



North Dakota Monthly Climate Summary

November 2016

Volume: 10, No: 11

Precipitation

North Dakota
State Climate
Office

NDSU NORTH DAKOTA
STATE UNIVERSITY

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request.

Based on the National Centers for Environmental Information (NCEI), statewide total November precipitation was 0.98", 0.49" greater than the last year, 0.3" greater than the 1981-2010 average, making it the 24th wettest November in the 122-year period of record. It was the wettest November since 2005. Above-average precipitation was observed in most areas of the state except for the extreme northeast and southwestern parts of the state (Figure 1). The greatest monthly accumulation was 3.85" recorded in Tolley, Renville County. The least amount of monthly precipitation accumulation was 0.19" recorded in Bowman, Bowman County. However, the greatest monthly snow accumulation was 21" recorded in Hazen, Mercer County. The greatest 24-hr precipitation was 2.05" that was recorded in Tolley, Renville County on November 30. The highest 24-hr snowfall of 11.2" was recorded in Stanley, Mountrail County on November 30. Based on historical records, statewide November precipitation showed no long-term trend 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).

November 01, 2016 Monthly Percent Precipitation

Created on: December 01, 2016 - 20:23 UTC
Valid on: December 01, 2016 12:00 UTC

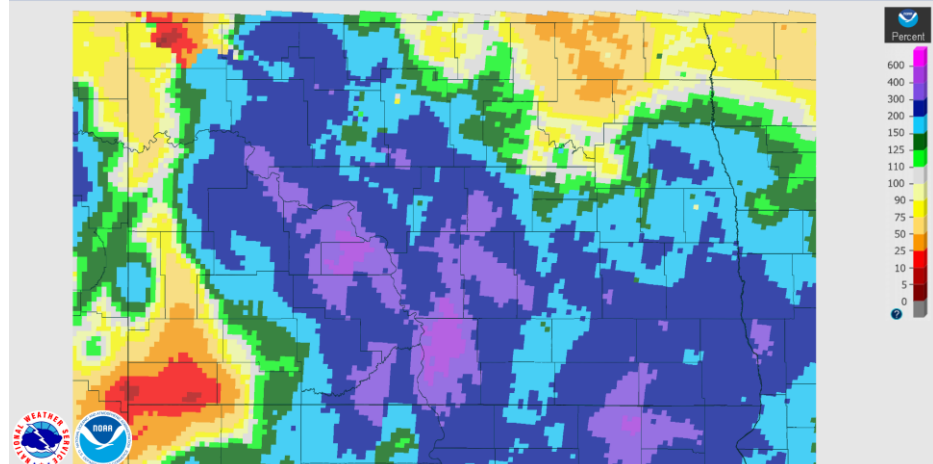


Figure 1. Precipitation Percent of Normal in November 2016 for North Dakota (NOAA)



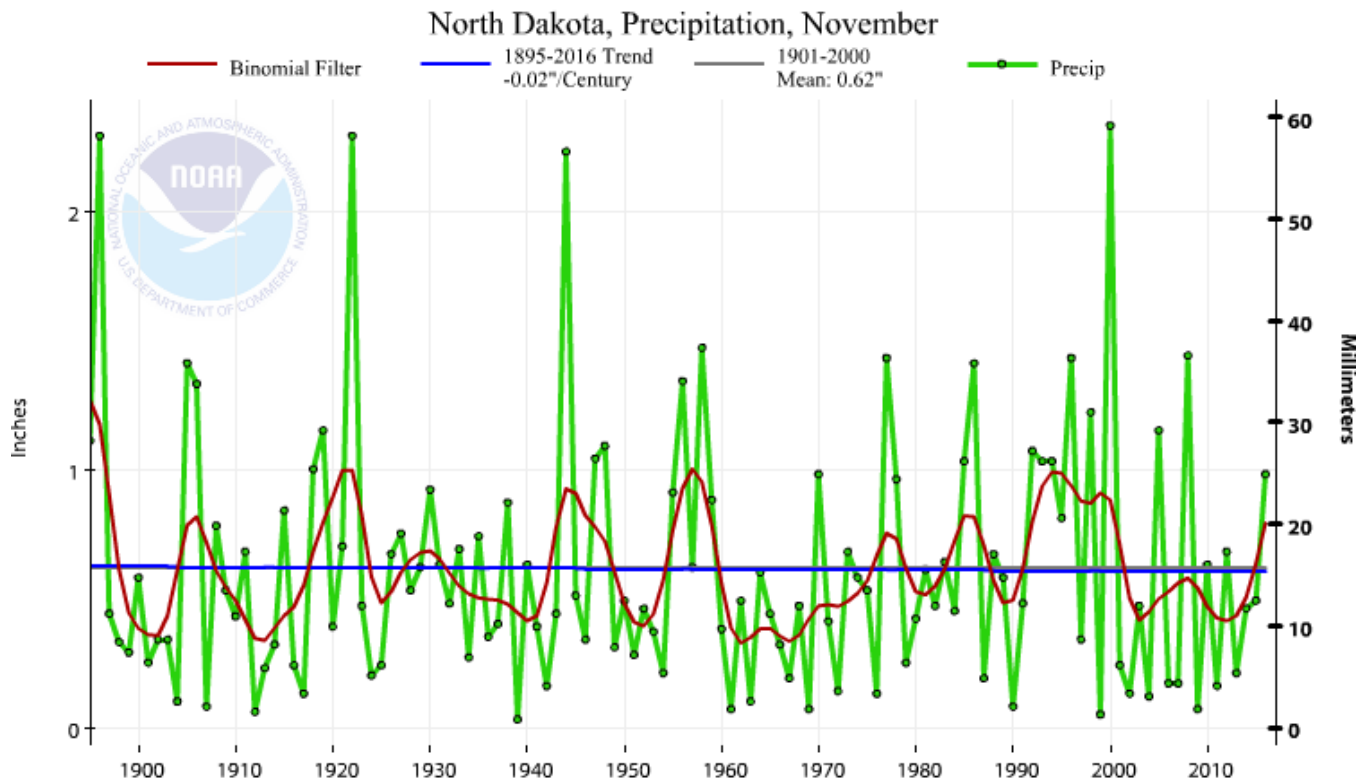
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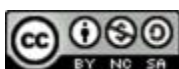
November Precipitation Statistics

2016 Amount: 0.98 inches
 Maximum: 2.33 inches in 2000
 Minimum: 0.03 inches in 1939

State Normal: 0.68 inches (1981-2010)

Years in Record: 122
 Monthly Ranking: 24th Wettest
 Trend: -0.02" per Century

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



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Temperature

The official state average November temperature was 39.2°F, 6.6° warmer than the last year, a staggering 11.8° warmer than the 1981-2010 average, making it the warmest November in the 122-year period of record. Above-average temperatures were observed all across the state with the greatest departure from normal values in the

northeastern parts of the state (Fig. 3). The state's highest and lowest daily

temperatures ranged from 77° on November 10 at New Salem Coop Station in Morton County, to 5° on November 19 in Bismark, Burleigh County. Based on historical records, the state average November temperature showed an increasing trend of 0.28°F per decade since 1895. The highest and the lowest monthly state November average temperatures ranged from 39.2° in 2016 (this year) to 6.1° in 1896 (Figure 4).

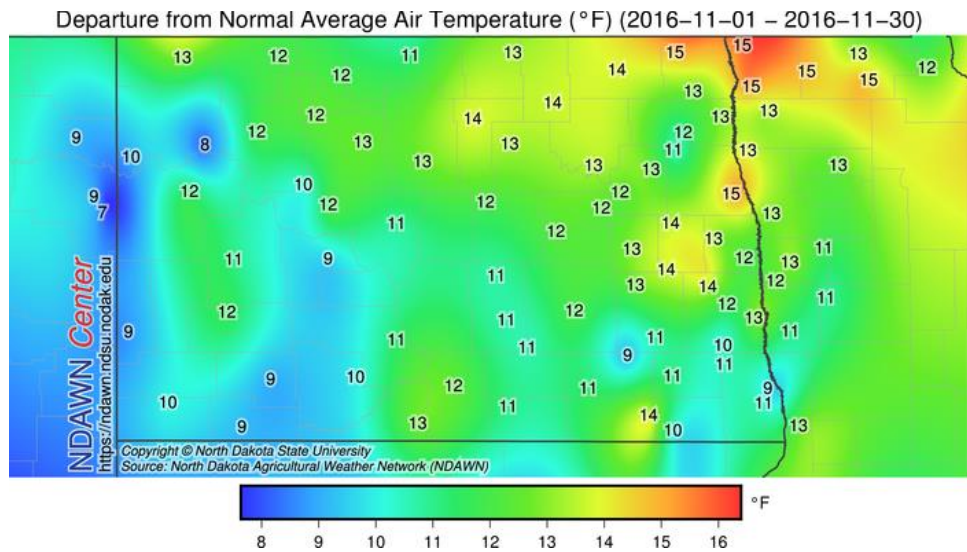


Figure 3. Temperature Departure from Normal in November 2016 for North Dakota (NDAWN)



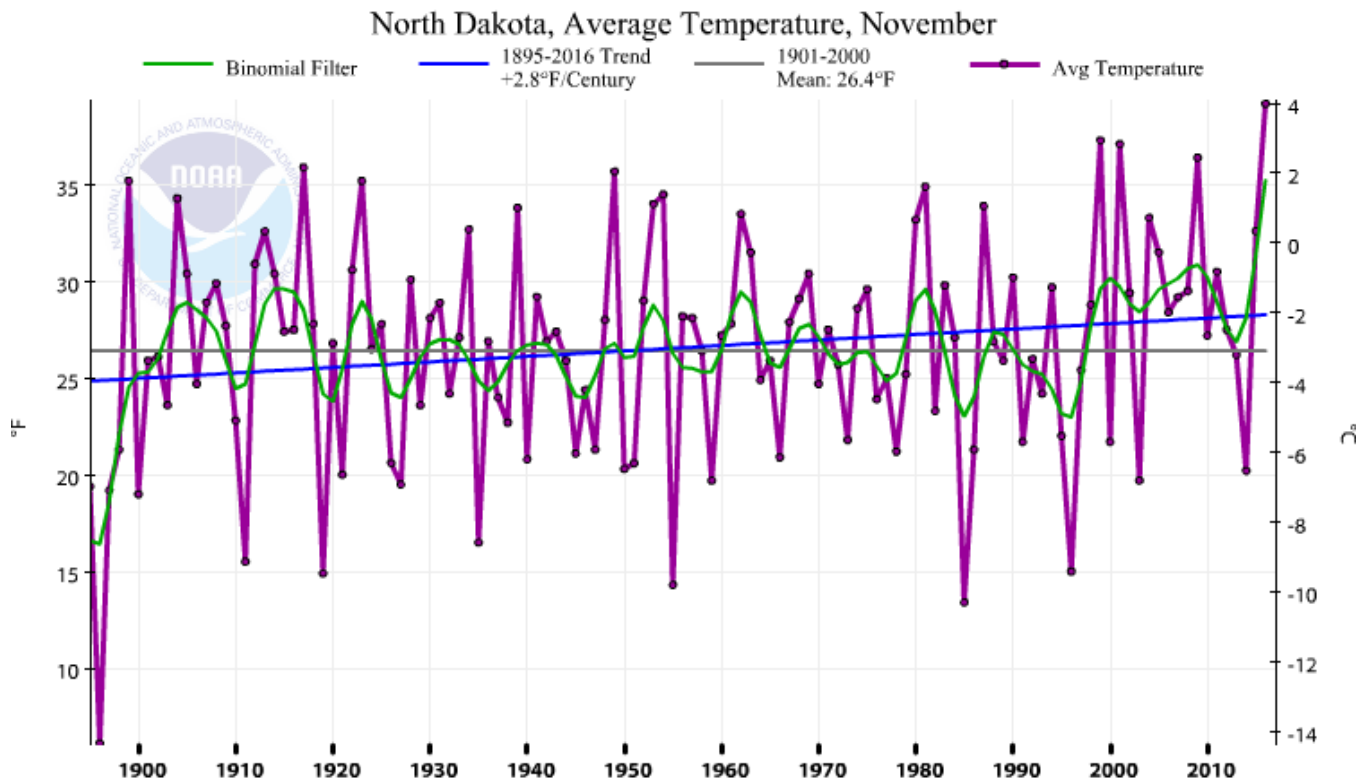
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November Temperature Statistics

2016 Amount: 39.2°F
 Maximum: 39.2°F 2016
 Minimum: 6.1°F 1896

State Normal: 27.3 (1981-2010)

Years in Record: 122

Monthly Ranking: The Warmest

Trend: 0.28°F per Decade

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



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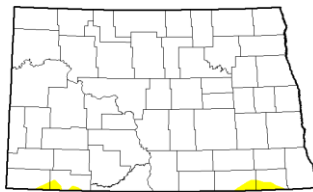
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Notable Impacts

U.S. Drought Monitor North Dakota



November 1, 2016
(Released Thursday, Nov. 3, 2016)
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0	D1	D2	D3	D4
Current	98.95	1.05	0.00	0.00	0.00	0.00
Last Week	98.88	1.12	0.00	0.00	0.00	0.00
3 Months Ago	98.05	0.95	2.98	1.20	0.00	0.00
Start of Calendar Year	91.32	30.68	5.47	0.00	0.00	0.00
Start of Water Year	98.70	3.30	0.41	0.00	0.00	0.00
One Year Ago	63.12	30.88	9.98	0.00	0.00	0.00

Intensity:
 D0 Abnormally Dry
 D1 Moderate Drought
 D2 Severe Drought
 D3 Extreme Drought
 D4 Exceptional Drought

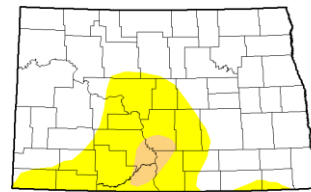
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
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National Drought Mitigation Center



<http://droughtmonitor.unl.edu/>

U.S. Drought Monitor North Dakota



November 29, 2016
(Released Thursday, Dec. 1, 2016)
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0	D1	D2	D3	D4
Current	73.40	26.60	2.79	0.00	0.00	0.00
Last Week	73.40	26.60	2.79	0.00	0.00	0.00
3 Months Ago	69.26	10.74	1.79	0.28	0.00	0.00
Start of Calendar Year	91.32	30.68	5.47	0.00	0.00	0.00
Start of Water Year	98.70	3.30	0.41	0.00	0.00	0.00
One Year Ago	67.11	42.89	9.27	0.00	0.00	0.00

Intensity:
 D0 Abnormally Dry
 D1 Moderate Drought
 D2 Severe Drought
 D3 Extreme Drought
 D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
Richard Hays
NCEM/NOAA



<http://droughtmonitor.unl.edu/>

Figure 5. Drought Monitor map Comparison for North Dakota in the Beginning (on the left) and at the end (on the right) of November 2016.

Drought Monitor: Based on the Drought Monitor (DM) the drought conditions intensified in central ND, especially along the Missouri River corridor south of Bismarck (Figure 5). By the end of the month, less than 3% of the state was under moderate drought and nearly 25% of the state was designated as “Abnormally Dry” based on the DM for November 29, 2016. Figure 6 below shows the statewide drought coverage in % and intensity (i.e. D1, D2, etc...) in time scale.

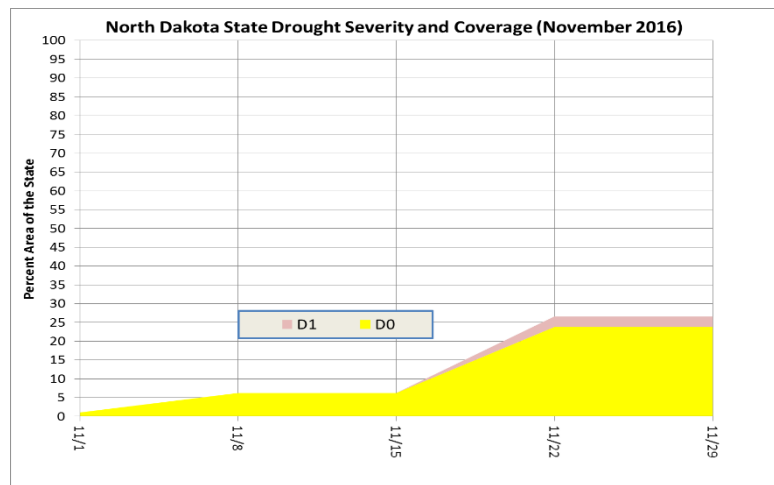


Figure 6. North Dakota State Drought Severity and Coverage Graph for November 2016.

Counties in the moderate drought areas on November 29: Burleigh, Emmons, Sioux, and Morton.



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Storm Reports: NDAWN's highest peak gust in November was 45 mph recorded at the Leonard weather station on November 18, 2016. Wyndmere, Prosper, Wahpeton, and Lisbon also reported similar wind speeds on the same day when near-blizzard conditions swept through the southeastern part of the state. At the end of the month, a very powerful winter storm on November 29 and 30 brought significant amounts of snow in the central North Dakota. Stanley, Lansford and Watford City broke all-time daily November snowfall total records. Bismarck received a sum of 19" of snow in November which marked the 6th snowiest November on record since 1886.

Daily Record Event in November: Across the observation network of weather stations with at least 30 years of history, 69 daily highest maximum temperature records were set or tied, 63 daily highest minimum temperature records were set or tied, 54 daily highest precipitation records were set or tied, and 25 daily highest snowfall records were set or tied.

Agricultural Impact: Warm and dry conditions allowed farmers to continue finishing harvest work. Based on the NASS report on November 28, corn and sunflower seed harvested was 97% both of which were near normal.

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



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