



NATIONAL MARINE  
SANCTUARIES

PAPAHĀNAUMOKUĀKEA  
MARINE NATIONAL MONUMENT

## 'ŌLELO NO'EAU

Kui 'ia ka lei moku e  
Kanaloa

*The ocean unites  
humanity*

This 'ōlelo no'ēau, or Hawaiian proverb, translates to "the islands are strung together as a lei by Kanaloa," the Hawaiian god of the sea. The ocean is often considered as something that divides lands. Although, from an oceanic perspective, the ocean has always been a connecting force for us all.

Image: NOAA

## Happy Anniversary, Papahānaumokuākea



Image: Mark Sullivan/NOAA

Established as a marine national monument in 2006 by President George Bush, on June 15 we celebrate 15 years of accomplishments in cooperative conservation and management. In August, we also celebrate the fifth anniversary of the expansion of Papahānaumokuākea by President Barack Obama. Encompassing 582,578 square miles of the Pacific Ocean (1,508,870 square kilometers), the monument remains one of the largest marine conservation areas in the world.

This celebration and significant milestone honor all, whether in the field doing research or restoration, in the boardroom, in the classroom, at outreach events, or providing

hundreds of hours of volunteer services to conserve this special place.

Papahānaumokuākea represents a new way of managing where federal, state, and Native Hawaiian voices have equal say in how a place is managed. It is a place where nature and culture are one, and where we strive to incorporate western science and indigenous knowledge in all aspects of management. Each day brings new challenges and new opportunities to learn from each other, to grow as a community, and to strive to do our best to continue to care for this special place. To all of you who have been a part of this journey – mahalo!

## Fifth Annual World Ocean Day Celebration

NOAA Pacific Region, Ko Olina, and other partners would like to invite you to a special World Ocean Day Celebration Sunday, June 13, 4-6 p.m. The event will be held virtually, as we did last year, and the theme for this year is "Generations," reflecting on the sharing of knowledge and experience across time and generations. The tagline is "I ola nō

nā hanauna i ka welo" - the generations thrive because of their common heritage. The event will feature local artists, musicians such as Kapena and Josh Tatofi, NOAA scientists discussing how research has changed over the years, video postcards from around the Pacific, and more. Mark your calendars now and keep an eye out for the celebration invite.

Image (right): Brad Ka'aleleo Wong/OHA



Virtual 5<sup>th</sup> Annual  
Celebration with Ko Olina  
Sunday, June 13, 2021 | 4 - 6pm



# Upcoming Field Research: Summer 2021



Left: Rapture Reef at Lalo (French Frigate Shoals) before Hurricane Walaka. Image: James Watt/NOAA  
Right: Rapture Reef after Hurricane Walaka. Image: Kailey Pascoe/University of Hawai'i at Hilo

The summer 2021 field season will provide PMNM with an opportunity to more fully assess the impacts of a newly described outbreak of a red alga (*Chondria tumulosa*) with invasive behavior at Manawai (Pearl and Hermes Atoll), as well as to document the impacts of Hurricane Walaka (2018) on the coral reefs and low-lying islands of Lalo (French Frigate Shoals). Collaborators from many institutions, including the University of Hawai'i system, the College of Charleston, and others, were successful in securing over \$500,000 in grants to help PMNM better understand the causes and consequences of the algal outbreak at Manawai. Specific projects include growth studies, water chemistry, and nutrient upwelling studies. Development of eDNA

(environmental DNA) techniques may allow detection of *Chondria* at a given site by taking a water sample and analyzing it for the presence of DNA fragments from the species of interest. Damage assessments at Lalo will use 3D technology to document the extensive destruction of coral reefs and erosion of low-lying sand islands resulting from the near-miss by Hurricane Walaka. Additionally, this cruise will also document the ongoing recovery of shallow reefs at Kapou (Lisianski), where a mass coral bleaching event in 2015 resulted in high coral mortality. With the decommissioning of NOAA ship *Hi'ialakai* in 2020, PMNM lost its workhorse research platform for the NWHI. Both research cruises this year will sail on the Honolulu-based charter vessel *Imua*. Follow along on [Facebook!](#)



Outbreak of red alga at Manawai (Pearl and Hermes Atoll). Image: Taylor Williams/NOAA



Pressed specimens of *Psaromenia laulamaula*, new species of algae from Kapou (Lisianski). Image: Randy Kosaki/NOAA

## New Species of Algae from Deep Reefs Given Hawaiian Names

Recent PMNM research expeditions using closed-circuit rebreathers and technical diving have returned with a treasure trove of new species from deep reefs between 150 and 330 feet. Completely new to science, several new species of algae were given formal scientific species names in 'ōlelo Hawai'i (Hawaiian language), in coordination with the PMNM Cultural Working Group and other cultural practitioners. The species name of *Psaromenia laulamaula* was given based on its physical resemblance to the young leaves of the lama tree (endemic Hawaiian ebony tree). *Laulama'ula* translates literally as "the red leaf of the lama tree." Similarly, *Martensia lauhiekoeloa's* species name compares the gentle fluttering of the alga in a current to the flowing train of a traditional holokū gown. Finally, the new species *Martensia abbottiae* was named after Dr. Isabella Abbott, world-renown phycologist (algal biologist), long-time member of the NWHI Coral Reef Ecosystem Reserve Advisory Council, and the first Native Hawaiian woman to receive a Ph.D.

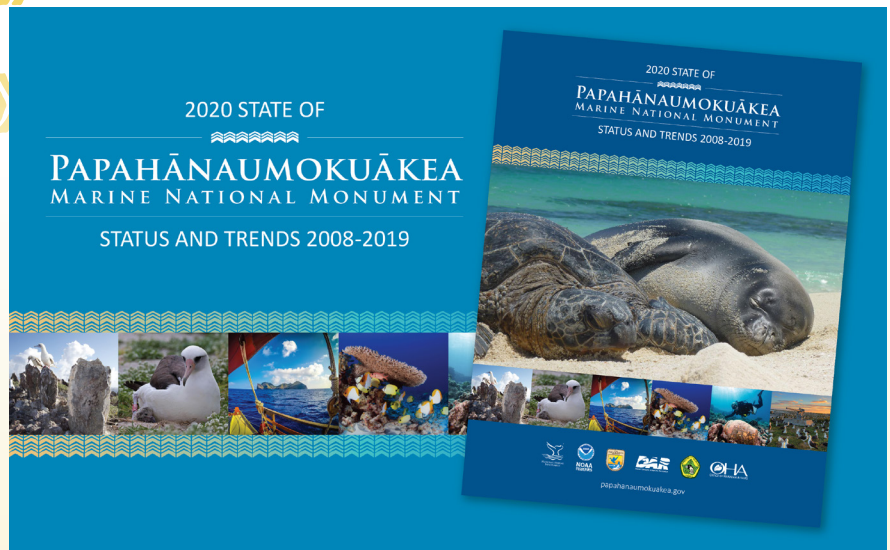


In situ photo of *Martensia lauhiekoeloa*, new species of algae from Lalo (French Frigate Shoals). Image: Greg McFall/NOAA

# PMNM Releases Coral Reef “Treasure Hunt” Film- Headed to the Ocean Oscars?



Critics (keiki) are praising the recently released short film *Exploring a Hawaiian Coral Reef*. Aquarist and educator Michael Caban II-Akamai Stephens takes us underwater to explore a shallow coral reef ecosystem on Hawai'i island, where we learn about different reef organisms, coral bleaching, and steps we can take to be good reef stewards. The film is free to [download](#) on the PMNM website and includes an accompanying [vocabulary and ID sheet](#) with the Hawaiian, English, and scientific names for the animals discovered during Michael's adventure. PMNM educators also are working on a curriculum called *Coral Check-up*, where middle school students can virtually dive in as coral scientists-in-training to help study and protect coral reefs in the Hawaiian archipelago. If you are interested in learning more about *Coral Check-up*, please contact [Justin.Umholtz@noaa.gov](mailto:Justin.Umholtz@noaa.gov).



## State of the Monument Webinars

Last year, over 4700 viewers from around the world attended webinars hosted by Papahānaumokuākea and the National Marine Sanctuary Foundation as part of Mokuāpapa Discovery Center's Third Thursday by the Bay and the [ONMS Webinar Series](#). They learned about fascinating research being conducted in the monument and efforts to inspire the next generation of conservation leaders. With the release of the State of the Monument Report last October on the status and trends from 2008 to 2019, and the 15 year anniversary of Papahānaumokuākea this June we will focus upcoming webinars on the findings from the report and future research and management efforts. Please join us for these upcoming talks:

**June 15 at 12 PM HST:** National Geographic Society Explorer-in-Residence Dr. Enric Sala and Dr. Alan Friedlander, Chief Scientist, Pristine Seas, National Geographic Society, will give a talk on Fifteen Years of Evolving Large Scale Marine Protections and the 15 Year Anniversary of Papahānaumokuākea MNM. [Register for webinar](#)

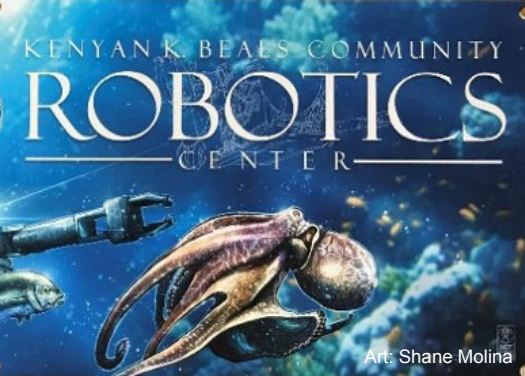
**July 15 at 12 PM HST:** Marine Science Coordinator for NOAA's Marine Turtle Biology and Assessment Program Marylou Staman will give a talk titled: Status and Trends of Hawaiian Green Sea Turtles: Assessing Their Resilience to Climate Change. [Register for webinar](#)

**August 19 at 12 PM HST:** USFWS Aquatic Ecosystems and Environmental Contaminants Program Manager Dr. Dan Polhemus will give a talk titled: The world does not stand still - understanding the impacts of climate change in Papahānaumokuākea. [Register for webinar](#)

**September 16 at 12 PM HST:** USFWS Pacific Islands Coastal Program Coordinator Dr. Sheldon Plentovich, will give a talk titled: Status and Trends of Terrestrial Birds in Papahānaumokuākea. [Register for webinar](#)

**October 21 at 12 PM HST:** State of Hawai'i Kure Atoll State Wildlife Sanctuary Field Camp Manager Andrew Sullivan-Haskins will give a talk about Status and Trends of Kure Atoll. [Register for webinar](#)

All previous webinars are recorded and available for viewing online [here](#).



## New Community Robotics Center

Papahānaumokuākea Marine National Monument’s Mokupāpapa Discovery Center is proud to be the new home of the Kenyan K. Beals Community Robotics Center. The Robotics Center is run by the Hawai’i Science and Technology Museum in partnership with Papahānaumokuākea and the National Marine Sanctuary Foundation. Today schools must limit how many students can participate in their robotics programs due to their limited space, funding, and staff. Our STEM based Robotics Center will provide opportunity for more students to get hands-on experience and training with robots that work on the land, in the sea and in the air. This center was designed to be utilized by robotic clubs, schools, and individuals in the community. The 1500 SF area contains three VEX robotic practice arenas, a test pool for MATE ROV or other types of underwater robots, and a classroom space for educational workshops. Community members will be able to reserve a time to use the arenas online. Our Saturday workshops will cover a wide variety of topics about robots and related technologies, including 3D-printing, CAD design, basic electrical circuitry, aerial drone operations, and open sessions for hands-on

robot building and experimentation with mentor assistance. Our hope is to inspire students and introduce them to STEM careers. Stay tuned for our reopening. For more information, contact: [Clayton.Walkins@noaa.gov](mailto:Clayton.Walkins@noaa.gov).

## University Partnership Benefits Mokupāpapa Discovery Center and Students



Image: UHH

An innovative collaboration is underway between Mokupāpapa Discovery Center (MDC) and the University of Hawai’i at Hilo (UHH) Marine Science Department to support and expand MDC’s virtual education presence. A partnership was forged with Dr. Karla McDermid and guided by MDC staff Virginia Branco and Malia Evans. The aim is to increase MDC’s virtual science programming and create opportunities for 18 college seniors, who will apply their research skills and academic interests to develop meaningful online content. A group of students are developing limu (marine algae) videos on identification of algae along a Hawaiian coastal strip, uses of specific algae in food production in Malaysia, and use of algae by-products in everyday consumer products. Another group is focused on engaging high school

students in the Hawaiian practice of kilo (the deep observation of specific components of the natural environment over time and space) interlaced with lessons on the scientific method. A group is refreshing a popular lesson on the mōlī (Laysan albatross), that highlights characteristic mating behaviors and seabird biology through modern dance movements. The other two groups are developing a lesson on the Ua’u Kani (wedge tail shearwater) including a hands-on activity of creating a paper seabird model and a video lesson on gyotaku (Japanese fish printing), which incorporates the traditional Japanese style of recording catches with an appreciation toward understanding fish anatomy.

## National Marine Sanctuary Designation

Congress has directed NOAA to initiate the designation of Papahānaumokuākea as a national marine sanctuary. This process would not change the monument designation. The national marine sanctuary designation would add an additional layer of protection and permanency to safeguard resources in the marine portions of the monument.

As directed by Congress, sanctuary designation will “supplement and complement, rather than supplant, existing authorities.” After consulting with co-managing partners, NOAA’s Office of National Marine Sanctuaries will begin the public process, which could take a few years. Stay tuned for more information as we move forward to implement this process.

Connect with Us [papahanaumokuakea.gov](http://papahanaumokuakea.gov)

Papahānaumokuākea Marine National Monument  
NOAA/Daniel K. Inouye Regional Center  
1845 Wasp Blvd, Building 176  
Honolulu, Hawai’i 96818 | Phone: 808-725-5800

Mokupāpapa Discovery Center  
76 Kamehameha Avenue  
Hilo, Hawai’i 96720  
Phone: 808-498-4709

Papahānaumokuākea is co-managed by the National Oceanic and Atmospheric Administration, U.S. Fish and Wildlife Service, State of Hawai’i, and Office of Hawaiian Affairs. This newsletter highlights some of the initiatives of the NOAA Office of National Marine Sanctuaries and partners.