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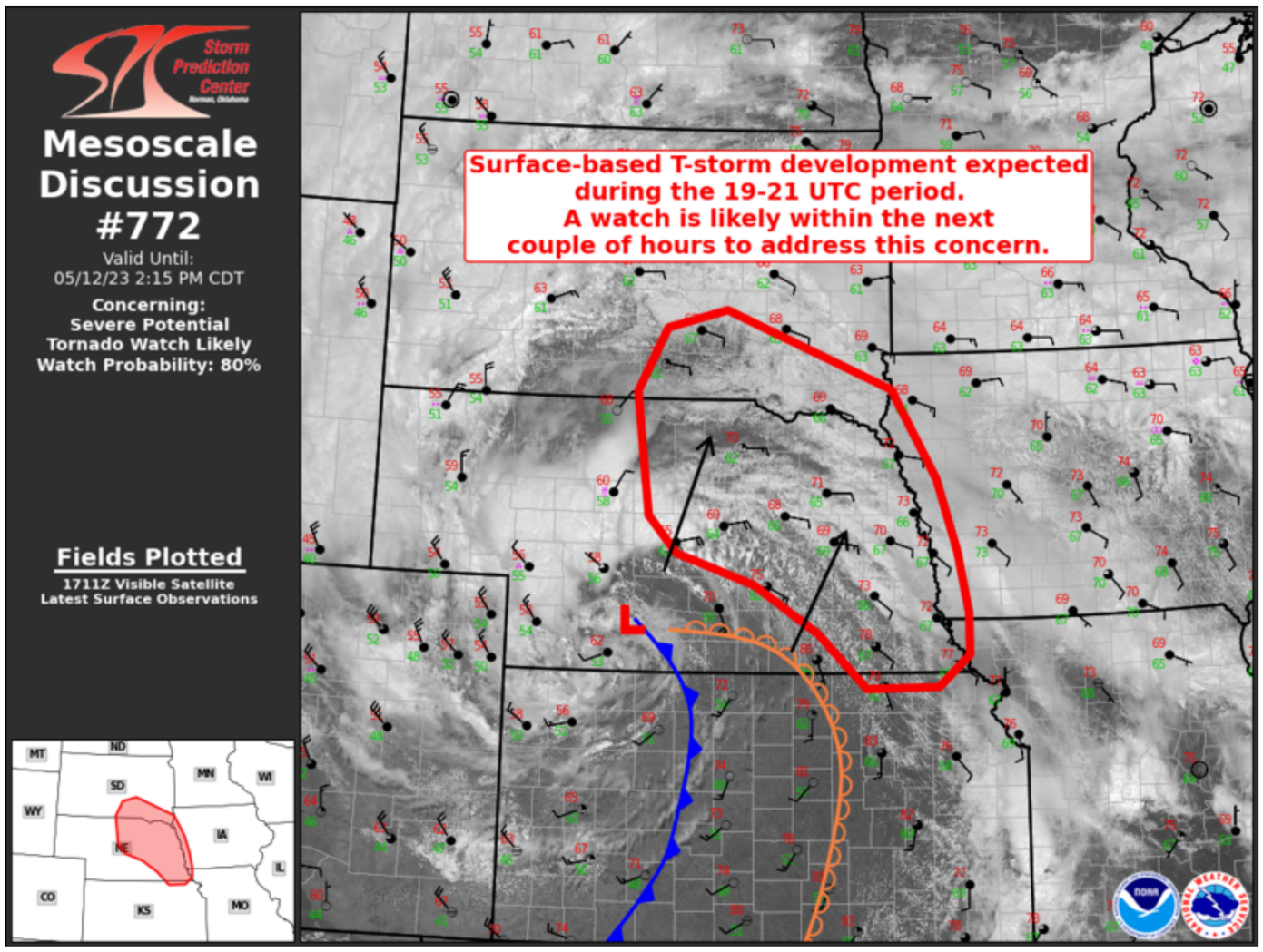

Mesoscale Discussion 0772
NWS Storm Prediction Center Norman OK
1217 PM CDT Fri May 12 2023

Areas affected...Northeast Nebraska and adjacent areas of South Dakota...Iowa...and Kansas

Concerning...Severe potential...Tornado Watch likely

Valid 121717Z - 121915Z

Probability of Watch Issuance...80 percent

SUMMARY...Surface-based thunderstorms are expected by the 19-21 UTC period, which will increase the threat for all severe hazards. A tornado watch will likely be needed in the next couple of hours to address this concern.

DISCUSSION...Latest radar/IR imagery shows a plume of convection gradually intensifying across central NE ahead of a weakening synoptic low. Surface observations and RAP mesoanalyses suggest that much of this convection remains elevated within a zone of isentropic ascent ahead of the main wave. However, surface-based cumulus across central to eastern NE has shown signs of vertical development over the past 60 minutes as temperatures warm into the upper 70s amid mid/upper 60s dewpoints. Filtered insolation through mid-afternoon will maintain destabilization as lift along a surface cold front/dryline continues. The expectation is for ongoing elevated convection to eventually become surface based across north-central NE while additional storms initiate along the surface boundaries further east towards the MO River Valley this afternoon.

Nearly meridional flow above 1 km will allow for discrete storm motions off the surface boundary into the warm sector. Although mid/upper-level winds are expected to weaken through the evening, effective bulk shear should be sufficient for organized convection. Additionally, backed flow below 1 km will support 0-1 km SRH values on the order of 100-150 m2/s2, adequate for a tornado threat with the more organized storms across north/northeast NE. Across southeast NE, the more meridional orientation of the boundary will favor higher probabilities for initially discrete cells to cluster/grow upscale by late afternoon/early evening, though a severe threat will likely accompany this activity. A watch will likely be needed within the next 1-2 hours to address this concern.

..Moore/Mosier.. 05/12/2023

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

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