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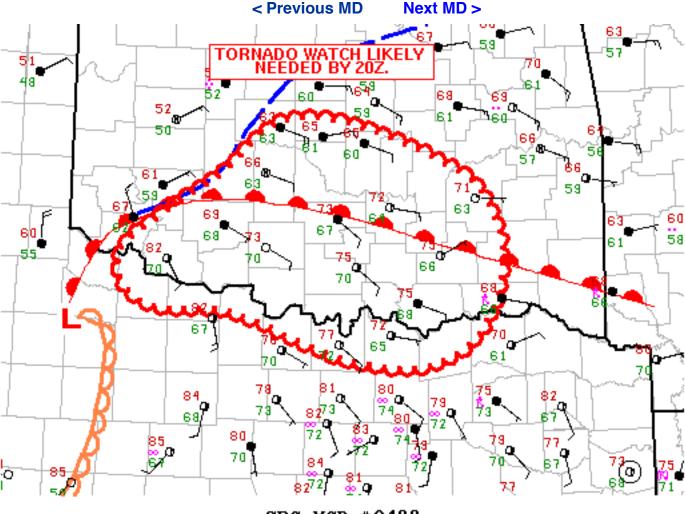
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Mesoscale Discussion 499



SPC MCD #0499

MESOSCALE DISCUSSION 0499 NWS STORM PREDICTION CENTER NORMAN OK 0140 PM CDT FRI APR 29 2016

AREAS AFFECTED...SW/S-CNTRL/CNTRL OK...FAR NW/FAR N-CNTRL TX

CONCERNING...SEVERE POTENTIAL...TORNADO WATCH LIKELY

VALID 291840Z - 291945Z

PROBABILITY OF WATCH ISSUANCE...80 PERCENT

SUMMARY...SUPERCELLS CAPABLE OF ALL SEVERE HAZARDS ARE PROBABLE FROM SW OK EWD/NEWD TO CNTRL/S-CNTRL OK AND FAR N-CNTRL TX. A TORNADO WATCH WILL LIKELY BE NEEDED TO ADDRESS THIS SEVERE THREAT.

DISCUSSION...RECENT GOES-14 1-MINUTE VISIBLE SATELLITE IMAGERY REVEALS SCATTERED CLEARING ACROSS MUCH OF THIS REGION WITH THIS FILTERED SUNSHINE CONTRIBUTION TO A JUMP IN SURFACE TEMPERATURES FROM THE MID 60S AT 15Z TO LOW/MID 70S AT 18Z ALONG THE RED RIVER. DEWPOINTS HAVE ALSO INCREASED OVER THE PAST FEW HOURS AS MOISTURE



CONTINUES TO STREAM NWD. LATEST SURFACE ANALYSIS PLACED THE LOW ABOUT 50 MI SSE OF CDS WITH A WARM FROM EXTENDING NEWD TOWARDS CHK AND THEN EWD TO ADR AND SEWD TOWARDS DEQ IN SE OK /DEMARCATED FAIRLY WELL BY THE 65 DEG F ISODROSOTHERM/. SURFACE ANALYSIS ALSO REVEALS A CONVERGENT WIND FIELD AND A MORE BAROCLINIC BOUNDARY EXTENDING FROM JUST S OF AXS NEWD TO BVO.

OVERALL SEVERE THREAT...AND LOCALIZED TORNADO THREAT...WILL DEPEND LARGELY ON HOW THE SURFACE PATTERN EVOLVES OVER THE NEXT FEW HOURS. CURRENT EXPECTATION IS THAT THE BAROCLINIC BOUNDARY WILL ACT AS THE NRN BOUND TO MOISTURE ADVECTION...EFFECTIVELY BECOMING THE WARM FRONT AS SECONDARY SURFACE CYCLOGENESIS OCCURS IN THE VICINITY OF LOGAN COUNTY.

CONVECTIVE INITIATION HAS ALREADY OCCURRED OVER SW OK WITH ADDITIONAL DEVELOPMENT POSSIBLE AS THE SURFACE LOW NEAR CDS CONTINUES EWD. MESOANALYSIS ESTIMATES MLCAPE EWD ALONG THE RED RIVER FROM SW OK IS 2000 J PER KG WITH EFFECTIVE BULK SHEAR AROUND 40 KT. SOME BACKING IS NOTED AROUND 3 KM ON THE FDR AND TLX VAD PROFILES BUT BACKED SURFACE WINDS ARE CONTRIBUTING TO 0-1 KM SRH OVER 100 M2/S2. THIS THERMODYNAMIC AND KINEMATIC ENVIRONMENT IS SUPPORTIVE OF SUPERCELLS CAPABLE OF ALL SVR HAZARDS. A WW WILL LIKELY BE NEEDED TO COVER THIS THREAT.

..MOSIER/THOMPSON.. 04/29/2016

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