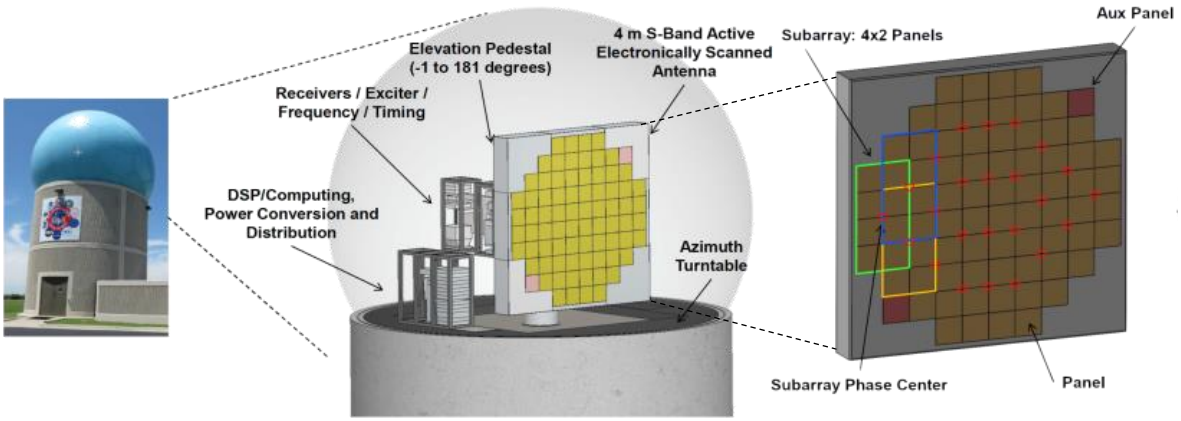
Radar Engineering and Development Team
Theme: Weather Radar Research and Development

The Radar Engineering and Development (RED) team designs, develops, and maintains a variety of remote sensing systems and instrumentation in support of engineering and meteorological research efforts at the National Severe Storms Laboratory (NSSL). The RED team is co-located with NSSL's Radar Research and Development Division (RRDD) and combines expertise in operational meteorology and electrical and computer engineering.

Research and development activities in the RED team involve several state-of-the-art weather radars. One of them is the KOUN radar, a Weather Surveillance Radar-1988 Doppler (WSR-88D) research radar operated by NSSL. Another radar is the National Weather Radar Testbed Advanced Technology Demonstrator (NWRT ATD). The ATD is the first full-scale, S-band, dual-polarization phased array radar built from the ground up and designed specifically for use as a weather radar. The RED team also maintains the mobile, dual-pol, X-band NOXP radar, which has supported and continues to support important field experiments.



The ATD is a proof-of-concept system to demonstrate improved capabilities and refine the cost-driving requirements of a multifunction phased array radar (MPAR). It is an S-band, mid-scale, dual-polarized, multifunction, active, electronically scanned PAR at the National Weather Radar Testbed (NWRT) in Norman, OK.

The NOXP mobile radar can be driven into position as a storm is developing to rapidly scan the atmosphere at low levels, below the beam of WSR-88D radars. CIMMS and NSSL researchers use mobile radars to study tornadoes, hurricanes, dust storms, winter storms, mountain rainfall, and even swarms of bats.

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