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Mesoscale Discussion 922

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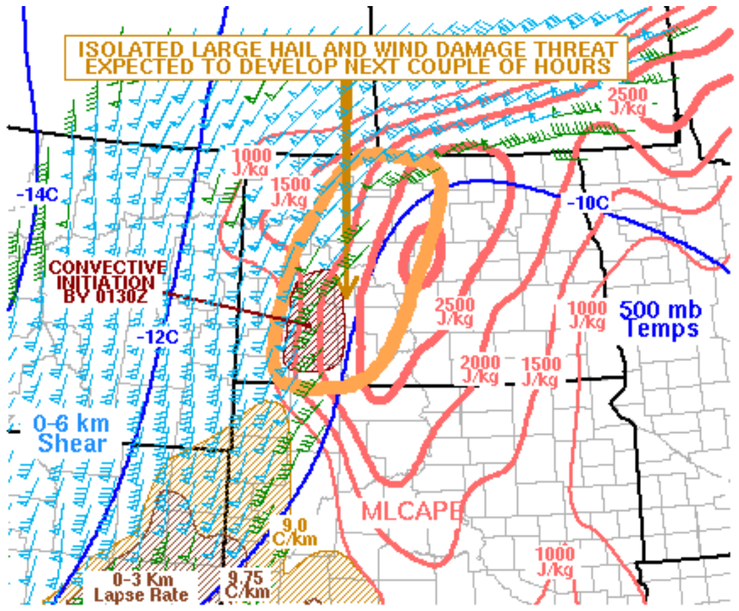

SPC MCD #0922

Mesoscale Discussion 0922
NWS Storm Prediction Center Norman OK
0655 PM CDT Tue Jun 16 2020

Areas affected...Western and Central North Dakota

Concerning...Severe potential...Watch possible

Valid 162355Z - 170230Z

Probability of Watch Issuance...40 percent

SUMMARY...An isolated severe threat is expected to develop across parts of western and central North Dakota over the next couple of hours. Isolated large hail and wind damage will be the primary threats. Weather watch issuance will need to be considered as cells develop and increase in coverage.

DISCUSSION...The latest surface analysis shows a 999 mb low in southwest North Dakota. A cold front is present from just to the west of the surface low extending southwestward into northeast Wyoming. Convection initiated in far southwest North Dakota near the front over the last hour but has failed to become established. A moist airmass exists to the east of the front across much of North Dakota where surface dewpoints are as high as the lower to mid 60s F in the southern part of the state. The convection is also located along a band of large-scale ascent associated with a shortwave trough across the northern High Plains, evident on water vapor imagery. As the cap weakens a bit more and large-scale ascent spreads across west-central North Dakota, thunderstorm development will be likely and cells should increase in coverage. The thermodynamic environment is currently moderately unstable in west-central North Dakota with the RAP showing MLCAPE in the 1500 to 3000 J/kg range. In addition, the Bismarck WSR-88D VWP has 35 kt of 0-6 km shear with veering winds with height in the lowest 2 km. The instability and wind shear profiles will be favorable for strong to severe thunderstorm development this evening and supercells will be possible. Isolated large hail and wind damage will be the primary threats.

At this time, some uncertainty exists concerning the timing of thunderstorm development across the northern Plains. The current thinking is that convection will continue to percolate in southwestern North Dakota for another hour or so. Then, convection should become vigorous enough for thunderstorm development, mainly after 0130Z. Thunderstorms are forecast to expand northward across west-central North Dakota after that and should obtain an isolated severe threat.

..Broyles/Grams.. 06/16/2020

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

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