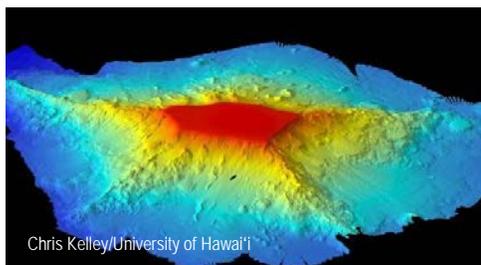


2014 ACCOMPLISHMENTS



MOKUPĀPAPA DISCOVERY CENTER GRAND RE-OPENING

In March, NOAA's Mokupāpapa Discovery Center held its grand re-opening after nearly a year of refurbishing. The 20,000 square-foot facility, now housed in Hilo's historic 100-year old Koehnen Building, is five times larger than the center's previous space. The center features a new 3,500 gallon salt-water aquarium, interactive digital displays, a monk seal exhibit with life-size models and artwork inspired by the Northwestern Hawaiian Islands and Hawaiian culture. Since reopening, the center has received 30,805 visitors, nearly half of which were students.



RESEARCHERS MAP MORE THAN A THIRD OF MONUMENT'S SEAFLOOR

In 2014, two expeditions aboard the Schmidt Ocean Institute's *R/V Falkor* mapped more than 127,000 km² of unmapped or poorly mapped Papahānaumokuākea Marine National Monument (PMNM) seafloor. The expeditions used the *Falkor's* state-of-the-art multi-beam sonar systems to generate high-resolution maps (5-50 m) for more than 35 percent of PMNM's seafloor. The work focused on mapping extensive banks off most of the Monument's major islands and atolls. Researchers also mapped 18 seamounts in the northern portion of the PMNM, half of which had never been mapped before.



PMNM CARRIES OUT UNMANNED AIRCRAFT OPERATIONS

PMNM carried out two missions in the Northwestern Hawaiian Islands (NWHI) using Unmanned Aircraft Systems (UAS). In June, scientists used a Puma UAS deployed from NOAA Ship *Hi'ialakai*, and in August, researchers used NASA's Ikhana Predator MQ-9 deployed from the Pacific Missile Range Facility in Kaua'i. Both missions searched for marine debris and surveyed and captured imagery of wildlife. The second ship also monitored vessels operating in the monument. The missions confirmed that UAS technology can gather significant data in the NWHI without disturbing wildlife.



WORKING TO RESTORE NATIVE HAWAIIAN TRADITION

ONMS staff worked with the Office of Hawaiian Affairs and the U.S. Fish and Wildlife Service to facilitate the collection, transportation and storage of deceased albatrosses and tropical birds from the NWHI. The plumage from the birds is being used in the restoration of kahlili (royal standards used as a symbol of the ali'i chiefs and families of the Hawaiian Islands) in the throne room of the historic 'Iolani Palace. The features were also used to make two kahlili that were installed in Lili'uokalani Hall at the Office of Hawaiian Affairs.



Papahānaumokuākea Marine National Monument (PMNM) was created by Presidential Proclamation as the country's first marine national monument. With a specific aim to protect both the natural and indigenous cultural heritage of the vast 140,000 square mile area, PMNM has become a globally recognized, best practice model for the governance and management of large-scale, remote marine ecosystems. The monument encompasses a multitude of marine habitats including seamounts, abyssal plains, epipelagic oceanic waters, and the country's only true atolls. Native species abound, but in deep waters, coral reef fish communities are more than 90 percent endemic – the highest recorded level of endemism from any marine ecosystem. With a focus on connecting land, people and the sea, PMNM has renewed an understanding of 'āina momona (abundance), serving as a reminder of what the world's oceans were once like. The sanctuary was established on June 15, 2006.

LOOKING AHEAD

- Researchers will return to locations in PMNM where they observed major coral bleaching in 2014 to determine whether the bleached corals have recovered. Researchers will also search for other occurrences of bleaching or coral disease.
- In August 2015, the monument and Mokupāpapa Discovery Center will be featured during the Hawai'i Conservation Conference in Hilo, Hawai'i.
- In 2015, scientists and cultural practitioners will journey to Papahānaumokuākea aboard the *Searcher*, a modern-day, steel-hulled motor vessel and the double-hulled Hawaiian sailing canoe, *Hikianalia*. Goals of the joint expedition include intertidal monitoring, cultural research and non-instrument navigation training.

NOAA's Office of National Marine Sanctuaries is committed to supporting lives and livelihoods across the nation and in sanctuary communities through socioeconomic research and monitoring to understand the economic and social drivers of sanctuary resources and improve management practices.

NATIONAL MARINE SANCTUARY SYSTEM



Scale varies in this perspective. Adapted from National Geographic Maps.

The Office of National Marine Sanctuaries serves as the trustee for a system of 14 marine protected areas encompassing more than 150,000 square miles of marine and Great Lakes waters from Washington state to the Florida Keys, and from Lake Huron to American Samoa. The system includes 13 national marine sanctuaries and the Papahānaumokuākea Marine National Monument. For more information on the National Marine Sanctuary System, visit: <http://sanctuaries.noaa.gov>