of daily November records broken or set in North Dakota in November (NCEI Daily Weather Records)

Highlight of the Month

Category	Number of Records
Highest Daily Max Temp.	8
Highest Daily Min Temp.	19
Lowest Daily Max Temp.	9
Lowest Daily Min Temp.	7
Highest Daily Precipitation	2
Highest Daily Snowfall	6
Total	51

A daily highest temperature record of 70°F was set in New Salem on November 24, breaking the previous record by 8°F that was broken in 2011 (Years on record: 124).

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