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Mesoscale Discussion 477

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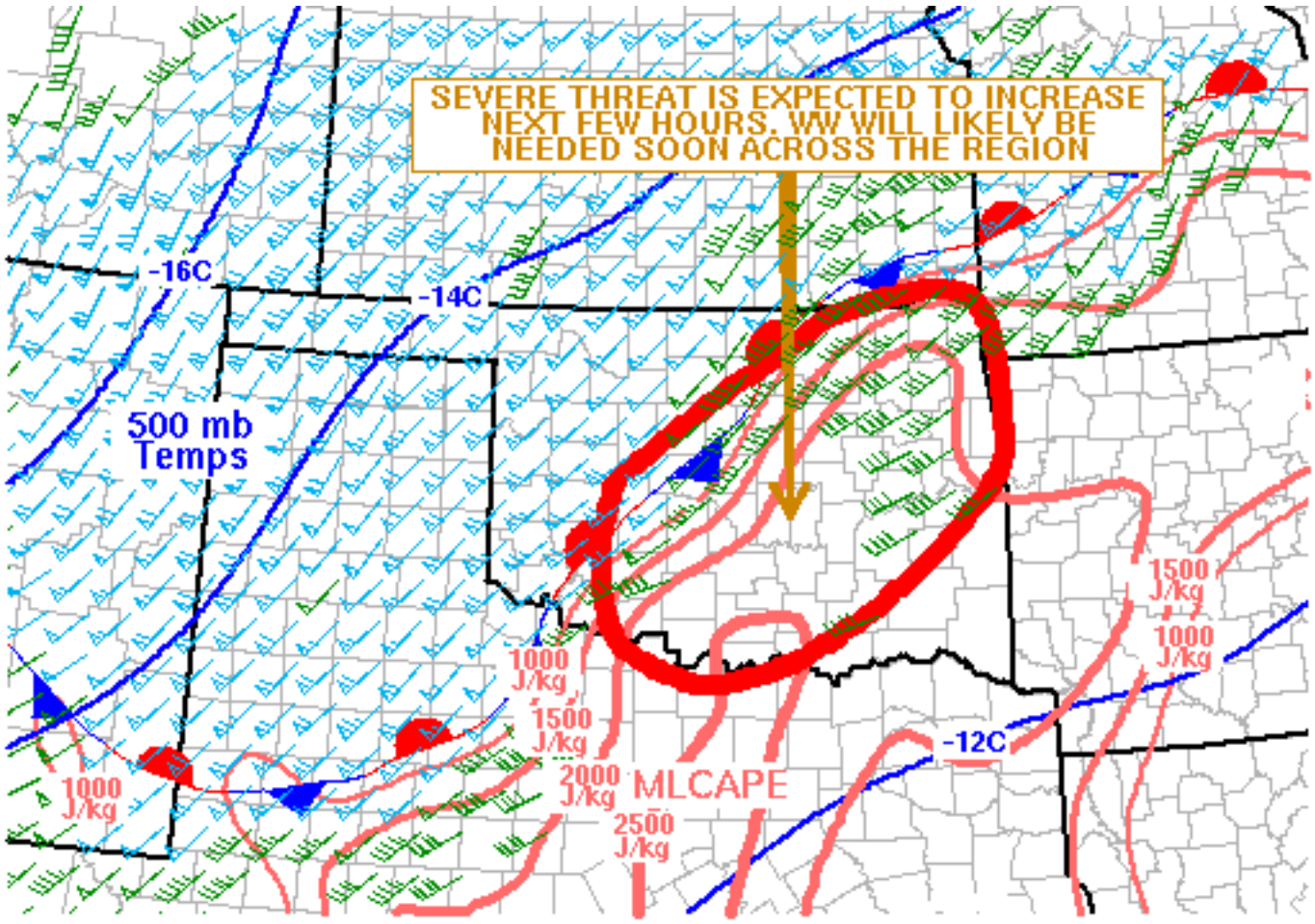

SPC MCD #0477

Mesoscale Discussion 0477
NWS Storm Prediction Center Norman OK
1141 AM CDT Tue Apr 30 2019

Areas affected...Oklahoma...Far North Texas...Far Northwest Arkansas...Far Southeast Kansas...Far Southwest Missouri

Concerning...Severe potential...Tornado Watch likely

Valid 301641Z - 301845Z

Probability of Watch Issuance...80 percent

SUMMARY...The severe threat is likely to increase across the region over the next few hours. A tornado threat, along with wind damage and large hail will be possible as cells intensify. A tornado watch will likely be needed relatively soon.

DISCUSSION...The latest surface analysis shows a stationary front from north-central Oklahoma extending southwestward into northwest Texas. Along and south of the boundary, surface dewpoints are in the

upper 60s and lower 70s F, which is contributing to a moderately unstable airmass. The RAP is estimating MLCAPE values across the warm sector in the 2000 to 3000 J/kg range. Along the instability gradient, a small cluster of strong to severe thunderstorms is developing in north-central to northeastern Oklahoma. This activity is expected to continue to move northeastward across northeast Oklahoma. The Tulsa WSR-88D VWP shows 0-6 km shear of 35 kt with 0-3 km storm relative helicity near 270 m2/s2. This shear environment will support supercell development associated with a tornado threat. The tornado threat will be greatest with cells that track northeastward along the front. Large hail and wind damage will also be possible with this activity.

Further to the south across southern Oklahoma, convection is beginning to initiate in the vicinity of Ardmore. Some uncertainty exists concerning how fast this activity will ramp up this afternoon. For this reason, a tornado watch will likely be needed over the next hour. The current thinking is that cells will gradually increase in coverage and intensity with a severe threat developing by 18Z in south-central and east-central Oklahoma. The deep-layer shear environment will favor supercell development. In addition, RAP forecast soundings gradually increase low-level shear this afternoon across east-central Oklahoma, which will become more favorable for tornadoes. Large hail and wind damage will also be possible with supercells that develop.

..Broyles/Hart.. 04/30/2019

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

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