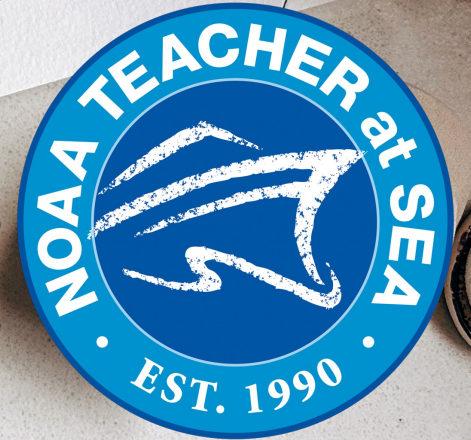
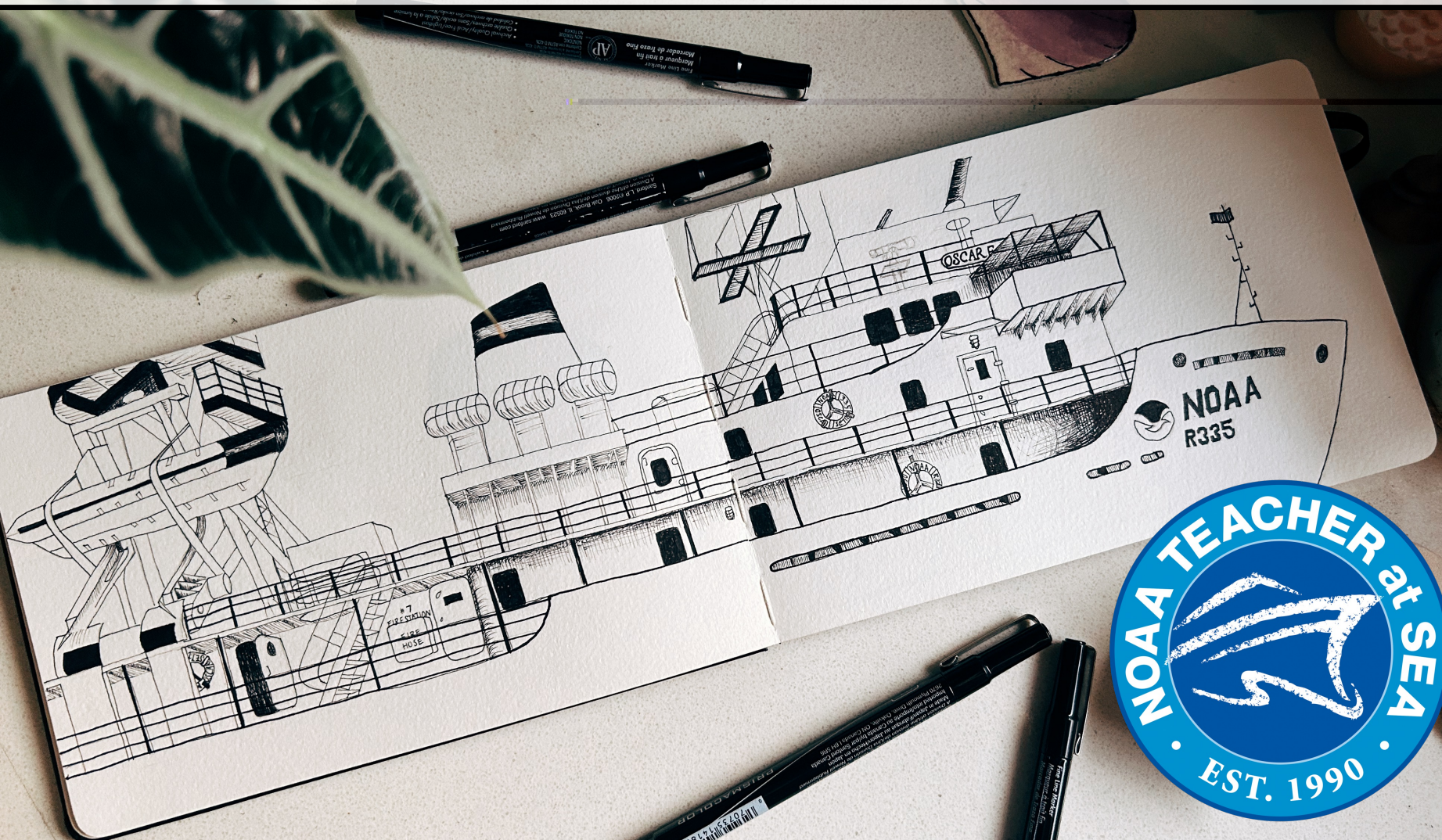


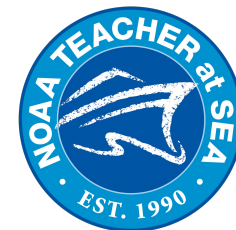
# NOAA's Teacher at Sea Program



2023  
Year in Review



# Diversity, Equity, and Inclusion



In an effort to improve the diversity, equity, and inclusion of our program, our team worked with consultants at Healing Equity United over 6 months

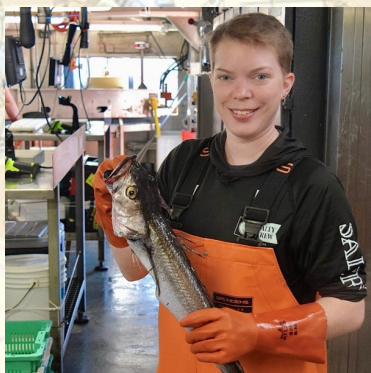
## Outcomes:

- Published a statement on TAS Program's *Commitment to Diversity, Equity, and Inclusion*
- Added a new bias training requirement for reviewers
- Revised reviewer rubric
- Advertised application to more diverse audiences on social media



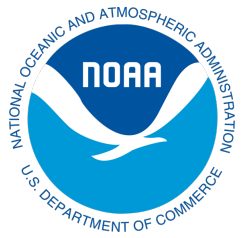
Read TAS Program's Commitment to DEI:

<https://www.fisheries.noaa.gov/national/teacher-at-sea/commitment-diversity-equity-and-inclusion>



# Meet the 2023 Teachers at Sea!





# TAS '23 Julie Hayes



**Hometown:** Macon, MO

**Position:** Life Science, Ecology, STEM teacher  
at Macon R-1 Middle School

**Ship:** NOAA Ship *Pisces*

**Survey:** Gulf of Mexico Reef Fish Survey

**Ports:** Galveston, TX to Pascagoula, MS

**Sail Dates:** April 22 – May 5, 2023

**“Not only did I get to continue with my own learning,** I was able to bring this back into my classroom. **I had the opportunity to involve my students from day one** and this was extremely beneficial to grabbing their interest. They were so excited for me to go and couldn't wait on my return. I had several students say they wanted to someday do this or become marine biologists.”



# TAS '23 Laura Guertin



**Hometown:** Media, PA

**Position:** Distinguished Professor of Earth Science at Penn State Brandywine

**Ship:** NOAA Ship *Oscar Dyson*

**Survey:** Gulf of Alaska Pollock Acoustic-Trawl Survey

**Ports:** Kodiak, AK

**Sail Dates:** June 10–22, 2023

“My learning is not done! **The sharing of my adventure and new knowledge is only beginning,** and I look forward to sharing my pollock survey stories to not only positively impact the ocean literacy of my audiences, but to show how NOAA’s fishery work helps us address the [United Nations’] Ocean Decade Challenges.”



# TAS '23 Lisa Carlson



**Hometown:** Virginia Beach, VA

**Position:** ESL teacher at  
Glenwood Elementary

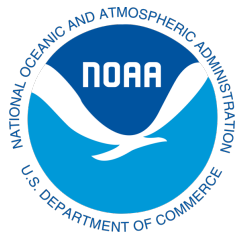
**Ship:** NOAA Ship *Bell M. Shimada*

**Survey:** Hake and Ecosystem Survey

**Ports:** San Francisco, CA to Newport, OR

**Sail Dates:** July 5–19, 2023

**“This was an amazing opportunity, five and a half years in the making.** Especially to be so welcomed and appreciated by others who are not teachers in a classroom—they still taught me so much, and appreciated my input. They made me feel so welcomed and appreciated.”



# TAS '23 ELLI SIMONEN



**Hometown:** Brooklyn, NY

**Position:** Math teacher at  
New York Special Music School

**Ship:** NOAA Ship *Fairweather*

**Survey:** Hydrographic survey of the  
Pribilof Islands

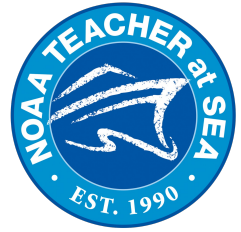
**Ports:** Kodiak, AK to Dutch Harbor, AK

**Sail Dates:** July 14–28, 2023

**“I want to thank the entire crew for showing and explaining to me the amazing work they do and making me feel at home. The crew is highly skilled, patient, respectful and willing to pretty much do anything to help the mission. Their commitment to Science, to NOAA and to each other is commendable.”**



# TAS '23 Jenny Gapp



**Hometown:** Portland, OR

**Position:** Teacher librarian at Peninsula K-5 School

**Ship:** NOAA Ship *Bell M. Shimada*

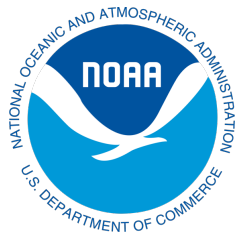
**Survey:** Hake and Ecosystem Survey

**Ports:** Newport, OR

**Sail Dates:** July 23 – August 5, 2023

**“NOAA’s TAS Program should be emulated by other government agencies. Transparency and education of a democratic citizenry about the inner workings of its government is vital to building trust in those entities.”**





# TAS '23 Martin McClure



**Hometown:** Ukiah, CA

**Position:** 3<sup>rd</sup> grade teacher at  
Nokomis Elementary

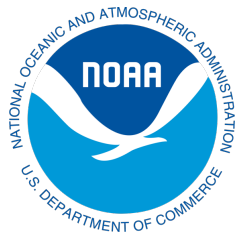
**Ship:** NOAA Ship *Oregon II*

**Survey:** Shark/ Red Snapper Bottom  
Longline Survey

**Ports:** Pascagoula, MS to Canaveral, FL

**Sail Dates:** July 25 – August 9, 2023

“Such an intense learning experience has prompted growth in both my personal and professional life. I am sure that I will continue to develop ideas and understanding as I delve further into the ideas that this experience have prompted... **So far, this has been the most amazing experience of my teaching career.**”



# TAS '23 Gail Tang



**Hometown:** Pomona, CA

**Position:** Associate Professor of Mathematics  
at University of La Verne

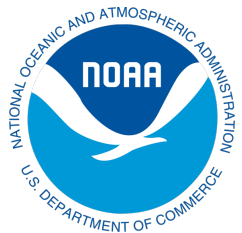
**Ship:** NOAA Ship *Oscar Elton Sette*

**Survey:** Hawaiian Islands Cetacean and  
Ecosystem Survey

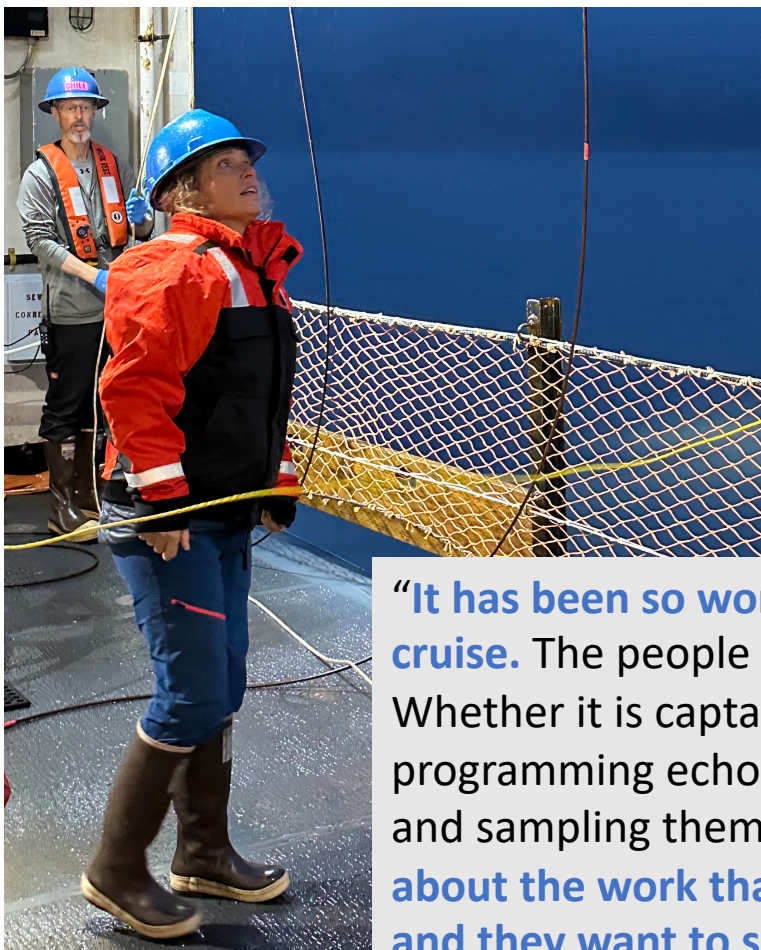
**Ports:** Honolulu, HI

**Sail Dates:** August 4 – September 1, 2023

**“It was an incredible experience to witness science in action.** I often referred to my time at sea as “Science Camp!” Asked what I’ll bring back home with me from this experience, I realized that what I’ve gained are all the connections I made with my shipmates.”



# TAS '23 Germaine Thomas



**Hometown:** Anchorage, AK

**Position:** Chemistry, Ocean Sciences  
teacher at East Anchorage High

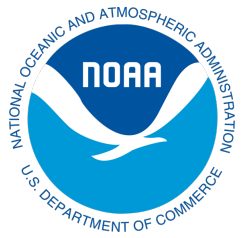
**Ship:** NOAA Ship *Oscar Dyson*

**Survey:** Gulf of Alaska Pollock Acoustic-  
Trawl Survey

**Ports:** Kodiak, AK

**Sail Dates:** August 7–21, 2023

**“It has been so wonderful working with the science team on this cruise.** The people on this ship really enjoy working on the ocean. Whether it is captaining the boat, engineering, the mess, to programming echo sounders, identifying species of fish, weighing and sampling them, they all love what they do. **They also really care about the work that they are doing, and the health of the ocean, and they want to support the people working and living with it.”**



# NOAA Fisheries Podcast Episode Features Teacher at Sea



January 2023



In January, **TAS '22 Maronda Hastie** was interviewed on the “Dive in with NOAA Fisheries” podcast about her experience tagging sharks aboard NOAA Ship *Oregon II*. Maronda describes how she video chatted with her classes while at sea and arranged for her students to interview crew members.



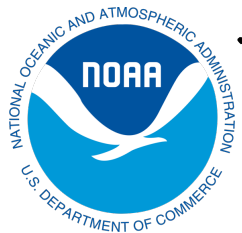
## Shark Surveys and Lesson Plans: A Multitasking Teacher at Sea

Learn about the Teacher at Sea program and one of our recent teachers, Maronda Hastie, who went above and beyond to bring what she learned to her students.

*Listen to the podcast episode:*

<https://www.fisheries.noaa.gov/podcast/shark-surveys-and-lesson-plans-multitasking-teacher-sea>

*Maronda's episode was NOAA Fisheries' 3<sup>rd</sup> most downloaded podcast in 2023!*



# Teacher at Sea Joins NOAA Fisheries in Celebrating Seafood Month



October 2023



**TAS '23 Germaine Thomas** teaches science a diverse high school in Anchorage during the school year, and fishes commercially for salmon during summer break. In October, Germaine spoke with NOAA Fisheries about the central role seafood plays in her life and her teaching.



How Teacher at Sea and Commercial Fisherwoman Germaine Thomas Celebrates Seafood  
<https://www.fisheries.noaa.gov/feature-story/how-teacher-sea-and-commercial-fisherwoman-germaine-thomas-celebrates-seafood>



# Teacher at Sea Alumni Association



**Teacher at Sea  
Alumni Association**

**Southeast  
Region**

<https://bit.ly/teasaSEbook>

**Mondays at  
8:00 PM ET**

2/27  
3/13  
3/27

**Teacher at Sea Alumni Association  
BOOK CLUB**

**TRI-STATE  
REGION**

**TUESDAYS @  
8:00 PM ET**

10/10  
10/24  
11/7  
11/28

<http://bit.ly/teasaGothamUnbound>

**PROJECT ROVE**

Engage · Educate · Explore



# 2023 Highlights



# Teacher at Sea Alumni Association



The Teacher at Sea Alumni Association (TASAA) provides **valuable networking opportunities and high-quality professional development experiences** for alumni of NOAA's Teacher at Sea Program. TASAA extends the benefits of program participation throughout teachers' careers, and in doing so, offers them the opportunity to become dedicated **ambassadors for NOAA's work and mission.**



**National  
Marine Sanctuary  
Foundation**

*The Teacher at Sea Alumni Association is supported through a partnership with the National Marine Sanctuary Foundation.*



# Overview of TASAA Professional Development



- Virtual science education book clubs
- Remotely Operated Vehicles courses (Project ROVe)
- Sensors and Data courses
- Opportunities to present and volunteer at science education conferences for NOAA

*TASAA ROV Education Coordinator  
**Andrea Schmuttermair***







# TAS Alumni Return to National Science Teachers Association Conference



March 22-25, 2023

- 10 alumni volunteered at the National Science Teachers Association's National Conference in Atlanta, Georgia
- **TAS '11 Jenny Goldner** wrote a blog post about "the joy of reconnecting in person" at the NSTA conference:

**"Alumni are the best interface between NOAA and NSTA educators...** [Working at the booth is] refreshing, inspiring, and a wonderful way to connect to other TAS alumni and NOAA staff."

*Read Jenny's full blog post:*

<https://teacheratsealumni.org/blog/reconnecting-in-person>



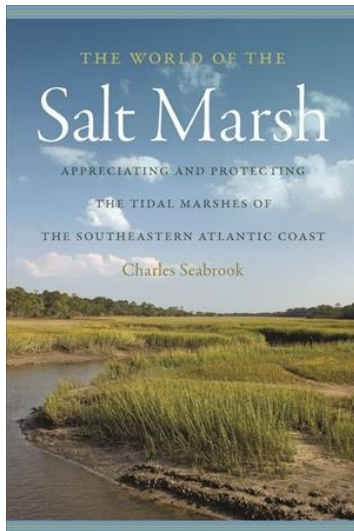


# TAS Alumni Book Club



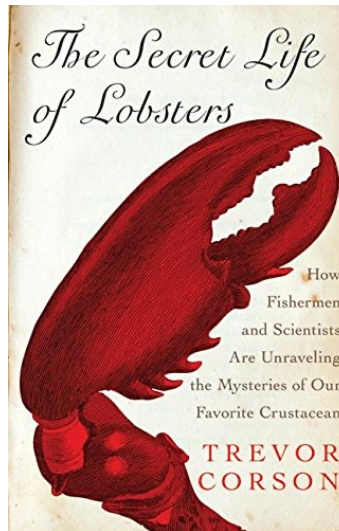
- Books were regionally themed, but alumni & staff from all regions participate
- Groups met virtually discuss each book over 4 biweekly meetings
- Book clubs provided opportunity to share perspectives, expertise, resources

January – March



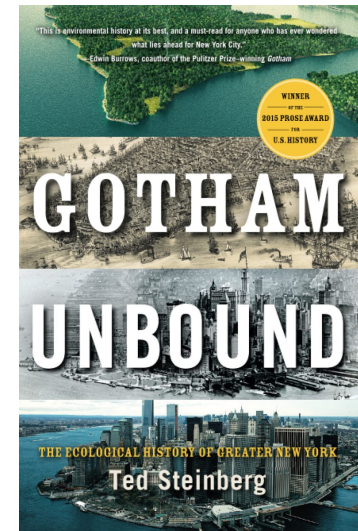
*The World of the Salt Marsh*  
by Charles Seabrook

April – June



*The Secret Life of Lobsters*  
by Trevor Corson

October – November



*Gotham Unbound*  
by Ted Steinberg

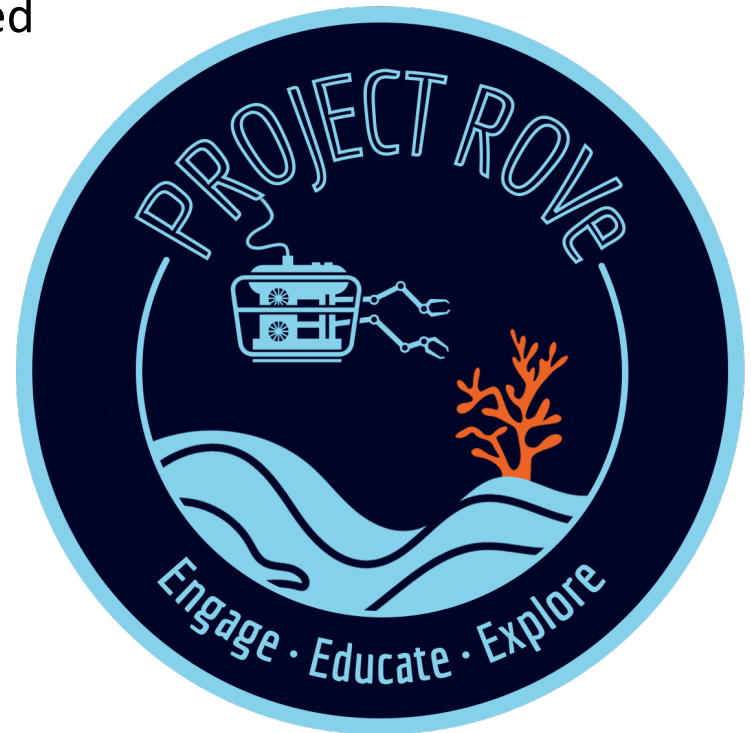


# Project ROVe:

Remotely Operated Vehicles for educators

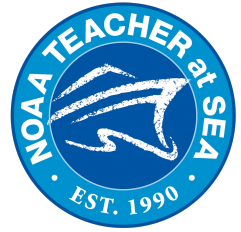


- Marine technology-focused professional development courses for educators
- Support for participants integrating related concepts with their students
- **29 educators** from **17 states** (plus American Samoa & Bermuda) participating in Project ROVe
- **4,000 students** of all grade levels reached with ROV projects
- 2023 class offerings:
  - Introduction to ROVs
  - Design & Build ROVs





# Project ROVe: Design and Build Workshop



March 3–6, 2023

## Project ROVe: Design and Build In-Person Workshop



- 10 TAS alumni from the second Project ROVe cohort
- Held at Gray's Reef National Marine Sanctuary's Ocean Discovery Center in Savannah, Georgia
- Alumni worked in teams to build MATE Pufferfish ROVs
- Alumni shared plans for classroom implementation

Read Andrea's blog about the workshop:

<https://teacheratseaalumni.org/blog/making-waves-in-savannah>



# Project ROVe: Classroom Implementation Video



Watch a video about Brandy's ROV project:  
<https://vimeo.com/832774535>

**TAS '18 Brandy Hill**, a math and science teacher at a middle school in Oregon, was a member of the first Project ROVe cohort (2021-2022). In 2023, she led **60 sixth graders** through designing, building, and testing 14 ROVs, using supplies purchased through a grant from the National Marine Sanctuaries Foundation. Project ROVe Coordinator **Andrea Schmuttermair** visited the classroom to observe the implementation.



# Project ROVe: Classroom Implementation Spotlight



**TAS '15 Jeff Miller**, a biology professor in Arizona, has worked with Project ROVe since 2021. He received a grant from MATE II to bring ROV building to his community college. In June 2023, his students competed in the MATE ROV World Championships in Colorado. The “Ambitious Axolotls” **scored highest in their class for ROV pool demonstration** and finished fourth place overall.

Read more about Jeff's ROV team:  
<https://teacheratseaalumni.org/2023/08/18/jeff-miller-roveteam/>



*TAS '15 Jeff Miller and the Ambitious Axolotls*



# Project ROVe: Classroom Implementation Feedback



“I really appreciate the training and support along the way. **This was a wonderful project and the sight of 5th graders doing engineering in real time will stay with me.**”

– TAS '08 Jacob Tanenbaum

*Jacob at the 2022 Project ROVe Design & Build Workshop in Virginia*

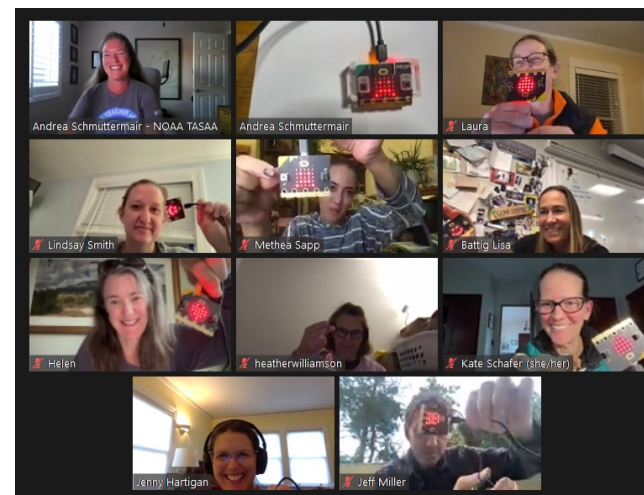
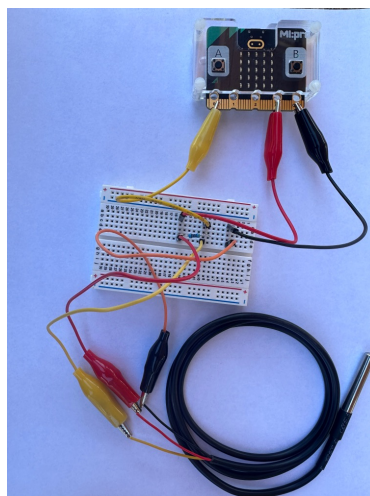


# Introducing the TASAA Sensors & Data Courses



- NEW technology-focused professional development courses for educators
  - Complementary to or independent of Project ROVe courses
  - Focus on building and using sensors to collect and analyze data in the classroom
  - Course materials provided by TASAA
  - Culminates in designing and sharing lesson plans

## Fall 2023: Introduction to Sensors with Micro:bits







# Sensors & Data Courses: Initial Course Offering Feedback



## Introduction to Sensors with Micro:bits



*Kaitlin at the 2023 Project ROVe Design & Build Workshop in Georgia*

“Thank you for curating such a lovely course. I know how much work it takes to make sure **everything is organized and digestible and just the right amount of time for teachers to work on after working hours.** I appreciated being out of my comfort zone on some pieces – so thank you for pushing us!”

– TAS ‘11 Kaitlin Noyes



# TASAA NOAA Fellowship



## 2022-2023 Fellow Denise Harrington

- supported TASAA on various projects
- conducted independent project focused on education and advocacy about **marine debris through art**
- advised NOAA on education-related projects (below)

NOAA Program Office	Projects evaluated, revised, or piloted, with emphasis on access and diversity
NOAA Office of Education	Updates to popular <b>NOAA Hands-on Science activities</b> including “How Does Seafoam Form?”
NOAA Marine Debris Program	Revision and piloting of <b>Marine Debris Monitoring and Assessment Project (MDMAP) Educator’s Guide</b>
Greater Farallones and Cordell Bank National Marine Sanctuaries	Compilation and review of existing <b>Blue Carbon resources and lessons</b> , development of Blue Carbon themes tied to education standards

And finally...

## What NOAA Scientists Say about NOAA Teachers at Sea

“a pleasure to be around and very curious”

“a real trooper”

“incredibly enthusiastic,  
jumped right into all  
aspects of the research”

“terrific – excited,  
motivated, and curious”

“easy to approach, eager to learn... did a lot  
of research before joining the science party”



*TAS '23 Gail Tang (left) with  
cruise chief scientist Marie Hill of the  
Pacific Islands Fisheries Science Center*