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Mesoscale Discussion 694

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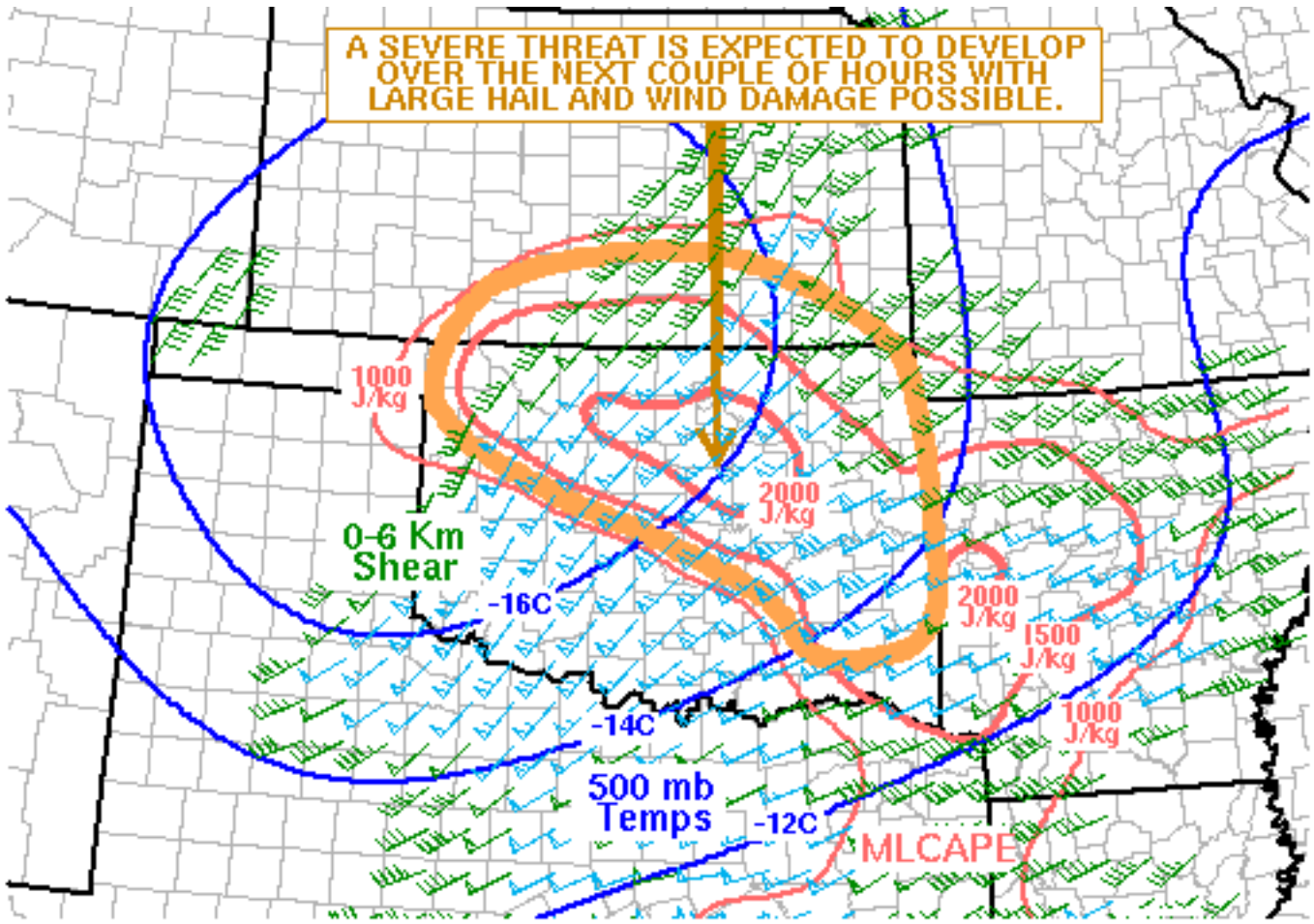

SPC MCD #0694

Mesoscale Discussion 0694
NWS Storm Prediction Center Norman OK
1144 AM CDT Thu May 11 2017

Areas affected...Northern and Eastern Oklahoma...Southern Kansas

Concerning...Severe potential...Watch likely

Valid 111644Z - 111915Z

Probability of Watch Issuance...80 percent

SUMMARY...A severe threat is expected to develop across northern and eastern Oklahoma over the next couple of hours. The storms should expand in coverage affecting southern Kansas as well. Large hail and wind damage will be the primary threats initially but an isolated tornado threat may also develop as storm coverage expands. Weather watch issuance will likely be needed across the region over the next hour or so.

DISCUSSION...The latest surface analysis shows a 1008 mb low over

north-central Oklahoma with a boundary extending east-southeastward from the surface low across northern and eastern Oklahoma. Surface dewpoints along this boundary are in the mid to upper 60s F and moderate instability is in place with MLCAPE values estimated by the RAP in the 1500 to 2500 J/kg range. As surface temperatures continue to increase into the mid to upper 70s F and as low-level convergence becomes more focused along the boundary, convective initiation is expected to take place across northern Oklahoma over the next hour or two.

At mid-levels, an upper-level low is located across far northwest Oklahoma according to water vapor imagery with a 60 to 75 kt mid-level jet over southern Oklahoma. The mid-level jet was helping to enhance lift and create strong deep-layer shear profiles across Oklahoma which will support supercell development. Cold air aloft (500 mb temperatures of -16 to -18C) along with 700-500 mb lapse rates near 8.0 C/km will be favorable for large hail with rotating updrafts. As cells increase in coverage and downdrafts mature early this afternoon, a wind damage threat is also expected to develop. Although low-level shear is relatively weak across northern Oklahoma, a brief tornado can not be ruled out mainly with any supercell that becomes dominant.

..Broyles.. 05/11/2017

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

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