



# North Dakota Monthly Climate Summary

May 2018

Volume: 12, No: 5

## Precipitation

North Dakota State Climate Office: Your Resource for Climate Information

**NDSU** NORTH DAKOTA STATE UNIVERSITY

North Dakota State University

College of Agriculture, Food Systems, and Natural Resources

304 Morrill Hall, Fargo, N.D. 58108

[www.ndsu.edu/ndSCO](http://www.ndsu.edu/ndSCO)

[Adnan.Akyuz@ndsu.edu](mailto:Adnan.Akyuz@ndsu.edu)

701-231-6577

This publication will be made available in alternative formats upon request.

Based on the National Centers for Environmental Information (NCEI), the statewide total May precipitation was 1.83 inches, which was 1.34 inches more than last month, 0.82 inch more than in May 2017 and also 0.7 inch less than the 1981-2010 average, making it the 46th driest May in the 124-year period of record. It was the driest May since 2017 (Table 1). Below-average precipitation was observed commonly in all parts of the state except for a small area in south-central North Dakota, where above-average conditions were observed (Figure 1). The greatest monthly precipitation accumulation was 4.31 inches, recorded in Streeter, Stutsman County. The greatest 24-hour precipitation was 2.65 inches, recorded in Ashley, McIntosh County, on May 18. Based on historical records, statewide May precipitation showed a positive long-term trend trend of 0.34 inch per century since 1895. The highest and lowest May precipitation for the state ranged from 5.96 inches in 1927 to 0.23 inch in 1901 (Figure 2).

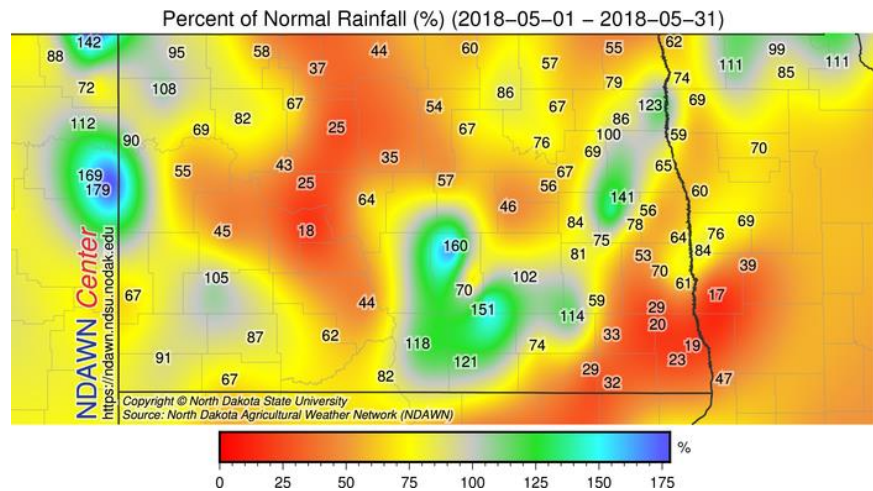


Figure 1. May 2018 precipitation percent of normal for North Dakota. (NDAWN Center, NDSU)



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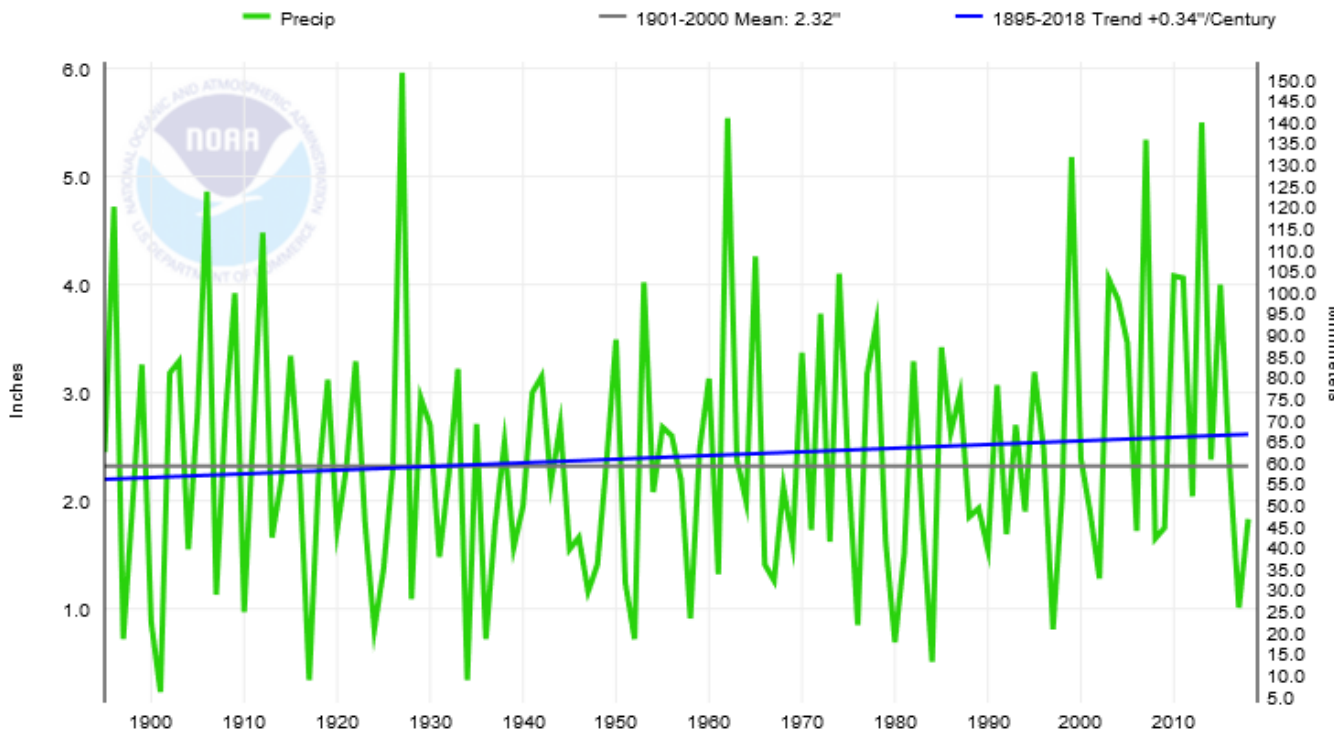


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North Dakota, Precipitation, May



### May Precipitation Statistics

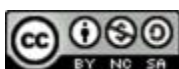
Record high value: 5.96 inches in 1927  
 Record low value: 0.23 inch in 1901  
 Trend: 0.34 inch per century

May 2018 value: 1.83 inches  
 1981-2010 average: 2.53 inches  
 Monthly ranking: 46th driest  
 Record length: 124 years

Figure 2. Historical May precipitation time series for North Dakota.

Table 1. North Dakota May Precipitation Ranking Table

Period	Value	Normal	Anomaly	Rank	Wettest/Driest Since
May 2018	1.83"	2.53	-0.7	46th Driest 79th Wettest	Driest Since 2017 Wettest Since 2016



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## Temperature

Departure from Normal Average Air Temperature (°F) (2018-05-01 – 2018-05-31)

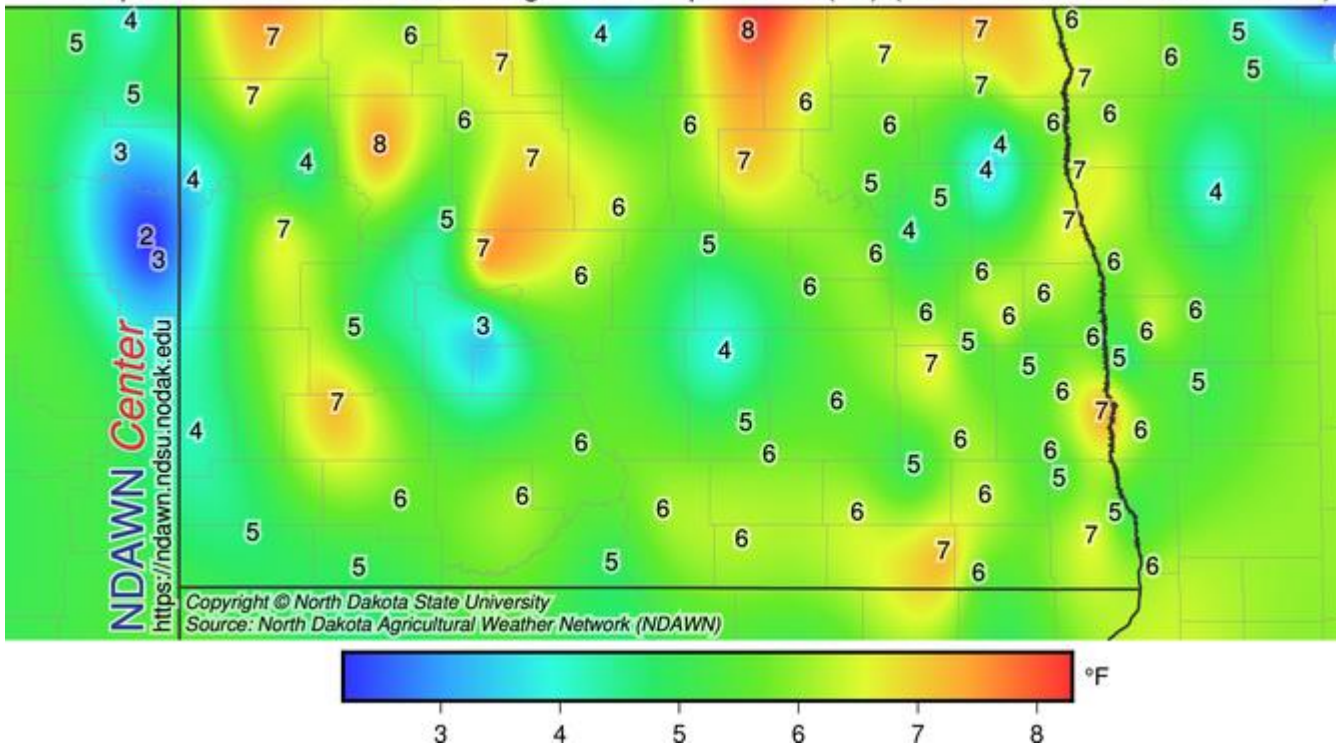


Figure 3. May 2018 temperature departure from normal for North Dakota. (NDAWN)

The official state average May temperature was 59.9 F, 27.1 F warmer than last month, 5.1 F warmer than in May 2017 and also 5.8 F warmer than the 1981-2010 average, making it the seventh warmest May in the 124-year period of record. It was the warmest May since 1988 (Table 2). Above-average temperatures were observed commonly in the state, with the highest departure from the average in the northern part of the state (Figure 3). The state's highest and lowest daily temperatures ranged from 98 F on May 27 in Watford City, McKenzie County, to 22 F on May 2 and May 4 in Willow City, Bottineau County. Based on the historical records, the state average May temperature showed a positive long-term trend of 1 F per century since 1895. The highest and the lowest monthly state May average temperatures ranged from 63.4 F in 1934 to 44.4 F in 1907 (Figure 4).



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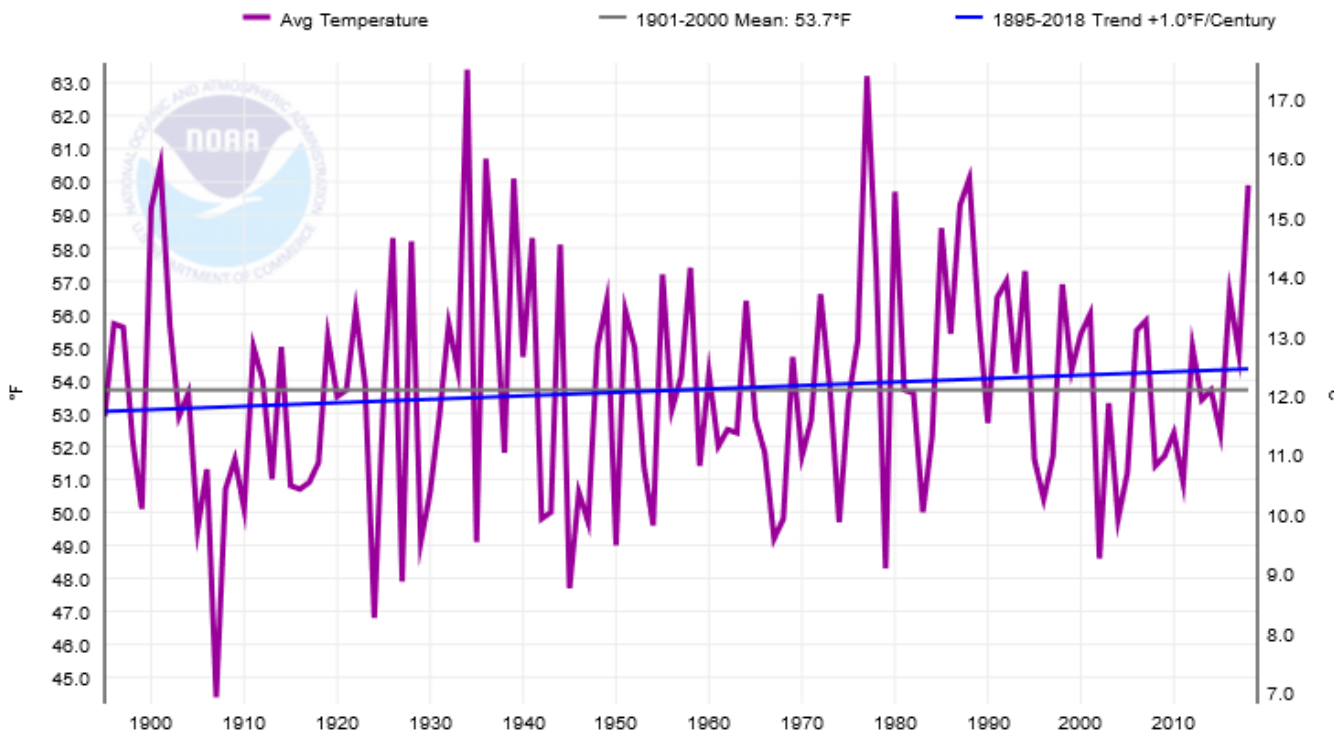


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North Dakota, Average Temperature, May



### May Temperature Statistics

Record high value: 63.4 F in 1934  
 Record low value: 44.4 F in 1907  
 Trend: 1 F per decade

May 2018 value: 59.9 F  
 1981-2010 average: 54.1 F  
 Monthly ranking: 7th warmest  
 Record length: 124 years

Figure 4. Historical May temperature time series for North Dakota.

Table 2. North Dakota May Temperature Ranking Table

Period	Value	Normal	Anomaly	Rank	Warmest/Coolest Since
May 2018	59.9	54.1	5.8	7th Warmest 118th Coolest	Warmest since 1988 Coolest since 2017



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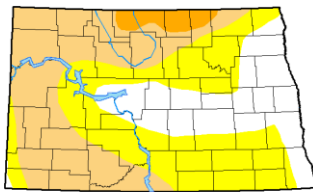
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## Notable Impacts

U.S. Drought Monitor  
North Dakota



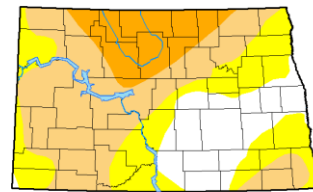
May 1, 2018  
(Released Thursday, May 3, 2018)  
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)				
	None	D0	D1	D2	D3
Current	24.04	75.96	30.01	3.46	0.00
Last Week (5/24/18)	34.81	65.19	38.55	0.00	0.00
3 Months Ago (2/27/18)	5.10	96.84	60.98	4.41	0.00
Start of Calendar Year (1/1/18)	7.74	92.26	60.57	4.47	0.00
Start of Water Year (9/26/17)	11.07	88.93	62.85	23.49	3.36
One Year Ago (5/1/17)	91.22	8.78	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: David Simeral, Western Regional Climate Center  
 USDA, NWS, NOAA, NCEP/NCAR  
<http://droughtmonitor.unl.edu/>

U.S. Drought Monitor  
North Dakota



May 29, 2018  
(Released Thursday, May 31, 2018)  
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)				
	None	D0	D1	D2	D3
Current	19.31	80.69	53.30	13.95	0.00
Last Week (5/21/18)	19.35	80.64	47.39	6.70	0.00
3 Months Ago (2/27/18)	5.08	96.92	64.73	4.41	0.00
Start of Calendar Year (1/1/18)	7.74	92.26	60.57	4.47	0.00
Start of Water Year (9/26/17)	11.07	88.93	62.85	23.49	3.36
One Year Ago (5/1/17)	91.10	99.90	24.11	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: Anthony Arfano, NOAA-NWSN/CEP/CPC  
 USDA, NWS, NOAA, NCEP/NCAR  
<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 May 2018.

**Drought Monitor (DM):** In general, overall drought conditions worsened throughout the month. Toward the end of May, severe drought conditions in the north-central part of the state expanded westward and southward. By the end of the month, 51 percent of the state was experiencing drought (increased in coverage by 12 percent, compared with the previous month), 14 percent of which was in the severe category. Figure 5 shows a comparison of the drought conditions across the state from the beginning to the end of the month. Figure 6 on the right shows the statewide drought coverage in percentage and intensity (D0, D1 and D2) in a time scale representing the state from the beginning to the end of the month, with a one-week resolution.

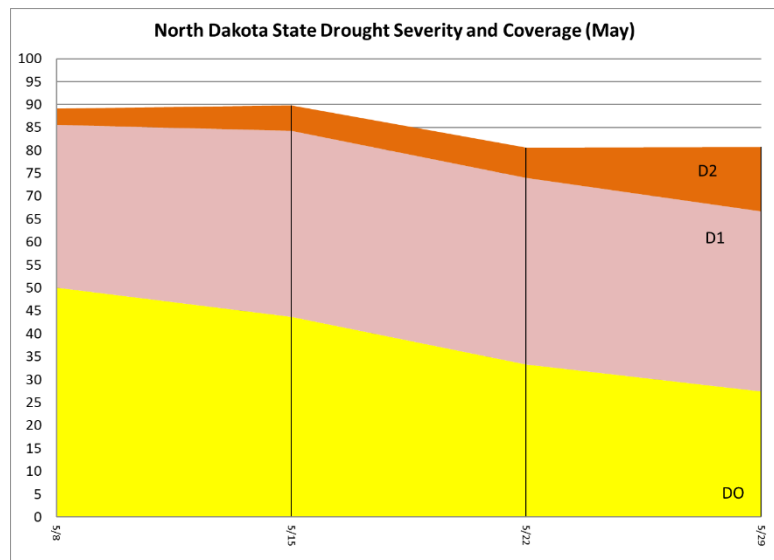


Figure 6. North Dakota drought severity and coverage for May 2018.



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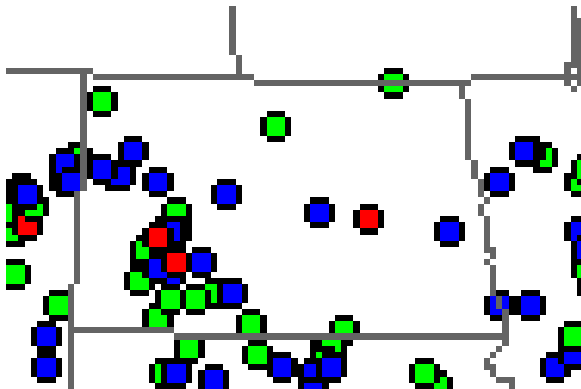
Volume: 12, No: 5

**Storm Reports:** NDAWN's highest peak gust in May was 57 mph, recorded at the Carson weather station in Grant County on May 31, 2018.

The NOAA Storm Report reported a total of 35 significant storm events in May. Table 3 summarises the number of tornado, hail and damaging wind reports in May, while Figure 7 geographically displays the locations of these storm reports.

*Table 3. Summary of May Severe Storm Reports in North Dakota (SPC, NOAA)*

<b>Category</b>	<b>Number of Reports</b>
<i>Tornado reports</i>	3
<i>Hail reports</i>	18
<i>Wind reports</i>	14
<b>Total</b>	<b>35</b>



**Figure 7. Map of May 2018 North Dakota storm events (red: tornado; blue: wind; green: hail).**





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**Daily Record Event in May:** Across the observation network of weather stations with at least 30 years of history, a total of 71 daily high and two daily low-temperature-related records were set or tied. A total of four highest daily precipitation-related records were set or tied. Details of the records are in Table 4 below.

*Table 4. Summary of daily May records broken or set in North Dakota in May. (NCEI Daily Weather Records)*

<i>Category</i>	<i>Number of Records</i>
<i>Highest daily max. temp.</i>	29
<i>Highest daily min. temp.</i>	42
<i>Lowest daily max. temp.</i>	2
<i>Lowest daily min. temp.</i>	0
<i>Highest daily precipitation</i>	4
<i>Highest daily snowfall</i>	0
<i>Total</i>	<i>77</i>

## *Highlight of the Month\**

*A highest daily minimum temperature of 70 degrees was set in **Fargo** on **May 24**, breaking the previous record for that date by 6 degrees, which was set in 2006 (years on record: 127).*

*\*The records in this box may be different than the record on Pages 1 and 3 due to the fact that this page only includes records for stations with at least 30 years of history.*



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