



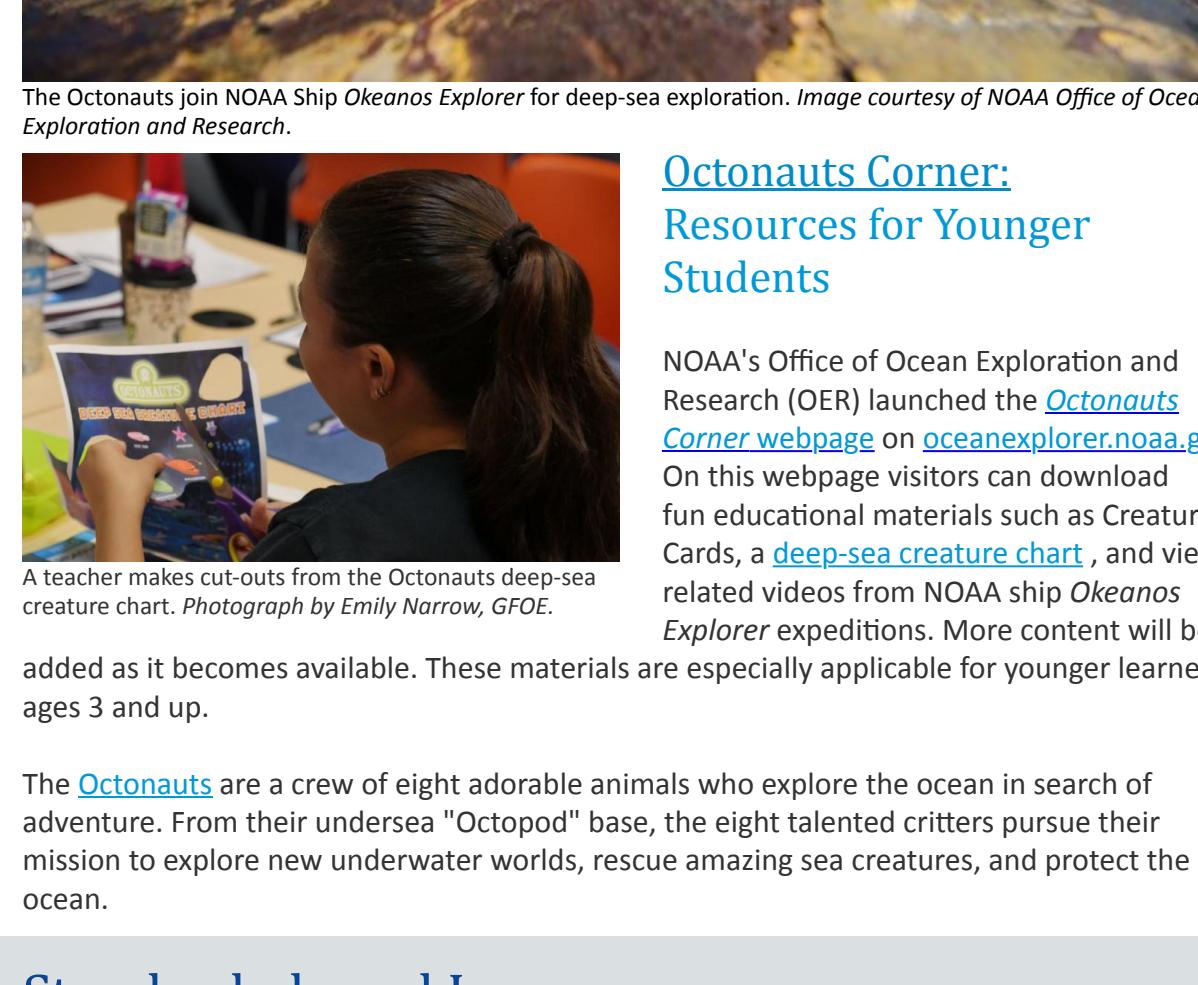
## Ocean Exploration and Research

# Ocean Exploration Education Highlights

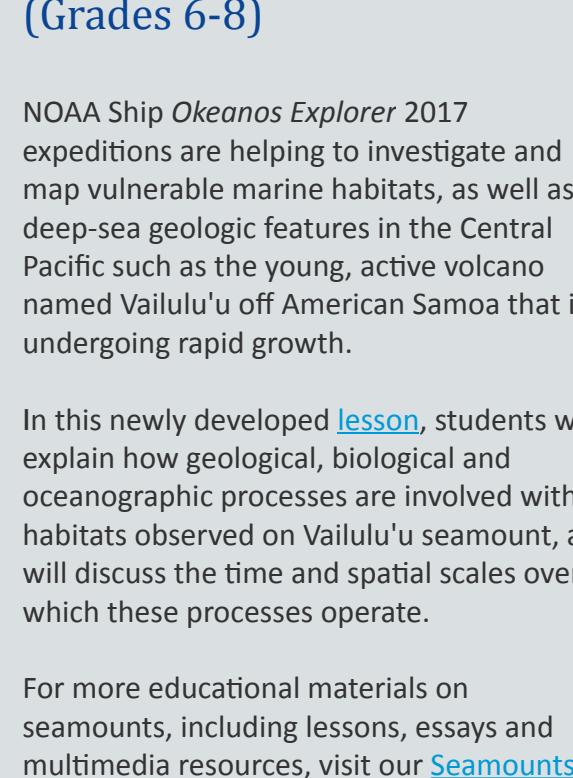
## June 2017

Welcome to the NOAA Ocean Explorer Education Highlights newsletter. This monthly newsletter provides 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?



The Octonauts join NOAA Ship *Okeanos Explorer* for deep-sea exploration. *Image courtesy of NOAA Office of Ocean Exploration and Research.*



A teacher makes cut-outs from the Octonauts deep-sea creature chart. *Photograph by Emily Narrow, GFOE.*

added as it becomes available. These materials are especially applicable for younger learners ages 3 and up.

The [Octonauts](#) are a crew of eight adorable animals who explore the ocean in search of adventure. From their undersea "Octopod" base, the eight talented critters pursue their mission to explore new underwater worlds, rescue amazing sea creatures, and protect the ocean.

### Standards-based Lesson

#### Return to the Moat of Death (Grades 6-8)

NOAA Ship *Okeanos Explorer* 2017 expeditions are helping to investigate and map vulnerable marine habitats, as well as deep-sea geologic features in the Central Pacific such as the young, active volcano named Vailulu'u off American Samoa that is undergoing rapid growth.

In this newly developed [lesson](#), students will explain how geological, biological and oceanographic processes are involved with habitats observed on Vailulu'u seamount, and will discuss the time and spatial scales over which these processes operate.

For more educational materials on seamounts, including lessons, essays and multimedia resources, visit our [Seamounts Theme Page](#).

**2017 American Samoa Expedition**  
**Return to the Moat of Death**

**Focus:** The Vailulu'u Seamount

**Grade Level:** 6-8 (Earth Science)

**Focus Question:** What geological, biological and oceanographic processes have influenced the habitats observed on Vailulu'u Seamount?

**Learning Objectives:**

- Students will explain how geological, biological and oceanographic processes are involved with habitats observed on Vailulu'u seamount, and will discuss the time and spatial scales over which these processes operate.

**Materials:**

- Depends upon strategies offered for student educational products (see Learning Procedure Step 1d); students may be required to provide their own materials.

**Audio-Visual Materials:**

- (Optional) Equipment to show images or video from 2017 expedition website <http://okeanosp.noaa.gov/okeanosp/expeditions/v1702/welcome.html>

**Teaching Time:** Two or three 45-minute class periods

**Seating Arrangement:** Groups of two to four students

**Maximum Number of Students:** 30

**Key Words:** Vailulu'u, American Samoa, Vailulu'u Seamount, Moat of Death

**Lesson Plan**

*Note: All lessons are written to support the [NGSS](#) and the [Ocean Literacy Essential Principles and Fundamental Concepts](#).*

### Image of the Month

#### Human History on the Seafloor

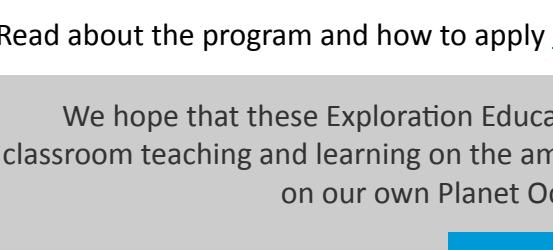
From May 2 to May 16, explorers on the [Exploring the Sunken Heritage of Midway Atoll](#) Expedition searched for and explored sunken aircraft associated with the Battle of Midway. This year marks the [75th anniversary](#) of the battle, and this project aims to raise awareness and honor the legacy of the brave men who helped to turn the tide in the Pacific at this time.

Much of the famous air battle took place near the atoll, and the remnants of dozens of historic aircraft may rest beneath the surface. Explorations like this help us better understand and interpret the human stories associated with this significant battle, and add an important maritime heritage component to our understanding of the broader history of World War II in the Pacific.

For more information, including a video, visit this [site](#). Click [here](#) for an educator webinar on this expedition.



Brian Hawk takes notes on a recently discovered potential whaling anchor. Underwater debris like this, found using magnetometer surveys, is scattered throughout the lagoon at Midway, reminding divers of the human history that has affected this place: not only was Midway strategically important for both the United States and Japan to hold and fight over during World War II, but it was just as important to whaling fleets and other mariners searching for resources or transiting the Pacific a century prior. *Image courtesy of Brett Seymour, Exploring the Sunken Heritage of Midway Atoll expedition.*



The woman behind the highlight reels, Caitlin Bailey, Annie White, and Emily Narrow, onboard NOAA Ship *Okeanos Explorer*. *Image courtesy of the NOAA Office of Ocean Exploration and Research, Discovering the Deep: Exploring Remote Pacific MPAs.*

#### The Women Behind the Highlight Reels

You might not know these women, but if you have seen the videos of the [cosmic jellyfish](#), swimming [dumbo octopus](#), or the deep water [siphonophore](#) at depth, you know their work. They are famous for bringing the amazing vibrant images of the deep sea to life to you at home and picking songs that evoke emotions and match the clips perfectly.