Space Science Seminar
Tuesday, 2017 May 30
10:30 a.m.
NSSTC/2096

UAH's Mobile Integrated Profiling System (MIPS) and its Use for the 2017 Eclipse

Dr. Kevin Knupp / University of Alabama in Huntsville, Atmospheric Science Dept.
Host: Mitzi Adams

UAH Severe Weather Institute Radar and Lightning Lab (SWIRLL) facilities will be used to document the response of the atmospheric boundary layer to the rapid reduction in solar radiation associated with the eclipse. The fundamental process is that a rapid reduction in turbulence generated by buoyant production (a heated surface) will reduce the turbulent fluxes of heat and momentum, leading to an obvious reduction in surface temperature, a less obvious reduction in surface wind, but an increase in wind above the surface layer. Existing cumulus clouds will dissipate, but paradoxically, clouds organized into lines by pre-existing convergence zones could become more vigorous. Three UAH profiling facilities, a mobile Doppler (and dual polarization) radar, ground-based photography, and surface instruments will be arranged into a network to document changes in the atmospheric boundary layer and clouds associated with the rapid reduction in forcing of the convective boundary layer.

https://solarscience.msfc.nasa.gov/colloquia/