

MASTHEAD

Quarterly Newsletter of the Mid-Atlantic Marine Education Association

In This Issue

Lifeline	2
MAMEA 2022 Save the Date NMEA Membership Discount	
VA SEA Lesson Plan Log	3
NMEA 2022 Important Dates TKH Recommended Reading	4
Spyglass - Mariners' Park and Museum	5
NOSB Regional Competitions	6
Regional Updates - Delaware Maryland/DC	7
Regional Updates - Maryland/DC North Carolina	8
Regional Updates - North Carolina Virginia	9
MAMEA Member Benefits Board Members and Committee Chairs	10

Captain's Quarters

Evan Beatty, MAMEA President

Dear MAMEA Members,

I am Evan Beatty, a middle school science teacher at Hershey Middle School, in Hershey, Pennsylvania. I have been involved with MAMEA since 2012, and I am honored to be your MAMEA President.

Since the last issue of MASTHEAD, the National Ocean Science Bowl (NOSB) has held three regional bowls in the Mid-Atlantic region. MAMEA offered support to these bowls by providing MAMEA memberships to new NOSB coaches and complimentary MAMEA annual conference registration to the winning coaches. Thank you to the regional NOSB coordinators Bethany Smith, Bill Dunn, David Christopher, Tina Bell, and Rene Fleming for all you do to support this competition.

This year, NMEA's annual conference will be hybrid July 8-14 with both in-person and virtual options to attend the conference. The in-person portion will take place at Hofstra University on Long Island, New York. NMEA has opened conference and on-campus housing registration and released the call for presenters, please see the [NMEA website](#) for more information. The call for presentations deadline is March 18th.

Mark your calendars for the upcoming mini conferences that our State Representatives have planned and the 2022 MAMEA Conference, scheduled for October 28-30, in Pine Knoll Shores, North Carolina. More information is coming soon.

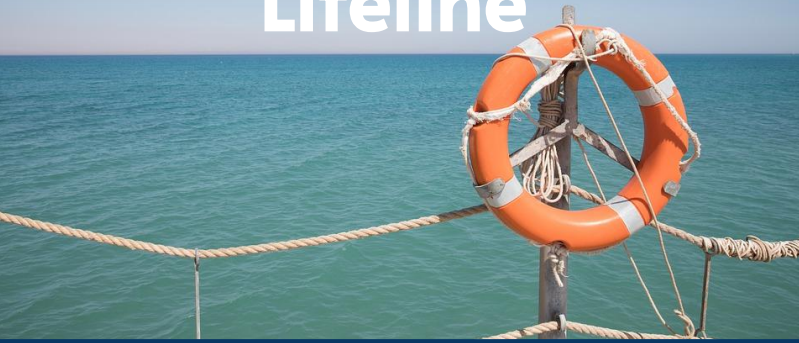
Lastly, I would like to thank the MAMEA board for all of their hard work and dedication to our organization. Some of our board members' tenure is coming to an end. If you are interested in serving on the board or you would like to nominate someone for the board positions up for election this fall, please contact Lisa Tossey (tossey@umd.edu).

Evan Beatty, MAMEA President
ebeatty@hershey.k12.pa.us



*Student Viewing the Mariners' Museum
Women at Sea Exhibit
(Mariners' Museum and Park)*

Lifeline



As we all look forward to Spring, many of us must also be prepared to deal with allergies. While mild allergies do not usually require First Aid intervention we may need to get involved in more serious situations.

Signs of a Mild Allergic Reaction include –

- Runny Nose
- Sneezing
- Itching
- Hives

Signs of a Severe Allergic Reaction include –

- Trouble Breathing
- Swelling of the Tongue/Face
- Signs of Shock

Someone with Severe Allergies should be carrying a prescribed Epinephrine Pen. Typically, they can administer their own medication but may need you to get it for them. If they are too weak to self-administer, follow these steps –

- Hold the Epinephrine Pen in your fist. DO NOT hold with your thumb over one end for leverage.
- Remove the Safety Cap.
- Press firmly against the side of person’s thigh. The needle will go through most clothing but feel for skin and muscle under the clothes as the needle will not go through items in a pocket like cell phones or car keys.
- Hold in place for 10 seconds.
- Remove and rub the area for 10 seconds.
- Always call 911.



By the way, Irish physician Francis Rand is generally credited with the first successful hypodermic needle injection in 1844. Happy Saint Patrick’s Day, Sláinte!

Chuck Fuller

SAVE THE DATE!

MAMEA Annual Conference

October 28-30, 2022



Pine Knoll Shores, NC



Questions? Want to get involved?
Contact Emily Peters: epeters@aqua.org



National Marine Educators Association Membership Discount Code Expires April 22, 2022

This has been a rough year for many, and NMEA is hoping that a \$20 discount on your NMEA membership will help more of you renew your membership or recruit new members. Making known the world of water has never been more important, and educators need support and camaraderie more than ever. So, please take advantage of the discount if you need it and stay part of our community of educators! Use the code OCEANDECADE when you join or renew to take advantage of this offer through April 22, 2022!

<https://www.marine-ed.org/membership> 2

VA SEA Spring Lesson Plan Log: Highlighting Hands-On, Research Based Marine Science Activities for K-12 Classrooms

*Bethany Smith, Marine Education Specialist (bsmith@vims.edu)
Virginia Institute of Marine Science – Marine Advisory Program*



Graduate students in the Virginia Scientists & Educators Alliance (VA SEA) program (a program facilitated by educators at the Virginia Institute of Marine Science and Chesapeake Bay National Estuarine Research Reserve in Virginia) have created over 40 unique, hands-on lesson plans geared towards middle and high school audiences. These lesson plans provide real-world connections to classroom learning across a variety of science disciplines, and are easily scalable to meet the needs of your unique classroom. In this spring edition of the VA SEA Lesson Plan Log, we highlight three lessons that are sure to have your students blooming!

Sunny-Side-Up: Temperature & Lobster Egg Development

In this activity, designed by VIMS student Abigail Sisti, your students will use math and science to characterize the effects of temperature on lobster egg development. After learning the basics of the lobster lifecycle and how to identify different parts of a lobster egg and larvae, students will measure various egg and larvae features from lobster egg photos. Students will then graph the changes in these features over time, and use their graphs to draw conclusions about how differences in egg rearing environment might relate to lobster reproductive performance and climate change. Abigail's lesson plan is designed for science students in grades 6 – 12, and contains graphing and measurement extension suggestions for more advanced students, as well as for use in a virtual setting.

Feeding Time: How Nutrients Drive Phytoplankton Growth

In this activity, designed by VIMS student Brianna Stanley, your students will explore the connection between the amount of nutrients present in an ecosystem and the resulting growth of phytoplankton in coastal waters. Using the provided dataset, students will graph counts of phytoplankton cells alongside nutrient concentrations, and explore the concept of the Redfield Ratio. By gaining a better understanding of limiting factors, and the conditions optimal for phytoplankton growth, students can further their understanding of eutrophication, reflect on their own contributions, and propose how to reduce their impacts. Brianna's lesson plan most closely addresses high school biology, chemistry, and oceanography standards.

Fish Census: Monitoring Fish Populations in Chesapeake Bay

In this activity, designed by VIMS student Rachel Dixon, your students will utilize data collected from a scientific survey to explore where different fishes live in a coastal estuary, and how their populations change over time. In this simulation activity, students become part of the trawl survey team, identifying, counting, and graphing simulated trawls from various locations around Chesapeake Bay. Ultimately, students will assess how scientific data can be used to draw conclusions about how fish populations change over time, and what parts of Chesapeake Bay are used by different species of fish at different times in their lives. Rachel's lesson plan is designed for middle school science students, with options to scale it for high school biology, oceanography or environmental science.

Have you used any of the VA SEA resources in your classroom? Is there a specific topic / SOL you could really use a lesson for? Our team would love to hear from you! For complete lesson plans, including a background PowerPoint, student/teacher handouts and answer keys, please visit the VA SEA lesson plan collection at www.vims.edu/vasea. Want to check out this year's cohort of 10 AWESOME lesson plans? The 2022 VA SEA Lesson Plan Expo is scheduled for April 28, 2022.



NMEA IMPORTANT DATES:

March 15: Conference Scholarship deadline

March 18: Presentation Proposal Deadline (Student and Regular)

April 1: Dorm room reservation guarantee deadline

July 9-13: NMEA Annual Conference in NY and online

CHARTING A COURSE TO NMEA 2022

Join us at NMEA 2022- in-person and virtual options available! July 9-13, 2022, NYSMEA (New York State Marine Education Association) is hosting the National Marine Educators Association annual conference! Based at Hofstra University in Hempstead, Long Island, the full conference has speakers and sessions on July 10-13, with full-day field trips on Tuesday, July 12. Being mindful of time zones for those attending remotely, the speakers and sessions will be scheduled from 2-6 pm ET, allowing in-person participants the opportunity to spend their mornings taking short excursions or getting together to explore common interests. Check the NMEA website at <https://www.marine-ed.org/conference/2022> for up-to-date information on conference and on-campus housing registration and the call for presenters. MAMEA always has one of the largest groups at NMEA, and we're really looking forward to seeing you (in person or remotely) this year in New York!



World of Wonders: In Praise of Fireflies, Whale Sharks, and Other Astonishments

By Aimee Nezhukumatathil (2020, Milkweed Editions)

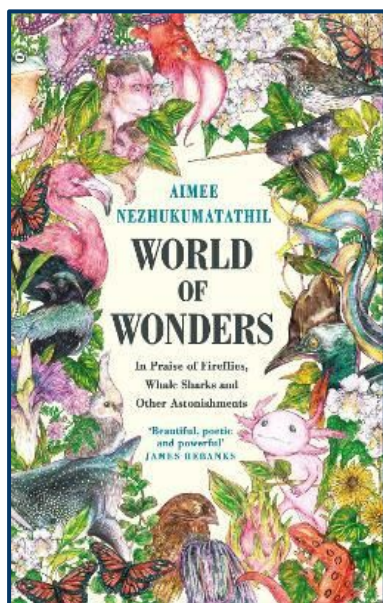
In May of 2020, towards the beginning of the pandemic and our forced “work from home” situation, I signed up for a webinar titled “Nature as Inspiration and Transformation: An Intro to Nature Poetry”. I’ve always enjoyed reading about others’ outdoor experiences, comparing and contrasting with my own, and I was interested in learning about the webinar speaker.

Aimee Nezhukumatathil, an English and creative writing professor at the University of Mississippi, has a melodic way of tying science, history, and culture all together using nature stories as the ribbon. She gets comfort from relating some of her nature experiences and linking them to things she learned about life during those times.

Each short essay in her book features an animal or plant or habitat and what that item taught her. For example, the iridescence of a comb jelly in an aquarium reminds the writer of glass bangles given to her by her grandmother, and when Aimee was the new girl in high school, she wanted to be a vampire squid and disappear into the abyss. Perhaps my favorite essay is about the corpse flower – the writer used that topic as a screening technique for dates. When asked about her interests while on a first date, she would mention the corpse flower and her experiences of seeking them out. In her three years of chasing those foul-smelling plants, only one man (out of dozens) wasn’t squeamish and eventually asked to accompany Aimee on a search. Of course, she ended up marrying this one!

Read World of Wonders if you get a chance – you won’t be sorry, and perhaps you’ll learn something new about the natural world, like I did!

Terri Kirby-Hathaway





Spyglass

Focus On:
The Mariners' Museum and Park
Newport News, Virginia
Environmental Science Educator
- Shantelle Landry



The Mariners' Museum and Park was established in 1930 and sees itself as the caretaker of two important collections: (1) the international artifact collection (the Museum) and the living collection (the Park). As stewards of one of the world's most extensive maritime collections, we are committed to the preservation and conservation of more than 32,000 objects and several million library and archive materials. We provide access to our Collections through exhibitions, loans, publications, educational programs, and online media. The Park is a well-known urban oasis in the Virginia Peninsula region. Our 550-acre Park is home to the 167-acre Mariners' Lake and the Noland Trail – a five-mile shoreline trail. While privately owned and maintained, the Park is free and open to the public year-round. In addition, the Museum offers an extensive list of history and science education programs for K-12 students. The topics range from the Battle of Hampton Roads to learning about how and why animals migrate to the Chesapeake Bay.

Our mission statement is simple: The Mariners' Museum and Park connects people to the world's waters because through the waters - through our shared maritime heritage - we are connected to one another. That mission is fulfilled through the lens of servant leadership, committed to a strategy of being collections-based and community-focused in the work we do.

Within the Museum, you will find 90,000 square feet of exhibition galleries, including the prestigious International Small Craft Center and the award-winning Ironclad Revolution in the USS Monitor Center. This state-of-the-art exhibition and conservation lab houses 210 tons of artifacts from the Civil War ironclad Monitor, recovered from NOAA's MONITOR National Marine Sanctuary. The Mariners' Museum was named the official repository for the MONITOR Collection by NOAA in 1987. The collection consists of more than 200 tons of priceless artifacts recovered from the iconic Civil War ironclad located within the boundaries of NOAA's MONITOR National Marine Sanctuary off the North Carolina Coast. This area (Hampton Roads area of Virginia) is where the battle between the MONITOR and VIRGINIA took place and guests get the opportunity to experience and see artifacts from a battle that happened in our backyards.

Admission to The Mariners' Museum and Park is only \$1 per person! We encourage everyone to visit our website, www.MarinersMuseum.org, for the latest information on events and programs happening at The Mariners' Museum and Park. Tickets may be purchased online or when arriving at the Museum. We look forward to welcoming all guests, both new and those returning to visit! Expect to spend 2-3 hours (possibly longer) to experience 90,000 square feet of exhibitions. There's a gift shop at the Museum filled with an array of unique items from toys and stylish apparel to contemporary jewelry, books, souvenirs, and so much more. The Mariners' Cafe also offers delicious and healthy snacks, beverages and meals.

For more information or assistance, contact the Guest Relations team at guestrelations@MarinersMuseum.org or call (757) 596-2222.



Museum Science Educator Shantelle Landry with Hampton students

National Ocean Science Bowl (NOSB) Regional Competition Winners

The National Ocean Sciences Bowl (NOSB) is a nationally recognized high school academic competition that provides an opportunity for students to test their knowledge of the marine sciences including biology, chemistry, physics, geology, marine history, policy and current events. The competition began in 1998 to honor the International Year of the Ocean and has since expanded to include 25 regional competitions as well as the national NOSB Finals.

The MAMEA region is home to three of these regional competitions. These regional bowls are the Chesapeake Bay Bowl hosted by Delaware Sea Grant/University of Delaware and George Mason University, the Blue Crab Bowl hosted by Old Dominion University and the Virginia Institute of Marine Science, and the Blue Heron Bowl hosted by the Merrow Foundation. All three competitions were held virtually this year.

MAMEA would like to congratulate the winning team of each of the regional bowls. These teams will go on to compete in the virtual NOSB Finals in May.

Winning coaches receive a FREE registration to the MAMEA Conference this fall. In addition, all first time regional bowl coaches will receive a complementary, one-year membership to MAMEA.

Congratulations to the winners of the regional NOSB Competitions!

Chesapeake Bay Bowl

Winning Team: Thomas Jefferson High School for Science and Technology, Alexandria, VA



Blue Crab Bowl

Winning Team: Chesapeake Bay Governor's School for Marine and Environmental Science, Glenss, VA



Blue Heron Bowl

Winning Team: Enloe High School, Raleigh, NC



Blue Crab Bowl: Students from Chesapeake Bay Governor's School – Glenss Back row L – R: Captain Dylan White; Erik Graulich and Joshua Mayer; Middle row: Brenna Hendrix; Front row: Paige Baldwin. Photo contributed by their Coach, Sara Chaves Beam



Chesapeake Bay Bowl: Students and Coach from Thomas Jefferson High School for Science and Technology. Top row L-R: Coach Shawn Stickler, Isaiah Wang, Greg Byun, Bottom row L-R: Jonluke O'Cain, Rishi Raturi, Edward Lee. Photo contributed by Delaware Sea Grant/University of Delaware

Regional Updates

DELAWARE UPDATE

Tami Lunsford, DE Representative



#75MinuteScience Teacher Webinar Coming Soon

Delaware Sea Grant has received a grant from the National Marine Sanctuaries Foundation focusing on Ocean Exploration. Through this project, Delaware Sea Grant will bring together teachers interested in marine science for a #75MinuteScience Teacher Webinar this spring and a one-day professional development in June. These professional development opportunities will provide educators with a background in Ocean Literacy, first-hand experience interacting with marine researchers, and exposure to marine education resources. More information on the workshop as well as registration will be released in the next few weeks. Feel free to contact David Christopher, Marine Education Specialist for Delaware Sea Grant, at dmschrist@udel.edu if you have any questions.

MARYLAND/DC UPDATE

Lauren Fauth, MD/DC Representative



National Aquarium

NOAA Ocean Exploration & the National Aquarium host an Online PD Mini-Series featuring Deep-sea Corals for Educators of Grades 6-12

Educators are invited to join NOAA Ocean Exploration's Education Team and the National Aquarium in Baltimore in a live online professional development workshop and follow-up event to learn about deep-sea corals, and the incredible deep-sea ecosystems they support. This three-part offering will consist of:

1. A viewing of a short video with experts in deep-sea coral research. Please view the video (to be sent to participants) prior to the live event!
2. A 90-minute online event hosted by NOAA Ocean Exploration featuring a live, interactive question and answer session with a deep-sea coral expert and an introduction and demonstration of relevant educational activities and resources. March 24, 4:30pm ET
3. 90-minute follow-up event hosted by the National Aquarium providing participants with the opportunity to cooperatively discuss content shared during the March 24 event and explore additional resources. April 7, 5pm ET

Registration is required and space is limited. Educators will receive content for review prior to the event, links to specific activities and additional resources, a NOAA Ocean Exploration Certificate of Participation, and a \$75 stipend. Registrants must participate in all three parts in order to receive the certificate and stipend.

Look for more professional development opportunities on additional topics in Fall 2022!

**Please note this registration page is for both the NOAA-hosted event and the follow-up event. Tickets will only be generated for the live event; National Aquarium will be in direct contact with participants to provide additional information about the follow-up event.*

This program is provided via collaboration between NOAA Ocean Exploration and the University of Rhode Island Graduate School of Oceanography's Inner Space Center, with support from the Ocean Exploration Cooperative Institute and the National Marine Sanctuary Foundation.

<https://www.eventbrite.com/e/online-educator-professional-development-deep-sea-corals-noaa-naq-tickets-276329477907>

Regional Updates

Natural History Society of Maryland

Oceans, Atmospheres and Climates of Earth vs. Other Planets and Moons

Thursday, May 19, 2022 7pm-8pm

Register at:

<https://www.marylandnature.org/get-involved/events/event/oceans-atmospheres-and-climates-of-earth-vs-other-planets-and-moons/>



The fluid Earth, comprising the ocean and atmosphere, regulates climate, making our planet habitable. Thomas Haine, professor in the Department of Earth and Planetary Sciences at Johns Hopkins University will describe and explain aspects of Earth’s heat balance, ocean currents, and atmospheric winds, and their role in controlling climate. We will place Earth’s climate system in context by comparing and contrasting Earth to other planets and moons.

Thomas Haine is a Professor in the Department of Earth & Planetary Sciences at Johns Hopkins University. His teaching and research interests are in physical and dynamical oceanography and the ocean’s role in Earth’s climate. Particular interests are the North Atlantic and Arctic Oceans, and their rotating-stratified fluid dynamics, which are exquisite. His approaches are computational and theoretical, although he collaborates with observational oceanographers and has participated in twelve research expeditions. He is the co-author (with Barry Klinger) of a graduate level textbook in his field, entitled *Ocean Circulation in Three Dimensions*.

Anita C. Leight Estuary Center

City Nature Challenge- Fish Seining

April 29th, 12:30-2pm

Stop by the shoreline to get your feet wet and discover what scaly creatures live in Otter Point Creek. Use the iNaturalist app to track what is found to add to the City Nature Challenge!

Register at:

<https://secure.recl.com/MD/harford-county-md/catalog?filter=c2VhcmNoPTE5MTg0MzU=>



NORTH CAROLINA UPDATE

Brittany Pace, NC Representative

Virtual Sea Turtle Exploration at the NC Aquarium at Fort Fisher

Saturday, April 9, 2022 9 am - 4 pm

Cost: \$25*

The North Carolina Aquarium at Fort Fisher presents Sea Turtle Exploration, a curriculum designed to help educators engage students in the fundamentals of STEAM through ready-to-use, standards-based lesson plans focused on sea turtles. This workshop also includes virtual meet-and-greets with several animal ambassadors. Counts toward NC Environmental Education Certification (Criteria I) and consists of six contact hours that may count toward CEUs for teachers.



*The Oak Island Beach Preservation Society will pay the registration fee for any formal or informal Brunswick County educators. To register, visit this [link](#). For additional workshop information, contact Gail Lemiec at gail.lemiec@ncaquariums.com.

Regional Updates

For the 2022 North Carolina Science Festival, UNCW MarineQuest and Battleship North Carolina are joining forces to co-host the Coastal Climate Science and Engineering Expo. The Expo will be on Saturday, April 30th 1-4pm at the Battleship North Carolina (1 Battleship Road, Wilmington, NC 28401).

Southeastern NC has experienced the severe impacts of climate change over the past few years, from inland flooding and tornadoes to coastal hurricanes and sea level rise. Many of the rural and underserved communities were particularly hard hit. Our 2022 NC Science Festival event will provide opportunities for citizens in these communities and region of the state to learn about their coastal location, the science of climate change and ways in which scientists and engineers are mitigating its impact, and what communities can do to build resiliency.



The Center for Coastal Protection and Restoration

CONNECTING. CONSERVING. INSPIRING.



In the Works!

A 77-acre site overlooking Bogue Sound will be home to the North Carolina Coastal Federation’s new Center for Coastal Protection and Restoration. This center will address the needs of the coast by showcasing the leading ideas in sustainable design and coastal resilience, while using cutting-edge technology to provide solutions and educational opportunities to people across our state. To learn more, visit

<https://www.nccoast.org/the-center-for-coastal-protection-and-restoration/>

VIRGINIA UPDATE

Tara Rudo, VA Representative



Virginia Mini-Conference:

Join educators from VIMS, CBNERR and the Virginia Aquarium for the 2022 Ocean Literacy Workshop at the Virginia Aquarium! Through this workshop, you will gain a better understanding of the essential principles and concepts of the ocean and how to weave these concepts into any science curriculum at any level. At the workshop you will explore lesson plans and activities that correlate with Virginia Standards of Learning that you can bring back to your classroom to foster a greater appreciation of our ocean with your students! Target Audience: Upper elementary through high school science teachers. This workshop is funded by a grant from Virginia Sea Grant. Deadline to register is Friday, May 13. Maximum of 25 attendees.

Date of Workshop: Saturday May 21st, 2022 (9am-3pm)

Location: Virginia Aquarium, Virginia Beach, VA

Cost: Free to MAMEA members; Non-members must join to register.

Registration can be found at: <https://masweb.vims.edu/mamea/vamini.html>

Member Benefits

MAMEA Members receive the following benefits:

- MASTHEAD quarterly newsletter
- Professional Development
 - Annual conference and mini events hosted in each of our states
- Funding
 - Scholarships to the annual conference
 - Grants for up to \$1,000 for marine-related classroom projects
- Recognition
 - Awards are given to members, honoring exemplary service as a Classroom Teacher or Informal Educator
- NMEA membership discount



More information and deadlines are available on the MAMEA website www.mamea.org.

MAMEA Board Members

- Evan Beatty, President
- Emily (Peters) Boyd, President-Elect
- Lisa Tossey, Past President
- David Christopher, Secretary
- Jackie Takacs, Treasurer
- Tami Lunsford, Delaware Representative
- Lauren Fauth, Maryland/DC Representative
- Tara Rudo, Virginia Representative
- Brittany Pace, North Carolina Representative
- Dawn Sherwood, Member-at-Large
- Kathy Fuller, Member-at-Large

The MAMEA Board meets twice a year. More information and contact details can be found [here](#).



MAMEA Committee Chairs

- Chris Petrone, Action Plan
- David Christopher, Archives
- Vacant, Auction
- Rachel Riesbeck, Awards
- Jackie Takacs, Conference Advisory
- Chris Petrone/Lisa Lawrence, Finance
- Dawn Sherwood, Grants
- Kathy Fuller, MASTHEAD
- Lisa Tossey, Mentoring
- Tami Lunsford, NMEA Representative
- Lisa Tossey, Nominating
- Lillie Reiter, Scholarship
- Lauren Fauth/Evan Beatty, Social Media
- David Christopher, Standing Rules
- Lisa Lawrence, Webkeeper