



**2020 HFIP Annual Meeting
November 17-19, 2020
Virtual Meeting**

Meeting Objectives

The primary objective of this meeting is to discuss the key HFIP strategies as documented in the HFIP Strategic plans including development of the next generation Hurricane Analysis and Forecast System (HAFS) within UFS. The current state of operational hurricane modeling capabilities and challenges, forecasters' needs and activities supporting operations as well as the results and accomplishments from the 2020 hurricane season will be discussed.

Agenda Outline

Day 1 (Nov 17): Programmatic Updates; Forecaster needs and activities supporting operations.

Day 2 (Nov 18): Updates from Current Operational Forecast; HFIP Stream 2 results; Special storm session.

Day 3 (Nov 19): HFIP Supported External Research; HAFS Development and Computations.



HFIP Annual Meeting Agenda

Day 1: Tuesday Nov 17, 2020

12 noon - 5 pm ET

Tuesday, November 17, 2020

12:00 noon Welcome Remarks (Dorothy Koch)

12:10 noon - 1:10 pm: Programmatic updates (Chair: Frank Marks; Co-chair: Vijay Tallapragada)
(13 mins Talk + 7 mins Q&A)

12:10 pm HFIP Goals and Status (Frank Marks)

12:30 pm HFIP Programmatic Updates, Plans and Budget (Youngsun Jung)

12:50 pm Hurricane Supplemental Updates (Dorothy Koch)

1:10 pm - 4:30 pm: Forecaster needs and Activities Supporting Operations (Chair: Ed Rappaport; Co-chair: Brian Zachry)

(13 mins Talk + 7 mins Q&A)

1:10 pm Current forecast capabilities - NHC verification (John Cangialosi/Mike Brennan)

1:30 pm NHC's analysis and forecasting challenges (Mike Brennan/Eric Blake)

1:50 pm Verification of RI Metrics in 2020 (James Franklin/Mark DeMaria/Matt Onderlinde)

2:10 pm Operational applications including ensemble products (Brian Zachry/Franklin/DeMaria)

2:30 pm JTWC TC activity, forecast challenges, and priorities (Matt Kucas)

2:50 pm Break (20 mins)

3:10 pm Post Processing and Verification (PPAV) Team update (David Zelinsky)

3:30 pm Infrastructure: ATCF and AWIPS plans (Mark DeMaria)

3:50 pm Operational storm surge modeling (Andrew Penny/Laura Alaka)

4:10 pm Status of socio-economic projects (Jennifer Sprague-Hilderband)

4:30 pm - 5:00 pm: HFIP Display - A need for Unified System (Youngsun Jung & Jordan Dale)

5:00 pm Adjourn

HFIP Annual Meeting Agenda

Day 2: Wednesday Nov 18, 2020

12 noon - 5 pm ET

Wednesday, November 18, 2020

12:00 noon - 1:00 pm: Updates on Current Operational Model (Chair: S. Gopal, Co-chair: Youngsun Jung) (13 mins Talk + 7 mins Q&A)

12:00 noon Current Operational Regional Model Advances and plans (Avichal Mehra)

12:20 pm Global Model advances and plans (Vijay Tallapragada)

12:40 pm RDHPCS Computing (Vijay Tallapragada)

1:00 pm - 3:40 pm: HFIP Real-time reservation Experiment (Chair: Avichal Mehra; Co-chair: S. Gopal) (13 mins Talk + 7 mins Q&A)

1:00 pm Results from HAFS v0.1A (Bin Liu)

1:20 pm Results from HAFS v0.1B (Andy Hazelton)

1:40 pm Results from HAFS v0.1J (Jili Dong)

2:00 pm Results from HAFS v0.1E (Zhan Zhang)

2:20 pm Basin Scale HWRF-B (Gus Alaka)

2:40 pm Break (20 mins)

3:00 pm GFS CAM Physics (Georg Grell)

3:20 pm HWRF CNN (Jonathan Lin)

3:40 pm -5:00 pm : Special session on Operational Modeling Challenges in 2020 (eg. ensembles; DA; RI) (Chair: Vijay Tallapragada; Co-chair: Frank Marks)

3:40 pm Overview of Modeling challenges

Issues identified by the forecasters (NHC/JTWC -Mike Brennan/Matt Kucas) (5 mins)

Issues identified by Modelers (EMC/HRD - Zhan Zhang/Gus Alaka) (5 mins)

3:50 pm Panel Presentation (Panelist: Jim Doyle, Julian Heming, Linus Magnusson, Vijay Tallapragada)

4:30 pm Panel/Audience Q&A.

5:00 pm Adjourn



HFIP Annual Meeting Agenda

Day 3 (Nov 19, 2020)

12 noon - 5 pm ET

Remote Access

Thursday, November 19, 2020

12:00 noon - 1:00 pm : HFIP (FFO) Funded External Research Reports (Chair: Dorothy Koch; Co-chair: Mark Demaria)

(7 mins Talk + 3 mins Q&A)

- 12:00 noon Using Dynamically-Based Probabilistic Forecast Systems to Improve the NHC Wind Speed Products (Alan Brammer/Andrea Schumacher)
- 12:10 pm New Frameworks for Predicting Extreme Rapid Intensification (Jonathan Vigh)
- 12:20 pm Rapid Intensification Changes: Improving Sub-Grid Scale Model Parameterization and Microphysical-Dynamical Interaction (Ping Zhu)
- 12:30 pm Evaluating Initial Condition Perturbation Methods in the HWRF Ensemble Prediction System (Ryan Torn)
- 12:40 pm Advanced DA Techniques for Satellite-Derived Atmos. Motion Vectors from GOES 16/17 in the HWRF (Agnes Lim)
- 12:50 pm Enabling Cloud Condensate Cycling for All-Sky Radiance Assimilation in HWRF (Lewis Grasso)

1:00 pm - 1:30 pm : HFIP Supported External Research Reports (Chair: Youngsun Jung; Co-chair: Vijay Tallapragada)

(7 mins Talk + 3 mins Q&A)

- 1:00 pm Ground-based Radar DA in HWRF Hybrid Ensemble-variational (Xuguang Wang)
- 1:10 pm FV3 Model and Ensemble-based DA for Convection-permitting Hurricane Analysis and Prediction (Xingchao Chen)
- 1:20 pm DTC Updates (Kathryn Newman/Bin Liu)



1:30 pm - 4:50 pm: HAFS Development and Computations (Chairs: Avichal Mehra and S. Gopal)
(10 mins Talk + 5 mins Q&A)

1:30 pm HAFS Configuration Strategies (Avichal Mehra)

1:45 pm Grid and Nesting Developments (Xuejin Zhang)

2:00 pm T-Shield (Morris Bender/Tim Marchok)

2:15 pm LAM FV3 testing (Curtis Alexander)

2:30 pm Development of Coupling Strategies for HAFS (Avichal Mehra/ Dan Rosen)

2:45 pm Break (20 mins)

3:05 pm Physics Priorities (Chunxi Zhang)

3: 20 pm CCpp Physics suite options for HAFS (Man Zhang/Mrinal Biswas)

3:35 pm DA Advancements and Use of observations (Jason Sippel/Zhan Zhang)

3:50 pm HAFS Workflow (Evan Kalina)

4:05 pm HAFS Computations (S. Gopal/Frank Indiviglio/Vijay Tallapragada/Gus Alaka)

4:20 pm Open Discussion (30 mins)

4:50 pm Meeting Summary and Concluding Remarks (Frank Marks)

5:00 pm Adjourn