

WRFDA and MPAS-JEDI Annual Update
Zhiquan (Jake) Liu
NSF National Center for Atmospheric Research

In this talk, progresses of WRF Data Assimilation (WRFDA) and relatively new MPAS-JEDI data assimilation system in the past year will be presented. WRFDA version 4.6 includes two major updates: one is the introduction of the capability for assimilating GOES ABI radiance data, and the other is a bug fix and enhancement for radar retrieval data assimilation. We plan to announce the version 3.0's release of the global-/regional-unified MPAS-JEDI data assimilation system. Among updates in MPAS-JEDI 3.0, most important ones are perhaps more robust hybrid-4DEnVar and GETKF (Gain form Ensemble Transform Kalman Filter), which are the most advanced DA algorithms available in MPAS-JEDI for deterministic and ensemble analysis, respectively. On the observation side, more experiments were conducted for assimilation of various satellite radiance data, including those from hyperspectral infrared sensors IASI and CrIS, and microwave sensor GMI, in a global configuration. Progress is also made in assimilating radar data with a regional setting at convection-permitting scale. I will showcase some results from our global and regional MPAS-JEDI experiments.