

DAY 1 CONVECTIVE OUTLOOK

NWS STORM PREDICTION CENTER NORMAN OK
0755 AM CDT MON JUL 23 2012

VALID 231300Z - 241200Z

...THERE IS A SLGT RISK OF SVR TSTMS THROUGH TONIGHT FROM PARTS OF THE UPPER MS AND OH VALLEYS INTO THE MID ATLANTIC AND WRN NEW ENGLAND...

...THERE IS A SLGT RISK OF SVR TSTMS THIS AFTERNOON THROUGH LATE EVENING FROM CENTRAL MT TO WRN SD...

...SYNOPSIS...

THE MIDDLE LEVEL HIGH OVER THE CENTRAL PLAINS WILL DRIFT EWD TOWARD MO/AR AND WEAKEN GRADUALLY AS A SERIES OF SHORTWAVE TROUGHS TRAVERSE THE NRN TIER OF STATES. THE PRIMARY EMBEDDED WAVES WILL TRANSLATE FROM LAKE SUPERIOR TO THE LOWER GREAT LAKES...AND FROM WA TO SRN ALBERTA. EACH OF THESE WAVES WILL BE ACCOMPANIED BY SURFACE COLD FRONTS WHICH WILL SERVE TO FOCUS THUNDERSTORM DEVELOPMENT FROM THE UPPER MIDWEST TO THE NE STATES...AND ACROSS MT.

...OH VALLEY/MID ATLANTIC/WRN NEW ENGLAND THROUGH EARLY TONIGHT... ONGOING STORMS ACROSS SRN NY ARE ASSOCIATED WITH LOW-LEVEL WAA AND A WEAK EMBEDDED SPEED MAX MOVING ESEWD OVER WRN NY. THIS CONVECTION SHOULD PERSIST AND SPREAD SEWD THROUGH THE DAY TOWARD SRN NEW ENGLAND AND ERN PA/NJ...WITH SOME INTENSIFICATION PROBABLE TOWARD ERN PA/NJ AS THE LOW LEVELS WARM IN CLOUD BREAKS AND LOW-LEVEL MOISTURE INCREASES FROM THE SW. A FEW DAMAGING GUSTS WILL BE THE MAIN CONCERN WITH THIS ACTIVITY. OTHER STORMS SHOULD DEVELOP FARTHER S INTO NRN VA ALONG A DIFFUSE LEE TROUGH WHERE MODERATE INSTABILITY WILL COINCIDE WITH SUFFICIENT DEEP-LAYER NWLY SHEAR FOR ORGANIZED MULTICELL CLUSTERS WITH AN ATTENDANT RISK FOR DAMAGING WINDS.

THE POTENTIALLY MORE WIDESPREAD/ORGANIZED SEVERE STORM THREAT WILL ACCOMPANY THE SURFACE COLD FRONT INVOF THE SAINT LAWRENCE VALLEY AND LAKE ONTARIO BY LATE EVENING. VERTICAL SHEAR WILL BECOME SUFFICIENT FOR BOTH ORGANIZED BOWING SEGMENTS AND EMBEDDED SUPERCELLS TO SPREAD SEWD FROM ONTARIO INTO WRN/NRN NY IN THE 00-03Z TIME FRAME. ASSUMING THE PRESENCE OF MODERATE INSTABILITY...THERE WILL BE A RISK FOR MORE CONCENTRATED WIND DAMAGE COMPARED TO EARLIER IN THE AFTERNOON FARTHER TO THE SE. OTHER MORE ISOLATED STRONG/SEVERE STORMS WILL ALSO BE POSSIBLE FARTHER SW ALONG THE FRONT LATER THIS AFTERNOON THROUGH EARLY TONIGHT ACROSS OH...THOUGH FAIRLY WIDESPREAD LOW CLOUDS THIS MORNING ADD SOME UNCERTAINTY REGARDING THE DISTRIBUTION OF THE STRONGER SURFACE HEATING.

...MT AREA THIS AFTERNOON/EVENING...

A NARROW CORRIDOR OF WEAK-MODERATE INSTABILITY WILL DEVELOP AHEAD OF A COLD FRONT PROGRESSING EWD ACROSS CENTRAL MT THIS AFTERNOON/EVENING...IN ADVANCE OF AN EJECTING MIDDLE LEVEL LOW OVER SRN ALBERTA. BOUNDARY LAYER DEWPOINTS IN THE 50S WITH DAYTIME HEATING/MIXING WILL SUPPORT MLCAPES AROUND 1000 J/KG...IN AN ENVIRONMENT WITH SUFFICIENT DEEP-LAYER VERTICAL SHEAR FOR ORGANIZED LINE SEGMENTS AND SUPERCELLS. RELATIVELY LARGE TEMPERATURE-DEWPOINT SPREADS AND STEEP LOW-LEVEL LAPSE RATES WILL SUPPORT DAMAGING

WINDS...WHILE BUOYANCY AND THE ORGANIZED UPDRAFT STRUCTURES MAY ALSO SUPPORT LARGE HAIL. STORMS ARE EXPECTED TO FORM ALONG THE FRONT BY ABOUT 21Z IN CENTRAL MT...AND THEN PROGRESS EWD/NEWD THROUGH THE EVENING.

...WRN SD AREA THIS AFTERNOON THROUGH TONIGHT...
SEPARATE FROM THE MT SHORTWAVE TROUGH...CONVECTION MAY FORM THIS AFTERNOON OVER THE BLACK HILLS...WHERE ELY UPSLOPE FLOW WILL PERSIST ON THE COOL SIDE OF A STALLED FRONT ACROSS SRN SD. THIS AREA WILL BE ALONG THE SRN FRINGE OF THE WSWLY FLOW AROUND THE PLAINS UPPER HIGH...THOUGH ELY BOUNDARY LAYER FLOW WILL ENHANCE DEEP-LAYER VERTICAL SHEAR TO THE POINT WHERE SUPERCELLS WILL BE POSSIBLE. AT LEAST ISOLATED LARGE HAIL/DAMAGING WINDS WILL BE THE MAIN CONCERNS THIS AFTERNOON/EVENING ACROSS WRN SD. OVERNIGHT...CONVECTION SHOULD PERSIST AND SPREAD EWD ACROSS SD TO MN IN A REGIME OF LOW-LEVEL WAA WITH THE NOCTURNAL LLJ.

...SE SD TO NRN IL THROUGH TONIGHT...
THE STRONGER SURFACE HEATING TODAY WILL OCCUR ACROSS NRN IL/SRN WI...WHILE MORE WIDESPREAD CLOUDS WILL LIMIT DAYTIME HEATING SOMEWHAT FROM SE SD INTO SRN MN. SUBTLE SPEED MAXIMA WILL ROTATE ESEWD OVER THIS CORRIDOR...INVOF A SLOW-MOVING FRONT. HOT SURFACE TEMPERATURES AND DEEP MIXING JUST TO THE S...AS WELL AS WEAK ASCENT ALONG THE BOUNDARY...COULD SUPPORT ISOLATED THUNDERSTORM DEVELOPMENT THIS AFTERNOON WITH SOME POTENTIAL FOR DAMAGING WINDS/LARGE HAIL. OTHERWISE...WAA STORMS AGAIN APPEAR PROBABLE OVERNIGHT INVOF SRN MN...WITH AT LEAST A MARGINAL RISK OF LARGE HAIL. OVERALL CONFIDENCE IN STORM COVERAGE/EVOLUTION IS RELATIVELY LOW.