

DAY 1 CONVECTIVE OUTLOOK  
NWS STORM PREDICTION CENTER NORMAN OK  
1016 AM CST TUE FEB 05 2008

OVERALL SYNOPTIC SETUP WILL BECOME QUITE FAVORABLE FOR AN OUTBREAK OF SEVERE THUNDERSTORMS AND TORNADOES...INCLUDING LONG-LIVED TORNADIC SUPERCELLS...CENTERED ON THE MID SOUTH THIS AFTERNOON AND EVENING. MAXIMUM SEVERE THREAT AREA WILL SHIFT EWD ACROSS MS RIVER INTO WRN TN VALLEY AND NRN GULF STATES TONIGHT.

...SYNOPSIS...

DEEP UPPER LEVEL TROUGH AND ASSOCIATED EXTREME MID AND UPPER LEVEL WIND FIELDS /H5 JET MAX IN EXCESS OF 90 KT...130+ KT AT H25/ WILL SUSTAIN AN ENHANCED RISK OF SEVERE THUNDERSTORMS FROM THE SRN PLAINS INTO THE GULF COAST STATES/OH RIVER VALLEYS THROUGH THE PERIOD. WIDESPREAD...ELEVATED THUNDERSTORMS CONTINUE TO INCREASE THIS MORNING ASSOCIATED WITH EJECTING LOWER AMPLITUDE WAVE FROM NRN TX ACROSS OK. ADDITIONAL WIDESPREAD THUNDERSTORMS CONTINUE TO BACKBUILD/PERSIST WITHIN BROAD REGION OF LOW LEVEL WAA AND ENHANCED ASCENT NEAR SURFACE COLD FRONT PUSHING SLOWLY SWD OVER THE OH RIVER VALLEY.

SURFACE LOW IS DEVELOPING RED RIVER AREA OF SRN OK/NRN TX AND IS FORECAST TO DEEPEN FURTHER AS IT LIFTS NEWD ALONG SURFACE FRONT INTO NRN AR BY LATE TODAY AND INTO SRN IND LATER TONIGHT. AS UPPER SYSTEM EJECTS EWD...DRY LINE/N-S SURFACE TROUGH WILL BEGIN TO SURGE EWD ACROSS CENTRAL/ERN TX AND SHIFT STEADILY EAST ACROSS THE LOWER/MID MS RIVER VALLEYS TONIGHT. MEANWHILE...SURFACE FRONT TRAILING FAST MOVING SHORTWAVE TROUGH NOW MOVING ACROSS THE UPPER MIDWEST IS EXPECTED TO STALL AND THEN LIFT NWD SLIGHTLY LATE TONIGHT AS A WARM FRONT IN RESPONSE TO DEEPENING SURFACE LOW ACROSS THE LOWER OH RIVER VALLEY. NET RESULT WILL BE PERSISTENT MOISTENING WITHIN BROAD WARM SECTOR FROM ERN TX INTO THE TN VALLEY THROUGH THE PERIOD...WITH SURFACE DEW POINTS AOA 60F EXTENDING AS FAR NORTH AS THE OH RIVER VALLEY.

...LOWER OH/MID MS RIVER VALLEY ENEWD INTO KY/MID OH RIVER VALLEY...

EARLY DAY ACTIVITY WILL CONTINUE TO POSE AN ISOLATED RISK OF SEVERE WITHIN WEAK INSTABILITY AND SMALL CAP FROM PORTIONS OF SERN MO INTO NRN KY/SWRN OH. SHEAR WILL REMAIN MORE THAN ADEQUATE FOR SUPERCELLS...AND TORNADO THREAT MAY INCREASE THROUGH THE EARLY AFTERNOON. AS SURFACE LOW DEEPENS AND MOVES ENEWD ACROSS SRN MO THIS EVENING AND THE STRONG MID/UPPER JET MAX ROTATES NEWD ACROSS AR FORECAST SOUNDINGS INDICATE EXTREME SHEAR AND EFFECTIVE INFLOW TAPPING LOW/MID 60F SURFACE DEW POINTS.

WITH SURFACE BOUNDARIES EXPECTED TO REMAIN VICINITY OF SERN MO TO SRN OH THERE WILL BE A STRONG FOCUS FOR SURFACE BASED SUPERCELLS TO DEVELOP THRU THE EVENING. HAVE EXTENDED THE HIGH RISK NEWD INTO WRN KY/SRN IL FOR THE CONCERN OF LONG LIVED TORNADIC SUPERCELLS VICINITY BOUNDARY. IN ADDITION A STRONGLY FORCED SQUALL LINE IS EXPECTED TO DEVELOP AHEAD OF THE DEEPENING SURFACE LOW WITH POTENTIAL FOR SIGNIFICANT WIND DAMAGE THIS EVENING EWD INTO LOWER OH VALLEY.

...MID SOUTH INTO THE CENTRAL GULF COAST STATES...

EXPECT ISOLATED SEVERE THUNDERSTORMS...INITIALLY ELEVATED...WILL PERSIST AS THEY SPREAD ENEWD AHEAD OF WEAKENING IMPULSES IN SUBTROPICAL JET STREAM. ACTIVITY SHOULD BECOME INCREASINGLY SURFACE-BASED BY EARLY THIS AFTERNOON WITHIN EXTREME SHEAR AND VERY MOIST BOUNDARY LAYER INCREASING RISK OF ISOLATED TORNADOES/DAMAGING WINDS. 12Z SOUNDING FROM LZK AND MODIFIED OUN SOUNDING INDICATE MLCIN IS RELATIVELY WEAK ALREADY. ONCE CAPPING BREAKS FROM ERN OK INTO NRN HALF OF AR/FAR SRN MO WITH THIS INITIAL WAVE...SEVERE THREAT SHOULD RAMP UP QUICKLY.

APPEARS SRN/ERN AR INTO FAR NRN LA/WRN TN/NWRN MS WILL REMAIN RELATIVELY FREE OF MOIST CONVECTION THROUGH THE EARLY AFTERNOON...AS EARLY DAY ACTIVITY SHIFTS NEWD ACROSS THE OZARK PLATEAU/MO. THUS...AS MAIN IMPULSE AND ASSOCIATED SURFACE FRONT SPREAD EWD LATE TODAY...ROBUST THUNDERSTORM DEVELOPMENT SHOULD ENSUE WITHIN MLCAPE AROUND 1000 J/KG AND WEAK CIN. EXTREME SHEAR WITH SFC-1 KM SRH IN EXCESS OF 300 M2/S2 SUGGESTS STORMS WILL RAPIDLY DEVELOP ROTATION AND AN ATTENDANT TORNADO THREAT ONCE THEY ROOT INTO DEEPLY MOIST BOUNDARY LAYER. ANY TORNADIC SUPERCELLS COULD PRODUCE A LONG-LIVED SIGNIFICANT TORNADO IN THIS ENVIRONMENT. STORMS MAY TEND TO EVOLVE INTO A BROKEN SQUALL LINE LATE THIS EVENING AS FRONT INTERACTS WITH RICH GULF MOISTURE AND MOVES ACROSS THE GULF COAST STATES OVERNIGHT. DAMAGING WIND THREAT COULD ALSO BECOME WIDESPREAD GIVEN EXTREME WIND FIELDS JUST OFF THE SURFACE...ALTHOUGH THREAT FOR A SIGNIFICANT TORNADO WILL CONTINUE OVERNIGHT WITH LEWP AND PRE-SQUALL LINE DEVELOPMENT.



