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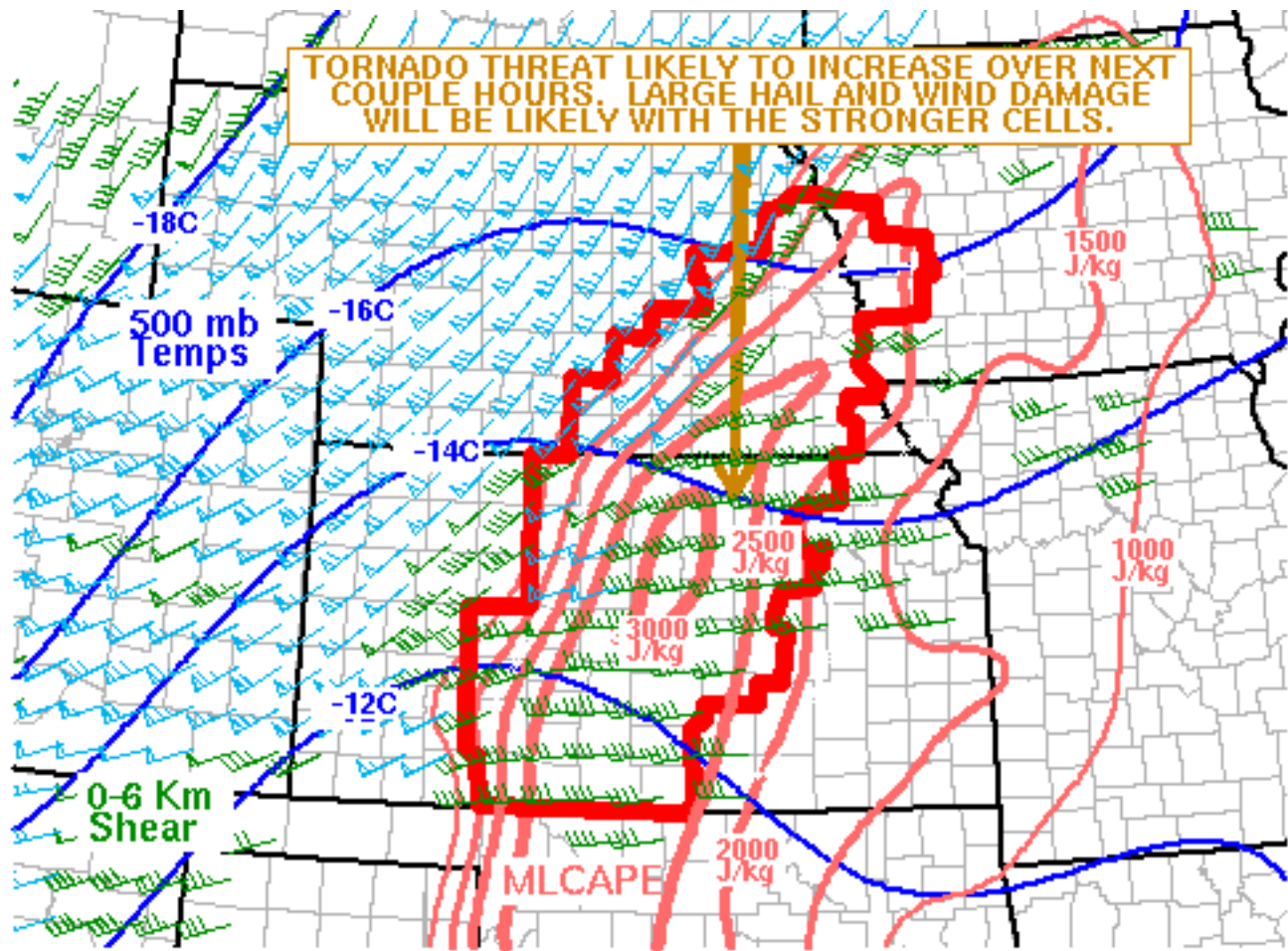
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## Mesoscale Discussion 307

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SPC MCD #0307

Mesoscale Discussion 0307

NWS Storm Prediction Center Norman OK

0500 PM CDT Tue May 01 2018

Areas affected...Central and Eastern Kansas...Southeast  
Nebraska...Southwest Iowa

Concerning...Tornado Watch 59...

Valid 012200Z - 020000Z

The severe weather threat for Tornado Watch 59 continues.

SUMMARY...The tornado threat across southeastern Nebraska and north-central Kansas is expected to increase over the next couple of hours. Large hail and wind damage will be likely with the stronger storms as the activity move eastward across tornado watch 59 through early evening.

DISCUSSION...The latest surface analysis shows a cold front moving southeastward across south-central Nebraska and northwest Kansas. A



dryline extends southward from the front across west-central Kansas. A narrow corridor of maximized low-level moisture is present ahead of the dryline from north-central Oklahoma into north-central Kansas where surface dewpoints are generally in the lower to mid 60s F. This combined with surface heating has resulted in moderate instability with the RAP showing MLCAPE of 2000 to 3000 J/kg.

Radar imagery shows a line of semi-discrete storms ongoing along the western edge of moderate instability from near Hastings, NE to just east of Dodge City, KS. The cells within the line will continue to move eastward into stronger instability and should gradually intensify. Due to the instability, steep mid-level lapse rates of 8.5 to 9.0 C/km and strong deep-layer shear evident on the Hastings WSR-88D VWP, hailstones of greater than 2 inches in diameter will be possible with the stronger supercells. In addition, a 40 to 50 kt low-level jet is forecast to rapidly strengthen across central and eastern Kansas into southeast Nebraska early this evening. For this reason, low-level shear will become increasingly favorable for tornadoes. 0-3 km storm-relative helicities are forecast to increase into the 400 to 500 m2/s2 range suggesting that a strong tornado or two will be possible as well.

..Broyles/Edwards.. 05/01/2018

...Please see [www.spc.noaa.gov](http://www.spc.noaa.gov) for graphic product...

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