



## **Tornadogenesis and tornado evolution documented using rapid-scan, mobile, Doppler radars**

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Our research group has been using rapid-scan Doppler radars since 2007 to document tornadogenesis and tornado evolution, which are often difficult to resolve unambiguously, owing to the inherently short time scales of tornadoes. In this presentation, some highlights of data collected by a mechanically scanning, polarimetric, X-band mobile Doppler radar (RaXPol), which was first used in 2011, will be shown. This radar scans a full 360 deg every 2 s at each elevation angle. Detailed documentation of the life histories of multiple vortices in the El Reno, OK tornado of 31 May 2013 and the evolution in the vertical of the TVS during tornadogenesis will be discussed. Animations of mobile radar imagery from RaXPol and the MWR-05XP (phased array, X-band, non-polarimetric) will be shown to illustrate what tornadogenesis looked like in six or more supercells, most recently from 2012 - 2016, with a view to finding features common to all.