2013 Tropical Cyclone Research Forum

Tropical Cyclone Research: Our Vision for the Future

AGENDA

DAY 1 - Tuesday, March 5, 2013

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

Opening Session

8:00 AM	Conference Opening	Mr. Samuel P. Williamson Federal Coordinator for Meteorology
	Welcoming Remarks	Dr. Louis Uccellini, Director, National Weather Service *(invited)*
	Keynote Address	Congressman Chaka Fattah, Ranking Member of the Subcommittee on Commerce, Justice, Science and related agencies (CJS)
	Invited Comments	Acting Secretary of Commerce Rebecca Blank *(invited)*or Dr. Kathryn D. Sullivan, Assistant Secretary of Commerce for Environmental Observation & Prediction / Deputy Administrator and Acting Chief Scientist *(invited)*
	Setting the Stage for the Forum	Mr. Samuel P. Williamson Federal Coordinator for Meteorology
	Panel Session: *The Emergency Response to Hurricane Sandy* **Moderator:** Mr. Bryan Norcross, The Weather Channel Hurricane Specialist **Panelists:** - Captain Thomas Scardino, Executive Officer, Emergency Management Section, New Jersey Homeland Security Branch - Mr. Jerome M. Hauer, Commissioner of the Division of Homeland Security and Emergency Services, New York State Division of Homeland Security and Emergency Services *(invited)* **Discussion and Q&A**	

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

Session 1: Tropical Cyclone Research: Federal Agency Overview

10:00 AM	Introduction of Panel Moderator	Mr. Samuel P. Williamson Federal Coordinator for Meteorology
	Senior Leader Panel: *Tropical Cyclone Research: The View from the Top* **Moderator:** John D. Murphy, Director, Office of Science and Technology, National Weather Service **Panelists:** - Dr. Jack Kaye, Associate Director and Research and Analysis Lead, Earth Science Division, National Aeronautics and Space Administration - Dr. Ronald Ferek, Program Officer, Marine Meteorology Program, Office of Naval Research - Dr. Frank Marks, Jr., Director, NOAA's Hurricane Research Division - Dr. Alexander E. (Sandy) MacDonald, Director of NOAA's Earth System Research Laboratory and Deputy Assistant Administrator for Research Laboratories and Cooperative Institutes - Dr. Michael C. Morgan, Division Director of Atmospheric and Geospace Sciences, National Science Foundation **Discussion and Q&A**	

12:00 PM Lunch on your own *(12:00- 1:00 PM)*

Session 2 Coordinator:

Session 2: Working Group for Tropical Cyclone Research

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)

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1:00 PM (S2-01)	Comparison of the 2010 and 2012 Snapshots of Tropical Cyclone Research and Development	Frank Marks (AOML/HRD) and Ronald Ferek (ONR)
1:15 PM (S2-02)	Discussion and Q&A	

Session 3a: The Navy's Model Development and Improvement Program/Hurricane Forecast Improvement Program Program (HFIP): Supporting Talks

Session Leaders Dr. Ron Ferek and Dr. Frank Marks		
1:30 PM	The Hurricane Forecast Improvement Project: Recent Operational Implementation	*Bob Gall* (NWS), Fred Toepfer (NWS), Frank Marks (AOML/HRD), and Ed Rappaport (NHC)
1:45 PM	Recent COAMPS-TC Development and Real-Time Tests	*James D. Doyle* (NRL/Monterey), R. Hodur (SAIC), S. Chen, E. Hendricks, T. Holt, H. Jin, Y. Jin, J. Moskaitis, M. Peng, A. Reinecke, K. Sashegyi, J. Schmidt, and S. Wang (NRL/Monterey)
2:00 PM	Hurricane and Severe Storm Sentinel (HS3): Results from The 2012 Deployment and Plans for 2013	*Scott A. Braun* and Paul A. Newman (NASA/GSFC)
2:15 PM	Targeted Observations for Improving Numerical Weather Prediction: Review and Recommendations	*Sharan Majumdar* (RSMAS/Univ. of Miami)
2:30 PM	The Basin-Scale HWRF: Looking Beyond the 10-M Wind Speed for Improved Storm Predictions	*Sundararaman G.Gopalakrishnan* (AOML/HRD) , Vijay Tallapragada (NCEP/EMC), Xuejin Zhang (CIMAS), Frank Marks, Jr., and Robert Atlas (AOML/HRD)
2:45 PM	Discussion and Q&A	

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

Session 3b: Earth System Predication Capability (ESPC)/Next-Generation Suite of Models: Supporting Talks

Session Leader Dr. Sandy MacDonald		
3:30 PM	Medium Range Global Weather Prediction Research at ESRL	Benjamin
3:45 PM	Medium Range Global Weather Prediction Research at NCEP	Lapenta
4:00 PM	Medium Range Global Weather Prediction Research at NCAR	Skamarock
4:15 PM	Medium Range Global Weather Prediction Research at GFDL/NASA GSFC	
4:30 PM	Discussion and Q&A	

5:15 PM One Minute Poster Previews

5:30 PM Poster Session/Ice Breaker *(soft drinks and hors d'oeuvres) (5:30-7:00 PM)*
Location – (all posters are listed at the end of this agenda)

DAY 2 - Wednesday, March 6, 2013

8:00 AM Opening/Administrative Remarks

Session 3c: NSF Program Initiatives : Supporting Talks

Session Leader: Dr. Michael C. Morgan (NSF)		
8:05 AM	Predictability of Tropical Cyclone Intensity Change Using Ensembles	*Gregory Hakim* (University of Washington)
8:20 AM	The Relative Contribution of Atmospheric and Oceanic Uncertainty in TC Intensity Forecasts	*Ryan Torn* (SUNY at Albany), Chris Davis and Chris Snyder (NCAR)

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8:35 AM	Probabilistic Verification of Ensemble Forecasts of Tropical Cyclogenesis	*Sharan Majumdar* (RSMAS/University of Miami) and Ryan Torn (University at Albany, SUNY)
8:50 AM	The Impact of Ensemble-Based Data Assimilation on the Predictability of Landfalling Hurricanes	*Zhaoxia Pu* and Hailing Zhang (University of Utah)
9:05 AM	EarthCube and the University-based Ensemble	*Mohan Ramamurthy* (UCAR/Unidata)
9:20 PM	Discussion and Q&A	

9:35 AM Morning Break *(9:35-10:00 AM)*

Session 4: The 2012 Tropical Cyclone Season in Review

Session Leaders		
10:00 AM (S4-01)	The 2012 Atlantic Hurricane Season	
10:15 AM (S4-02)	Summary of the 2012 Western Pacific/Indian Ocean Tropical Cyclone Season	CAPT Evans (JTWC)
10:30 AM (S4-03)	Review of the 2012 Central Pacific Tropical Cyclone Season and Preliminary Verification	Raymond Tanabe (NWS/CPHC)
10:45 AM (S4-04)	53rd Weather Reconnaissance Squadron 2012 Hurricane Season Reconnaissance Summary	Lt Col Jonathan Talbot (USAFR/53 WRS)
11:00 AM (S4-05)	NOAA Aircraft Operations Center (AOC) 2012 Seasonal Summary and Future Plans	Dr. Jim McFadden (NOAA/AOC)

Session 5a and 5b Coordinator:

Session 5a: Joint Hurricane Testbed Project Updates, Part 1

Session Leader		
11:15 AM (S5a-01)	An Update on The Joint Hurricane Testbed (JHT)	Jiann-Gwo Jiing, C. Landsea, and S. Murillo (JHT)
11:30 AM (S5a-02)	Improved SFMR Surface Wind Measurements in Intense Rain Conditions	Eric Uhlhorn (NOAA/OAR/AOML) and Brad Klotz (UM/RSMAS/CIMAS)
11:45 AM (S5a-03)	Improved Automation and Performance of VORTRAC Intensity Guidance	Wen-Chau Lee (NCAR/EOL), Paul Harasti, (DOD/Naval Research Lab), and Michael Bell (Naval Postgraduate School)
12:00 PM (S5a-04)	Development of a Real-Time Automated Tropical Cyclone Surface Wind Analysis: A Year 2 Joint Hurricane Testbed Project Update	*John A. Knaff* (NESDIS), Renate Brummer (CIRA/CSU), Mark DeMaria (NESDIS), and Chris Landsea, Michael Brennan, Robbie Berg, and Jessica Schauer (NHC)

12:15 PM Lunch on your own *(12:15- 1:00 PM)*

Session 5b: Joint Hurricane Testbed Project Updates, Part 2

Session Leader		
1:00 PM (S5b-01)	Development of a Probabilistic Tropical Cyclone Genesis Prediction Scheme	Jason Dunion (UM/CIMAS, AOML), John Kaplan (NOAA/OAR/AOML), Andrea Schumacher (CSU/CIRA), and Joshua Cossuth (FSU/COAPS)
1:15 PM (S5b-02)	Improving the Operational TC models at NOAA/NCEP and Navy/FNMOC	Morris Bender (NOAA/OAR/GFDL) and *Isaac Ginis* (Univ. of Rhode Island)
1:30 PM (S5b-03)	Validation of HWRF Forecasts with Satellite Observations and Potential Use in Vortex Initialization	Tomislava Vukicevic (NOAA/OAR/AOML) and Tom Greenwald (Univ. of Wisconsin/CIMSS)
1:45 PM (S5b-04)	Improvement to the SHIPS Rapid Intensification Index	John Kaplan (NOAA/OAR/AOML), Charles Sampson (DOD/Naval Research Lab.), Chris Rozoff (NOAA/NCDC), Jim Kossin (NOAA/NCDC), and Chris Velden, (Univ.

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		of Wisconsin/CIMSS)
2:00 PM (S5b-05)	Improvements in Statistical Tropical Cyclone Forecast Models	Renate Brummer (CSU/CIRA), John Knaff (NOAA/NESDIS), and Mark DeMaria (NOAA/NESDIS)
2:15 PM (S5b-06)	Enhancement of SHIPS-RI Index using Satellite 37 GHz Microwave Ring Pattern	Haiyan Jiang (Florida Intl Univ.)
2:30 PM (S5b-07)	Use of a Modified SHIPS Algorithm for Hurricane Intensity Forecasts	T.N. Krishnamurti and Amit Bhardwaj (Florida State University)
2:45 PM (S5b-08)	A New Secondary Eyewall Formation Index; Transition to Operations and Quantification of Associated Hurricane Intensity and Structure Changes: A Joint Hurricane Testbed Project	Jim Kossin (NOAA/NCDC) and Matt Sitkowski, Will Lewis, and Chris Rozoff (CIMSS)

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

Session 6 Coordinator:

Session 6: Tropical Cyclone Model Development and Technology Transfer

Session Leaders		
3:30 PM (S6-01)	Further Advancements to the NCEP Operational HWRF Modeling System for 2013 and Beyond	*Vijay Tallapragada* (NCEP/EMC)
3:45 PM (S6-02)	Application and Improvements to COAMPS-TC	*Richard M. Hodur* (SAIC/Innovative Employee Solutions), J. Doyle, E. Hendricks, Y. Jin, J. Moskaitis, K. Sashegyi, and J. Schmidt (NRL Monterey)
4:00 PM (S6-03)	Evaluation of Experimental Models for Tropical Cyclone Forecasting in Support of the NOAA Hurricane Forecast Improvement Project (HFIP)	*Barbara G. Brown***,** Louisa Nance, Paul A. Kucera, and Christopher L. Williams (NCAR)
4:15 PM (S6-04)	Evaluation of the Ocean Response in HWRF: How Changes in the Atmosphere-Ocean Fluxes Affect Forecast Skill	*Ligia Bernardet* (NOAA/ESRL), Eric Uhlhorn (HRD), Shaowu Bao (NOAA/ESRL), Joe Cione (HRD)
4:30 PM (S6-05)	Advancing HWRF and GFDL/GFDN Prediction Systems through New and Enhanced Physics of the Air-Sea-Wave Coupling Planned for 2013	*Isaac Ginis*, Richard Yablonsky, Biju Thomas (University of Rhode Island), Vijay Tallapragada, Hendrik Tolman (NCEP), and Morris Bender (GFDL)
4:45 PM (S6-06)	Further Development of a Statistical Ensemble for Tropical Cyclone Intensity Prediction	*Kate D. Musgrave* (CIRA/CSU), Mark DeMaria (NESDIS), Brian D. McNoldy, Yi Jin, and Michael Fiorino
5:00 PM (S6-07)	Extended-range (5-30 day) Forecasts of Tropical Cyclones with the ECMWF Ensemble: Atlantic during HS3 Field Experiment	*Russell L. Elsberry*, Hsiao-Chung Tsai, Mary S. Jordan (Naval Postgraduate School) and Fredric Vitart (ECMWF, Shinfield Park, England)
5:15 PM (S6-08)		

<u>Conference Banquet</u>

6:00 PM Dinner
6:45 PM Banquet Address (Speaker: TBD)
7:00 PM Hagemeyer Award Presentation

DAY 3 - Thursday, March 7, 2012

8:00 AM Opening/Administrative Remarks

Sessions 7 and 8 Coordinator:

Session 7: Observations and Observing Strategies for Tropical Cyclones and their Environment

Session Leader		
8:05 AM (S7-01)	The 2012 Satellite Proving Ground at the National Hurricane Center	*Michael Folmer* (UM/CICS) and Jack Beven, Michael Brennan, Hugh Cobb, Mark DeMaria, John Knaff, Christopher Velden, Jason Dunion, Gary Jedlovec, Kevin Fuell

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8:20 AM (S7-02)	Outflow Layer Structure in Hurricanes Leslie And Nadine Revealed by Dropsondes Deployed from NASA Global Hawk UAV Aircraft during the 2012 Hurricane and Severe Storms Sentinel (HS3) Campaign: A New TC Observational Strategy	*Peter G. Black* (SAIC/NRLMonterey), Jon Moskaitis, James Doyle, Chris Velden, and Scott Braun
8:35 AM (S7-03)	HIWRAP Global Hawk Status and Future Plans	*Gerald. Heymsfield* (NASA/GSFC) and S. Guimond (NASA ORAU), L. Li and M. Mclinden (NASA GSFC), J. Carswell (Remote Sensing Solutions), and L. Tian (UMBC GEST)
8:50 AM (S7-04)	Retrievals of Wind and Rain Rate from Combined Measurements of Up-Looking and Down-Looking SFMR(s)	Mark Goodberlet and Ivan PopStefanija (ProSensing)
9:05 AM (S7-05)	Implementation of Upper-Ocean Temperature Measurements on Operational Hurricane Reconnaissance: An Update on the AXBT Demonstration Project	Elizabeth R. Sanabia and Bradford S. Barrett (USNA), Peter Black (SAIC/NRL Monterey), Sue Chen and James Cummings (NRL Monterey)
9:20 AM (S7-06)	Observations of Upwelling Processes during Tropical Storm Isaac	Benjamin Jaime, *Lynn K. Shay*, Jodi Brewster, Ryan Schuster (RSMAS/Univ. of Miami) and Mark Powell (AOML/HRD)
9:35 AM (S7-07)		
9:50 AM (S7-08)		

10:05 AM Morning Break *(10:05-10:30 AM)*

Session 8: Improvements in Tropical Cyclone Forecast and Warning Products and Services

Session Leaders		
10:30 AM (S8-01)	COASTAL Act Requirements for Tropical Cyclone Post-Storm Assessments and Response by NOAA and Interagency Partners	Stephen Lord (NWS), Michael Bilder (NWS), Mark Powell (OAR/AOML), Jesse Feyen (NOS), Andre Westhuysen (NWS/EMC), and Tim Owen (NESDIS/NCDC)
10:45 AM (S8-02)	Using USACE-ERDC's Coastal Storm Modeling System in Support of Hurricane Sandy Operations	Dr. Chris Massey (USACE-ERDC-CHL)
11:00 AM (S8-03)	USGS Monitoring of Storm-Tide for Hurricanes Isaac and Sandy	Robert R. Mason, Benton D. McGee, and Brian E. McCallum (USGS)
11:15 AM (S8-04)	Improvements to the CO-OPS Storm QuickLook Product for Real-Time Storm Surge Monitoring for the 2014 Hurricane Season	Paul Fanelli (NOAA/NOS/Center for Operational Oceanographic Products and Services)
11:30 AM (S8-05)	FIM Global Model Forecasts for Superstorm Sandy—Sensitivity to the Storm- and Large-Scale Analysis	Mike Fiorino (NOAA/OAR/ESRL) and Chris Slocum (CSU)
11:45 AM (S8-06)	Impact of New Predictors on Corrected Consensus TC Track Forecast Error	Dr. James S. Goerss (Innovative Employee Solutions/NRL Monterey)
12:00 PM (S8-07)	Are Atlantic Basin Tropical Cyclone Intensity Forecasts Improving?	J. R. Moskaitis (NRL Monterey)
12:15 PM (S8-08)		

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

Session 9 Coordinator:

1:30 PM	**Invited Talk**	Mr. Dave Jones, Founder, President & CEO, StormCenter Communications, Inc.

Session 9: Social Science Applications to the Tropical Cyclone Forecast and Warning Notification Problem

Session Moderators Ms. Jennifer Moore Sprague and Ms.Tracy Rouleau		
1:45 PM	Supporting the Integration of Physical and Social Science as it relates to the NOAA Hurricane Forecast Improvement Project (HFIP)	*Jennifer Moore Sprague* (NWS), B. Morrow, J.K. Lazo, J. Rhome, R. Berg, L. Nadeau, and E. Fago

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2:00 PM	Utilizing Input from Emergency Managers, the Media, the Public and Local NWS Meteorologists to Better Communicate Surge and Other Storm Hazards	*Betty Hearn Morrow* (SocResearch, Miami, FL), J. K. Lazo, J. Rhome, R. Berg, L. Nadeau, and E. Fago
2:15 PM	Communication of Hurricane Storm Surge Threat: A Mixed-Method Analysis	*Kathleen Sherman-Morris* (Mississippi State University)
2:30 PM	Evaluation of the NC-CERA Storm Surge and Wave Visualization Tool by Emergency Managers	*Jessica L. Losego* (Institute for the Environment, University of North Carolina)
2:45 PM	Discussion and Q&A	

Final Plenary Session

Session Moderator Colonel John Egentowich Air Force Director of Weather		
3:15 PM	WG/HWSOR: Action Item Review	Dr. Edward Rappaport (NCEP/NHC) Chairperson, WG/HWSOR
3:30 PM	Conference Wrap-Up	- Dr. Michael C. Morgan, NSF - Dr. Alexander E. (Sandy) MacDonald, NOAA/ESRL - Dr. Ronald Ferek, ONR - Dr. Frank Marks, Jr., NOAA/HRD
4:15PM	Final Wrap-up	Mr. Samuel P. Williamson Federal Coordinator for Meteorology
4:30 PM	Adjourn	

POSTERS FOR THE TROPICAL CYCLONE RESEARCH FORUM **Poster Session: Tuesday, March 5, 2013, 5:30-7:00 PM *(soft drinks and hors d'oeuvres)***		
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