



A Newsletter from the New Jersey Sea Grant Consortium

Spring 2022

NJSGC holds State of the Shore Event to Announce the Condition of New Jersey's Beaches



season. After a series of relatively mild winters in a row, in combination with renewed efforts to protect New Jersey's beachfront communities after Superstorm Sandy have contributed to these favorable conditions, we can look forward to a smooth sailing summer.

However, Dr. Miller warns of a busy hurricane season and the need for preparedness with climate change and sea level rise. The State of the Shore Report covers various topics including coastal flooding, erosion, a look into the projected hurricane season, and more. Read the full report on the NJSGC website at: <https://njseagrant.org/communications/publications/>

In the annual State of the Shore media event, held to announce the condition of New Jersey's beaches Dr. Jon K. Miller the NJSGC Coastal Processes Specialist/Stevens Institute of Technology, delivered a promising report at this year's State of the Shore Media Event. Dr. Miller was joined by NJSGC Executive Director Dr. Peter Rowe, New Jersey Department of Environmental Protection Commissioner Shawn LaTourette, and NJSGC Coastal Resilience Specialist Laura Kerr.



At the event, held at Tim McCloone's Supper Club on the historic Asbury Park boardwalk, Dr. Miller announced that the beaches are in good condition heading into the Summer 2022

From Headwaters to Coastal Waters Sea Grant Programs in The Mid-Atlantic Region Work Together to Enhance Coastal and Great Lakes Resources

Our team was able to share information, form new partnerships, and learn about innovative projects happening in our states. NJSGC representatives included Pete Rowe (Executive Director), Diana Burich (Director of Education), Samantha Kreisler (Communications Specialist), Laura Kerr (Coastal Resilience Specialist), and Tom Herrington (Coastal Community Resilience Specialist).



Photo by Samantha Kreisler, New Jersey Sea Grant



Photo by Aileen Devlin, Virginia Sea Grant



NJSGC Communications Specialist Samantha Kreisler, participates in Sea Grant Law Center Advocacy workshop.



Photo by Aileen Devlin, Virginia Sea Grant

With lots of new ideas, learned skills, and important connections, the meeting was an overall success! Special thanks to those who helped put the event together. It was a pleasure seeing our colleagues at Delaware Sea Grant, Maryland Sea Grant, New York Sea Grant, North Carolina Sea Grant, Pennsylvania Sea Grant, Virginia Sea Grant, and National Sea Grant.



Photo by Aileen Devlin, Virginia Sea Grant

NJSGC Welcomes Aboard New Crewmembers



AVA GANDHI

Ava Gandhi joins the NJSGC crew June 2022 as Communications Intern for the summer season. An Asbury Park native, Ava has grown up as a steward of the environment and has dedicated much of her education to learning more about marine science and our ecosystems. An Undergraduate Biology student at the University of Rhode Island, she has garnered

valuable knowledge of the earth and marine sciences. Ava enjoys spending her summers traveling, catching up on reading, spending time with friends, but most importantly, cleaning up and enjoying the view of the Jersey Shore's beautiful beaches and ocean. To Ava, the most important aspect of being a steward of the Earth is being able to communicate with the public. Using science to create a larger community is one of the many reasons why she is so excited to be part of the communications team this summer.



DIANE DESCH

Diane Desch is NJSGC's new Accounting Assistant. Diane has a Degree in Education from Brookdale Community College and spent her early career teaching preschool, operating a home day-care program, and substituting for the Middletown Board of Education. She loves working with children, but also has a background in banking and office accounting as well. She is no newcomer to Sandy Hook, as she spent much of her

junior high school days at Fort Hancock with friends whose families were in the Coast Guard. Diane enjoys the history at Fort Hancock and the Lighthouse. Living close to the bayshore, she loves exploring the beaches and the bay area with her two sons, Steven and Michael, and their family dog, Buddy.



JULIE LANG

NJSGC welcomes its new Education Associate, Julie Lang. Julie is a New Jersey native, who grew up visiting Sandy Hook every summer with her family. She graduated from The Rochester Institute of Technology with a degree in photography and a minor in journalism and quickly grew a passion for scuba diving and underwater photography. As Julie's

interests in marine science grew, she began working as a field guide in 2019. The inspiring environment at NJSGC motivated Julie to change her career path and go back to school for her masters degree in nonprofit administration at Rutgers University. Since accepting the role of Education Associate in March, Julie has been working diligently alongside the Education department staff scheduling education programs, building relationships with school leaders, and helping out wherever she can.



CATHERINE RODRIGUEZ

Catherine Rodriguez, from Livingston, NJ is NJSGC's new Coastal and Marine Science Education and Community Engagement intern. Her parents immigrated to the United States from Peru and raised Catherine and her sister to become first-generation students.

She is currently majoring in the Marine Biology & Coastal Science BS/MS program while double minoring in Earth & Environmental

Science and Psychology at Montclair State

University and expects to graduate in 2023. Catherine has always had a passion for wildlife conservation and research - and since 2021, has been focusing on her independent research "Assessing Asexual Reproduction in the Venomous Clinging Jellyfish (*Gonionemus vertens*)," with her research mentor Dr. Bologna at Montclair State University. In this research, Catherine was able to evaluate asexual reproduction rates and polyp growth from initial observations using time-lag regression analysis, which was able to find that it can take 2 weeks for new polyps to grow into mature polyps where they can continue to clone themselves. Furthermore, Catherine was able to publish her research in the NJAS Journal - Senior Academy (2022) and attended a few conferences to speak about the importance of these findings. Her research has also been recognized and funded by the GS-Louis Stokes Alliances for Minority Participation as a Research Scholar.

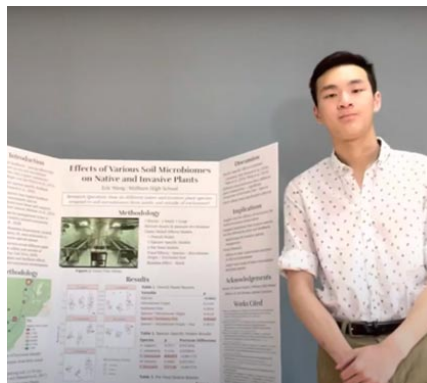


Welcome to the Crew

NJSGC IN YOUR COMMUNITY

6th Jersey Shore Junior Science Symposium

The 6th Jersey Shore Junior Science Symposium (JSJSS), hosted by Ocean County College in Toms River, was again held virtually on March 25, 2022. The symposium included presentations of 10 student research papers, 6 posters and a guest speaker. The primary goal of the JSJSS is to promote research and experimentation in the sciences, engineering, and mathematics at the high school level, and to publicly recognize students for their outstanding achievements. The event includes presentations from New Jersey high school students on their individual science research projects.



Eric Wang presenting his project virtually.

The NJSGC provides awards to the students with the Top Environmental Paper and Top Environmental Poster. At the 2021 Symposium, NJSGC presented a \$300 award for the Top Environmental Paper to Saachi Kuthari from Millburn High

School, Millburn, New Jersey for her paper on Inactivation of MS2 Bacteriophage for Water Disinfection via Microwave Radiation and \$200 awarded to Eric Wang from Millburn High School, Millburn, NJ for his paper on Effects of Various Soil Microbiomes on Native and Invasive Plants.

As a member of the Executive Committee, the New Jersey Sea Grant Consortium proudly serves many JSJSS activities such as recruiting members to be Technical Paper Reviewers, Student Mentors, and Symposium Judge for Presentations and Poster Session. NJSGC's Diana Burich and Jody Sackett served as volunteers. Special thanks to the Delaware Estuary Program, New Jersey Department of Environmental Protection, Rutgers University, Kean University, Monmouth University, Georgian Court University, National Oceanic and Atmospheric Administration, The College of New Jersey, George Mason University, Save Barnegat Bay for also reviewing papers.



Stevens Innovation Expo

The 2022 Stevens Innovation Expo took place on Friday, April 29, 2022. Stevens' annual showcase for student design, innovation and entrepreneurship included Senior Projects, the College of Arts and Letters Concert, the Thomas H. Scholl Lecture by Visiting Entrepreneurs and the Ansary Entrepreneurship Competition, an exciting student pitch competition featuring select project teams.

In the past, Stevens had produced the highly-regarded peer-reviewed Stevens Flood Advisory System (SFAS), a desktop optimized visualization website that produces email notifications of forecasted flooding throughout the New York/New Jersey region. However, it was regarded as too complicated by some users. The new Coastal FloodHub simplifies the forecast data and warnings into a more accessible format designed for your phone making these forecasts accessible for quick decision making.

Coastal FloodHub applications don't stop there. Users can use the app to send in their own reports of flooding to various organizations collecting community science flood data. Alternatively, it can simply be used for keeping individual records of flooding in particular areas.

NJSGC Coastal Resilience Specialist, Laura Kerr, recruited an advisory team from Stevens Institute of Technology and New



Computer Science Senior Design Team that worked on Coastal FloodHub. They were presenting their project at Stevens' Innovation.

York and New Jersey Sea Grants to advise the student on the app applications, while the students developed the product for the advisory team. Now that their project is complete, the Senior Design Team is currently working on getting the app pushed up to the Apple App and Google Play stores. Soon, volunteers from coastal communities will be needed to use the app and provide feedback for version 2.0.

New Jersey Sea Grant Consortium Holds Ocean Fun Days In Person After Two Years of Virtual Programming

The Sun and Crowds Came Out for Ocean Fun Days 2022



NJSGC Executive Director Dr. Pete Rowe educates excited attendees about fiddler crabs.

The warm weather and sunshine was not the only thing New Jerseyans were excited about recently, as the New Jersey Sea Grant Consortium, in partnership with New Jersey Natural Gas, hosted Ocean Fun Days. On May 21 and 22, children (and children at heart) flocked to Island Beach State Park and Gateway National Recreation Area at Sandy Hook Unit to learn about our ocean, environmental science, and energy conservation.

For those unfamiliar with the event, Ocean Fun Days is a free eco-friendly event for the whole family where participants are able to learn first hand from scientists and researchers all about the inner-workings of the ocean and our coastline and how to protect them for generations to come.



Thumbs up for Ocean Fun Days!

The 19th annual Ocean Fun Days was back in person after two years of virtual programming. Smiles were contagious during fun events like crab races, seining for marine life, the energy scavenger hunt, guided walking tours, and other enjoyable ways to learn about our coastal environment and ways to protect it. For those unable to attend in person, NJSGC created OceanFunDays.org complete with videos, handouts, activities, and other parent and teacher resources for kids.

NJSGC Executive Director Dr. Pete Rowe reflects on the day “New Jersey Sea Grant Consortium was as excited as our attendees to have Ocean Fun Days back in person. I am so proud of our incredible staff and partners for pivoting to virtual programming for the past two years. The sunny summer-like weather made this year’s event even more special. We (staff and attendees) all had big smiles and soaring spirits.”

Rosemary Higgins, College & Special Programs Coordinator at NJSGC, who has been coordinating Ocean Fun Days since its humble beginnings in 2003 couldn’t help but exclaim her excitement on this year’s success: “This event is the product of hard work and team collaboration. Our sponsors, along with over 50 exhibitors at both locations, came together to make this event in its 19th year a big success. The willingness to share knowledge of marine and coastal topics and energy conservation with the public creates a unique free event fun for the whole family just in time for summer. I can’t wait for our big 20th annual Ocean Fun Days next year!”

“We had a fantastic turnout, and it was great to see so many friends, colleagues and visitors come out to support this event. The organizations that participated shared so many creative activities for people to learn about ocean sciences, and we hope that visitors left with increased understanding and a sense of caring for marine and coastal environments.” Says Diana Burich, Director of Education at NJSGC.

New Jersey Sea Grant Consortium appreciates all the enthusiasm and bright smiles all our attendees brought with them for Ocean Fun Days. Ocean Fun Days 2022 was one for the books! Did YOU attend Ocean Fun Days this year? If so, we’d love to hear your thoughts! If interested, please take part in the [2022 Ocean Fun Days Survey](#). NJSGC would like to thank all our sponsors and partners for working together to make this event such a great success. “Sea” you next year!

RESEARCH SPOTLIGHT:

DR. KEITH DUNTON

Dr. Keith Dunton is a fisheries ecologist and Associate Professor in the Biology Department at Monmouth University. He has 17 years of experience working on fisheries, community ecology, and ecosystem dynamics. Dr. Dunton is also an expert in acoustic telemetry, which is the process of tracking fish with



Dr. Keith Dunton (center) is mounting a survival pop-off archival satellite tag (sPAT) through the dorsal fin of sand tiger shark (*Carcharias taurus*) while Stockton University student Danielle Dyson (left) assists and Monmouth University undergraduate student Breana DiRenzi (right) restrains the shark while anglers overlook the process.



Monmouth University undergraduate student Breana DiRenzi (front), Stockton University Undergraduate student Danielle Dyson (back, light blue shirt), and Michael Nguyen (former research assistant from Stockton University and volunteer angler) measure a sand tiger shark (*Carcharias taurus*) while Monmouth University undergraduates Trinity Caratenuto and Emily Greenemeier record data and prepare tags to be deployed.

transmitters. Over the years, his research has primarily focused on federally endangered species like the Atlantic sturgeon and prohibited species like coastal sharks.

Worldwide, shark populations have shown drastic declines largely due to overfishing, making the conservation and management of many species a critical need. Specifically, recreational land-based shark fishing has been growing in popularity coast-wide but has suffered some negative setbacks in states where critically endangered sharks are being targeted and suffer mortality. Although this land-based fishery is largely catch and release, there are many uncertainties related to the survivorship of releasing sharks because some species are highly susceptible to lethal and sub-lethal capture effects and mortality due to the physiological stress of the capturing process.

Michael Nguyen
(former research
assistant from
Stockton
University and
volunteer
angler) captures
a sandbar shark
(*Carcharhinus
plumbeus*).



Dr. Dunton's research will be filling key critical data gaps by examining specific aspects of the unknown recreational land-based shark fishery in New Jersey, utilizing innovative pop-off survival satellite tag technology to evaluate post-release mortality and post-release behavior of released sharks, and using acoustic telemetry to observe long-term coastal movements and migrations. Understanding survivorship, population demographics, as well as migratory pathways within this fishery has direct management and conservation implications for this coastal shark fishery, particularly with the management of prohibited species.

Working with recreational anglers to tag and monitor post-release effects and mortality, Dr. Dunton's team is able to evaluate the relative abundance, species, and sex of sharks that are most susceptible to capture and whose populations can be impacted over time.

In regard to the future of the project, the next steps are to continue to analyze the collected data. The acoustic tags used in this project are long-term transmitters and have an estimated tag life of 10 years—this means these animals can be continually tracked over that time along the entire coast. Dr. Dunton is currently working with other shark researchers in the region to examine coast-wide movements. While this project focused on sub-adults and adult sharks he is hoping to also explore shark nursery areas in New Jersey.

Jersey Shore Photo Contest and Favorite Beaches Poll

New Jersey boasts some of the most picturesque beaches along the East Coast. This spring, dozens of photographers submitted their great shots that celebrated and embraced the natural elements of the Garden State's beautiful coastline, to NJSGC's "Favorite Beaches of the Jersey Shore" photo contest!



Ultimately, the top twelve photos will be used to create New Jersey Sea Grant Consortium's annual desktop calendar for 2023.

But that's for YOU to decide! We've narrowed the submissions down to 24 finalist photos and now you can vote on which make the cut! These snapshots will be featured on the NJSGC

website where visitors can then vote for their favorite throughout the rest of the month.

New Jersey's Favorite Beaches 2022

Vote for your favorite beach on New Jersey Sea Grant Consortium's website
njseagrant.org
Winners announced July 4 weekend



Winners will be announced prior to the July Fourth holiday. To view last year's winners, please click [here](#). For continued updates, please visit NJSGC's official photo contest webpage.

And while we're on the topic of voting, don't forget to cast yours for your favorite beach! The fate of our beaches is in your hands. Choose your favorite local "hotspots" from a list of amazing beaches throughout the Jersey Shore's four coastal counties – Atlantic, Cape May, Monmouth, and Ocean. New Jersey Sea Grant (NJSGC) will announce the winners around the July Fourth holiday. Click [here](#) to vote: <https://www.surveymonkey.com/r/favoritebeach2022>!

Download Desktop Calendars on NJSGC's Website



Beautiful monthly calendars are available for download on the NJSGC website njseagrant.org. They were created from the winning photos from the 2021 photo contest.

