

2019 HFIP Annual Meeting Agenda
Key Biscayne Meeting Room at the Embassy Suites Airport

Remote Attendees: Please join the meeting from your computer, tablet or smartphone.

<https://global.gotomeeting.com/join/842958997>

United States: +1 (571) 317-3116

Access Code: 842-958-997

DAY ONE (MONDAY, NOVEMBER 4 AFTERNOON):

12:45 pm Registration, Name Badge Pickup

1:00 pm Welcome remarks, Introductions, facility logistics

1:10 pm - 1:50 pm: Programmatic updates and Operational Modeling Session (Chair: Frank Marks)
(13 mins Talk + 7 mins Q&A)

1:10 pm Update on HFIP/Weather Act: status and goals (Marks)

1:30 pm Longer-term programmatic outlook, plans and budget (Koch)

1:50 pm - 5:00 pm: Forecaster needs and Activities Supporting Operations (Chair: Ed Rappaport)
(13 mins Talk + 7 mins Q&A)

1:50 pm 2019 Year in Review: Joint Typhoon Warning Center TC activity, forecast challenges, and
priorities (Belson)

2:10 pm Current forecast capabilities - NHC Verification (Cangialosi)

2:30 pm NHC's analysis and forecasting challenges (Brennan/Blake)

2:50 pm Break (20 mins)

3:10 pm Operational applications including ensemble products (Franklin/DeMaria)

3:30 pm Post Processing and Verification (PPAV) Team Update (Zelinsky)

3:50 pm Infrastructure: ATCF and AWIPS plans (DeMaria)

4:10 pm Operational storm surge Modeling (Alaka/Penny)

4:30 pm Status of socio-economic projects (Sprague-Hilderband)

4:50 pm Concluding remarks

5:00 pm Adjourn

DAY TWO (TUESDAY, NOVEMBER 5):

8:30 am Continental Breakfast

9:00 am - 10:20 am: Establishing the Programmatic Metric(s) for Rapid Intensification (RI) (Moderator: Gopal)

9:00 am - 9:20 am Background and Introduce proposed metrics (DeMaria/Franklin)

9:20 am - 9:40 am Open Discussion: Reaching consensus on metric(s) sampling

9:40 am - 10:20 am Expert Panel: Modeling implications

Panelist: Frank Marks, Vijay Tallapragada, Ryan Torn, Jim Doyle

- RI measuring techniques
- Model Skills in predicting RI

10:20 am - 10:40 am Break (20 mins)

10:40 am - 12:00 noon: Updates on Modeling plans, computing and Supplemental (Chair: Gopal) (13 mins Talk + 7 mins Q&A)

10:40 am Global Model advances and plans for 2020 and beyond (Tallapragada)

11:00 am Regional Model advances and plans for 2020 and beyond (Mehra)

11:20 am RDHPCS Computing (Tallapragada)

11:40 am Hurricane Supplemental 2019 Update (Koch)

12:00 noon - 1:00 pm Provided working lunch

1:00 pm - 4:20 pm: Ongoing Efforts to build Next Generation Hurricane Model (Chair: Tallapragada) (13 mins Talk + 7 mins Q&A)

1:00 pm Results and ongoing efforts from HAFS v0.A (Liu/J. Dong)

1:20 pm Results and ongoing efforts from HAFS v0.B (Hazelton/Z. Zhang)

1:40 pm Results from FV3SAR testing (Alexander)

2:00 pm Progress in Grid and Nesting development (X. Zhang and Harris)

2: 20 pm Physics Priorities (C. Zhang/Wang)

2:40 pm - 3:00 pm Break (20 mins)

- 3:00 pm DA Advancements and Use of observations (Sippel)
- 3:20 pm Hurricane Field Program updates and Use of observations (Zawislak)
- 3:40 pm CROW Workflow (Kalina)
- 4:00 pm CIME Workflow and repository (Dunlap/Turuncoglu)
- 4:20 pm Coupling Strategies (Mehra)

4:20 pm - 5:20 pm: Special session on operational model problems in 2019, causes, potential solutions (Tallapragada)

4:40 pm Overview of Operational and Modeling challenges with major storms from the Centers (2-3 slides from each center)

- NHC (Brennan)
- JTWC (Belson)
- NCEP, ECMWF, UK Met, Navy (Tallapragada)
- HRD (Hazelton/Alaka)

5:00 pm Open for discussion

5:30 pm Adjourn

DAY THREE (WEDNESDAY, NOVEMBER 6 MORNING):

8:30 am Continental Breakfast

9:00 am - 10:10 am: HFIP Supported External Research Reports (Chair: Koch)
(13 mins Talk + 7 mins Q&A)

- 9:00 am Using Dynamically-Based Probabilistic Forecast Systems to Improve the NHC Wind Speed Products (Schumacher/Brammer)
- 9:10 am New Frameworks for Predicting Extreme Rapid Intensification (Emanuel/Vigh)
- 9:20 am Rapid Intensification Changes: Improving Sub-Grid Scale Model Parameterization and Microphysical-Dynamical Interaction (Zhu)
- 9:30 am Evaluating Initial Condition Perturbation Methods in the HWRF Ensemble Prediction System (Torn)
- 9:40 am Enabling Cloud Condensate Cycling for All-Sky Radiance Assimilation in HWRF (T-C Wu)

9:50 am Display and Diagnostics (Kucera/Burek)

10:00 am DTC Updates (Newman)

10:10 am Break (20 mins)

10:30 am - 11:20 am: Results of Real-time reservation Experiments (Chair: Mehra) (other than HAFS)
(13 mins Talk + 7 mins Q&A)

10:30 am Basin Scale HWRF-B (Alaka/Thomas)

10:40 am HWRF Ensemble (Z. Zhang)

10:50 am HMON ensemble (Wang)

11:00 am HWRF with No Vortex Initialization (Kalina)

11:10 am Analog Ensemble (Rozoff/Lewis)

11:20 am Summary and Concluding Remarks (Marks)

11:30 am Adjourn for HFIP Community Participants

11:30 am - 12:30 pm: Provided Working Lunch

DAY 3 (WEDNESDAY NOV 6, 2019 AFTERNOON - INVITE ONLY)

12:30 pm - 5:00 pm: HAFS Developer's meeting - Next steps for HAFS

This HAFS developers' session will primarily focus on preparing/planning for year 2 of the HAFS plan to configure test and validate single storm HAFS v0.1. Integrate science development efforts as part of the broader UFS/SIP plan and layout key strategies to address key challenges.

12:30 pm Charge for this session (Mehra/Gopal)

- For each session - few slides on high-level milestones, progress, and plans.

12:40 pm Configuration Strategy (Mehra/Gopal)

- Lessons from HAFS v0.A and HAFS v0.B
- Plans to configure test and validate single storm HAFS v0.1

1:15 pm Code repository management and Test plan Strategies (Alexander/Marchok)

- Code repository and support
- Develop HAFS evaluation diagnostics (storm tracker on native grid and tracker for products)
- Real-time/retrospective testing at various stages

2:00 pm Nesting Strategy and Timeline (X. Zhang/Harris)

- Develop pre-processing tools supporting multi-level nesting
- Schedule for developing algorithms for telescopic nests in FV3
- Code next moving algorithm crossing the faces of the cubed sphere edges
- Modify FMS code to implement the crossing edge algorithm - challenges / timelines

2:45 pm Break (15 mins)

3:00 pm Physics Strategy (Tallapragada)

- HWRF Physics; other physics options
- Connection to CCPP
- Coupling to ocean (HYCOM and MOM6); Coupling to waves

3:45 pm Initialization/DA Strategies (Marks/Winterbottom)

- Inner core DA developments
- DA using the JEDI framework
- Options for Vortex Initialization/Relocation

4:30 pm Panel discussion on Outcomes

- Panelist: Frank Marks, Avichal Mehra, S. Gopal, Lucas Harris, Curtis Alexander

5:00 pm Adjourn