



## December Newsletter



### [What are Christmas tree worms?](#)



Christmas tree worms come in a variety of bright colors. They aren't very big, averaging about 1.5 inches in length.

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### [Sea-son's greetings from NOAA Education](#)

Spread the cheer this holiday season! From NOAA Education to you, we're gifting NOAA-themed cards with an educational spin. [Print](#) the card collection, dive into educational resources, read our holiday gift-giving advice, and explore more holiday-themed content from across NOAA! Happy holidays — we wish you a safe and cozy holiday season.

### 2023 MAMEA Conference

Monitor National Marine Sanctuary (MNMS) education team had the privilege of attending the 2023 Mid-Atlantic Marine Education Association (MAMEA) conference, the weekend of November 3<sup>rd</sup> in Solomons, Maryland. Representatives with formal and informal education backgrounds came from Delaware, Maryland, Virginia, North Carolina and the District of Columbia. The theme of this year's conference was "What is Hidden in our Waters: Exploring the Historical, Cultural, and Environmental Connections to our Marine World."

Over the course of the weekend, the attendees heard from four speakers who highlighted different aspects of the Chesapeake Bay watershed as well as how our communities and students can be encouraged to better protect its ecosystem. Various organizations shared research, accomplishments, and resources that helped to make marine and environmental connections.

MNMS team modeled ROVs and other engineering activities designed to simulate the ingenuity of underwater exploration. Educators received QR codes related to resources that could help expound upon current strategies for teaching STEAM topics.

Saturday's session ended with a poster session at which MNMS provided a Virtual Reality experience of kayaking through the waters of Mallow Bay-Potomac River National Marine Sanctuary, as well as a dive to the *Monitor* shipwreck, now serving as an artificial reef with its own ecosystem.



## Exploring STEM with Underwater ROVs

Monitor National Marine Sanctuary staff interacted with students at Great Bridge Middle School in Chesapeake, Virginia, to learn how NOAA uses remotely operated vehicles (ROVs) to explore and study the ocean. The 8th grade students discovered how sonar technology developed and how multibeam and sidescan sonar are used today by scientists and researchers to map the ocean floor, search for shipwrecks, and even detect schools of fish. The students also conducted experiments to explore the properties of air and how they limit diving to deep depths, thus creating a need for ROVs in exploration of the ocean. Students then put Sir Isaac Newton in the driver's seat as they began exploring the engineering process of building their own ROV. In the spring, the students will build, test, and compete with their ROVs in an exciting, culminating engineering activity.

MNMS has a variety of activities and curriculum that can be used in both formal and informal education. The sanctuary also has ten ROV kits for loan that complement the curriculum. For more information contact [Shannon.Ricles@noaa.gov](mailto:Shannon.Ricles@noaa.gov) or visit the [For Teachers](#) page on our website.

- [Maritime Archaeology: Discovering and Exploring Shipwrecks](#)
- [Remotely Operated Vehicles \(ROV\) in a Bucket](#)
- [Remotely Operated Vehicles Curriculum Guide](#)



## TMMP Fall Festival and the Noland Trail 50K and Relay Race

MNMS staff participated in the Fall Festival and Noland Trail 50K Race event hosted on the grounds of The Mariners' Museum and Park in Newport News, Virginia. The ecologically focused event included kids' activities, beer and cider tasting, a 50K relay race on the museum's grounds, and tent exhibits by several community partners and businesses. MNMS staff shared *Monitor's* story, highlighted the recent 3D prints and scans done of *Monitor's* [artifacts](#), literally putting history in children's hands. The staff shared the *Monitor* 360 [video](#) that demonstrated the shipwreck's role as a thriving reef. It was a fun day for all involved and over 3,000 members of the public attended the event. For further information contact [tane.casserley@noaa.gov](mailto:tane.casserley@noaa.gov).



## Grant Opportunities

### [Kids to Parks Day School Grants Program](#)

The 14th annual Kids to Parks Day is Saturday, May 18, 2024! As a part of the celebration, National Park Trust is pleased to once again offer our **Kids to Parks Day School Grants Program**. Open to students from US Title I schools (40% of students qualify for free or reduced-price lunch) in grades PreK through 12, **this grant program provides classrooms with up to \$1,000 for in-park experiences**. Funding can be used towards program fees, transportation costs, hands-on materials for remote learning activities, stewardship supplies, and any other materials needed for a robust learning experience.

**Deadline: February 2, 2024**

### [REEF Educator in the Field Fellowship](#)

The REEF Educator in the Field Fellowship is an exciting professional development opportunity for formal and informal educators to gain hands-on experience with ocean citizen science. The Fellowship is awarded annually, and enables one or more qualified educator to participate in a REEF Field Survey Trip. They will join other citizen scientist volunteers to learn about marine life and conduct fish population surveys while scuba diving or snorkeling as part of the REEF Volunteer Fish Survey Project. Following the Field Survey Trip, the Fellow will stay involved as a member of the REEF Education Advisory Panel.

**Applications will close January 1, 2024.**

## Professional Developments

### **Exploring Ocean Mysteries: From Dynamic Shores to the Deep-Sea Workshop**

What do world-traveling plastic toys, biodiversity in the deep sea, climate change and the last great unexplored area on Earth have in common? The critical need for ocean literacy! Learning about the ocean is often neglected in our schools, yet it comprises 71% of Earth's surface. Life on Earth evolved in and depends on our global ocean.

The National Marine Sanctuary Foundation is hosting an overview workshop for their new curriculum, "Exploring Ocean Mysteries: From Dynamic Shores to the Deep Sea." This workshop will be offered twice. The curriculum has 17 educational lesson plans targeted for grades 5-8 and adaptable for grades 4-12.

**REGISTER: December 5, 2023**  
from 3:30-5:00 pm Pacific Time

**REGISTER: December 6, 2023**  
from 5:30-7:00 pm Pacific Time



**MONITOR**  
**NATIONAL MARINE SANCTUARY**

### [Teacher Workshop: Magnifying Plankton in the Science Classroom](#)

Tiny plants and animals called plankton are integral to aquatic ecosystems. They create the foundation of health and welfare for many species, so why are they often overlooked in the science classroom?

Join us for a virtual educator workshop where we will explore lessons about plankton, energy transfer and the food web, share high-quality resources for students, hear from plankton experts, learn more about plankton itself, and much more. During this workshop, we will go behind the scenes with Shedd's live foods team and see how they grow phytoplankton and zooplankton, which advances conservation and sustainability. We'll also explore a new exhibit at Shedd, Plankton Revealed, and ways in which classrooms can leverage this informational resource during visits or virtually.

#### **Date and Time:**

Wednesday, December 6, 2023  
4:30 pm – 6 pm

#### **Location:**

Virtual, Zoom

#### **Grades:**

3-12 educators

#### **Price:**

\$25 per educator