

Recent and Ongoing HAFS Workflow Updates

EMC Hurricane Project Team
with collaborators from HRD, DTC, NESII, etc.
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Recent updates in the HAFS workflow system

- Upgrade from Python2 scripts to Python3 (DTC/Sam/Evan/Jim, Bin)
- Sync submodules with their develop/master branches (Bin, Biju)
 - Next round of sync will be in the next 1-2 weeks, after a newer version of dycore and the HWRF CCPP suite being updated in ufs-weather-model
- Port to Orion (Bin, Biju)
- Add the capability to do lateral boundary condition blending for the regional configuration (Tom, Jili, Bin)
- Enable using different vertical levels/distributions (Zhan, Bin, Jili, Lin)
 - GFS/HAFS_L64, HWRF_L74, L75, L85, L91, L96, etc.
- Enable using grib2 format GFS input files to generate model initial conditions. However, whenever possible, using the nemsio format GFS input file is preferred (Zhan, Bin)

Some ongoing developments in the HAFS workflow

- Support Jet disk migration and directory change (Bin, Jili, Biju, JungHoon)
 - In a feature branch now, but will soon be ready to merge back into the develop branch
- HAFS-HYCOM coupling is under active development in the feature/hafs_couplehycom branch (NESII, EMC)
 - Workflow is ready to support both uncoupled and coupled runs in different modes (running side by side with no variable exchanges, direct coupling through nearest point regridding method, etc.)
 - Direct coupling through bilinear regridding method is ongoing
- Enable supporting multiple static global nesting in the workflow is ongoing in the feature/multi_nests branch (HRD, EMC)
 - The workflow has been generalized to support both one and multiple (2+) global static nests for the pre-processing and forecast jobs
 - Exploring to use Henry's post_util for the post-processing for multiple domains/tiles is ongoing
- Connect with HRD GPLOT graphics package (HRD, ongoing)