



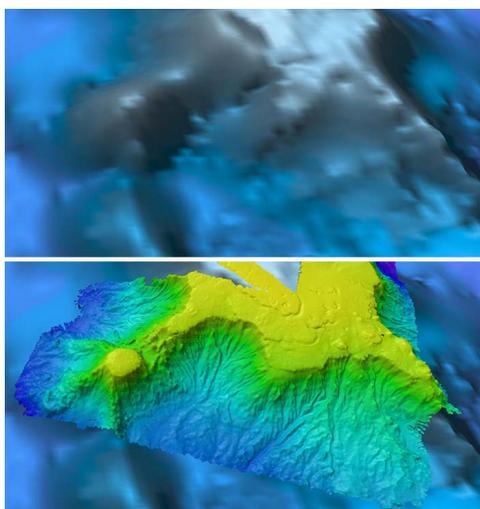
**Ocean Exploration
and Research**

Ocean Exploration Education Highlights

July 2016

Welcome to the NOAA Ocean Explorer Education Highlights email. These monthly emails provide you with quick access to ocean exploration-focused, standards-based tips and tools to bring the excitement and science of ocean exploration into your classroom!

What's the Latest from NOAA Ocean Exploration for Your Classroom?



Comparison of resolutions of satellite-derived bathymetry (top) and multibeam sonar bathymetry collected by the NOAA Ship *Okeanos Explorer* (bottom). Example shown is the largest seamount in the Wake Atoll Unit of the Pacific Remote Islands Marine National Monument.

Image courtesy of NOAA Office of Ocean Exploration and Research.

Deepwater Wonders of Wake: Exploring the Pacific Remote Islands Marine National Monument Expedition 2016

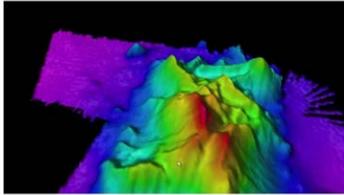
From July 27 - August 19, scientists will be exploring the [Pacific Remote Islands Marine National Monument](#) in a region where virtually no previous exploration has taken place. Here OER will be searching for large-scale, high-density deep coral and sponge communities and collecting baseline data critical to managing and protecting vulnerable deep-sea marine habitats.

Watch the archived [Webinar for Educators](#) from April 12 to learn more about this exciting mission to Wake Island and the [recent expedition to the Marianas Trench Marine National Monument](#).

One Million Square Kilometers of Seafloor Mapped!

Over the last eight years of mapping the seafloor, the

NOAA Ship Okeanos Explorer:
One Million Square Kilometers of Seafloor Mapped



Watch [this video](#) on mapping during the 2016 Hohonu Moana: Exploring Deep Waters off Hawai'i expedition.

Okeanos team has contributed critical ocean science datasets for many of our world's ocean basins. In the process of mapping 1,000,000 square kilometers, the Okeanos multibeam sonar revealed numerous geologic features, including seamounts, trenches, ridges, wrecks, and banks that had previously been unknown or

incorrectly characterized.

Given that only about 10 percent of the entire planet's seafloor has been mapped at high resolution, it makes the *Okeanos Explorer's* "one-million" mark that much more significant. However, when you consider that the ocean covers 335,258,000 square kilometers, it makes you realize just how much further we have to go to fully understand this dynamic planet. We're just getting started, and new partners, new technologies, and new approaches will be fundamental to increasing the pace and efficiency of seafloor mapping.

Summer Fun!

[Ocean Challenge Puzzle](#)

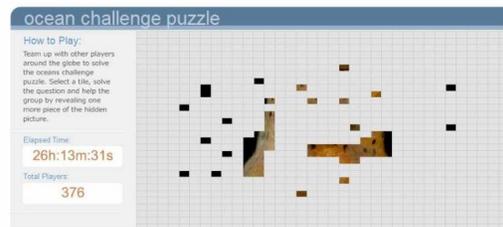
Test your knowledge of fun ocean exploration facts in cooperation with people all over the globe. Together you will reveal a beautiful ocean image! You can even see how many people are playing along with you and how long it takes to solve the image puzzle.

[Photo Puzzle](#)

Try to solve one of five puzzles by dragging one of the nine image squares to another location within the picture frame. Simply continue to select one of the nine desired squares and sort them into different locations until the puzzle is solved.

Image of the Month

For Fun | Ocean Challenge Puzzle



You may need to download [Flash Player](#).

Challenge yourself to answer hundreds of ocean exploration questions and reveal the puzzle image.

"What is That!"

While exploring Ahyi Seamount during [Dive 5](#) of the 2016 Deepwater Explorations of the Marianas, views of a range of sessile organisms that made scientists



One of the unusual benthic ctenophores documented during Dive 5 at Ahiy Seamount, June 22, 2016.

Image courtesy of the NOAA Office of Ocean Exploration and Research, 2016 Deepwater Exploration of the Marianas.

organisms had recently taken up residence in the area or if they had resided in this area prior to a documented eruption of the seamount in 2014.

The [full video](#) shares the excitement of these rare finds and the [June 22 Daily Update](#) shares more information about the day's mission.

exclaim, 'what is that?!' These included a benthic ctenophore, a rare anemone, and a nudibranch (or sea slug). A frequent topic among the science team during the dive was whether or not these



Dr. Shirley Pomponi, Research Professor and the Executive Director of the NOAA Cooperative Institute for Ocean Exploration, Research, and Technology, Harbor Branch Oceanographic Institute, Florida Atlantic University.

Meet a Natural Products Biologist/Research Coordinator with a Very Diverse Job!

[Dr. Shirley Pomponi](#) studies the biology, taxonomy, ecology, chemistry, and molecular biology of sponges. She's particularly interested in why and how sponges produce chemicals that may be developed into drugs to treat diseases like cancer and Alzheimer's.

She has led numerous research expeditions worldwide and has made more than 300



Educators learn about deep sea bathymetric mapping during a professional development workshop at Dauphin Island Sea Lab in Alabama.

Upcoming Education Professional Development

All 2016 [professional development opportunities](#) are listed on our website. Join us for full-day onsite professional development at an aquarium or science center near you! Fall workshops will be posted soon.

dives in the *Johnson-Sea-Link* human-occupied submersibles. Diving in the Mariana Trench has been on Shirley's bucket list for a long time, so she was especially excited to participate as an onboard scientist during the recent NOAA Ship *Okeanos Explorer* [Deepwater Exploration of the Marianas](#) expedition.

We hope that these Exploration Education Highlights will help you focus more of your classroom teaching and learning on the amazing discoveries taking place right here, right now, on our own Planet Ocean! Onward and downward!

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