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Mesoscale Discussion 1140

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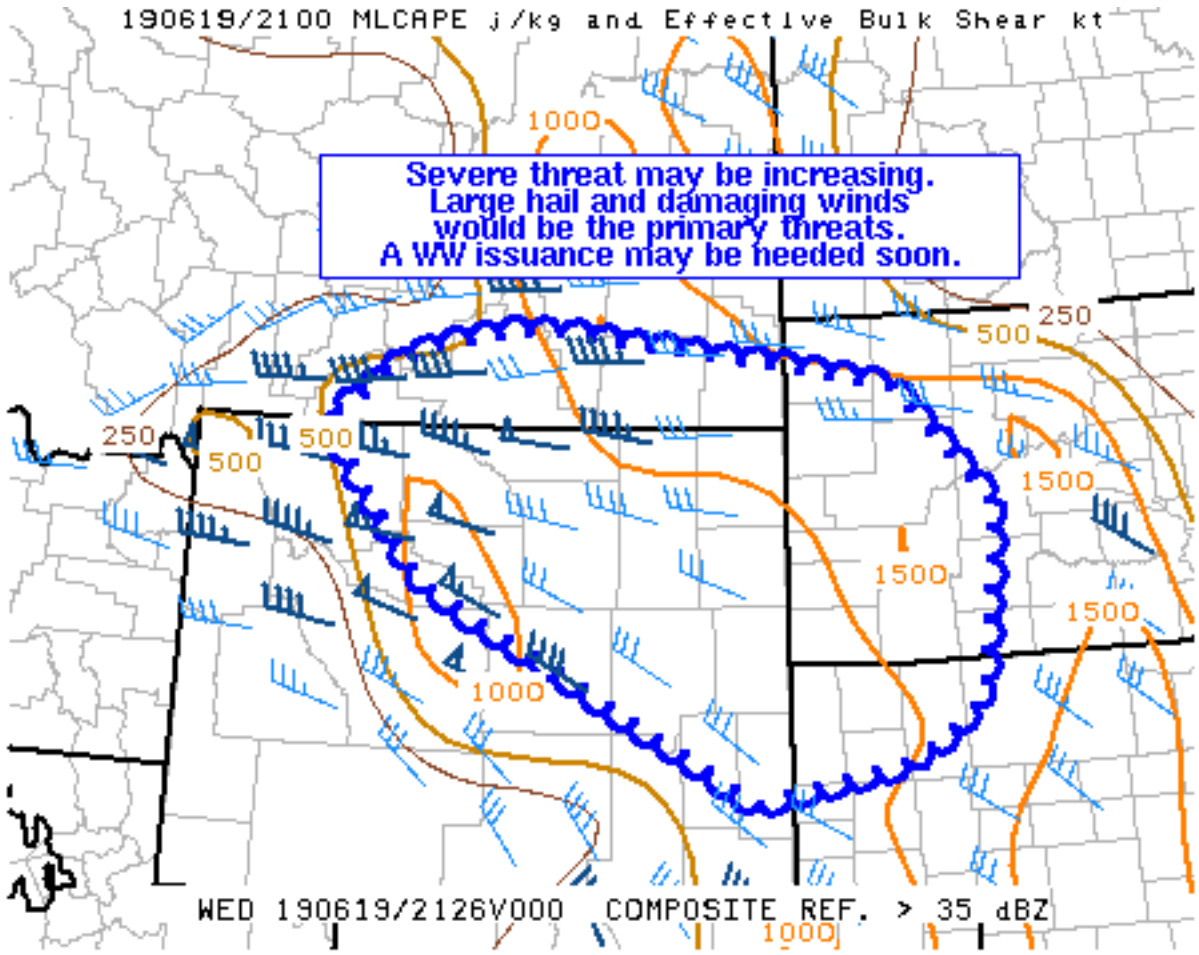

SPC MCD #1140

Mesoscale Discussion 1140
NWS Storm Prediction Center Norman OK
0500 PM CDT Wed Jun 19 2019

Areas affected...Far southeast Montana...northern and eastern Wyoming...western South Dakota...far northwest Nebraska

Concerning...Severe potential...Watch possible

Valid 192200Z - 200000Z

Probability of Watch Issuance...40 percent

SUMMARY...The potential for at least isolated damaging wind gusts and large hail is increasing across the area. A WW issuance may be needed soon pending increasing convective coverage.

DISCUSSION...Deep-layer ascent is gradually increasing across the area via CVA from both a glancing shortwave trough moving across the northern Plains, and with an upstream vort max moving across the northern Rockies area. Low-level lift is relatively mediocre

however, with no predominant boundaries (at the meso-alpha scale or larger) in place for convective initiation. Easterly flow has been noted across southeast Montana, where upslope flow may provide localized lift for convective initiation, but this easterly flow is weak. As such, there are questions regarding how many storms will develop.

While directional shear is poor across the area, adequate speed shear will support splitting supercells and relatively longer-lived single-cell storms and multicellular clusters. Assuming storms can initiate and sustain themselves, steep low and mid-level lapse rates (contributing up to 1000 J/kg MLCAPE) and 35-45 knots of effective bulk shear will support the development of severe hail. A dry surface-700 mb sub-layer will also encourage deep-layer evaporative cooling with the more intense downdrafts, supporting damaging-wind gust potential as well.

Trends will continue to be monitored for increasing convective coverage and perhaps the need for a WW issuance.

..Squitieri/Edwards.. 06/19/2019

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

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