

HAFS Coordination Meeting
April 3, 2019 (2-3 pm ET)

EMC ([Repo & Workflow for HAFS](#) - Bin Liu)

- NOAA-EMC created the HAFS GitHub Repository (slide 1 shows the Repository submodules and externals). Red font on diagram indicates GitHub only (with minimal options), as of now most development is being done on VLab (in blue). The plan is to eventually transfer to GitHub.
- NOAA-EMC has also built a HAFS prototype workflow (slide 2) based on two existing workflow (FV3SAR and HWRF/HMON).
- Two configurations are planned for the summer parallel runs (HAFS v0.A and HAFS v0.B).
- Avichal's response to Tim Marchok's question: GitHub will be the centralised common master repository specifically to facilitate all people working on HAFS.
- Cecelia asked if the HAFS GitHub will sit under an umbrella UFS repo on GitHub? Avichal responded: in the longer term yes, but that is much further out on the timeline.
- The EMC workflow is based on the existing efforts with a room for further changes as decisions are being made to develop a common infrastructure.

EMC ([HAFS on Jet](#) - Jili Dong)

- HAFS building system/runtime successfully tested on Jet.
- Rotated LL (magenta) seems to cover most of the area in the North Atlantic.
- However another compiler is needed as EMC post cannot directly ingest the raw native grid yet.
- Need to write native grid component to the model output, UPP has a plan to ensure it can work with the native grid.
- Moving from NetCDF to Grib2 directly skipping grib1.

EMC ([DA for HAFS](#) - Henry Winterbottom)

- Emulated what happens in HWRF with bufrprep in FV3-SAR.
- Investigating storm-scale DA capabilities for nests within FV3 global configuration.
- FGAT analyses from FV3 global for GSI and perform DA on the nest.
- If FV3 ensemble available, will attempt to run a 3D-ens-var config for the summer.

AOML/HRD ([Nesting config](#) - Xuejin Zhang)

- Testing on real-time FV3GFS global-nest configuration and multiple static nests.
- For channel config, considering layout of 6 tiles for global TC prediction (slide 4).
- Working on a multiple static nest tile approach in FV3GFS.
- HAFS 0.0 is the baseline to compare with - Basin-scale HWRF; self cycled DA; doesn't depend on global DA anymore; ens-var DA runs 20 mbrs for 7 days every 6hr.
- Testing code porting on kJet sys and SLURM.

GSD (Curtis Alexander)

- Information is being shared between the CAM WG on the HAFS plan; calls to start the dialogue.
- He is looking into the HPC resources issue.

GFDL (Tim Marchok)

- Jirak / ESMF project on native grid to ensure FMS framework capabilities are in ESMF in collaboration with GSD
- Lucas Harris project: improving the capabilities of nesting within FV3
 - telescopic nesting and pre-processing tools
 - Moving nest for HAFS to help cross the edge/corners of the cube grid, supporting AOML
 - Advanced nesting infrastructure (FMS framework)
- Lucas needs to hire 1-2 software engineers for these projects
- Tim will continue to develop the vortex tracker for HAFS and it can work with any of the possible grid configuration of HAFS such as moving nests, static/telescopic nest, or global w/nest.

GMTB (Ligia Bernardet / Evan Kalina/ Kathryn Newman)

- HSUP projects start in June so won't be available for this summer realtime.
- Physics: getting HWRF physics into CCM3 which will make it available to any config of FV3 or HAFS and then comparing it with global FV3GFS. Ligia showed interested in collaborating with the mix of global physics with HWRF physics.
- Workflow: planned by interconnecting the CIME capabilities using HAFS and forcing datasets. HAFS can benefit when coupled with ocean/waves/inundation as well.

NESII (Cecelia DeLuca)

- HSUP projects start in June so won't be available for this summer realtime.
- 35 days runs by comparing the CMEPS mediator vs NEMS mediator, next step is to run the CMEPS mediator at EMC.
- Is EMC making any changes to the mediator, the NEMS version that Tom Black developed? Avichal responded No.
- Cecelia asked Bin to join their workflow team (Infrastructure WG).