



# North Dakota Monthly Climate Summary

April 2024

Volume 18, No. 4

North Dakota  
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Resource for  
Climate

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## Precipitation

Based on data from 150 stations\* across the North Dakota Agricultural Weather Network (NDAWN) the statewide average precipitation in April 2024 was 1.97 inches. Normal precipitation in April is around 1.27 inches, leaving a 0.7 inch surplus. Northeastern North Dakota received much needed moisture, about 100-200% of normal precipitation. Far western North Dakota received below normal precipitation. The maximum rainfall in April fell at the Brampton (2WSW) NDAWN station in Sargent County with 3.6 inches of precipitation. The least precipitation fell at the Sunny Slope (3W) NDAWN station in Bowman County, with 0.25 inches (Figure 1).

The maximum statewide averaged April precipitation occurred in 1986 with 3.71 inches, and minimum precipitation in 1987 with 0.11 inches. Quite the difference of precipitation within just one year. April 1988 was similar with just 0.12 inches of precipitation (Figure 2).

Average April precipitation was 0.52 inches more than the previous month and ranks as the 35<sup>th</sup> wettest April over 130 years of precipitation data (NCEI).

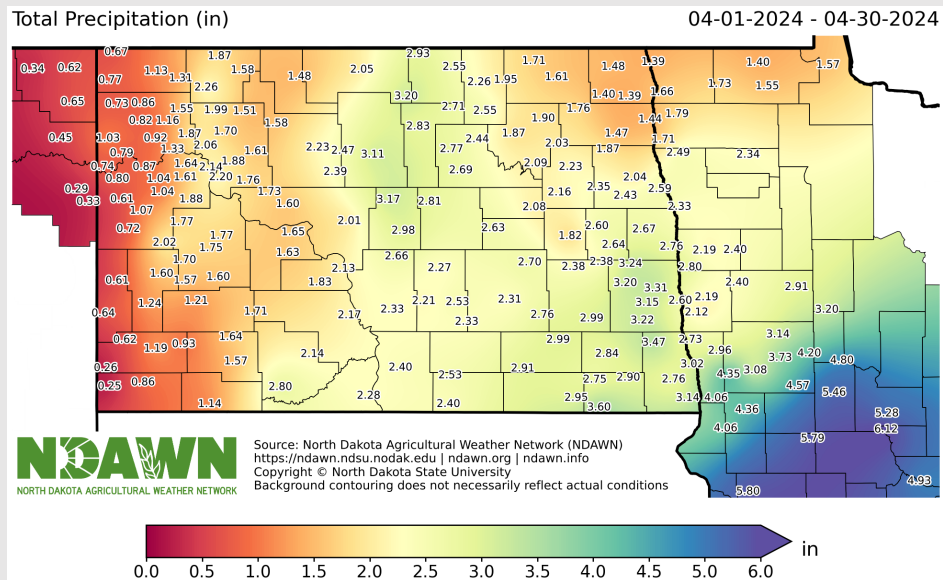


Figure 1: Total precipitation 4/1/2024 – 4/30/2024 at all NDAWN stations (NDAWN)

\*Only North Dakota stations used for NDAWN data. All MN and MT stations omitted.



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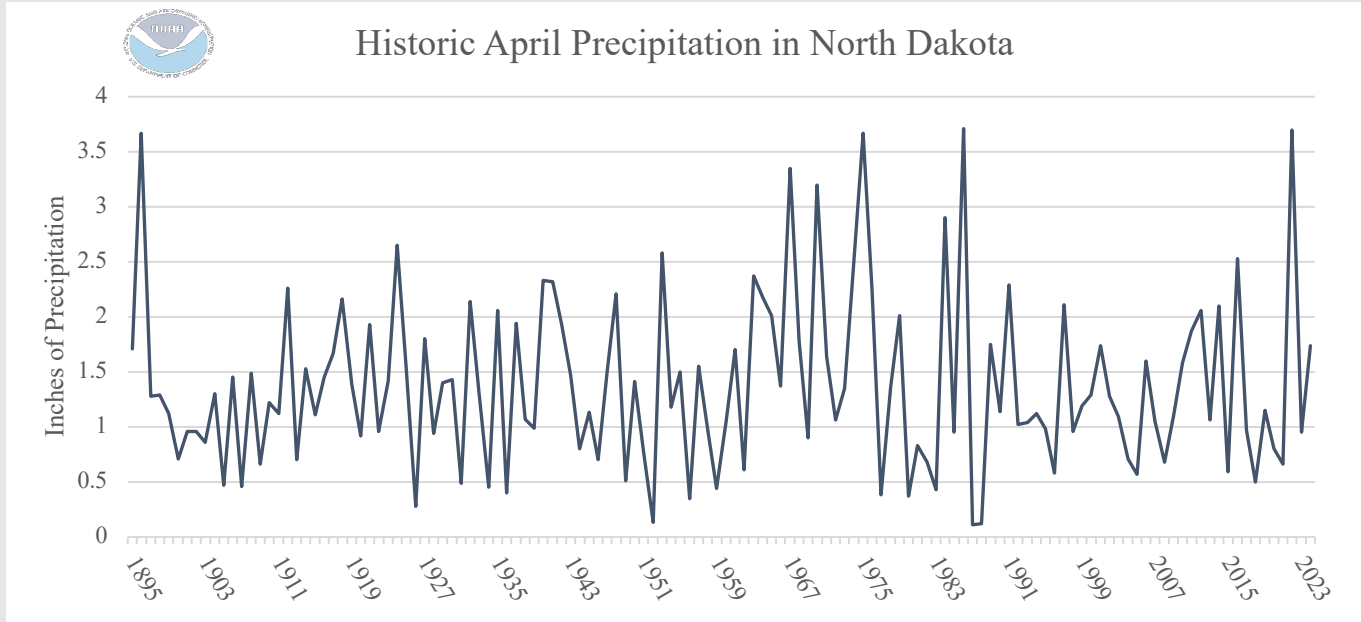


Figure 2: Historical statewide average precipitation in April 1895-2024 (NCEI, NOAA)

### North Dakota April Precipitation Summary

	Precipitation	Normal	Anomaly	Rank	Wettest/Driest Since	Record Year
<b>April 2024</b>	1.97"	1.27"	+0.07"	35 <sup>th</sup> Wettest	Wettest since 2022	1986
				96 <sup>th</sup> Driest	Driest since 2023	1987

Table 1: Ranking from NCEI NOAA based on data from April 1885-2024. Precipitation amounts averaged from records at NDAWN stations in North Dakota.

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## Temperature

The average temperature in North Dakota for the month of April was 43.8°F making it the 31<sup>st</sup> warmest April within the period of record (130 years) (NCEI). Normal temperatures average 41.1°F; making 2024 2.7°F warmer than normal. (NDAWN, Figure 3). A lack of snow in April kept temperatures relatively mild, but with the typical North Dakota temperature swing. Maximum temperatures reached well into the upper 70s and low 80s, while minimum temperatures dipped into the teens. The maximum temperature recorded by NDAWN was 82°F at the Antelope Creek (8SE) and Banks (8SW) stations, both in McKenzie County. This recorded value is 41°F warmer than the statewide average. The minimum temperature recorded in North Dakota in April was 9°F at the Crystal (4NW) NDAWN station in Pembina County (Figure 4). A 73°F difference between the monthly maximum and minimum temperatures are certainly impressive as springtime is in full swing.

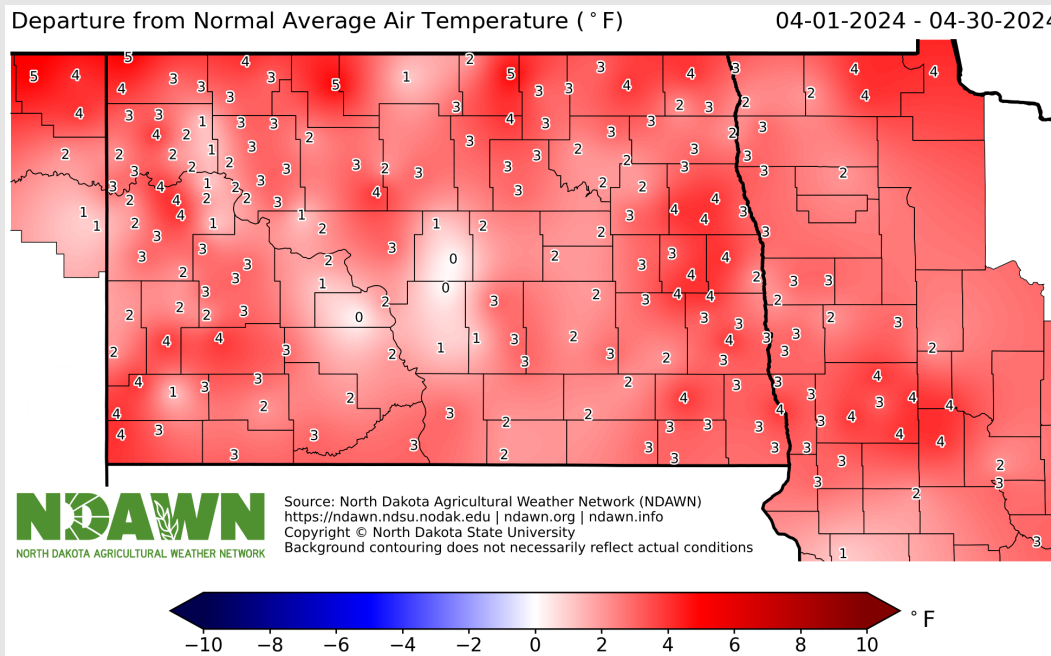


Figure 3: April 2024 departure from normal average temperature. (NDAWN)

\*Only North Dakota stations used for NDAWN data. All MN and MT stations omitted.

## Statewide Maximum and Minimum Air Temperature

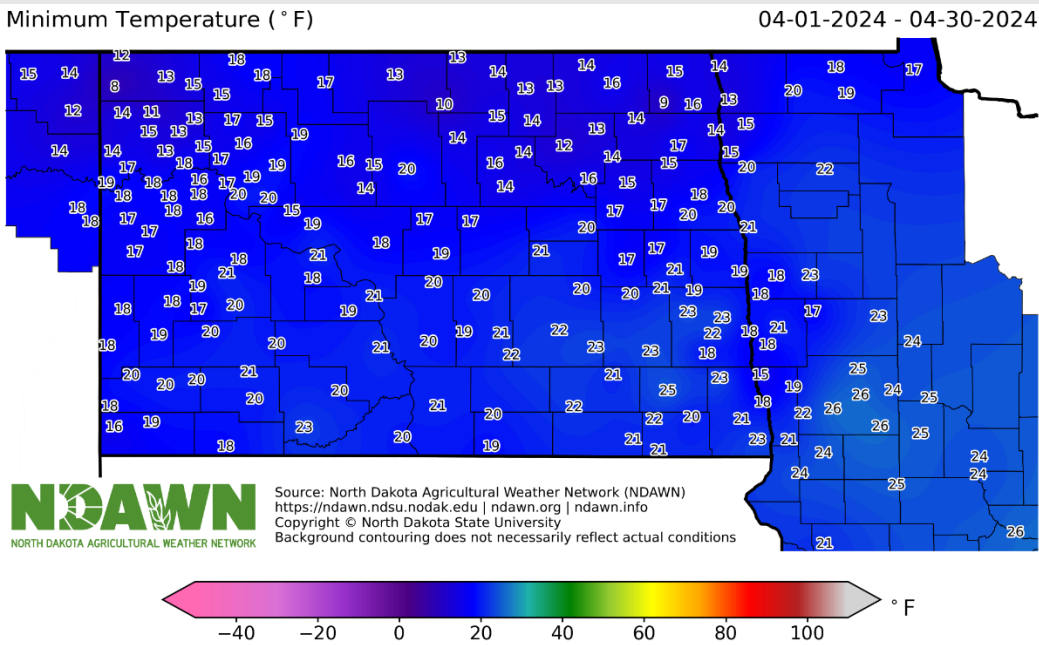
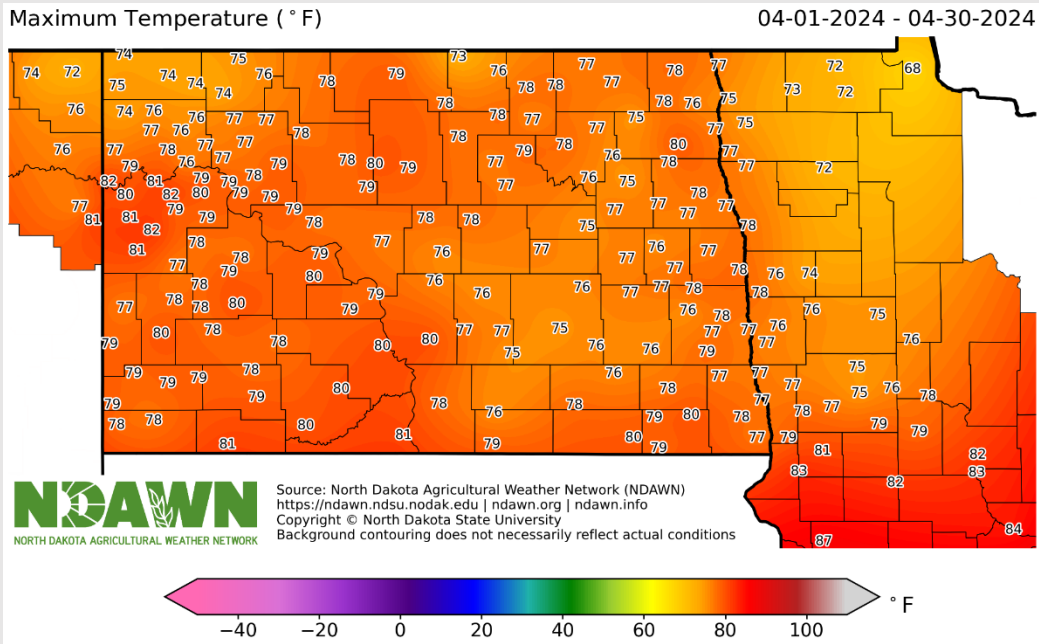


Figure 4: Maximum (Top) and Minimum (Bottom) air temperatures (°F) for April 2024 at all NDAWN Stations

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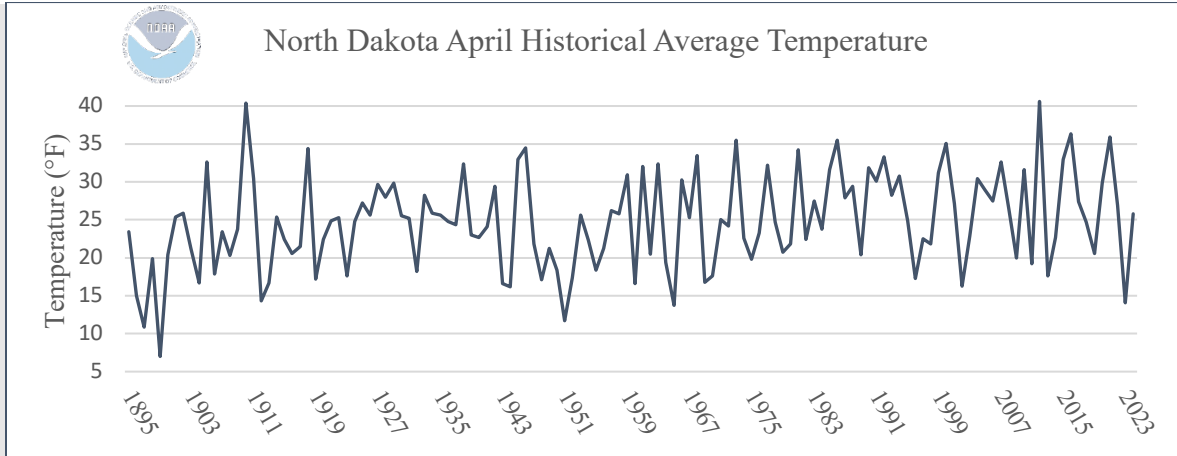


Figure 5: April historic average temperatures by year in North Dakota (NCEI)

The warmest April on record was April of 1987 where average temperature is recorded at 50.2°F, the same year with minimal precipitation (0.11 inches). The coolest April on record was recorded recently in 2013, averaging 31.3°F. Average minimum and maximum temperatures in April 2024 were both warmer than normal by about 3°F. This month’s average maximum temperature was 56.1°F and average minimum temperature 31.5°F. This is fairly typical springtime temperatures with both average maximum and minimum temperature ranking as the 35<sup>th</sup> warmest in April out of 130 years of NCEI data (NCEI).

### North Dakota April Temperature Summary

<i>April 2024 Temperature Summary</i>	Average T	Avg max T	Avg min T	Maximum	Minimum
	43.8°F	56.1°F	31.5°F	82°F	9°F
Anomaly	+2.7°F	+2.9°F	+2.5°F		
Rank					
Warmest	31 <sup>st</sup> warmest	35 <sup>th</sup> warmest	35 <sup>th</sup> warmest		
Coolest	100 <sup>th</sup> coolest	96 <sup>th</sup> coolest	96 <sup>th</sup> coolest		
Record					
Warmest	50.2°F (1987)	64.9°F (1987)	35.9°F (1915)	101°F (Oakes, 1980)	
Coolest	31.3°F (2013)	40.4°F (1975)	21.3°F (2013)		-24°F (Powers Lake, 1975)

Table 2: April temperature summary for North Dakota. 2024 statistics from NDAWN station data. Ranking and records based on NCEI climate data (1885-2024) (NOAA).

\*Only North Dakota stations used for NDAWN data. All MN and MT stations omitted.

## Significant Weather

Drought conditions persisted throughout the month of April in North Dakota according to the U.S. Drought Monitor. The month began with 73% of the state in Abnormally Dry conditions, and 17% and 5% in Moderate and Severe Drought, respectively (Figure 6). Only West and South Central North Dakota were clear of drought. Rainfall totals did not change these conditions significantly throughout the month due to a lack of snowpack. By the end of the month, April 30, Abnormally Dry conditions reduced to 50% of the state, and 17% and 5% were still in Moderate and Severe Drought (Figure 6). NDAWN soil moisture data recorded at the end of April signifies however that most of the region has optimum or excess moisture from the surface down to 20 inches (NDAWN, Figure 7). As mentioned previously, all but far Western North Dakota received precipitation at levels well above normal (NDAWN, Figure 8). As such, most areas of the state began planting season on a good note.

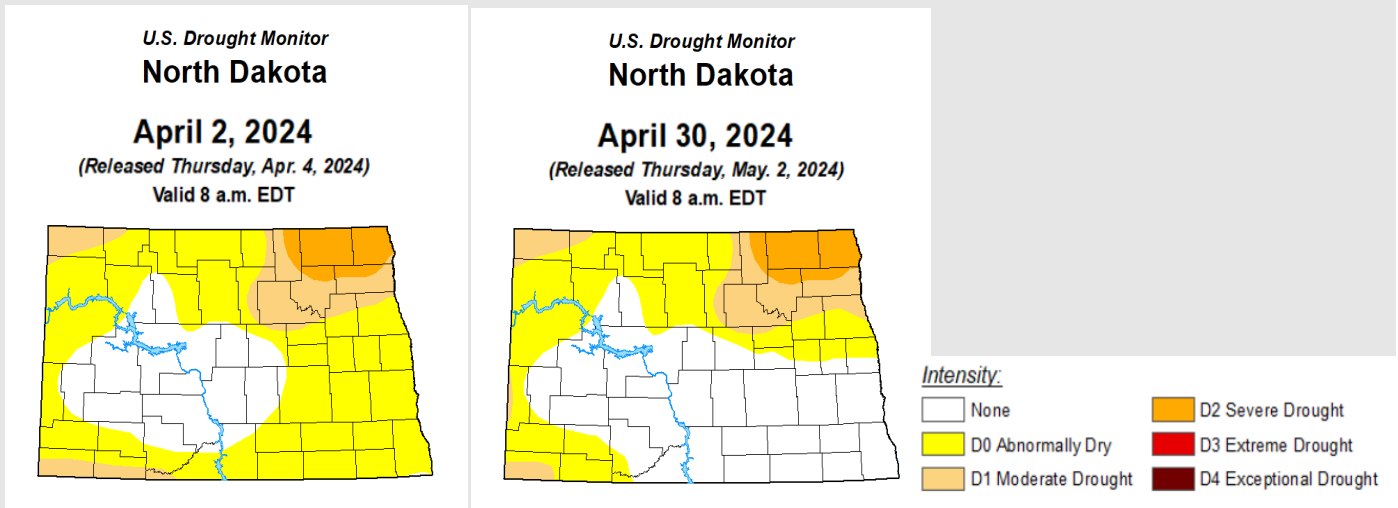


Figure 6: U.S. Drought Monitor conditions throughout the state of North Dakota at the beginning of April (Left) and end of April (Right) (U.S. Drought Monitor)

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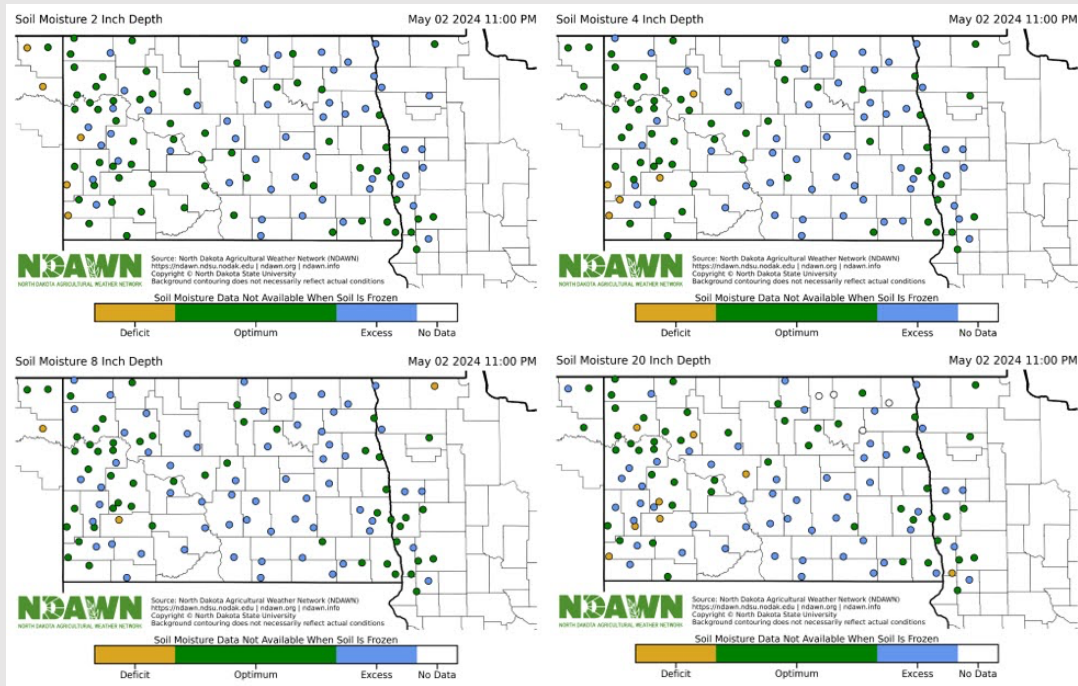


Figure 7: NDAWN Soil Moisture data captured on May 2<sup>nd</sup> describing soil moisture conditions as mostly “Optimal” or “Excess” moisture across North Dakota. Soil data is recorded at 2”, 4”, 8”, and 20” (NDAWN, collage made by Julia Poblitzki).

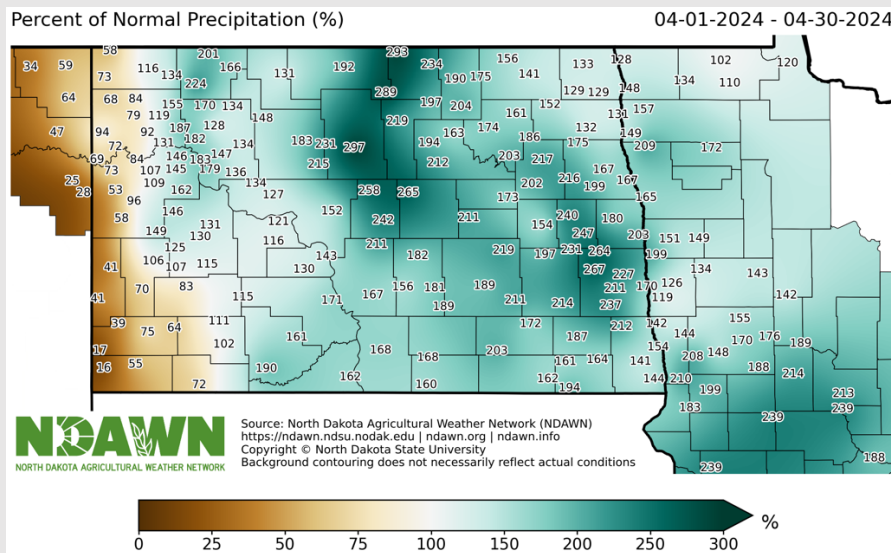


Figure 8: NDAWN Percent of Normal Precipitation for the month of April. North Central North Dakota received well above average while Western North Dakota stayed below average (NDAWN).

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## Image/Data Sources

Climate at a Glance | National Centers for Environmental Information (NCEI).

NDAWN current conditions

NDAWN Weather

SPC Storm Reports

NCEI Storm Events Database

XMACIS2



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