HAFS Coordination Meeting
May 29, 2019 (2-3 pm ET)

EMC ([HAFS EMC updates](#) - Zhan Zhang and Jili Dong)
- EMC presented on HAFS post processing and code updates.
- The issue with the 'write_grid_component' option which could output model variables at smaller domain size only, has been resolved. With the new 'write_grid_component' option, HAFS forecast job can output model variables at either rotated or regular lat/lon grids for the entire nested domain size, and also sets missing values in the data-void region.
- Xuejin asked if it works for both global and SAR version?
  The response was that it can output the same domain size for tile 7. The global grid can output in native grid only.
- Xuejin: Can it output on 00Z?
  It has the capability to write on 00Z output initial conditions (IC) however in the current configuration 00Z is the first time step integration and not the initial conditions.
- Gopal: Is the output hourly?
  It is possible for hourly output but currently the output is every 3 hours.
- The memory issue in tracker has been resolved. Tim Marchok (GFDL) sent a new version that resolved the memory issues. Bin Liu is testing it further.
- The updated source code has been committed to HAFS develop branch.
- Chgres MPI is not supported in current HAFS workflow, however a version of chgres MPI works on sjet and xjet and therefore it may be merged into HAFS workflow for usage on jet.
- Test ongoing with chgres to ingest grib2 format data that efficiently generated BC, and also to create a unified version for both nemsio (IC) and grib2 (BC).
- Ligia: Can chgres be used with GRIB2 for generating initial conditions? Yes, for the grib2 files but additional variable needs to be added.
- HAFS forecast and post code update
  - Recent sync with forecast master branch of nemsFV3: fractional landsea mask reverted back; unified GWD added
  - HWRF PBL+sfc added in HAFS branch for experimentation (Weiguo)
  - Recent sync with UPP master branch: recalculate surface pressure by vertically integrating delp; separate continuous and bucket accumulated precipitation

AOML/HRD ([HAFS moving nest development](#)- Xuejin Zhang)
- AOML/HRD is configuring for HAFS real-time demo for 2019 hurricane season in close collaboration with EMC
- Testing physics options for the global-nest configuration
- Physics/dynamics configuration is being tested for both global-nest and SAR, unifying to get a closer comparison as possible for evaluation and computation.

- Ongoing testing of TC DA/initialization to add the model. The plan is to test for 2019 hurricane season as the baseline for HAFS 0.A and 0.B. Postprocessing and workflow will be same for both.
- Ongoing testing HPC resources to accommodate the computational needs and preparing HPC application for HAFS real time demo.
- FV3GFS code is verified producing bitwise identical results so that the baseline can be set.
- Running two static nest for 168 hrs forecast in FV3GFS is successfully completed.
- The second nest *(as shown in the cube in slide 2)* results are validated.
- Gopal asked if both telescopic and static nest can be put in the same tile?
  It is believed that the configuration has the capability but it has not been tested yet and plans are underway to test it.
  Does it work in SAR?
  If it is able to blend in one time in global configuration, it is believed that works with SAR but it is yet to be tested and validated.
- Avichal: Any updates on redirecting moving nest?
  Working on HWRF algorithm.

CCPP updates related to HAFS - Ligia Bernardet
- Effort to include HWRF physics in CCPP likely to start in July.
- Can CCPP be used in SAR? Yes, FV3-SAR-CCPP is running in realtime by GSD and OU-CAPS (for HWT Spring Experiment).
- CCPP can be used with HAFS today. However, procedures will be simplified once CCPP is in the EMC VLab master (currently in GitHub repository), target is mid-June. It also needs to be in NEMS framework to be pulled into HAFS.
- Are there any plans for CCPP tutorial? Yes, it is essential however the dates are tied to UFS repository and its public release.

NESII (Updates on Coupling - Cecelia DeLuca)
- In testing Community Mediator for Earth Prediction Systems (CMEPS) for the UFS S2S configuration (FV3GFS-MOM6-CICE5), slight differences were found in CICE5 model.
- CMEPS will be shared with CESM as part of the NCAR-NOAA MOA. It has been validated in the CESM system.
- The next step is to run CMEPS within the NEMS environment, using the same version of the ice model, and confirm that it replicates the NEMS coupler behavior. This is expected to complete by July 2019, while the major challenge lies in the developer hired for this not being able to get a theia account.
- The goal is to enable any significant HAFS work to be implemented in the CMEPS mediator. A first goal will be running the regional atmosphere in it.
- Example of CMEPS 0.2 configuration for CESM was presented.
- Avichal asked if CMEPS can be used for regional applications? No, it can't, however NCAR mediator can be used for HWRF.