

Local forecast by "City, St" or "ZIP"
 City, St

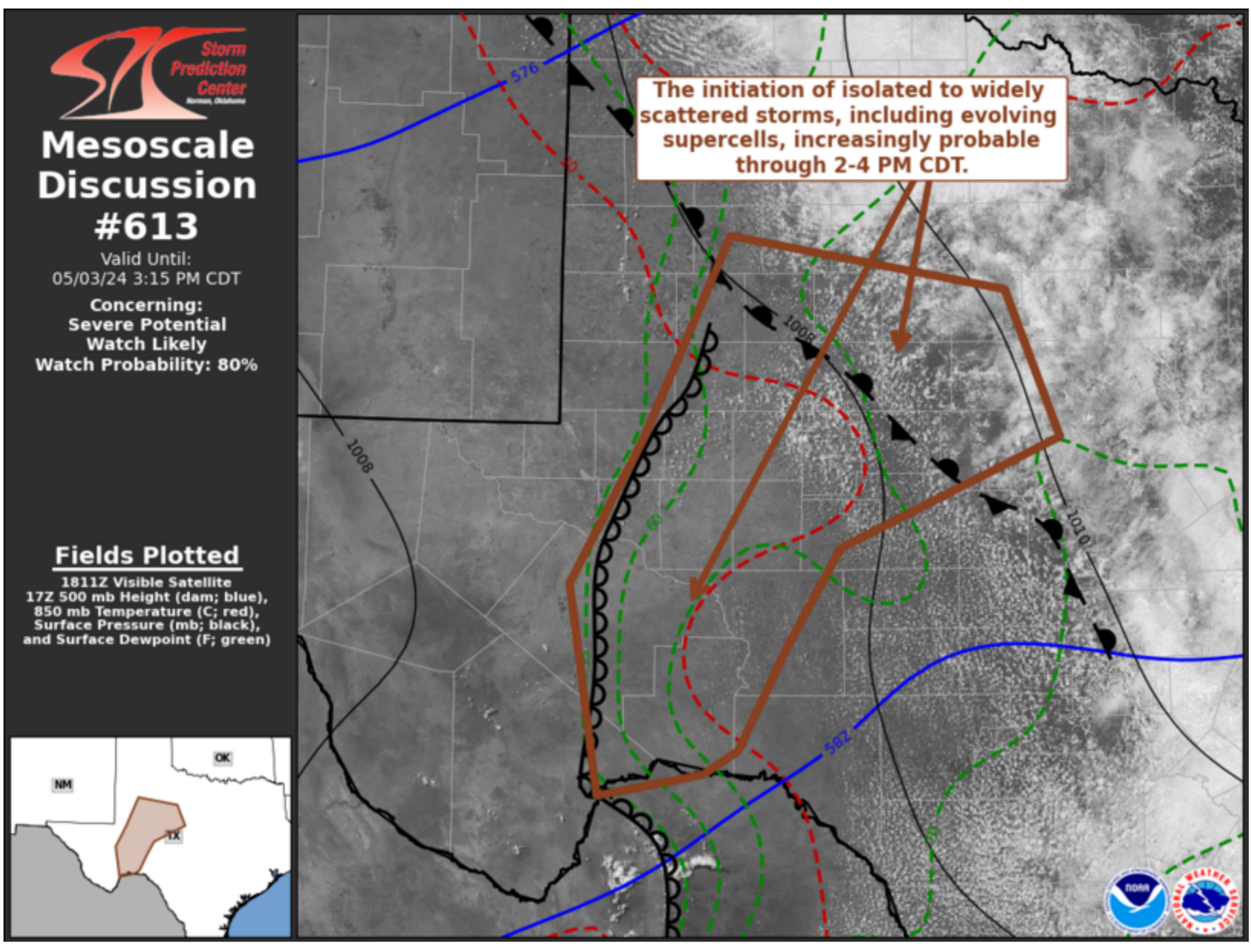
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Mesoscale Discussion 613

< Previous MD Next MD >



Mesoscale Discussion #613
 Valid Until: 05/03/24 3:15 PM CDT
 Concerning: Severe Potential Watch Likely
 Watch Probability: 80%

Fields Plotted
 1811Z Visible Satellite
 17Z 500 mb Height (dam; blue),
 850 mb Temperature (C; red),
 Surface Pressure (mb; black),
 and Surface Dewpoint (F; green)



Mesoscale Discussion 0613
 NWS Storm Prediction Center Norman OK
 0118 PM CDT Fri May 03 2024

Areas affected...parts of the Texas South Plains and Permian Basin
 Concerning...Severe potential...Watch likely
 Valid 031818Z - 032015Z
 Probability of Watch Issuance...80 percent

SUMMARY...Isolated to widely scattered thunderstorm development, including a couple of evolving supercells, appears increasingly probable through 2-4 PM CDT. Strongest storms may eventually become capable of producing large hail in excess of 3 inches in diameter, and perhaps potential for a tornado.

DISCUSSION...Seasonably high boundary-layer moisture content beneath steep lapse rates associated with warm elevated mixed-layer air is allowing for the development of strong to extreme potential instability with full insolation. During the next few hours this will become focused along a zone of strengthening differential surface heating and mixing, where an initial cold frontal surge into the Texas South Plains has stalled and is weakening, and along a sharpening dryline south of this boundary into the Davis Mountains vicinity.

Mid/upper support for convective development is unclear, but west to southwesterly flow aloft appears to be trending at least broadly diffluent, as initially weak low-level warm advection becomes a bit more enhanced along the boundaries. The Rapid Refresh and High-Resolution Rapid Refresh, among other output, suggest that the initiation of isolated to widely scattered storms may commence as early as 19-21Z, as convective temperatures are approached.

Lower through mid-level wind fields are at least initially rather weak, but veering with height beneath 20-40 kt flow in the 500-300 mb layer seems likely to be supportive of the evolution of intense supercell structures given the instability. Tornadic potential appears a bit more unclear, but in the presence of light to modest southwesterly deep layer mean flow, rightward propagating storms along the segment of strengthening differential heating roughly near/north of Big Spring into areas west of Abilene may pose the most appreciable risk.

..Kerr/Smith.. 05/03/2024
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