

Mark Willis

HIGHLIGHTS

- ◆ 17 years of operational weather and wave forecast experience.
- ◆ Extensive experience in ocean wave modeling, meteorological and oceanographic research, and related program management and business development.
- ◆ Played a significant role in NWS warning services during several high impact weather events, including providing live interviews to worldwide media outlets.
- ◆ Recipient of inaugural American Meteorological Society Joanne Simpson Mentorship Award (2012) for providing guidance and encouragement to NWS student volunteers. Have received several other awards for superior efforts in the National Weather Service.

PROFESSIONAL EXPERIENCE

DIRECTOR OF FORECASTING/CHIEF METEOROLOGIST: SURFLINE/BUOYWEATHER, INC, Huntington Beach, CA. 2/2012 to Present.

- Responsible for managing the expansion and validity of Surflines forecast products globally, and overseeing the strategic roadmap and business objectives thereof.
- Assist in marine consulting projects for wide range of Surflines and Buoyweather clients.
- Participate in routine swell/surf forecast duties on Surflines.com and special event forecasts for the World Surf League and other partners.
- Manage the hiring and training of new and current employees.
- Manage forecast team budget and align resources as needed for various projects.

OPERATIONAL SUPPORT METEOROLOGIST/MARINE PROGRAM MANAGER: NATIONAL WEATHER SERVICE EASTERN REGION HEADQUARTERS, Bohemia, NY. 11/2010 to 12/2011.

- Responsible for identifying, documenting, and implementing needed improvements to marine, tsunami, coastal inundation, and rip current programs and services for Eastern Region coastal offices.
- Provided several marine and coastal inundation training sessions to NWS field offices and customers.
- NWS lead in project to incorporate effects of waves and dune elevations into coastal impact prediction.
- Responsible for implementing marine spot forecasts into operations.
- Served on Alliance of Coastal Technologies wave test and evaluation technical advisory committee.
- Worked shifts at Regional Operations Center to provide field support during significant weather events.

METEOROLOGIST (FORECASTER): NATIONAL WEATHER SERVICE FORECAST OFFICE, Morehead City/Newport, NC. 11/2007 to 11/2010.

- Responsible for routine public, marine, aviation, fire weather, rip current, and hydrology forecast duties in addition to NWS watch/ warning/advisory program across Eastern North Carolina.
- Office team leader for tropical, marine data and marine modeling programs.
- Integral part of national NOAA/NWS team to revise Saffir-Simpson Hurricane Scale.
- Conducted several research efforts related to marine weather, tornadoes, lightning prediction, numerical modeling, and coastal inundation and delivered results and training to staff.
- Coordinated NWS Newport Hurricane Conferences in 2008, 2009, and 2010.
- Mentor for several high school and college students interested in meteorology.
- Received local Isaac Cline award for excellence in managing office Tropical Program in 2008. Received Cline award in 2009 for implementing SWAN wave model into operations.

METEOROLOGIST: NATIONAL HURRICANE CENTER WEATHER SERVICE (NHC), Tropical Analysis and Forecast Branch (TAFB) Miami, FL, 7/2006 to 11/2007.

- Duties included preparing and issuing Tropical Surface Analyses, Tropical Atlantic/Pacific High Seas and Offshore Waters forecasts, Marine Weather Discussions, and a suite of radiofax charts.

- Hurricane Support Meteorologist (HSM) which involved acting as a media spokesperson, operational data analysis, and general assistance in the NHC Tropical Cyclone Advisory and Warning program.
- Responsible for implementing numerous marine forecast tools into TAFB operations.
- NHC representative for wave forecasting at the World Meteorological Organization's annual workshop on Hurricane Forecasting and Warning.

METEOROLOGIST INTERN: NATIONAL WEATHER SERVICE, Eureka, CA Weather Forecast Office, 8/2005 to 7/2006.

- Duties included preparing and issuing all climate, observational, public, aviation, and marine forecast products; providing media interviews, coordinating with partner agencies, and verification efforts of advisories and warnings.
- Subject Matter Expert (SME) for COMET training module on Shallow Water Ocean Waves.
- Developed operational software to aid in nearshore wave prediction.
- Involved in the NWS forecaster developmental program (FDP) which included extensive training in marine, tropical, aviation, fire weather, public, and hydrology programs in addition to satellite, radar, surface, and upper air analyses.

LEAD FORECASTER/EAST COAST MANAGER: SURFLINE, INC, Huntington Beach, CA. 9/2000 to 7/2005.

- Prepared daily surf forecasts for the East Coast, Caribbean, Gulf of Mexico, and Europe via internet, phone, and fax.
- Assisted in media relations, outreach, customer service, web camera network, forecast consultations, and basic web programming.
- Managed staff of 11 surf zone spotters and forecasters.

GRADUATE RESEARCH ASSISTANT: DEPARTMENT OF METEOROLOGY, UNIVERSITY OF HAWAII AT MANOA, Honolulu, HI. 7/2002 - 8/2004.

- Responsible for multiple duties in a DOD funded project to relate ocean wave interactions with infrasound recorded on the Big Island, including operating the NOAA Wavewatch 3 model.
- Assisted in numerous publications and presentations on this subject.
- Led synoptic meteorology laboratory lectures for undergraduate classes.

METEOROLOGICAL PROGRAM ASSOCIATE: FLORIDA EXPLORES/FSU METEOROLOGY DEPARTMENT, Tallahassee, FL. 8/1998 - 9/2000.

- Responsible for daily online weather satellite imagery interpretation.
- Assisted in maintaining Florida State University's tropical webpage.
- Developed and maintained a popular surf forecasting website for Florida.

EDUCATION

University of Hawaii at Manoa
Honolulu, Hawaii
Master's Degree - 5/2004
Major: Meteorology
GPA: 3.83 out of 4.0

Florida State University
Tallahassee, Florida
Bachelor's Degree - 4/2001
Major: Meteorology
Minor: Math, Physics, Geography, Spanish
GPA: 3.87 out of 4.0

SELECTED PUBLICATIONS/PRESENTATIONS

Perry S., and Willis, M. 2015: Global ENSO Wave Trends During the Last 30 Years. NOAA's 40th Climate Diagnostics and Prediction Workshop. Denver, CO.

Mignone A., Stockdon H., Willis M., Cannon J., and Thompson R., 2012: On the Use of Wave Parameterizations and a Storm Impact Scaling Model in National Weather Service Coastal Flood and Decision Support Operations. 10th Symposium on the Coastal Environment/AMS Annual Meeting. New Orleans, LA.

Willis M., and coauthors, 2010: Implementing the SWAN Wave Model at Three East Coast National Weather Service Offices. 14th Symposium on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface (IOAS-AOLS)/AMS Annual Meeting, Atlanta, GA.

Willis, M., Korte, K., and Elardo, J., 2009: Forecast Challenges and Lessons from the 2008 Saint Patrick's Day Super Swell. 16th Conference on Air-Sea Interaction/AMS Annual Meeting, Phoenix, AZ.

Willis, M., 2008: Diagnosing the Large Swell Event Associated with the Extratropical Transition of Hurricane Florence (2006). 10th International Wave Workshop on Wave Hindcasting and Forecasting, North Shore, Hawaii.

Berg, R. and Willis, M., 2006: Tropical Atlantic and Tropical East Pacific Areas May through August 2006. Mariners Weather Log, Vol. 50, No. 3.

Businger, S., Willis, M., and Caldwell, P., 2004: Meteorology of the Giant Wave Event of January 1998. 8th International Workshop on Wave Hindcasting and Forecasting, North Shore, Hawaii.

Willis, M., Garces, M., Hetzer, C., and Businger, S., 2004: Infrasonic observations of open ocean swells in the Pacific: Deciphering the song of the sea. Geophys. Res. Lett., Vol. 31, No. 19.

Garces, M., Willis, M., Hetzer, C., Le Pichon, A., and Drob, D., 2004: On using ocean swells for continuous infrasonic measurements of winds and temperature in the lower, middle, and upper atmosphere. Geophys. Res. Lett., Vol. 31, No. 19.

Willis, M., 2004: Observations and source modeling of microbaroms in the Pacific. M.S. thesis, Dept. of Meteorology, University of Hawaii at Manoa, 77pp.

Garces, M., C. Hetzer, M. Merrifield, M. Willis, and J. Aucan, 2003: Observations of surf infrasound in Hawai'i, Geophys. Res. Lett., 30(24), 2264.