Contribution ID: **16**   Type: **Oral presentation**

Remote presentation: Developing a Unified Workflow for Convection Allowing Applications of the FV3

Wednesday, 16 October 2019 14:30 (20 minutes)

The Environmental Modeling Center (EMC) at the National Centers for Environmental Prediction (NCEP) has developed a limited area modeling capability for the Unified Forecast System (UFS), which uses the Finite Volume Cubed-Sphere (FV3) dynamical core. The limited area FV3 is a deterministic, convection-allowing model (CAM) being run routinely over several domains for testing and development purposes as part of a long-term effort toward formulating the Rapid Refresh Forecast System (RRFS). The RRFS is a convection-allowing, ensemble-based data assimilation and prediction system which is planned to feature an hourly update cadence. While current testing resides mostly on NOAA high-performance computing platforms, work is underway to perform development using cloud compute resources.

Two workflows for running the limited area FV3 have been developed: 1) a community workflow, primarily focused on engaging NOAA collaborators and research community modeling efforts, and 2) an operational workflow, focused on the transition to operations. Both workflows utilize the Rocoto workflow manager, shell scripting, and have been ported to multiple supercomputing platforms. Unification of the two workflows is underway to foster collaboration and accelerated development. In July 2019, a code sprint focusing on developing a workflow for operations and research applications took place featuring membership across multiple organizations. Outcomes from this sprint, current efforts, and ongoing challenges will be discussed.

Primary author: Mr BLAKE, Benjamin (IMSG and NOAA/NWS/NCEP/EMC)

Co-authors: Mr KETEFIAN, Gerard (CIRES and NOAA/ESRL/GSD); Mr BECK, Jeff (CIRA and NOAA/ESRL/GSD); Mr PYLE, Matthew (NOAA/NWS/NCEP/EMC); Mr ROGERS, Eric (NOAA/NWS/NCEP/EMC); Mr LIU, Bin (IMSG and NOAA/NWS/NCEP/EMC); Dr REAMES, Larissa (CIMMS and NOAA/OAR/NSSL); Mrs WOLFF, Jamie (NCAR/DTC); Dr CARLEY, Jacob (NOAA/NWS/NCEP/EMC); Mr CHAWLA, Arun (NOAA/NWS/NCEP/EMC)

Presenter: Mr BLAKE, Benjamin (IMSG and NOAA/NWS/NCEP/EMC)

Track Classification: Workshop: Building reproducible workflows for earth sciences