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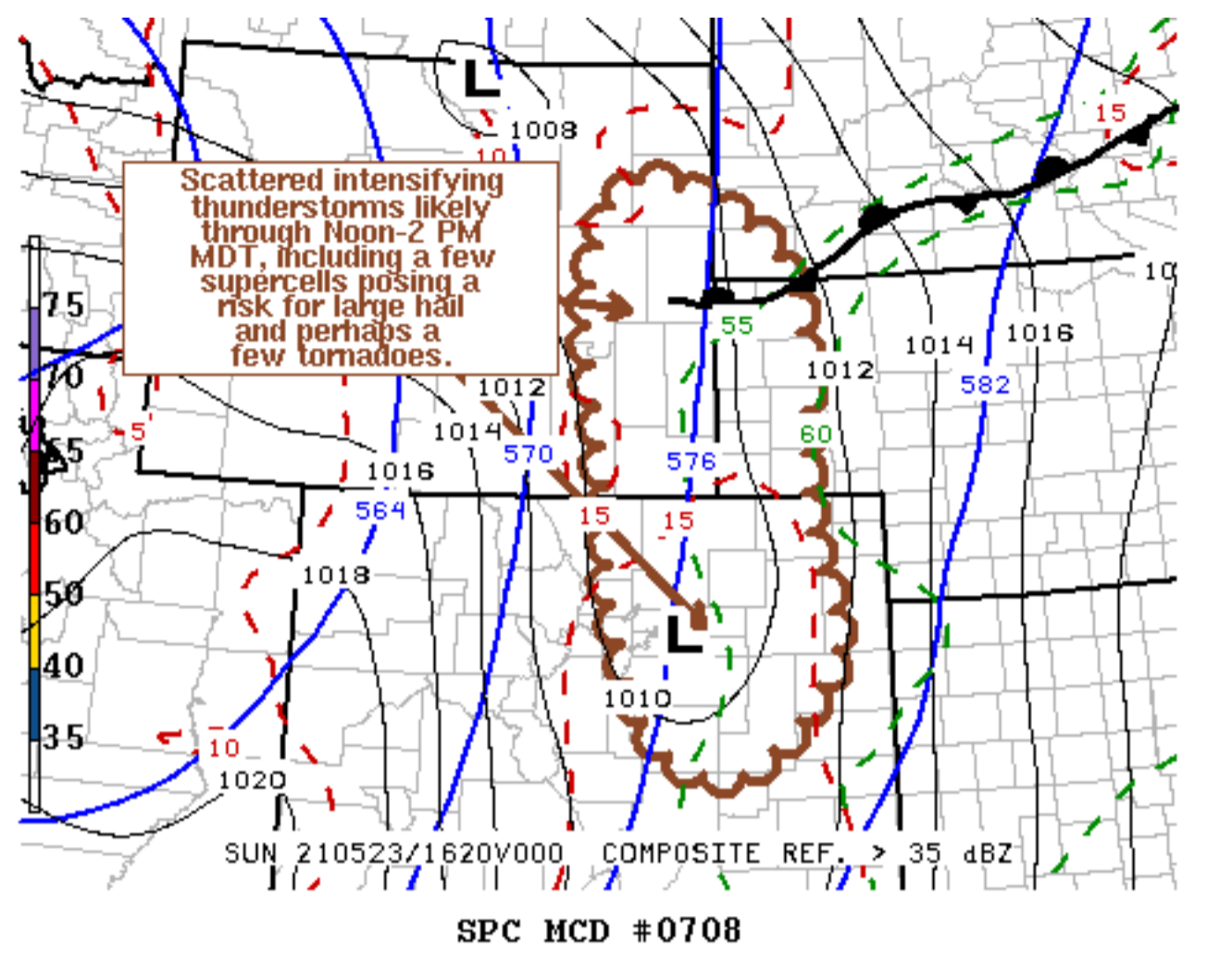
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Mesoscale Discussion 708

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Mesoscale Discussion 0708
 NWS Storm Prediction Center Norman OK
 1153 AM CDT Sun May 23 2021

Areas affected...Much of eastern Wyoming and Colorado into southwestern South Dakota and the Nebraska Panhandle

Concerning...Severe potential...Watch likely

Valid 231653Z - 231900Z

Probability of Watch Issuance...95 percent

SUMMARY...The initiation of scattered thunderstorm development is expected during the next few hours, with a few supercells evolving through Noon-2 PM MDT. One or more severe weather watches likely will be needed.

DISCUSSION...Based on latest water vapor imagery, the leading edge of the stronger mid-level forcing for ascent and cooling has begun to overspread the Laramie Mountains, and likely will begin to spread into and across the Front Range between now and 18-20Z. Coinciding with continuing insolation and low-level moisture advection (mid 50s to around 60F surface dew points across the high plains) on southeasterly near surface flow, steepening lapse rates appear likely to support moderately large CAPE in excess of 1500 J/kg, near and east of the higher terrain.

As destabilization progresses, storms will initiate first across the higher terrain, aided by favorable orographic forcing. However, within deepening surface troughing, near the Wyoming/Nebraska Panhandle into the plains of eastern Colorado, the initiation of at least widely scattered thunderstorms appears possible by 20Z.

Southerly deep-layer ambient mean flow appears on the order of 40-45 kt, but with flow in the 500-300 mb layer forecast to intensify to 50-90 kt, strengthening shear will become supportive of supercells, with a tendency to propagate northeastward and eastward. As storms propagate off the higher terrain, and form within the lee surface troughing, they will intensify and pose a risk for large hail and perhaps a couple of tornadoes by mid afternoon.

..Kerr/Guyer.. 05/23/2021

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

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