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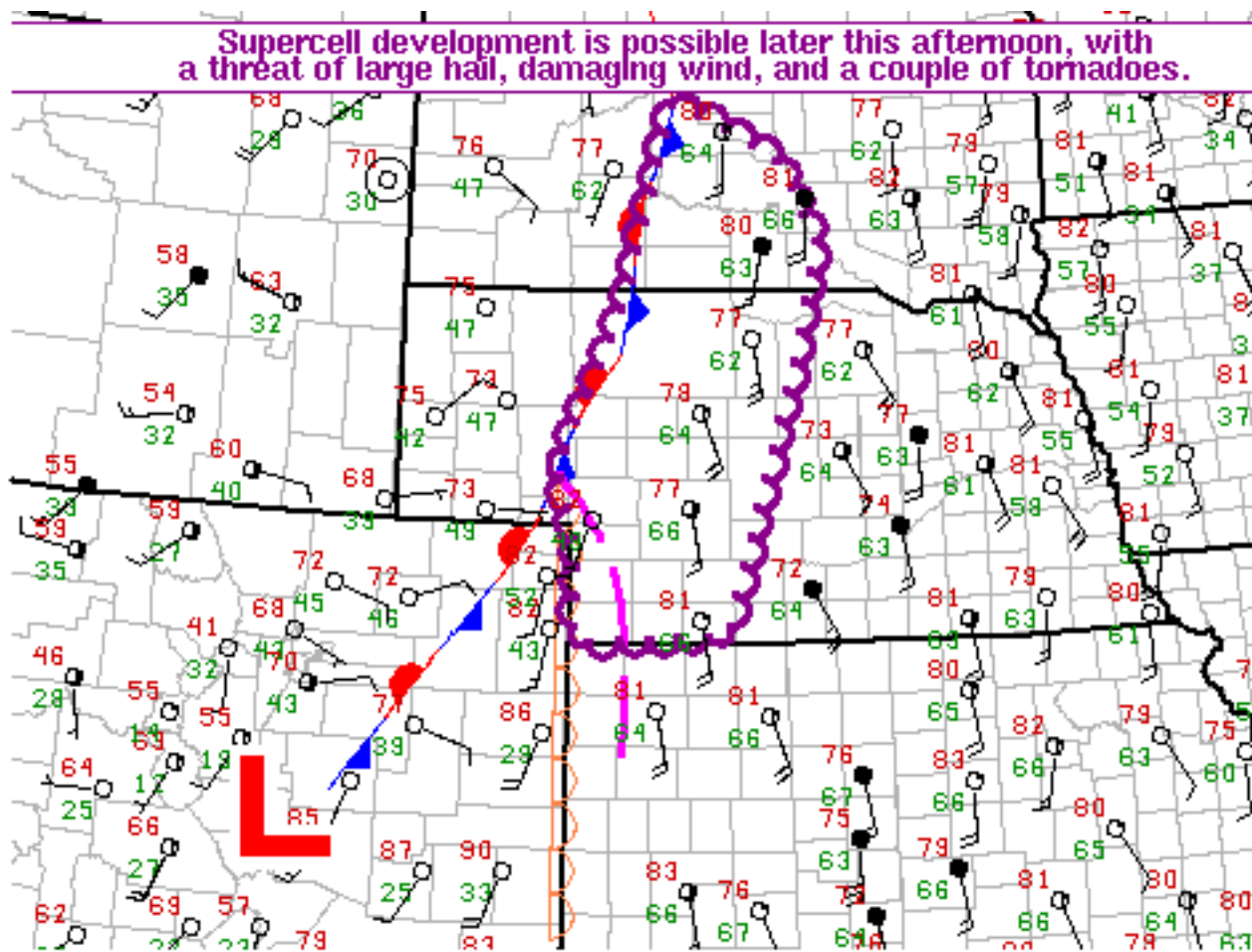
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SPC Feedback

Mesoscale Discussion 677

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Supercell development is possible later this afternoon, with a threat of large hail, damaging wind, and a couple of tornadoes.

SPC MCD #0677

MESOSCALE DISCUSSION 0677

NWS STORM PREDICTION CENTER NORMAN OK

0254 PM CDT SUN MAY 22 2016

AREAS AFFECTED...PORTIONS OF CNTRL/WRN NEB...S-CNTRL SD

CONCERNING...SEVERE POTENTIAL...WATCH LIKELY

VALID 221954Z - 222130Z

PROBABILITY OF WATCH ISSUANCE...80 PERCENT

SUMMARY...ISOLATED TO WIDELY-SCATTERED THUNDERSTORM DEVELOPMENT IS EXPECTED LATER THIS AFTERNOON. SUPERCELLS CAPABLE OF LARGE HAIL...DAMAGING WIND...AND A COUPLE OF TORNADOES WILL BE POSSIBLE. WATCH ISSUANCE WILL LIKELY BE REQUIRED BY 21Z.

DISCUSSION...AT 1930Z...SLOWLY DEEPENING CU WAS NOTED ALONG A WEAK SFC BOUNDARY DRAPED FROM WRN NEB INTO S-CNTRL SD...WITH CG ACTIVITY RECENTLY NOTED ACROSS CHERRY COUNTY. SOME CU WAS ALSO NOTED ALONG A DRYLINE NEAR THE NE/CO/KS BORDERS. THE THERMODYNAMIC ENVIRONMENT

ACROSS THIS AREA...AS SAMPLED BY THE 18Z LBF SOUNDING...IS CHARACTERIZED BY STEEP MIDLEVEL LAPSE RATES AND MODERATE BUOYANCY. THE MODIFIED LBF SOUNDING YIELDS MLCAPE OF AROUND 2000 J/KG...WHICH IS IN AGREEMENT WITH RECENT MESOANALYSIS ESTIMATES. THE OBSERVED WIND PROFILE FROM THE SOUNDING AND LNX VWP INDICATES FAVORABLE EFFECTIVE HELICITY OF AROUND 150-200 M2/S2...THOUGH DEEP-LAYER SHEAR IS RELATIVELY WEAK AND SOME UNFAVORABLE BACKING OF THE MIDLEVEL FLOW WAS NOTED AS WELL.

IT APPEARS THAT A WEAK VORT MAX IS APPROACHING SW NEB...BUT IT IS UNCLEAR IF THIS FEATURE WILL BE SUFFICIENT TO INITIATE AND SUSTAIN DEEP CONVECTION...GIVEN SOME RESIDUAL CAPPING AND VERY DRY AIR ALOFT NOTED ON THE LBF SOUNDING. LATE THIS AFTERNOON...ASCENT WILL BEGIN TO INCREASE AHEAD OF A STRONGER UPPER TROUGH CURRENTLY MOVING EWD OUT OF THE GREAT BASIN...WITH INCREASING CONVECTIVE COVERAGE EXPECTED IN THE 22-00Z TIME FRAME.

ONCE INITIATION OCCURS...SUPERCELLS CAPABLE OF LARGE HAIL AND DAMAGING WINDS WILL BE POSSIBLE. SOME TORNADO RISK WILL ALSO EXIST...ESPECIALLY ACROSS THE SRN PART OF THE MCD AREA...WHERE LOW-LEVEL WINDS WILL BE A LITTLE MORE BACKED IN RESPONSE TO DEEPENING LOW PRESSURE OVER ERN CO. STORM MODE MAY BECOME INCREASINGLY MIXED WITH NWD EXTENT GIVEN THE PRESENCE OF BACKED MIDLEVEL FLOW...BUT INSTABILITY/SHEAR WILL STILL BE SUFFICIENT FOR A SEVERE RISK EXTENDING INTO CNTRL SD.

..DEAN/HART.. 05/22/2016

ATTN...WFO...FSD...ABR...GID...LBF...UNR...GLD...

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