



# North Dakota Monthly Climate Summary

April 2017

Volume: 11, No: 4

## Precipitation

North Dakota State Climate Office

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Based on the National Centers for Environmental Information (NCEI), statewide total April precipitation was 0.95", 1.58" less than the last year, and 0.27" less than the 1981-2010 average, making it the 34th driest April in the 123-year period of record. It was the driest April since 2015. Above-average precipitation was limited in the east central part of the state. Widespread dryer-than-normal conditions were observed elsewhere (Figure 1). The greatest monthly precipitation accumulation was 2.85" recorded in Abercrombie, Richland County. The greatest monthly snowfall accumulation was 6.7" recorded in Grand Forks, Grand Forks County. The greatest 24-hr precipitation was 1.38" recorded in LaMoure, LaMoure County on April 18. The highest 24-hr snowfall of 6.2" was recorded in Grand Forks, Grand Forks County on April 26. Based on historical records, statewide April precipitation showed a slight positive long-term trend of 0.04" per century since 1895. The highest and the lowest April precipitation for the state ranged from 3.71" in 1986 to 0.11" in 1987 (Figure 2).

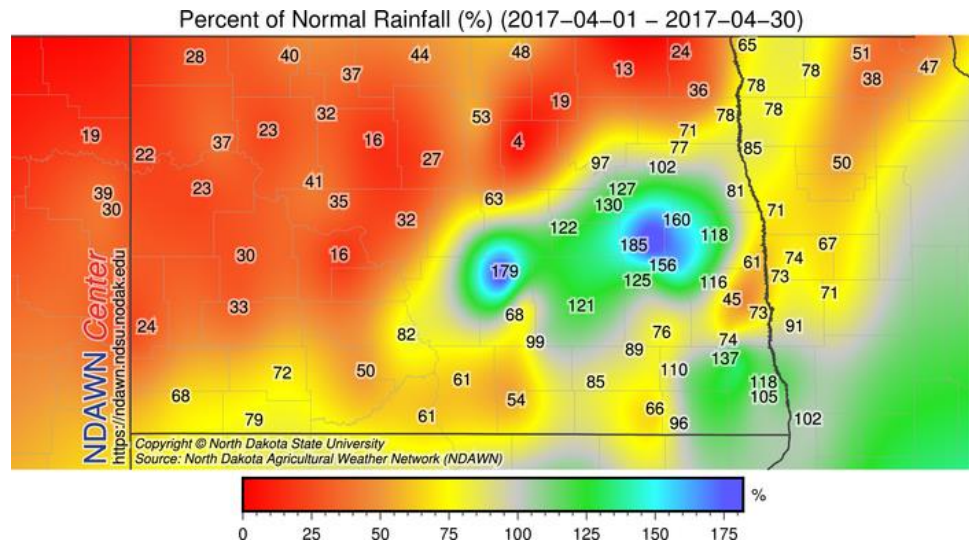


Figure 1. Precipitation Percent of Normal in April 2017 for North Dakota (North Dakota Agricultural Weather Network)



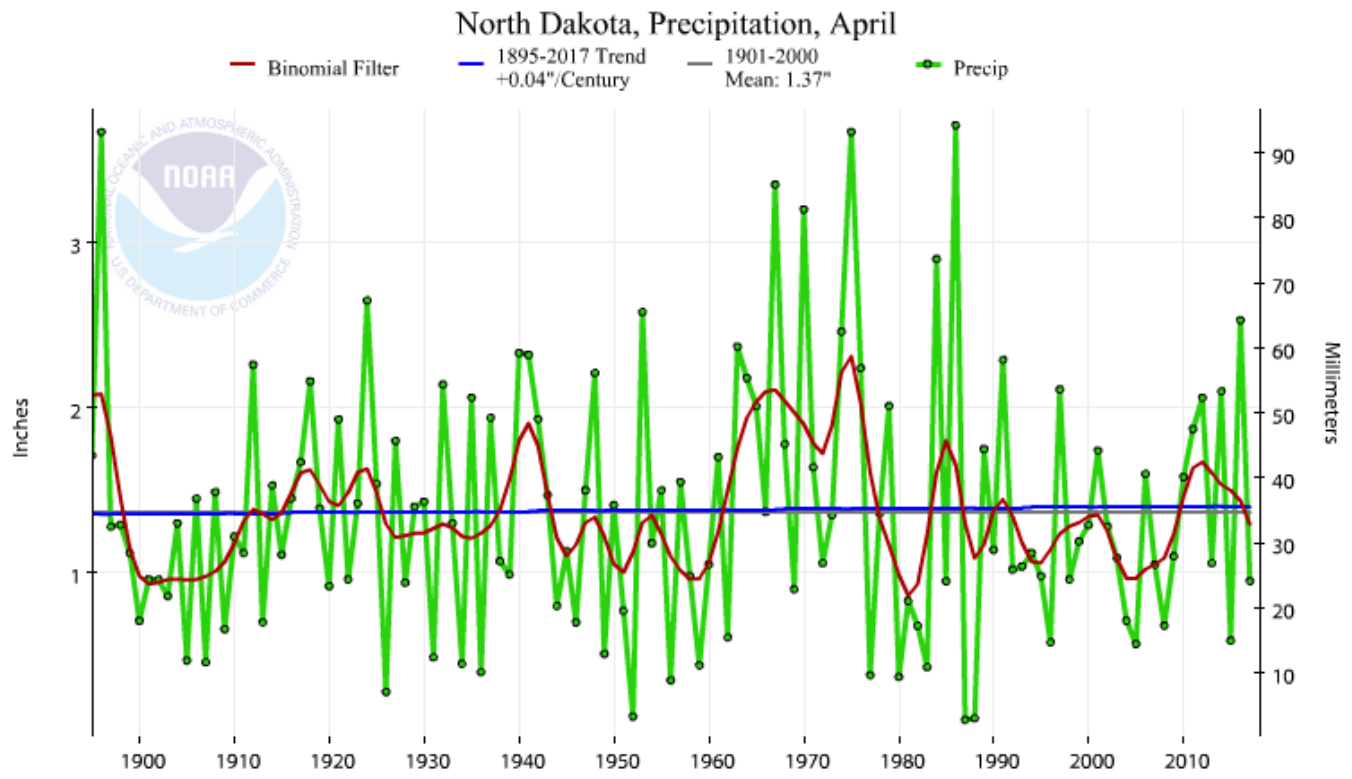
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### April Precipitation Statistics

Record High Value: 3.71 inches in 1986  
 Record Low Value: 0.11 inches in 1987  
 Trend: 0.04" per Century

April 2017 Value: 0.95 inches  
 1981-2010 Average: 1.22"  
 Monthly Ranking: 34th Driest  
 Record Length: 123 Years

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



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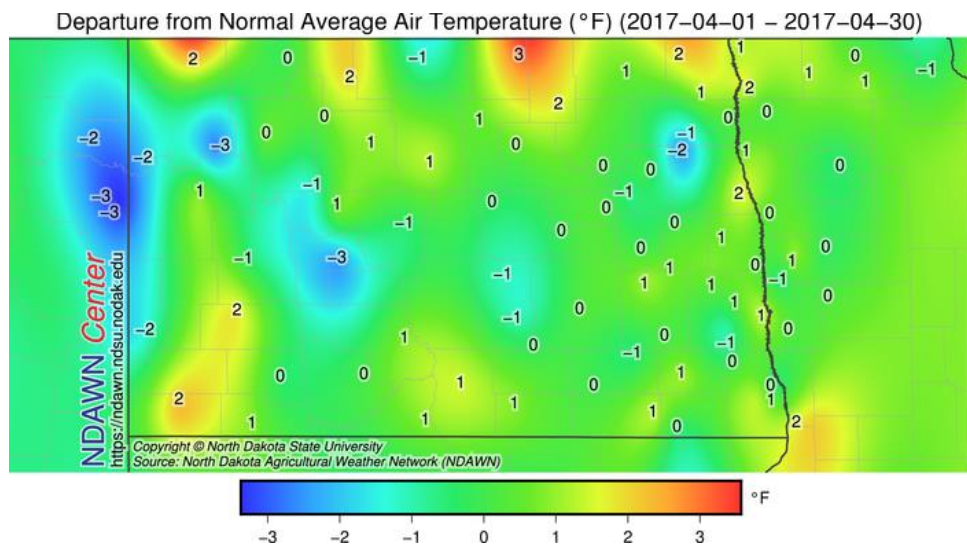
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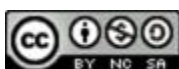
## Temperature

The official state average April temperature was 42.6°F, 0.7° warmer than the last year, and 0.2° warmer than the 1981-2010 average, making it the 42nd warmest April in the 123-year period of record. Above-average temperatures were observed in northern and southwestern parts of the state. Below average conditions were observed in the extreme western parts of the state. Elsewhere, it was mostly an average April



**Figure 3. Temperature Departure from Normal in April 2017 for North Dakota (NDAWN).**

(Fig. 3). The state's highest and lowest daily temperatures ranged from 81° on April 8 in Medora, Billings County to 9° on April 17 in Pretty Rock, Grant County. Based on historical records, the state average April temperature showed no discernable trend since 1895. The highest and the lowest monthly state April average temperatures ranged from 50.2° in 1987 to 31.3° in 2013 (Figure 4).



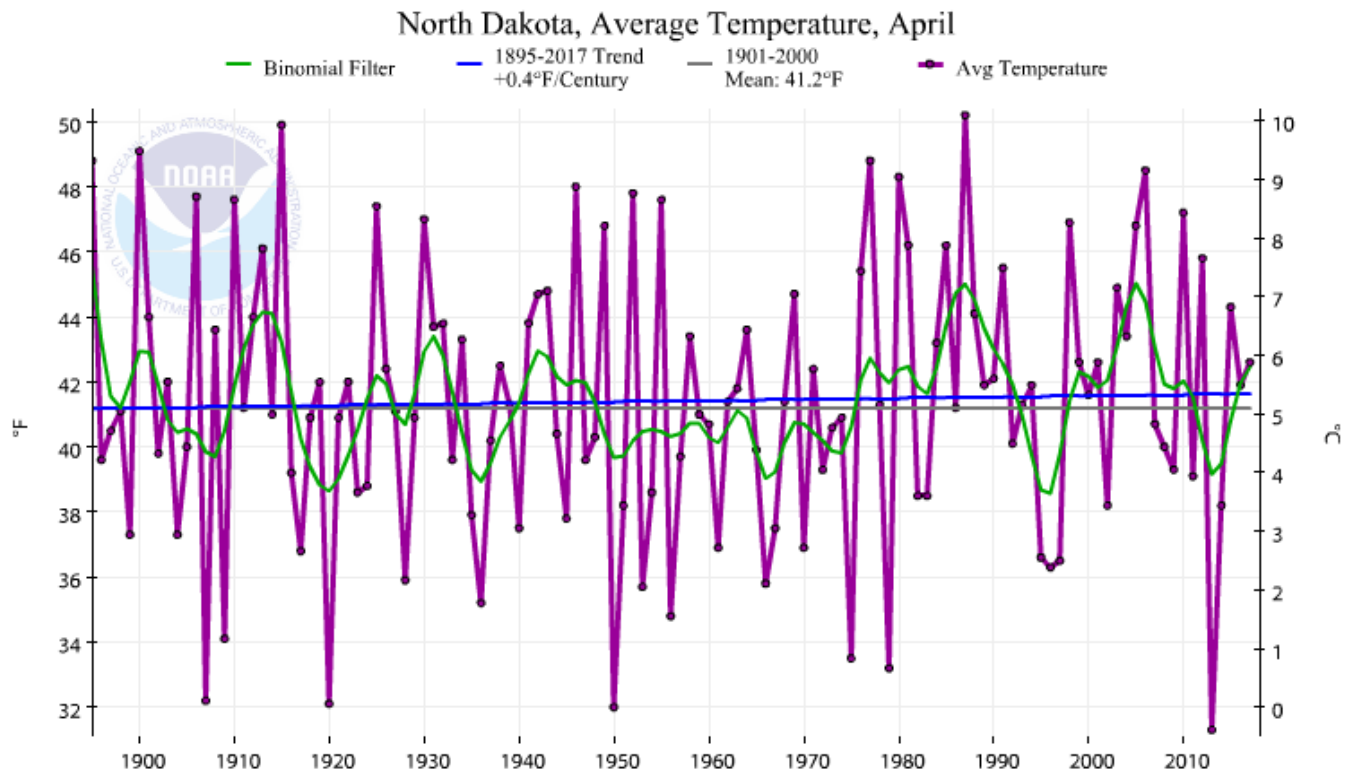
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### April Temperature Statistics

Record High Value: 50.2°F in 1987  
 Record Low Value: 31.3°F in 2013  
 Trend: 0.04°F per Decade

April 2017 Value: 42.6°F  
 1981-2010 Average: 42.4°F  
 Monthly Ranking: 42nd Warmest  
 Record Length: 123 Years

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



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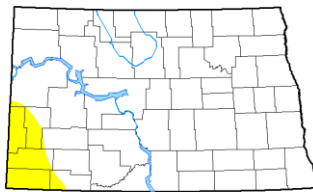
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## Notable Impacts

### U.S. Drought Monitor North Dakota



March 28, 2017  
(Released Thursday, Mar. 30, 2017)  
Valid 8 a.m. EDT

Drought Conditions (Percent Area)	None					D0					D1					D2					D3					D4				
	None	D0	D1	D2	D3	D4	None	D0	D1	D2	D3	D4	None	D0	D1	D2	D3	D4	None	D0	D1	D2	D3	D4	None	D0	D1	D2	D3	D4
Current	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Last Week (03/21/17)	93.83	6.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3 Months Ago (01/27/17)	93.87	6.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Start of Calendar Year (01/01/17)	93.87	6.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Start of Water Year (08/01/16)	96.70	3.30	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
One Year Ago (03/28/16)	7.87	92.03	10.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

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

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

Author:  
Eric Luebbehusen  
U.S. Department of Agriculture



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

### U.S. Drought Monitor North Dakota



May 2, 2017  
(Released Thursday, May 4, 2017)  
Valid 8 a.m. EDT

Drought Conditions (Percent Area)	None					D0					D1					D2					D3					D4				
	None	D0	D1	D2	D3	D4	None	D0	D1	D2	D3	D4	None	D0	D1	D2	D3	D4	None	D0	D1	D2	D3	D4	None	D0	D1	D2	D3	D4
Current	91.22	8.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Last Week (04/25/17)	91.22	8.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3 Months Ago (02/24/17)	93.81	6.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Start of Calendar Year (01/01/17)	93.87	6.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Start of Water Year (08/01/16)	96.70	3.30	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
One Year Ago (05/02/16)	72.34	27.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

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

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

Author:  
Brian Fuchs  
National Drought Mitigation Center



<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 April 2017.

**Drought Monitor:** Despite the drier-than-normal conditions in the northwestern half of the state shown in Figure 1, a plentiful supply of soil moisture from the previous season negated the impact of this precipitation deficit. Based on the Drought Monitor (DM), less than 10% of the state was designated as “Abnormally Dry” (Figure 5). Figure 6 on the right shows the statewide drought coverage in % and intensity (i.e. DO) in time scale representing the state from the beginning to the end of the month with one-week resolution. A slight increase in coverage in abnormally dry conditions observed during the week of April 11 reflecting true conditions in this parts of the state. If timely precipitation is not received, areas to watch are southern and the southeastern parts of the state.

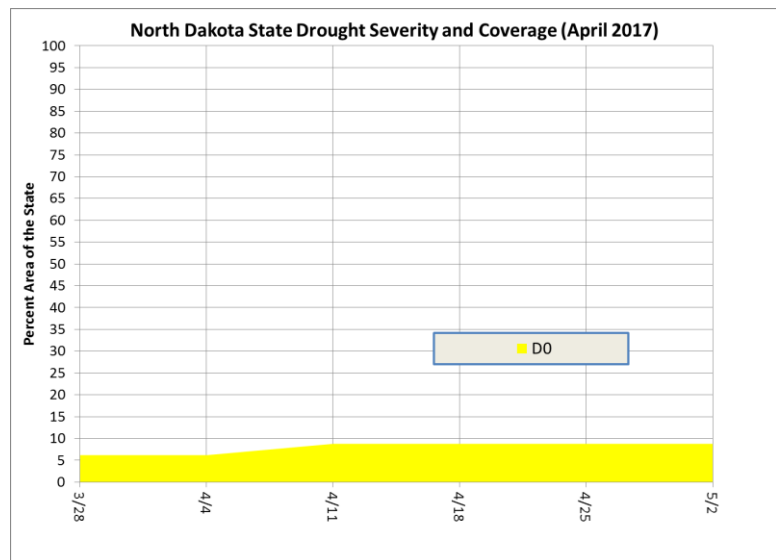


Figure 6. North Dakota State Drought Severity and Coverage Graph for April 2017.



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**Storm Reports:** NDAWN’s highest peak gust in April was 50 mph, recorded at the Watford City weather station in Williams County on April 13, 2017. A late winter storm on April 23 brought over 2” of snow in an area between Bismarck and Minot. Another winter storm affected southeastern North Dakota on April 26 and 27 bringing up to 3.82” snow in Lisbon.

**Daily Record Event in April:** Across the observation network of weather stations with at least 30 years of history, a total of 18 daily high-temperature related and 25 daily low-temperature related records were set or tied. A total of 15 highest daily precipitation related records (including snowfall) were set or tied. Details of the records are in Table 1 below.

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

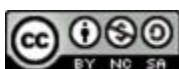
<i>Category</i>	<b>Number of Records</b>
<i>Highest Daily Max Temp.</i>	1
<i>Highest Daily Min Temp.</i>	17
<i>Lowest Daily Max Temp.</i>	23
<i>Lowest Daily Min Temp.</i>	2
<i>Highest Daily Precipitation</i>	7
<i>Highest Daily Snowfall</i>	8
<b>Total</b>	<b>58</b>

### *Highlight of the Month*

*A daily lowest minimum temperature record of 10°F set in Medora on April 24, breaking the previous record by 5° that was broken in 1951 (Years on record: 68).*

**Agricultural Impact:** Cold temperatures towards the end of the month along with snow in the east-central parts of the state halted the field work. USDA’s National Agricultural Statistics Service (NASS) reported both corn and spring wheat well behind last year and average. Based on the NASS report published on May 1, barley, oats, sugarbeet, canola, and potato were also well behind last year and the average.

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



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