

# SYMONE BARKLEY





Smithsonian  
Institution





HOME / MARINE LIFE

# Marine Life

Life in the ocean is amazing! Cute and cuddly, creepy crawly, gigantic and microscopic - marine life comes in millions of shapes and size.



Danger Zone

Exploration

Fix the Ocean

Go Fish

Marine Life

Research

Collections



Coral Spawning



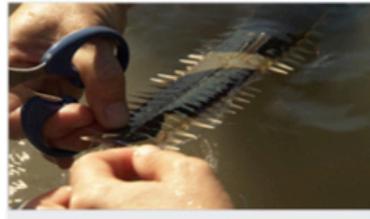
Horseshoe Crab Spawning - A Field Report



Bioluminescent Ocean



Bioluminescence



Endangered Ocean: Smalltooth Sawfish



Endangered Ocean: Manatees





HOME / FIX THE OCEAN

# Fix the Ocean

The health of the ocean is in danger. Conservation planning and restoration projects are making a difference.



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Maritime Forests



TRASH TALK: Special Feature



TRASH TALK: What is Marine Debris?



TRASH TALK: Where Does Marine Debris Come From?



TRASH TALK: Impacts of Marine Debris



TRASH TALK: Why Is Plastic Marine Debris So Common?





HOME / RESEARCH

# Research

Questions and answers about how we study the ocean and what we've learned.



Danger Zone

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Climate Alive  
2019: Second Warmest on Record



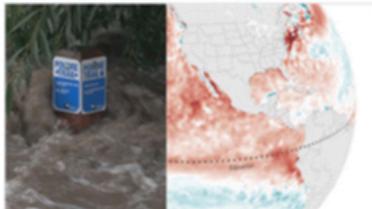
Old Weather



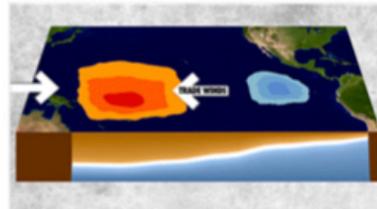
Mapping Goes Micro



Life at Sea



Observing El Niño

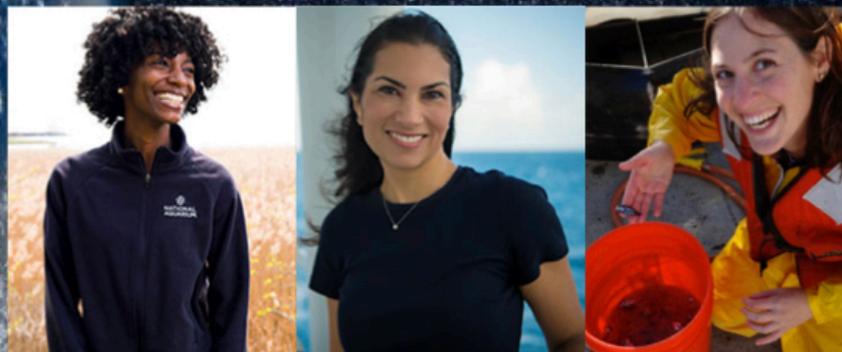


El Niño and La Niña Explained





# OCEAN TODAY FULL MOON WATCH PARTY!



**THURSDAY**  
May 7, 2PM Eastern

**Deep Ocean Exploration  
with Debi Blaney and Amanda Netburn**



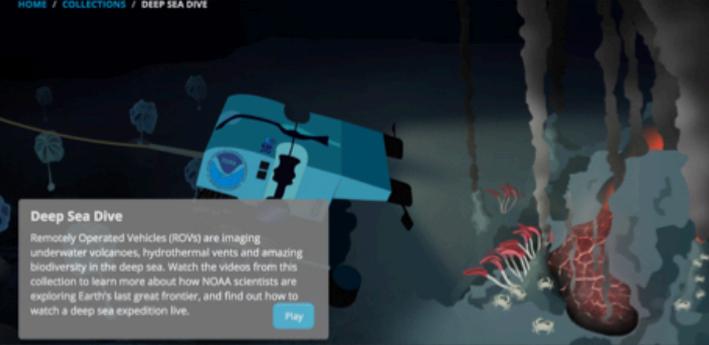


# OCEAN TODAY EVERY FULL MOON

 **OCEAN TODAY EVERY FULL MOON**  
A supplemental resource for educators

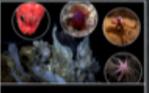
Home Videos Deeper Dive Collections

HOME / COLLECTIONS / DEEP SEA DIVE



**Deep Sea Dive**  
Remotely Operated Vehicles (ROVs) are imaging underwater volcanoes, hydrothermal vents and amazing biodiversity in the deep sea. Watch the videos from this collection to learn more about how NOAA scientists are exploring Earth's last great frontier, and find out how to watch a deep sea expedition live.

[Play](#)

 2019 DEEP DIVE GREATEST HITS	 LET'S GET STARTED! (PART 1)	 DEEP SEA DIVE (PART 2)	 MYSTERIES OF THE MESOPELAGIC (PART 3)
 RING OF FIRE (PART 4)	 LIFE ON A VENT (PART 5)	 LAKES IN AN OCEAN (PART 6)	 THE DEEPEST VOLCANO: PACIFIC OCEAN (BONUS 1)





# OCEAN TODAY EVERY FULL MOON

 **OCEAN TODAY EVERY FULL MOON**  
A supplemental resource for educators

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[HOME](#) / [COLLECTIONS](#) / [DEEP SEA DIVE](#) / [2019 DEEP DIVE GREATEST HITS](#)

## 2019 Deep Dive Greatest Hits

Join NOAA Explorer Debi Blaney as she shares NOAA scientists' groundbreaking discoveries, and how to watch one of their expeditions live.



0:00 / 4:20

[Show/Hide Transcript](#)

**Download**

1280 x 720 (258 MB)

640 x 360 (134 MB)

**Links**

[NOAA Ocean Exploration](#)  
[Latest Expeditions](#)  
[Ocean Facts](#)

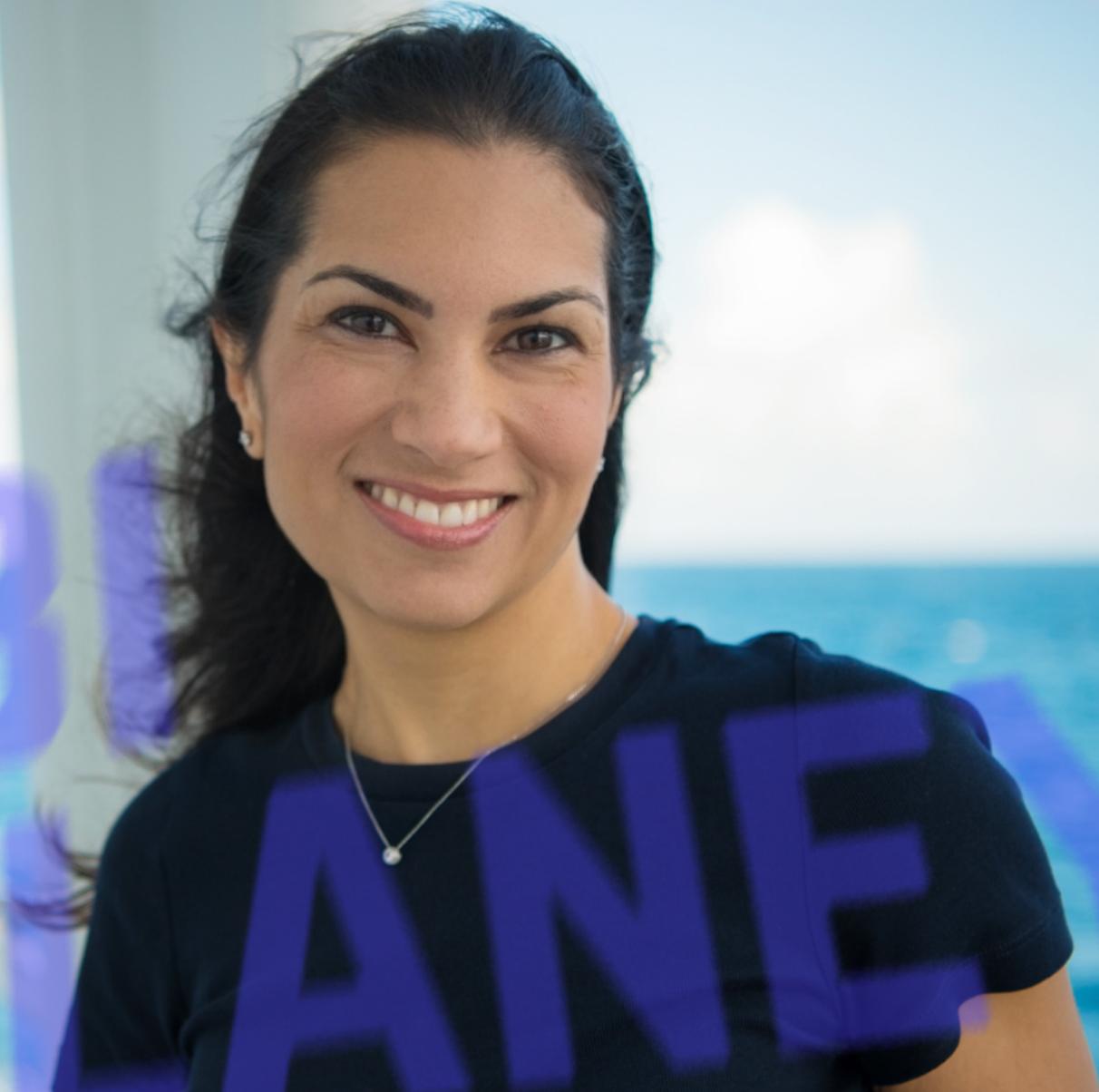
[2019 DEEP DIVE GREATEST HITS](#)

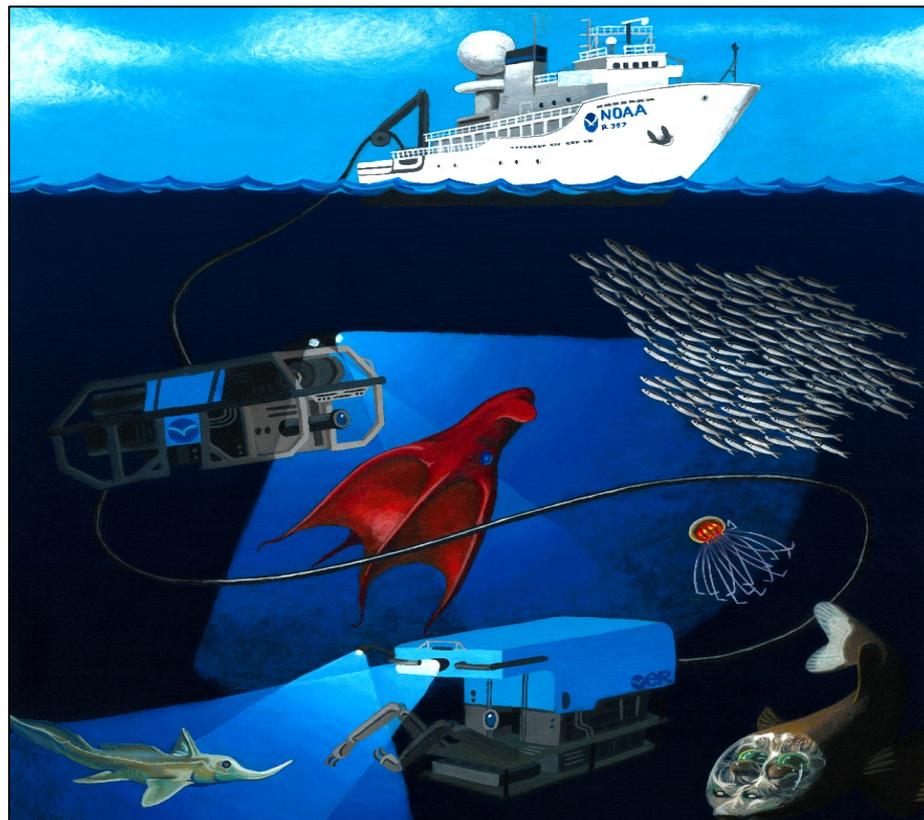
[LET'S GET STARTED! \(PART 1\)](#)

[DEEP SEA DIVE \(PART 2\)](#)



**DEBI  
BLANEY**





[OceanExplorer.NOAA.gov](https://oceanexplorer.noaa.gov)



# OceanExplorer.NOAA.gov

The screenshot shows the NOAA Ocean Exploration and Research website. At the top left is the NOAA logo and the text "Ocean Exploration and Research". To the right is a search bar. Below this is a blue navigation bar with the following menu items: Home, About OER, Expeditions, Science & Technology, Data & Products (circled in red), Education, Multimedia, and News. The main content area features a large image of a deep-sea hydrothermal vent with purple and white structures. Below the image is the text: "Join Us April 28 at 10 am EDT: Dive Rebroadcast: Mountains in the Deep" and "This dive was stunning for biology, both in terms of abundance and diversity of life. While transiting up the ridge, at each new depth range, we encountered a new high-density community. Don't miss it as we replay this spectacular dive!". To the right of the main image are three smaller article teasers: "New Article Supports Importance of Sea Stars in Deep-sea Ecosystems", "We Are Explorers", and "Celebrating Our Ocean Planet". Below the main content area are four columns of featured content: "About OER" (Learn about the NOAA Office of Ocean Exploration and Research), "New Frontiers in Ocean Exploration" (Oceanography Supplement Published), "Data & Results" (Access diverse scientific data, video, images, documents, and other information), and "For Educators" (Find educational materials and professional development opportunities).

Ocean Exploration and Research

Search

Home About OER Expeditions Science & Technology Data & Products Education Multimedia News

**Join Us April 28 at 10 am EDT: Dive Rebroadcast: Mountains in the Deep**  
This dive was stunning for biology, both in terms of abundance and diversity of life. While transiting up the ridge, at each new depth range, we encountered a new high-density community. Don't miss it as we replay this spectacular dive!

**New Article Supports Importance of Sea Stars in Deep-sea Ecosystems**

**We Are Explorers**

**Celebrating Our Ocean Planet**

**About OER**  
Learn about the NOAA Office of Ocean Exploration and Research, the nation's only federal organization dedicated to exploring the global ocean.

**New Frontiers in Ocean Exploration**  
*Oceanography Supplement Published*  
New Frontiers in Ocean Exploration: The E/V Nautilus, NOAA Ship Okeanos Explorer, and R/V Falkor 2019 Field Season is the tenth consecutive supplement on ocean exploration to accompany Oceanography.

**Data & Results**  
Access diverse scientific data, video, images, documents, and other information associated with office-supported ocean exploration expeditions.

**For Educators**  
Find educational materials and professional development opportunities for educators designed to enhance ocean literacy.

# Ocean Exploration Education Resources

## Education Themes

These education theme pages are designed to provide the best of what the OceanExplorer.NOAA.gov website has to offer on a number of popular ocean science topics. Each theme page provides links to content essays, lessons, multimedia interactive activities, career profiles and information on associated past expeditions.



**Archaeology**

[Learn More](#)



**The Arctic**

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**Bioluminescence**

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**Cold Seeps**

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**Deep-sea Canyons**

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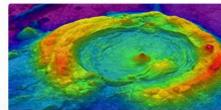


**Deep-sea Corals**

[Learn More](#)



**Mesophotic Corals**



**Seamounts**



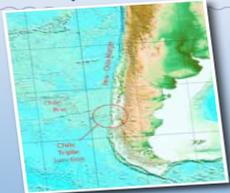
**Vents and Volcanoes**

# A Hydrothermal AdVENTure



INSPIRE: Chile Margin 2010

## A Hydrothermal AdVENTure



### Focus

Hydrothermal vents

### Grade Level

5-6 (Physical Science)

### Focus Question

What causes hydrothermal vents to form?

### Learning Objectives

- Students will be able to describe the overall structure of hydrothermal vents.
- Students will be able to explain the relationship between hydrothermal vents and the motion of tectonic plates.
- Students will create a model of a hydrothermal vent.

### Materials

- (Optional) Materials for demonstrating hydrothermal circulation; see Learning Procedure, Step 4
- (Optional) Materials for modeling hydrothermal vents; poster materials, colored markers, modeling clay

### Audio-Visual Materials

- (Optional) Video or computer projection equipment; see Learning Procedure Step 1.

### Teaching Time

One or two 45-minute class periods

### Seating Arrangement

Classroom style

### Maximum Number of Students

30

### Key Words

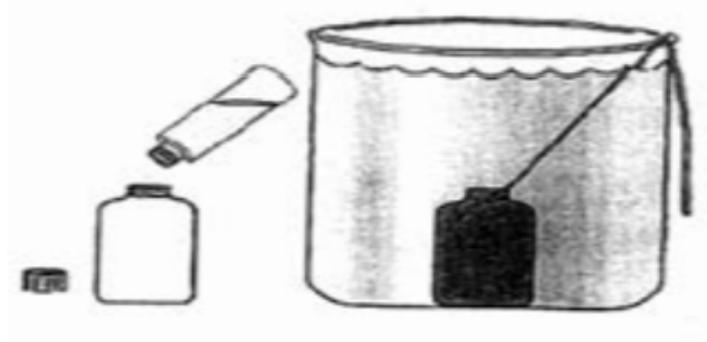
Hydrothermal vent  
Magma  
Mantle  
Tectonic plate



Image captions/credits on Page 2.

# lesson plan

# Students create a model of a hydrothermal vent.



# Follow Along and Stay Connected

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@oceanexplorationeducation

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## Ocean Exploration and Research EDUCATION

Liked Following Share + Add a Button

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Photo/Video Feeling/Activ... Write Note

NOAA Office of Ocean Exploration and Research-Education shared a post.  
Published by Debi Blaney · September 13 at 11:51 AM

Educators: share the most stunning images from our expeditions with your students to add the excitement of ocean exploration into your instruction!  
<https://oceanexplorer.noaa.gov/image-gallery/welcome.html>

Be the first to add a post.  
Create Post

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f t i y

