



# Beyond the Horizon:

Celebrating 35 Years of Science, Education, and Inspiration



NOAA's Teacher at Sea Program  
2025 Year in Review



# Meet the 2025 Teachers at Sea!



2025 Year in Review

# TAS '25 Kiersten Newtoff

## Teacher at Sea Kicks off the Year Early with January Marine Mammal Survey

January 23, 2025

Teacher at Sea Kiersten Newtoff joins NOAA scientists aboard a midwinter Atlantic marine mammal survey.

[Feature Story](#) | New England/Mid-Atlantic



Teacher at Sea Kiersten Newtoff aboard NOAA Ship *Pisces*.

<https://www.fisheries.noaa.gov/feature-story/teacher-sea-kicks-year-early-january-marine-mammal-survey>

**Hometown:** Rockville, MD

**Position:** Professor of environmental science at Montgomery College

**Ship:** NOAA Ship *Pisces*

**Survey:** Atlantic Marine Mammal Survey

**Ports:** Newport, RI

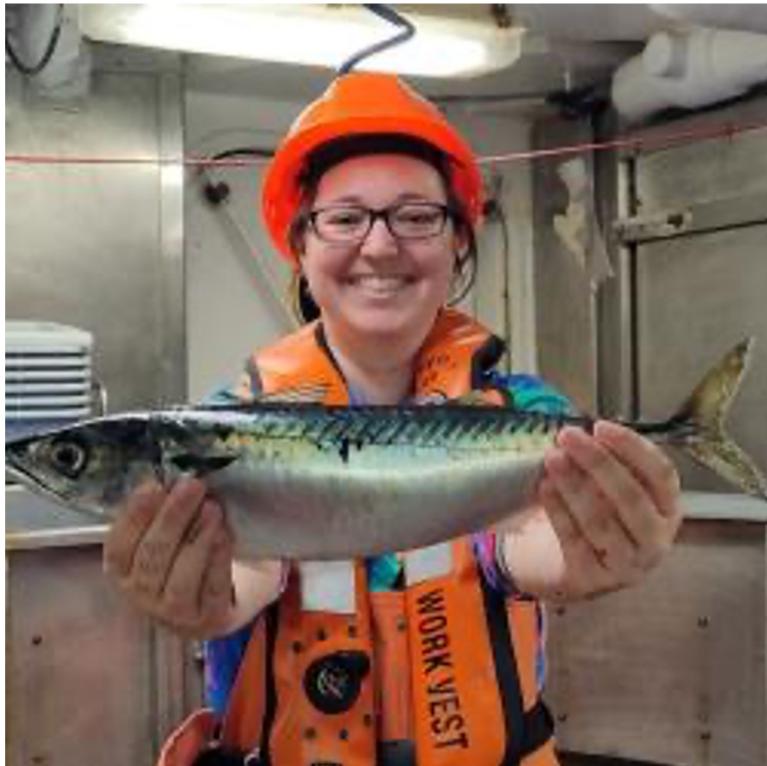
**Sail Dates:** January 6–27, 2025

“Everything about this experience was brand new to me, except that I knew maybe 20% of the seabirds. All the science was new, the boat living was new, the struggling to stand was new. **Every day I learned new things.**”

**Kiersten's blog:**

<https://noaateacheratsea.blog/category/2025/kiersten-newtoff-2025/>

# TAS '25 Jenna Cloninger



**Hometown:** Buford, GA

**Position:** Oceanography teacher at Central Gwinnett High School

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

**Survey:** West Coast Pelagic Fisheries Survey

**Ports:** San Diego, CA, to San Francisco, CA

**Sail Dates:** June 11–26, 2025

"It's quite admirable, and humbling, to see how dedicated [NOAA scientists and crewmembers] are to marine science and to the well-being of our oceans. **It makes me want to be a better teacher** so that we have people in the future who love and care for the ocean and are interested in preserving it as well."

**Jenna's blog:** <https://noaateacheratsea.blog/category/2025/jenna-cloneinger/>

# TAS '25 Jojo Chang



**Hometown:** Laie, HI

**Position:** English and music teacher at Asia Pacific International School - Hawaii

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

**Survey:** West Coast Pelagic Fisheries Survey

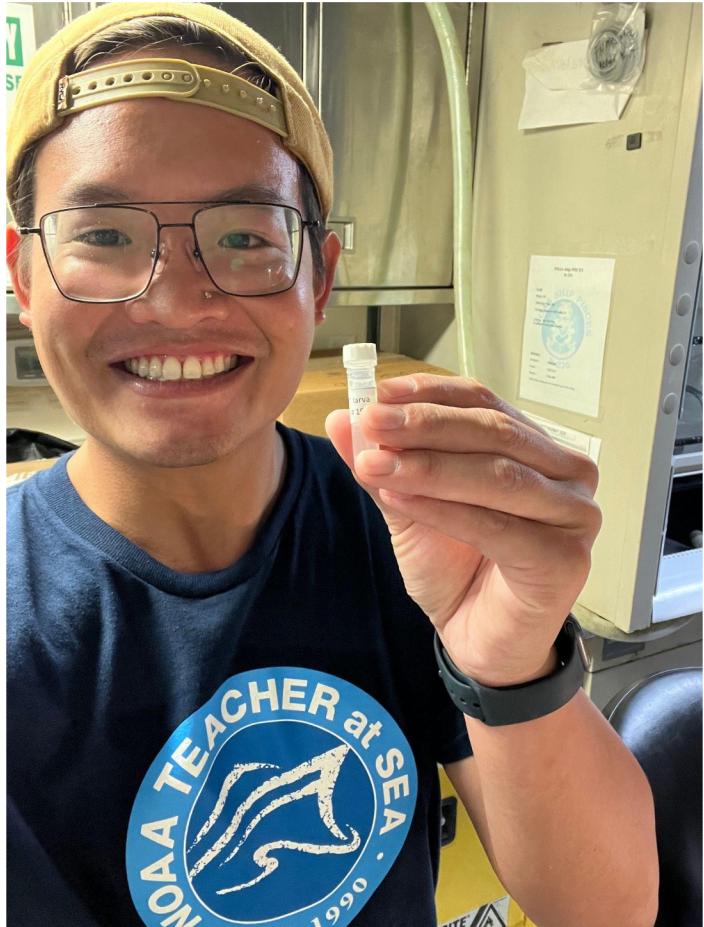
**Ports:** San Francisco, CA

**Sail Dates:** July 2–15, 2025

“The scientists were very welcoming and helpful. They answered so many questions. The scientists were extremely committed to their job. **It was both inspiring and educational.**”

**Jojo's blog:** <https://noaateacheratsea.blog/category/2025/jojo-chang/>

# TAS '25 Sinh Nguyen



**Hometown:** Fort Worth, TX

**Position:** 2nd grade teacher at Uplift Education Mighty Primary

**Ship:** NOAA Ship *Pisces*

**Survey:** Larval Bluefin Tuna Survey

**Ports:** Norfolk, VA to Newport, RI

**Sail Dates:** July 15–23, 2025

"What I liked most about the Teacher at Sea Program was the **opportunity to be fully immersed in the life and work of a research vessel**. Collaborating with scientists and crew, learning through hands-on experiences, and witnessing science in action **made the learning powerful and unforgettable**. It allowed me to grow both personally and professionally."

**Sinh's blog:** <https://noaateacheratsea.blog/category/2025/sinh-nguyen/>

# TAS '25 Jacqueline Omania



**Hometown:** Berkeley, CA

**Position:** 5th grade teacher at Oxford Elementary

**Ship:** NOAA Ship *Reuben Lasker*

**Survey:** Monterey Bay Marine Sanctuary Survey

**Ports:** San Francisco, CA

**Sail Dates:** July 14-24, 2025

**"This experience changed my life.** If I had had a teacher tell me about all the opportunities that exist to work at sea—I probably would be a marine scientist or part of NOAA or NOAA Corps today. I want my students to know of all the options for work at sea AND how to access them."

**Jacqueline's blog:** <https://noaateacheratsea.blog/category/2025/jacqueline-omania-2025/>

# TAS '25 Cheryl Milliken



**Hometown:** Pocasset, MA

**Position:** Marine ecology teacher at Falmouth High School

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

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

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

**Sail Dates:** July 26–August 10, 2025

“My knowledge of sharks has grown exponentially, as has **my appreciation for the work being done by NOAA scientists**. I have a better understanding for life on a ship and life in Pascagoula, Mississippi. I met people who volunteered on the ship and study a wide range of research topics, which I can incorporate into my lessons.”

**Cheryl's blog:** <https://noaateacheratsea.blog/category/2025/cheryl-milliken/>

# TAS '25 Dorothy Holley



**Hometown:** Raleigh, NC

**Position:** Chemistry and forensics teacher at West Johnston High School

**Ship:** NOAA Ship *Pisces*

**Survey:** Ecosystem Monitoring Survey

**Ports:** Newport, RI

**Sail Dates:** July 31–August 15, 2025

“The TAS program has fanned the flame of science instruction and science relevancy, concepts that undergird any course in science. **I was able to BE a scientist and SEE how science is used in relevant, real world ways.**”

**Dorothy's blog:** <https://noaateacheratsea.blog/category/2025/dorothy-holley/>

# TAS '25 Joshua Gonzalez



**Hometown:** Milwaukee, WI

**Position:** 2nd grade teacher at River Trail School of Agricultural Science

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

**Survey:** West Coast Pelagic Fisheries Survey

**Ports:** Newport, OR

**Sail Dates:** August 11–23, 2025

“Doing something that felt **real and tangible while being a part of a team**, contributing and learning new things made this a terrific experience for me. The people were great, from the scientists, to the officers, to the crew.”

**Joshua's blog:** <https://noaateacheratsea.blog/category/2025/joshua-gonzalez/>

# TAS '25 Robert Markuske



**Hometown:** Brooklyn, NY

**Position:** Sustainability and career tech teacher at New York Harbor School

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

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

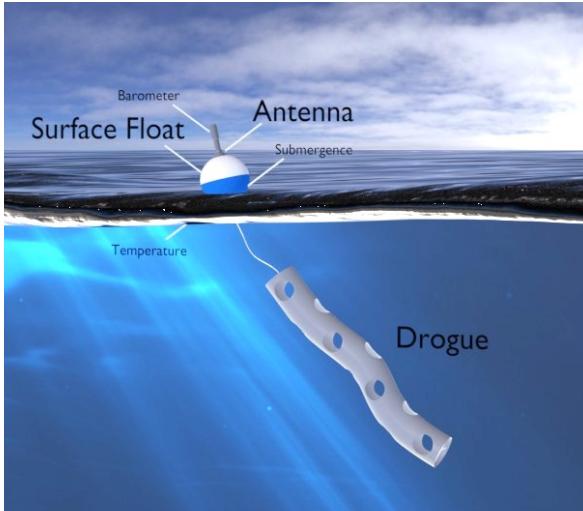
**Ports:** Miami, FL to Pascagoula, MS

**Sail Dates:** August 13–29, 2025

“This program filled gaps in my curriculum I could have only received from this experience. My hands on work enhanced everything I have ever read on paper. In addition, **the students think it's pretty cool their teacher was at sea.**”

**Robert's blog:** <https://noaateacheratsea.blog/category/2025/robert-markuske/>

# Adopt-a-Drifter Partnership



*Diagram of a drifting buoy*

In 2025, we expanded our partnership with NOAA's **Adopt-a-Drifter Program**, administered by NOAA's Global Ocean Monitoring and Observing Program.

**Four Teachers at Sea** adopted and deployed **10 drifting buoys** (2-3 each) off the coasts of Florida, New England, and Oregon. Once they hit the water, the drifters began transmitting location and sea surface temperature data hourly.



Cheryl Milliken  
NOAA Ship *Oregon II*



Dorothy Holley  
NOAA Ship *Pisces*



Joshua Gonzalez  
NOAA Ship *Bell M. Shimada*



Robert Markuske  
NOAA Ship *Oregon II*

# Teacher and Drifter Reunite

TAS **Tonya Prentice**, who teaches science at Tremont Consolidated School in Maine, launched two drifter buoys during her mission aboard NOAA Ship *Henry B. Bigelow* in **August 2024**.

In the spring of 2025, **one of the buoys washed ashore in Maryland** and, with help from the public, eventually made its way **back to Tonya** in Maine!

Read more in our feature story:  
<https://www.fisheries.noaa.gov/feature-story/beyond-horizon-drifter-returned-sea>

## Beyond the Horizon: the Drifter that Returned from Sea

December 05, 2025

An unexpected reunion between a Teacher at Sea and the drifting ocean buoy she deployed the year before.

**Feature Story** | New England/Mid-Atlantic



Teacher at Sea Tonya Prentice and the recovered drifter at Tremont Consolidated School in Bass Harbor, Maine.

# 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.*

# TASAA NOAA Fellowship

## 2024-25 Fellow Roy Arezzo



- Served as **educational consultant** for **NOAA Citizen Science initiatives** and grantees (see below); presented Citizen Science webinar through NOAA Library
- Supported Teacher at Sea alumni interested in citizen science or aquaculture
- Worked with NOAA partners on additional local and regional educational initiatives



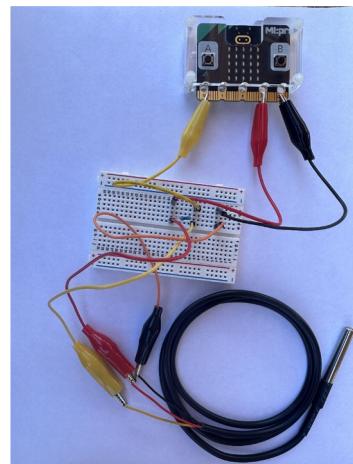
NOAA Grantee	Projects
Phytoplankton Monitoring Network	developed educational brochure and lesson plan
Hudson River Eel Project	assessed and created lesson plans, delivered presentation, assisted with field work
Mesophotic Deep Benthic Communities Project	evaluated projects; developed and revised lesson plans and teacher guides; led workshop at science teachers conference

# Professional Development

## Introduction to Sensors with Micro:bits, Cohort 3

March 2025

- 5 alumni and 2 sanctuary partner educators participated in this technology-focused professional development course in Spring 2025 taught by Andrea Schmuttermair
- In the class, participants learned how to use block coding to program simple, low-cost sensors and discussed how to implement these sensors in the classroom.
- Course materials provided by the Teacher at Sea Alumni Association



2025 Year in Review

# Professional Development

## Project ROVe: Remotely Operated Vehicles for educators

2022 – 2025

In 2025, the Project ROVe marine technology program with alumni concluded.

- In the spring, Andrea Schmuttermair taught a **final online Introduction to ROVs** course for alumni and educators from the **Thunder Bay National Marine Sanctuary**.
- Since 2022, **76 educators** from **21 states** (plus American Samoa & Bermuda) have participated in Project ROVe
- Collectively, ROV projects reached **4,000+ students** of all grade levels



2025 Year in Review

# National Science Teaching Association Conference

March 26-29, 2025

- 2 sponsored alumni traveled to Philadelphia, PA for the 2025 National Science Teaching Association (NSTA) Conference, where they:
  - helped staff the National Earth Science Teachers Association (NESTA) booth
  - led four STEM-related sessions and workshops for attendees
  - connected with other alumni in attendance



Alumni Natalie Macke, Jacob Tanenbaum, & Roy Arezzo

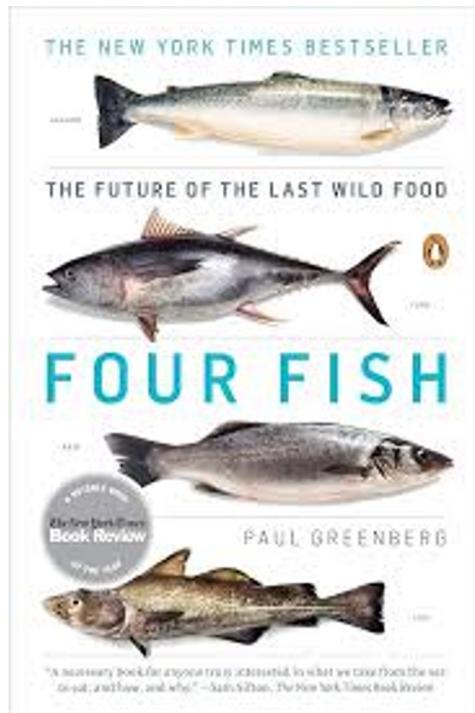


Alumni Roy Arezzo & Michael Gutierrez

# Alumni Reading Group: *Four Fish*

February – March 2025

- 32 alumni & staff from all regions participated
- Groups met virtually to discuss each book over 4 biweekly meetings
- Book clubs provided the opportunity to share perspectives, expertise, resources



*Four Fish*  
by Paul Greenberg



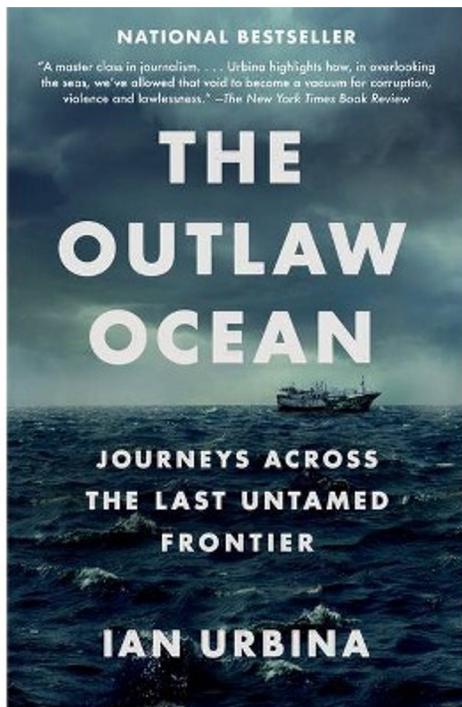
*Four Fish* discussion questions and resources:  
<https://teacheratseaalumni.org/alumni-book-clubs#four-fish>

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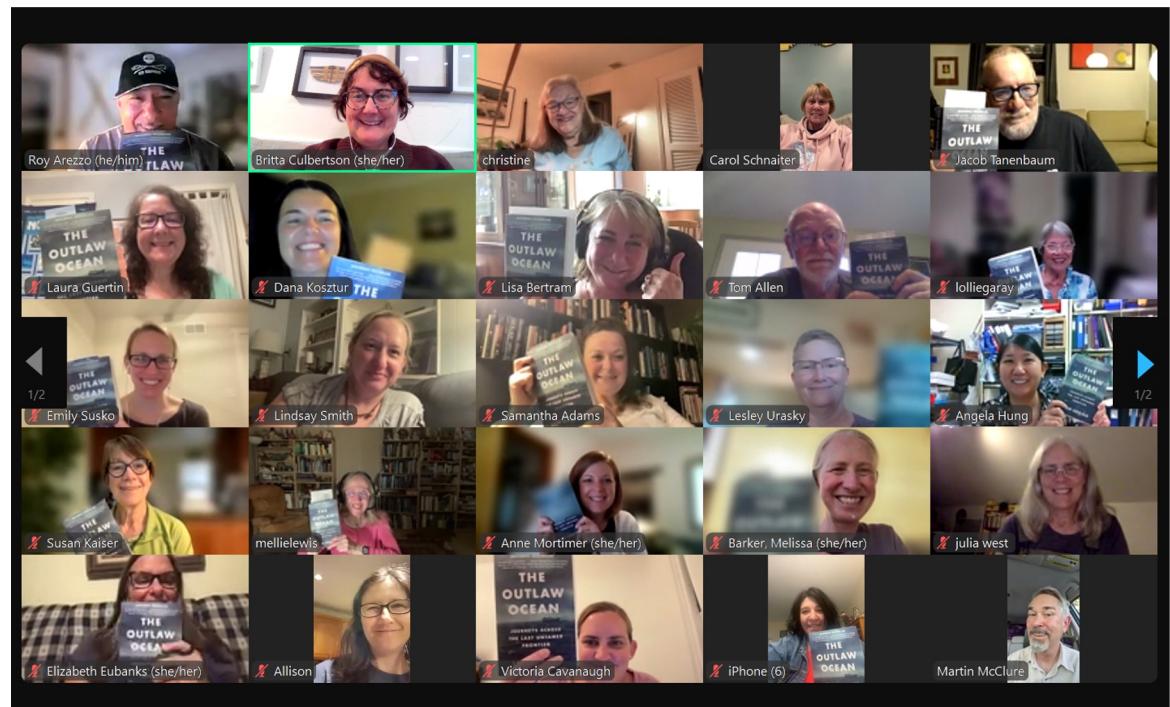
# Alumni Reading Group: *The Outlaw Ocean*

April – June 2025

- 30 alumni & staff from all regions participated
- Groups met virtually to discuss each book over 4 biweekly meetings
- Book clubs provided the opportunity to share perspectives, expertise, resources



*The Outlaw Ocean*  
by Ian Urbina



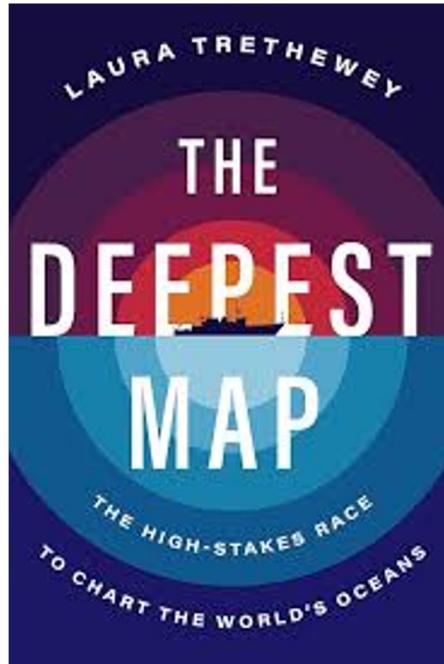
*The Outlaw Ocean* discussion questions and resources:  
<https://teacheratseaalumni.org/alumni-book-clubs#outlaw-ocean>

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# Alumni Reading Group: *The Deepest Map*

October - November 2025

- 43 alumni & staff from all regions participated
- Groups met virtually to discuss each book over 4 biweekly meetings
- Book clubs provided the opportunity to share perspectives, expertise, resources



*The Deepest Map*  
by Laura Trethewey

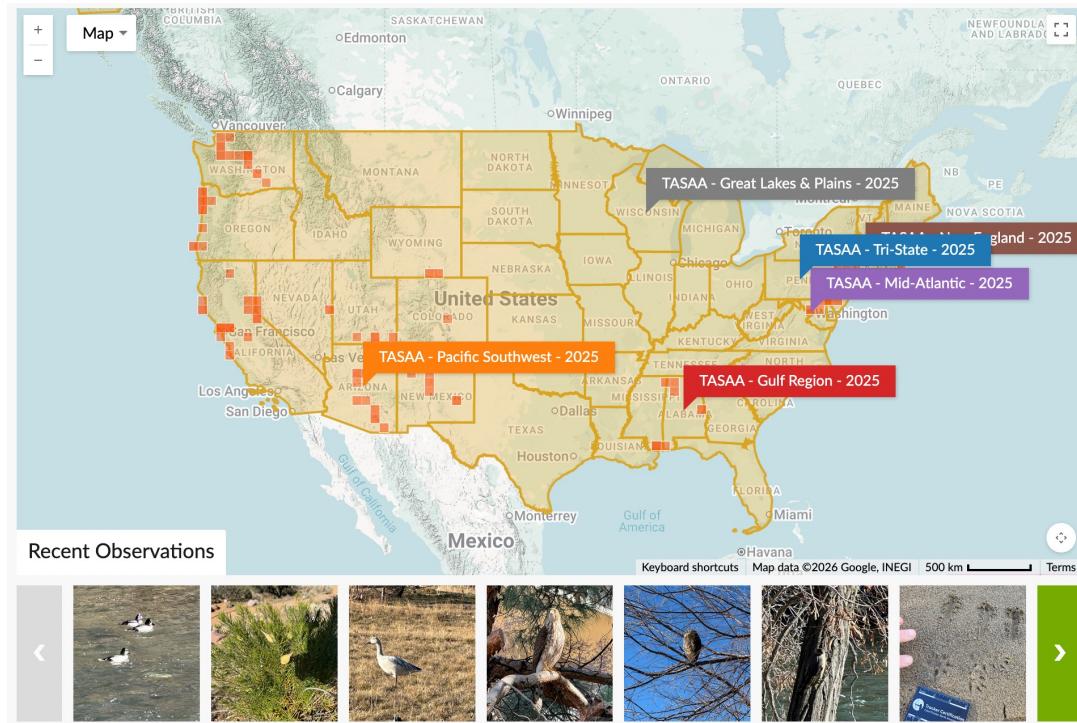


*The Deepest Map* discussion questions and resources:  
<https://teacheratseaalumni.org/alumni-book-clubs#deepest-map>

2025 Year in Review

# Alumni iNaturalist Challenge

As part of the 35<sup>th</sup> anniversary celebration, the Teacher at Sea Alumni Association hosted a friendly iNaturalist competition among 8 geographic alumni regions.



May 21, 2025



Alumni manager **Britta Culbertson** presented a webinar describing how to use iNaturalist, how-to set-up class competitions, and how to use it as a tool for data mining activities in the classroom.

<https://vimeo.com/tasaa/cultivatingcuriosity>

13 registrants

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# Alumni Webinars: Ship-to-Shore Broadcast with TAS '12 Kaitlin Noyes

September 16, 2025



TAS '12 Kaitlyn Noyes (left) joined university researchers aboard the R/V *Atlantis* this year for a survey of hydrothermal vents off the coast of Vancouver Island. While at sea, she hosted a **live ship-to-shore interaction** for TAS alumni.

<https://vimeo.com/tasaa/stsatlantis>

12 registrants

November 19, 2025



Journey to the Deep: After her return, Kaitlin hosted an alumni webinar to share her **once-in-a-lifetime experience** of diving in the Human Occupied Vehicle (HOV) *Alvin*.

<https://vimeo.com/tasaa/journeytothedep>

22 registrants

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# Alumni Webinars: NOAA's Online Educational Resources

September 25, 2025

October 23, 2025

## Sea to Sky: Get to Know NOAA's Online Educational Resources

Bekkah Lampe  
Outreach and Education Coordinator  
NOAA Office of Education  
[education@noaa.gov](mailto:education@noaa.gov) | [outreach@noaa.gov](mailto:outreach@noaa.gov)

Teacher at Sea Alumni Association  
September 25, 2025

National Oceanic and Atmospheric Administration | U.S. Department of Commerce



**Bekkah Lampe** from NOAA's Office of Education guided participants through **NOAA's education website** and resources on the ocean, coasts, Great Lakes, weather, and climate.

<https://vimeo.com/tasaa/seatosky>

*12 registrants*

## How to find and use NOAA data: A guide for educators

Kayla Smith

Presenting in support of NOAA, the National Oceanic and Atmospheric Administration

National Oceanic and Atmospheric Administration | U.S. Department of Commerce



**Kayla Smith** from NOAA's Office of Education demonstrated how to access and use **NOAA's data-rich resources, lessons, and visualization tools**. She took a deep dive into NOAA's fisheries and ecosystems resources and offered suggestions on how to incorporate them into classroom teaching.

<https://vimeo.com/tasaa/noadata>

*25 registrants*

2025 Year in Review

And finally...

## What NOAA Scientists Say about NOAA Teachers at Sea

“prepared to **go the distance every night**... learned quickly and became a **valued member of the team**!”

“the science party benefits from the **excitement and unique perspectives** that the Teachers at Sea bring.”

“a **great presence** on the ship”

“well prepared, **eager to learn**, and very enthusiastic about the science”

“It's **fun to work with teachers** to come up with new ways to explain our work, ocean ecosystems, and life at sea.”



*TAS '25 Jacqueline Omania (right) with the science team aboard NOAA Ship Reuben Lasker*