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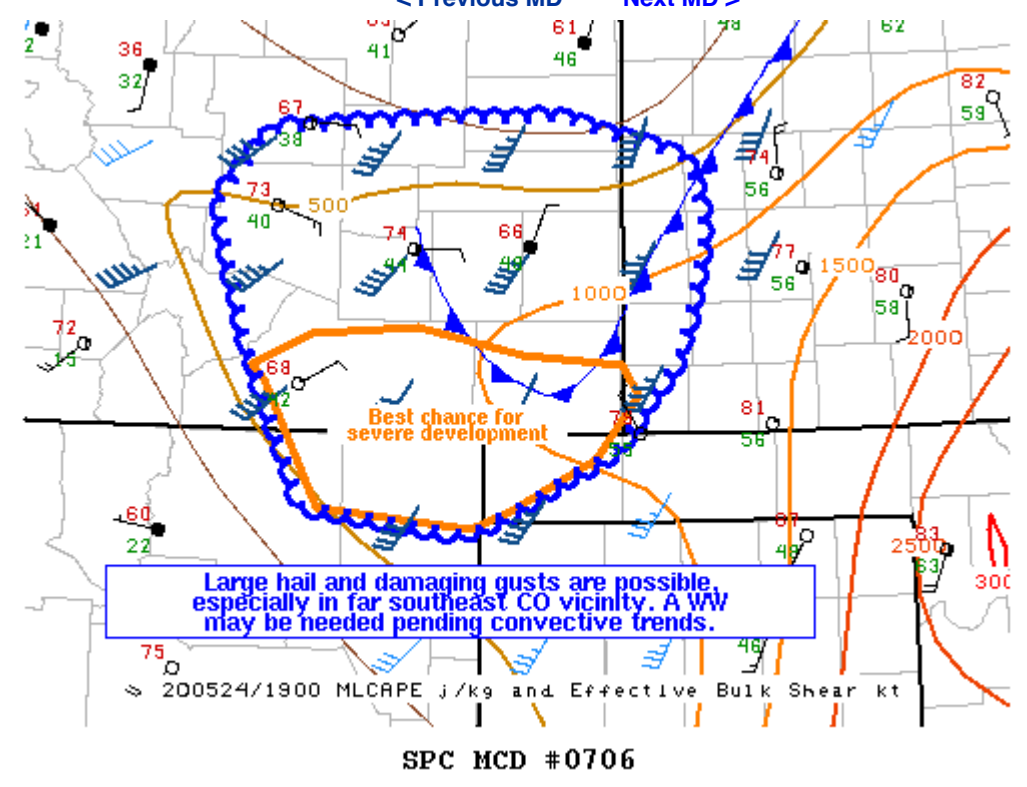
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Mesoscale Discussion 706

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Mesoscale Discussion 0706

NWS Storm Prediction Center Norman OK
0228 PM CDT Sun May 24 2020

Areas affected...portions of eastern Colorado into extreme northeast New Mexico...southwestern Kansas...and the western Texas Panhandle

Concerning...Severe potential...Watch possible

Valid 241928Z - 242130Z

Probability of Watch Issuance...40 percent

SUMMARY...A few severe storms are likely to develop through the rest of the afternoon into the evening hours. The greatest chance for severe will be across southeast Colorado, where supercellular structure may be achieved. Convective trends will continue to be monitored for the need of a WW issuance.

DISCUSSION...Convective initiation has recently been noted along the eastern slopes of the Rockies as lift due to low-level upslope flow, and upper-level support provided by an approaching mid-level trough/500 mb vortmax, are contributing to deep-layer ascent. 7-8 C/km lapse rates are contributing to modest buoyancy (500-1000 J/kg MLCAPE based on the latest Mesoanalysis and RAP forecast soundings). However, low-level moisture is scant (upper 40s F dewpoints, with at least 20F T/TD spreads noted), limiting instability. A persistent cloud deck along the CO/KS border area, associated with a slowly southward drifting cold front, has also hampered the eastward extent of destabilization, suggesting that the overall buoyancy corridor in eastern CO is narrow.

Stronger flow above 500 mb is contributing to 40-50 knot effective bulk shear values, suggesting that storm organization is likely with the more intense, sustained updrafts. Buoyancy and shear are most favorable across far southeast CO/extreme northeast NM, south of the cold front. With 100+ m2/s2 effective SRH expected by late afternoon, a couple transient to potentially longer-lived supercell structures are expected, posing the greatest risk for severe in CO, as suggested by 12Z HREF and the last several runs of the HRRR. The sfc-700 mb deep sub-cloud layer suggests that rear-flank downdrafts may be cold enough to support outflow dominant structures, with large hail and damaging gusts being the primary threats. Farther north, smaller line segments and relatively shorter lived multicellular storms are expected, with a couple damaging gusts/severe stones possible.

Given the modest severe threat with potential supercell structures, convective trends will continue to be monitored, and a WW may be needed sometime later this afternoon.

..Squitieri/Hart.. 05/24/2020

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

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