

2014 Tropical Cyclone Research Forum (TCRF)/68th IHC
Tropical Cyclone Research: Assessing the Past—Planning for the Future

AGENDA

DAY 1 – Monday, March 3, 2014

1:00 PM	Working Group for Hurricane and Winter Storm Operations and Research (WG/HWSOR) Meeting	<i>Edward Rappaport (NCEP/NHC), Chair</i>
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DAY 2 - Tuesday, March 4, 2014

8:00 AM Registration (7:00 AM-12:30 PM)

Opening Session

9:30 AM	Forum Opening	Mr. Samuel P. Williamson Federal Coordinator for Meteorology
9:45 AM	Setting the Stage/ Introduction of Panel Moderator	Mr. Samuel P. Williamson Federal Coordinator for Meteorology
10:00 AM	Senior Leader Panel	
	Moderator: Dr. Ronald Ferek, Program Officer, Marine Meteorology Program, Office of Naval Research	
	Panelists:	
	<ul style="list-style-type: none"> • RADM Jonathan W. White, Oceanographer and Navigator of the Navy • Col John Engetowich, Air Force Director of Weather • Dr. Louis Uccellini, Director, National Weather Service • Dr. Jack Kaye, Associate Director and Research and Analysis Lead, Earth Science Division, National Aeronautics and Space Administration • 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)

Afternoon Coordinator: Mark DeMaria (NOAA/NWS/NHC)

Session 1: The 2013 Tropical Cyclone Season in Review

Session Leader Jim McFadden (NOAA/AOC)		
1:00 PM (S1-01)	Review of the 2013 Central Pacific Tropical Cyclone Season and Preliminary Verification	<i>Tom Evans (NWS/CPHC)</i>
1:15 PM (S1-02)	A Review of the 2013 Joint Typhoon Warning Center Tropical Cyclone Season	<i>Robert J. Falvey (JTWC)</i>
1:30 PM (S1-03)	53rd Weather Reconnaissance Squadron/AFRC 2013 Hurricane Season Summary	<i>Lt Col Jonathan Talbot (53 WRS)</i>
1:45 PM (S1-04)	NOAA Aircraft Operations Center (AOC) 2013 Seasonal Summary and Future Plans	<i>Jim McFadden, Alan S. Goldstein, Devin R. Brakobb (NOAA/AOC)</i>

Session 2: Transitioning Research to Operations (JHT, DTC, and FNMOG)

Session Leaders Christopher Landsea (NOAA/NHC) and Shirley Murillo (NOAA/AOML)		
2:00 PM (S2-01)	An Update on the Joint Hurricane Testbed (JHT)	<i>Christopher Landsea (NOAA/NHC) and Shirley Murillo (NOAA/AOML)</i>
2:15 PM (S2-02)	Improvement to the Satellite-based 37 GHz Ring Rapid Intensification Index	<i>Haiyan Jiang, Margie Kieper, Yongxian Pei (Florida Intl Univ), and John Kaplan (NOAA/AOML)</i>

2:30 PM (S2-03)	Predicting Tropical Cyclone Intensity Forecast Error	<i>Kieran T. Bhatia</i> , David S. Nolan (Univ. of Miami/RSMAS), and Andrea B. Schumacher (CSU/CIRA)
2:45 PM (S2-04)	Upgrades to the Operational Monte Carlo Wind Speed Probability Program: A Year 1 Joint Hurricane Testbed Project Update	<i>Andrea Schumacher</i> (CSU/CIRA) and Mark DeMaria (NOAA/NHC)

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

3:30 PM (S2-05)	Optimized Multi-Sensor Application in the ARCHER Automated TC Center-Fixing Algorithm	<i>Anthony Wimmers</i> and Christopher S. Velden (Univ. of Wisc./CIMSS)
3:45 PM (S2-06)	Upgrades to the GFDL/GFDN Operational Hurricane Model for 2014	<i>Morris A. Bender</i> , Matthew Morin, and Timothy Marchok (NOAA/GFDL); Isaac Ginis, Biju Thomas, and Richard Yablonsky (Univ. of Rhode Island); and Robert Tuleya (Old Dominion Univ)
4:00 PM (S2-07)	Improving HWRF and GFDL/GFDN Hurricane Models by Advancing the Air-Sea Interaction Components	<i>Isaac Ginis</i> , Richard Yablonsky, and Biju Thomas (University of Rhode Island); Morris Bender (NOAA/GFDL); and Vijay Tallapragada (NOAA/NCEP)
4:15 PM (S2-08)	Verifying Historical Forecasts and Developing a Statistical Model from NWP Output	<i>Daniel Halperin</i> , Robert Hart, Henry Fuelberg, and Joshua Cossuth (Florida State Univ.)
4:30 PM (S2-09)	AdcircViz: A Visualization and Analysis Application for Distributed ADCIRC-based Coastal Storm Surge, Inundation, and Wave Modeling	<i>Brian Blanton</i> , Renaissance Computing Institute, and Rick Luettich (Inst. of Marine Sciences, Univ. of N. Carolina at Chapel Hill)
4:45 PM (S2-10)	Developmental Testbed Center (DTC) Activities in Support of Transition of Research to the Operational Hurricane WRF Model	<i>Ligia Bernardet</i> (NOAA/GSD, CIRES/CU, DTC), Vijay Tallapragada (NOAA/EMC), Timothy Brown, (NOAA/GSD, CIRES/CU, DTC), Mrinal Biswas (NCAR), Samuel Trahan (NOAA/EMC/IMSG), Donald Stark and Laurie Carson (NCAR)
5:00 PM (S2-11)	Testing and Evaluation of the GSI-Hybrid Data Assimilation and its Applications for HWRF at Developmental Testbed Center	<i>Hui Shao</i> and Chunhua Zhou (NCAR); Ligia Bernardet and Isidora Jankov (NOAA/ESRL); Mrinal K. Biswas (NCAR); Brian Etherton (NOAA/ESRL); Mingjing Tong (NOAA/EMC); Jeff Whitaker (NOAA/ESRL); and John Derber (NOAA/EMC)
5:15 PM (S2-12)	The Development of COAMPS-TC, Transition to Navy Operations, and Future Plans	<i>James D. Doyle</i> (NRL/Monterey), R. Hodur (SAIC), J. Moskaitis, S. Chen, E. Hendricks, Y. Jin, A. Reinecke, and S. Wang (NRL/Monterey)
5:30 PM (S2-13)	Recent Tropical Cyclone Modeling Transitions to Operations at Fleet Numerical Meteorology and Oceanography Center	<i>Charles E. Skupniewicz</i> , Carey Dickerman, and Raymond C. Lee (Fleet Numerical Meteorology and Oceanography Center)

5:45 PM Adjourn for the day

DAY 3 - Wednesday, March 5, 2014

9:25 AM Opening/Administrative Remarks—Bob Dumont (OFCM/STC)

Morning Coordinator: Col Gary Kubat (Air Force/OFCM)

Session 3a: Tropical Cyclone Observations and Observation Applications, Part I

Session Leader Scott Braun (NASA/GSFC)		
9:30 AM (S3a-01)	Hurricane and Severe Storm Sentinel (HS3): Results from the 2013 Deployment	<i>Scott A. Braun</i> and Paul A. Newman (NASA/GSFC)
9:45 AM (S3a-02)	HIWRAP Global Hawk Status and Future Plans	<i>Gerald Heymsfield</i> (NASA/GSFC), S. Guimond (NASA/ORAU), M. Mclinden and L. Li (NASA/GSFC), J. Carswell (Remote Sensing Solutions, and L. Tian (Morgan St. Univ)
10:00 AM (S3a-03)	HIWRAP Observations from the Hurricane and Severe Sentinel (HS3) Campaign: Comparing Retrieval Techniques	<i>Anthony C. Didlake, Jr.</i> , Gerald M. Heymsfield, Lian Tian, and Stephen Guimond (NASA/GSFC)

10:15 AM (S3a-04)	Ensemble Kalman Filter Assimilation of HIWRAP Observations of Hurricane Karl (2010) from the Unmanned Global Hawk Aircraft	<i>Jason A. Sippel</i> , Fuqing Zhang, Yonghui Weng, Lin Tian, Gerald M. Heymsfield, and Scott A. Braun (NASA/GSFC)
10:30 AM (S3a-05)	High Definition Sounding System (HDSS) for Atmospheric Profiling	<i>Peter Black</i> (NRL/Monterey/SAIC); Lee Harrison (Univ of Albany/SUNY); Mark Beaubien and William Jeffries (Yankee Environmental Systems, Inc); Robert Bluth, Hafliði Jonsson, and Andrew Penny (Naval Postgraduate School); and Robert W. Smith (NASA/JSC)
10:45 AM (S3a-06)	Extreme Wave Height Reports from NDBC Buoys during Hurricane Sandy	<i>Richard H. Bouchard</i> (NOAA/NDBC), Robert E. Jensen (USACE), David W. Wang (NRL/Stennis), George Z. Forristall (Forristall Ocean Eng, Inc), Oceana P. Francis (Univ of Hawaii Manoa), and Rodney E. Riley (NOAA/NDBC)
11:00 AM (S3a-07)	Progress on Upper Ocean Measurement Strategies during Hurricane Passage: AXCP and AXCTD Profiling	<i>Lynn K. Shay</i> , Benjamin Jaimes, and Jodi K. Brewster (RSMAS/ Univ of Miami); Eric W. Uhlhorn (NOAA/HRD); and George R. Halliwell (NOAA/AOML/POD)
11:15 AM (S3a-08)	The AXBT Demonstration Project: Implementation, Impact, Collaboration, and Outlook	<i>Elizabeth R. Sanabia</i> (USNA) and Peter G. Black (NRL/Monterey/SAIC)
11:30 AM (S3a-09)	Upper-Ocean Thermal Structure Variability during Hurricanes Ernesto and Isaac (2012)	<i>Ellen K. Deckinga</i> , William J. Schulz, Elizabeth R. Sanabia, and Bradford S. Barrett (USNA)
11:45 AM (S3a-10)	Impact of AXBT Ocean Observations on the COAMPS Prediction of Tropical Cyclones	<i>Sue Chen</i> (NRL/Monterey), James Cummings (NRL/Stennis), Jerome Schmidt (NRL/Monterey), Elizabeth Sanabia and Bradford Barrett (USNA), and Peter Black (NRL/Monterey/SAIC)

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

Afternoon Coordinator: CAPT Erika Sauer (Navy/OFCM)

Session 3b: Tropical Cyclone Observations and Observation Applications, Part II

Session Leader Robbie Hood (NOAA/OAR)		
1:00 PM (S3b-01)	Observing Upper Ocean Structure Changes in Hurricane Conditions using Profiling Glider Technology	Walt H. McCall (NOAA/NDBC), <i>Hyun- Sook Kim</i> , (NOAA/NCEP), and L. Brzuzu, (Shell Upstream Americas)
1:15 PM (S3b-02)	Impact of Simple Parameterizations of Coastal Upper Ocean Heat Content on Modeled Hurricane Irene (2011) Intensity	<i>Greg Seroka</i> , Travis Miles, Yi Xu, Oscar Schofield, and Josh Kohut (Rutgers University)
1:30 PM (S3b-03)	The 2013 Satellite Proving Ground at the National Hurricane Center	<i>Mark DeMaria</i> , Jack Beven, Michael Brennan, and Hugh Cobb (NOAA/NHC); John Knaff (NOAA/NESDIS), Andrea Schumacher (CIRA/CSU), Christopher Velden (CIMSS/UW), Jason Dunion (NOAA/HRD), Gary Jedlovec (NASA/MSFC), Kevin Fuell (Univ of Alabama, Huntsville); and Michael Folmer (UM/CICS)
1:45 PM (S3b-04)	Exploiting SNPP VIIRS Day Night Band (DNB) for Tropical Cyclone Monitoring	<i>Jeff Hawkins</i> , Jeremy Solbrig, Mindy Surratt, and Kim Richardson (NRL/Monterey), Steve Miller (CIRA), Charles Sampson (NRL/Monterey), John Kent (SAIC), and Tom Lee (NRL/Monterey)
2:00 PM (S3b-05)	Satellite-Derived Oceanic Heat Content Estimates in the North Pacific Ocean Basin For Typhoon Intensity Forecasts: ST Haiyan	Claire McCaskill, <i>Lynn K. Shay</i> , and J. K. Brewster (RSMAS/ Univ of Miami)
2:15 PM (S5b-06)	Forecasting Flossie: A Look at Using the Most Progressive Satellite Technology	<i>Tom Evans</i> (NOAA/CPHC)
2:30 PM (S5b-07)	Sensing Hazards with Operational Unmanned Technology (SHOUT) to Mitigate the Risk of Satellite Observing Gaps	<i>Robbie Hood</i> (NOAA/OAR), Michael Black (NOAA/A OML), Gary Wick (NOAA/ESRL), , Philip Kenul (TriVector Services Inc.), and John Coffey (Cherokee Nation Technologies LLC)

2:45 PM Afternoon Break (2:45-3:00 PM)

Session 4: Tropical Cyclone Numerical Modeling Initiatives

Session Leaders Jessie Carman (NOAA/OAR) and Vijay Tallapragada (NCEP/EMC)		
3:00 PM (S4-01)	Evaluation of Experimental Models for Tropical Cyclone Forecasting in Support of the NOAA Hurricane Forecast Improvement Project (HFIP)	<i>Paul A. Kucera</i> , Barbara G. Brown, Louisa Nance, and Christopher L. Williams (NCAR/Research Applications Laboratory)
3:15 PM (S4-02)	Significant Improvements in Hurricane Intensity Forecasts from NCEP/EMC Operational High-Resolution HWRP Modeling System	<i>Vijay Tallapragada</i> , (NOAA/NWS/NCEP/EMC)
3:30 PM (S4-03)	The Physics Suite Upgrades of the Operational HWRP Model for 2014 Implementation	<i>Young Kwon</i> (NOAA/EMC/IMSA), Vijay Tallapragada, and Qingfu Liu (NOAA/EMC), Zhan Zhang, Samuel Trahan, Weiguo Wang, and Chanh Kieu (NOAA/EMC/MSG)
3:45 PM (S4-04)	Real-Time HWRP Forecasts for the Joint Typhoon Warning Center	<i>Sam Trahan</i> and Chanh Kieu (NOAA/EMC/MSG), Vijay Tallapragada (NOAA/EMC), Brian Strahl (JTWC), Bob Gall (NOAA/HFIP/CIMAS), Lee Cohen (NOAA/ESRL/GSD/CIRES), and Thiago Quirino (NOAA/AOML)
4:00 PM (S4-05)	Experimental Real-Time Forecasts for the 2012-2013 Northwestern Pacific Season with the NCEP Operational HWRP	<i>Chanh Kieu</i> , Vijay Tallapragada, Samuel Trahan, Zhan Zhang, Qingfu Liu, Young Kwon, Weiguo Wang, and Mingjing Tong (NOAA/NCEP/EMC)
4:15 PM (S4-06)	Application of Coupled HWRP-HYCOM System for the Northwestern Pacific Typhoon Prediction	<i>Hyun-Sook Kim</i> , Sam Trahan, Chanh Kieu and Vijay Tallapragada (NOAA/NCEP/EMC/Marine Modeling and Analysis Branch)
4:30 PM (S4-07)	HWRP-based Ensemble Prediction System using Perturbations from GEFS and Stochastic Convective Trigger Function	<i>Zhan Zhang</i> (NOAA/NCEP/EMC/MSG), Vijay Tallapragada (NOAA/NCEP/EMC), Chanh Kieu, Samuel Trahan, and Weiguo Wang (NOAA/NCEP/EMC/MSG)
4:45 PM (S4-08)	Coastal Storm Modeling System (CSTORM-MS)	<i>Chris Massey</i> (USACE Engineer Research and Development Center/Coastal & Hydraulics Laboratory)
5:00 PM (S4-09)	Verification of Tropical Cyclone Genesis Prediction in a Suite of Operational Global Numerical Weather Prediction Models	<i>Mike Fiorino</i> (NOAA/Earth System Research Lab)
5:15 PM (S4-10)	New Challenges and Expectations of Dynamical Seasonal Prediction of Tropical Cyclones	<i>Jan-Huey Chen</i> and Shian-Jiann Lin (NOAA/GFDL)

5:30 PM Adjourn for the day

DAY 4 - Thursday, March 6, 2014

9:25 AM Opening/Administrative Remarks—Michael Bonadonna (OFCM)

Morning Coordinator: Christopher Landsea (NOAA/NWS/NHC)

Session 5: Research Priorities of the Operational Centers

Session Leaders James Franklin (NOAA/NWS/NHC) and Jason Dunion (NOAA/AOML/HRD)		
9:30 AM (S5-01)	Multi Lead-time Statistical Rapid Intensification Guidance	<i>John Kaplan</i> (NOAA/HRD), Christopher M. Rozoff (CIMSS/UW-Madison), Charles R. Sampson (NRL), James P. Kossin (NOAA/NCDC), Christopher S. Velden (CIMSS/UW-Madison), and Mark DeMaria (NOAA/NESDIS/NHC)
9:45 AM (S5-02)	Real-Time Verification of a Passive Microwave Imagery-Based Statistical Model of Tropical Cyclone Rapid Intensification	<i>Christopher M. Rozoff</i> and Christopher Velden (CIMSS/UW-Madison), John Kaplan (NOAA/HRD), Anthony J. Wimmers (CIMSS/UW-Madison), and James P. Kossin (CIMSS/UW-Madison/NOAA/NCDC)

10:00 AM (S5-03)	Tropical Cyclone Genesis Ensemble Forecasts	<i>Jiayi Peng</i> (NOAA/NCEP/EMC/MSG), <i>Yuejian Zhu</i> (NOAA/NCEP/EMC), and <i>Richard Wobus</i> (NOAA/NCEP/EMC/MSG)
10:15 AM (S5-04)	Analysis Tools for Online Evaluation of the Operational Hurricane Forecasts Using Satellite Data	<i>Svetla M. Hristova-Velva</i> (NASA/JPL), <i>Mark Boothe</i> (NPS), <i>S. Gopalakrishnan</i> (NOAA/HRD), <i>Ziad Haddad</i> , <i>Brian Knosp</i> , <i>Bjorn Lambrigtsen</i> , and <i>Peggy Li</i> (NASA/JPL), <i>Michael Montgomery</i> (NPS), <i>Noppasin Niamsuwan</i> (NASA/JPL), <i>Vijay Tallapragada</i> (NOAA/EMC), <i>Simone Tanelli</i> and <i>Joseph Turk</i> (NASA/JPL), and <i>Tomislava Vukicevic</i> (NOAA/HRD)
10:30 AM (S5-05)	Outer Vortex Wind Structure Changes during and following Tropical Cyclone Secondary Eyewall Formation in the Atlantic	<i>Robert A. Stenger</i> and <i>Russell L. Elsberry</i> (Naval Postgraduate School)
10:45 AM (S5-06)	MDL Research for Hurricane Storm Surge	<i>Amy Fritz</i> and <i>Arthur Taylor</i> (NOAA/NWS/MDL); <i>Bobby Louansaysongkham</i> , <i>Huiqing Liu</i> , <i>Ryan Schuster</i> , and <i>Dongming Yang</i> (NOAA/NWS/MDL/Ace Info Solutions, Inc.); and <i>Jindong Wang</i> (NOAA/NOS/Coast Survey Development Laboratory/Earth Resources Technology, Inc.)
11:00 AM (S5-07)	Rapid Evaluation of Hurricane-driven Storm Surge using Pre-computed ADCIRC Solutions	<i>Rick Luettich</i> (Institute of Marine Sciences, Univ. of North Carolina-Chapel Hill), <i>Brian Blanton</i> and <i>Jesse Bikman</i> (Renaissance Computing Institute, Univ. of North Carolina-Chapel Hill), and <i>Alex Taflanidis</i> and <i>Andrew Kennedy</i> (Dept. of Civil and Environmental Engineering and Earth Sciences, Univ. of Notre Dame)

Session 6: Applications of Social Science to Tropical Cyclone Forecasts and Warnings

Session Leader Bryan Norcross (The Weather Channel)		
11:15 AM (S6-01)	Enhancing the Timeliness of Tropical Cyclone Watches and Warnings: Issuance of Watches/Warnings Prior to Genesis	<i>Daniel P. Brown</i> , <i>Todd Kimberlain</i> , <i>James Franklin</i> , <i>Ed Rappaport</i> , and <i>Rick Knabb</i> (NOAA/NHC)
11:30 AM (S6-02)	Progress over the Past Five Years on a Hurricane Surge Visualization Model and Future Plans to use the Model to Assess Public Understanding of Risks due to Storm Surge	<i>B. Lee Lindner</i> , <i>Stephen Duke</i> , and <i>Janet Johnson</i> (Physics and Astronomy Department, College of Charleston) and <i>Frank Alsheimer</i> and <i>Robert Bright</i> (NOAA/NWS/Charleston SC)
11:45 AM (S6-03)	Improving Local Hurricane Forecast Communication	<i>Betty Hearn Morrow</i> (SocResearch Miami), <i>Linda Girardi</i> , <i>Gina Eosco</i> , <i>Stephanie Fauver</i> , <i>Chris Ellis</i> , and <i>Vankita Brown</i>
12:00 PM (S6-04)	Linking New Technology and User Behavior	<i>Brenda Philips</i> (Univ. of Massachusetts, Amherst)

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

Afternoon Coordinator: Daniel Melendez (NOAA/NWS)

Hagemeyer Award Presentation		
1:15 PM	Announcement and Presentation of the 2014 Hagemeyer Award	<i>Frank Marks</i> (NOAA/AOML/HRD)

Invited Presentation		
1:30 PM (I-01)	Real-Time Geospatial Sharing Between Agencies—An Update	<i>Dave Jones</i> (StormCenter Communications)

Final Plenary Session

Session Moderator John Murphy (NOAA/NWS)		
1:45 PM	Summary of Assessment Results—Agency Perspectives Panelists: <ul style="list-style-type: none">• John Cortinas (NOAA/OAR) and Frank Marks (NOAA/AOML/HRD)• Ron Ferek (Navy/ONR)• Michael C. Morgan (NSF)• Ramesh Kakar (NASA) Discussion and Q&A	
3:45 PM	WG/HWSOR Meeting Action Item Review	Edward Rappaport (NCEP/NHC) Chair, WG/HWSOR
4:00 PM	Final Wrap-up	Mr. Samuel P. Williamson Federal Coordinator for Meteorology
4:30 PM	Adjourn	