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Poster
The Joint Effort for Data Assimilation Integration (JEDI) is a state-of-the-art unified data assimilation (DA) system developed by UCAR’s Joint Center for Satellite Data Assimilation (JCSDA), which is slated for operational implementation at many agencies and will also serve as a community system for research. To couple the NSF NCAR Whole Atmosphere Community Climate Model with thermosphere and ionosphere extension (WACCM-X) to the JEDI framework, the cam-jedi model interface is developed as the JEDI interface for the Community Atmosphere Model (CAM). The current implementation supports the CAM finite-volume (FV) dynamical core geometry and utilizes the ECMWF Atlas library to enable parallelized I/O and computational operations. This interface exchanges information through file-based data communication and defines the interaction between WACCM-X and the JEDI through a set of standardized model-specific classes. Currently, these classes include the Geometry, GeometryIterator, Fields, State, Increment, VariableChange key components, consistent with the modular class framework used by JEDI model interfaces. These classes together provide the foundation for representing model states within the JEDI. At present, radiosonde and ionosonde observations can be ingested through the HofX application to support observation operator evaluation. Ongoing development includes the ensemble HofX capability and the Model class, with the goal of implementing the Local Ensemble Transform Kalman Filter (LETKF) DA algorithm. This work contributes to ongoing efforts to integrate WACCM-X with advanced DA systems and supports future ionospheric and thermospheric forecasting applications.
Poster session day
Wednesday, April 29, 2026
Poster location
16
Meeting homepage
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