



Ocean Exploration Education Highlights

November 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!

Application for NOAA Teacher at Sea Program's 2018 Season opens November 1!



The mission of the National Oceanic and Atmospheric Administration's (NOAA) Teacher at Sea Program is to provide pre-kindergarten through college-level teachers a hands-on, real-world research experience working at sea with world-renowned NOAA scientists, thereby giving teachers unique insight into oceanic and atmospheric research crucial to our nation.

We are pleased to announce NOAA's Teacher at Sea Program will accept applications for our 2018 season starting in November!

Applications and references are accepted through our [online application system](#) from **November 1 - 30, 2017**. The application closes at 5:00 pm ET on November 30.

Visit our [page](#) for more information about the program and read our [Frequently Asked Questions](#) to learn more about eligibility and expectations.

Sail on E/V Nautilus Summer & Fall of 2018 - Science Communication Fellowship!



Teachers and Informal Educators:

Applications are available now for you to explore the Eastern Pacific Ocean with Dr. Robert Ballard's Corps of Exploration as a Science Communication Fellow! This team of explorers conducts cutting-edge scientific exploration of parts of the global ocean never seen before using remotely operated vehicles (ROVs) and multibeam mapping technology. Fellows will spend 1-2 weeks at sea between June - November 2018 in the Pacific Ocean.

The Science Communication Fellowship invites K-20 and informal educators for a professional development experience aboard

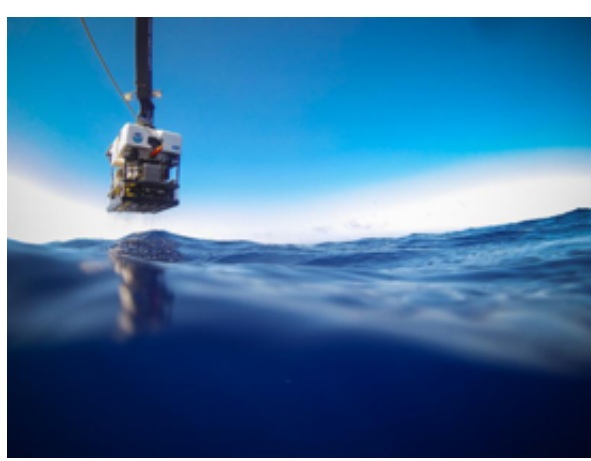
Exploration Vessel *Nautilus* as science interpreters among a team of science, technology, engineering and mathematics (STEM) professionals. Participants will gain exposure to and experience in the applications of STEM in the field of ocean exploration. Fellows will collaborate with a cohort from across North America, explore side-by-side with scientists and engineers, and share the adventure with their students, community, and the world as the expedition is broadcast live on [www.NautilusLive.org](#).

Applications for the Science Communication Fellowship are due by **January 15, 2018**. The [application packet](#) includes full program details. Student internships are also available for undergraduate and graduate students in the fields of ocean science, seafloor mapping, ROV engineering, and video engineering.

Questions? Contact the OET Education Team via education@oet.org

Join the Upcoming Expedition!

From November 29 through December 21, 2017 NOAA and partners will conduct three telepresence-enabled ocean exploration expeditions on [NOAA Ship Okeanos Explorer](#) to collect critical baseline information about unknown and poorly understood deepwater areas of the Gulf of Mexico. The expeditions will conduct mapping operations and exploration using remotely operated vehicles (ROVs) to help us understand this fascinating region.



ROV *Deep Discoverer* is recovered from a dive during the 2014 Gulf of Mexico Expedition. Image courtesy of NOAA OER, [Gulf of Mexico 2014 Expedition](#).

Despite the Gulf of Mexico's proximity to land and the significant industrial footprint in the area, there is still much to explore. The Gulf contains a wide range of habitats and interesting geological features ranging from brine pools to coral gardens and canyons to mud volcanoes. The Gulf also contains significant submerged cultural heritage sites that have yet to be revealed.

Watch the ROV *Deep Discoverer's* live video feeds on your computer [here](#), or download our free mobile app (for [iOS](#) or [Android](#) devices) that will allow you to bring the excitement of ocean discovery directly to your smart phone or tablet. Visit our [website](#) to see exciting discoveries we have made thus far this year.

Image of the Month

3D Model of B-29 Airplane



Marine archaeology: 3D model of the World War II Bomber B-29 at 370 meters depth. Image courtesy of NOAA Office of Ocean Exploration and Research.

In addition to mapping and exploring the sea floor and water column, NOAA OER also investigates shipwrecks. During a recent archaeology dive on a World War II bomber, one of NOAA's science participants and aviation archaeologist, Megan Licklitter-Mundon, used OER video to create a 3D model of a section of the B-29 site, posted on [sketchfab](#).

3D modeling using a single camera is fast becoming a standard practice in underwater archaeology as a way to quickly and efficiently record a site. During the ROV dive under the *USS Baltimore* in October 2017 the ship specifically recorded the bow and the deck for 3D modelling that will be done by the [Monitor National Marine Sanctuary](#). The [Bureau of Ocean Energy Management](#) (BOEM) has suggested a number of compelling shipwreck targets for the upcoming Gulf of Mexico expedition (see next section) that will be good studies for this type of documentation.

To learn more about the B-29 Bomber and its place in World War II history read [here](#) and watch this [video](#).



NOAA Corps officers (left to right) Ensign (ENS) Anna Hallingstad, ENS Brianna Pacheco, and Lieutenant Commander (LCDR) Fiona Matheson. Image courtesy of the NOAA Office of Ocean Exploration and Research.

Getting to Know the Women of the Wardroom

Did you know that NOAA has one of the seven United States Commissioned Officer Corps? The [NOAA Commissioned Officer Corps](#) (NOAA Corps) is made up of scientifically and technically trained officers - each holds at least a four-year degree and many have completed post-graduate degrees as well. These officers have expertise in marine biology, hydrography, engineering, Earth sciences, oceanography, meteorology, fisheries science, and more.

NOAA Corps officers operate NOAA's ships, fly aircraft, manage research projects, conduct diving operations, and bring operational expertise to staff positions throughout NOAA. When commissioned service is combined with scientific and operational expertise, the result is accomplished people who provide a unique and important service to the nation.

Read [here](#) to get to know some of the female NOAA Corps officers on board.



Educators building a robot arm during the professional development workshop *Exploring the Deep Ocean with NOAA* in Honolulu, Hawaii in October 2017. Image courtesy of Mark Heckman.

Exploring the Deep Ocean with NOAA: Educator Professional Development

NOAA OER's free full-day professional development workshops provide opportunities for educators to engage in learning more about ocean exploration. These workshops are designed to introduce participants to exemplary tools and resources for the classroom to enhance the teaching and learning of ocean science and NOAA endeavors in ocean exploration.

Onsite professional development workshops are offered around the country in cooperation with our [Ocean Explorer Education Alliance Partners](#). If you would like to learn why and how we explore the deep ocean, please attend one of our workshops at an aquarium or science center near you. Upcoming workshops are listed on our [website](#).

Note: This workshop is a combination of the previously offered *Why Do We Explore?* and *How Do We Explore?* workshops.

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!

VISIT OUR WEBSITE



[Feedback](#)

[Subscribe to Educator Email/Newsletter](#)