CPT for Improving the Representation of the Stratocumulus to Cumulus Transition in Climate Models

Joao Teixeira (JPL/Caltech), Christopher Bretherton (U. Washington), Carlos R. Mechoso (UCLA), Hua-Lu Pan (NCEP), Sungsu Park (NCAR), Steve Klein (LLNL) and the CPT Team

The objective for this CPT is to make progress in representing the stratocumulus to cumulus (Sc-Cu) transition in the NCAR and NCEP global models by diagnosing and improving process interactions, in particular analyzing Large-Eddy Simulation (LES) and Single Column Model (SCM) simulations of two new Sc-Cu transition GEWEX Cloud System Studies (GCSS) cases. In this presentation we will summarize the key CPT results obtained during the first 18 months. In particular we will show global diagnostics of the NCAR and NCEP models, LES of Sc-Cu transition cases, SCM simulations of Sc-Cu GCSS transition cases and will discuss the initial development and implementation of new parameterizations in the NCAR and NCEP models.