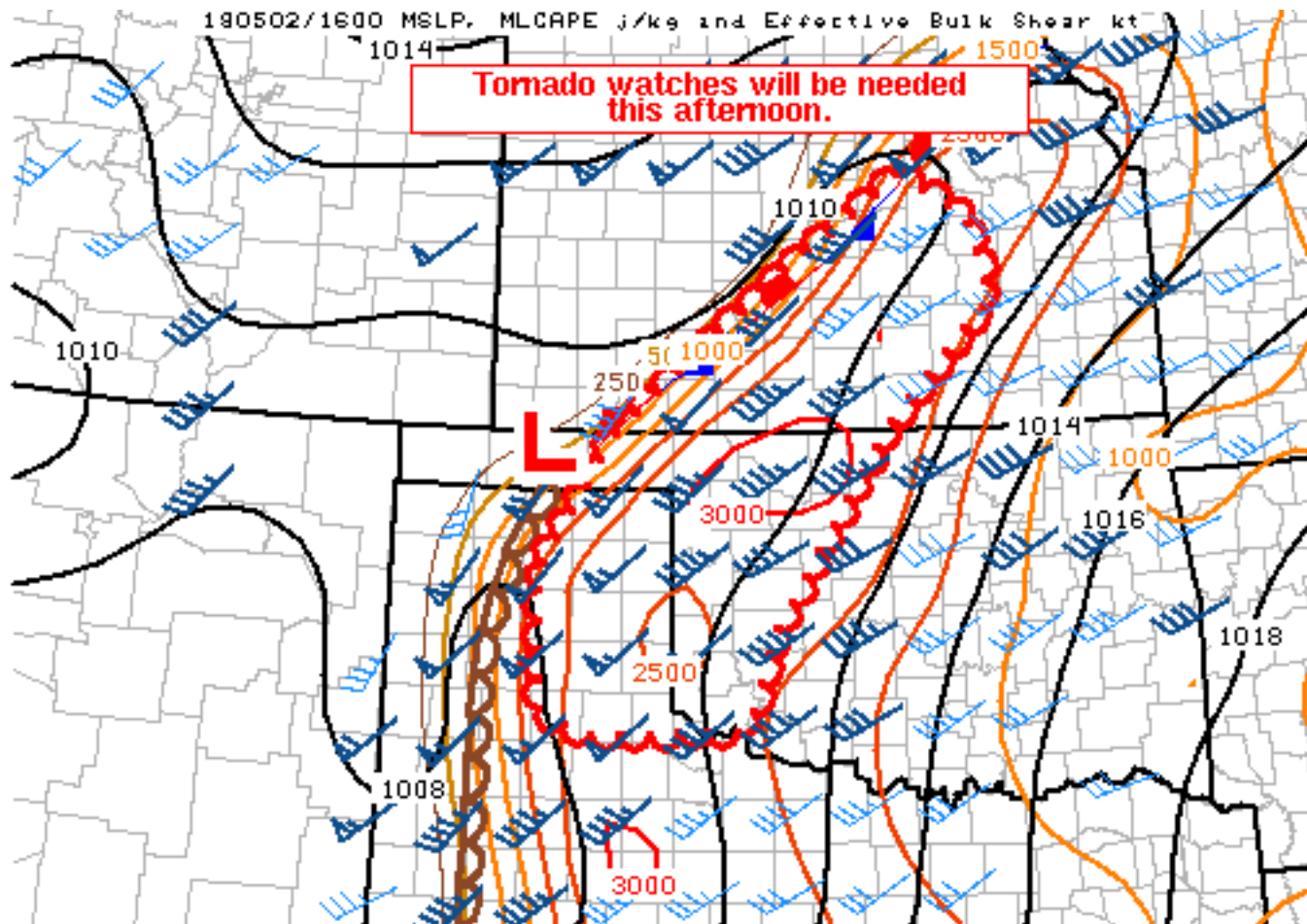


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Mesoscale Discussion 313

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SPC MCD #0313

Mesoscale Discussion 0313

NWS Storm Prediction Center Norman OK

1136 AM CDT Wed May 02 2018

Areas affected...Eastern TX/OK Panhandles western OK to parts of southwest and south-central KS

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

Valid 021636Z - 021900Z

Probability of Watch Issuance...95 percent

SUMMARY...Development of additional thunderstorms is expected between 17-19Z across portions of the Texas Panhandle into the eastern Oklahoma Panhandle into southwest and south-central Kansas. Severe storms will be likely by early afternoon, with all severe hazards possible, including very large hail and a tornado threat.

DISCUSSION...Trends in morning surface analyses and visible satellite imagery showed a quasistationary boundary extending from



extreme southeast NE to southwest KS into the OK Panhandle (east of KGUY) to far northern TX Panhandle. In KS this boundary was analyzed at 15Z to the south of KCNK and south of KGBD. Although surface heating, given breaks in high-level clouds, is resulting in mixing, persistent southerly low-level winds are compensating to maintain surface dew points in the middle-upper 60s from the eastern TX Panhandle into western and central OK to southern and eastern KS. Moisture return has also spread farther westward this morning into more of the TX Panhandle. This moisture combined with diabatic heating will further weaken inhibition, resulting very strong instability (MUCAPE of 2500-3500 J/kg) this afternoon.

Recent lightning data, satellite and radar imagery showed a storm had developed near the intersection of the quasistationary boundary and dry line in Hansford County TX (extreme northern TX Panhandle).

A 70-75 kt southwesterly 500-mb jet accompanying a shortwave trough will move through the southern High Plains early this afternoon and proceed downstream into western OK to central KS by late afternoon. Forcing for ascent attendant to this trough and exit region of the 500-mb jet are expected to reach western portions of the discussion area between 17-19Z supporting additional storm development into the afternoon. This scenario is suggested by the last several runs of the operational HRRR and the 12Z HREF. These initial storms will continue to form from the northern TX Panhandle to part of southwest and adjacent south-central KS where low-level convergence is the strongest, given strengthening low-level winds into the quasistationary boundary. Storms will also develop equatorward along and east of the dryline, as it mixes eastward this afternoon into the eastern TX/OK Panhandles, and into western OK. The available MUCAPE and increasing effective bulk shear will be favorable for supercells producing tornadoes, very large hail, and damaging winds. Storms that develop along the dryline and into western OK will have a greater likelihood to be discrete, given shear vectors crossing the initiation boundary. Shear vectors in vicinity of the boundary in KS may tend to be more parallel resulting in bows with embedded supercells.

..Peters/Grams.. 05/02/2018

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

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