FINAL PROGRAM

Sunday, November 14

4:00 – 6:00 p.m. **Workshop Registration Desk Open**

6:00 – 7:30 p.m. **Icebreaker**

5:00 p.m. **Poster Display**

P1 ***Translating Surf Height Observations from the Hawaii Scale to Full Face Scale Using Photographs*****. Caldwell, Patrick, National Coastal Data Development Center and Aucan, Jerome, University of Hawaii, Manoa**

P2 ***Trapped-Fetch Waves with Tropical Cyclones – Part III: Model Performance and Real-Time Demonstration.*** **MacAfee, Allan W., National Lab for Marine and Coastal Meteorology and Bowyer, P.J., Canadian Hurricane Center**

P3 ***Wave Modeling and Analysis for Naval Operations*****. Wakeham, Dean, Neptune Sciences, Inc., and Allard, R., Naval Research Laboratory**

P4 ***Variability in Oceanographic and Meteorological Forcing Along Central California.*** **Wingfield, Dana, U.S. Geological Survey**

P5 ***The AES North Atlantic Wind and Wave Climatology: A 50-Year Retrospective.*** **Cox, Andrew, Orelup, E., Cardone, V.J., Oceanweather, Inc., and Swail, V, Meteorological Service of Canada**

P6 ***The MSC50 Wind and Wave Hindcast of the North Atlantic Ocean*****. Swail, Val, Meteorological Service of Canada; Cox, Andrew and Cardone, Vincent, Oceanweather, Inc.**

Monday, November 15

8:00 a.m. **Welcome and Introduction**

8:10 a.m. **Session A: Climate Variability and Change I**
Chair:

A1 ***Global Wave Climate Trend and Variability Analysis,***
Keynote Speaker: Sofia Caires, Meteorological Service of Canada and Royal Netherlands Meteorological Institute, and Swail, V., Meteorological Service of Canada

A2 ***Decadal to Centennial Changes in the Global Wave Climate from VOS Data: Secular Trends, Leading Modes of Variability and Variations in Wave Statistics,***
Gulev, Sergey and Grigorieva, Vika, P.P. Shirshov Institute of Oceanology and Woodruff, Scott, Climate Diagnostics Center

A3 ***Projections of Ocean Wave Heights – Climate Change Signal and Uncertainty*****,**
Keynote Speaker: Wang, Xiaolan, L., and Swail, V.R., Meteorological Service of Canada

A4 ***Association of the Synoptic Propagation of Ocean Wave Transients with Atmospheric Variability on Synoptic and Sub-Synoptic Time Scales*****,**
Gulev, Sergey, Grigorieva, V., Zolina, O., P.P. Shirshov Institute of Oceanology and Sterl, A., Royal Netherlands Meteorological Institute

9:50 a.m. **Break**

10:20 a.m. **Session B: Climate Variability and Change II**
Chair

B1 ***Changes in Extra-Tropical Storm Tracks and Cyclone Activities as Derived from Two Global Reanalyzes and the Canadian CGCM2 Projections of Future Climate*****,**
Keynote Speaker: Wang, Xiaolan L., Swail, V.R. and Zwiers, F.W., Meteorological Service of Canada

B2 ***Long-Term Changes and Potential Future Developments of the North Sea Wave Climate*****, Weisse, Ralf and Stawarz, M., GKSS Research Center**

B3 ***NorthWest Atlantic Wave Estimates Under Global Warming Conditions,***
Perrie, William, Zhang, W., Long, Z., Dalhousie University and Bedford Institute of Oceanography and Jiang, J., Bedford Institute of Oceanography and Nanjing University and Bedford Institute of Oceanography; Toulany, Bechara, Bedford Institute of Oceanography

11:30 a.m. **Lunch**

1:00 p.m. **Session C: Hindcast Methodology and Reanalysis**
Chair:

C1 ***On the Nonparametric Correction of Wave Fields,*** **Keynote Speaker: Caires, Sofia, and Swail, V.R., Meteorological Service of Canada**

C2 ***Comparison of Gulf of Mexico Wave Information Studies (WIS) 2-G Hindcast with 3-G Hindcasting,*** **Tracey, Barbara A. and Cialone, A., U.S. Army Engineer Research and Development Center**

C3 ***Early Period Reanalysis of Ocean Winds and Waves*****, Cox, Andrew, Cardone, V.J., Oceanweather, Inc. and Swail, V., Meteorological Service of Canada**

2:10 p.m. **Break**

2:40 p.m. **Session D: Regional Hindcasts and Analysis**

D1 ***Regional Analysis of Extremal Wave Height Variability Oregon Coast, USA*****, Moritz, Heidi P. and Moritz, H.R., U.S. Army Engineer District, Portland**

D2 ***Hindcasting and Wind and Wave Climate of Seas Around Russia*****, Lopatoukhin, L.J., State University of St. Petersburg, Russia, Boukhanovsky, A.V. ,Chernysheva, E.S., and Ivanov, S..V. Institute of High Performance Computing**

D3 ***Intercomparison of Wave Data Hindcast in Lake Erie,*** **Yamaguchi, Masataka and Hatada, Y., Ehime University**

D4 ***Hindcasting Wave Conditions on the North American Great Lakes,*** **Scott, Douglas, Zusek, P. and Padala, C., Baird & Associates, Ltd., Schwab, D., National Oceanic and Atmospheric Administration**

4:00 – 5:00 p.m. **Discussion Session – Climate**

Tuesday, November 16

8:00 a.m. **Session E: Modeling Advances**
Chair:

E1 ***Nonlinear Interactions in Practical Wind Wave Models*****, Keynote Speaker: Tolman, Hendrik, and Krasnopolsky V.M., SAIC/GSO at NOAA-NCEP- Marine Modeling and Analysis Branch**

E2 ***Waves and Surge During Hurricane Isabel*****, Graber, Hans, University of Miami, Slinn, D., University of Florida, Hagen, S., University of Central Florida, Jensen, R.E., U.S. Army Engineer Research & Development Center, Cardone, V.J. and Cox, A., Oceanweather, Inc.**

E3 ***Wave System Diagnostics for Wave Model Validation and Improvement*****, Hanson, Jeffrey L. & Jensen, R.E., U.S. Army Engineer Research & Development Center**

E4 ***Implementation of New Source Terms in a Third Generation Wave Model***
Lefevre, Jean-Michael, Metro France; Stefanescu, S., National Institute for Meteorology and Hydrology; Makin, V., KNMI

9:30 a.m. **Break**

10:00 a.m. **Session F: Operational Model Forcing**
Chair

F1 ***Impact of QuikSCAT Data on Wave Hindcasting*****, Keynote Speaker: Cardone, V. J., Cox, A.T., Harris, E., Orelup, E.A., Oceanweather, Inc., and Graber, H.C., University of Miami**

F2 ***Blending Parametric Hurricane Surface Fields into CMC Forecasts and Evaluating Impact on the Wave Model for Hurricane Juan and Others*****, Desjardins, Serge, Ritchie, H., Lalbeharry, R. and Macafee, A., Meteorological Service of Canada**

F3 ***Assimilation of Altimeter Wave Measurements into Wavewatch III*****, Wittmann, P.A., Fleet Numerical Meteorology and Oceanography Center and Cummings, J., Naval Research Laboratory**

F4 ***Effect of Wind Forcing on Bias in Wave Model Forecasts*****, Warren, Graham, Greenslade, D., Kepert, J., and Shultz. E., Bureau of Meteorology, Australia**

11:30 a.m. **Lunch**

1:00 p.m. **Session G: Operational Forecasting**
Chair:

G1 ***Comparison of the Performance of the Metoffice UK-Waters Wave Model with a Network of Moored Buoy Data, at Shallow Water Sites*****, Keynote Speaker: Bradbury, A.P. And Mason, T., Southampton Oceanography Centre**

G2 ***The Development of Third Generation Wave Model MRI-III for Operational Use*****, Ueno, K. and Kohno, N., Meteorological Research Institute, Japan**

G3 ***Forecasting Hurricane-Generated Wind Waves at NOAA/NCEP*****,**
Alves, Jose Henrique, Tolman, H.L., and Chao Y.Y., National Oceanographic and Atmospheric Administration/National Center for Environmental Predications

G4 ***Forecast Divergences of a Global Wave Model*****, Greenslade, D.J.M., Bureau of Meteorology Research Centre and Young, I.R., Swinburne University of Technology**

2:30 p.m. **Break**

3:00 p.m. **Session H: Forecast System Developments**
Chair:

H1 ***Trapped-Fetch Waves with Tropical Cyclones – Part I: An Operational Perspective*****, Keynote Speaker: Bowyer, Peter, J., Canadian Hurricane Centre and MacAfee, Allan W., National Laboratory for Marine and Coastal Meteorology**

H2 ***Trapped-Fetch Waves with Tropical Cyclones-Part II: Operational LaGrangian Model*****, MacAfee, A.W. National Laboratory for Marine and Coastal Meteorology, and Bowyer, P.J., Canadian Hurricane Centre**

H3 ***Operational Wave Forecast and Verification at KMA and New Implementation Plan for the 2nd Phase KMA Supercomputer*****, Park Sangwook and Park, Hyo-soon, Korea Meteorological Administration and Jun, Kicheon, Korea Ocean Research & Development Institute**

4:10 – 5:00 p.m. **Discussion**

Wednesday, November 17

8:00 a.m. **Session I: Model Systems for Hindcasts I**
Chair

I1 ***Integration of Multiple Wave Models from Generation-Scale to Nearshore-Scale: A Practical Application in Maine, USA*****, Keynote Speaker: Bosma, Kirk F., and Caufield, B. A., Woods Hole Group, Inc.**

I2 ***Use of a Large-Scale, Spectral Wave Generation Model to Define Input into Nearshore Wave Transformation Model*****, Caufield, Brian A. and Bosma, K.F., Woods Hole Group, Inc.**

I3 ***An Evaluation of Wave Model Performance with Linear and Nonlinear Dissipation Source Terms in Lake Erie*****, Lalbeharry, Roop and Wilson, L., Meteorological Service of Canada, Behrens, A. and Guenther, H., GKSS Research Centre**

I4 ***An Intercomparison of State-of-the-Art Wave Models in the NW Atlantic*****, Padilla-Hernandez, R. Bedford Institute of Oceanography, Dalhousie University, and Tamaulipas University; Perrie, W., Bedford Institute of Oceanography and Dalhousie University; Toulany, B. and Smith, P., Bedford Institute of Oceanography**

9:30 a.m. **Break**

10:00 a.m. **Session J: Modeling Systems for Hindcasts II**
Chair

J1 ***A Generalized Wave-Ray Approach for Propagation on a Sphere and Its Application to Swell Prediction*****, Keynote Speaker: Scott, Douglas, Baird & Associates Ltd; Resio, D.T., U.S. Army Engineer Research & Development Center; Williamson, D., Baird & Associates Ltd., and Rodrigo, N.G., Servicio Hidrografico y Oceanografico de la Armada**

J2 WITHDRAWN

J3 ***A Comparison of Hindcast and Measured Wave Spectra Based on a Directional Spectral Fitting Algorithm*****, Feld, Graham, Fugro GEOS, Inc. and Mork, G., Fugro OCEANOR**

10:50 a.m. **Session K: Hawaii Session**
Chair:

K1 ***An Empirical Method for Estimating Surf Heights from Deep Water Significant Wave Heights and Peak Periods in Coastal Zones with Narrow Shelves, Steep Bottom Slopes, and High Refraction*****, Keynote Speaker: Caldwell, Patrick C., National Coastal Data Development Center, and Aucan, J., University of Hawaii at Manoa**

K2 ***Meteorology of the Giant Wave Event of January 1998*****, Businger, Steven, University of Hawaii, Willis, M., Surfline, Inc., and Caldwell, P., National Coastal Data Development Center – National Oceanographic and Atmospheric Administration**

K3 Effects ***of Alongscale Tidal Currents on Wave Size Around An Island*****, Aucan, Jerome, University of Hawaii, and Caldwell, P.C., National Oceanographic and Atmospheric Administration**

12:00 p.m. **Break for the day**

Thursday, November 18

8:00 a.m. **Session L: Physics I**
Chair:

L1 ***Forecasting Breaking Waves During Storms*****, Keynote Speaker: Banner, Michael, Kriezi, E. and Morison, R., The University of New South Wales**

L2 ***Wind Input Function*****, Lin, Ray-Qing, Naval Surface Warfare Center and Lin, Lihwa, U.S. Army Engineer Research & Development Center**

L3 ***Wave Breaking Function*****, Lin, Lihwa, U.S. Army Engineer Research & Development Center, and Lin, Ray-Qing, Naval Surface Warfare Center**

L4 ***Are There Clues to Full-Development in Spectral Measurements and Modeling of the Action Balance Equation*****, Jensen, Robert E. and Resio, D. T., U.S. Army Engineer Research & Development Center**

9:30 a.m. **Break**

10:00 a.m. **Session M: Physics II**

Chair

M1 ***The Dynamics Of Spectral Equilibria: Detailed-Balance Physics*****, Keynote Speaker: Resio, Donald T., U.S. Army Engineer Research & Development Center, and Chuck Long, U.S. Army Engineer Research & Development Center, Will Perrie, Bedford Institute of Oceanography**

M2 ***On the Role of Self-Similar Solutions in the Evolution of Wind Driven Ocean Waves*****, Badulin, S., P.P. Shirshov Institute of Oceanology of Russian Academy of Sciences, Pushkarev, A. and Zakharov, V., Waves & Solitons, LLC, and Resio, D.T., U.S. Army Engineer Research & Development Center**

M3 ***Weak Turbulant Fluxes Estimation in Surface Water Wave Spectrum,*** **Lavrenov, I.V Arctic and Antarctic Research Institute**

M4 ***Quasi-Resonant Interactions in Shallow Water*****, Onorato, Miguel, Osborne, A.R., and Serio, M., University of Torino, Janssen, P., European Center for Medium-Range Weather Forecasts, Resio, Donald T., U.S. Army Engineer Research & Development Center**

11:30 a.m. **Lunch**

12:45 p.m. **Session N: Shallow-Water Waves I**
Chair

N1***Upgrades to STWAVE*****, Keynote Speaker: Smith, Jane M., and Resio, D.T., U.S. Army Engineer Research and Development Center**

N2 ***Application Of STWAVE In Norwegian Coastal Waters*****, Nygaard, Einar, Statoil**

N3 ***Comparison of Deep-Water ADCP and NDBC Buoy Measurement to Hindcast Parameters*****, Dally William and Osiecki, D.A., Surfbreak Engineering Sciences, Inc.**

N4 ***The Transformation of Deep Water Wave Hindcasts to Shallow Water*****, Fassardi, Claudio, BMT Scientific Marine Services, Inc.**

2:15 p.m. **Break**

2:45 p.m. **Session O. Shallow-Water Waves II**
Chair

O1 ***Minimizing Errors in Sub-Regional Scale Wave Modeling: Design of a Forecasting System for the Nearshore Canyon Experiment*****, Keynote Speaker: Rogers, W. Erick, Kaihatu, J. and Hsu, L., Stennis Space Center and Jensen, R.E., U.S. Army Engineer Research and Development Center**

O2 ***The Effects of Infragravity Energy and Storm-Induced Current on Short Waves Beyond the Surf Zone*****, Moritz, Hans R., U.S. Army Engineer District, Portland**

O3 ***The Effects of Hindcast Waves on Coastal Storm Water Levels During the Blizzard of 2003,*** **Irish, J.L., U. S. Army Engineer District, New York, Canizares, R., Moffatt and Nichol Engineers, Grosskopf, W.G., Offshore and Coastal Technologies, Inc., and Williams, B.P. U. S. Army Engineer District, New York**

O4 *Wave-Induced Surges During Hurricane Opal*, Wu, Chung-Sheng, Taylor, A. A., Chen, J. and Shaffer, W.A. Meteorological Development Laboratory of National Weather Service

4:15 – 5:00 p.m. **Discussion**

Friday, November

8:00 a.m. **Session Q: Physics III**
Chair:

Q1 *Freak Waves as Nonlinear Stage of Stokes Wave Modulation Instability*, Keynote speaker: Zakharov, V., Waves and Solitons, LLC, and Dyachenko, Alexander, The Fields Institute for Research in Mathematical Sciences.

Q2 Nonlinear Fourier analysis of Duck Pier Surface Wave Data, Osborne, A.R. and Onorato, M. and Serio, M., Univeristy of Torino, and Resio, D.T., U.S. Army Engineer Research and Development Center

Q3 *Energy-Flux Balances and Source Term Parameterizations*, Perrie, William, Bedford, Institute of Oceanography and Resio, D.T., U.S. Army Engineer Research & Development Center

9:15 a.m. **Break**

9:45 a.m. **Session R: Measurements and Wave-Related Phenomena**
Chair:

R1 *Directional Wave Observations in Currituck Sound, North Carolina*,
Keynote Speaker: Long, Charles E., and Resio, D.T., U.S. Army Engineer Research & Development Center

R2 *X-Band Radar as a Tool to Determine Spectral and Single Wave Properties*
Reichert, Konstance, Ocean WaveS GmbH

R3 *A Proposal for Preventing Monitoring and Enforcing Restriction on Severe Wake Wash,* Jacobson, Donald, Naval Surface Warfare Center

11:00 a.m. **Closing remarks**

11:15 a.m. **Workshop Ends**