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Mesoscale Discussion 375

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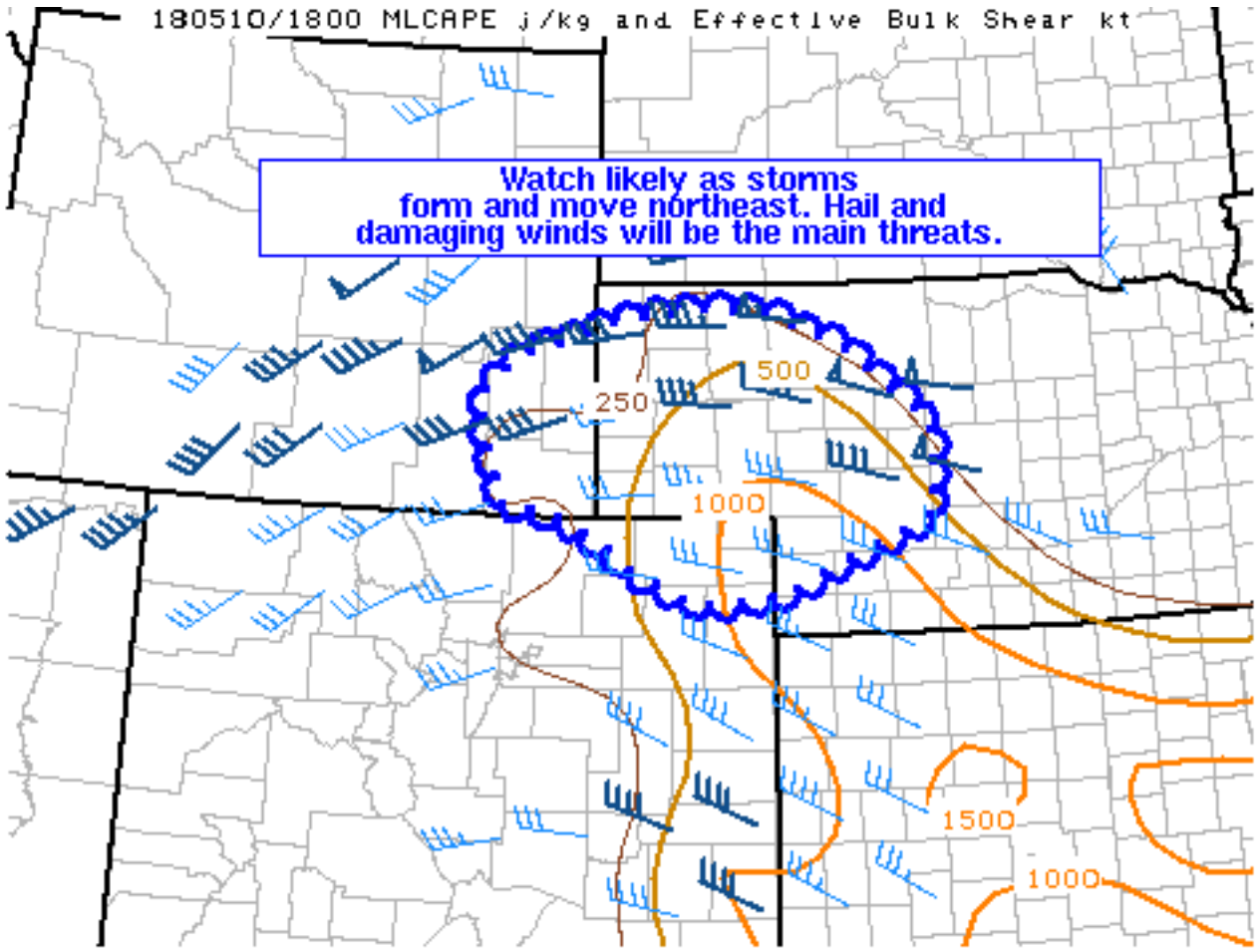

SPC MCD #0375

Mesoscale Discussion 0375
NWS Storm Prediction Center Norman OK
0156 PM CDT Thu May 10 2018

Areas affected...Southeast Wyoming...southwest Nebraska...and northeast Colorado

Concerning...Severe potential...Watch likely

Valid 101856Z - 102100Z

Probability of Watch Issuance...80 percent

SUMMARY...Storms will form over the higher terrain within the next hour or two. A watch will likely be needed as these storms move northeast.

DISCUSSION...The combination of low-level upslope flow, and an approaching shortwave trough will trigger storm development across the higher terrain of the Laramie Range in the next hour or two. Further east, low-level moisture advection beneath very steep

mid-level lapse rates greater than 8.5 C/km has led to weak surface-based destabilization across southeastern WY, northeast CO, and southwest NE. Diabatic heating under clear skies in addition to increasing low-level moisture from the southeast will lead to further destabilization with MLCAPE around 1500 J/kg this afternoon. Storms will form on the southern periphery of a mid-level speed max which will provide sufficient mid-level flow for storm organization. This was sampled by the 1818Z VWP from CYS with around 35 knots of west-southwesterly flow around 5 to 6 km. Resultant effective bulk shear values of 40 to 45 knots combined with the greater instability will support supercell structures as these storms move east. Given the steep mid-level lapse rates, and a well-mixed sub-cloud layer, large hail and damaging winds will be the primary threats. Low-level hodographs and storm mode may support a tornado threat, however, high LCLs should limit a greater tornado risk.

..Bentley/Hart.. 05/10/2018

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

ATTN...WFO...GID...LBF...GLD...BOU...CYS...

LAT...LON 40310305 40500348 40800398 41040455 41070508 41550524
41980537 42170526 42420476 42530430 42690377 42780282
42750210 42470123 42110068 41790019 41010018 40510150
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