The annual Hazardous Weather Testbed (HWT) Forecast Experiment took place this May in Norman, Oklahoma, allowing scientists from NOAA and NASA to study and analyze various models’ performance in simulating severe weather. NASA’s experimental, hi-res version of GEOS (GEOS-Exp 2km) performed well against other models such as the HRRR, NAM 3km, and others. The study compared model outputs including reflectivity, IR, helicity, and CAPE against observations during a 5-week period, in an effort to highlight model proficiencies and deficiencies.

A compilation of updraft helicity tracks is overlayed with severe thunderstorm and tornado warning polygons from the NWS, for the week of May 5-12, 2024. This week was particularly active, with 232 reports of tornado damage primarily from outbreaks on May 6-9.