



Ocean Exploration  
and Research

*Dive In!*

## Ocean Exploration Education Highlights January 2016

*Welcome to the new NOAA Ocean Explorer education updates email newsletter. These monthly emails will 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?

Over the summer of 2015, the NOAA Ship *Okeanos Explorer* explored largely unknown deep-sea ecosystems around Hawaii as part of the [Hohonu Moana: Exploring the Deep Waters off Hawai'i expedition](#). We investigated deep waters in and around

Papahānaumokuākea ([learn how to pronounce it](#)) Marine National Monument ([PMNM](#)) in the Northwestern Hawaiian Islands, Johnston Atoll in the Pacific Remote Islands Marine National Monument ([PRIMNM](#)), and various seamounts throughout the region.



**Wondering what we found?** Explore this [highlight video](#) from last summer!



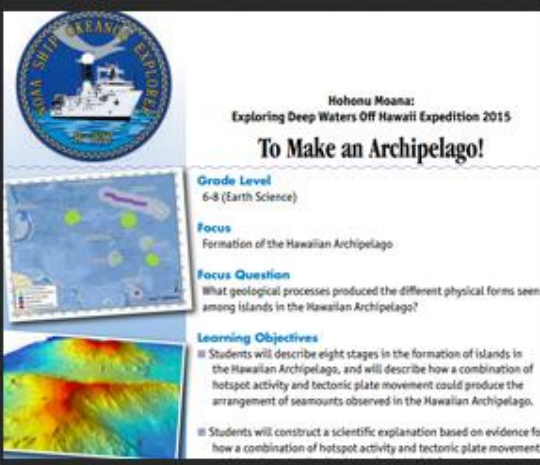
### Standards-based Lesson

[To Make an Archipelago](#) (Grades 6-8).

Students explore eight stages in the formation of islands in the Hawaiian Archipelago,

and how hotspot activity and tectonic plate movement can produce the arrangement of seamounts observed in the Hawaiian Archipelago.

This lesson supports the following Next Generation Science Standard (NGSS):  
MS. Earth's Systems  
Performance Expectation: MS-ESS3-1.



**Hohonu Moana:**  
Exploring Deep Waters Off Hawaii Expedition 2015  
**To Make an Archipelago!**

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

**Focus**  
Formation of the Hawaiian Archipelago

**Focus Question**  
What geological processes produced the different physical forms seen among islands in the Hawaiian Archipelago?

**Learning Objectives**

- Students will describe eight stages in the formation of islands in the Hawaiian Archipelago, and will describe how a combination of hotspot activity and tectonic plate movement could produce the arrangement of seamounts observed in the Hawaiian Archipelago.
- Students will construct a scientific explanation based on evidence for how a combination of hotspot activity and tectonic plate movement

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



## Image of the Month



### Sea Star Predation:

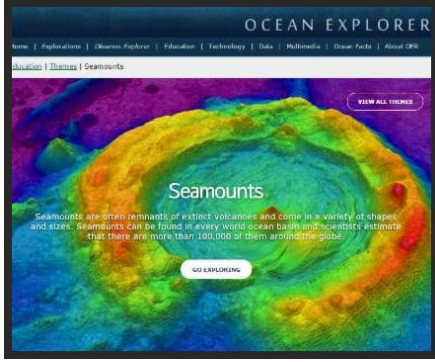
A [sea star feasts](#) on a coral by inverting its stomach. This echinoderm was observed on September 21, 2015 during a dive with the ROV *Deep Discoverer*. Explorers were investigating the northeast slope of a cone feature on an unnamed

seamount in the eastern Pacific Ocean near Hawaii.

*Image courtesy of the NOAA Office of Ocean Exploration and Research, 2015 Hohonu Moana.*

View the full narrated [video here!](#)





## Featured Education Resources

Take a look at our new [Theme Pages](#) and explore the best of the best essays, lessons, videos and images on specific topics.

Check out this one on [Seamounts!](#)



## Upcoming Education Professional Development

All spring 2016 [professional development opportunities](#) are now listed on our website. Join us for full-day onsite professional development at an Aquarium or Science Center near you!



***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](#)