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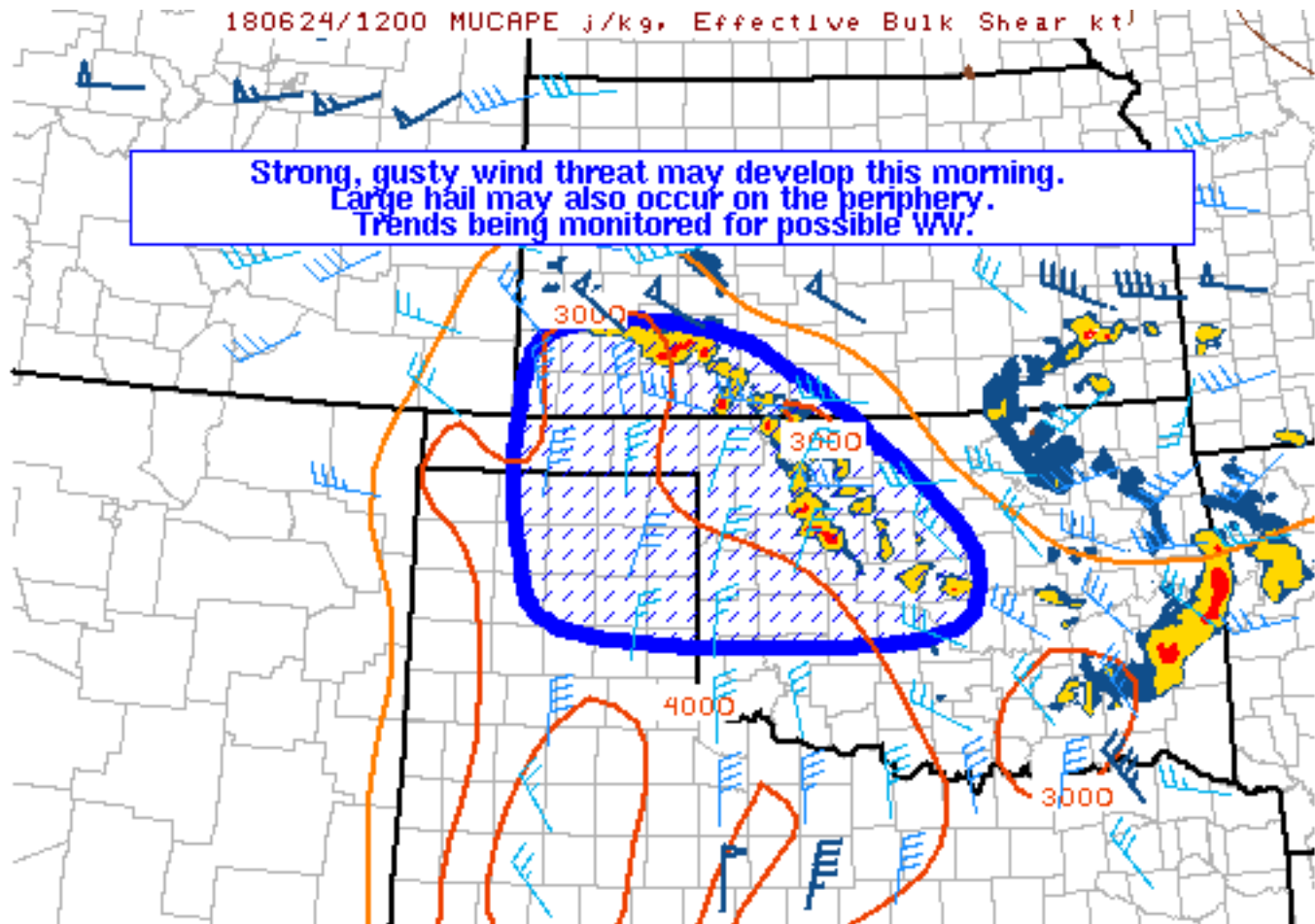
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Mesoscale Discussion 855

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180624/1200 MUCAPE j/kg, Effective Bulk Shear kt



SPC MCD #0855

Mesoscale Discussion 0855

NWS Storm Prediction Center Norman OK

0717 AM CDT Sun Jun 24 2018

Areas affected...southwest Kansas...Texas and Oklahoma
Panhandles...and western Oklahoma

Concerning...Severe potential...Watch possible

Valid 241217Z - 241415Z

Probability of Watch Issuance...40 percent

SUMMARY...Thunderstorms developing across southwest Kansas southeast into central Oklahoma will continue to pose an isolated risk for large hail. Additionally, a strong wind threat may develop from southwest Kansas into the Texas and Oklahoma Panhandles. The area will be monitored for possible watch issuance.

DISCUSSION...Persistent warm-air advection atop congealing outflow boundaries in the wake of early morning MCS (now over eastern

Oklahoma and western Arkansas) has promoted the development of a line of thunderstorms stretching from central Oklahoma northwest into southwest Kansas. Additionally, early morning thunderstorms from northeast Colorado moved into western Kansas and then turned southward along the western periphery of the warm-air advection storms -- directly into the instability axis.

Latest IR imagery indicates cooling cloud tops across southwest Kansas, and the radar presentation suggests this cluster of thunderstorms has developed a cold pool. This would suggest storms should maintain intensity or intensify further, and continue their southward movement into the Oklahoma and Texas Panhandles -- and potentially as far east as the ongoing line of thunderstorms across western Oklahoma -- through the morning. Northerly deep-layer shear vectors on the order of 50 knots and most-unstable CAPE values ranging from 3000 J/kg immediately ahead of the ongoing thunderstorms to upward of 4000 J/kg across the Texas Panhandle, suggest environmental conditions are favorable for maintaining this mesoscale convective system. Additionally, latest mesoanalysis indicates maximum 2-6 kilometer lapse rates on the order of 9 C/km exists within the region ahead of the southward moving MCS.

The eastern extent of the severe threat will be demarcated by the thin, but occasionally severe, line of thunderstorms stretching from central Oklahoma northwestward into southwest Kansas. Westerly lower tropospheric flow will continue to advect the unstable airmass across the Texas Panhandles atop the cooler boundary layer left over in the wake of the earlier morning MCS.

Given the degree of instability, deep-layer shear, and steep lapse rates, hail will be possible with any vigorous, sustained updraft. Additionally, as the developing cold pool across southwest Kansas continues to organize, a strong wind threat may also materialize. One potential negative to a longer-lived severe threat will be the tendency for the warm-air advection to weaken through the morning. Trends will continue to be monitored for a potential watch.

..Marsh/Guyer.. 06/24/2018

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

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