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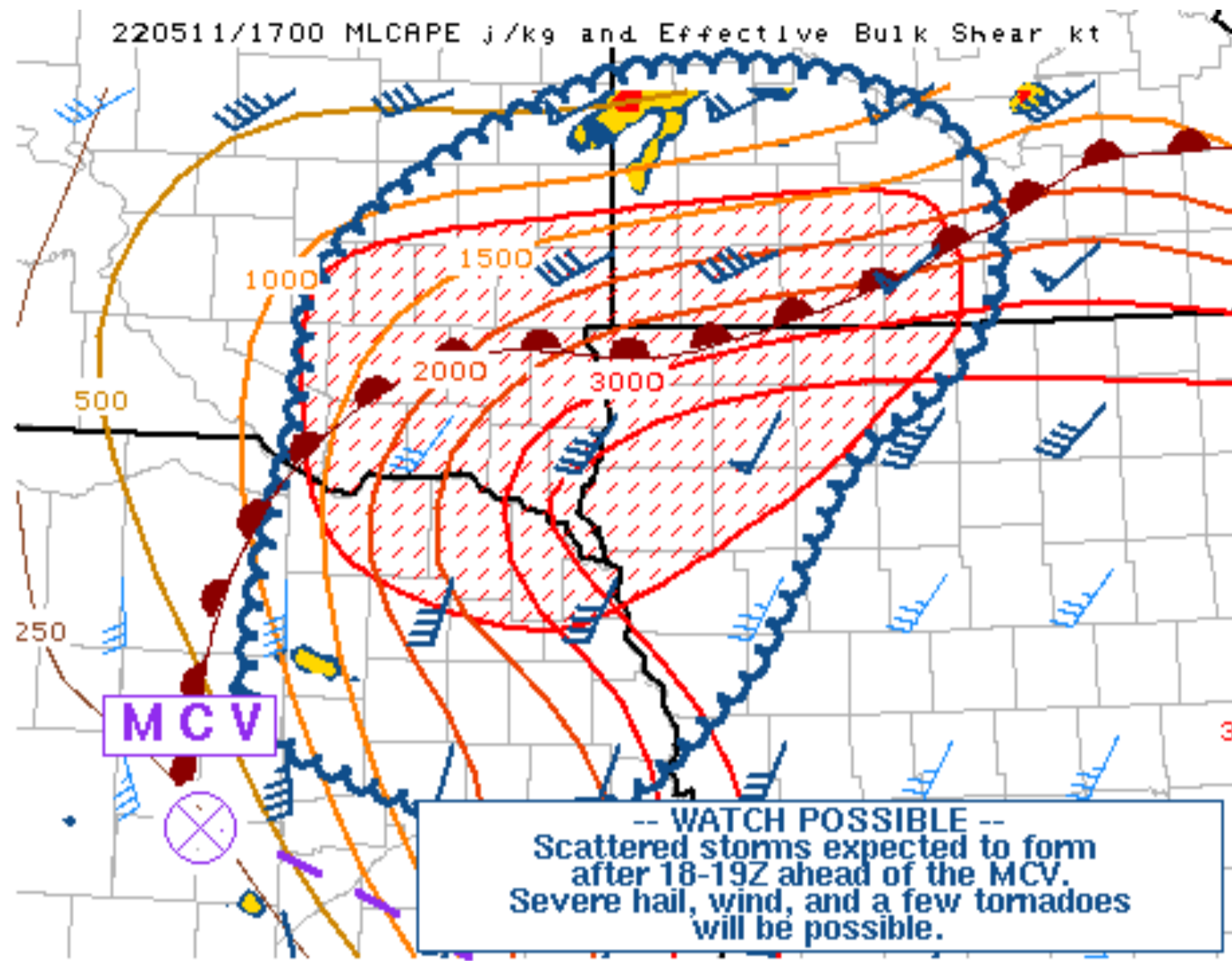
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## Mesoscale Discussion 721

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SPC MCD #0721

Mesoscale Discussion 0721  
 NWS Storm Prediction Center Norman OK  
 1250 PM CDT Wed May 11 2022

Areas affected...eastern Nebraska...western Iowa...southeast South Dakota...southwest Minnesota

Concerning...Severe potential...Watch likely

Valid 111750Z - 112015Z

Probability of Watch Issuance...80 percent

SUMMARY...Storms are expected to form over northeastern Nebraska by 18 or 19Z, and will spread northward into South Dakota and Minnesota later this afternoon. Damaging hail, wind, and few tornadoes will be possible.

DISCUSSION...A prominent MCV continues to move north/northeast across central NE, and is currently enhancing wind fields with southerly midlevel winds of 40-50 kt. Meanwhile, a warm front remains in place across far southeast SD into southern MN, with 70s F dewpoints and heating to the south. Aiding instability are relatively cool midlevel temperatures and steep lapse rates.

A few showers have developed recently near and north of the MCV, where theta-e advection is occurring in the low levels. This feature should cause a northward acceleration of the warm front later this afternoon across SD and MN, and capping will be less at that time, resulting in increased storm coverage. A 17Z OAX sounding shows drying has occurred in the boundary layer, with MLCAPE values around half what they were at 12Z.

Although favorable SRH near the warm front will tend to lift north throughout the day, enhanced winds and shear associated with the MCV may remain undersampled. Given the robust instability, it is likely that zone of supercell potential will exist near and ahead of the MCV, with damaging hail and wind likely. A few tornadoes will also be possible, and a strong tornado cannot be ruled out as storms approach the warm front, and assuming low-level shear remains sufficient.

..Jewell/Mosier.. 05/11/2022

...Please see [www.spc.noaa.gov](http://www.spc.noaa.gov) for graphic product...

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