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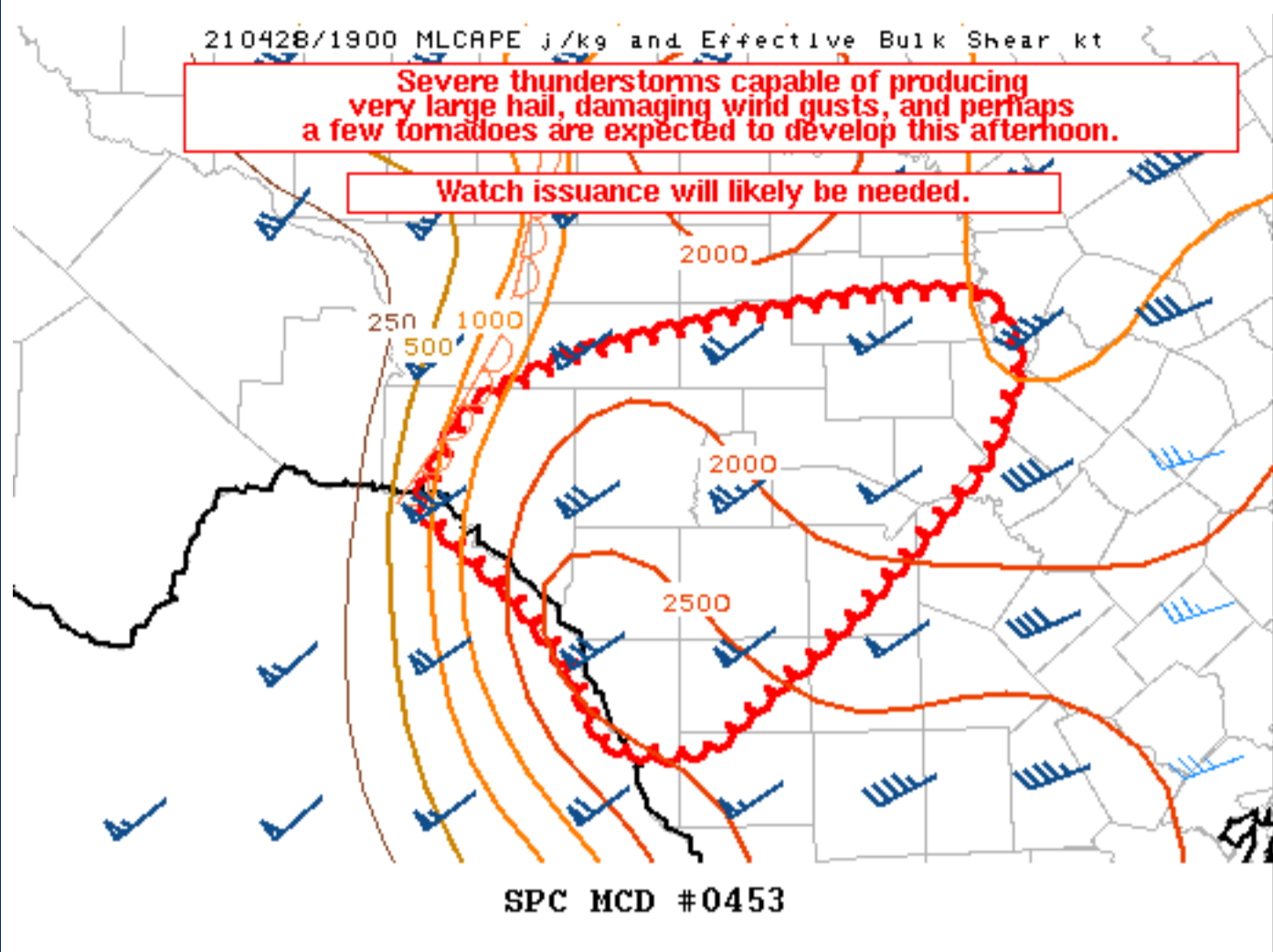
Mesoscale Discussion 453

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210428/1900 MLCAPE J/kg and Effective Bulk Shear kt

Severe thunderstorms capable of producing very large hail, damaging wind gusts, and perhaps a few tornadoes are expected to develop this afternoon.

Watch issuance will likely be needed.



Mesoscale Discussion 0453
NWS Storm Prediction Center Norman OK
0242 PM CDT Wed Apr 28 2021

Areas affected...Portions of south-central TX

Concerning...Severe potential...Watch likely

Valid 281942Z - 282145Z

Probability of Watch Issuance...95 percent

SUMMARY...Severe thunderstorms capable of producing very large hail, damaging wind gusts, and perhaps a few tornadoes are expected to develop this afternoon. Watch issuance will likely be needed.

DISCUSSION...Persistent low-level east-southeasterly upslope flow is occurring this afternoon across south-central TX. This will support convective initiation across the higher terrain of northern Mexico adjacent to Del Rio TX. In fact, several attempts have recently occurred along the Rio Grande River in Val Verde County, and a lightning flash has been observed with developing convection in adjacent northern Mexico. Rich low-level moisture, characterized by upper 60s to low 70s surface dewpoints, is in place across this region. This moisture coupled with strong diurnal heating and steepening mid-level lapse rates is supporting MLCAPE of 1500-2500 J/kg east of a surface dryline.

Enhanced mid-level flow associated with an upper low over the Southwest and northern Mexico will remain over this region through the afternoon and evening. Related strong effective bulk shear of 50-60+ kt and long, straight hodographs above the boundary layer will support supercells, with some potential for storm splits. Very large hail of 2 to 3+ inches appears likely with these initially discrete storms given the rather favorable thermodynamic and kinematic environment. As additional storms form through the late afternoon and into early evening, severe wind gusts may also occur given the presence of steep low-level lapse rates where strong diurnal heating has occurred. Although low-level winds across south-central TX are not forecast to be very strong, there will be ample directional shear/veering of the wind profile through the boundary layer. This should support low-level rotation with any supercells that can form, and isolated tornadoes appear possible. Watch issuance will likely be needed to address this anticipated severe threat.

..Gleason/Hart.. 04/28/2021

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

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