



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

City, St Go

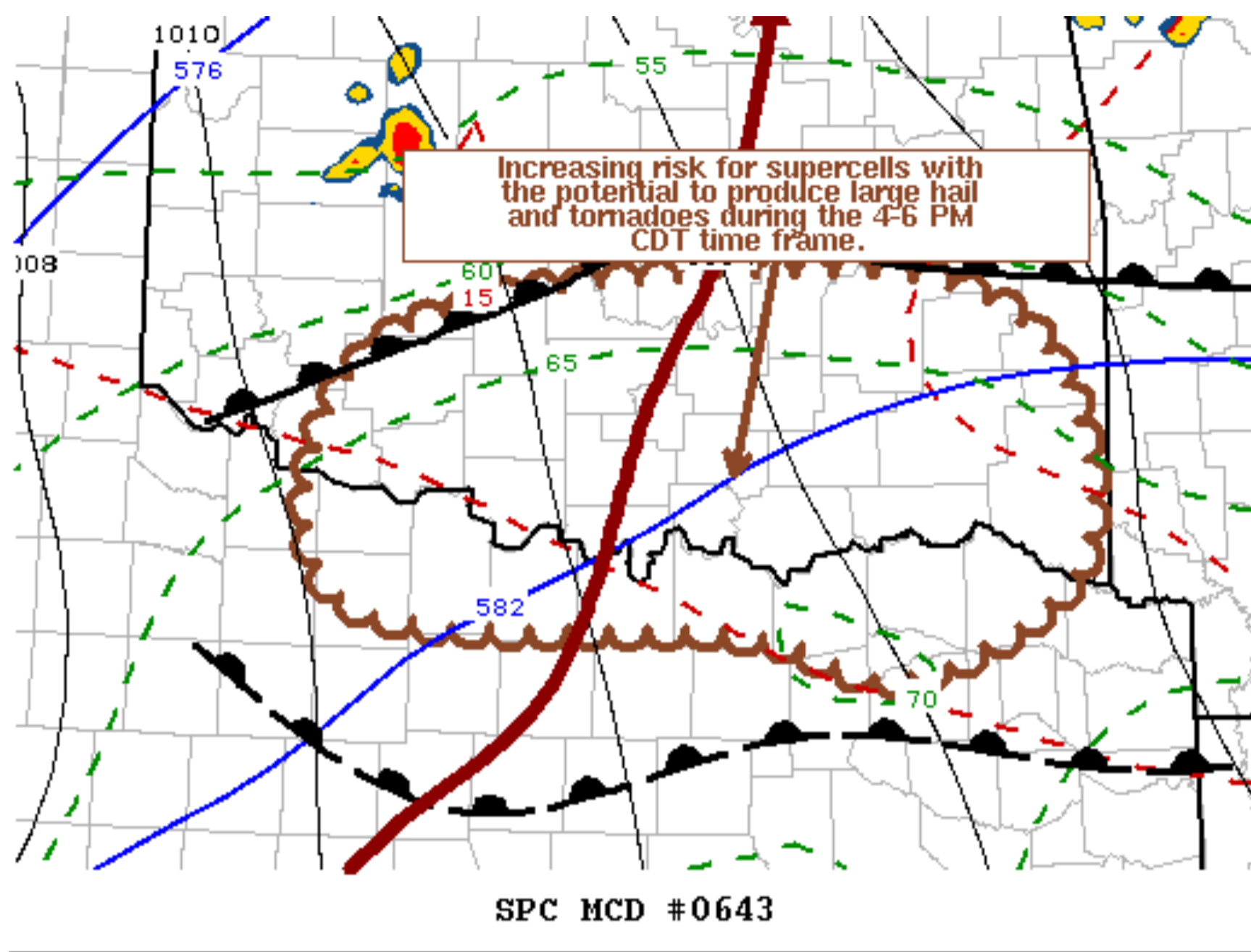


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Mesoscale Discussion 643

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Mesoscale Discussion 0643
 NWS Storm Prediction Center Norman OK
 0226 PM CDT Wed May 04 2022

Areas affected...Parts of southern Oklahoma and northern Texas into southwestern Arkansas

Concerning...Tornado Watch 176...

Valid 041926Z - 042130Z

The severe weather threat for Tornado Watch 176 continues.

SUMMARY...Increasing and intensifying thunderstorm development through 4-6 PM CDT, including a few supercells posing a risk for large, damaging hail and tornadoes, one or two of which could become strong. Trends are being monitored for the possibility of an additional tornado watch to east of 176.

DISCUSSION...Substantive boundary-layer modification is ongoing across much of southern through central Oklahoma in response to warming and moistening. Based on thermal fields in the Rapid Refresh in the 925-850 mb layer, one baroclinic zone is becoming better defined across/north of the I-44 corridor of southwestern Oklahoma through I-40 corridor of eastern Oklahoma. However, another weaker baroclinic zone appears to be shifting northward across northern Texas into the the Red River Valley vicinity. Richer boundary-layer moisture (including surface dew points around 70F) probably will remain focused along and south of this boundary.

Beneath steep mid-level lapse rates on the northern periphery of a plume of warmer and more strongly capping elevated mixed-layer air, boundary-layer based CAPE appears in the process of increasing in excess of 2000 J/kg along this corridor. Aided by forcing for ascent associated with lower/mid-level warm advection, and the east-northeastward migrating subtropical perturbation, intensifying thunderstorm development appears increasingly likely near/north of the Red River Valley, eastward toward the Ark-La-Tex, through 21-23Z.

Given 30-50 kt flow veering with height in the 850-500 mb layer, atop modest backed (east-southeasterly) surface winds, hodographs probably will become conducive to supercells capable of producing large, damaging hail and a couple of tornadoes, one or two of which could become strong.

..Kerr.. 05/04/2022

...Please see www.spc.noaa.gov for graphic product...

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