



North Dakota Monthly Climate Summary

February 2019

Volume: 13, No: 2

Precipitation

North Dakota State Climate Office: Your Resource for Climate Information



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Based on the National Centers for Environmental Information (NCEI), the statewide average February precipitation was 1.04 inches, which was 0.58 inch more than last month, 0.69 inch more than in February 2018, and 0.6 inch more than the 1981-2010 average, making it the fifth wettest February in the 125-year period of record. It was the wettest February since 2009 (Table 1). The numbers less than 100 in Figure 1 below are shaded in yellow and red to depict the region with below-average rainfall. In contrast, the numbers that are greater than 100 in the same figure are shaded in green, blue and purple to depict the region with above-average rainfall in February. The greatest monthly precipitation accumulation was 2.51 inches, recorded in LaMoure, LaMoure County. The greatest 24-hour precipitation was 1.04 inches, recorded in Minot, Ward County, on Feb. 4. The greatest monthly snowfall accumulation was 35 inches, recorded in Ellendale, Dickey County. That is the record February monthly snowfall total for Ellendale since 1893. The greatest 24-hour snowfall was 12 inches, recorded also in Ellendale on Feb. 8. Based on historical records, statewide February precipitation showed a negative long-term trend of 0.05 inch per century since 1895. The highest and lowest February precipitation for the state ranged from 1.59 inches in 1998 to 0.07 inch in 1934 (Figure 2).

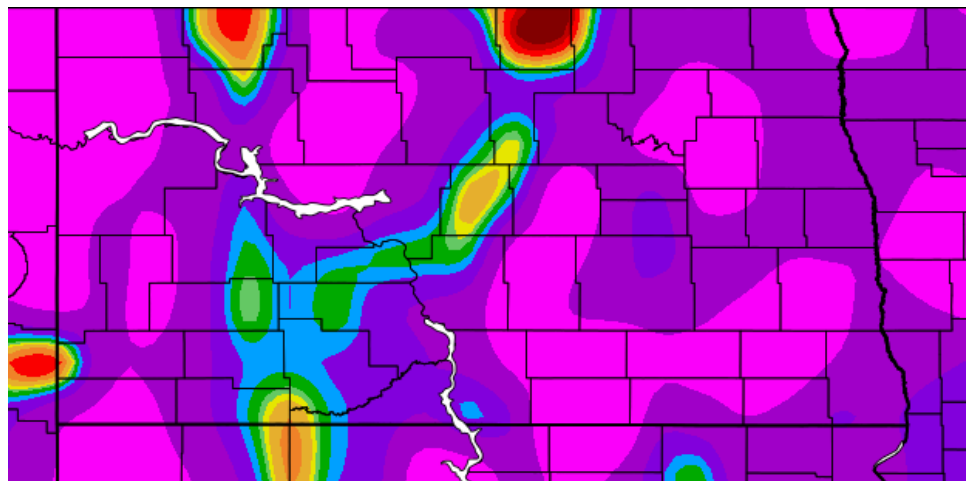


Figure 1. February 2019 precipitation percent of normal for North Dakota. (High Plains Regional Climate Center)



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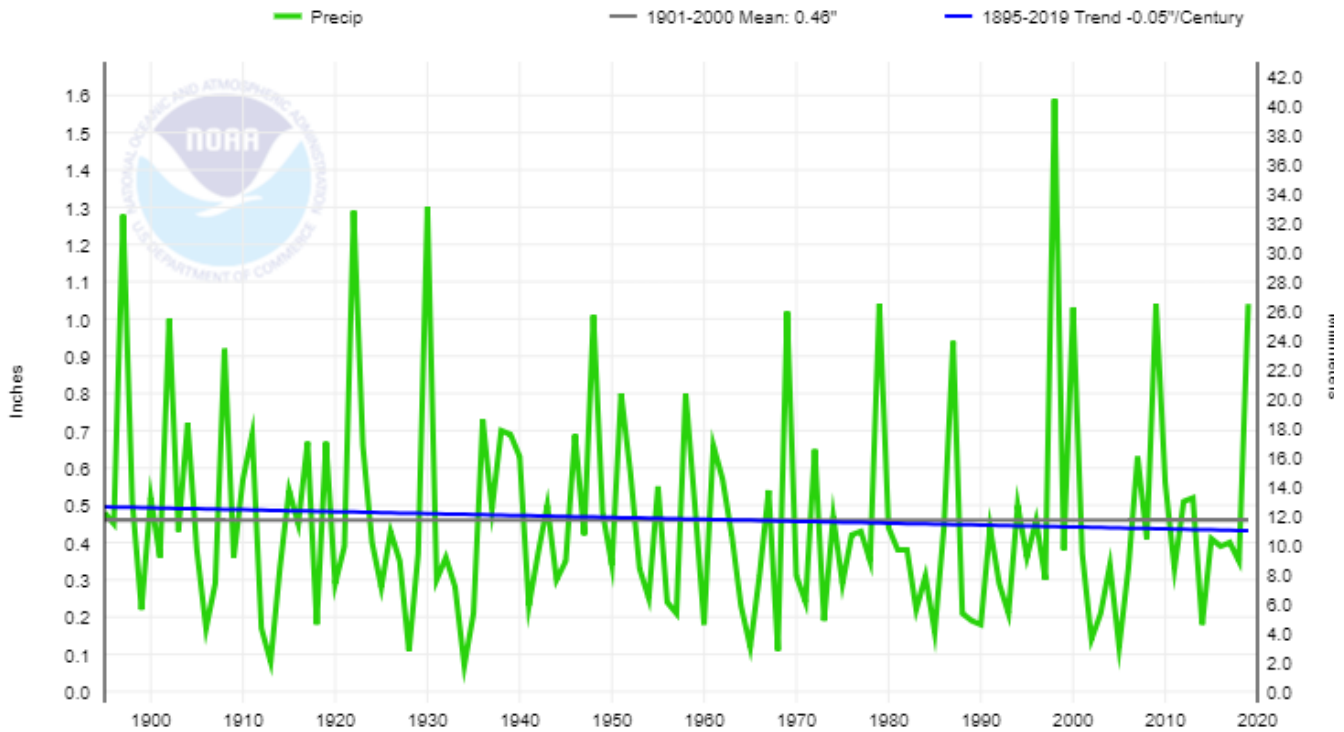


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North Dakota, Precipitation, February



February Precipitation Statistics

Record high value: 1.59 inches in 1998
 Record low value: 0.07 inch in 1934
 Trend: minus 0.05 inch per century

February 2019 value: 1.04 inches
 1981-2010 average: 0.44 inch
 Monthly ranking: 5th wettest
 Record length: 125 years

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

Table 1. North Dakota February Precipitation Ranking Table.

Period	Value	Normal	Anomaly	Rank	Wettest/Driest Since	Record Year
February 2019	1.04"	0.44"	0.6	121st driest 5th wettest	Driest since 2018 Wettest since 2009	1934 1998



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Temperature

The official state average February temperature was minus 2.9 F, 12.9 F cooler than last month and 8.3 F cooler than in February 2018. The average February temperature was 18.6 F cooler than the 1981-2010 average, making it the second coldest February in the 125-year period of record. It was the coldest February since 1936 (Table 2). The negative numbers in Figure 3 are shaded in green and blue to depict the region with below-average temperatures in February. The state's highest and lowest daily temperatures ranged from 52 F on Feb. 2 in Watford City, McKenzie County, to minus 47 F six days later on Feb. 8, in Bottineau, Bottineau County. Based on the historical records, the state average February temperature showed a positive long-term trend of 0.6 F per decade since 1895. The highest and lowest monthly state February average temperatures ranged from 29.6 F in 1954 to minus 14.1 F in 1936 (Figure 4).

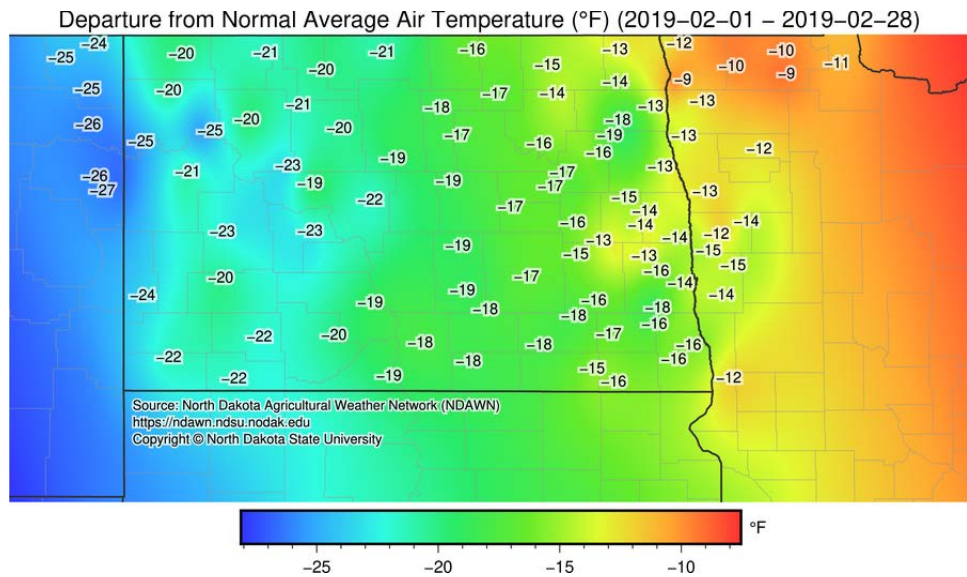


Figure 3. February 2018 temperature departure from normal for North Dakota. (NDAWN)



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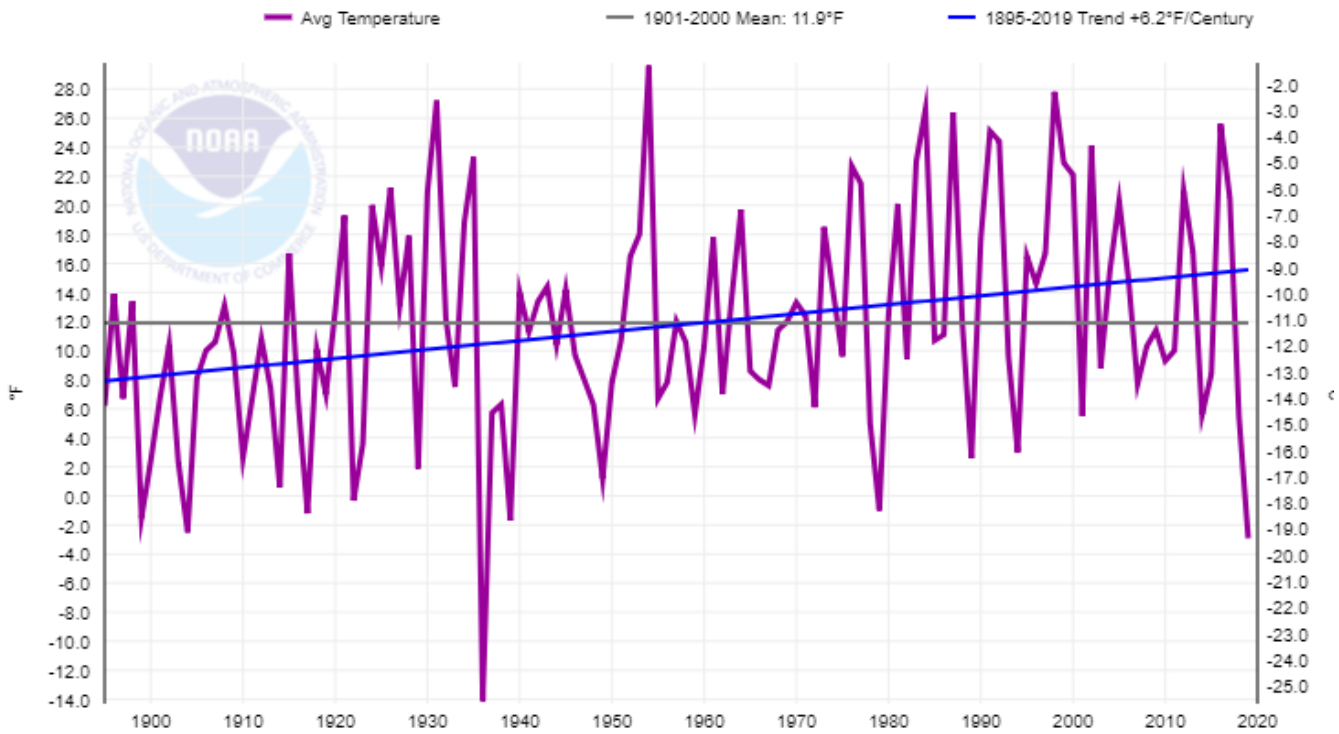


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North Dakota, Average Temperature, February



February Temperature Statistics

Record high value: 29.6 F in 1954
 Record low value: minus 14.1 F in 1936
 Trend: 0.6 F per decade

February 2019 value: minus 2.9 F
 1981-2010 average: 15.7 F
 Monthly ranking: 2nd coldest
 Record length: 125 years

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

Table 2. North Dakota February Temperature Ranking Table.

Period	Value	Normal	Anomaly	Rank	Warmest/Coollest Since	Record Year
February 2019	-2.9	15.7	-18.6	2nd coldest 124th warmest	Coollest since 1936 Warmest since 2018	1936 1954



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Notable Impacts

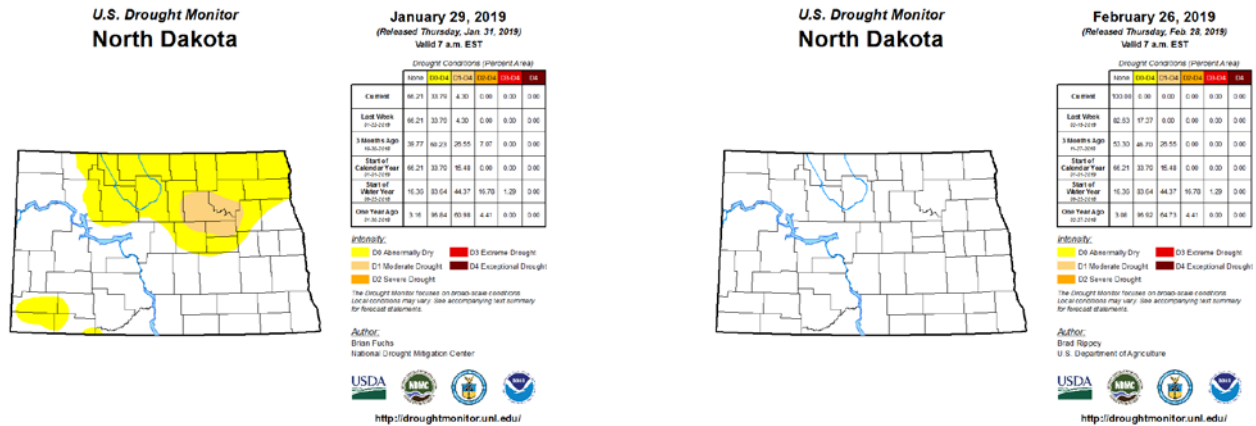


Figure 5. Drought Monitor map comparison for North Dakota in the beginning (on the left) and at the end (on the right) of February 2019.

Drought Monitor (DM): In general, overall drought conditions improved throughout the month. By the end of the month, no parts of the state had any drought designation. 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 and D1) in a time scale representing the state from the beginning to the end of the month, with a one-week resolution.

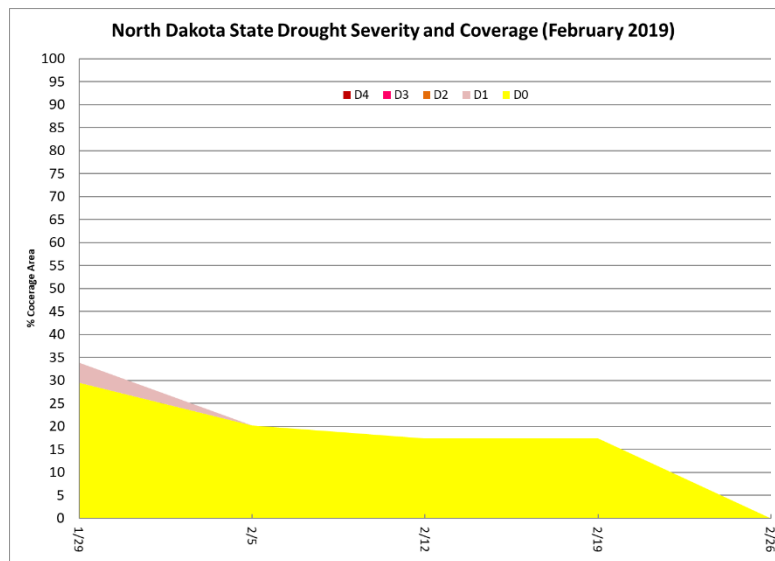


Figure 6. North Dakota drought severity and coverage for February 2019.



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Storm Reports: NDAWN's highest 10-meter peak gust in February was 42 mph, recorded at the Mooreton weather station in Richland County on Feb. 24, 2019.

Daily Record Events in February: Across the observation network of weather stations with at least 30 years of history, a total of zero daily high but 72 daily low-temperature-related records were set or tied. A total of 120 highest daily precipitation-related records were set or tied. Details of the records are in Table 3 below.

Table 3. Summary of daily records broken or set in North Dakota in February. (NCEI Daily Weather Records)

Category	Number of Records
Highest daily max. temp.	0
Highest daily min. temp.	0
Lowest daily max. temp.	42
Lowest daily min. temp.	30
Highest daily precipitation	41
Highest daily snowfall	79
Total	192

Highlight of the Month*

*A lowest daily temperature record of minus 47 degrees was set in **Bottineau** on **Feb. 8**, breaking the previous record for that date by 1 degree, which was set in 1899 (years on record: 126).*

*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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