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Mesoscale Discussion 702

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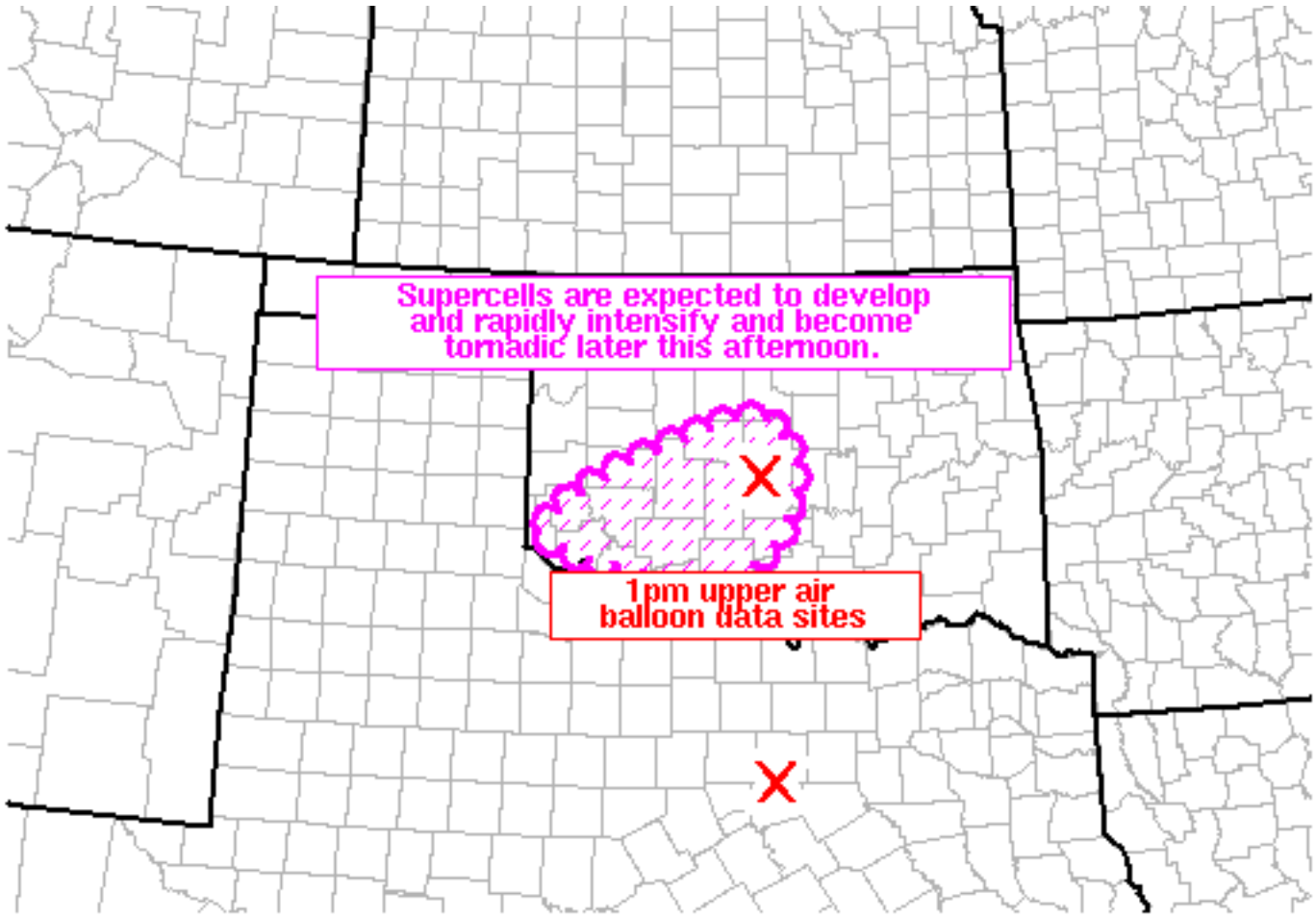

SPC MCD #0702

Mesoscale Discussion 0702
NWS Storm Prediction Center Norman OK
0121 PM CDT Mon May 20 2019

Areas affected...southwest and central OK

Concerning...Severe potential...Watch needed soon

Valid 201821Z - 201845Z

Probability of Watch Issuance...95 percent

SUMMARY...Environmental signals are continuing to point towards a tornado outbreak with multiple strong to potentially violent tornadoes across portions of western and central OK later this afternoon into the evening.

DISCUSSION...Visible imagery shows a bubbling and destabilizing boundary layer with upwards of 4000-4500 J/kg MLCAPE developing across the warm sector over western and central OK. Surface dewpoints are rising through the lower 70s degrees F across western

and central OK.

The 18z Fort Worth, TX upper air balloon showed a capping inversion located just below 700mb. Recent runs of the RAP model show this inversion less pronounced farther north. Despite temperatures warming into the lower 80s over north TX into southwest OK, this capping inversion has delayed convective initiation. This is concerning for 2 reasons: 1) the wind profile continues to strengthen across southwest and central OK with the Norman, OK upper air balloon sampling 50kt flow around 850mb which is about 1-2 hours earlier than forecast soundings were showing. 2) It does not appear many storms will develop across southwest OK and resulting in destructive storm-to-storm interference. In other words, tornadic potential appears very high. Storms will likely initiate on the north-end of the cloud streets over southwestern OK in the hotter air and intensify and move northeast towards the I-40 and I-35 corridors later.

As such, the very rare combination of shear/buoyancy with many hours of run-to-run consistency of the HRRR model showing discrete supercells all point to a tornado outbreak developing later this afternoon featuring strong to violent long-track tornadoes.

..Smith/Hart.. 05/20/2019

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

ATTN...WFO...OUN...

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