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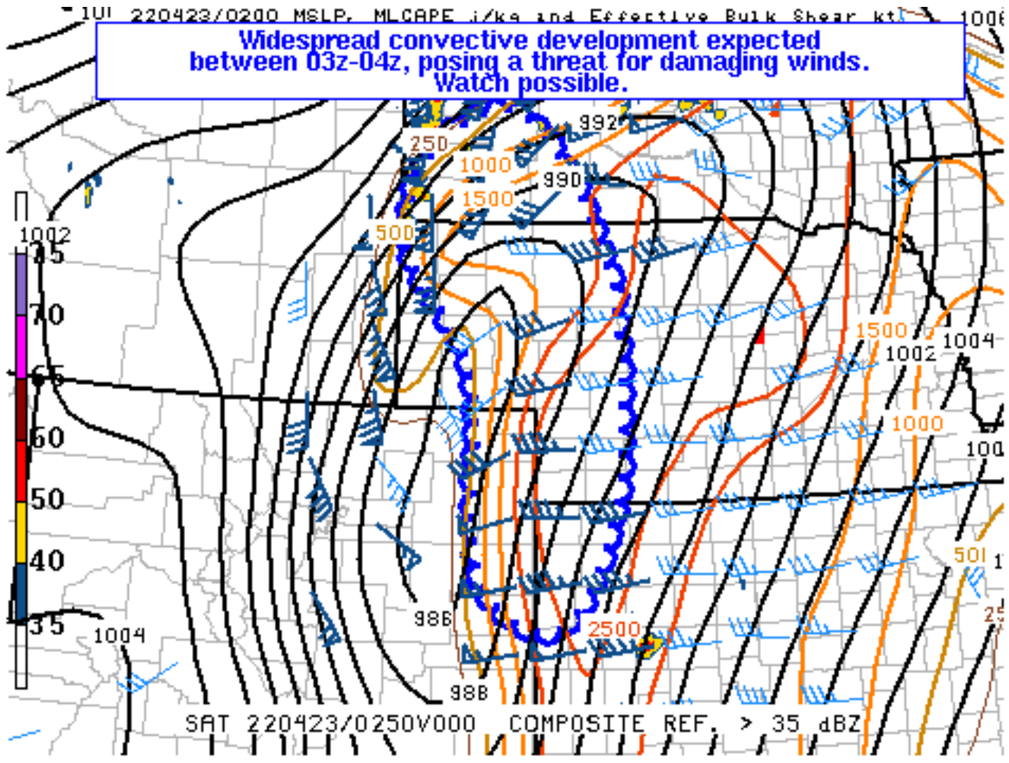

SPC MCD #0539

Mesoscale Discussion 0539
NWS Storm Prediction Center Norman OK
1010 PM CDT Fri Apr 22 2022

Areas affected...Western South Dakota...Western/Central Nebraska...Northeast Colorado...and far Northwestern Kansas

Concerning...Severe potential...Watch possible

Valid 230310Z - 230515Z

Probability of Watch Issuance...60 percent

SUMMARY...Widespread convective development expected between 03z-04z, posing a threat for damaging winds. Convective trends will be monitored for possible watch issuance across western/central Nebraska in the next 1-2 hours.

DISCUSSION...Regional radar shows a band of embedded severe storms that has moved out of eastern portions of Wyoming and into far western South Dakota, entering western portions of WW 142. These storms are being aided by ascent associated with a mid-level short-wave trough propagating through the region, while encountering a warm/moist low-level airmass and associated instability to the north of an elongated surface low located in the Nebraska Panhandle.

Meanwhile, strong northwesterly surface winds associated with a Pacific cold front are entering portions of eastern Wyoming, far western Nebraska, and northeast Colorado. Farther east, a residual low-level warm/moist airmass resides over parts of central/southwest Nebraska, far eastern Colorado, and western Kansas. As this front continues to advance eastward, it will eventually encounter this residual airmass, and the combination of strong low-level convergence and mid-level ascent should provide the impetus for widespread convective development. Short-term CAM guidance suggests this should occur in the 03z-04z time frame. Storms should quickly favor a linear mode, with damaging winds being the primary threat. This region will continue to be monitored for possible watch issuance for parts of western/central Nebraska in the next 1-2 hours.

..Karstens/Thompson.. 04/23/2022

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

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