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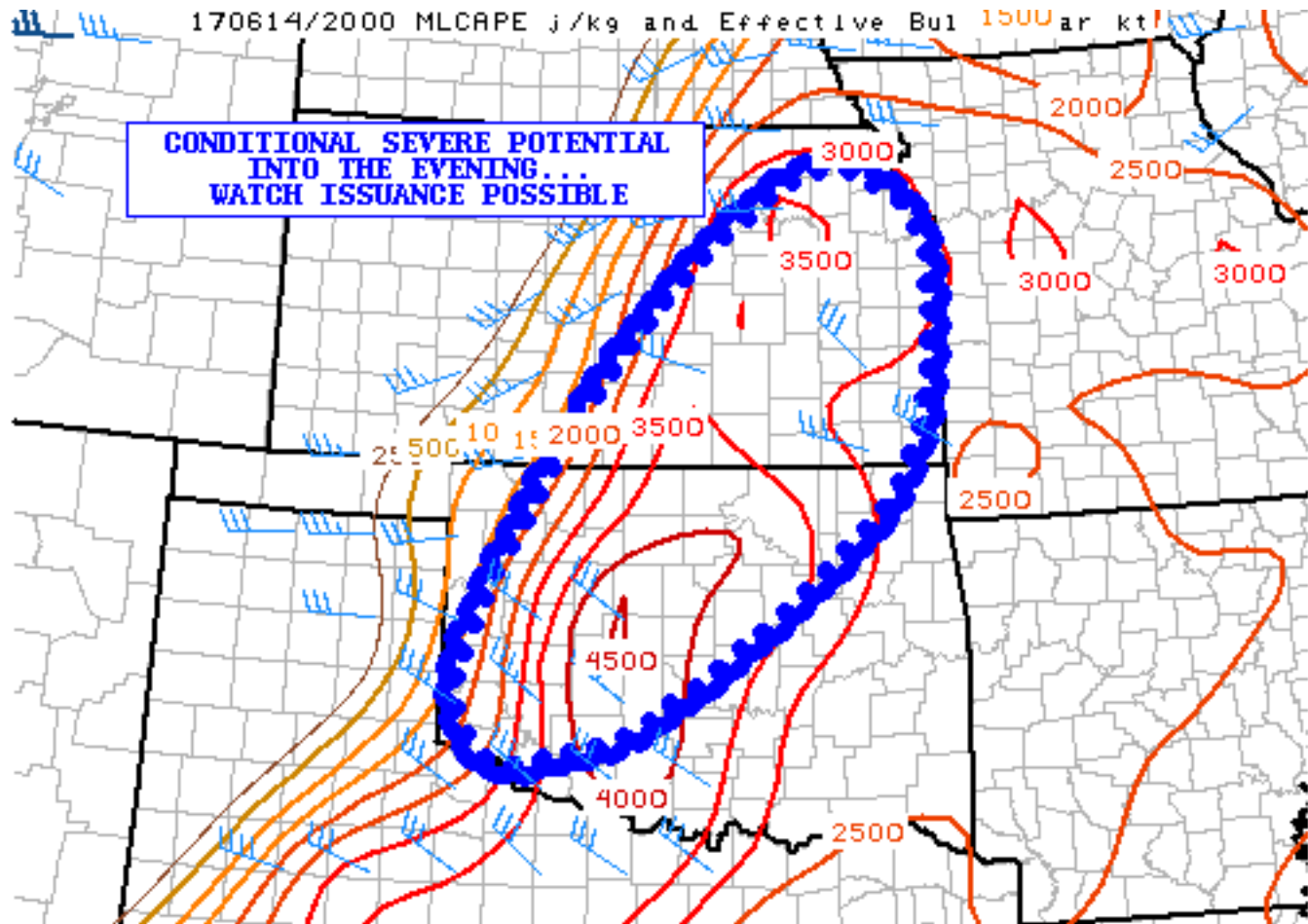
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Mesoscale Discussion 1032

< Previous MD

Next MD >



SPC MCD #1032

Mesoscale Discussion 1032

NWS Storm Prediction Center Norman OK

0337 PM CDT Wed Jun 14 2017

Areas affected...Portions of eastern/southern
KS...northern/western/central OK

Concerning...Severe potential...Watch possible

Valid 142037Z - 142300Z

Probability of Watch Issuance...40 percent

SUMMARY...The area is being monitored for severe-thunderstorm potential into the evening hours. Prospects for sustained deep convection with severe hail/wind potential are presently unclear, but the conditional potential will exist, and Severe Thunderstorm Watch issuance may eventually become necessary.

DISCUSSION...Amid a moist boundary layer characterized by surface dewpoints in the middle 60s to lower 70s, diabatic surface-layer

heating has contributed to strong diurnal gains in buoyancy. Modifications to the 17Z Lamont OK sounding for ongoing surface conditions suggest 2500-4000 J/kg of MLCAPE across the region, with substantial erosion to MLCINH accompanying the base of a moist-boundary-layer-overlying EML. In fact, visible satellite imagery is suggesting slight agitation to cumulus fields across south-central and central KS -- i.e., near a northeast-southwest-oriented surface front marking the west edge of the strongest buoyancy. This boundary extends from its intersection with a diffuse, frontolytic, west-east outflow boundary near/north of the Topeka KS area southwestward into east-central parts of the TX Panhandle area. Baroclinic circulations along the front and decaying outflow boundary could be foci for surface-based convective development during the next several hours.

However, the severe risk is conditional on surface-based convective initiation and sustenance. Surface observations suggest only weakly convergent wind fields accompanying the aforementioned boundaries. Furthermore, notable midlevel drying in the wake of a shortwave trough is evident per water vapor imagery, with ongoing midlevel height rises. This reflects air with a history of subsidence, which may be associated with thermodynamic conditions proving hostile for sustained storm development -- i.e. both associated with localized boosts in static stability in the thermal profile aloft and abundant dry-air-entrainment potential with incipient updrafts.

If convection were to develop (perhaps following repeated and spatially focused pulsations of shallow convective plumes), the aforementioned substantial buoyancy may facilitate the development of vigorous updrafts. Moreover, with 25-40 kt of effective shear, southward- to southeastward-moving supercells and multicell clusters could evolve through the evening hours. Severe hail/wind would be the primary concerns with this activity. Also, the overlap of pre-existing vertical vorticity and substantive low-level buoyancy on either side of the outflow boundary could foster very low tornado potential in northeast KS. Some heat-burst potential may accompany decaying convection later this evening (accompanied by strong surface winds and rapid warming/drying of the boundary layer) -- especially in OK where midlevel lapse rates will be steepest in association with the largest DCAPE.

Again, any severe risk is highly conditional, and prospects for sustained storm formation -- if any -- are highly unclear. If it were to appear a sustained severe risk were to eventually evolve, Watch issuance may possibly become necessary.

..Cohen/Hart.. 06/14/2017

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

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