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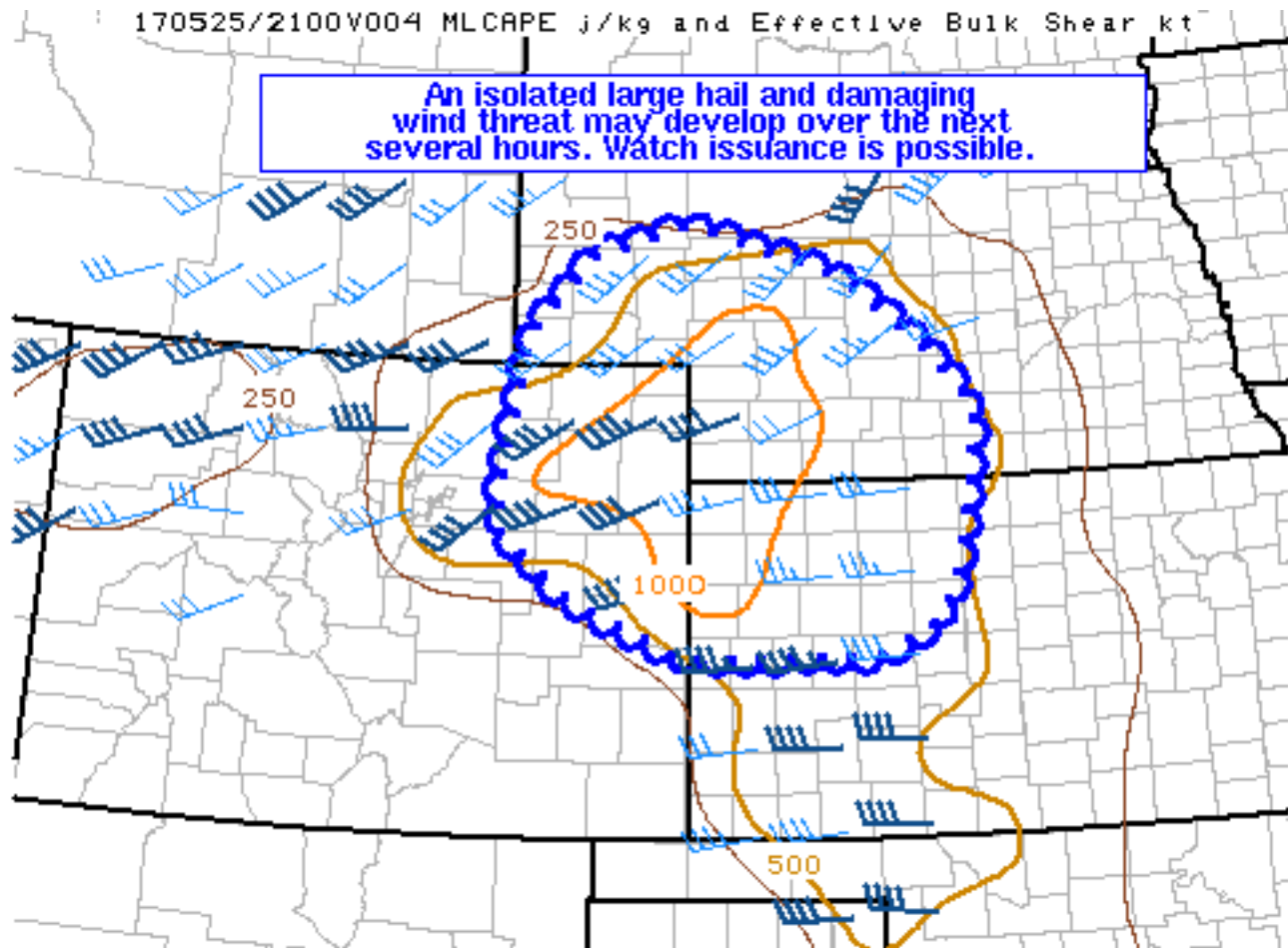
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Mesoscale Discussion 840

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SPC MCD #0840

Mesoscale Discussion 0840

NWS Storm Prediction Center Norman OK

0135 PM CDT Thu May 25 2017

Areas affected...Portions of northeastern CO...western/central NE...and northwestern KS

Concerning...Severe potential...Watch possible

Valid 251835Z - 252030Z

Probability of Watch Issuance...40 percent

SUMMARY...An isolated large hail and damaging wind threat may develop over the next several hours. Watch issuance is possible depending on convective trends.

DISCUSSION...18Z surface analysis depicts a cold front arcing from a low over north-central SD across parts of central/western NE and into northeastern CO. A small cluster of thunderstorms ongoing as of 1830Z across northeastern CO is probably associated with a minor

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shortwave trough embedded within larger upper troughing extending from Saskatchewan into the northern Plains/Rockies and Great Basin. Additional thunderstorms will likely form over the next several hours across parts of northern/central CO as broad large-scale ascent attendant to the upper trough overspreads this region. The boundary layer downstream of ongoing convection across the central High Plains is becoming well-mixed this afternoon with plentiful diurnal heating occurring. Although low-level moisture remains somewhat modest with surface dewpoints generally in the mid 40s to lower 50s, steep mid-level lapse rates and cool mid-level temperatures are contributing to MLCAPE up to 1000 J/kg per latest RAP Mesoanalysis. Additional heating may encourage instability to increase up to 1500 J/kg along and south of the front by peak heating this afternoon.

Strengthening mid-level west-southwesterly winds associated with the mid/upper-level trough will support effective bulk shear values of 35-45 kt across this region through this evening, which should be sufficient for supercell structures. Recent short-term convection-allowing model guidance remains unclear regarding the coverage and intensity of thunderstorms this afternoon. But, the overall parameter space will be favorable for organized updrafts with an isolated large hail and damaging wind risk, with at least some chance at upscale growth into one or more line segments potentially focused along/near the front. If radar/satellite trends indicate an increase in convective strength/coverage this afternoon, then watch issuance may be needed.

..Gleason/Kerr.. 05/25/2017

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

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