

ATS/CIRA Colloquium

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From NCAR

Hosted by Jim Hurrell

Thursday, November 30

ATS 101 and Zoom

**An Update From the NCAR MMM Lab (And
Convective Cross-Tropopause Exchange!)**

This will be a mixed seminar, with the first half focused on high level updates on the research and model/tool development being conducted by the Mesoscale and Microscale Meteorology (MMM) Lab at NCAR. This will include updates on the Model for Prediction Across Scales (MPAS), the status of the Weather Research and Forecasting (WRF) model, MMM data assimilation efforts (i.e., MPAS-JEDI), and quick updates on research spanning from large eddy simulations and agent-based models of hurricanes to particle-based microphysical schemes.

The second half will focus on updates on some of my own research in convective cross-tropopause exchange. Recent studies and field campaign have shown that deep convection is a critical transport pathway, significantly altering the concentrations of water vapor and other constituents that impact the radiative balance of the lower stratosphere. But how do we best capture these impacts in simulations? To assess the quality of simulated deep convection in today's atmosphere, we use both convective-allowing models and observations to look at the level of maximum detrainment (LMD) and overshooting tops to assess the altitudes at which mass is detrained from deep convection.

Colloquia page: atmos.colostate.edu/colloquia