



Spring 2025

## 23rd Annual State of the Shore Media Event held again in Asbury Park



(From left to right) Dr. Peter Rowe, Executive Director, New Jersey Sea Grant Consortium, Shawn LaTourette, Commissioner, New Jersey Department of Environmental Protection, Laura Kerr, Coastal Resilience Specialist, New Jersey Sea Grant Consortium; Senior Research Engineer, Stevens Institute of Technology, Dr. Jon K. Miller, Coastal Processes Specialist, New Jersey Sea Grant Consortium; Research Associate Professor, Director of Coastal Engineering Research Group, Stevens Institute of Technology; Author, 2025 State of the Shore Report

This year's State of the Shore media event provided a valuable opportunity for community members and the press to connect with coastal expert Dr. Jon Miller, Laura Kerr, and NJDEP Commissioner Shawn LaTourette. Attendees gained insights into how New Jersey's shorelines held up over the winter and received a forecast on beach conditions and potential storms for the 2025 summer season. Break out the flip-flops, dust off those beach chairs, and get ready to soak up some sun-summer has officially arrived in

New Jersey! And this year, we're kicking off the season with some especially sunny news: the state's beaches are looking better than ever. Thanks to a mild winter with minimal storms, most of the coastline has held up beautifully, with wide beaches and healthy dunes welcoming locals and visitors alike. Communities like Seaside Heights, Ocean City, and Cape May have even received a fresh dose of sand courtesy of the U.S. Army Corps of Engineers, setting the stage for a strong start to the season.



Reporters and camera crews were on hand to communicate the news about this summer's outlook.



## In Your Community

### NJSGC Celebrates Installation of New Educational Signs in Seaside Heights



Pictured at the installation (from left to right) are Seaside Heights Mayor Anthony E. Vaz, NJSGC Graphics Specialist Rory Joyce, NJSGC Executive Director Dr. Peter Rowe, Borough Administrator Chris Vaz, NJSGC Director of Communications Samantha Kreisler, and Communications Intern Abby Hesterhagen.

After years of planning and design, the New Jersey Sea Grant Consortium (NJSGC) is proud to announce the installation of a series of new educational signs along the Seaside Heights Boardwalk. Earlier this month, NJSGC staff made the trip to the Jersey Shore to witness the culmination of their efforts. Despite the rainy weather, the event was a memorable and celebratory “ribbon-cutting” moment.

The signs, developed over several years, aim to engage the public with informative and educational content about coastal ecosystems, marine life, and environmental stewardship.

This collaboration highlights NJSGC’s ongoing commitment to education and outreach throughout New Jersey’s coastal communities.



### NJSGC Presents 22nd Annual Day of Ocean Fun!



This year we celebrated 22 years of Ocean Fun Days! The rainy and windy start to this year’s Ocean Fun Days turned into a beautiful weekend, bringing hundreds of visitors to Island Beach State Park and Sandy Hook. The fun began on May 17 at Island Beach State Park with kayak tours, diamondback terrapins, and the science behind building a great sandcastle. The next day, visitors at Sandy Hook could enjoy a climb to the top of the Sandy Hook Lighthouse, tours of the historic batteries, and a glimpse into NOAA’s James J. Howard Marine Sciences Laboratory.

Kids traveled through the exhibits to fill their Ocean Fun Days passports and made stops at tables such as NJSGC, New Jersey Natural Gas, and the State/National Park Service to learn about topics related to marine science.

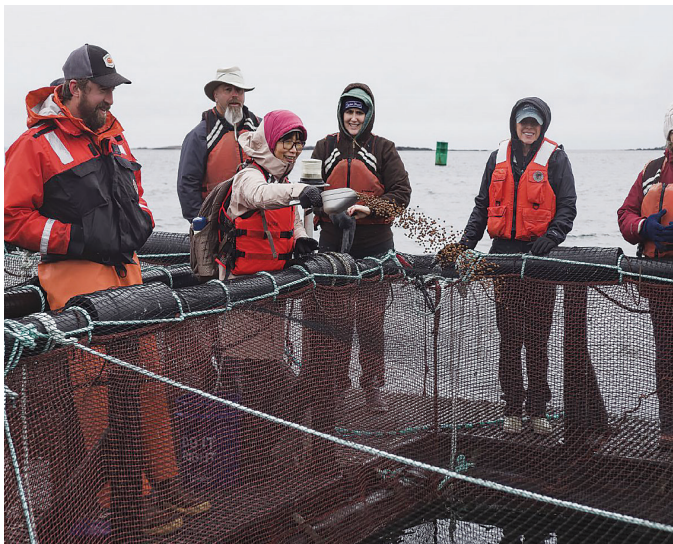
Thank you to everyone who attended the 22nd Annual Ocean Fun Days and we hope to see you next year!

### Diana Burich Featured on 107.1 The Boss ‘Make a Difference Mondays’



## In Your Community

### Sea Grant Staff Participates in Aquaculture Academy



Dr. Mike Acquafredda, NJSGC Aquaculture Specialist, Haskin Shellfish Research Laboratory, Rutgers University and Diana Burich, NJSGC Director of Education, were selected to participate in this year's Sea Grant Aquaculture Academy. Hosted by New Hampshire Sea Grant, the Academy

concentrated on various segments of the aquaculture sector: showcasing the advancements, possibilities, and hurdles that are influencing the future of local seafood production. Swipe to see them both on this 4-day professional development trip.

To learn more about the academy and their trip visit:

<https://shorturl.at/JPFmu>

*Photos courtesy of New Hampshire Sea Grant.*



### New Positions



**Michael Danko** has been promoted to Director of Extension. He has the institutional knowledge, expertise, dedication and commitment to the organization necessary to successfully lead the Extension program. Mike has led numerous water quality, sediment and fisheries related projects in the coastal zone for both research and outreach purposes. His extensive experience working with stakeholders to reach consensus on important coastal issues and interpreting scientific results will lead to results that benefit the coastal economy and the environment.



**Julie Shaw** has been promoted to the position of Director of Research and Grants Administration. Since joining our organization in 2021, Julie has consistently demonstrated exceptional dedication, strategic insight, and a deep commitment to advancing our research and funding efforts. In this new role, she will lead the development and oversight of our research initiatives and grants portfolio, ensuring continued growth, compliance, and impact. Julie's leadership will further strengthen our ability to support innovative projects and foster meaningful partnerships.



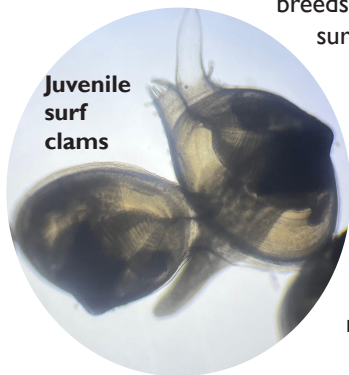
**Samantha Kreisler** has been promoted to the position of Director of Communications. Since joining the organization in 2021 as Communications Specialist, Samantha has demonstrated an exceptional ability to elevate NJSGC's voice across the state and region. Her strong background in marine policy and conservation, paired with extensive experience in science communication and public engagement, continues to be a major asset to the Consortium.



# RESEARCH SPOTLIGHT

## NJSGC's Dr. Michael Acquafredda is studying Surfclam Hybridizing and Temperature Stress

There are two Atlantic surfclam subspecies. The northern subspecies (*Spisula solidissima solidissima*) supports the federal fishery and is abundant on the continental shelf north of Cape Hatteras. The southern subspecies (*S. s. similis*) is predominantly found south of Cape Hatteras, but is also found in shallow, patchy, northern areas, such as coastal Virginia, Long Island Sound, and southern Massachusetts. However, the taxonomic rankings of these clams remain controversial. Recent genetic evidence suggests they could be distinct, but closely related species. However, the two clam varieties look nearly identical. Clarifying the surfclam's taxonomic classification may sound academic, but doing so will have important ecological and economic implications. The northern surfclam is highly sensitive to temperature stress, which will be exacerbated by anthropogenic climate change, while the southern surfclam is more tolerant to high temperatures. Accurate wild surfclam management is crucial for sustainable commercial fishing, and developing heat-tolerant surfclam breeds will help grow the nascent surfclam aquaculture sector.



The goal of this NJSGC-funded project is to determine whether the surfclam subspecies have the ability to hybridize and better understand how purebreds and hybrids respond to temperature stress.

Surfclams were collected from commercial fishing grounds off New Jersey (*S. s. solidissima*) and from a known *S. s. similis* bed in Massachusetts. Breeding occurred in October 2023 and May/June 2024 and resulted in two cohorts of purebred and hybrid progeny. Genetic samples were collected from each of the parental and offspring groups to confirm genetic lineage. Fertilization rate across groups ranged from 85-95%. Larvae from all four groups metamorphosed, with most transition from larvae to their juvenile adult form at approximately  $21 \pm 5$  days post-fertilization. Larvae were reared in 60-200 L static cultures maintained at 17-24°C and a salinity of 29-31. Larval shell length, shell height, and survival were assessed two to three times weekly during water changes. Survival and growth of the hybrid larvae appeared most similar to the purebred larvae with which they shared maternal parentage; conversely, post-metamorphic survival of hybrid groups appeared most similar to the purebred larvae with which they shared paternal parentage. This work demonstrates that *S. s. solidissima* and *S. s. similis* are indeed capable of hybridizing. In spring 2025, the hybrids were backcrossed with wild type stocks and crossbred to produce F2 hybrids. Clams from all groups successfully metamorphosed, which proves

that *S. s. solidissima* and *S. s. similis* surfclams not only can interbreed, but can also produce fertile offspring; therefore, these two surfclam varieties could be considered one species.

This project has also benefitted immensely from the help of undergraduate interns! Last summer, a juvenile growth rate experiment was conducted with the help of Logan Johnson, a NOAA INFISH intern and undergraduate from University of Southeast Alaska. Results from that project showed that the hybrid surfclams exhibited heterosis, also known as



Dr. Acquafredda with surfclams being studied.



The clams studied come from several east coast states.

hybrid vigor. The hybrid clams significantly outperformed the purebred groups for both growth rate and condition index (a measure of clam health). Notably, the hybrid clams grew about 3x faster than the northern subspecies and 1.2x faster than the southern subspecies over a four-month period. This summer, Fiona Farrell, a Rutgers RIOS intern and undergraduate from St. Joseph's University, is repeating that study but incorporating temperature as a variable to see how the different surfclam breeds respond to warming ocean temperatures. Fiona tagged each clam to track individual growth rates and survival. She's also given all 360 of her clams a unique name! It's too early to say for sure, but right now, it looks like Monica, Phoebe, Ross, and Joey are faring better than Tony, Paulie, Christopher, and Carmella.

Dr. Michael Acquafredda, Aquaculture Specialist, New Jersey Sea Grant Consortium, Aquaculture Program Coordinator, Rutgers University, Haskin Shellfish Research Laboratory

# RESEARCH SPOTLIGHT

## Stevens Institute of Technology Beach Nourishment Research in Long Branch

On June 2, Digital Communications Associate Yazemin Yilmaz and Communications Intern Abby Hesterhagen joined the Coastal Engineering Research Group (CERG) from Stevens Institute of Technology to document fieldwork in Long Branch. The team included Laura Kerr, CERG Senior Research Engineer and Coastal Resilience Specialist, New Jersey Sea Grant Consortium and Dr. Jon Miller, CERG Director and NJSGC Coastal Processes specialist. The work began early in the morning as the sun was rising on a calm, beautiful day. Data collection started with a drone and a backpack equipped with a GPS system. The drone was flown from Pier Village to Deal beach to collect aerial images of the beach that can show changes in the beach and erosion over time. These images will be combined into one image that shows the shape of the beach from above.

While the drone was in the sky, data was also collected in the surf zone using the backpack's GPS ROVER unit. The backpack was worn by Ian Day and Matt Janssen, who walked along the surf zone to collect elevation data at different points within the shallow parts of the ocean. Combining the data will show where sand erodes or accumulates and what the bottom looks like.

After all the data from the drone and backpack was collected, it was all hands on deck to collect elevation data using a jetski equipped with devices to map out elevations underwater. The entire team is involved in moving the jetski to the water, and drivers alternate on the jetski after periods of about two and a half hours on the jetski.

With the data from each collection technique combined, the effects of beach nourishment and the movement of sand can be understood. The data from the three collection methods is used to create a surface elevation map, which is compared to maps of the same region from years past. This shows how the beach has changed over time, such as what parts of the beach are eroding or collecting sand. Seeing this research being conducted was an incredible experience that showed a variety of unique ways to collect data. Being in the field with these researchers was also fascinating because their findings impact people throughout the Jersey Shore. The beach is a valuable and dynamic resource, and understanding the effects of beach nourishment is essential to assess the stability of our beaches, impacting locals, tourists, and the ecosystem.

*Laura Kerr, CERG Senior Research Engineer and Coastal Resilience Specialist, New Jersey Sea Grant Consortium*



The full team gets ready to launch the jetski.



Laura Kerr collects data using the jetski equipped with surveying technology.



Team members move to their next location in the surf zone to collect data using the backpack.



Laura Kerr prepares to fly the drone.



# NJSGC Continues Participation in Monmouth University Climate Change Learning Collaborative (MU CCLC)

After a successful participation in the MU CCLC, new dates have been set for NJSGC professional development through the program. The Monmouth University Climate Change Learning Collaborative (MU CCLC) was developed by Michelle Schpakow, Ed.D., Catherine Duckett, Ph.D., and Peter Jacques, Ph.D. in collaboration with New Jersey Sea Grant Consortium, Monmouth University's Urban Coast Institute (UCI), and Monmouth Conservation Foundation. With the funding support of the NJ Department of Education's Expanding Access to Climate Change and NJ Student Learning grant, the MU CCLC will prepare NJ K-12 teachers to teach climate change in developmentally appropriate ways across all grade levels and subject areas. Monmouth Conservation Foundation, NJ Sea Grant Consortium, and the Urban Coast Institute will offer place-based curriculum and experiential learning opportunities. Visit our website for more information and how to register for each of the below opportunities.



## Summer 2025 – Educator Professional Development

### Monday, August 18, 2025

Experiential Learning Opportunity with New Jersey Sea Grant Consortium (NJSGC)

Gateway National Recreation Area, Sandy Hook Unit

9:00 a.m. – 1:00 p.m.

Build Your Confidence in Teaching Climate Science – Life Sciences Focus (Grades K-5)

### Tuesday, August 19, 2025

Experiential Learning Opportunity with New Jersey Sea Grant Consortium (NJSGC)

Gateway National Recreation Area, Sandy Hook Unit

Build Your Confidence in Teaching Climate Science – Human Impacts Focus (K-5)

### Wednesday, August 20, 2025

Experiential Learning Opportunity with New Jersey Sea Grant Consortium (NJSGC)

Gateway National Recreation Area, Sandy Hook Unit

9:00 a.m. – 1:00 p.m.

Global Climate Systems and Human Society (Grades 6-12)

### Thursday, August 21, 2025

Experiential Learning Opportunity with New Jersey Sea Grant Consortium (NJSGC)

Gateway National Recreation Area, Sandy Hook Unit

9:00 a.m. – 1:00 p.m.

Communities and the Cost of Climate Change (Grades 6-12)

## Fall 2025 – Student Opportunities

K-12 teachers from Local Education Agencies (LEAs) in Monmouth University's service area can bring their students to New Jersey Sea Grant Consortium for an outdoor experiential learning opportunity to explore how coastal ecosystems are impacted by environmental disruption. Students will investigate topics such as natural resource availability, coastal biodiversity and natural hazards with hands-on activities and field investigations in this three-hour program that takes place at Gateway National Recreation Area on Sandy Hook.

Space is limited to two classes (up to 60 students) per LEA and is available September-November 2025 only. Please contact Samantha Maxwell-Kowal, K-12 Program Coordinator at [smaxwell-kowal@njseagrant.org](mailto:smaxwell-kowal@njseagrant.org) 732-872-1300, extension 13 for more information and to reserve your field trip.

Teachers and administrators from New Jersey public schools are eligible to attend Climate Change Learning Collaborative events/opportunities and use services provided by the Climate Change Learning Collaborative. Teachers from New Jersey public schools are eligible to receive a stipend for attending Climate Change Learning Collaborative events/opportunities outside contracted hours and substitute teacher coverage for attending Climate Change Learning Collaborative events/opportunities at an offsite location during contracted hours. Teachers will be required to complete a post-event/opportunity survey to receive a stipend or substitute teacher coverage. The MU CCLC's partnering LEAs in Monmouth County, Mercer County, and Union County will be given priority in event/opportunity attendance and the disbursement of stipends or substitute teacher coverage.



**Winners of the 2025 Photo Contest**

**appear on our website**

[njseagrant.org](http://njseagrant.org)

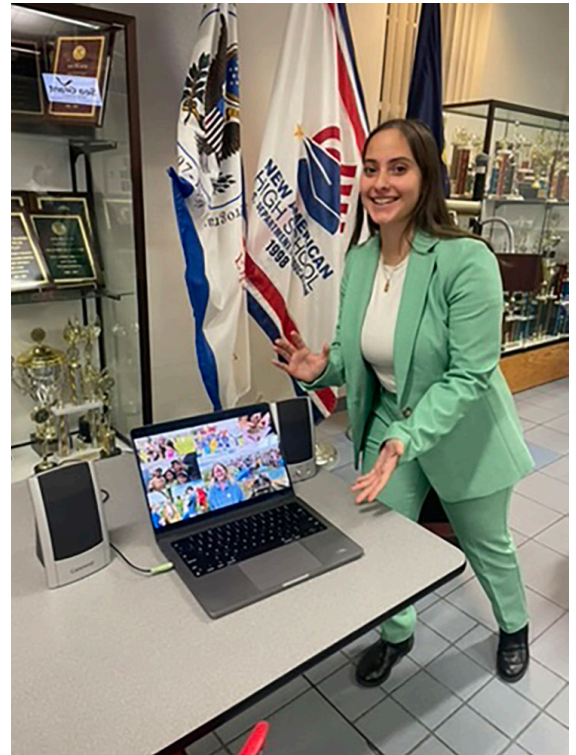
# New Hires

**Yazemin Yilmaz's** NJSGC journey started in the summer of '09 when she moved to Middletown. While exploring Sandy Hook with her family, she found a flyer for NJSGC's Marine Science Day Camp. Determined to attend despite financial challenges, seven-year-old Yaz set up a driveway iced tea stand, selling 50-cent cups until she could afford camp tuition. It became her summer tradition - sell iced tea, raise the funds, and return to camp.

That early experience sparked a lasting love for marine science and the Jersey Shore. Though she once dreamed of becoming a marine biologist, her passion evolved into a desire to tell environmental stories through film and photography. She went on to study Film & Television at Montclair State University, where she earned two College Television Awards (student Emmy awards) for her work in news/documentary.

While at MSU, Yaz took courses in marine science and primatology to strengthen her research and science communication skills. Motivated by these studies, she documented a PhD student's coastal research on berm and dune systems and reignited her love for marine science.

As graduation neared, Yaz reconnected with NJSGC and was selected as one of their Communications Interns. A year later, she now proudly serves as NJSGC's Digital Communications Associate, working alongside the team that helped shape her journey. She's excited to give back to the organization that helped spark it all and to keep telling stories that connect people to the coast.



**Abby Hesterhagen** is excited to be joining Sea Grant as the Communications Intern this summer. Abby grew up in Atlantic Highlands and spent a lot of time at Sandy Hook throughout her childhood. She first discovered Sea Grant at Ocean Fun Days, and she became more familiar with Sea Grant as a camper at the marine science summer camp. Abby attended the Marine Academy of Science and Technology for high school, and she completed an internship with NOAA as a part of her senior project. This project aimed to identify the optimal conditions for aquaculture of tautog, an important fish species to recreational fisheries. She also volunteered for several Ocean Fun Days while at MAST. Abby is a current student at the Florida Institute of Technology majoring in marine biology. She also works in the Shark Conservation Lab at Florida Tech, where she is using genetics to study shark behavior.

She gained experience in communications and social media as the Social Chair of Florida Tech's Sailing Club and is excited to develop these skills more. In her free time, Abby will most likely be sailing, fishing, or walking her dog at the beach. Abby is looking forward to sharing her passion for the ocean by working with Sea Grant, and she hopes to pursue a career in marine science.



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