

**66th Interdepartmental Hurricane Conference**  
*Tropical Cyclone Operations and Research: Strength and Success Through Partnerships and Alliances*

**AGENDA**

**DAY 1 - Monday, March 5, 2012**

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

**WG/HWSOR (Colonial Room)**

8:30 - 11:30 AM	Working Group for Hurricane and Winter Storms Operations and Research (WG/HWSOR) Meeting	Dr. Edward Rappaport (NCEP/NHC) Chairperson, WG/HWSOR
--------------------	--	--

**Opening Session (Carolina Ballroom)**

12:30 PM	Conference Opening and Introduction of Mayor	Mr. Samuel P. Williamson Federal Coordinator for Meteorology
12:35 PM	Welcome/Opening Remarks	The Honorable Joseph P. Riley, Jr. Mayor, Charleston, South Carolina
12:45 PM	Introductory Comments and Introduction of Speaker	Mr. Samuel P. Williamson Federal Coordinator for Meteorology
1:05 PM (IS-01)	<b>Invited Speaker</b> - Dr. David Parsons, Director, School of Meteorology, University of Oklahoma	
1:20 PM	<p><b>Senior Leader Panel:</b> Partnerships - The Key to Tackling Critical Challenges in Tropical Cyclone Operations and Research</p> <p><b>Moderator:</b> Mr. Bryan Norcross, The Weather Channel Hurricane Specialist</p> <p><b>Panelists:</b></p> <ul style="list-style-type: none"> <li>- Rear Admiral David Titley, Oceanographer and Navigator of the Navy</li> <li>- Dr. Fred Lewis, Director, Air Force Weather</li> <li>- Dr. Jack Kaye, Associate Director and Research and Analysis Lead, Earth Science Division, National Aeronautics and Space Administration</li> <li>- Mr. David B. Caldwell, Director, Office of Climate, Water and Weather Services, National Weather Service</li> </ul> <p><b>Discussion and Q&amp;A</b></p>	
2:30 PM	Introduction of Federal Agency Lead Representatives	Mr. Samuel P. Williamson Federal Coordinator for Meteorology

2:45 PM Afternoon Break (2:45-3:15 PM)

**Sessions 1a and 1b Coordinator: Colonel William "Bill" Carle (OFCM)**

**Session 1a: 2011 View of Working Group for Tropical Cyclone Research (WG/TCR)**

Session Leaders Dr. Frank Marks, Co-Chair WG/TCR and Director Hurricane Research Division (NOAA/AOML) Dr. Ronald Ferek, Co-Chair WG/TCR and Program Officer Marine Meteorology Program (ONR)		
3:15 PM (S1-01)	Overview of WG/TCR Efforts and Promising Results <i>Federal agencies research efforts, needs, and operational priorities</i>	Frank Marks (AOML/HRD) and Ronald Ferek (ONR)
3:25 PM (S1-02)	Hurricane Forecast Improvement Program (HFIP) Real-Time Experimental Forecast System for 2012	Fred Toepfer and Robert Gall (NWS/OST)
3:50 PM (S1-03)	Discussion and Q&A	Frank Marks (AOML/HRD) and Ronald Ferek (ONR)

**Session 1b: The 2011 Tropical Cyclone Season in Review**

Session Leaders Mr. James Franklin (NCEP/NHC) and Mr. Max Mayfield (Channel 10, WPLG-ABC)		
4:00 PM (S1-01)	The 2011 Atlantic Hurricane Season: Only One U.S. Hurricane Landfall Despite Another Active Season	Stacy R. Stewart and Lixion A. Avila (NCEP/NHC)
4:15 PM (S1-02)	Overview of the 2011 Eastern North Pacific Hurricane Season	Todd B. Kimberlain and Eric S. Blake (NCEP/NHC)
4:30 PM (S1-03)	2011 Atlantic and Eastern North Pacific Forecast Verification	John P. Cangialosi and James L. Franklin (NCEP/NHC)
4:45 PM (S1-04)	Joint Typhoon Warning Center: Changes, Challenges and Opportunities	CAPT Michael Angove (JTWC)
5:00 PM (S1-05)	Summary of the 2011 Western Pacific/Indian Ocean Tropical Cyclone Season	Bob Falvey (JTWC)
5:15 PM (S1-06)	Review of the 2011 Central Pacific Tropical Cyclone Season and Preliminary Verification	Raymond Tanabe (NWS/CPHC)

5:30 PM (S1-07)	53d Weather Reconnaissance Squadron 2011 Hurricane Season Reconnaissance Summary	Lt Col Jonathan Talbot (USAFR/53 WRS)
5:45 PM (S1-08)	NOAA Aircraft Operations Center (AOC) 2011 Seasonal Summary and Future Plans	Jim McFadden (NOAA/AOC)

6:30 PM Poster Session/Ice Breaker (*cash bar and hors d'oeuvres*) (6:30-8:30 PM)  
Location – Gold Ballroom (all posters are listed at the end of this agenda)

### DAY 2 - Tuesday, March 6, 2012

8:00 AM Opening/Administrative Remarks *Ms. Sabrina Taijeron (OFCM/STC)*

8:05 AM **Invited Speaker** - Dr. Michael C. Morgan, Director, Division of Atmospheric and Geospace Sciences,  
(IS-02) National Science Foundation (8:05-8:20 AM)

**Session 2a and 2b Coordinator: Dr. Daniel Melendez (NWS/OST)**

#### Session 2a: Joint Hurricane Testbed Project Updates, Part 1

Session Leader Ms. Shirley Murillo (AOML/HRD)		
8:20 AM (S2a-01)	2011 Update on The Joint Hurricane Testbed (JHT)	Jiann-Gwo Jiing, C. Landsea, and S. Murillo (JHT)
8:35 AM (S2a-02)	Improvements in Statistical Tropical Cyclone Forecast Models: A Year 1 Joint Hurricane Testbed Project Update	Mark DeMaria (NOAA/NESDIS)
8:50 AM (S2a-03)	Improvements to the SHIPS Rapid Intensification Index	John Kaplan (NOAA/AOML)
9:05 AM (S2a-04)	Improvements in the Probabilistic Prediction of Tropical Cyclone Rapid Intensification Resulting from Inclusion of Satellite Passive Microwave Observations	Christopher Rozoff (University of Wisconsin)
9:20 AM (S2a-05)	Enhancement of SHIPS Rapid Intensification Index Using the 37 GHz Ring Pattern	Haiyan Jiang (Florida International University)
9:35 AM (S2a-06)	Extending SHIPS Hurricane Intensity Forecasts with some Dynamical Variables	T. Krishnamurti (Florida State University)
9:50 AM (S2a-07)	A New Secondary Eyewall Formation Index: Transition to Operations & Quantification of Associated Hurricane Intensity & Structure Changes	Jim Kossin (NOAA/NCDC)
10:05 AM (S2a-08)	Development of a Probabilistic Tropical Cyclone Genesis Prediction Scheme	Jason Dunion (AOML/HRD)
10:20 PM (S2b-09)	Operation of the Wide Swath Radar Altimeter (WSRA) 2011 Hurricane Season	Ivan PopStefanija (ProSensing)

10:35 AM Morning Break (10:35-11:00 AM)

#### Session 2b: Joint Hurricane Testbed Project Updates, Part 2

Session Leader Dr. Chris Landsea (NCEP/NHC)		
11:00 AM (S2b-01)	2012 Upgrades to the Operational GFDL/GFDN Hurricane Model	Morris Bender (OAR/GFDL)
11:15 AM (S2b-02)	Validation of HWRF Forecasts with Satellite Observations	Tomislava Vukicevic (AOML/HRD)
11:30 AM (S2b-03)	Assimilation of Non-NOAA and Non-AF GPS Dropwindsonde Data into NOAA Numerical Models	Kathryn Sellwood (University of Miami)
11:45 AM (S2b-04)	Development of a Real-Time Automated Tropical Cyclone Surface Wind Analysis: A Year 1 Joint Hurricane Testbed Project Update	John Knaff (NOAA/NESDIS)
12:00 AM (S2b-05)	Improved SFMR Surface Wind Measurements in Intense Rain Conditions: A JHT Project	Brad Klotz (UM/RSMAS/CIMAS)
12:15 PM (S2b-06)	Improved Automation and Performance of VORTRAC Intensity Guidance	Wen-Chau Lee (NCAR)

12:30 PM Lunch on your own (12:30- 1:30 PM)

**Sessions 3 and 4a Coordinator: Mr. Frank Alsheimer (NWS/Charleston WFO)**

**Session 3: Advances in Storm Surge Predictions**

Session Leaders Ms. Jane Smith (USACE/ERDC) and Mr. Jamie Rhome (NCEP/NHC)		
1:30 PM (S3-01)	The National Weather Service's Storm Surge Program: Past, Present, and Future	Jamie Rhome (NCEP/NHC)
1:45 PM (S3-02)	Moving Forward with Surge Communication Products	Betty Hearn Morrow (Eastern Research Group)
2:00 PM (S3-03)	Documenting Hurricane Inland Storm Tides	Robert Mason (USGS/OSW)
2:15 PM (S3-04)	Measuring Hurricane Storm Surge in South Carolina	Paul Conrads (USGS/South Carolina Water Science Center)
2:30 PM (S3-05)	A Testbed for the Evaluation of Wave, Storm Surge and Inundation Models for Tropical Storms	Rick Luettich (University of North Carolina)
2:45 PM (S3-06)	USACE Engineer Research and Development Center Coastal Storm Modeling System (CSTORM-MS)	T. Chris Massey (USACE/ERDC)
3:00 PM (S3-07)	Development of a Storm Surge Ensemble Modeling Methodology Using a Suite of Hurricane Track Predictions	Machuan Peng (NOS/Coast Survey Development Laboratory)
3:15 PM (S3-08)	Fast Forecasting of Hurricane Waves and Inundation in Hawaii	Jane McKee Smith (USACE/ERDC)

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

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

Session Leaders Mr. Chris Velden (University of Wisconsin/CIMSS) and Dr. Mark DeMaria (NOAA/NESDIS)		
4:00 PM (S4a-01)	Tropical Cyclone Intensity Estimation and Formation Detection using the Deviation Angle Variance Technique	Elizabeth Ritchie (University of Arizona)
4:15 PM (S4a-02)	On the Application of the Dvorak Technique at SAB	Michael Turk (NESDIS/Satellite Analysis Branch)
4:30 PM (S4a-03)	The 2011 GOES-R Proving Ground at the National Hurricane Center	Jack Beven (NCEP/NHC)
4:45 PM (S4a-04)	NRL Tropical Cyclone Satellite Web Page: 15 Years of Quasi-Operational and R&D Applications	Jeff Hawkins (NRL)
5:00 PM (S4a-05)	Understanding the Rapid Intensification of Hurricane Karl From Observations and Models: Using NASA's Airborne and Satellite Observations to Evaluate the Operational Hurricane Forecast Model HWRF	Svetla Hristova-Veleva (California Institute of Technology)
5:15 PM (S4a-06)	Observations Of C-Band Brightness Temperatures and Ocean Surface Wind Speed and Rain Rate from the Hurricane Imaging Radiometer (HIRAD)	Peter Black (SAIC/NRL)

**DAY 3 - Wednesday, March 7, 2012**

8:00 AM Opening/Administrative Remarks

*Mr. Bob Dumont (OFCM/STC)*

**Session 4b and 5a Coordinator: Mr. Robert Bright (NWS/Charleston WFO)**

**Session 4b: Observations and Observing Strategies for Tropical Cyclones and their Environment, Part 2**

Session Leaders Dr. Elizabeth Ritchie (University of Arizona) and Mr. Jeff Hawkins (NRL-Monterey/SAIC)		
8:05 AM (S4b-01)	Hurricane and Severe Storm Sentinel (HS3): A Multi-year Investigation of Atlantic Hurricanes	Scott Braun (NASA/GSFC)
8:20 AM (S4b-02)	An Advanced Dropsonde System for Hurricane Reconnaissance and Surveillance	Mark Beaubien (Yankee Environmental Systems, Inc.)
8:35 AM (S4b-03)	New Eyewall Dropsonde Observations During Rapid Intensification Events in Super-Typhoons Megi (2010) and Jangmi (2008)	Peter Black (SAIC/NRL)
8:50 AM (S4b-04)	Analysis of the Impact of Supplemental Dropwindsonde and Rawinsonde Observations on Model Track Forecasts of Hurricane Irene (2011)	Michael Brennan (NCEP/NHC)
9:05 AM (S4b-05)	Improving The Ocean Data Acquisition System (ODAS) For Research Aircraft	Lynn Shay (University of Miami)

9:20 AM (S4b-06)	Preliminary Results from AXBT Demonstration Project in Support of Hurricane Coupled Modeling Products and Improvement in Guidance to NHC Hurricane Specialists	CDR Elizabeth Sanabia (United States Naval Academy)
9:35 AM (S4b-07)	2012 Plans for NOAA's Intensity Forecast Experiment (IFEX)	Shirley Murillo (AOML/HRD)
9:50 AM (S4b-08)	Pre-Depression Investigation of Cloud Systems in the Tropics (PREDICT) Experiment: Scientific Basis, New Analysis Tools and Some First Results	Michael Montgomery (Naval Postgraduate School)
10:05 AM (S4b-09)	Planning for Success – An Operational Test Program for Unmanned Observing Strategies	Robbie Hood (NOAA/OAR)

10:20 AM Morning Break (10:20-10:45 AM)

**Session 5a: Tropical Cyclone Model Development and Technology Transfer, Part 1**

Session Leaders Dr. Lynn "Nick" Shay (University of Miami/RSMAS) and Dr. Michael Fiorino (NOAA/ESRL,GSD)		
10:45 AM (S5a-01)	FY2012 Implementation of Advanced High-Resolution Triple-Nested HWRf at NCEP/EMC	Vijay Tallapragada (NCEP/EMC)
11:00 AM (S5a-02)	FNMOc Collaborations in Tropical Cyclone Forecasting and Aids	Charles Skupniewicz (Fleet Numerical Meteorology and Oceanography Center)
11:15 AM (S5a-03)	Advancing NOAA's HWRf Prediction System Through Enhanced Physics of the Air-Sea Coupling And Ocean Model Initialization	Isaac Ginis (University of Rhode Island)
11:30 AM (S5a-04)	Comparison and Evaluation of Two ABL Mixing Schemes in HWRf	Jian-Wen Bao (NOAA/ESRL)
11:45 AM (S5a-05)	Creation of a Statistical Ensemble for Tropical Cyclone Intensity Prediction	Kate Musgrave (Colorado State University)
12:00 AM (S5a-06)	Real-time ACCESS-TC: Vortex Specification, 4DVAR Initialization, Verification and Structure Diagnostics	Noel Davidson (Centre for Australian Weather and Climate Research)
12:15 PM (S5a-07)	The Potential Benefit of HIWRAP Doppler Radar Radial Velocity Data During HS3: An Example from Hurricane Karl (2010)	Jason Sippel (Morgan State University and NASA/GSFC)

12:30 PM Lunch on your own (12:30 PM - 1:30 PM)

**Sessions 5b and 6 Coordinator: Dr. Michael Farrar (OFCM/STC)**

**Session 5b: Tropical Cyclone Model Development and Technology Transfer, Part 2**

Session Leaders Dr. Vijay Tallapragada (NCEP/EMC) and Dr. James Doyle (NRL)		
1:30 PM (S5b-01)	Past, Present and Future of Coupled HYCOM-HWRf System (HyHWRf)	Hendrik Tolman (NCEP/EMC)
1:45 PM (S5b-02)	NCEP Ocean Modeling in Support of TC Forecasting	Hendrik Tolman (NCEP/EMC)
2:00 PM (S5b-03)	An Overview of Recent COAMPS-TC Development and Real-Time Tests	James Doyle (NRL)
2:15 PM (S5b-04)	Diagnostic Verification of COAMPS-TC Performance for the HFIP Retrospective Forecasts	Jonathan Moskaitis (NRL)
2:30 PM (S5b-05)	Evaluation of Experimental Models for Tropical Cyclone Forecasting in Support of the NOAA Hurricane Forecast Improvement Project (HFIP)	Barbara Brown (NCAR)
2:45 PM (S5b-06)	Performance of Operational and HFIP experimental Global Models during the HFIP 2011 Summer Demo and the Track Intensity Error Relationship	Mike Fiorino (ESRL/Global Systems Division)
3:00 PM (S5b-07)	Community Support and Testing of the Hurricane WRF model at the Developmental Testbed Center	Ligia Bernardet (ESRL/Global Systems Division)
3:15 PM (S5b-08)	Systematically Merged Atlantic Regional Temperature and Salinity (SMARTS) Climatology: Application to Hurricane Earl	Lynn Shay (University of Miami)

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

**Session 6: Other Research to Improve the Prediction of Tropical Cyclone Intensity and Structure, Track, Precipitation, and Coastal and Inland Inundation**

Session Leaders <i>Dr. Peter Black (NRL-Monterey/SAIC) and Dr. Wayne Schubert (CSU)</i>		
4:00 PM (S6-01)	Thermodynamic Aspects of Tropical Cyclone Spin-up	Zhuo Wang (University of Illinois)
4:15 PM (S6-02)	Diurnal Pulsing of Tropical Cyclones: An Overlooked Yet Fundamental TC Process?	Jason Dunion (AOML/HRD)
4:30 PM (S6-03)	Wind Speed Retrieval from Digital Communication and GPS Signals	Rashmi Shah (Purdue University)

4:45 PM (IS-03) **Invited Speaker** - Mr. Brad Rippey, Meteorologist, US Department of Agriculture, Office of the Chief Economist (4:45-5:00 PM)

**Conference Banquet**

6:30 PM Cash Bar  
 7:00 PM Dinner  
 7:45 PM Banquet Address - **Mr. Bill Walsh**, Lead Meteorologist, Channel 5 (CBS), WCSC, Charleston, SC  
 8:00 PM Hagemeyer Award Presentation - **Mr. Raymond Tanabe**, Director, Central Pacific Hurricane Center/Honolulu WFO

**DAY 4 - Thursday, March 8, 2012**

8:00 AM Opening/Administrative Remarks *Ms. Sabrina Taijeron (OFCM/STC)*

**8:05 AM Session Coordinator: Ms. Maria Pirone**  
**Senior Account Manager, Business Development for Weather & Climate, Harris Corporation**

**Effective Communications: An Important Key to Saving Lives**

Session Leader Ms. Maria Pirone (Harris Corporation)	
8:15 AM (IS-04)	<b>Invited Speaker</b> – Mr. Dave Jones, Founder, President & CEO, StormCenter Communications, Inc.
8:30 AM	<b>Panel 1: Effective Communications, Part 1: Are They Hearing What We're Saying?</b> <b>Moderator:</b> Ms. Maria Pirone (Harris Corporation) <b>Panelists:</b> - Mr. David B. Caldwell, Director, Office of Climate, Water and Weather Services (NWS) - Mr. Walter S. Dickerson, President, Diversified Emergency Management Associates, LLC, Former Director, Mobile County Emergency Management Agency - Ms. DeeDee Bennett, Fire and Emergency Management Program (Oklahoma State University) <b>Discussion and Q&amp;A</b>
9:25 PM	<b>Panel 2: Effective Communications, Part 2: Will They Respond in the Intended Way?</b> <b>Moderator:</b> Dr. Brenda D. Phillips, Professor, Center for the Study of Disasters and Extreme Events, Fire and Emergency Management Program, Department of Political Science, Oklahoma State University <b>Panelists:</b> - Ms. Brenda J. Philips, Director, Industry, Government and End User Partnerships, Center for Collaborative Adaptive Sensing of the Atmosphere (CASA), University of Massachusetts - Mr. Frank Lucia, Rehabilitation Engineering Research Center for Wireless Technologies, Georgia Institute of Technology - Dr. B. Lee Lindner, Professor, Department of Physics and Astronomy College of Charleston <b>Discussion and Q&amp;A</b>

10:20 AM Morning Break (10:20 – 10:50 AM)

**Final Plenary Session**

Session Leader Dr. Paul Try (OFCM/STC)		
10:50 AM	WG/HWSOR: Action Item Review	Dr. Edward Rappaport (NCEP/NHC) Chairperson, WG/HWSOR
11:05 AM	Effective Communications and Social Science Research Results	Dr. Brenda D. Phillips (Oklahoma State University)
11:20 AM	Conference Wrap-Up	Dr. Paul Try (OFCM/STC)
11:40 AM	Final Wrap-up	Mr. Samuel P. Williamson Federal Coordinator for Meteorology
12:00 PM	Adjourn	

POSTERS FOR THE 66 <sup>TH</sup> INTERDEPARTMENTAL HURRICANE CONFERENCE		
Poster Session: Monday, March 5, 2012, 6:30-8:30 PM ( <i>cash bar and hors d'oeuvres</i> )		
P01	Changes to the National Hurricane Center (NHC) Tropical Disturbance Satellite Rainfall Estimates	Jessica Schauer and Wallace Hogsett (NCEP/NHC)
P02	Towards Predicting Short-Term Intensity Using TC Structure Patterns from Recon and HURSAT Data	Josh Cossuth and Robert Hart (Florida State University)
P03	Storm-Centric View of Tropical Cyclone Cold Wakes	Joel Scott, Chelle Gentemann, and Deborah Smith (Remote Sensing Systems)
P04	A Web-based Interactive Interface for Researching and Forecasting Tropical Cyclone Genesis and Intensity Using the Deviation Angle Variance Technique	Elizabeth A. Ritchie <sup>1</sup> , Wiley Black <sup>1</sup> , J. Scott Tyo <sup>1</sup> , M. F. Pineros <sup>1</sup> , Kimberly M. Wood <sup>1</sup> , Oscar Rodriguez-Herrera <sup>1</sup> , Matthew E. Kucas <sup>2</sup> , and James W. E. Darlow <sup>2</sup> ( <sup>1</sup> University of Arizona, <sup>2</sup> Joint Typhoon Warning Center)
P05	Development of a Hybrid Statistical-Dynamical Wind Speed Probability Model	Andrea Schumacher <sup>1</sup> , Mark DeMaria <sup>2</sup> , Kate Musgrave <sup>1</sup> and John Knaff <sup>2</sup> ( <sup>1</sup> Colorado State University/CIRA, <sup>2</sup> NOAA/NESDIS)
P06	A Case Study of the Intensification of Hurricane Maria (2011) in a Real-Time COAMPS-TC Prediction	Jonathan R. Moskaitis, Y. Jin, and J. Doyle (NRL)
P07	Diagnostic Verification of Experimental Model Forecasts for Hurricane Irene and Maria	Barbara G. Brown, Paul A. Kucera, Louisa Nance, and Christopher L. Williams (National Center for Atmospheric Research)
P08	Analysis of Aircraft Observations in Tropical Cyclones Using SAMURAI	Michael M. Bell (Naval Postgraduate School)
P09	A Comparison of Modeled and Observed Ocean Heat Content Using In-Situ Ocean Observations Collected During Operational Weather Reconnaissance Flights in Tropical Storms Don and Emily (2011)	Elliot Hoy, Ian Park, and Elizabeth Sanabia (United States Naval Academy)
P10	An Advanced Dropsonde System for Hurricane Reconnaissance and Surveillance	<sup>1</sup> Mark Beaubien, <sup>2</sup> Lee Harrison and <sup>3</sup> Peter Black ( <sup>1</sup> Yankee Environmental Systems, Inc., <sup>2</sup> State University of New York at Albany, <sup>3</sup> Naval Research Lab/SAIC, Inc.)
P11	Real-Time Directional Wave Spectra from the Wide Swath Radar Altimeter	Ivan PopStefanija <sup>1</sup> and Edward J. Walsh <sup>2</sup> (ProSensing, Amherst, MA <sup>1</sup> ; NOAA/ESRL/PSD, Boulder, CO <sup>2</sup> )
P12	Real-Time Rain Rate from the Wide Swath Radar Altimeter	Ivan PopStefanija <sup>1</sup> and Edward J. Walsh <sup>2</sup> (ProSensing, Amherst, MA <sup>1</sup> ; NOAA/ESRL/PSD, Boulder, CO <sup>2</sup> )