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A Newsletter from the New Jersey Sea Grant Consortium

Summer 2024

NJSGC's Photo Contest Wows Again!

New Jersey Sea Grant Consortium (NJSGC) held its annual Jersey Shore Photo Contest again this summer. The contest always receives many submissions, but this year's quantity and quality were remarkable! Twelve winners were selected and their photos shown below were shot in familiar locations like Brigantine, Cape May, and Seaside Heights. The 2025 desktop calendar with these dazzling nature photos will be available for download on njseagrant.org in a few months. A printed version will also be available. But in the meantime, one may view the winners below. Congratulations to all.

Entrance to Paradise
Connie Pyatt

Brigantine Sticks
Robin Eiseman

Epic Monday
Mary Beeman

Humpback Whale Lunge Feeding off Lavalette Beach
Karen Riley

Red Fox Enjoying a Day at the Jersey Shore
Scott Miller

Bachelor Party
Anthony Bagileo

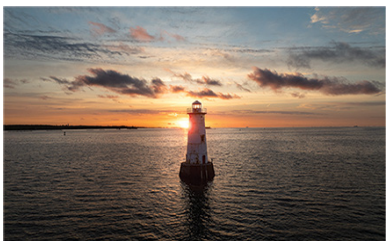
Mother Nature's Artistry
Laurie VanSant

Sunrise Surfer
Anthony Ferranina

Morning Light
Brian Lundy

Beachway to Heaven
Richard Pasquarella

Cape May Locals
Melissa Laurino



Dawn's Awakening
Edward Volpe

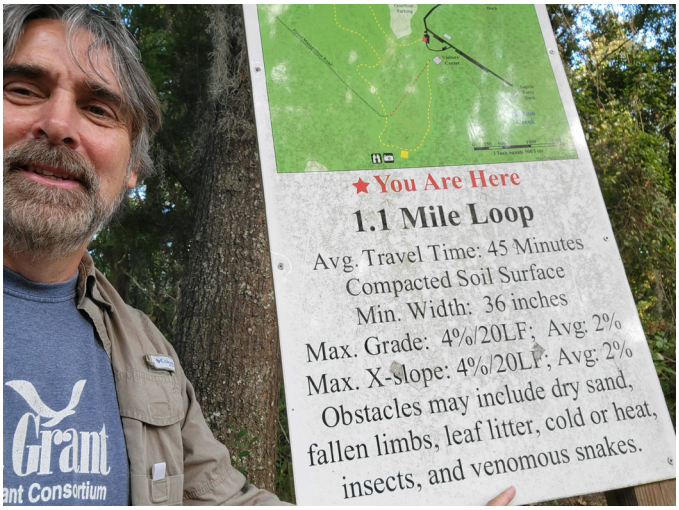
Dr. Peter Rowe attends Sea Grant Week in Savannah to learn about Sea Grant network activities and responses to a wide variety of marine related topics

Dr. Peter Rowe, Executive Director of NJSGC attended Sea Grant Week in Savannah, Georgia in August. During Sea Grant Week, professionals representing Sea Grant programs from all around the country attended network meetings, group discussions and presentations, where current and future work in focus areas like education, coastal resilience, marine debris, ecosystem health, and aquaculture were discussed.

One of the highlights of the week was travel to Sapelo Island, one of ten barrier islands in Georgia that can only be reached by boat. Participants learned about the history and culture of the island along with the coastal research and engagement that occurs there. Sapelo Island National Estuarine Research Reserve has facilities on the mainland and the island.

The University of Georgia Marine Institute building is located on the former estate of North Carolina tobacco heir Richard J. Reynolds Jr. The university has conducted research on wetlands ecology since the 1960s. Many current concepts on saltmarsh ecology were developed on Sapelo by Gene Odum and John Teal, the 'fathers' of saltmarsh ecology.

The ferry that connects the island to the mainland



Dr. Rowe enjoyed some of the available mainland activities at SINERR.

Sea Grant Week participants gather at UGAMI laboratory located at the former residence of Richard J. Reynolds, Jr.

Educational facilities at the Sapelo Island National Estuarine Research Reserve.

RESEARCH SPOTLIGHT

It's Not Just Oysters! The Importance of Biodiversity in Restoration Studies

Dr. Allison Fitzgerald
Principal Investigator
New Jersey City University
afitzgerald@njcu.edu

This project is the continuation of a 2023 NOAA and Sea Grant funded project to (1) assess the fouling community present in the Raritan Bay and (2) assess if the presence of fouling organisms on restoration structures and oyster shells is inhibiting oyster larval recruitment back to the reef structures/oyster reef, prohibiting the settlement of new oyster larvae. It is hypothesized that fouling organisms inhibit settlement of larvae, through both competition for space and biofouling.

Experimental Design

In 2023, clean bare oyster castles were placed in the subtidal zone in Sandy Hook Bay. After being out in the natural elements for a year, the castles were removed in July 2024 and transferred to the James J. Howard Lab (NOAA). Four tanks are filled with ambient, filtered sea water and loaded with oyster castles consisting of three different treatments - control castles (clean), fouled castles, and both. Air stones are added to ensure adequate DO. One million eyed oyster larvae purchased from Horn Point Laboratory, UMCES are added to static tanks and allowed to settle onto the oyster castles for 48 hours, after which tanks are switched to flow through. Tanks are fed and monitored daily for water quality, proper flow through and aeration, and oyster settlement. At the end of the experiment all castles are removed from the tanks, oyster spat on each castle counted, and all species living on the castles identified.

New Jersey Names its Favorite Beaches Again!

On Friday, July 12 NJSGC held its annual Favorite Beaches Contest Ceremony in Ocean City. Mayor Jay A. Gillian received Ocean City's award for New Jersey's Favorite Beach. Ocean City was also voted the winner as Cape May County's Favorite Beach. Special thanks to Ocean City for hosting our ceremony on their Music Pier.

In addition, the NJSGC Communications team went live on the radio station 94.3 the Point twice that day. Winners were announced in the morning with Lou Russo and Michele Pilenza and again in the afternoon with Matt Ryan. They also met with Sylvia Sylvia, Business Development Administrator/UEZ Coordinator for the City of Asbury Park, and Matthew Whelan, Executive Director of the Asbury Park Chamber of Commerce who accepted Asbury Park's award for Favorite Beach of Monmouth County.

Winners displayed their plaques at the Ocean City Awards Ceremony.

Ocean City has welcomed the event for many years.

The NJSGC team in Ocean City: (from left) Dr Peter Rowe, Executive Director, Intern John Moran, Intern Yazemin Yilmas, Communications Specialist Samantha Kreisler and Program Associate / Grants Administrator Julie Lang.

Banner depicting the beautiful winning photos in the 2024 New Jersey Photo Contest.

EDUCATION at NJSGC

The Eco-Ambassador Marine Debris Project is underway at at Lamont-Doherty Earth Observatory at the Columbia Climate School

The project, "Community Science to Address Microplastic Pollution in Environmental Underserved Communities in New Jersey and New York," is a collaborative effort with New Jersey Sea Grant Consortium and New York Sea Grant to not only develop timely and effective marine debris curricula but to also expand environmental literacy outreach to school districts in various communities in New Jersey and New York urban watersheds. The project is supported by NOAA and Sea Grant's Marine Debris Community Action Coalitions Competition.

The Eco-Ambassadors Solutions Lab also has a dynamic and immersive virtual aspect, designed for high school students passionate about environmental sustainability, global citizenship, and technical skills development. During this virtual program students have participated in:

Sustainability and Climate Knowledge: Students explore the concept of sustainable development, understand how individual actions contribute to global goals, and take action towards addressing sustainability issues and achieving the Sustainable Development Goals (SDGs) on local and global scales.

Technical Training: Participants acquire practical skills in Geographic Information Systems (GIS) and other technologies through interactive workshops. They learn how to use data tools for mapping, data analysis, and problem-solving in the context of sustainable development issues.

Citizen Science: Students prioritize the invaluable contribution of local knowledge and data collected by community members.

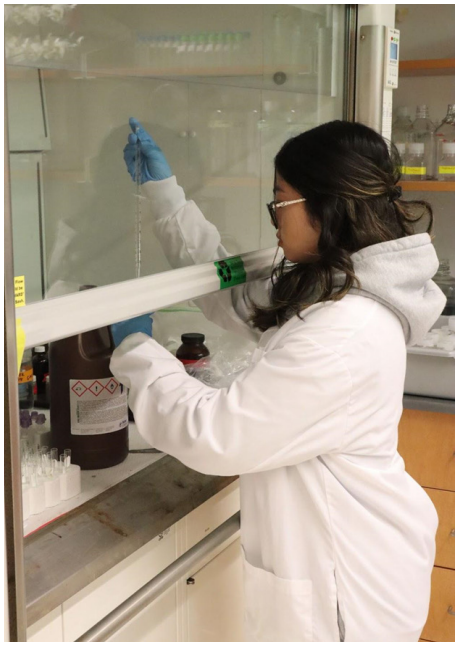
Expert Networks: They engage with experts in the field through virtual webinars covering diverse topics related to sustainable development and the role of GIS in addressing global challenges.

Mentorship: Experts across various fields provide guidance and mentorship.

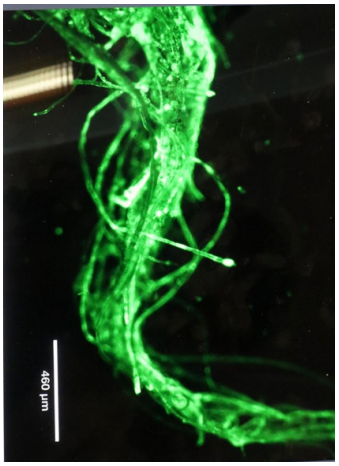
Digital Storytelling: Students present their final project in a StoryMap format, showcasing new skills and solutions with peers, mentors, and the wider community, by employing data tools.

Global Citizenship: Become global leaders and advocates for local and global change.

The project builds upon the Columbia University Center for Sustainable Development's Eco-Ambassador Program and Eco Ambassadors Solutions Lab with SDGs Today, which equips youth participants with scientific knowledge and skills to promote the circular economy, via development of solutions for mitigating plastic use and establishment of sustainable solutions for management and stewardship of plastic waste within their communities.



A student adds solution to samples to be examined microscopically.



Above, plastic fiber found in shrimp, examined under a microscope.

At right, a student examines samples under a microscope.

Photos: Haein Shin

Monmouth University Climate Change Learning Collaborative to present Educational Professional Development Opportunities at Consortium location

ATTENTION ALL EDUCATORS: Did you know that the New Jersey Department of Education has created Climate Change Learning Collaboratives (CCLC) at four New Jersey universities to support your efforts in teaching climate change? Until March 31, 2025, each CCLC will provide FREE professional development, technical assistance, and networking and collaborative opportunities to NJ public schools to aid in implementation of the New Jersey Student Learning Standards supporting Climate Change Education. Working together with community-based nonprofit organization partners, CCLCs at Ramapo College of New Jersey, Rutgers University – New Brunswick, Monmouth University and Stockton University are comprised of interdisciplinary teams offering both virtual and in-person learning opportunities. Teachers and administrators are encouraged to take part in CCLCs to support their climate change education initiatives. For more information about opportunities in your area, please visit NJDOE's website.

New Jersey Sea Grant Consortium is offering the following professional development workshops in conjunction with Monmouth University in central Jersey:
Experiential Learning Opportunity with New Jersey Sea Grant Consortium (NJSGC)
Gateway National Recreation Area, Sandy Hook Unit

October 18, 2024, 9:00 a.m. – 3:00 p.m.
Build Your Confidence in Teaching Climate Science – Ocean Processes Focus (K-5)
Grade K-5 teachers are invited to explore the basics of climate science and effective ways to teach climate change to their elementary school students. Ocean processes will be the focus of this workshop as educators learn about the factors that shape our coastlines by exploring currents, wave action, sediment erosion/accretion, and physical and chemical characteristics of the ocean. Enhance your curriculum with new classroom activities and hands-on outdoor experiential learning. This workshop will provide the tools and experiences necessary to inspire student curiosity and motivation to work collaboratively towards solutions in reducing climate change impacts. Educators will also learn how to utilize research-based framework to approach discussions on this sometimes-difficult topic.
Location: New Jersey Sea Grant Consortium, 22 Magruder Road, Fort Hancock, NJ 07732. For GPS use "22 Magruder Road, Highlands, NJ 07732"; for directions NJ 07732"; for directions visit https://njseagrant.org/about-us/directions/)
Please register here by October 15, 2024. Space is limited to 30 participants.

November 2, 2024, 9:00 a.m. – 3:00 p.m.
Global Climate Systems and Human Society (Grades 6-12)
Grade 6-12 educators will explore the energy drivers of climate change, the effects on natural resources, and how these impact society. Real-world data transfer and climate models will enable teachers to closely examine resource availability and sustainable coastal ecosystems with both laboratory activities and field studies. Alternative energy sources will be explored as well. This workshop will provide the tools and experiences necessary to inspire student inquiry and problem solving. Educators will also learn how to utilize research-based framework to communicate climate science and facilitate solution development.
Location: New Jersey Sea Grant Consortium, 22 Magruder Road, Fort Hancock, NJ 07732 (for GPS use "22 Magruder Road, Highlands, NJ 07732"; for directions NJ 07732"; for directions visit https://njseagrant.org/about-us/directions/)
Please register here by October 30, 2024. Space is limited to 30 participants.

January 31, 2025, 9:00 a.m. – 3:00 p.m.
Build Your Confidence in Teaching Climate Science – Life Sciences Focus (Grades K-5)
Grade K-5 teachers are invited to explore the basics of climate science and effective ways to teach climate change to their elementary school students. Enhance your curriculum with new classroom activities and hands-on outdoor experiential learning on topics such as species diversity, food webs, changes in weather patterns, and how these changes can affect coastal ecosystems. This workshop will provide the tools and experiences necessary to inspire studentcuriosity and motivation to work collaboratively towards solutions in reducing climate change impacts. Educators will also learn how to utilize research-based framework to approach discussions on this sometimes-difficult topic.
Location: New Jersey Sea Grant Consortium, 22 Magruder Road, Fort Hancock, NJ 07732 (for GPS use "22 Magruder Road, Highlands, NJ 07732"; for directions, NJ 07732"; for directions visit https://njseagrant.org/about-us/directions/)
Please register here by January 27, 2025. Space is limited to 30 participants.

February 12, 2025, 9:00 a.m. – 3:00 p.m.
Climate Change and the Ocean (Grades 6-12)
Grade 6-12 educators will explore the science of climate change in greater depth, and how it affects the chemical and physical properties of the ocean. Using models, topics such as storm surge, ocean acidification and sea level rise will be explored with both laboratory activities and field studies. This workshop will provide the tools and experiences necessary to inspire student inquiry and problem solving. Educators will also learn how to utilize research-based framework to communicate climate science and facilitate solution development.
Location: New Jersey Sea Grant Consortium, 22 Magruder Road, Fort Hancock, NJ 07732 (for GPS use "22 Magruder Road, Highlands, NJ 07732"; for directions NJ 07732"; for directions visit **https://njseagrant.org/about-us/directions/**)
Please register here by February 7, 2025. Space is limited to 30 participants.

March 8, 2025, 9:00 a.m. – 3:00 p.m.
Build Your Confidence in Teaching Climate Science – Human Impacts Focus (K-5)
Grade K-5 teachers are invited to explore the basics of climate science and effective ways to teach climate change to their elementary school students. Causes of climate change and impacts on coastal communities and ocean environments will be the

focus of this workshop as educators learn about flooding and sea level rise, species migration and food chains, and renewable energy sources. Enhance your curriculum with new classroom activities and hands-on outdoor experiential learning. This workshop will provide the tools and experiences necessary to inspire student curiosity and motivation to work collaboratively towards solutions in reducing climate change impacts. Educators will also learn how to utilize research-based framework to approach discussions on this sometimes-difficult topic.
Location: New Jersey Sea Grant Consortium, 22 Magruder Road, Fort Hancock, NJ 07732 (for GPS use "22 Magruder Road, Highlands, NJ 07732"; for directions visit **https://njseagrant.org/about-us/directions/**)
Please register here by March 5, 2025. Space is limited to 30 participants.

March 14, 2025, 9:00 a.m. – 3:00 p.m.
Communities and the Cost of Climate Change (Grades 6-12)
Grade 6-12 educators will examine the economic impacts of climate change on coastal communities and how some populations are disproportionately affected by environmental challenges. Topics such as coastal resilience, ecosystem dynamics, and biodiversity will be explored with laboratory activities and field studies (weather permitting). This workshop will provide the tools and experiences necessary to inspire student inquiry and problem solving. Educators will also learn how to utilize research-based framework to communicate climate science and facilitate solution development.
Location: New Jersey Sea Grant Consortium, 22 Magruder Road, Fort Hancock, NJ 07732 (for GPS use "22 Magruder Road, Highlands, NJ 07732"; for directions visit **https://njseagrant.org/about-us/directions/**)
Please register here by March 11, 2025. Space is limited to 30 participants.

All NJSGC workshops will take place rain or shine and will have both indoor and outdoor components (weather permitting) utilizing NJSGC's headquarters and Sandy Hook's natural coastal environments. Please dress for the weather in comfortable clothing and footwear that may get sandy. Sunscreen and bug spray are always a good idea during warmer weather. Feel free to bring your laptop or notebook of choice. Coffee/tea and light snacks will be provided, but please bring your own lunch and a refillable water bottle. All materials and field equipment will be provided by NJSGC.
For more information, please feel free to reach out to Diana Burich, Director of Education, dburich@njseagrant.org

Meet Daniel Raphael - NJSGC Extension Intern

NJSGC Extension Intern, Daniel Raphael, a recent graduate with a B.A. in Ecosystem Science and Policy from the University of Miami, conducted a field survey of marinas with pumpout facilities to determine their operation status and provide educational materials. He had previously worked as a Field Instructor for the NJSGC's K-12 Marine Education Program for the past two years. His love for the environment and the ocean has been prominent for as long as he can remember. Growing up sailing and surfing, both leisurely and competitively, he developed a passion for nature and conservation. That along with his desire to one day earn his captain's license made him a perfect fit for the internship.

The field survey was conducted on behalf of the New Jersey Clean Vessel Act Program (NJCVAP) from July to August 2024. 65 marinas were selected for visits from the approximately 152 marinas that are known to have pumpout facilities. This study was done under the direction of Michael Danko, Assistant Director of Extension, Marine Recreation Agent – Fisheries & Boating. In addition, Dan represented the NJCVAP at the Annual States Organization for Boating Access Education Conference held in Wilmington, North Carolina on August 26-28, 2024.

A total of 56 marinas were successfully surveyed. The majority of the marinas successfully surveyed were found to have working boat sewage pumpout units (49 of the 56 marinas open for business). Of the 58 marinas successfully surveyed, 7 marinas were identified with pumpout units that were not operational. 5 marinas were interested in replacing their pumpouts. And another 3 marinas were identified as no longer in business. Of the 65 total marinas, nine did not have staff on site to discuss the operation of the pumpout facility and an effort to contact them via faxes, calls, and emails will be continued outside of the field survey effort. The survey found that the majority (88%) of the marinas visited had boat sewage pumpout units available throughout the 2024 boat season and there was an adequate supply of sewage disposal facilities to meet the needs of recreational boaters. It was noted that the sewage pumpout boats operated by Monmouth County and Ocean County provide an important service for both the larger as well as the smaller marinas with and without pumpout units. The availability of pumpout facilities at marinas and the county operated pumpout boats provides a vital service to recreational boaters to ensure they have a means of properly disposing sewage generated onboard boats. Through the efforts of reaching out to marinas regarding funding from the New Jersey Clean Vessel Act Program, it is projected that there will be more marinas with working pumpouts in the near future once repairs and grant applications are approved.

Sea Grant
NEW JERSEY
SEA GRANT CONSORTIUM

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