



WINTER 2018

Nor'easters and snowfalls and windy ice storms– oh my! But over the past few blustry months, the New Jersey Sea Grant Consortium (NJSGC) kept things moving and grooving.



In this edition of the ***COASTodian***, delve into NJSGC's latest batch of research projects, discover underwater exploration with student-made ROV's, tour Monmouth County's "Tracking Sandy" exhibit, and learn more about upcoming events and various summer programs. We've also dedicated a section on how you can [voice your support](#) of the Sea Grant program by contacting your elected representatives.

NJSGC strives to inform the public about coastal and environmental concerns in new and exciting ways – please take a look!

We're also working hard to provide fresh and entertaining content on NJSGC's official [Facebook](#), [Instagram](#), and [Twitter](#) pages. Be sure to check out what's new and get involved by tagging us on social media! Please visit njseagrants.org for further information and updates.

Summer Fun at NJSGC

With warmer days just around the corner, NJSGC recently announced important dates for several upcoming summer programs and events. Mark your calendars for some exciting fun in the sun along the iconic shores of Sandy Hook!

Ocean Fun Days Returns to Sandy Hook!

Thousands of people will once again descend on Island Beach State Park and Sandy Hook the weekend of May 19-20, 2018 to learn more about the coastal environment, energy conservation, and marine science. Now celebrating its 15th year, *Ocean Fun Days* remains a free event open to the public. Annual activities at both locations include seining, face painting, scavenger hunts, touch tanks, ocean-themed crafts, and much more. Stay tuned for an updated list of this year's exhibitors. More information will be available on our [website](#) prior to the two-day event. We can't wait to see you there!



Learn More about NJSGC's Popular Scouts Program



The Consortium offers a variety of year-round, marine science-based Girl and Boy Scout merit badge programs. During these programs, scouts have the opportunity to explore the coastal environment on Sandy Hook while completing requirements to earn a badge. Registration is required and available dates fill-up fast. For more information, please visit our [website](#) or contact NJSGC's Scout Program Coordinator [Jody Sackett](#) at 732-872-1300 x20.

Summer Fun at NJSGC (cont)

Summer Day Camp Dates Announced

The learning never stops at NJSGC! Our summer campers explore ocean and marine life while partaking in outdoor adventures, laboratory experiments, educational games, and other hands-on activities. Please keep these specific dates and grade levels in mind when contacting Special Programs

Coordinator [Rosemary Higgins](#) at 732-872-1300 x19 for more information:

Session 1: July 9-13 (4-6th grade)

Session 2: July 16-19 (3-4th grade)

Session 3: July 23-27 (5-6th grade)

Session 4: July 30-August 3 (7-9th grade)

Session 5: August 6-10 (5-6th grade)

Session 6: August 13-17 (7-8th grade)



Welcome to summer camp at NJSGC!



NJSGC College Course Offerings

Every summer, the Consortium offers college-level marine science courses recognized for credit by most New Jersey colleges and universities. The course schedule for 2018 is now available [online](#). Please note that classes are held at Brookdale Community College (Hazlet) or at the New Jersey Sea Grant Consortium (Sandy Hook). For those interested, housing is also available at Monmouth University located in West Long Branch.

This year, sessions on *Introduction to Marine Science* will include lectures and labs hosted at NJSGC in conjunction with Middlesex County College. Advanced registration is required for all courses.

Know What's Going On

NJSGC's Education Specialist Mindy Voss Acknowledged for Contribution to Monmouth County's "High Water Mark Initiative"

The [Monmouth County Historical Association](#)'s crowd-sourced "Tracking Sandy" exhibition will remain on display in Freehold until October 2018. To mark the fifth anniversary of Hurricane Sandy, NJSGC's Education Specialist [Mindy Voss](#) attended the opening ceremony with her family and was featured in the [Two River Times](#) for her work as a scientific peer reviewer for the exhibit.

Currently among display, the [High Water Mark Initiative](#) (HWM) is a component of the National Flood Insurance Program (NFIP) aimed to increase local communities' awareness of flood risk and to encourage risk mitigation actions. The HWM Initiative uses signs on public and private property to show the high water mark from past flooding events, like 2011's Hurricane Irene and 2012's Hurricane Sandy. NJSGC partnered with the County and Monmouth University on this project, which resulted in the production and publication of the [Teachers Guide to the Monmouth County High Water Mark Initiative](#).

NJSGC's Coastal Ecology Extension Agent [Dr. Amy Williams](#) also contributed to the exhibit. Her oral history on her Hurricane Sandy experience is included in the exhibit.

Feel free to share your own "[Sandy story](#)" and it will be stored in the Association's online archives.



*The New Jersey Sea Grant Consortium's Mindy Voss (far right) was a scientific peer reviewer for the "Tracking Sandy" exhibit. She was joined by her husband Mike and their children Matthew and Samantha.
(Photo by Rick Geffken)*

"Tracking Sandy: Monmouth County Remembers" is a haunting yet fascinating exhibition of 2012's Hurricane Sandy, ultimately highlighting the heart, unity, dedication, and human compassion which epitomizes the phrase
#JerseyStrong.

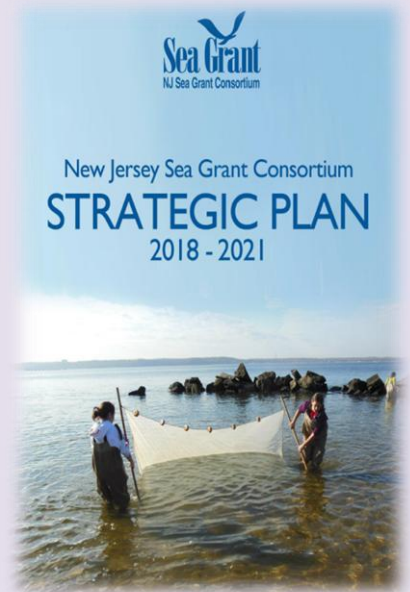


Know What's Going On (cont)

Introducing NJSGC's Strategic Plan for 2018-2021

NJSGC's ongoing mission is to advance stewardship and responsible use of New Jersey's coastal and marine resources through integrated research, education, and outreach efforts in order to promote a sustainable future for all to enjoy. Our current [Strategic Plan](#) describes several core values – including integrity, accountability, efficiency, effectiveness, and community empowerment – focused on four main areas: Healthy Coastal Ecosystems, Sustainable Fisheries/Aquaculture, Resilient Communities/Economies, and Environmental Literacy/Workforce Development.

Please visit our [website](#) to view our Strategic Plan for 2018-2021.



Jersey Shore Junior Science Symposium

Ocean County College

March 22-23, 2018

NJSGC to Recognize “Best in Environmental & Earth Sciences” at Jersey Shore Junior Science Symposium

To help promote outstanding achievement and experimentation in STEM at the high school level (grades 9-12), the [Jersey Shore Junior Science Symposium](#) will be held on March 22-23 at Ocean County College in Toms River, NJ. Students and teachers are highly encouraged to watch the [Livestream](#) or attend the competition as observers – please email sjjss@ocean.edu for more information. For a complete description breakdown of rules and regulations, please visit the [event summary](#) page.

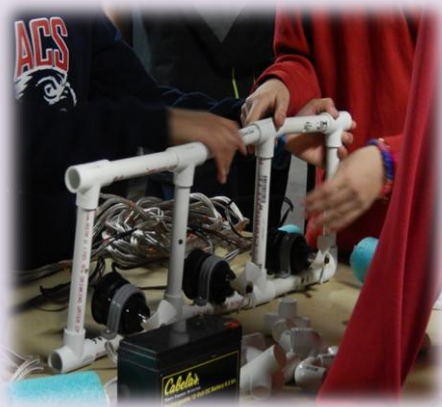
Ten finalists were chosen for the research paper technical session, where they will compete for extensive awards including undergraduate tuition scholarships and advancement to the National Junior Science and Humanities Symposia [[JSHS](#)] Program. The banquet poster session will have another six presenters compete for various prizes including ribbons and gift certificates.

The NJSGC will recognize top Environmental Paper submissions with a \$300 award (first place) and \$200 award (second place).

Adventures in Education

“Underwater Exploration” Program Promotes Teamwork and Innovation

In February, K-12 Program Coordinator [Diana Burich](#) presented NJSGC’s “Underwater Exploration” program at Jenkinson’s Aquarium located on the Point Pleasant boardwalk. To start the day, over 20 eager-to-learn fifth graders from the American Christian School (Succasunna, NJ) shared their thoughts and knowledge on ocean and marine life before delving into a “mass vs. density” science experiment using floaters. The class then took everything they learned to the water tanks!



Working in groups, students had the opportunity to build ROVs (remotely-operated vehicles) using simple materials like foam pool noodles, battery-operated propellers, and PVC pipes. These vehicles were then tested in the aquarium’s holding tanks to help students improve and modify any design imperfections. Later, everyone had the chance to go “behind the scenes” and drive a pre-built ROV in one of the aquarium’s exhibit tanks – with actual fish!



Burich led a similar seminar for members of the New Jersey Department of Environmental Protection at Stockton University’s Seaview Hotel and & Golf Club in Galloway, NJ. This time around, the ROVs were tested in the hotel’s pool. For more details on this program, including how to bring it to your school or center, please visit our [website](#).



RESEARCH RECAP

NJSGC recently announced its latest batch of Sea Grant-funded research projects that were included in the program's omnibus proposal to the National Sea Grant College Program. In early 2017, NJSGC received a record-breaking number of research pre-proposals from a diverse array of institutions, all seeking funds to conduct research that responds to priorities identified in NJSGC's most recent [request for proposals](#). Of the 43 pre-proposals submitted, NJSGC's Technical Review Panel (TRP) recommended that 17 move forward to the final round of review. Full proposals were submitted in June and ranked in the fall of 2017.



Priorities for research funding were determined through a collaborative process that received input from stakeholders, NJSGC's advisory boards and partners, and others.

The final projects were selected based on relevancy and scientific rigor using a competitive, peer-reviewed process. As a result, the eight projects anticipated for funding reflect local concerns and seek solutions to NJ's most pressing marine and coastal issues. Please click [here](#) for more information on each individual project, including principal and co-investigator acknowledgements.



Research Projects, 2018-2020

Impacts of thin layer sediment deposition on salt marsh ecosystems

~

Establishing shellfish hatchery biosecurity certification standards to facilitate interstate transport of shellfish seed

~

River plumes as a control on microplastic entry into the food chain

~

Optimizing fishing regulations for New Jersey's multi-species recreational bottom fisher to improve economic outcomes and angler satisfaction

~

Measuring dune, beach, and nearshore response to an extreme event: Atlantic City, New Jersey

~

Interactions among horseshoe crabs and intertidal oyster farms in the Delaware Estuary

~

Quantifying the effects of a changing climate on summer flounder recruitment

~

"Green" retrofit of stormwater BMPs for pollution prevention in urban coastal communities of New Jersey

Getting to Know Extension

NJSGC's "busy season" typically winds down in mid-October, but that doesn't mean our staff goes into hibernation! Over the winter, our Communications Specialist [Danica Bellini](#) had the exciting opportunity to "get off the Hook" and spend a day "behind-the-scenes" at the [Haskin Shellfish Research Laboratory](#) with Shellfish Aquaculture Program Coordinator, [Lisa Calvo](#).



Haskin, located in Port Norris, NJ, functions as a New Jersey Agricultural Experiment Station (NJAES) through [Rutgers Cooperative Extension](#) as well as a field station for the Department of Marine and Coastal Sciences (DMCS), both located within Rutgers University's School of Environmental and Biological Science.

As a NJSGC extension agent, Ms. Calvo works in collaboration with researchers and technicians at Haskin to conduct applied and basic research in support of fisheries and aquaculture.



On a clear but cold December afternoon, Calvo led members of our staff on a private tour of a local Delaware Bay oyster farm. NJSGC is proud to work with and support these organizations that help sustain the state's coastal environment and aquaculture industry.

Did you know...

HSRL Assistant Professor [Daphne Monroe](#)'s current research project on "Interactions among Horseshoe Crabs & Intertidal Oyster Farms" is [funded and supported](#) by NJSGC.

Sea Grant Needs Your Voice & Support!

Dear Friends of NJSGC,

Please accept our sincerest appreciation for your past support of Sea Grant and New Jersey Sea Grant Consortium. Last year, you reached out and told your elected officials how important Sea Grant is to you, our state, and the nation. You were most definitely heard. Congress soundly rejected the Administration's proposal to eliminate all Sea Grant programs. This allowed us to continue to work with you on so many crucial issues including stormwater management, coastal resilience, supporting the shore tourism and boating industries, and providing environmental and STEM educational experiences for children, college students, and the public

The Administration recently released its FY 2019 budget blueprint. **Once again, it proposes the termination of the entire Sea Grant program and so, once again, we must ask for your help.**

Please reach out to your elected officials as soon as possible to ask for their renewed support of the Sea Grant program. When contacting local representatives, it is important to thank them for their past support and to remind them why the Sea Grant program is so crucial to New Jersey's well-being and how our work has benefited your personally. For more information, please visit our [website](#). We've also developed a [template](#) for possible use in composing your message.

As an additional guide, please take a look at NJSGC's year-in-review [fact sheet](#) developed by NOAA, and feel free to share!

We are forever grateful for your support, and it is our pleasure to continue serving you.

**NEW JERSEY**
SEA GRANT CONSORTIUM
February 2018

The New Jersey Sea Grant Consortium is one of 33 Sea Grant college programs and is an affiliation of New Jersey colleges and universities.



Hurricane Sandy caused major flooding and housing damage in Seaside Heights, New Jersey. Credit: Tim Lauen, New Jersey Governor's Office

New Jersey Sea Grant research paves the way for resilience planning in coastal communities
More than ever, towns all over the country are focused on how to make coastal infrastructure more resilient to extreme weather and climate change. New Jersey Sea Grant researchers worked with Ventnor City, New Jersey as a model for other coastal communities to incorporate adaptation elements into pre-existing land use documents, such as master plans, zoning ordinances, recreation plans and stormwater management plans. As a result of New Jersey Sea Grant's guidance, Ventnor is leading the county-wide program for public information under FEMA's community rating system program.

[njseagrant.org](#)

**10,000**
Volunteer hours completed

**25,000**
K-12 students reached

**6,200**
Workshop and conference participants

Metrics reported to National Sea Grant Office in June 2017 for work completed February 2016 to January 2017

**RESEARCH EXTENSION EDUCATION**

**New Jersey Sea Grant Director:**
Claire Antonucci, cantonucci@njseagrant.org, (732) 872-1300 x22

New Jersey Sea Grant promotes stewardship through habitat restoration, improves community resilience to future storms



Hurricane Sandy severely damaged many beaches along Delaware Bay, some of which still require restoration to provide protection from future storms. Oyster reefs provide many ecological benefits, including serving as living shorelines which can reduce erosion and make shorelines more resilient. New Jersey Sea Grant worked with Rutgers University and The Nature Conservancy to expand educational opportunities and excellence in STEM through the community-based oyster restoration curriculum known as Project PORTS (Promoting Oyster Restoration through Schools), improving the resilience of Delaware Bay beaches and reaching over 4,000 students from 10 under-resourced southern New Jersey K-8 schools in 2016.

[njseagrant.org](#)

"Without New Jersey Sea Grant we wouldn't have the culture of preparedness in Cape May County that we have today."
- Edward Mahaney, Principal, Mahaney Consulting, LLC and Mayor Emeritus, City of Cape May, NJ

Reducing Sewage Discharges from Boats


Marina pumpout stations can greatly reduce sewage discharges from boats, however, more than half of New Jersey's existing stations were destroyed by Hurricane Sandy. New Jersey Sea Grant partnered with federal, state and local agencies to rebuild more than 75% of the damaged stations. In 2016, about 650,000 gallons of sewage were collected and properly disposed of at marina pumpout stations.

Bringing Underwater Robotics to Middle Schoolers


In partnership with Jenkinson's Aquarium, New Jersey Sea Grant educators were able to use that facility to expand their underwater robotics program. Over the course of ten presentations, 172 middle school students learned how scientists explore deep oceans and built remotely operated underwater vehicles (ROV's) of their own design to deploy in the aquarium's exhibit tanks.

Refining the Stock Assessment Approach


New Jersey Sea Grant researchers refined the "Only Reliable Catch Stocks" (ORCS) approach for stock assessments to estimate overfishing limits for U.S. fisheries. The refined ORCS approach performed better than other widely used catch-only models, correctly classifying the harvest level for 74% of all stocks when other methods incorrectly classified many of those stocks as being overexploited.