

## 64th Interdepartmental Hurricane Conference

*Meeting Operational Needs through Comprehensive Tropical Cyclone Research and Development*

### AGENDA

**Monday, March 1, 2010**

7:00 AM Early Registration (7:00 AM-12:30 PM)

8:30 AM	Working Group for Hurricane and Winter Storms Operations and Research Meeting	Dr. Edward Rappaport (NHC) Chairperson
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#### **Opening Session**

12:30 PM	Conference Opening and Introduction of Mayor Pro Tem	Mr. Samuel P. Williamson Federal Coordinator for Meteorology
12:35 PM	Welcome/Opening Remarks	The Honorable Edna Jackson Mayor Pro Tem, Savannah, Georgia
12:45 PM	Introductory Comments and Introduction of Keynote Speaker	Mr. Samuel P. Williamson Federal Coordinator for Meteorology
1:00 PM	<b><u>Plenary Opening</u></b>	
	<p><b>Mr. William Craig Fugate</b> Administrator of the Federal Emergency Management Agency, FEMA/DHS</p> <p><b>Ms. Monica Medina</b> Principal Deputy Under Secretary of Commerce for Oceans and Atmosphere, NOAA/DOC</p>	
1:40 PM	<p><b>Panel:</b> <i>The Power of Partnerships to Meet Operational Priorities</i></p> <p><b>Moderator:</b> Dr. Elbert W. (Joe) Friday, Professor Emeritus of Meteorology, University of Oklahoma</p> <p>-----</p> <p><b>Panelists:</b></p> <p><b>Dr. Ramesh Kakar</b>, NASA Weather Focus Area Lead and Program Manager for Atmospheric Dynamics</p> <p><b>Dr. Fred Lewis</b>, Air Force Director of Weather</p> <p><b>RADM David Titley</b>, Oceanographer and Navigator of the Navy</p> <p><b>Dr. Jack Hayes</b>, Director, National Weather Service, NOAA</p>	
3:00 PM	Introduction of Federal Agency Lead Representatives	Mr. Samuel P. Williamson Federal Coordinator for Meteorology

3:10 PM Afternoon Coffee/Soda Break (3:10-3:45 PM)

Session 1 Coordinator: Mr. Mark Welshinger (OFCM)

**Session 1: The 2009 Tropical Cyclone Season in Review**

Session Leaders Dr. Steve Lyons (The Weather Channel) and CAPT Grant Cooper (NMFC/JTWC)		
3:45 PM	The Quietest Year in More than a Decade: An Overview of the 2009 Atlantic Hurricane Season	Robbie Berg (NHC) and L. Avila
4:00 PM	Overview of the 2009 Eastern North Pacific Hurricane Season	Todd Kimberlain (NHC) and M. Brennan
4:15 PM	2009 Atlantic and Eastern North Pacific Forecast Verification	James Franklin (NHC)
4:30 PM	Central Pacific 2009 Hurricane Season Summary	Jim Weyman (CPHC)
4:45 PM	A Review of the Joint Typhoon Warning Center 2009 Tropical Cyclone Season	Mr. Ed Fukada (JTWC)
5:00 PM	53 <sup>rd</sup> Weather Reconnaissance Squadron Review of the 2009 Hurricane Season	Lt Col Jonathon Talbot (53 <sup>rd</sup> WRS) and Maj Kait McLaughlin
5:15 PM	NOAA Aircraft Operations Center (AOC) 2009 Seasonal Summary and Future Plans	James D. McFadden (NOAA AOC), N. Ash, J. Parrish, and P. Flaherty

6:30 PM Reception/Icebreaker (6:30-8:00 PM)

**Tuesday, March 2, 2010**

7:00 AM Continental Breakfast

7:55 AM Opening/Administrative Remarks

*Dr. Paul Try (OFCM/STC)*

**Invited Presentation**

8:00 AM Mr. X. William (Bill) Proenza  
Director, National Weather Service Southern Region

Sessions 2 and 3 Coordinator: Dr. Paul Try (OFCM/STC)

**Session 2: Workshop**

***Assessment of the Tropical Cyclone R&D Activities in Contributing to the Operational Priorities of the Tropical Cyclone Forecasting and Warning Centers***

8:15-9:30 AM	<b>Moderator:</b> Dr. Elizabeth Ritchie, Associate Professor, Department of Atmospheric Sciences, University of Arizona
	<b>Panelists:</b>  <b>Dr. Frank Marks</b> , Co-Chair, Working Group for Tropical Cyclone Research and Director, Hurricane Research Division, NOAA/AOML <b>Mr. James Franklin</b> , Branch Chief, Hurricane Specialists Unit NOAA/NWS/NHC <b>Mr. Robert J. Falvey</b> , Director, Joint Typhoon Warning Center <b>Dr. Ronald Ferek</b> , Co-Chair, Working Group for Tropical Cyclone Research and Program Officer, Marine Meteorology Program, ONR

9:30 AM Morning Coffee Break (9:30-10:00 AM)

**Session 3: Workshop**

***Understanding Hurricane Response for Improved Stakeholder/User Reaction***

10:00-11:45 AM	<b>Moderator:</b> Mr. Max Mayfield, Senior Executive Vice President of Governmental Relations, America's Emergency Network and WPLG-TV Hurricane Specialist
	<b>Panelists:</b>  <b>Mr. David Caldwell</b> , Director, Office of Climate, Water and Weather Services NOAA/NWS <b>Dr. Brenda Phillips</b> , Senior Researcher, Center for the Study of Disasters and Extreme Events, Oklahoma State University <b>Dr. Jeffrey Lazo</b> , Director, Societal Impacts Program, NCAR <b>Ms. Jenniffer Santos-Hernandez</b> , Graduate Research Assistant, Department of Sociology and Criminal Justice, University of Delaware <b>Mr. Walter S. Dickerson</b> , President, Diversified Emergency Management Associates, LLC

11:45 AM Lunch (on your own) (11:45 AM - 12:45 PM)

*Sessions 4, 5, and 6 Coordinator: Mr. Mike Babcock (OFCM)*

**Session 4: Observations and Observing Strategies for Tropical Cyclones and their Environment, Part 1**

Session Leader Ms. Robbie Hood (NOAA/OAR)		
12:45 PM	Airborne Doppler Analysis, Quality Control, and Transmission in 2009 and 2010	John F. Gamache (NOAA/AOML/HRD)
1:00 PM	Processing Wide Swath Radar Altimeter (WSRA) Data on the Fly	Ivan PopStefanija (ProSensing) and E. Walsh
1:15 PM	SFMR Operation on the WC-130J during the 2009 Hurricane Season	Lt Col Jonathan Talbot (53 <sup>rd</sup> WRS)
1:30 PM	Differences in Stepped Frequency Microwave Radiometer Measurements - Resolutions and Remaining Issues	Alan S. Goldstein (NOAA/AOC), Lt Col J. Talbot, E. Uhlhorn, I. PopStefanija,
1:45 PM	An Airborne Portable Probe Receiver/Processor System for Operational Acquisition and Transmission of Expendable Ocean Observations from WC-130J Tropical Cyclone Flights	Peter G. Black (NRL/SAIC), D. Eleuterio, J. Kerling, R. Lee, and D-S Ko

**Session 5: Observations and Observing Strategies for Tropical Cyclones and their Environment, Part 2**

Session Leaders Mr. Chris Velden (UW-CIMSS) and Dr. Mark DeMaria (NESDIS)		
2:00 PM	HFIP: Detecting Tropical Cyclone Formation from Satellite Infrared Imagery	Elizabeth A. Ritchie (Univ. of Arizona), M. Piñeros, J. Tyo, and S. Galvin
2:15 PM	Use of Reflected GPS to Map Wind Fields for Hurricane Genesis Applications	Stephen J. Katzberg (NASA Langley Research Center) and J. Dunion
2:30 PM	Evaluation of the Tropical Cyclone SATellite Intensity CONsensus (SATCON)	Derrick Herndon (CIMSS) and C. Velden
2:45 PM	Improved Near Real-Time Hurricane Ocean Vector Winds Retrievals from QuikSCAT	Peth Laupattarakasem (UCF), W. Linwood Jones, P. Chang, Z. Jelenak, E. Uhlhorn
3:00 PM	Preparing for Improved Monitoring of Tropical Cyclones in the GOES-R Proving Ground	James Gurka (NOAA/ NESDIS), M. DeMaria, S. Goodman, and T. Schmit
3:15 PM	GeoSTAR – A Hurricane Observatory	Bjorn Lambriksen (NASA JPL)

3:30 PM Afternoon Break (3:30-4:00 PM)

**Session 6: Observations and Observing Strategies for Tropical Cyclones and their Environment, Part 3**

Session Leaders Dr. Jim McFadden (NOAA/AOC) and Lt Col Jonathan Talbot (53 <sup>rd</sup> WRS, AFRC)		
4:00 PM	Systematically Merged Atlantic Regional Temperature and Salinity (SMARTS) Oceanic Climatology	Lynn K. Shay (RSMAS), P. Meyers, and J. Brewster
4:15 PM	WISDOM System 2009 Proof of Concept Test Results	Justyna Nicinska (NOAA/OAR), A. MacDonald, and Y. Xie
4:30 PM	NOAA Assessment of Unmanned Aircraft Systems for Hurricane Observations	Robbie Hood (NOAA/OAR), R. Atlas, F. Marks, R. Rogers, J. Cione, M. Black, E. Uhlhorn, C. Landsea, G. Wick, N. Prive, S. Mackaro, Y. Xie, P. Hall, N. Ash, and P. Eastman
4:45 PM	Mapping Hurricane Inland Storm Surge	Brian McCallum (USGS Georgia Water Science Center), P. Conrads, C. Berenbrock, and R. Mason, Jr.
5:00 PM	Results to Demonstrate the Measurement of Surface Level Pressure using a Differential Absorption Microwave Radar	Roland Lawrence (Old Dominion University), S. Harrah, B. Lin, P. Hunt, and C. Lipp

5:15 PM One-Minute Poster Previews  
Coordinator: Lt Col Sabrina Tajjeron (Air Force/OFCM)

**6:00 PM Poster Session (6:00-8:00 PM) Plus Snacks and Cash Bar**

P01	The Recent Availability of Low-Cost Radiosonde Systems and the Implications for Developing an Adaptive Sounding Network for Hurricane Prediction	Michael W. Douglas (NSSL) and J. Mejia
P02	Development, Capabilities, and Impact on Wind Analyses of the Hurricane Imaging Radiometer (HIRAD)	Timothy L. Miller (NASA/MSFC), E. Uhlhorn, R. Amarin, R. Atlas, P. Black, W. Jones, and C. Ruf
P03	Objective Measures to Estimate Tropical Cyclone Intensity and Intensity Change from Remotely-Sensed Infrared Imagery	Elizabeth Ritchie (University of Arizona), M. Piñeros, and J. Scott Tyo
P04	The Potential Role of Ocean Observing System Simulation Experiments for Improving Ocean Model Initialization in Coupled Hurricane Forecast Models	George R. Halliwell (NOAA/AOML), D. Willey, J. Brewster, B. Jaimes, L. K. Shay, and R. Atlas
P05	Analysis of 2008 Hurricane Season Test Flight Data from the Wide Swath Radar Altimeter (WSRA)	Ivan PopStefanija (ProSensing) and E. Walsh

P06	IBTrACS Tropical Cyclone Best Track Community Survey	Paula Ann Hennon (STG, Inc.), E. Gibney, K. Knapp, M. Kruk, and D. Levinson
P07	Sea Surface Wind Measurements from Gulfstream-IV Using GPS Reflectometry	Edward Walsh (NOAA/ESRL), V. Zavorotny, and D. Akos [Poster presented by Jian-Wen Bao (NOAA/ESRL)]
P08	Measuring Hurricane Storm Surge in South Carolina	Paul Conrads (USGS South Carolina Science Center), A. Caldwell, and S. Brown
P09	Examples of Ensemble Storm-Track Forecasts from the FNMOC Ensemble Forecast System	Michael Sestak (FNMOC), C. Dickerman, and B. Sampson
P10	Validating the Ocean Model Component of Coupled Hurricane-Ocean Models	Richard M. Yablonsky (URI), I. Ginis, B. Thomas, J. Cione, G. Halliwell, E. Uhlhorn, H. Kim, C. Lozano, E. Chassignet, and H. Winterbottom
P11	Collaborative Study of Episodic Changes to Intensity and Structure of Gulf Hurricanes	Christopher M. Hill (Mississippi State University), M. Koziara, F. Navejar, P. Fitzpatrick, and Y. Lau
P12	Application of High Resolution Satellite Imagery to Assess Storm Tide-Related Flooding	Marouane Temimi (NOAA-CREST / The City University of New York), N. Chaouch, S. Hagen, S. Medeiros, J. Feyen, Y. Funakoshi, R. Khanbilvardi, J. Weishampel, F. Aikman III, P. Restrepo, and D. Reed
P13	Climatological-Based Tropical Cyclone Landfall Probabilities and Average Time to Landfall	Robert E. Hart (FSU) and R. Murnane

### Wednesday, March 3, 2010

7:00 AM Continental Breakfast

7:55 AM Opening/Administrative Remarks *Lt Col Sabrina Taijeron (Air Force/OFCM)*

*Sessions 7 and 8 Coordinator: Lt Col Sabrina Taijeron (Air Force/OFCM)*

#### **Session 7: Tropical Cyclone Model Development and Technology Transfer, Part 1**

Session Leaders Dr. Robert Gall (NOAA/NWS) and Dr. James Goerss (NRL Monterey)		
8:00 AM	Performance of the Operational HWRF Model for 2009 Hurricane Season and Suggested Upgrades for 2010 Implementation	Vijay Tallapragada (NCEP/EMC/SAIC), W. Lapenta, S. Lord, N. Surgi, Q. Liu, Y. Kwon, Z. Zhang, R. Tuleya, J. O'Connor, and S. Trahan
8:15 AM	Linking the HFIP Community with NCEP/EMC Operations	William Lapenta (NCEP/EMC), N. Surgi, and S. Lord

8:30 AM	Evaluation and Improvement of Ocean Model Parameterizations for NCEP Operations	Lynn K. Shay (RSMAS/UM), G. Halliwell, J. Brewster, B. Jaimes, and W. Teague
8:45 AM	Coupled HWRF-HYCOM Parallel Run Results for the 2009 Hurricane Season	Hyun-Sook Kim (NCEP/EMC), D. Iredell, C. Lozano, and the HWRF Group
9:00 AM	Impacts of Land Effects and Improvements in Modeling Landfall Using HWRF	Robert E. Tuleya (NCEP/EMC/SAIC), Y. Kwon, V. Tallapragada, Z. Zhang, Y. Wu, Q. Liu, J. O'Connor, and W. Lapenta
9:15 AM	Progress in Developing Coupled Tropical Cyclone-Wave-Ocean Models for Operational Implementations at NOAA and Navy	Isaac Ginis (URI), Y. Fan, T. Hara, B. Thomas, M. Bender, J. Bao, C. Fairall, and L. Bianco
9:30 AM	Tropical Cyclone Prediction for HFIP with COAMPS-TC	Richard M. Hodur (NRL-MRY/SAIC), S. Chen, J. Cummings, J. Doyle, T. Holt, H. Jin, Y. Jin, C.-S. Liou, K. Sashegyi, and J. Schmidt

9:45 AM Morning Break (9:45-10:30 AM)

### Session 8: Tropical Cyclone Model Development and Technology Transfer, Part 2

Session Leaders Dr. Naomi Surgi (NCEP) and Dr. Lynn K. Shay (RSMAS/UM)		
10:30 AM	Impact of New Global Models and Ensemble Prediction Systems on Consensus TC Track Forecasts	James S. Goerss (NRL-MRY)
10:45 AM	Implementation of the New Air-Sea Exchange Coefficients(Cd/Ch) to the Operational HWRF Model and Their Impact on Hurricane Intensity Forecast Skill	Young C. Kwon (NCEP/EMC), R. Tuleya, H. Pan, V. Tallapragada, W. Lapenta, and S. Lord
11:00 AM	The HWRF Modeling System: Recent Developments in Hurricane Structure and Intensity Forecasting Research at AOML	Frank Marks (NOAA/AOML/HRD), S. Gopalakrishnan, X. Zhang, T. Quirino, R. Rogers, and K. Yeh
11:15 AM	Simulation of Atlantic Warm Pool in the Hybrid-Coordinate Ocean Model (HYCOM)	Sang-Ki Lee (CIMAS/University of Miami), C. Wang, C. Lozano, and D. Iredell
11:30 AM	Sensitivity of the WRF-NMM Model to Physics Parameterizations at Various Vertical and Horizontal Resolutions	Jian-Wen Bao (NOAA/ESRL), S. Gopalakrishnan, and S. Michelson
11:45 AM	The Tropical Cyclone Modeling Testbed (TCMT) and its Role in the Hurricane Forecast Improvement Project (HFIP)	Barbara Brown (NCAR), L. Nance, T. Jensen, and C. Williams

12:00 PM	The Potential for Improved Tropical Cyclone Forecasts from High-Resolution Global Models--Results from the HFIP 2009 Summer Experiment	Mike Fiorino (NOAA/ESRL), J. Whitaker, and T. Hamill
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12:15 PM Lunch (on your own) (12:15 PM-1:30 PM)

Sessions 9 and 10 Coordinator: Mr. Floyd Hauth (OFCM/STC)

**Session 9: Other Research to Improve the Prediction of Tropical Cyclone Intensity and Structure, Track, Precipitation, Coastal and Inland Inundation, Part 1**

Session Leaders Ms. Justyna Nicinska (NOAA/OAR) and Dr. Peter Black (NRL Monterey/SAIC)		
1:30 PM	NASA-GRIP Field Experiment	Ramesh K. Kakar (NASA Earth Science Division)
1:45 PM	IFEX 2010: NOAA's Plans for Hurricane Field Program Operations for the 2010 Season	Robert Rogers (NOAA/AOML/HRD)
2:00 PM	Satellite and Model Database in Support of the NASA GRIP Field Campaign and for Improved Operational Hurricane Forecasting	Svetla Hristova-Veleva (NASA/JPL), P. Li, F. Turk, B. Knosp, Q. Vu, W. Poulsen, S. Licata, B. Lambriksen, Y. Chao, Z. Haddad, and D. Vane
2:15 PM	Overview of Hurricane Impacts on the U.S. Gulf of Mexico Coast since 2000	Asbury H. Sallenger, Jr. (USGS)
2:30 PM	NOAA's Storm Surge Roadmap: A Coordinated Approach for Transitioning Research to Operations	Jesse C. Feyen (NOAA/NOS), M. Erickson, J. Rhome, M. Weaks, and A. Taylor
2:45 PM	The National Hurricane Center's Storm Surge Program: A Status Update	Jamie R. Rhome (NOAA/NWS/NHC)

3:00 PM Afternoon Break (3:00-3:30 PM)

**Session 10: Other Research to Improve the Prediction of Tropical Cyclone Intensity and Structure, Track, Precipitation, Coastal and Inland Inundation, Part 2**

Session Leaders Dr. Frank Marks (AOML/HRD) and CAPT John O'Hara (COMPACFLT N3WX)		
3:30 PM	Improved Short-Term Atlantic Hurricane Intensity Forecasts Using Reconnaissance-Based Core Measurements	Robert E. Hart (FSU) and D. Murray
3:45 PM	On the Role of the Saharan Air Layer in the Suppression of Development of a Prominent African Wave Disturbance	Scott A. Braun (NASA/GSFC)

4:00 PM	Can Aerosols Explain Hurricane Prediction Errors?	William L. Woodley (Woodley Weather Consultants), M. Clavner, and D. Rosenfeld
4:15 PM	The NHC Visiting Scientist Program	Chris Landsea (NOAA/NWS/NHC)
4:30 PM	Rapid Weakening of Non-Landfalling Atlantic Tropical Cyclones	John A. Knaff (NOAA/NESDIS) and M. DeMaria
4:45 PM	Using Geospatial Analysis Techniques to Investigate the Spatial Properties of Tropical Cyclone Rain Fields	Corene Matyas (University of Florida)

7:00 PM **Conference Banquet** (Cash Bar at 6:30 PM)

Banquet Address (~7:45 PM): **Dr. Timothy Killeen**  
NSF Assistant Director for Geosciences

Presentation of the Hagemeyer Award

**Thursday, March 4, 2010**

7:00 AM Continental Breakfast

7:55 AM Opening/Administrative Remarks *Dr. Paul Try (OFCM/STC)*

*Session 11 Coordinator: Mr. Floyd Hauth (OFCM/STC)*

**Session 11: Joint Hurricane Testbed Project Updates and Improved Products**

Session Leaders Dr. Chris Landsea (NHC) and Ms. Shirley Murillo (HRD)		
8:00 AM	The Joint Hurricane Testbed (JHT): 2010 Update	Jiann-Gwo Jiing (Joint Hurricane Testbed), C. Landsea and S. Murillo
8:15 AM	Enhancements to the Operational SHIPS Rapid Intensification Index	John Kaplan (NOAA/AOML/HRD), J. Cione, M. DeMaria, J. Knaff, J. Dunion, J. Solbrig, J. Hawkins, T. Lee, E. Kalina, J. Zhang, J. Dostalek, and P. Leighton
8:30 AM	Progress and Plans for the Development of a Unified Dropsonde Quality Assurance and Visualization Capability	Michael L. Black (NOAA/AOML/HRD), C. Martin, P. Flaherty, J. Almeida, and J. Latham
8:45 AM	ATCF Requirements, Intensity Consensus and Sea Heights Consistent with NHC Forecasts	Charles R. Sampson (NRL), A. Schrader, P. Wittmann, and H. Tolman
9:00 AM	A New Secondary Eyewall Formation Index: Transition to Operations and Quantification of Associated Hurricane Intensity and Structure Changes	Jim Kossin (NOAA/NCDC), M. Sitkowski, and C. Rozoff

9:15 AM	Advanced Applications of Monte Carlo Wind Probability Model: A Year 1 Joint Hurricane Testbed Project Update	Mark DeMaria (NOAA/NESDIS), S. Kidder, R. DeMaria, A. Schumacher, D. Brown, M. Brennan, R. Knabb, P. Santos, and D. Sharp
9:30 AM	The NESDIS Tropical Cyclone Formation Probability Product: An Overview of Past Performance and Future Plans	Andrea B. Schumacher (CIRA), M. DeMaria, J. Knaff, and D. Brown

9:45 AM Morning Coffee Break (9:45-10:10 AM)

*Final Plenary Session Coordinator: Dr. Paul Try (OFCM/STC)*

**Final Plenary Session**

10:10 AM	Opening/Administrative Remarks	Dr. Paul Try (OFCM/STC)
10:15 AM	WG/HWSOR: Action Item Review	Dr. Edward Rappaport (NHC) Chairperson, WG/HWSOR
10:30 AM	<p><u>Workshop Wrap-up</u></p> <p><i>Workshop: Assessment of the Tropical Cyclone R&amp;D Activities in Contributing to the Operational Priorities of the Tropical Cyclone Forecasting Centers</i></p> <p><i>Workshop: Understanding Hurricane Response for Improved Stakeholder/User Reaction</i></p>	<p>Dr. Frank Marks NOAA/AOML/HRD</p> <p>Mr. Max Mayfield Senior Executive Vice President of Governmental Relations, America's Emergency Network and WPLG-TV Hurricane Specialist</p>
11:00 AM	Final Wrap-up	Mr. Samuel P. Williamson Federal Coordinator for Meteorology
11:15 AM	Adjourn	