



NOAA in the North Atlantic



Wave Run-Up Capability Continues to Grow Partnerships in North Atlantic

Wave run-up is the change in water elevation at the beach due to breaking waves which can exacerbate coastal inundation through severe erosion and damage to property. There are instances in the North Atlantic where the water may never reach the house, but the waves can erode embankments so homes end up reaching the water. To better understand the impact of waves, we need to understand wave run-up.

NOAA's North Atlantic Regional Team (NART) began supporting the development of a wave run-up capability for the North Atlantic all the way back in 2011. This year, those efforts culminated in the NOAA Coastal Hazards Resilience Workshop: Rip Currents and Wave Run-up, held on April 14-16, at the Virginia Modeling, Analysis, and Simulation Center on the Old Dominion University campus in Suffolk, Virginia. The workshop was held to assist NOAA in further developing and improving strategies to mitigate problems associated with rip currents and wave run-up and was co-sponsored by the NART, the Southeast & Caribbean Regional Team, the NOAA Coastal Storms Program, and the National Weather Service's (NWS) Office of Science and Technology Integration. Approximately 80 participants attended the workshop; a subset of workshop attendees participated in an offsite wave run-up field experiment.

Most recently, NWS Eastern Region Director and NART lead, Dr. Jason Tuell, met with the Northeast Regional Association of Coastal Ocean Observing Systems to provide a letter of support for their five-year operating plan. Among many items, the plan includes creating high-resolution oceanographic models for improved nearshore wave predictions across the Northeast coast. The wave forecasts can then be used to predict damaging wave action and beach erosion along the vulnerable New England shoreline. To address wave run-up, the plan leverages existing and new partnerships to assist in the prediction and visualization of coastal impacts due to large, battering waves along the coast.

"This plan goes a long ways towards improving such predictions," said Dr. Tuell during the signing ceremony in August.

During Fiscal Year 2016, NART member Rich Okulski, Meteorologist-in-Charge of the Caribou, Maine Weather Forecast Office will be facilitating the work of the project team to plan an operational test and evaluation to better understand the effectiveness of wave run-up information as forecast guidance. This in turn can enhance the NWS ability to convey this information through impact-based decision support services. For more information on these initiatives and partnerships, please contact John.W.Cannon@noaa.gov or Richard.Okulski@noaa.gov.



Dune monitoring surveyor John White shares an image from Gooch's Beach in Kennebunk, ME after the "Blizzard of 2013." Large, battering waves unearthed tree stumps that were buried below the beach and estimated to be 3000-4000 years old.

NART Continues Congressional Roundtables in Fiscal Year 2016

This summer, the NART continued its engagement with Congressional district staff in the North Atlantic on relevant local topics. Staffers continue to voice their gratitude for these in-depth, interdisciplinary portrayals of NOAA's work and its relevance to their state. The team has now sponsored eight roundtables in six states including Maine, Rhode Island, Delaware, Virginia, Connecticut and New Jersey. A second N.J. roundtable and additional states are planned for Fiscal Year 2016 (FY16).

NART sponsored a roundtable in Connecticut on July 21st at Connecticut Sea Grant at University of Connecticut (UCONN) Avery Point in Groton. Attendees included representatives from the offices of Sens. Murphy and Blumenthal, Reps. Courtney and DeLauro; NOAA colleagues from National Weather Service, National Ocean Service, NOAA Fisheries; and Federal Emergency Management Association, Conn. state government, the Stonington Shellfish Commission, and academic partners at UCONN and the Yale Project on Climate Change Communication.

NART also sponsored a roundtable in New Jersey on September 10th at the Jacques Cousteau National Estuarine Research Reserve in Tuckerton, to discuss NOAA support for resilient communities and ecosystems. Attendees included representatives from Sens. Menendez and Booker, Reps. LoBiondo, MacArthur and Watson-Coleman; NOAA colleagues from National Weather Service, National Ocean Service, NOAA Fisheries; and N.J. Department of Environmental Protection, N.J. Sea Grant, Rutgers University, U.S. Coast Guard, The Nature Conservancy, and American Littoral Society.

In addition to holding more roundtables in FY16, the NART will develop a regional legislative strategy and refine its regional expertise directory (whoyounoaa.us). Contact Nicole.Bartlett@noaa.gov for more information.

NART Summer Intern Project Focused on Coastal Flooding Impacts in SE Virginia

The 2015 NOAA NART internship focused on coastal flood impacts in the southern Chesapeake Bay. This region is especially at risk to coastal flooding as a result of a combination of land subsidence and rising sea levels. Based at the National Weather Service's Wakefield Weather Forecast Office, the purpose of the project was to develop a modified Coastal Flood Impacts viewer focused on Norfolk, Virginia, and based on water levels from the NOAA tide gauges at Sewells Point, Money Point and the Chesapeake Bay Bridge Tunnel. For this internship position, it was critical that the intern have extensive experience with Geographic Information Systems (GIS), but also have great "people skills" in order to communicate and coordinate with the many NOAA and non-NOAA entities that have data sets and similar tools to inform this project.

Enter Kyle Titlow. Kyle came to the NART internship right after graduating from the College of William & Mary where he studied geography, government, and Spanish. His previous work at the GIS lab at W & M made him qualified from a technical standpoint, and from his interview it was clear he had the enthusiasm and professionalism that would allow him to reach out and connect with partners.



Kyle worked at Wakefield for 12 weeks - squeezing in a trip to Mexico City to teach GIS - and extended the scope of the internship to include GIS layers based off tide gauges throughout the lower Chesapeake (instead of just the Norfolk area). He worked with partners at Old Dominion University, the City of Norfolk, and NOAA's National Ocean Service, to develop a suite of GIS visualizations that should be available on the Wakefield WFO website later this fall. Just as importantly, he created a detailed step-by-step guide that documents the methodology for (cont. on p. 3)

(cont. from p. 2) this project. His work makes it possible for similar visualizations to be developed for other locations in the North Atlantic and beyond.

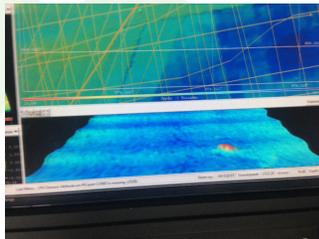
So what's next for Kyle? He's looking very seriously at graduate schools where he can continue working in GIS. Let's wish him luck!

This internship is sponsored by the NART in partnership with NOAA Chesapeake Bay Office and the Chesapeake Research Consortium. For more information about this project, contact Jeff Orrock (Jeff.Orrock@noaa.gov), Meteorologist in Charge at Wakefield and Kyle's mentor for this internship.

Did You Know?

On September 10th, NOAA Ship *Henry B. Bigelow* suspended operations to assist in the search for a downed aircraft off Atlantic City. A single-engine plane crashed into the Atlantic Ocean at approximately 2:45pm and emergency officials were searching for its pilot with boat and helicopter crews. *Bigelow* was working in the vicinity at the time on its Fall bottom trawl survey and arrived with its crew from the Office of Marine Aviation & Operations and NOAA Fisheries within two hours.

NOAA had the lead on the search for the plane, while the US Coast Guard focused on debris recovery. Dive teams were poised and ready, a work boat was standing by for deployment, and bridge teams searched for surface debris



Sonar image of plane wreck.

and planned for a systematic multibeam search of the highest probability areas. The science crew was also put to good use as well, with rotating teams on lookout duty on the bridge, as well as assisting with the actual search for objects on the multibeam plotter while the officers ran the search pattern tracklines. An all-night search resulted in the detection of the crash site using the ship's multibeam capabilities; *Bigelow* then left the site to resume survey operations.

"We know the importance of what we do, that's why most of us are here," said *Bigelow* Commanding Officer Commander G. Mark Miller. "Situations like this remind us of our capabilities and importance to the nation and to one family that just lost one of their own."

NOAA Place in the North Atlantic Profile

NOAA National Weather Service Philadelphia/Mt. Holly Forecast Office

The NOAA NWS Philadelphia /Mount Holly Weather Forecast Office located in Burlington County, New Jersey, is responsible for weather forecasts and warnings for 34 counties in eastern Pennsylvania, north-eastern Maryland, Delaware, and most of New Jersey. This service area, home to over 12 million people, experiences a full-range of weather through four distinct seasons, including winter storms, severe thunderstorms, tornadoes, derechos, excessive heat, rip currents, flash floods, river floods, coastal floods, and even an occasional tsunami. Tropical systems occasionally wreak havoc too, with Super Storm Sandy as a recent example.

A staff of 25 people, led by Meteorologist-in-Charge Gary Szatkowski, monitor changing weather patterns 24-hours a day, providing relevant, up-to-date products for a wide array of users, such as emergency managers, public transportation officials, media, and the general public. Decision Support Services, including webinars, static slide presentations, and on-site briefings, are evolving as a major component of the office's service portfolio, reflecting the agency's commitment to provide public safety officials with the information and confidence needed to make complex decisions for the protection of life and property.

For more information about the office, go to www.weather.gov/phi



NOAA People in the North Atlantic Region

Jennifer Dopkowski

Climate Program Office

What are your duties and areas of responsibility?

My official title is Management and Policy Analyst but my portfolio consists of some key things outside of the planning and budgeting process. I serve as executive secretariat to the Climate Working Group, which is an external body that advises NOAA on climate science. I also work with our Communications and Education team on stakeholder engagement related to the Climate Resilience Toolkit. This involves bringing stakeholders and the climate interested public into our five-step resilience planning process. We are able to assess their needs and then determine how best to help them develop their resilience plans in the face of changing conditions. If I had to couch my position in a few words, I'd say I work on regional climate services including stakeholder engagement and resiliency planning.

What do you consider your most significant achievements as a NOAA employee?

I consider my most significant achievement at NOAA to date was working with NOAA's Adopt a Drifter Program for Earth Day 2012. The goal was to partner with schools across the country, go into a classroom, and discuss with students what the buoys do and why they are important. Then the students would deploy and track the buoy and use the data in their classroom. I was able to not only line up a school in Hawaii to partner with, but I was able to go into

the classroom, share a lesson plan with the students, and then take them out on a NOAA vessel and have them launch the buoy. The NOAA staff from Maui also came on board the trip and taught the students about whale entanglements and why whales are an important species.



How does what you do impact the public and why is it important?

With the climate resilience toolkit, we have the opportunity to work with stakeholders who will be making decisions that will impact people in their communities. It's also an opportunity for us to receive input and feedback from those regional/local communities on what they need and what would be helpful to them.

Do you have any achievements outside of NOAA that you would like to mention?

To date I've done 4 (by the time this is shared) triathlons. I really enjoy the physical challenge and I love seeing so many inspiring athletes.

What is your favorite part of your job that makes you feel most fulfilled?

My favorite part of the job that makes me the most fulfilled is working with students, non-profits, people, communities, decision-makers when I'm "out in the field." I love hearing how we have helped them and I love learning from them about their particular challenges and needs and working on those with them.

What is your favorite motto? And/or your favorite hobby?

Motto: "In the long term the pessimist may be proved right, but the optimist has a much better time on the trip!"

Hobby: Hiking/long walks with my 12-year old dog.

What would you recommend to those who want to begin a career at NOAA?

Talk to someone who is here doing something similar to what you want to do. Have coffee with them, pick their brain, ask lots of questions and then explore all avenues: contractor positions, fellowships, etc.

NART Background

The NART is one of eight regional teams created by NOAA's Regional Collaboration effort. It is composed of 17 members from five line offices and is currently led by Jason Tuell. Nicole Bartlett is the NART Regional Coordinator. For more information on team members and activities visit: http://www.regions.noaa.gov/north_atlantic