



North Dakota

Monthly Climate Summary

June 2024

Volume 18, No. 6

North Dakota State
Climate Office: Your
Resource for
Climate Information

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STATE UNIVERSITY

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Precipitation

June was a wet month for most of the network based on data from 158 stations* across the North Dakota Agricultural Weather Network (NDAWN). Frequent thundershowers ensured plentiful moisture across the state, with places seeing over 200% of normal precipitation. East Central North Dakota caught the bulk of rainfall for the month, while Western North Dakota was more hit-or-miss when taking into consideration the normal precipitation.

The statewide average precipitation in June 2024 was 3.9 inches, about half of an inch above normal precipitation in North Dakota. The maximum rainfall in June exceeded the month's average by over 3 inches! 7.10 inches of precipitation fell at the Jamestown (10W) NDAWN station in Stutsman County. The least precipitation fell at the Dublin (2SW) NDAWN station in Williams County, with 1.74 inches (Figure 1).

The historical maximum statewide-averaged June precipitation occurred in 2005 with 7.01 inches, and minimum precipitation in 1974 with 1.11 inches. Average June precipitation was 0.24 inches more than the previous month and ranks as the 43rd wettest June out of 130 years. (NCEI).

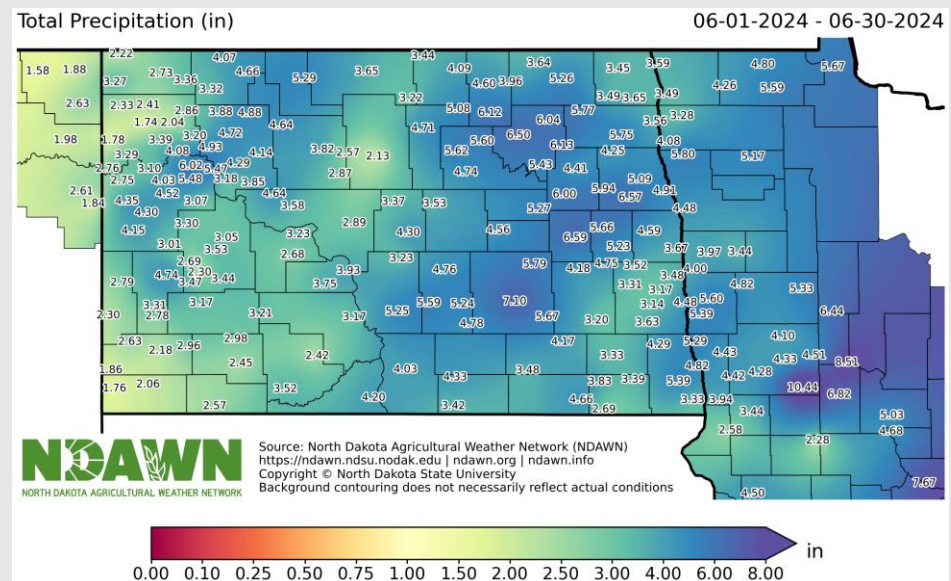


Figure 1: Total precipitation 6/1/2024 – 6/30/2024 at all NDAWN stations (NDAWN)

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



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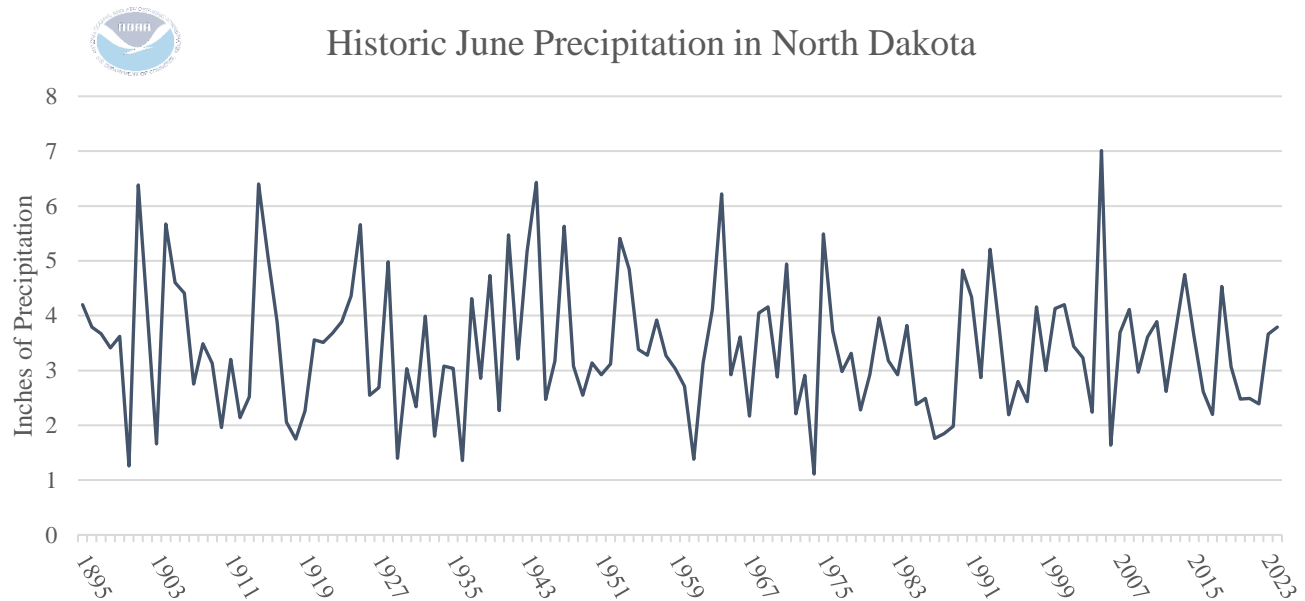


Figure 2: Historical statewide average precipitation in June 1895-2024 (NCEI, NOAA)

North Dakota June Precipitation Summary

	Precipitation	Normal	Anomaly	Rank	Wettest/Driest Since	Record Year
June 2024	3.94"	3.49"	+0.45"	43 rd Wettest	Wettest since 2018	2005
				88 th Driest	Driest since 2023	1974

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

Temperature

The average temperature in North Dakota for the month of June was 61.8°F making it the 58th coolest June within the period of record (130 years) (NCEI). Normal temperatures average 63.7°F; making 2024 a below average year in terms of temperature especially for the Northwest (NDAWN, Figure 3). Maximum temperatures reached the mid 80s to mid 90s across the state with the highest temperatures in the Red River Valley. As such, the maximum temperature recorded by NDAWN in June was 97°F at at Casselton (1SW) in Cass County. The minimum temperature recorded in North Dakota in June was 32°F at the Bowman (4W) NDAWN station in Bowman County. Minimum temperatures in the 30s were exclusive to the Southwest corner of North Dakota, much of the rest of the state did not reach below 40°F (Figure 4).

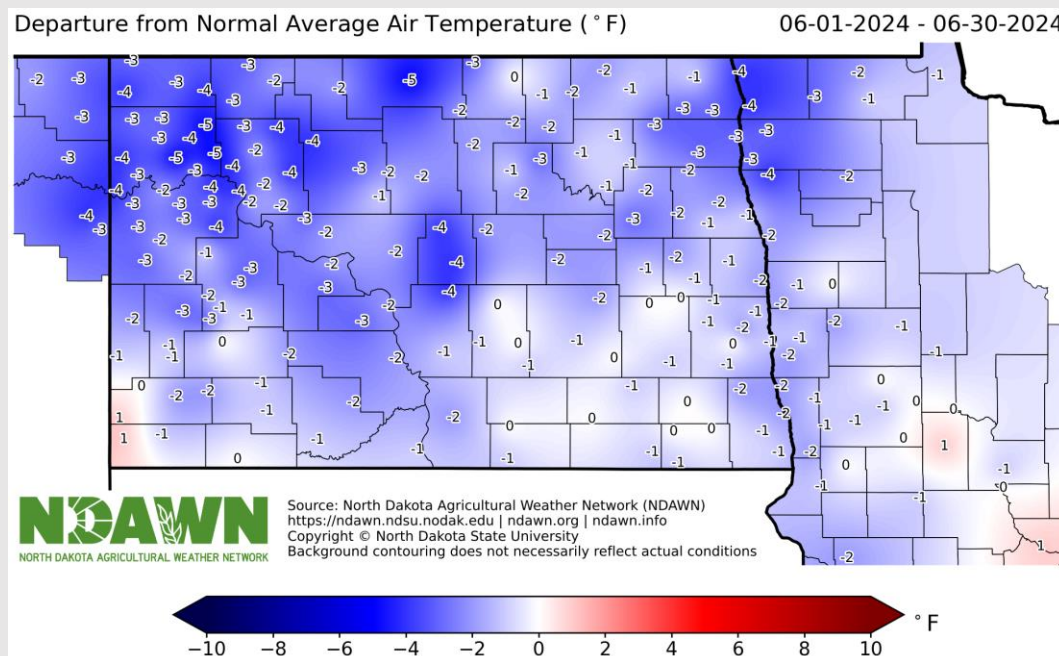


Figure 3: June 2024 departure from normal average temperature. (NDAWN)

Statewide Maximum and Minimum Air Temperature

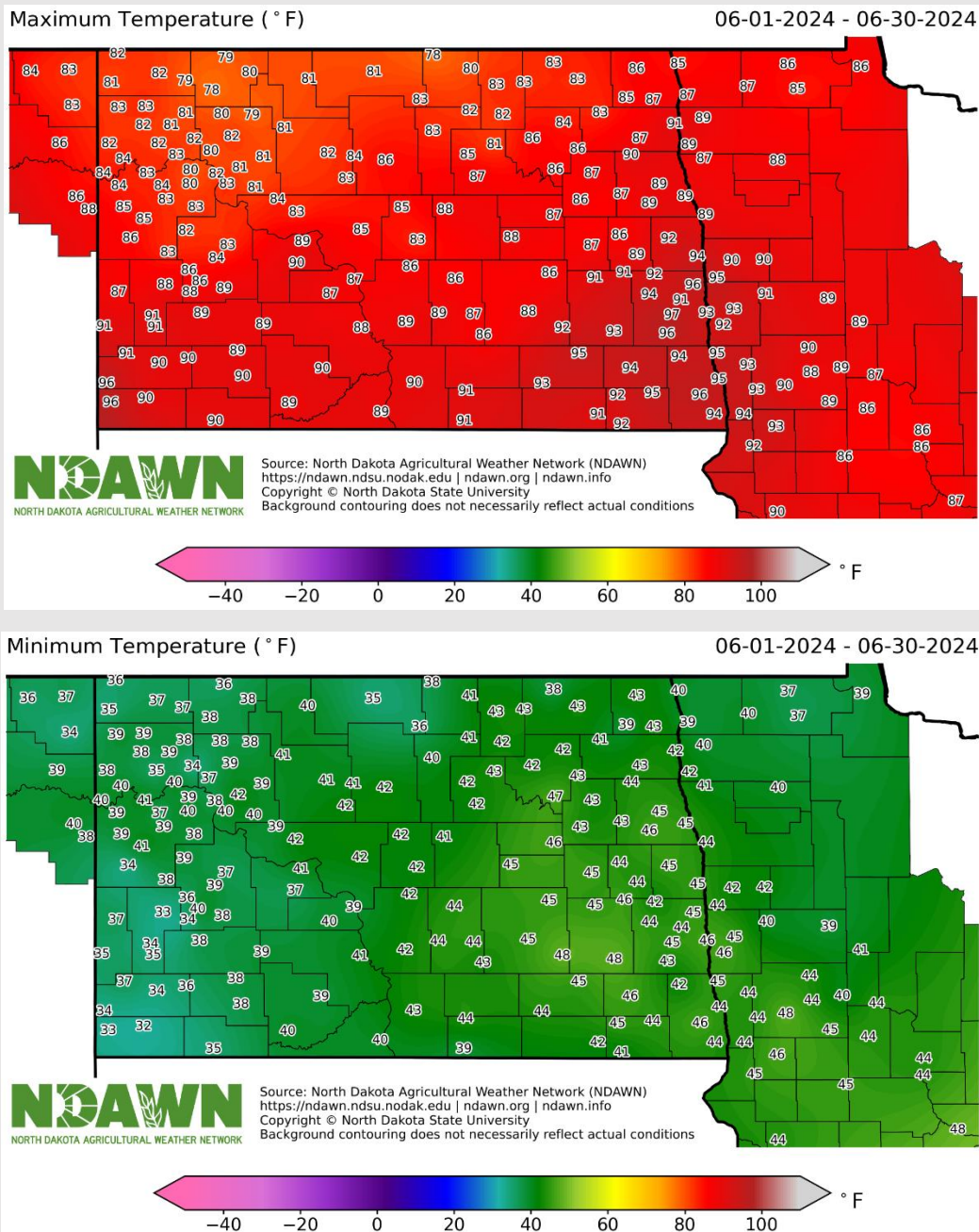


Figure 4: Maximum (Top) and Minimum (Bottom) air temperatures (°F) for June 2024 at all NDAWN Stations



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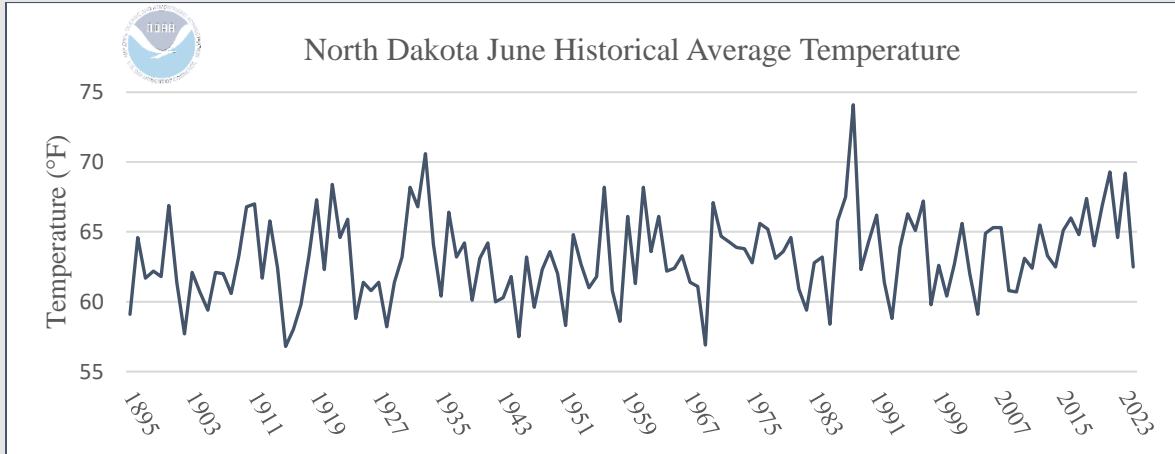


Figure 5: June historic average temperatures by year in North Dakota (NCEI)

Average minimum and maximum temperatures in June 2024 were similarly below average. This month's average maximum temperature was lower than normal by 2°F at 73.4°F. The average minimum temperature of 52°F was also cooler than normal by just under 2°F. The warmest June on record was 1988 where average temperature was recorded at 74.1°F, over 10°F warmer than June 2024. The coolest June on record averaged 56.8°F back in 1915. June 1988 is an outlier from the historical record, measuring 4°F warmer than the 2nd warmest June that occurred in 1933.

North Dakota June Temperature Summary

June 2024 Temperature Summary	Average T	Avg max T	Avg min T	Maximum	Minimum
	61.8°F	73.4°F	50.2°F	97°F	32°F
Anomaly	-1.93°F	-2.08°F	-1.78°F		
Rank					
Warmest	56 th warmest	69 th warmest	76 th warmest		
Coolest	75 th coolest	62 nd coolest	55 th coolest		
Record					
Warmest	74.1°F (1988)	89.2°F (1988)	59.0°F (1988)	112°F (Flasher 2002)	
Coolest	56.8°F (1915)	68.2°F (1915)	44.8°F (1969)		18°F (Foxholm 2000)

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



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Significant Weather

Two major storm events occurred in June 2024 in North Dakota. While just prior in late May, parts of the state received snow, and just a week later on June 2nd a severe thunderstorm that produced a tornado ravaged South Central North Dakota. Significant flooding occurred in and near Jamestown in Stutsman County, along with an 88 mph wind gust southeast of the city. A tornado developed near Woodworth in the mid afternoon and lasted around 10 minutes according to public reports. Two other tornadoes were reported during this event. This storm continued to cause damage as it tracked eastwards, with damage reported in Marion from a 79 mph wind gust measured by the Marion NDAWN station. Large hail reports accompanied this storm.

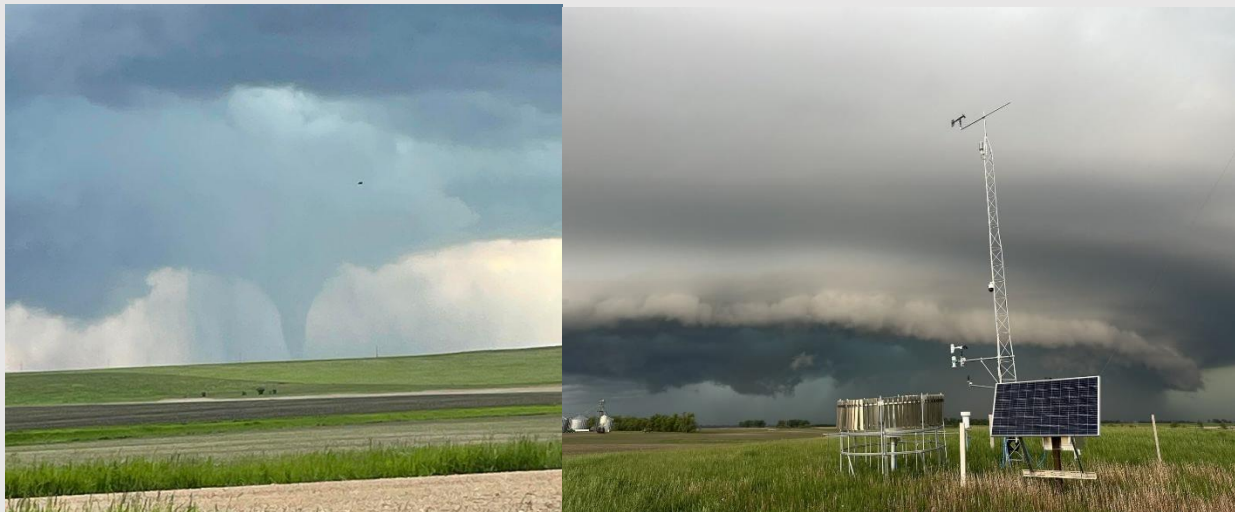


Figure 6: Woodworth tornado captured by Cody Mack (NWS Grand Forks) (Left) Shelf cloud approaching the Ypsilanti NDAWN station southeast of Jamestown in Stutsman County (NDAWN)

Another widespread severe storm event occurred in Western North Dakota on June 27th, producing strong winds and large hail. 89 mph winds were reported at the Dickinson Airport which caused widespread damage across the area. Two tornadoes were reported by trained spotters, only funnel clouds are photographed. The largest reported hail was measured at 1.5 inches near Fryburg.



Figure 7: Funnel cloud captured on the Sentinel Butte NDAWN station camera on 6/27/24 (NDAWN)

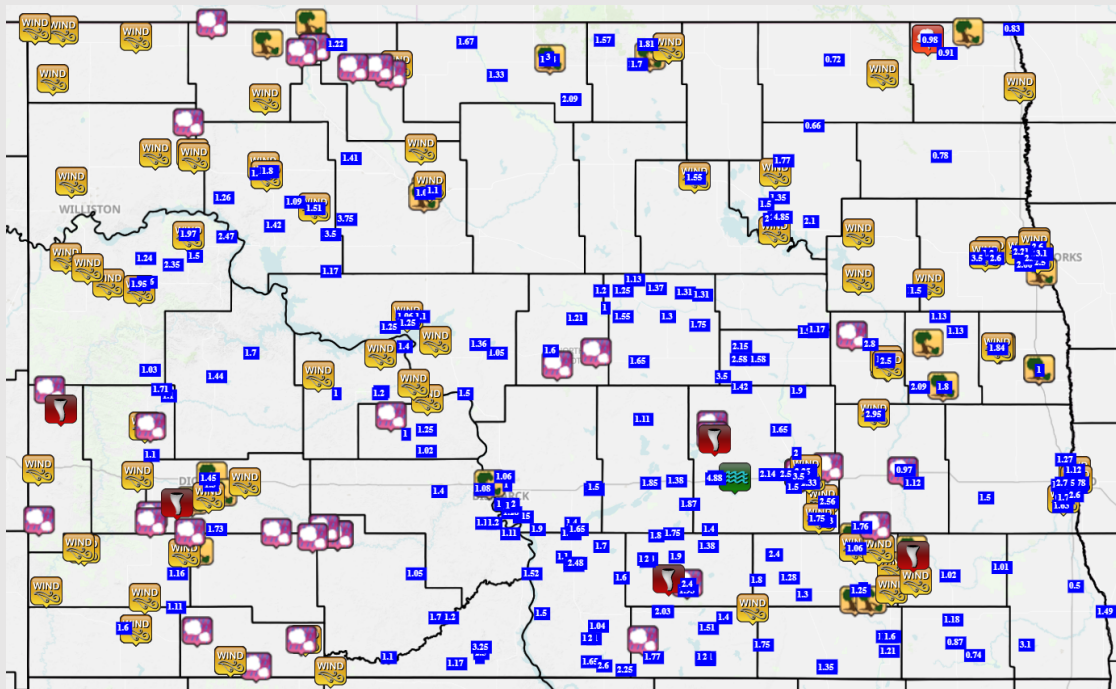


Figure 8: Local Storm Reports during the month of June 2024. 5 tornadoes in total were recorded along with several large hail reports and damaging winds (NWS, IEM)



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Image/Data Sources

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

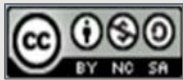
NDAWN current conditions

NDAWN Weather

SPC Storm Reports

NCEI Storm Events Database

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