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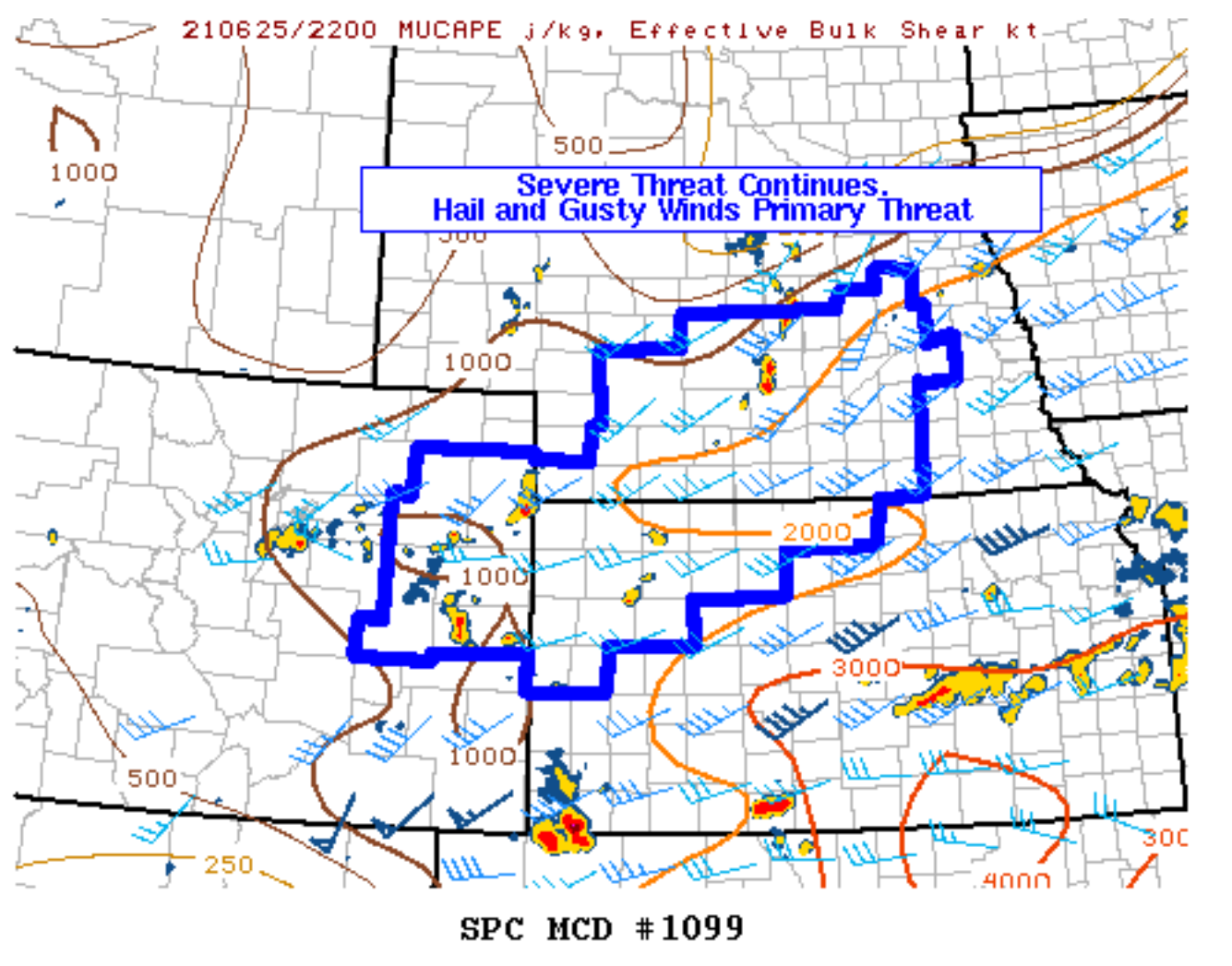
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Mesoscale Discussion 1099

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Mesoscale Discussion 1099
 NWS Storm Prediction Center Norman OK
 0554 PM CDT Fri Jun 25 2021

Areas affected...northeast Colorado...northwest Kansas...and central Nebraska

Concerning...Severe Thunderstorm Watch 316...

Valid 252254Z - 260000Z

The severe weather threat for Severe Thunderstorm Watch 316 continues.

SUMMARY...Thunderstorms continue across many portions of Severe Thunderstorm Watch 316. The main threats this evening will be hail and strong, gusty thunderstorm winds. The overall severe threat should diminish later this evening with the loss of diurnal heating.

DISCUSSION...Several areas of thunderstorms are ongoing across the Severe Thunderstorm Watch: one in northeast Colorado, one across central Nebraska, and across northwest Kansas.

Across central Nebraska, discrete thunderstorms are ongoing along a convergence zone associated with, and to the south of, a remnant MCV over north-central Nebraska. Despite weak lapse rates, a warm, moist boundary layer across the region has allowed surface-based CAPE to increase to in excess of 2000 J/kg ahead of the ongoing thunderstorms. Given the degree of instability, coupled with deep-layer shear around 40 knots, thunderstorms may continue to pose a severe threat through the evening. Hail and gusty thunderstorm winds would be the main threats. The threat should lessen with time this evening as diurnal heating and boundary-layer decoupling reduce surface-based CAPE and the weakening of the convergence zone limits forcing for ascent.

Across northeast Colorado, several areas of linear thunderstorms continue to move broadly east toward western Kansas. The strongest such storms are currently moving northeast through Cheyenne County, Colorado. Additional thunderstorms are moving southeast across Yuma County, Colorado, and will enter northwest Kansas shortly. Instability here is less than areas farther east given a drying of the lower levels. Consequently, however, greater temperature-dewpoint spreads should allow for at least some risk for strong, gusty thunderstorm outflows. This threat should continue for a few more hours before generally weakening later this evening with cooling/decoupling of the boundary layer.

Across northwest Kansas, thunderstorms have recently developed out of the persistent cumulus field associated with a weak convergence zone that is apparent on KGLD radar. Here, low-level moisture is greater than areas farther east. The result is surface-based instability between 1500 and 2000 J/kg. However, effective-layer shear is less than across Nebraska given the lessening influence of the aforementioned MCV. Current expectation is that these thunderstorms should move very little this afternoon until being impinged upon by the outflow associated with the thunderstorms moving out of Colorado. Given the degree of instability, gusty thunderstorm outflows and hail will be possible with the strongest thunderstorms. This threat should diminish with time this evening.

..Marsh.. 06/25/2021

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

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