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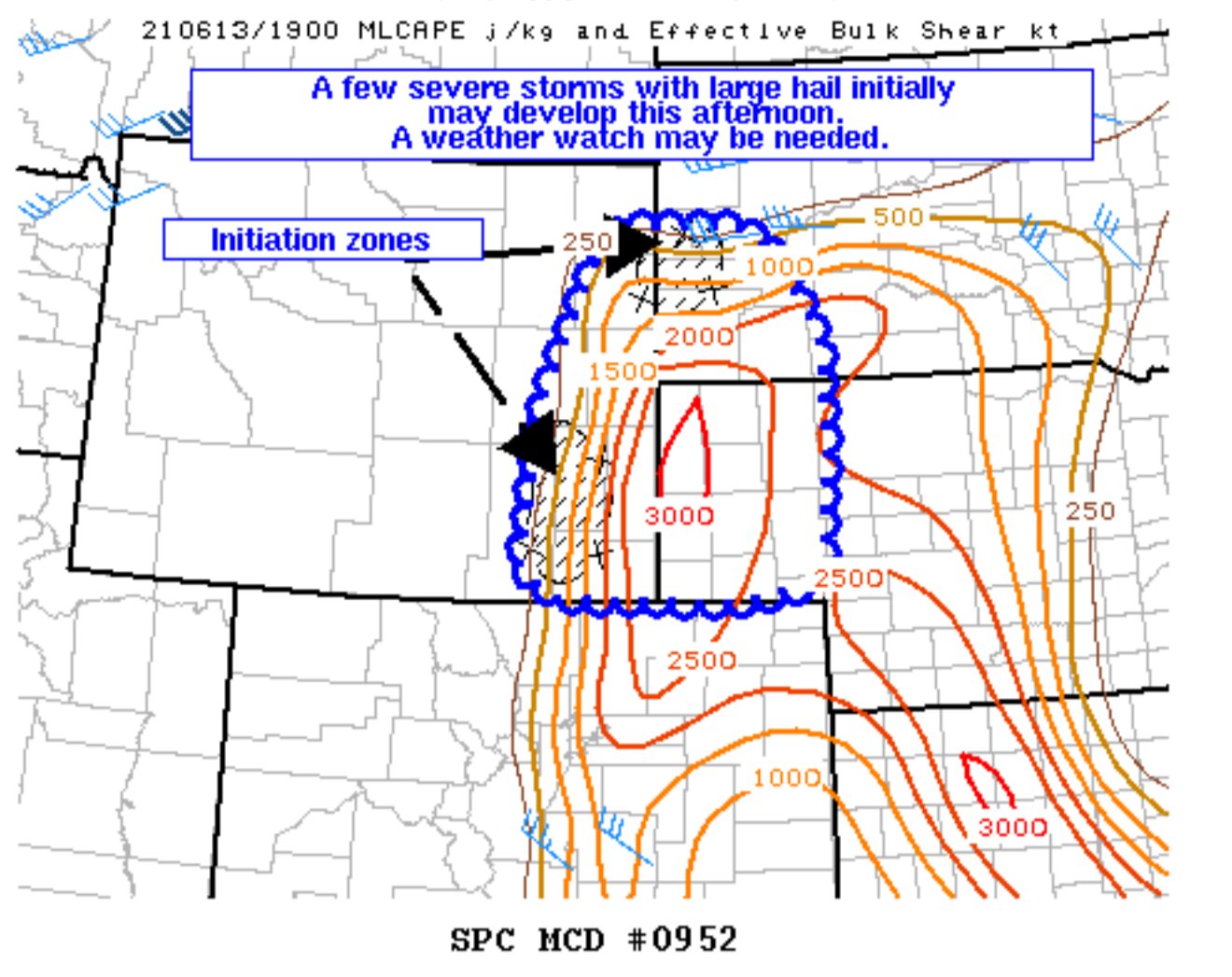
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Mesoscale Discussion 952

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Mesoscale Discussion 0952
 NWS Storm Prediction Center Norman OK
 0216 PM CDT Sun Jun 13 2021

Areas affected...Eastern Wyoming...western Nebraska...and southwest South Dakota

Concerning...Severe potential...Watch possible

Valid 131916Z - 132045Z

Probability of Watch Issuance...60 percent

SUMMARY...A few severe thunderstorms may develop early this afternoon and track eastward with a risk of hail and damaging wind gusts. Upscale growth later this evening with the arrival of stronger westerly flow aloft may promote a greater risk of damaging winds across western Nebraska.

DISCUSSION...Early afternoon satellite and RADAR observations have shown the development of isolated immature updrafts along the southern Laramie Range of Wyoming and South Dakota Black Hills in the last half hour. Strong solar heating is ongoing with surface temperatures in the upper 70s to mid 80s noted across eastern Wyoming. SPC mesoanalysis and regional observations show dewpoints in the upper 50s and low 60s along with steep low and mid-level lapse rates are contributing to large buoyancy of 2500-3500 J/kg of MLCAPE. Weak inhibition remains in place, likely due to the lack of strong forcing for ascent and weak mid-level height rises ahead of the stronger southwesterly flow to the west. However, continued heating and weak easterly upslope flow should gradually erode inhibition and allow the development of thunderstorms as early as 20z. Given the degree of buoyancy and large CAPE (>1500 J/kg) in the hail-growth layer suggests hail will be the primary severe threat with initial storms. Some damaging wind potential may also exist with storms as downdrafts mature and move into a warmer and better mixed boundary layer to the east, but shear overall remains weak.

Later this afternoon and early this evening, hi-res cam guidance hints at the possibility of a more organized storm mode (ie: clusters and short line segments) evolving out of initial cellular convection as stronger deep-layer flow ahead of weak shortwave trough ejecting eastward. Should this occur, a greater threat for damaging wind gusts may evolve across western Nebraska as cold pools become deeper and better organized.

..Lyons/Grams.. 06/13/2021

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

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