

NOAA IN THE CARIBBEAN

CONNECTING NOAA & PARTNERS ACROSS THE CARIBBEAN



NOAA in the Caribbean Newsletter - Fall Edition

NOAA in the Caribbean Partner Meeting Recap

Hello NOAA in the Caribbean Community,

Thank you again to all of our presenters and attendees who made the 2021 NOAA in the Caribbean Partner Meeting a success! Over 120 participants tuned in and participated throughout our sessions. We're very encouraged by the turnout and grateful for your engagement.

If you weren't able to attend in September or would like to rewatch any of the presentations, the [recording and meeting materials](#) are now posted on the [Southeast and Caribbean Regional Team's website](#). The recording is available with both English and Spanish subtitles, which you can select in the settings of the YouTube video player.

Should you have questions or want more information, please contact CaribbeanNews@noaa.gov. We hope to see you at our next NOAA in the Caribbean event!

Thank you,
The NOAA in the Caribbean Executive Team

New Efforts to Address Marine Debris in the Caribbean



(Photo Caption: Volunteers clean up marine debris. Credit: [NOAA Marine Debris Program](#))

To further its mission of investigating and preventing the adverse impacts of marine debris, the NOAA Marine Debris Program funds marine debris removal, research and prevention projects around the United States. Following a highly competitive review process, the NOAA Marine Debris Program is pleased to announce two recipients of our 2021 Removal and Research Grant awards in the Caribbean.

Scuba Dogs Society (\$107,970) will work with local partners to coordinate year-round coastal cleanups and remove large underwater, coastal, or estuarine debris. The cleanups are part of an action-based educational program offering volunteer and citizen science opportunities for all audiences in Puerto Rico.

Villanova University (\$338,123) will use field and laboratory experiments to explore how marine debris moves from the upstream areas of the Guánica Watershed to the nearshore coastal waters of southwest Puerto Rico. In partnership with local partners in Puerto Rico, the researchers will look at sources of debris, how debris transport varies across the wet and dry seasons, and what factors influence debris degradation. This information will be used to develop a regional assessment of marine debris in the Guánica Watershed, which can both be used to improve natural resource management in the region and be applied to increase our understanding of marine debris in other riverine and coastal locations.

For more information on this year's funded projects, visit the 2021 [Removal](#), [Research](#), and [North America Prevention and Removal](#) funding pages on the Marine Debris Program [website](#).

La Villa del Ojo de Agua in Aguadilla



(Photo Caption: The restored, painted container in El Ojo de Agua fishing village)

El Ojo de Agua was once a successful, organized, and prosperous fishing village in Aguadilla, Puerto Rico. People visiting the beach stopped to see the fishermen when they threw their gillnets, when they fed the pelicans and above all, when they came from fishing in their iconic yolas, which are brightly painted fishing boats. It was quite a show, watching them lower the engine of the yolas, load them on their shoulders, and then go back for the catch of the day. They used to have a restaurant where they added value to their fishing, creating tasty dishes with it. The women collaborated in the kitchen, the men fished, and even the oldest fisherman collaborated by cleaning the area. Their organization was so extraordinary that they served as an example for other fishermen's associations.

They were such an extraordinary example of cooperation that the Puerto Rico Sea Grant Program magazine *Fuete y Verguilla*, dedicated Volume 6, Number 1 of 2012, to them.

However, in 2017, everything changed. Hurricane Maria struck the east coast of our Island and went across it. The destruction it wreaked far and wide was shocking.

The fishing village was practically destroyed by the storm surge. The parking lot was destroyed, many of the yolas disappeared into the sea, and the electrical wiring of the building was stolen. Only a small part of one of the buildings was left standing and after a few months, the community tried to have a degree of normality. That did not last long, as months later strong waves from a cold front collapsed the building, leaving them devoid of their fish shop. A large container they had served to store the boat engines, but it didn't serve to store the fresh fish.

Obviously, their spirits fell considerably, especially because they felt that the government turned its back on them. In fact, to this day, they have not regained what they once had.



(Photo Caption: Boats sit on the shore near Aguadilla, Puerto Rico)

Faced with these circumstances, the Puerto Rico Sea Grant Program had the idea of empowering and helping them regain their courageous spirit and sense of belonging. Through the Sea Grant Program, we knocked on the door of university professor and muralist painter Damary Burgos, who often solidarizes with social justice causes. Master Paints donated the gallons of paint needed and the Brigada Solidaria del Oeste became part of the project that would give the container a new life. The idea was for Damary to capture in it everything that once made the El Ojo de Agua fishing village so attractive to all the public.

The container was painted with the help of several volunteers, and the art was unveiled to the fishermen, along with government representatives and other supportive people, on October 29, 2021. It was wonderful to hear the fishermen express themselves, saying that this was theirs, with pride and strength in their voices. Sea Grant and Damary sowed the seeds of hope that fishermen will regain what they once had.

Self-Guided Walks in Jobos Bay NERR: A Collaboration with Puerto Rico's Sea Grant Program

The Jobos Bay National Estuarine Research Reserve (JBNERR) was designated in 1981 as part of the National Estuarine Research Reserve System (NERRS). JBNERR is the only Estuarine Research Reserve in Puerto Rico and the wider Caribbean and is one of two Reserves representing the West Indian Biogeographic Region. The Reserve is administered through a Memorandum of Understanding (MOU) between the National Oceanic and Atmospheric Administration's (NOAA) Estuarine Reserves Division and the Puerto Rico Department of Natural and Environmental Resources (PRDNER).

Due to the COVID-19 Pandemic, JBNERR's Education Program adjusted their offerings to virtual settings, facilitating distance learning opportunities, and limited on site activities. One adjustment made was to provide self-guided alternatives for visitors to use our trails. Knowing the importance of nature-based experiences for the well-being and mental and physical health of the public, the Reserve's trail system remained open for visitors. In late 2020, JBNERR's Environmental Educator, Ms. Nilda Peña, and its Education Coordinator, Mr. Ernesto M. Olivares, decided to write a reference document for visitors which included the interpretation and information for self-guided walks in the "Salitral" trail.

The document was a collaborative initiative by JBNERR and the Puerto Rico Sea Grant Program (PRSGP). Cynthia L. Gotay Colón and Fabiola Nieves Guerrero designed and illustrated the guide; illustrators' part of the PRSGP graphic arts department. The guide can be used by visitors to learn about the history of the Aguirre Sugar Plant, the ecosystems that they will encounter during their walk and the flora and fauna of Jobos Bay NERR. It includes all the interpretation stations of the guided interpretive walks offered by the Reserve's education staff. Users can scan a QR Code and download the document to their cellphones and/or tablets. The document can be downloaded in the following [link](#).

For more information please contact Ernest M. Olivares, Education Coordinator for the Jobos Bay National Estuarine Research Reserve at eolivares@drna.pr.gov.



(Photo Caption: Cover of the Reference Document for Self-Guided Walks in Jobos Bay NERR)

Global Ocean Decade Tsunami Programme is Approved

In June 2021, the Intergovernmental Oceanographic Commission (of UNESCO) approved the establishment of the Ocean Decade Tsunami Programme, a Scientific Committee to prepare a 10-Year Research, Development and Implementation Plan, and a Tsunami Ready Coalition. The Ocean Decade Tsunami Programme will support the *Safe Ocean* Outcome of the [UN Decade of Ocean Science for Sustainable Development](#), which started on January 1, 2021, and will run through 2030.

The establishment of a dedicated Ocean Decade Tsunami Programme represents a once-in-a-generation opportunity to address and fill critical gaps in global tsunami detection, measurement, forecasting, and preparedness. For the Caribbean, it is particularly relevant given that over the past 500 years, there have been at least 83 confirmed tsunamis and over 4,500

people have lost their lives from these waves. It is only a matter of time that a tsunami strikes again, putting at risk the lives and livelihoods of hundreds of thousands of people. The Programme seeks global tsunami resilience through two major focus areas: warning and preparedness.

For the warning component, expansion and integration of existing observational systems including seismometers, coastal tide gauges, deep ocean tsunameters (DARTs), and Global navigation satellite system (GNSS), as well as deployment of new technologies such as scientific instrumentation on deep-ocean telecommunications cables. [ITU/WMO/UNESCO-IOC Joint Task Force \(JTF\) SMART Subsea Cables](#) will be key for improving and expanding forecasts to include all sources, not just earthquakes. Improved coastal digital elevation models, as well as computational capabilities, will also be required to enable more timely, accurate, and comprehensive tsunami and other coastal hazard forecasts to better advise community response.

On the preparedness side, the goal is that 100% of communities at risk of tsunami be prepared and resilient to tsunamis by 2030 through initiatives like the [UNESCO/IOC Tsunami Ready Programme](#), which is modeled after the [US TsunamiReady program](#). There are currently over 60 communities in the Caribbean recognized as Tsunami Ready (TR). Puerto Rico and USVI met this goal many years ago and, therefore, will focus on enhancing their preparedness and maintaining their TR Status. The [International Tsunami Information Center Caribbean Office](#) (previously known as the Caribbean Tsunami Warning Program), with funding from USAID, has been supporting TR internationally since 2010. It is currently working with several countries on their TR efforts and encourages the sharing of best practices across jurisdictions, like the painting of murals (Figure 1).

The US, through the National Tsunami Hazard Mitigation Program, the National and Pacific Tsunami Warning Centers, the International Tsunami Information Center, NOAA Pacific Marine Environmental Lab, USAID, and other initiatives, is uniquely poised to support and inform the Global Tsunami Programme both domestically and internationally.



(Photo Caption: Figure 1. Tsunami murals painted in Ponce, Puerto Rico (above) and Saint Kitts and Nevis (below) as part of their respective Tsunami Ready actions.)

NCCOS Contaminant Data Informs Listing of New EPA Superfund Site in Puerto Rico

This article was originally published on the [National Centers for Coastal Ocean Science's website](#) on September 23, 2021.

Based on environmental contamination originally reported by NCCOS scientists, the U.S. Environmental Protection Agency (EPA) added a site in Guánica, Puerto Rico, in September to its National Priorities List of hazardous waste sites in the U.S., commonly known as the Superfund program. NCCOS identified high sediment concentrations of polychlorinated biphenyls (PCBs), chlordane, nickel, and chromium while characterizing the coral reef ecosystem in Guánica Bay.

After the contaminants were identified, NCCOS, with support from NOAA's Coral Reef Conservation Program, determined their extent and magnitude, conducted preliminary source tracking, and then recruited academic partners to investigate the potential human health impacts. Studies from the University of Miami show elevated levels of PCBs in bay sediment, fish samples, and blood samples from Guánica residents.

The Ochoa Fertilizer Co. site in Guánica, Puerto Rico consists of two parcels totaling 125 acres adjacent to Guánica Bay. Ammonia, ammonium sulfate and sulfuric acid were manufactured at the plants from the 1950s until 1968. These operations resulted in releases of untreated waste, contaminating soil and entering the Bay where it poses a threat to corals, fish, and aquatic life. There is a potential risk of exposure to nearby residents from soil contaminated with mercury, lead, and PCBs. Fertilizer manufacturing on the 13-acre lot has continued to the present day.

The Superfund includes the nation's most serious uncontrolled or abandoned releases of contamination. Listed sites are prioritized for EPA Superfund cleanup funding and enforcement actions. EPA adds sites to the list based on a scientific determination of risks to people and the environment, consistent with the Comprehensive Environmental Response, Compensation, and Liability Act and the National Oil and Hazardous Substances Pollution Contingency Plan. Superfund cleanups provide health and economic benefits to communities. The program is credited for significant reductions in both birth defects and blood-lead levels among children living near sites.

The Puerto Rico Department of Natural and Environmental Resources supports the inclusion of the site to the Superfund NPL. For information about Superfund and the NPL, please visit: <https://www.epa.gov/superfund>. EPA's press release on the Superfund site designation is [here](#).

For more information the primary contact is dave.whitall@noaa.gov.



(Photo Caption: Puerto Rico's Guánica Bay. Credit: US EPA)

NOAA Fisheries Announces New Caribbean Staff

The National Marine Fisheries Service (NMFS) Southeast Regional Office (SERO) recently welcomed Dr. Xaymara Serrano to the Habitat Conservation Division (HCD). Xaymara will serve as the NOAA's Coral Reef Conservation Program (CRCP) Fisheries liaison for Florida and will be based at the West Palm Beach office. As part of this role, Xaymara will be working with partners from Florida and the Caribbean in coral conservation initiatives, as well as helping with implementation of the Essential Fish Habitat (EFH) provisions of the Magnuson-Stevens Act for coastal development projects in Florida. Xaymara will also serve in various state's advisory panels, including the Southeast Florida Coral Reef Initiative (SEFCRI) Technical Advisory Committee and the Florida's Disease Regulatory team.



(Photo caption: Dr. Xaymara Serrano, new Florida Fisheries liaison for the NOAA's Coral Reef Conservation Program)

Xaymara completed her undergraduate degree in Biology at the University of Puerto Rico, and her M.S. and Ph.D. degrees in Marine Biology and Fisheries at the University of Miami, Rosenstiel School of Marine and Atmospheric Science (RSMAS). Xaymara then worked as Assistant Scientist at NOAA's Atlantic Oceanographic and Meteorological Laboratory (AOML) where her research focused primarily on investigating the effects of climate change and land-based sources of pollution (e.g. sedimentation) on multiple life stages of corals, including various species listed under the Endangered Species Act. Most recently, Xaymara worked as the Coral Technical Resource Specialist in the Navigation and Coastal Civil Works section at the US Army Corps of Engineers (USACE), Jacksonville District. At USACE, Xaymara was responsible for developing innovative monitoring and mitigation plans for coral reef habitats which may be impacted by coastal construction projects (e.g. dredging), and helping write detailed environmental documents with the goal of protecting marine and coastal habitats.

In addition, Dinorah Chacin is the new NMFS Natural Resource Specialist for the US Virgin Islands (USVI). Dinorah earned her Ph.D. in Marine Science from University of South Florida in 2019 and has a diverse background in managing and conducting research projects on marine resources, obtaining research grants, analyzing environmental data, and publishing research articles in peer-reviewed journals. She has served as a member of international research teams with vast experience on a wide range of coastal habitats. Most recently, Dinorah worked with the Gulf Shellfish Institute conducting research to sustainably increase the production of shellfish for environmental restoration and enhancement of the shellfish aquaculture industry in the Gulf of Mexico.

Dinorah will be working with Caribbean partners such as the USVI Department of Planning and Natural Resources and NOAA's Coral Reef Conservation Program in various coral conservation initiatives. As part of the NOAA NMFS Habitat Conservation Division, Dinorah will serve as the NMFS Fisheries Liaison for USVI and also help implement the Essential Fish Habitats provisions of the Magnuson-Stevens Act for coastal development projects in the USVI. In her free time, Dinorah enjoys adventuring in nature with her family. She particularly loves watching sunsets at the beach while the birds feed on their last meal of the day.



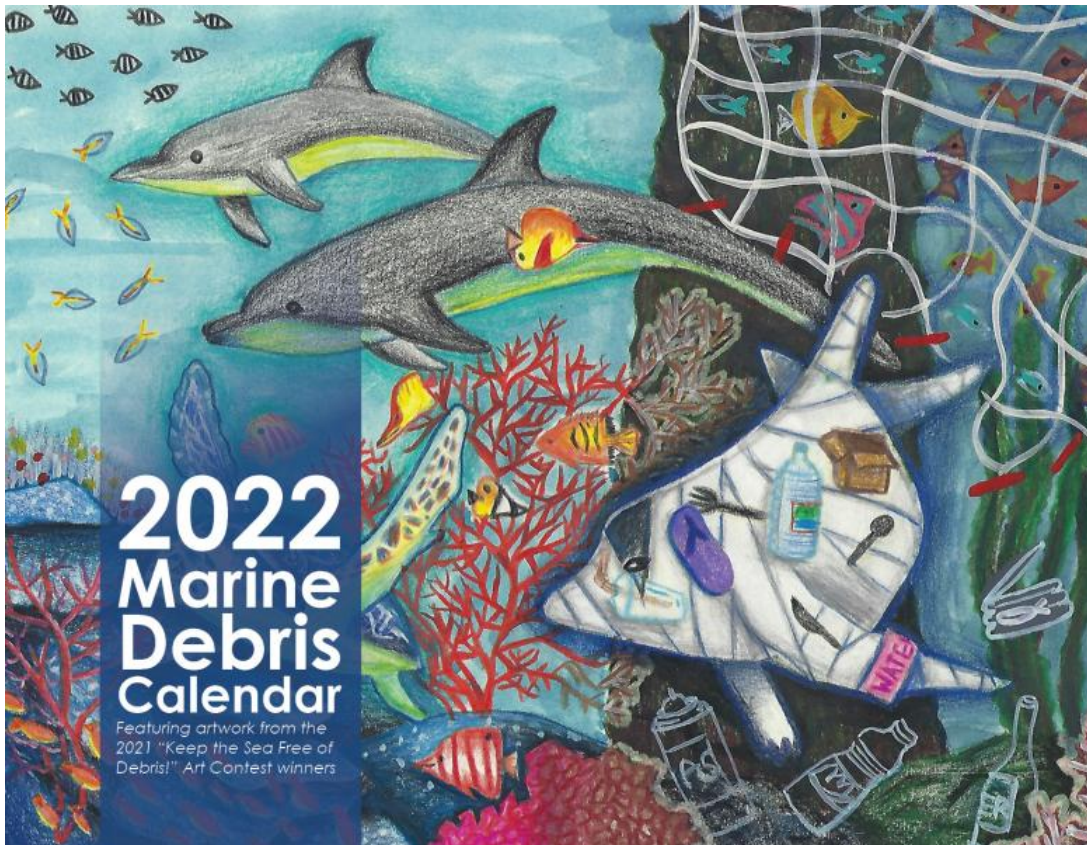
(Photo Caption: Dinorah Chacin, Ph.D., USVI Fisheries Liaison)

Announcements

Now Open: The Annual NOAA Marine Debris Program Art Contest!

Students in grades K-8 from the United States and U.S. territories can submit their artwork now through December 10, 2021 for the chance to be featured in the NOAA Marine Debris Program 2023 Marine Debris Calendar. A NOAA awards panel will collect all entries and select 13 winners whose artwork answer the following questions:

- How does marine debris impact the ocean and Great Lakes?
- What are you doing to help prevent marine debris?

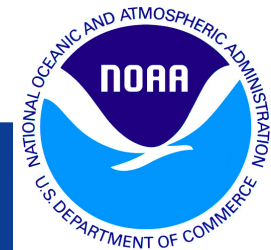


(Photo Caption: Cover art by Jeewoo S., Grade 8, Commonwealth of the Northern Mariana Islands)

This year our contest will accept entries electronically and by mail! For more contest and submission guidelines, please visit our [website](#) and download the [entry form](#).

General Announcements:

- 1) **Materials from the Bluetide Caribbean Summit are Now Posted** – Bluetide summit is the first blue economy international hybrid summit held in the Caribbean. It focuses on generating interdisciplinary collaboration among multiple oceanic-dependent industrial sectors. As a follow-up to the Summit, the organizers are providing this link to the updated bluetidecaribbeansummit.com website that now includes the video recordings and presentation materials from the event. Additionally, a [YouTube channel](#) with the event recordings is organized into playlists corresponding to each day of the Summit. Please visit the website regularly to learn about developing initiatives to grow the U.S. Caribbean’s leadership role in the global blue economy and the resilience industry of tomorrow.
- 2) The purpose of this notice is to invite organizations with demonstrated expertise and experience in supporting coral reef management in the United States to **submit proposals that establish partnerships with the NOAA Coral Reef Conservation Program (CRCP)** and local management agencies to further the conservation of U.S. coral reefs. This [funding announcement](#) describes the coral reef conservation partnership(s) that the NOAA CRCP envisions, identifies the qualities that NOAA desires in a partner, and describes criteria against which applications will be evaluated for funding consideration. Letters of Intent (LOIs) are optional but strongly recommended, and should be submitted no later than 11:59 PM Eastern Time on Friday, December 10, 2021 by email. Full applications **MUST** be submitted electronically via www.grants.gov by 11:59 PM Eastern Time on Friday, February 11, 2022 to be considered for funding
- 3) EPA and its co-sponsors have launched the [Environmental Justice \(EJ\) Video Challenge for Students](#) to enhance communities’ capacity to address environmental inequities. [Register for an informational webinar](#) on Monday December 6 at 12 p.m. ET to learn more about the Challenge and to ask questions!



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If you wish to submit any questions, comments, story ideas, artwork or photographs, please email us at CaribbeanNews@noaa.gov.

NOAA in the Caribbean Newsletter is produced by the NOAA in the Caribbean Steering Committee, including support from NOAA’s Office of International Affairs, Southeast and Caribbean Regional Collaboration Team, Office for Coastal Management, National Marine Fisheries Service SE Regional Office, Office of Legislative and Intergovernmental Affairs, and National Centers for Coastal Ocean Science.