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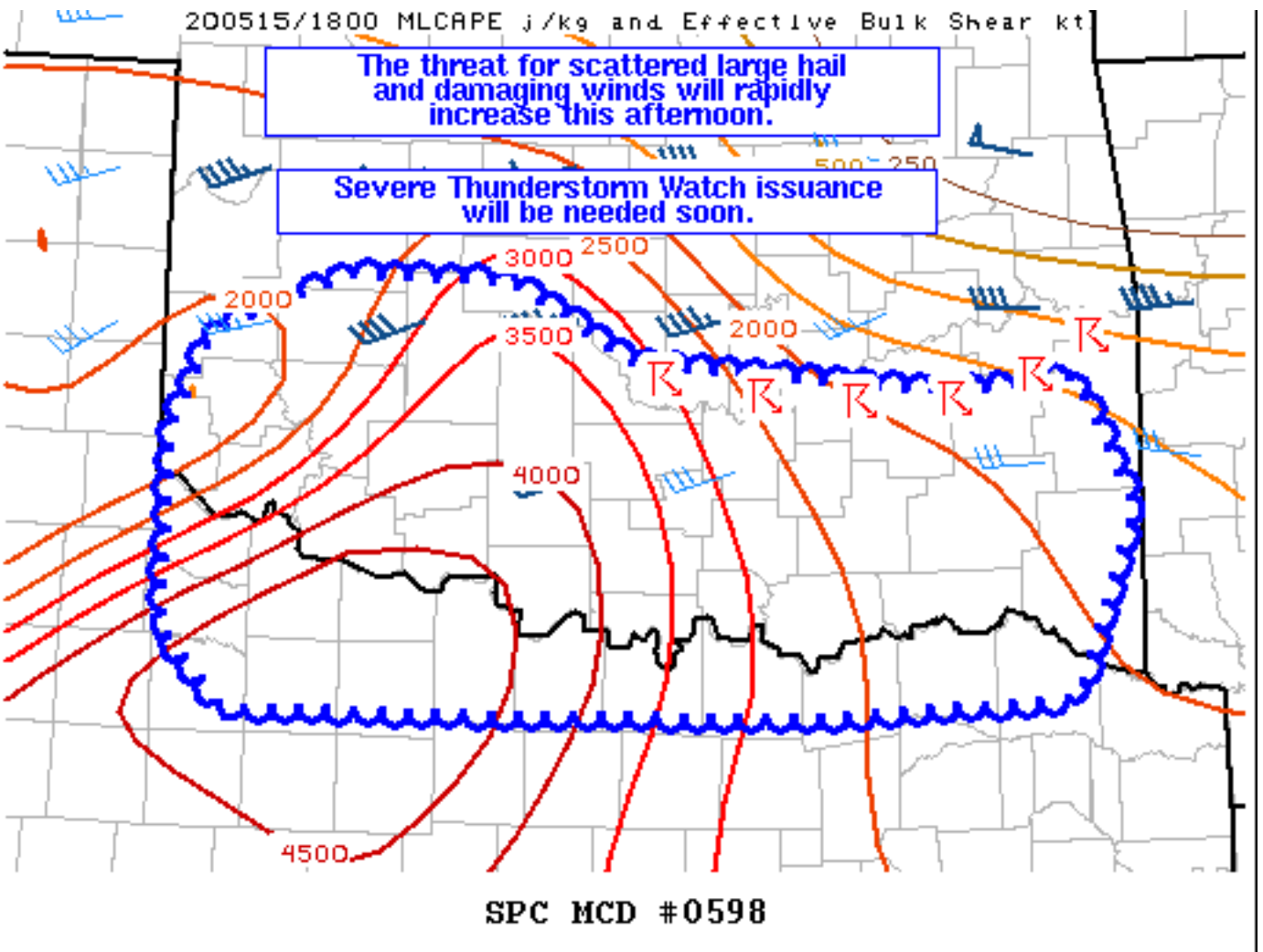
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Mesoscale Discussion 598

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SPC MCD #0598

Mesoscale Discussion 0598
 NWS Storm Prediction Center Norman OK
 0108 PM CDT Fri May 15 2020

Areas affected...Portions of central/southern OK into western north TX and north TX

Concerning...Severe potential...Severe Thunderstorm Watch likely

Valid 151808Z - 152015Z

Probability of Watch Issuance...95 percent

SUMMARY...The threat for scattered large hail and damaging winds will rapidly increase this afternoon. Severe thunderstorm watch issuance will be needed soon.

DISCUSSION...Storms persist this afternoon across parts of central into eastern OK along a composite outflow boundary/front. This front is expected to continue sagging southward across central/southern OK this afternoon, and it will likely provide a focus for severe storm development. A 17Z special sounding from OUN shows minimal convective inhibition remaining, with steep 700-500 mb layer lapse rates around 7-7.5 C/km. A very moist low-level airmass and diurnal heating to the south of the front are also contributing to MLCAPE of 2000-4000+ J/kg.

Even with this strong to locally extreme instability, mid-level flow and related effective bulk shear is not expected to be overly strong, only around 25-35 kt. This should still be sufficient for storm organization, with any initially discrete development capable of producing very large hail (2+ inches in diameter). With marginal shear and the linear low-level forcing of the front, tendency should be for storms to quickly congeal into multiple clusters/bows. Scattered to numerous severe, damaging winds gusts will likely become an increasing concern later this afternoon into the early evening as storms propagate generally southward into greater instability. The tornado threat appears to be relatively limited given the weak low-level flow. But, a tornado cannot be entirely ruled out, mainly along the front early in the convective life cycle while storms remain semi-discrete.

Across southwest OK into western north TX, additional storms may form the east of a weak surface low and related dryline currently located near CDS. This convection would likely have a more eastward component of motion, and may merge with any storms that form across western OK along/ahead of the front. Regardless, scattered large hail and severe winds gusts may occur south of the front and east of the dryline, and a Severe Thunderstorm Watch will be needed across much of central/southern OK and western north TX soon. Somewhat more uncertainty exists regarding the southward extent of the severe threat into parts of north TX through the early evening.

..Gleason/Dial.. 05/15/2020

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

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