

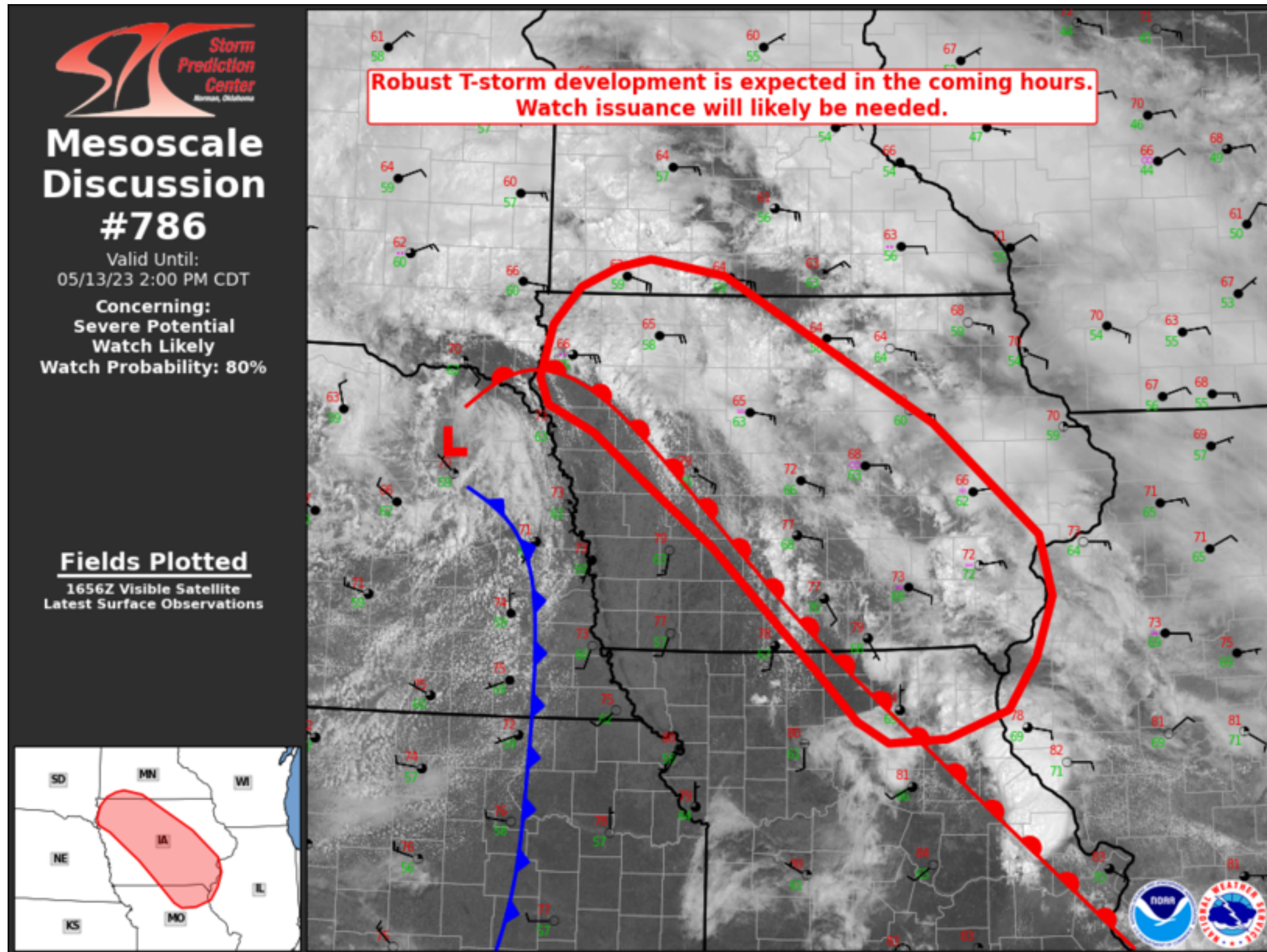
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Mesoscale Discussion 786

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Mesoscale Discussion 0786
 NWS Storm Prediction Center Norman OK
 1201 PM CDT Sat May 13 2023

Areas affected...Iowa into far northeast Missouri

Concerning...Severe potential...Watch likely

Valid 131701Z - 131900Z

Probability of Watch Issuance...80 percent

SUMMARY...T-storm coverage and intensity is expected during the 18-20 UTC period across Iowa into far northeast Missouri. These storms will likely pose a risk for large hail, severe winds, and a few tornadoes. A watch will likely be needed to address this concern.

DISCUSSION...Latest surface observations depict a warm front draped from northeast IA southeastward into far northeast MO. On the cool side of this boundary, eroding cloud cover has allowed for temperatures to begin warming into the low to mid 70s with further heating/destabilization expected through mid afternoon as clouds continue to slowly clear amid weak subsidence noted in low-level water-vapor imagery. Modified observed and forecast soundings across central to eastern IA suggest that while buoyancy profiles remain somewhat modest, the low-level warming is eroding mixed-layer inhibition. Initial convective initiation along the warm front, where mesoscale lift and diurnal warming is greatest, has been noted south of Des Moines over the past 20 minutes, lending credence to recent CAM solutions that hint at more widespread convective initiation within the next 2-3 hours.

As thunderstorms develop, storm motions and deep-layer shear vectors orthogonal to the warm front should support initially discrete storm modes. VWP observations from KDMX (to the north of the front where low-level flow is backed to the southeast) show sufficient low-level curvature for around 100-150 m²/s² 0-1 km SRH. Forecast soundings hint that strong shear in the 1-6 km layer will favor elongated hodographs favorable for splitting supercells. Consequently, organized convection appears likely with an attendant large hail, severe wind, and tornado threat. The quality of destabilization (and subsequently the severe threat) becomes less certain with east/northeast extent; however, a watch will likely be needed to address the developing severe threat.

..Moore/Mosier.. 05/13/2023

...Please see www.spc.noaa.gov for graphic product...

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