The second HFIP–Biweekly teleconference in July 2017 was held 2:00 PM – 3:00 PM ET Wednesday July 26th *online* from the NWS Headquarters OSTI, Silver Spring, MD. Following roll call (see back for list of participants), the speaker, Dr. Shane Forsythe-Newell (HFIP), welcomed about 22 members onboard, provided opening remarks thanking everyone present for their participation. The speaker noted Dr. Gopalakrishnan Sundararaman (HRD/HWRF) was on vacation in India and so not able to present at today's meeting.

**Introduction and Announcements:**

The first part of this HFIP's round-table meeting consisted of an announcement by the speaker stating the purpose of the meeting which was to address real-time (RT) project issues, if any, to receive updates on projects, and to keep project Principal Investigators (PI's), and Team Leads/POCs appraised of announcements and/or changes from the HFIP Program Office. The speaker announced he would be initially covering RT Projects sequentially followed by other projects and asking their respective PI's and Team Leads/POCs for updates, accordingly:

**RT Project Updates:**

- ***rthmon-ensemble (new):*** EMC's 10-member ensemble with EPS intended to replace the GFDL ensemble. The Principal Investigator (PI) is Dr. Avichal Mehra. Points of Contact (POCs) are Dr. W. Wang and Dr. Lin Zhu. The primary purpose of this project to improve initial position and intensity products for tropical cyclones (TCs). The speaker noted that in working with RDHPCS-Jet, the core count has been raised to the originally requested size, the PI was notified on Tuesday 7/25/2017 of the same, and that project pre-processing in terms of using the reserved allocations has recently improved.
    - ***Updates:*** Both Dr. Mehra and Dr. Zhu provided project updates. The first update was that some extra space was provided by RDHPCS-Jet however, Dr. Mehra noted he will talk to Dr. Vijay Tallapragada about getting this extra space relocated to a different area. Dr. Zhu noted that the ensemble was still being run through tests to make sure everything is performing satisfactorily. The PI added that they expected to be ready for RT DEMO runs early next week.

- ***rtfv3gfs (fvGFS-3km):*** GFDL's designed ensemble to see if 3km-nested microphysics yields realistic features. The PI is Dr. S.-J. Lin and the POC is Dr. Matt Morin. Dr. Morris Bender volunteered that he would represent GFDL for this project as the PI and POC were not present at today's meeting. Dr. Bender announced that they got the ingest working with the new GFS and the NEMSIO. Jet Management for reservations extended the time need for this project to complete processing and the extra node on x-Jet was implemented. Dr. Bender added that GFDL planned in the next day or two to ensure that everything would be working fine.

- ***rthur-aoml (Basin-scale HWRF) without DA:*** AOML-HRD's project to advance research in multiple TC interaction. PI's are Dr. Xuejin Zhang and Dr. Gus Alaka. The speaker noted that Dr. Zhan Zhang helped to get the GSI working with NEMSIO input for the basin-scale HWRF workflow. Dr. Alaka added that he believed they are on the cusp of being able to conduct RT-runs within the next 24-hours. The speaker thanked Dr. Zhang for helping work out the NEMSIO issue and the basin-scale project team for their

efforts in getting things going. The speaker also noted that this project was using and releasing unused reserved allocations back to the system pretty well.

- ***rthur-aoml (Basin-scale HWRF) with DA:*** AOML-HRD's project to advance research in multiple TC interaction using DA (Ensemble with genesis products). PI's are Dr. Xuejin Zhang and Dr. Jason Sippel. The POC noted by the speaker is Dr. Jonathon Poterjoy who is currently working with Jet management on resolving a batch limits issue. Dr. Poterjoy stated that he was currently working with archived data but by next week he expected that he would be ready to run RT data. Jet Management asked Dr. Poterjoy if he was having any issues running reservations and he replied that he was not having any issues at this time.

- ***rthfip-wisc*:** The University of Wisconsin's project was designed for TC energetics diagnostics and forecasts in RT provided to the community. Dr. Greg Tripoli is both the PI and Team/Lead/POC. The speaker noted runs for EPAC and Al basins appeared to be operating smoothly and anticipated that new plots might be available in the next 7-10 days. Dr. Christopher Rozoff volunteered to provide any updates on this project on behalf of Dr. Greg Tripoli whom he was working with. No new updates yet.

- ***rthwrf-anen:*** UCAR's project focuses on community product visibility and communication advancement with RT HWRF and other HPC systems. The PI is Dr. Christopher Rozoff. The speaker noted that Jet Management was currently working with the PI on resolving the release of unused reservation allocations. Dr. Rozoff added that they are getting closer to resolving the issue and they expect to have it fixed in a couple of weeks when their training person returns from abroad. Dr. DeMaria asked, "Is this was going to be one of the models to be included for RI detection?" The PI confirmed that this model would be used for RI detection providing ensemble deterministic forecasts both for overall RI and for intensity changes.

- ***rtwrfv3 (rthwrf-ens):*** The PI is Dr. Vijay Tallapragada and the POC is Dr. Zhan Zhang. This is EMC-NRL's project design that included HWRF-HYCOM and physics focusing on HWRF EPS and physics sensitivity. The speaker noted that Jet management was working with Dr. Zhan Zhang on a stack size issue. Dr Zhang responded by noting his requested reservations were returned to him by Jet Management and he expected to be running satisfactorily in one week's time.

- ***rtsurge (ADCIRC):*** The PI is Dr. Edward Myers and this ASGS project with HWRF is designed to test future NCEP experimental storm surge forecasts. No updates were provided for this project.

- ***rthwrf-awo (hwrfv3 with POM):*** The PI is Avichal Mehra and the POCs are Dr. Bin Liu and Dr. Zhan Zhang. This is EMC's coupled air-sea-waves experiment. Dr. Bin Liu stated that they are still conducting tests and waiting for additional wave watch boundary condition data from the global wave model that involves climatology. Also Dr. Liu noted that there is still some more work to be done with pre-processing but things are

progressing just fine. Dr Liu added that by early next week the project should be ready to go.

- ***rthfip-um (rtmmse):*** The PI is Jun Zhang and the POC is Dr. T.N. Krishnamurti. This is FSU's model within NOAA's super-ensemble. The multi-model will aid in understanding and forecasting multiple TC interaction. There were no updates provided

- ***rthmon-ens:*** The PI is Avichal Mehra and the POCs are Dr. W. Wang and Dr. Lin Zhu. This HWRF Basin-scale model will be used to advance AOML research in multiple TC inter- action using DA. No updates were provided.

- ***rthfip-utah***: The PI is Dr. Zhaoxia Pu. This project focused upon Vortex Hybrid DA. The PI withdrew the project from RT DEMO participation due to data latency/quality issues and additional data testing with DA.

- ***rthwrf-hyc (hwrffv3 w/HYCOM)*:** The PI is Dr. Avichal Mehra and the POCs are Dr. Hyun-Sook Kim and Dr. Dan Iredell. This is NCEP/EMC's coupled air-seas-wave experiment with HWRF using WW3 vs. the POM. Resultant findings from this experiment were to be compared with results from the rthwrf-awo project using the POM. However, the PI and Dr. Kim requested to withdraw this project from RT DEMO runs this year as there is not adequate time and resources to complete the WW3 portion of the project for this season.
    - Details: Due to the global RTOFS unexpected upgrade, Dr. Kim has had to refocus on associated modification of HWRF & HMON systems. The USN informed NWS/NCEP they are upgrading their Global HYCOM system (GOFS) this fall. NCEP's RTOFS shares the same initialization fields with GOFS and needs to remain in step with GOFS upgrades. Dr. Kim has been tasked to work on using the updated RTOFS fields for initialization (and boundary conditions) for the coupled HYCOM configurations of HWRF (in WPAC & NIO basins) and HMON (in EPAC & CPAC basins). The PI provided justification for project withdrawal from the RT DEMO this year in writing via e-mail to the GTM, HFIP Program Office about 8:00 AM this morning.

  This project has been dropped from this seasons RT DEMO runs.

- ***fv3cam***: The PI is Dr. Morris Bender working with Dr. Andy Hazelton on this non-priority GFDL project. The PI stated that if more CPUs were available this might be an option that the project could get their project going and keep the 4 1/2–hour reservation. Dr. Bender updated the speaker that this project is currently running on *Theia* and is not an HFIP-funded project.

Following the RT project review by the HFIP Program Office a request was made to have the online directory for the status of reserved allocations made available for viewing to project personnel. The speaker took this as an action item to provide key RT Project personnel a link from RDHPCS-Jet Management. RDHPCS-Jet Management added that the directory the link points to will be updated on a weekly basis so project leads and PI's can keep updated as to the

status of their used and released of unused reserved allocations. The speaker along with RDHPCS-Jet Management displayed and spoke to online examples of project graphics displaying reserved allocations used and unused for everyone present to see.

**Summary:**

This meeting focused upon an HFIP Program Office review of 14 RT DEMO approved projects scheduled to participate in 2017 Real-Time (RT) DEMO runs this hurricane season. Seven of twelve projects had their issues either resolved or the issues were in the process of being resolved. Four of the RT DEMO projects did not appear to have any issues. Two RT DEMO projects (*rthfip-utah* and *rthwrf-hycom*) were dropped by request of their Principal Investigators' from participation in the RT DEMO experiments this year due to data latency/quality issues/tests, and inadequate time/resources to complete the WW3 coding, respectively. PI's, Team Leads, POCs, RDHPCS-Jet Management and HFIP Program staff provided updates, discussed issues/concerns and worked together resolving those issues/concerns. One non-RT DEMO project (*fv3cam*) is working with RDHPCS in getting their project set up adequately to run their project with their allotted 4.5-h reservation.

**Question(s):**

1. What kind of products do we need to share with the HFIP Project Office?
   Answer: Kate Musgrove interjected that Paula McCaslin was the POC that cold best answer this question. It was further added that the NCAR File Transfer Protocol (FTP) delivery system is documented and linked to the HFIP website (http://www.hfip.org/products/ ). Pertinent products can be found om the HFIP website.

**Announcements:**

Dr. Evan Kalina (DTC) stated that as of last week the *h217* code has been merged into the DTC community trunk. Anyone in the community checking out the HWRF trunk will now be able to see the h217 code. Special thanks were given over to Dr. Bin Liu, Dr. Zhan Zhang, and the EMC for their efforts in this great accomplishment. Dr. Kalina noted that final testing was currently being conducted on the h217 code and everything is looking good so far. However, Dr. Kalina encouraged anyone who encounters a problem or issue that they contact the DTC.

**Closing Remarks:**

The speaker noted status on action items, and described this meeting as a productive one, adding that the participation and interaction was both excellent and appreciated. The speaker announced the next meeting was scheduled to be Wednesday, 09 August 2017 and the speaker to be Dr. Jun Zhang (HRD) who is to present on "*A developmental framework for improving hurricane model physics using aircraft observations*". The speaker then thanked everyone and adjourned the meeting.

**Action Items (Open):**

- **Link:** Send to all HFIP RT-DEMO PI's, POCs/Leads using RDHPCS-Jet resources that provides access to view the status of their projects' reserved allocations and released unused allocations (POC: Shane).

**Action Items (Closed):**

- **RDHPCS-Jet Management Participation:** Forrest Hobbs and Eric Schnepp participated at the last HFIP Teleconference that was a *Round Table Discussion* of RT DEMO Project details, i.e., Jet allocations, cores/nodes, issues, comments, etc. (POCs: Forrest, Eric, Shane).

**Participants (22):**

Avichal Mehra, Bryce Tyner, Chanh Kieu, Chris Fairall, Christopher Rozoff, Edward Hazelton, Eric Schnepp, Evan Kalina, Gus Alaka, Jonathon Poterjoy, Kate Musgrave, Kathryn Newman, Lin Zhu, Mark DeMaria, Morris Bender, Nicole Kurkowski, Ryan Torn, Shane Forsythe-Newell, Sue Chen, Thomas Henderson, Zhaoxia Pu, and Zhan Zhang.