



North Dakota Monthly Climate Summary

October 2017

Volume: 11, No: 10

Precipitation

North Dakota State Climate Office: Your Resource for Climate Information



North Dakota State University

College of Agriculture, Food Systems, and Natural Resources

304 Morrill Hall, Fargo, ND 58108

<http://www.ndsu.edu/ndSCO>

Adnan.Akyuz@ndsu.edu

701-231-6577

This publication will be made available in alternative formats for people with disabilities upon request.

Based on the National Centers for Environmental Information (NCEI), the statewide total October precipitation was 0.3", 2.12" less than last month, 0.93" less than the last October, and 1.16" less than the 1981-2010 average, making it the 11th driest October in the 123-year period of record. It was the driest October since 1993. Below-average precipitation was observed commonly in all parts of the state (Figure 1). The greatest monthly precipitation accumulation was 1.98" recorded in Abercrombie, Richland County. The greatest 24-hr precipitation was 1.31" recorded also in Abercrombie, Richland County on October 2. The greatest monthly snowfall accumulation was 2" recorded in Cavalier and Pembina, Pembina County and Langdon, Cavalier County. The greatest 24-hr Snowfall was 2" recorded also in Cavalier, Pembina County on October 27. Based on historical records, statewide October precipitation showed a positive long-term trend of 0.5" per century since 1895. The highest and the lowest October precipitation for the state ranged from 4.61" in 1982 to 0.09" in 1952 (Figure 2).

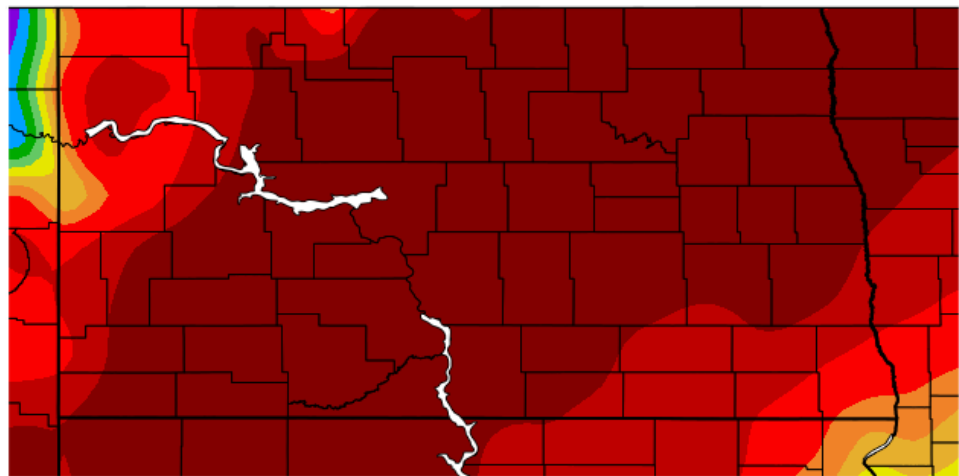


Figure 1. October 2017 Precipitation Percent of Normal for North Dakota (High Plains Regional Climate Center, NOAA)



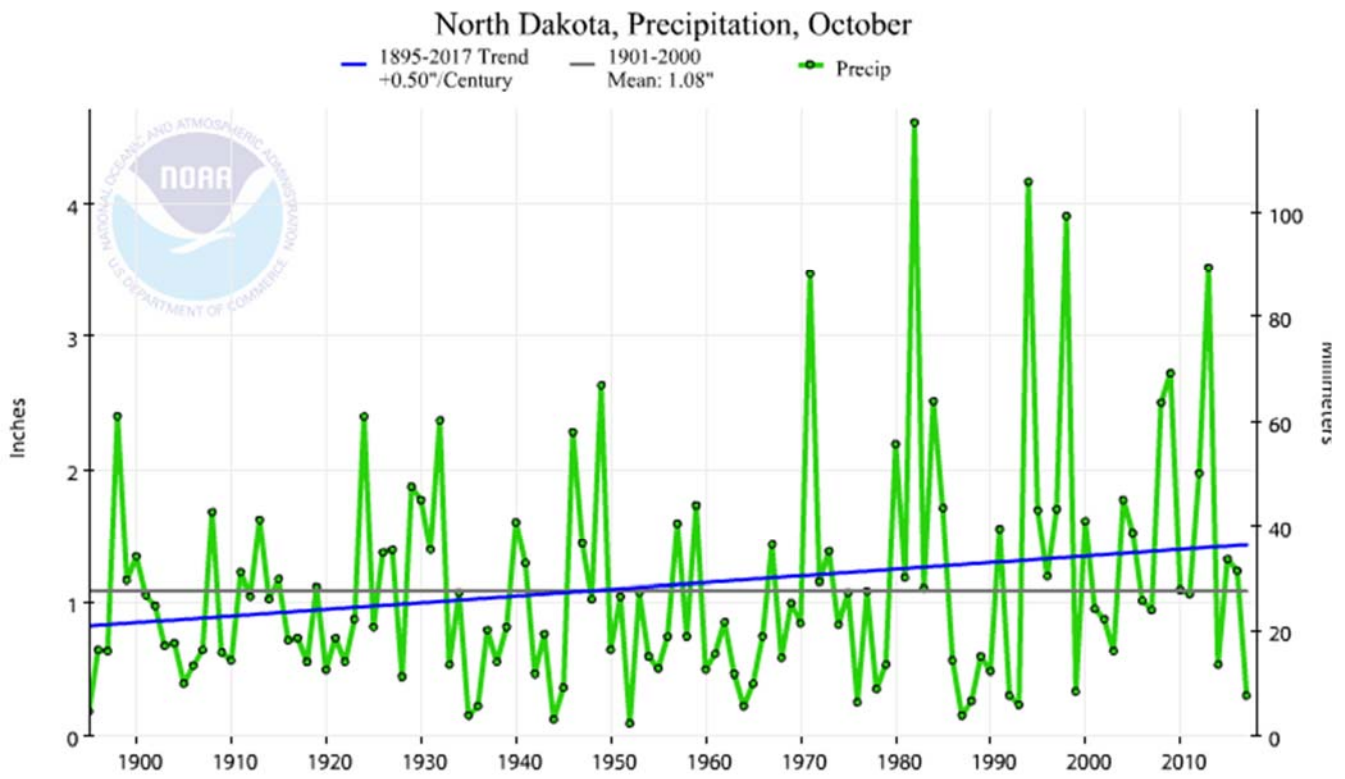
Feel free to use and share this content, but please do so under the conditions of our [Creative Commons](#) license and our [Rules for Use](#).



North Dakota Monthly Climate Summary

October 2017

Volume: 11, No: 10



October Precipitation Statistics

Record High Value: 4.61 inches in 1982
 Record Low Value: 0.09 inches in 1952
 Trend: 0.5" per Century

October 2017 Value: 0.30 inches
 1981-2010 Average: 1.46"
 Monthly Ranking: 11th Driest
 Record Length: 123 Years

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



Feel free to use and share this content, but please do so under the conditions of our [Creative Commons](#) license and our [Rules for Use](#).



North Dakota Monthly Climate Summary

October 2017

Volume: 11, No: 10

Temperature

Departure from Normal Average Air Temperature (°F) (2017-10-01 – 2017-10-31)

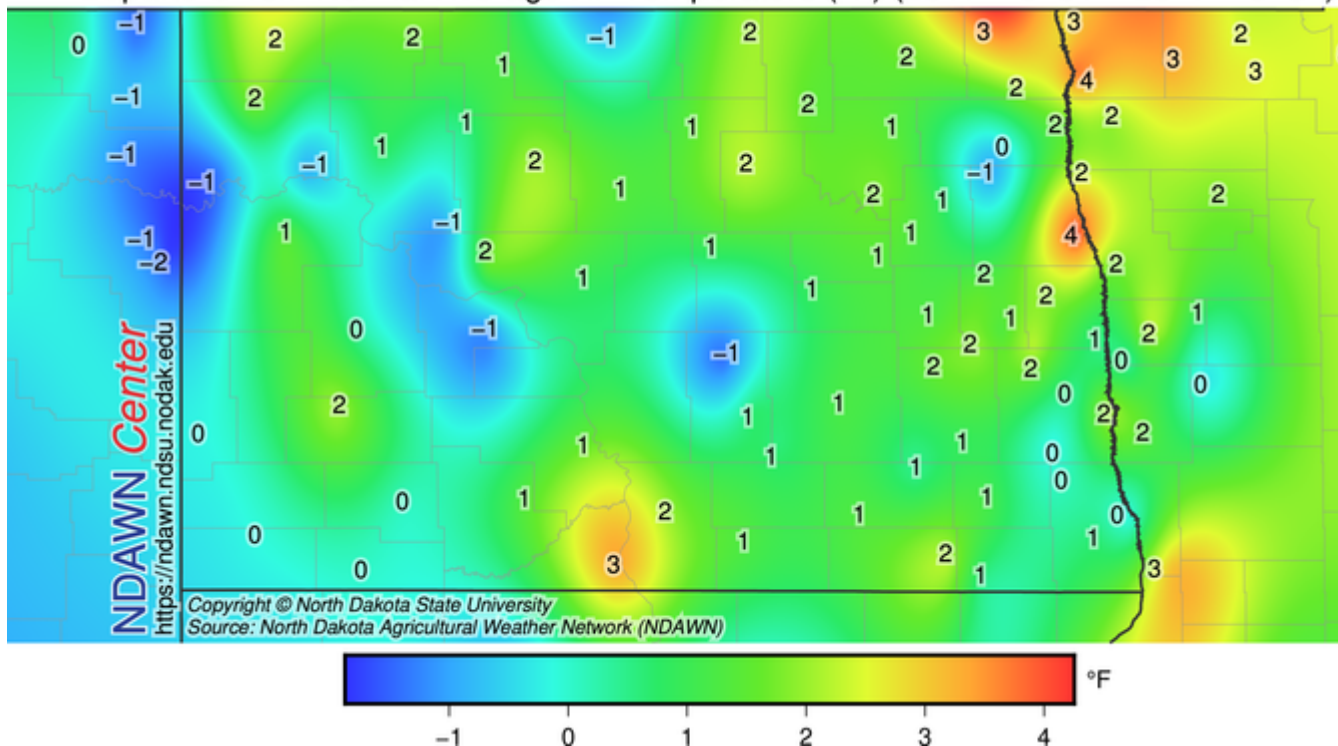


Figure 3. October 2017 Temperature Departure from Normal for North Dakota (NDAWN).

The official state average October temperature was 44.8°F, 13.4° colder than last month, 1.3° colder than the last October, but 1.4° warmer than the 1981-2010 average, making it the 54th warmest October in the 123-year period of record. It was the warmest October since 2016. Above-average temperatures were observed commonly in all parts of the state except for a few pockets where cooler than normal conditions were observed (Fig. 3). The state's highest and lowest daily temperatures ranged from 84° on October 21 in Hettinger, Adams County to 6° on October 31 in Riverdale, McLean County. Based on the historical records, the state average October temperature showed a positive trend of 0.1°F per decade since 1895. The highest and the lowest monthly state October average temperatures ranged from 54.8° in 1963 to 32.6° in 1925 (Figure 4).



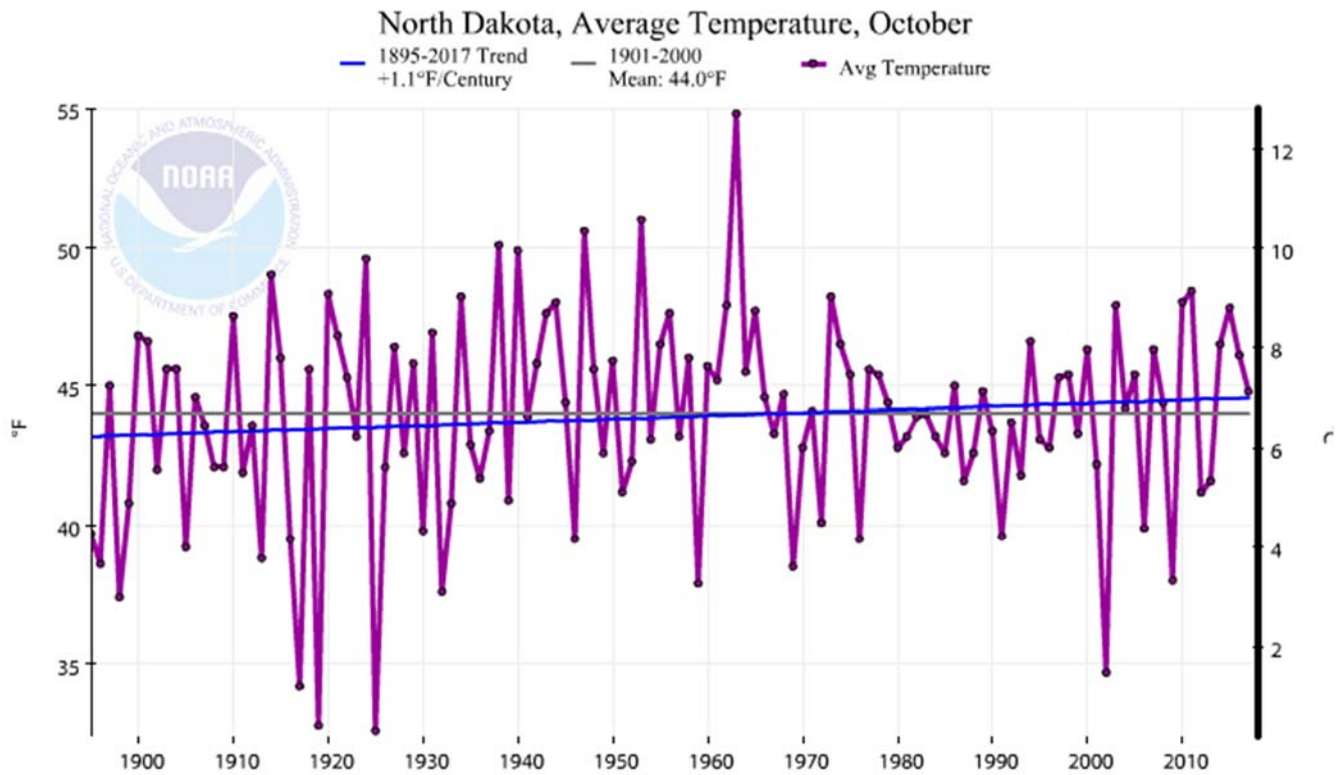
Feel free to use and share this content, but please do so under the conditions of our [Creative Commons](#) license and our [Rules for Use](#).



North Dakota Monthly Climate Summary

October 2017

Volume: 11, No: 10



October Temperature Statistics
 Record High Value: 54.8°F in 1963
 Record Low Value: 32.6°F in 1925
 Trend: 0.11°F per Decade

October 2017 Value: 44.8°F
 1981-2010 Average: 43.4°F
 Monthly Ranking: 54th Warmest
 Record Length: 123 Years

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



Feel free to use and share this content, but please do so under the conditions of our [Creative Commons](#) license and our [Rules for Use](#).



North Dakota Monthly Climate Summary

October 2017

Volume: 11, No: 10

Notable Impacts

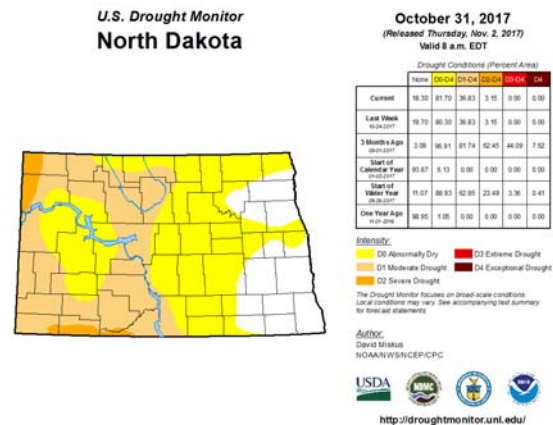
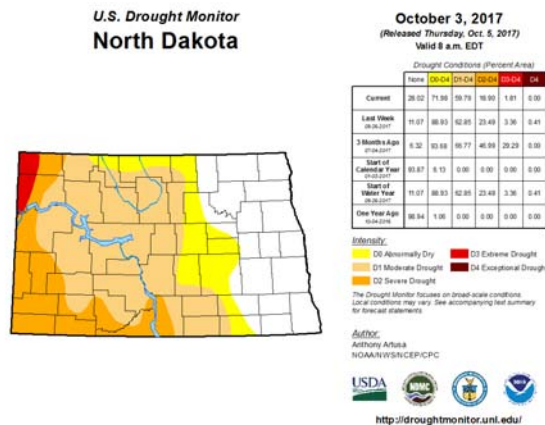


Figure 5. Drought Monitor map comparison for North Dakota in the beginning (on the left) and at the end (on the right) of October 2017.

Drought Monitor: Despite dry conditions dominating the month, it posed a very little or no impact since most agricultural activities required dry conditions enabling field work. Therefore, the Drought Monitor (DM) map did not change as much as it would if it were during the growing season. By the end of the month, the percent of the state experiencing drought was 37%, a 23% reduction compared to the previous month. Severe Drought conditions (D3) was removed by the middle of the month as the momentum of the wetness in September was carried into October.

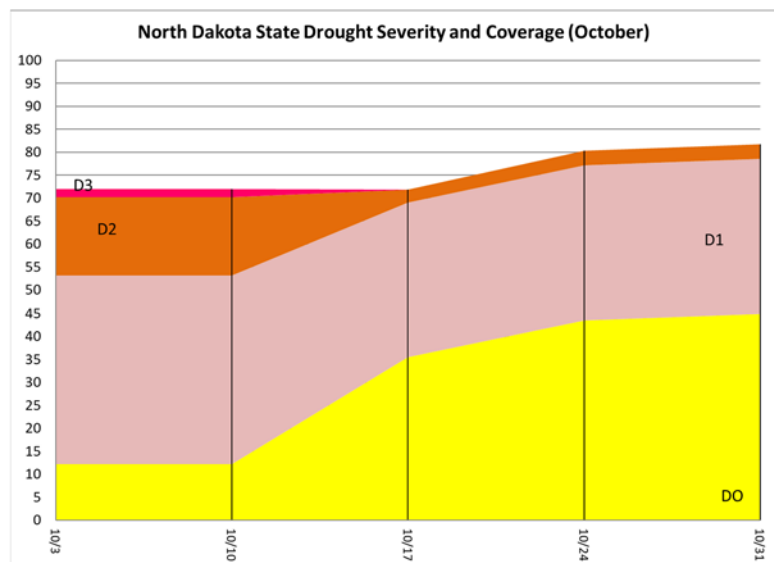


Figure 6. North Dakota State Drought Severity and Coverage Graph for October 2017.

Based on the DM map on October 31, only 3% of the state was in Severe Drought (D2), and 34% of the state was in Moderate Drought (D1). 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. D0, and D1) in time scale representing the state from the beginning to the end of the month with one-week resolution.



Feel free to use and share this content, but please do so under the conditions of our [Creative Commons](#) license and our [Rules for Use](#).



North Dakota Monthly Climate Summary

October 2017

Volume: 11, No: 10

Storm Reports: NDAWN’s highest peak gust in October was 56 mph, recorded at the Turtle Lake weather station in McLean County on October 22, 2017. The NOAA Storm Report reported no significant storm events in October.

Daily Record Event in October: Across the observation network of weather stations with at least 30 years of history, a total of 19 daily high-temperature related and 9 daily low-temperature related records were set or tied. A total of 2 highest daily precipitation related records were set or tied. Details of the records are in Table 1 below.

Highlight of the Month

*A daily highest temperature record of 83°F was set in **Hearth Butte Dam** on **October 21**, breaking the previous record by 5°F that was broken in 2003 (Years on record: 78).*

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

<i>Category</i>	Number of Records
<i>Highest Daily Max Temp.</i>	11
<i>Highest Daily Min Temp.</i>	8
<i>Lowest Daily Max Temp.</i>	4
<i>Lowest Daily Min Temp.</i>	5
<i>Highest Daily Precipitation</i>	1
<i>Highest Daily Snowfall</i>	1
Total	30

Acknowledgment: Many thanks to Loretta Herbel (NDAES) for her diligent editorial corrections.



Feel free to use and share this content, but please do so under the conditions of our [Creative Commons](#) license and our [Rules for Use](#).