

SEVERE WEATHER POSSIBLE THURSDAY



Issued Tuesday, May 13, 2025 8:20 PM PDT / 10:20 PM CDT

Hazards



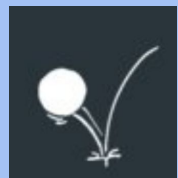
TORNADOES

A tornado is possible.



WINDS

Wind gusts up to 60 mph.



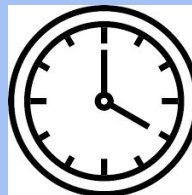
HAIL

Hail up to 1 inch.



FLOODING

Flooding is unlikely.



WHEN

Between 5am to 10am CDT and then from 12pm to 5pm CDT.



WHAT TO DO

Stay tuned for the latest forecasts.

Start making preparations for potential severe weather across the region.

Minnesota Severe Weather Forecast for Thursday, May 15
Issued Tuesday, May 13, 2025 8:20 PM PDT / 10:20 PM CDT

SUMMARY. . . Scattered severe storms possible across the region Thursday afternoon/evening. All-hazards threat - damaging winds up to 60 mph, hail up to 1 inch in diameter, and a few tornadoes are all on the table. Despite the favorable environment for severe storms and tornadoes, there may be a problem with convective inhibition (cap on the atmosphere) remaining that may either delay the initiation of storms or delay the onset of severe hazards.

DISCUSSION. . . Model guidance is becoming increasingly consistent with the severe weather event on Thursday. A 500 mb trough will be centered at the Montana/North Dakota border at 12z/7am CDT on Thursday. This trough will continue to eject eastward through the day on Thursday and the nose of the jet streak will be moving into southern MN by 18z/1pm CDT. At the surface, a sub 990mb low will be centered over the Minnesota, North Dakota, South Dakota triple point at 12z/7am CDT on Thursday. A cold front will stretch from southwestern MN to western IA and MO. A warm front will stretch across much of Lake Superior. MN and WI will be in the warm sector of the low beginning the day on Thursday. 60s dewpoints will continue to stream northward throughout the day amid daytime heating with the dewpoint in the Twin Cities nearing 70 by 21z/4pm CDT per the NAM. Starting the day, a stout EML will be present between 850mb and 700mb. With daytime heating, moisture advection, and increasing upper level forcing, the cap should gradually erode, potentially eroding up until the cold front passage at around 21z/4pm CDT.

PLEASE PROCEED TO THE NEXT SLIDE

MLCAPE between 2000 J/kg and 2500 J/kg is more than adequate for storms. At 850mb, a robust and broad low-level jet will increase throughout the day with winds potentially exceeding 50 kt. Curved hodographs will yield up to 300 m²/s² of effective SRH which will yield a tornado threat across the region. While the upper level jet streak may be relegated to the southwest, deep layer shear should be just enough to sustain supercells - right around 40 kt.

Despite the environment being favorable for severe storms, the cap could be a potential fly-in-the-ointment with this setup, as the cold front will pass through before daytime heating reaches its peak and the best forcing moves through. In addition, a cool, outflow from previous convection in the morning may also somewhat inhibit storm initiation. If the cap remains, storms may have trouble with initiation or the storms will not be capable of severe hazards. But if the cap is able to erode prior to the cold front, then storms will be able to initiate and will produce all severe hazards.

By Max, 05/13/2025

Note: The next forecast is scheduled to be issued on 05/14/2025 at around 8:00 PM PDT / 10:00 PM CDT.