

Changes to the HFIP Team Structure

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Reasons for the changes

- we have to switch HFIP from a project with longer term goals to one that is attempting to vastly improve hurricane forecasts produced by operations.
 - Our original 5 year goals come due in less than two years
- emphasis needs to be on achieving those goals in the short term.
- At the same time we need to keep in mind extending our skill to the original 10 year goals.

Reasons for the changes

- We want the program to be more focused on developing systems that can be implemented within a year
- Thus we have broken the team structure to a series of teams that focus on:
 - Longer term strategy for model and system improvements
 - Teams designed to implement new technology in the next year

Current Team Structure

Table 1. HFIP Development Teams

<u>FY2010 Teams</u>	<u>Team Leads and Member's Organization</u>
1. Global Model/Physics	<i>Stan Benjamin (ESRL), John Brown (ESRL), AOML, NRL, GFDL, EMC, NRL</i>
2. Regional Model/Physics	<i>Morris Bender (GFDL), Young Kwon (EMC), AOML, NRL, ESRL URI, Old Dominion Univ, NCAR</i>
3. Ensembles	<i>Zoltan Toth (ESRL), Carolyn Reynolds (NRL), AOML, PSU, EMC, NHC, FSU</i>
4. Data Assimilation/Vortex Initialization Team	<i>Jeff Whitaker (ESRL), Tomi Vukicevic (AOML), AOML, NRL, CIRA, PSU</i>
5. Verification Team	<i>Tim Marchok (GFDL), Barb Brown (NCAR), NRL, NESDIS/STAR, AOML, NHC, EMC, ESRL, NWS/OST</i>
6. Applications Development and Diagnostics	<i>David Zelinski (NHC), Mark DeMaria (NESDIS/STAR), EMC, NRL, AOML, RAL, ESRL, OU, AOML, FSU, NHC, AOML, NWS/OST</i>
7. Hurricane Observations	<i>Sim Aberson (AOML), John Knaff (NESDIS/STAR), NHC, EMC, NESDIS/STAR, ESRL, URI, NRL, AOC, RAL, RSMAS, NCO, NCAR, NWS/OST</i>
8. Ocean/Wave Models	<i>Hendrik Tolman (EMC), Halliwell (AOML), URI, ESRL, NRL, RSMAS</i>
9. Societal Impacts	<i>Jennifer Sprague (NWS/OASST), NWS/SR, NWS/ER, FEMA, CT-EM, TX-EM, NC-EM, FL-EM, Weather Channel</i>

Proposed 2013 Team Structure

FY 2013 Strategic Planning Teams

<u>FY 2013 Teams</u>	<u>FY 2013 Team Leads</u>
1. HFIP Model Strategy	Vijay Tallapragada, Stan Benjamin
2. Model Physics	Brad Ferrier, Jian-Wen Bao
3. Data Assimilation/Initialization	John Derber, Xuguang.Wang
4. Ensemble Development	Jeff Whitaker, Jiayi Peng
5. Product Development Team	Mark DeMaria, David Zelinski
6. Societal Impacts	Jennifer Sprague, Rick Knabb

FY 2013 Tiger Teams

<u>FY 2013 Teams</u>	<u>FY2013 Team Leads</u>
1. Web Page Design	Paula McCaslin, Laurie Carson
2. 3 KLM Physics Package	Joe Cione, Chan Kieu
3. Regional Hybrid DA System	John Derber, Jeff Whitaker
4 Use of Satellite Data in Hurricane Initialization	Tomi Vukicevic, John Knaff, Emily Liu

General Charge to Strategic Planning Teams

- The purpose of the HFIP strategic planning teams is to lay out a multi-year (1-5 years) strategy for improving hurricane forecast guidance.

From each teams perspective:

- Setting annual milestones
 - Setting 2-5 year goals
 - Assessing overall progress toward meeting deliverables
 - Reporting progress and plans at the annual meeting
- Teams will meet at the Annual Meeting and by telecon
 - These teams will be in place indefinitely though membership will be reviewed annually
 - The strategic teams recommend to Management the formation of a specific Tiger Team when appropriate.
 - The strategic teams set charges, milestones and review progress of related tiger teams.

General Charge to Strategic Planning Teams

- **Model Strategy Team**-- Map out where emphasis should be placed in regional and global model development and implementation into operations over the next 1-5 years.
- **Physics Team**—Focus on development of high resolution (3-10km) physics packages particularly for use in high wind environments
- **Data Assimilation Team**—Development and implementation into operations of the Hybrid Data assimilation system for both regional and global models
- **Ensemble Development Team**—Development of and strategy for improving both global and regional ensemble development.
- **Product Development Team**— Determine where the project needs to focus on product development with special emphasis on products from ensemble systems
- **Societal Impacts**— Develop strategy to determine how best to convey tropical cyclone risk and uncertainty and the development of NHC products, information and services

General Charge to the Tiger Teams

- The tiger teams will be responsible for overseeing the development of a specific new capability for the hurricane forecast guidance system.
 - Each Team will:
 - Consist of members actively engaged in development toward the team goal
 - Determine the steps necessary to reach its goal
 - Coordinate the related efforts across the community
 - Report on progress and plans at the annual meeting
- Teams will meet at the Annual Meeting and through telecons
- These teams exist for a specific period; until it's goal is achieved. Some may be in place longer than others.

Specific Charge to the Current Tiger teams

Web Page Design

Maintain and upgrade the HFIP web page for HFIP model products

- Planning and development for an upcoming season starts Jan 1.
- New web page becomes active August 1 each year
- Committee will be ongoing.

Specific Charge to the Current Tiger teams

3 km Physics package

Develop the next generation physics for use in HWRF and other models appropriate for 1-3 km resolutions

- Target date for first implementation into the operational model for the hurricane season 2014
- Team will determine which components to focus on first.
- Development must be within the full physics package with a focus on the HWRF core.
- Team likely to exist beyond the first implementation date

Specific Charge to the Current Tiger teams

Regional Hybrid DA system

Develop the Hybrid DA system for implementation into the HWRF operational model

- Implementation scheduled for 2014 hurricane season
- Team is already in place
- Activities will likely continue for a year beyond initial implementation date

Specific Charge to the Current Tiger teams

Use of Satellite Data in Hurricane Initialization

Develop and test use of various satellite data for initialization of the hurricane core region.

- Target date for first operational implementation hurricane season 2014
- Team should choose those data sets such as satellite winds that are the easiest to implement and show significant promise first.
- Future implementations should focus on additional data sources
- Team will work within the HWRF model system