

HAFS Coordination Meeting
June 26, 2019 (2-3 pm ET)

AOML/HRD (HAFS Development Progress - Bill Ramstrom and Andy Hazelton)

- Bill Ramstrom presented on the Four-storm nest configuration.
 - o The new codes changes allows two digit tile numbers. In this configuration, any desired number of tiles can be added thereby allowing unlimited number of nests.
 - o Collaborated with George Gayno to upgrade chgres to process all-ocean/land nests.
 - o The next coding strategy is to build moving nests.
- Andy Hazelton briefed on real-time HAFS testing.
 - o Ongoing timing and layout tests for HAFS 0.B real-time demo.
 - o Compared HAFS products with real-time radar data available at HRD for hurricane Michael and Florence to evaluate the model.
- Q: Are these codes available in HAFS repository? Yes, in the specific HAFS branch of UFS.
- Q: Does this nest configuration works over EPAC and NATL? Yes.
- Q: What is the resolution? It runs four times a day on 396 grid which is still very coarse.
- Q: Are resources allocated separately for global and regional nests? Yes, each has their own set.
- Avichal mentioned that at some stage we need to worry about dynamic allocations. Discussion followed on need for on-demand system - an ability to run on-demand during the cycle, something that has not been tried before. Gus mentioned that Basin scale has the ability to track storms with the fake TCvitals and can get away with the preprocessing but has not tried yet. Avichal suggested that EMC and AOML come up with a coordinated plan to address this issue.

GSD (HAFS Project Updates - Curtis Alexander)

- Curtis Alexander briefed on the native grid project.
 - o Testing two stretching grids for north Atlantic while reproducing the regional system on the domain.
 - o The two stretching grids have the ability to adjust for grid of intent - No global parent grid in FV3SAR.
 - o Currently exploring the tropical system at 13km but it can be run for 3 km on both basins.
 - o Working on model changes to generate SAR IC/BC initiating from global or SAR.
 - o SARFV3 workflow underway for postprocessing and verifications.
 - o HAFS testing this summer: Planning to mimic version of FV3SAR with updated physics/microphysics. This will be the baseline.
- Q: Is it similar to the one tested on physics suite? It is the latest one and is in CCPP.
- Q: Is it available for global model? Yes. Results are available on GSD website.

- Q. What is the forecast length? 5-7 days. With every six hours forecast it is 5 days and with every 12 hours forecast it can go up to seven days.
- Q. Are you adding vortex relocation tracker? Yes.

EMC ([HAFS Project updates](#) - Bin Liu, Jili Dong and Avichal Mehra)

- Bin Liu presented on code management and repository.
 - o Switched to point HAFS branch of UFS_UTILS repository.
 - o Updated forecast submodule to CCPP framework and physics component to point the corresponding NCAR GitHub repositories.
- Jili Dong updated on HAFS v0.A realtime experiment.
 - o HAFS V0.A runs successfully on Jet. Initially desired for seven day forecast, but currently limited to 5+2 days metric with last 2 days is run offline depending on the resource availability.
 - o Preprocessing for LBC, forecast compared with LBC generated from nemsio for code validation.
 - o Still fixing the output variable issues.
 - o Examples for HAFS v0.A shown from hurricane Michael.
- Avichal Mehra gave the overall HAFS project updates.
 - o Fine tuning configurations finalizing for real-time experiments.
 - o Plan to create a branch in HAFS repository for code freeze and support for HAFS v0.A and v0.B once finalized.
 - o Testing real-time data transfer for HAFS/HWRF/HMON. Cron job is running and data is being analysed.
 - o Ongoing HAFS related physics scheme test.
 - o Establishing vortex relocation capabilities.
 - o Generating HAFS graphics and display.
- Avichal: HSUP HPC allocations for HAFS will be available on Orion (MSU) and Hera (replacement for Theia) in the next few weeks.
- Ligia: CCPP FV3 code is in line to move to master GitHub repository.
- Q: When is CCPP tutorial? Plans underway after it is added to the GitHub.

Concluding remarks:

- Frank Marks emphasized the role of HFIP in HAFS world since HAFS is one of the six key strategies in HFIP strategic plan and a need for HFIP managers to discuss it further. Avichal concurred that we should discuss it further and figure out how HFIP can help the process within the application in UFS.