

Abstract

In this poster, we present various aspects of the UFS SRW App being developed by the DTC (Developmental Testbed Center, a collaboration between NOAA and NCAR), various NOAA and other labs (GSL, EMC, NSSL, and NCAR), and recently also NOAA's EPIC (Earth Prediction Innovation Center) to provide the NWP community as well as operations with a common capability for running regional forecast experiments using the limited area model (LAM) configuration of GFDL's FV3 (Finite-Volume-Cubed) global atmosphere model (also known as the regional FV3). The App provides a configurable experiment generation system (including optional use of a Rocoto workflow) for running end-to-end experiments that include pre-processing, forecast, postprocessing, and verification tasks. Current capabilities of the FV3-LAM community workflow include:

- Generation of arbitrary regional grids. For convenience, several pre-defined grids are available in workflow.
- Generation of filtered topography and climatological fields on regional grids.
- Automated fetching of external NWP model files from which to generate initial and lateral boundary conditions (ICs and LBCs) from various sources. External model can be FV3GFS, GSMGFS, RAP, HRRR, and/or NAM.
- Remapping of fields from the external model grid(s) to the native grid to generate ICs, surface fields, and LBCs.
- Use of various Common Community Physics Package (CCPP) physics suites.
- Running with multiple cycle dates (no DA capability yet).
- Running of ensemble forecasts with stochastic physics.
- Output on either the native grid or on grids supported by EMC's write-component regridding utility.
- Post-processing of output using the Unified Post Processor (UPP).
- Verification against observations using the DTC's MET/METPlus tools. Plotting of grib2 output from UPP.
- Script and experiment directory structure that complies with operational (NCO) standards.
- Running of experiments in either operational (NCO) or research (community) mode to facilitate R2O.
- Running of experiments with or without the rocoto workflow manager and/or a job scheduler (e.g. slurm).
- Support for multiple computing platforms.
- Testing infrastructure to ensure that new workflow features behave as expected and do not break existing functionality.
- Detailed documentation

How to Obtain the Workflow

- Visit the homepage of the UFS Short-Range Weather App's repository: https://github.com/ufs-community/ufs-srweather-app
- In the description section towards the bottom, click the link to the Getting Started page and follow the instructions!

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