Dear MAMEA members,

Hard to believe that we are having yet another snow day in eastern Virginia, and in March even! But soon the warm weather will be upon us and we’ll be back to field experiences, teacher workshops, and summer camps before you know it. Thank you in advance for all that you are doing and will do to advance marine education in the Mid-Atlantic region. We have had many amazing events going on recently, and many more to come!

First off, I would like to congratulate and thank all of the volunteers, coaches, and coordinators of the local Ocean Sciences Bowls in our region. Two of our own, Chris Petrone (Chesapeake Bay Bowl) and Carol Hopper Brill (Blue Crab Bowl) hosted successful regional competitions for their states, and had great participation from local schools and students. These events take a lot of time and energy, and I know that the students and teachers appreciate all of the hard work.

We’ve also been lucky to have already had two state mini-conferences this year, continuing to provide professional development to our members throughout the Mid-Atlantic. Both Virginia and North Carolina offered events in January and February, and I was fortunate to be able to attend the Virginia whale watching event on a cold and rough day in the Atlantic. Seeing Fin and Humpback whales off the coast of Virginia though, made the day completely worthwhile, as was spending time with other MAMEA members! I’m looking forward to the other mini-conferences coming our way this year.

Don’t forget that registration is now open for the National Marine Education Association (NMEA) conference in Annapolis, MD. The conference planning committee has been hard at work preparing exciting speakers, sessions, and special events for this year’s conference, and I know it will be the best yet! To learn more about the conference, and to register, please go to http://www.nmea2014.com.

Lastly, the MAMEA mid-year board meeting was on March 22, 2014. If you have a question or concern you’d like the board to discuss, please contact either your state representative or any other board member.

I’m excited to read this edition of our Masthead to hear about the marvelous things many of our members are doing, and the exciting events and activities coming up. Enjoy the issue!

Best,
Sarah Nuss
MAMEA President
2014 NMEA Conference Updates

It’s 2014 and that means that this summer, MAMEA is hosting the National Marine Educators Association (NMEA) conference at the Loews Annapolis Hotel in Annapolis, MD, from July 21-25. See http://www.nmea2014.com for more information and to register!

Full registration is a complete package, which includes all of the following: viewing the keynote and plenary speakers, entrance to the exhibit hall, all concurrent sessions, three lunches and snacks, and entrance to Monday’s opening reception at the U.S. Naval Academy, Tuesday’s evening event at the National Aquarium in Baltimore, and Wednesday’s banquet and auction at the Loews Annapolis Hotel. Full registration begins at just $395 for NMEA members and $445 for non-members through April 30. And, all active members of MAMEA who were members before January 30, 2014, get an additional $50 discount off their full registration by using the special registration form sent out to eligible members last month. Single day registrations are only $125 and would be ideal for a member of the general public who wants to see a specific speaker and gain inspiration for just one day or for local educators who are unable to attend the entire conference.

This year’s conference will focus on Science, Technology, Engineering, and Mathematics (STEM) and the Next Generation Science Standards (NGSS), but we are absolutely including many other marine and aquatic topics. Keynote and plenary speakers include Dr. Edith Widder, expert on bioluminescence and deep-sea exploration, Dr. Michael Wysession, geophysicist and NGSS writing team leader, and Dr. Rita Colwell, biotechnology and public health researcher and former National Science Foundation director. There will be over 100 concurrent sessions in tracks for classroom teachers, informal education, scientific research, administration, NGSS, education research and program evaluation, and arts and culture. There is also an optional unconference session on Friday for those who want extended professional development in a less formal setting involving discussions and on-the-fly sharing of the latest topics in education. Lastly, we have also planned field trips to look for fossils, snorkel, visit the monuments in DC and much more!
New NMEA Website

The redesigned website makes it easier to become a member and to remain connected to everything NMEA is doing.

Please check out http://www.marined-ed.org/ to learn about all of the wonderful opportunities and features of NMEA membership today!

DO YOU HAVE A GOOD EDUCATIONAL PROJECT IDEA? LEARN MORE ABOUT MAMEA GRANT OPPORTUNITIES!

One of the great benefits of MAMEA membership is your eligibility for MAMEA Educational Project Grants. If you have a great idea for an educational project that engages students or educators, a MAMEA grant may be just what you need to get your project off the ground! Start working on your proposal now – be ready for the next round of grants! To be eligible, applicants must be current MAMEA members with at least one year’s membership.

Two grants for up to $1,000 are available annually: one for formal educators in classrooms (K – 16); one for informal educators (e.g., museum, aquarium, zoo, science center staff, or employees with government agencies). Projects must focus on marine or aquatic topics. Applicants are encouraged to plan innovative projects that meet the program structure described on the MAMEA Grants page at http://www.mamea.org/minigrant.html.

Visit the Grants page on the MAMEA website for the grant application form, as well as important details about the application process and grantee responsibilities. Or, contact the Grants Committee Chair, Carol Hopper-Brill at chopper@vims.edu. Proposals are accepted throughout the year; the deadline for the 2014-2015 cycle is September 15, 2014. Grant awards will be announced in October and the funding period is 12 months (November 1, 2014 - October 31, 2015).

You can read about projects that have received MAMEA support in the past - on the website at http://www.mamea.org/pastgrants.html.
Three Mid-Atlantic National Ocean Science Bowl Competitions Inspire Students & Reward Teachers

The Mid-Atlantic hosted three regional competitions of the National Ocean Sciences Bowl (NOSB®) this winter. From Delaware to North Carolina, over 200 high school students spent weeks bolstering their content knowledge in diverse marine sciences under the guidance of their teacher coaches. These preparations were inspired by the opportunity to dive into ocean subjects and then test their command of ocean topics head-to-head with other teens. And, the competition inspires their teachers, too, giving them an opportunity to incorporate more marine science into their curricula, and allowing them to demonstrate the integrated nature of marine sciences.

Congratulations to Our Mid-Atlantic Competitors!

This year, the Chesapeake Bay Bowl was sponsored by the University of Delaware’s College of Earth, Ocean, and Environment. Held at the Virden Center at the University of Delaware’s Hugh R. Sharp Campus in Lewes campus on February 1, the contest drew schools from Delaware, Maryland, the DC metropolitan area, as well as selected cities in nearby Pennsylvania and Northern Virginia. In this competition, Coach Lisa Wu from Thomas Jefferson High School for Science and Technology in Alexandria, VA, led her team to victory. For more details on this year’s competition, contact Regional Coordinator Christopher Petrone at petrone@udel.edu, visit the website at http://www.chesapeakebaybowl.org/ and check out the Chesapeake Bay Bowl’s Facebook page at http://www.facebook.com/ChesapeakeBayBowl.

Virginia’s Blue Crab Bowl is coordinated by Marine Advisory staff at the Virginia Institute of Marine Science and colleagues at Old Dominion University’s Department of Ocean, Earth and Atmosphere. The 2014 contest was held on February 1 at the Old Dominion University campus in Norfolk, VA, thanks to major support for both partner institutions. For a record seventh year in a row, top honors went to Coach Bill Dunn’s winning team from Bishop Sullivan Catholic High School. For a description of the competition and announcement of this year’s winners, visit the Blue Crab Bowl website at http://web.vims.edu/adv/bcb/index.html, contact Regional Coordinator Carol Hopper Brill at chopper@vims.edu or 804-684-7735.

The Blue Heron Bowl in North Carolina was held March 1 at North Carolina State University in Raleigh, NC. This year’s first place team from Raleigh Charter High School continued their winning record under the leadership of Coach Whit Hames. For additional information on the competition: contact Regional Coordinator Janelle Fleming at janelle.fleming@gmail.com, visit the Blue Heron Bowl website at https://sites.google.com/site/blueheronbowl/ and find photos of the 2014 teams at the Blue Heron Bowl Facebook page www.facebook.com/pages/Blue-Heron-Bowl/142146289175250. The 2014 Blue Heron Bowl was hosted by NC State University’s Marine, Earth, and Atmospheric Sciences Department and Center for Marine and Science Technology.
MAMEA Recognizes New Coaches & Top Coaches of Mid-Atlantic NOSB Competitions

MAMEA is pleased to recognize the coaches who prepare students for participation in the Mid-Atlantic regional NOSB competitions. To acknowledge the effort of teachers new to the competition, MAMEA awards a one-year membership which helps link these teachers to the MAMEA’s active community of marine and aquatic educators. Recognizing the accomplishments of the Bowls’ winning coaches, the MAMEA Top Coach awards provide complementary registration to one of MAMEA’s professional development opportunities during 2014.

Please welcome these 2014 NOSB Mid-Atlantic New Coaches as MAMEA members:

**Blue Crab Bowl**
- Laura Begley - Fauquier High School, Warrenton, VA

**Chesapeake Bay Bowl**
- John Bellace - Archmere Academy, Claymont, DE
- Susan Braun - State College Area High School, State College, PA
- Karen Dalfrey - Governor’s School at Innovation Park, Manassas, VA
- Deb Mathias - Liberty High School, Eldersburg, MD
- Molly Rippa - Potomac Falls High School, Potomac Falls, VA

MAMEA would also like to congratulate the top coaches from our three Mid-Atlantic Bowls. We look forward to seeing them at a MAMEA professional development activity this year.

**Blue Crab Bowl**
- Bill Dunn - Bishop Sullivan Catholic High School, Virginia Beach, VA

**Blue Heron Bowl**
- Whit Hames - Raleigh Charter High School, Raleigh, NC

**Chesapeake Bay Bowl**

For more information about the NOSB, as well as great up-to-the-minute news about marine research and policy issues, visit the NOSB website at [http://www.nosb.org](http://www.nosb.org) or the NOSB Facebook page at [http://www.facebook.com/nosb.org](http://www.facebook.com/nosb.org).
MARK YOUR CALENDARS: MAY 15 NEW DEADLINE FOR SUBMITTING MAMEA MARINE EDUCATION AWARD NOMINATIONS!

As you are working with marine educators this spring be sure to think of who you’d like to nominate for a MAMEA award. The nomination period for the 2014 MAMEA Awards closes May 15, 2014.

One award honors a formal classroom teacher (K-16) and the other award acknowledges an educator in an informal setting (e.g., museum, aquarium, zoo, science center staff, or employees with government agencies). Nominees should be individuals who:
• Have been a MAMEA member for at least one year
• Demonstrate a commitment to marine education
• Excel as educators
• Develop and use innovative marine education materials
• Share information with colleagues
• Promote marine education professionally

Nominators are encouraged to use the online form at http://www.mamea.org/awardform.html or you may send nominations materials to Megan Ennes, MAMEA Awards Chair, NC Aquarium at Fort Fisher, 900 Loggerhead Rd., Kure Beach, NC 28449.

If you have additional questions or comments, please do not hesitate to contact Megan Ennes at megan.ennes@ncaquariums.com or 910-458-8257 x234.

Registration is now open for the NMEA 2014 Conference!

Visit the Registration Page for details and prices.

Early bird registration ends on April 30 ... so register TODAY!

http://www.nmea2014.com/
**State Chapter Updates**

**Delaware**

1) **A Day in Lewes: Exploring Collaborative Field Trip Opportunities**

A full-day experiencing the wide variety of field trip opportunities in science, history, natural resources, the arts, and mathematics in and around Lewes, DE. With transportation and lunch provided, you will participate in hands-on activities at the seven Lewes Education Coalition partner sites, including Lewes Historical Society, Lightship Overfalls, Zwaanendael Museum, University of Delaware, Delaware Bay and River Cooperative’s ship "DELRIVER", Fort Miles, and the Seaside Nature Center at Cape Henlopen State Park. Delaware teachers will receive seat time credits.

**WHEN:** Wednesday, August 6, 2014  
**WHERE:** Lewes, DE and the surrounding area  
**COST:** $15  

2) **Bay to Bay: A Multidisciplinary Watershed Investigation Across the Delmarva Peninsula**

Six days of intensive field work, activities, and watershed, ecosystem, and social science content. Includes all meals and overnight lodging in Easton, MD and Lewes, DE. This course can be used for seat time credits and involves classroom resources.

**WHO:** 7th and 8th grade science teachers (may be expanded to other grades, stay tuned)  
**WHEN:** Monday, July 7 – Saturday, July 12, 2014  
**WHERE:** A transect across Delmarva from Poplar Island, MD to Cape Henlopen, DE  
**COST:** TBD, $50 or less (A small stipend may be available)  
**REGISTRATION:** Limited to 16 participants  
For more information please contact Chris Petrone at petrone@udel.edu.

3) **Delaware Association of Environmental Education Evening Networking Event**

Join DAEE for an evening of networking and behind-the-scenes tours of the gardens and enjoy some light fare and beverages.

**WHEN:** Friday, May 9, 2014  
**WHERE:** Mt. Cuba Center, Hockessin, DE

4) **MADE CLEAR Climate Science Academy**

Four days of climate science, resources, activities, and pedagogy. Includes all meals and overnight lodging. This course can be used for seat time credits and involves classroom resources.

**WHO:** Middle school science teachers  
**WHEN:** Monday, July 14 – Friday, July 18, 2014  
**WHERE:** UD Virden Center, Lewes, DE  
**COST:** Free (Stipend available)  
For more information please visit [http://www.madeclear.org](http://www.madeclear.org).

**Maryland**

**SPECIAL FEATURE:** Phillips Wharf Environmental Center’s Kelley Cox named MAEOE Outdoor Educator of the Year

When Kelley Cox arrived at the Princess Royale Hotel in Ocean City, MD, to attend the 29th annual Maryland Association of Environmental and Outdoor Education (MAEOE) conference, she was surprised to discover she was the guest of honor. With her family and two PWEC Board members in the audience, MAEOE named her “Outdoor Educator of the Year” for 2014, conferring upon her the prestigious Robert A. Finton Award. During the introductions, Bob Finton was described as a man who “did magic, not with cards or pyrotechnics, but usually with just some clean water and beautiful Bay creatures, beautiful things that come from nature. He was a standout among environmental educators. And we honor him every year by recognizing one of our own.”

This year the honoree was none other than Kelley Cox, founder and Executive Director of Phillips Wharf Environmental Center (PWEC) on Tilghman’s Island. Her nomination was supported by seven colleagues in the field of environmental education. The award read, “Kelley Phillips Cox, Outdoor Educator of the Year, in recognition of her outstanding contributions
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Cox was nominated by Carol McCollough, a Chesapeake Bay ecologist who serves as PWEC’s Vice President. Six other educators familiar with her work at Phillips Wharf provided strong endorsements. “I have known Kelley Cox for over 30 years,” wrote McCollough. “Sometimes you know someone who has a true fire in the belly. Kelley is one of those people. Early in her career, working as a State water quality biologist for the Bay Program, she realized, as she so eloquently puts it, ‘You don’t save the Bay by putting it in little bottles. You save it by talking to people.’ She is adept at guiding people to embrace a personal interest in the Bay and to cherish it, and her enthusiasm is infectious.” McCollough also mentioned PWEC’s signature Fishmobile, the traveling aquarium that brings live Bay animals to those who cannot easily come to the Bay themselves. Since it first hit the road in 2008, more than 13,000 visitors across Maryland and DC have visited the Fishmobile.

McCollough also extolled Cox’s plans for the future. “Kelley’s next vision,” she wrote, “is to develop an aquaculture vocational curriculum for Talbot County, to provide the knowledge base and skill set for a new generation of watermen to make a reliable living from the Bay. Kelley’s vision for the future will close the circle and link environmental education with economic development.”

Cox’s nomination was seconded by Janis Berry, a pre-kindergarten teacher and Girl Scout troop leader in St. Michaels. “Kelley has been very helpful to me and my classes at St. Luke’s School,” enthused Berry, who believes her students and scouts have learned lifelong lessons from Cox. “She has inspired these children with the importance of our bay and its tributaries,” she wrote. “She has helped teach values that hopefully will remain a part of their adult lives.”

Maria Madero, the Education Specialist for Youth Programs at the National Aquarium in Baltimore, also endorsed the nomination, praising the exceptional environmental programs PWEC has provided for students from the Aquarium. “Kelley and I have worked together on many projects that resulted in the development of programs that reach both new audiences and underserved populations,” Madero wrote. “Without the engaging and educational activities at PWEC, our students would not be able to have such wonderful hands-on experiences.” Madero went on to praise Cox for organizing various conservation events on the Eastern Shore, most notably a local oyster restoration project. “The combination of hands-on conservation events and education is impeccable.”

“The thing about Kelley that stands out is her passion for the Chesapeake Bay,” wrote Martha Shaum, an Aquatic Resources Education Specialist with the Maryland Department of Natural Resources. “Many of us share that passion, but Kelley is unique in that she understands both the biology and the culture of the Bay…. She is the daughter of a waterman, and can describe better than almost any of us what it is like to try to make a living from the Bay. She can describe the challenges facing the watermen, while at the same time maintaining scientific objectivity.”

William Keswick, Science Curriculum Coordinator at Talbot County Public Schools, also has found Cox to be a valuable partner. “I have worked closely with Kelley as we developed and implemented programs in fisheries management with our high school students and an oystering program with our fourth graders,”
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wrote Keswick in his endorsement. “The positive feedback that we have received from the programs has been incredible. I already have parents asking if they can chaperone again next year.”

After many good things were said about her, Cox finally stepped onto the stage to receive the Finton Award from James Finton, Bob’s son. Then, after the applause, she said, “Wow! Thank you. I was wondering why so many people have been coming up to me and offering their congratulations! I’ve only known about this since noon, so I don’t have many remarks.” She then spoke about her commitment to the Chesapeake Bay. “I do try to make it real. And I do believe that if you can make people love the Bay, they’ll work to save it or they’ll at least care about trying.” She recalled a question that was tossed around in a workshop session that morning: If you could have any job in the world, what would it be? “What I’m doing now is what my dream job would be,” she said.

1) EarthEcho International Interactive Hangouts
EarthEcho International puts on monthly Google+ Hangouts to connect educators from across the world. Professional development hangouts aide teachers in incorporating project-based learning and ocean science into their classrooms, while virtual field trips connect classrooms to places they’ve never been! Tune in to any of our upcoming hangouts for the opportunity to converse with experts and learn from other educators.

For a full listing of upcoming hangouts & archives of past hangouts, please visit http://earthecho.org/news/2014springHOAs.

2) Henry Hall Program: Free Summer Camps for Baltimore City Public School Students in Middle & High School
In August 1982, the Aquarium established the Henry Hall Endowment Fund to provide free educational opportunities for students who attend or are graduates of the Baltimore City Public School System. Since then, awards totaling more than $800,000 have been provided to Baltimore City Public School middle school, high school, and college students through the Henry Hall Program.

The program provides exciting excursions and educational and career opportunities for students interested in marine and environmental science. It also offers paid internships for college students and provides one-year $1,000 scholarships for studies in biology, engineering, environmental science, and aquatic science. Each summer, more than over 100 Baltimore City youth are given the opportunity to explore the aquatic natural world through hands-on experiences, making memories that will last for a lifetime.

More information, application, and teacher recommendation forms can be found at http://www.aqua.org/learn/student-programs/henry-hall-program. Applications must be postmarked by April 9, 2014.

3) Maryland Summer Center for Gifted and Talented Youth: Chesapeake Bay Watershed Investigations
Are you interested in science? Would you like to perform your own research? Do you want to learn more about the blue crab and the Chesapeake Bay? If you answered yes to these questions, we have...
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a program for you! Join our Maryland Summer Center for Gifted and Talented Youth, Chesapeake Bay Watershed Investigations sponsored by the Maryland State Department of Education and funded by the Jack Kent Cooke Foundation. For the weeks of August 4 - 8 and August 11 - 15 you will have the chance to work alongside scientists at the National Aquarium and Chesapeake Bay research scientists to collect and analyze data pertaining to the management of the Chesapeake Bay’s natural resources. Conduct scientific studies on the blue crab in different areas of the Chesapeake Bay watershed to determine the proper management of the blue crab fishery. If you are not interested in science, don’t worry there are plenty of other Maryland Summer Centers for you to try!

More information and application materials can be found at http://www.marylandpublicschools.org/msde/programs/giftedtalented/centers.htm. Applications must be postmarked by April 8, 2014.

4) National Aquarium College Internships

Internships at the National Aquarium provide hands-on and minds-on experiences that add value to any college education. Applying classroom knowledge, interns obtain valuable job experience and establish professional contacts. College internship positions are available year-round in many departments throughout the Aquarium. The Aquarium makes every effort to match interns to work that complements their studies, interests, and skills.

More information and the application can be found at http://www.aqua.org/jobs/internships-baltimore. Our deadlines are May 1 for the Fall term, November 1 for Winter and Spring terms, and March 1 for the Summer term.

5) Osprey Banding: Maryland MAMEA Event

Due to popular demand, we have scheduled another MAMEA osprey banding program. The program begins with a presentation on the fish hawk, or osprey with staff naturalist/biologist Greg Kearns of Patuxent River Park. Then Greg will take us out on the water for approximately two hours. Our boat will stop at several osprey nests where 6-8 week-old chicks will be collected, banded, and released back to their nest. Each banded chick will need to be weighed and its band number recorded for research purposes.

WHEN: Saturday, June 21, 2014
TIME: 9:30 am - TBA
WHERE: Patuxent River Park, Upper Marlboro, MD

For additional information please contact Maria Madero at mmadero@aqua.org or 410-576-3875.

6) Youth Ocean Conservation Summit

The National Aquarium’s "Aquarium on Wheels" Program is hosting a Youth Ocean Conservation Summit in Annapolis, MD, in partnership with NMEA. Students will participate in various workshops presented by guest speakers including an action planning workshop to create and implement their own conservation project. Mini grants for projects will also be available.

WHO: For current 9th - 12th grade students
WHEN: Tuesday, July 22, 2014
TIME: 10:00 am - 4:00 pm
WHERE: Loews Annapolis Hotel

More information available by early April at http://www.nmea2014.com/. For additional information please contact Maria Madero at mmadero@aqua.org or 410-576-3875.
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District of Columbia

1) Environmental Film Festival

Founded in 1993, the Environmental Film Festival in the Nation’s Capital has become one of the world’s largest and most influential showcases of environmental film and a major collaborative cultural event in Washington, DC. Each March the Festival presents a diverse selection of high quality environmental films, including many Washington, DC, U.S. and World premieres. Documentaries, narratives, animations and shorts are shown, as well as archival, experimental and children’s films at venues throughout the city. Films are screened at partnering museums, embassies, libraries, universities and local. Selected to provide fresh perspectives on global environmental issues, most Festival films are accompanied by discussions with filmmakers, environmental experts and special guests, including national decision makers and thought leaders, and are free to the public. The Festival’s website serves as a global resource for environmental film throughout the year. The 2014 Festival, held from March 18 - March 30, will again include a free day of ocean-themed films in the National Museum of Natural History’s Baird Auditorium. For more information, please visit http://www.dcenvironmentalfilmfest.org/.

2) NOAA Teacher Professional Development: How Do We Explore?

Join NOAA’s Office of Ocean Exploration and Research’s team as you are introduced to Volume 2 of the "Okeanos Explorer Education Materials Collection: How Do We Explore?" Learn how to use standards-based lessons and online resources that guide classroom discovery into the innovative exploration strategies, underwater robots and other ocean tools used onboard the NOAA Ship Okeanos Explorer. Topics include selecting sites for exploration in a largely unknown ocean, underwater mapping, and exploring the water column. Deep ocean exploration with remotely operated vehicles and telepresence technology that enables participation during ocean exploration missions from shore in real time is also addressed.

WHALE WATCHING TRIP WRAP UP

Just wanted to say Thanks to all of the brave girls who were able to make it whale watching in January. We had a blast in the freezing cold and snow! It was amazing to see common dolphin, humpback and fin whales. Thank you to Kathy Richardson for sharing her photos. Now on to our 2014 Virginia mini conferences: we are looking to have another MAMEA night at the Richmond Flying Squirrels for a spring baseball game. Also, I am working on a tubing or rafting down the James trip for June. Stay tuned for further information on the MAMEA Facebook site, if you have any suggestions for VA events please email Carrie Bateman at cbateman@bpts.us.

Virginia

1) Chicoteague Field Station: Memorial Day Weekend Camp for Families

Family Camps at The Chincoteague Bay Field Station are an ideal way for your family to get away, unwind, and enjoy a holiday weekend on the beautiful coastal islands of the Eastern Shore of Virginia! Family campers will throw a trawl net and collect marine creatures, explore marine habitats, kayak through tidal creeks, walk knee deep in marsh mud and enjoy the sun on a barrier island beach. Wild ponies, egrets, and horseshoe crabs all await you! To learn more about this program and to register please visit http://www.cbfieldstation.org or call 575-824-5636.

2) Egg Drop Competition

Nauticus invites amateur designers of all ages to participate in its annual Egg Drop Contest. Sponsored by the American Society of Mechanical Engineers (ASME) and the American Institute of Aeronautics and
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Astronautics (AIAA), this action-packed, “egg-citing” competition challenges students to design specially engineered egg containers, then test them out.

WHEN: Saturday, March 29, 2014
TIME: 11:00 am – 2:00 pm

3) Marine Science Day

VIMS’ annual open house is a fun-filled event for the whole family. Join us in Gloucester Point for exhibits, children’s activities, seineing on the York River, lab tours, seafood cooking demonstrations, mini-lectures, and much more. All activities are free, as is parking. The event proceeds rain or shine.

WHEN: Saturday, May 17, 2014
For more information, visit http://www.vims.edu/public/msd/index.php.

4) Meaningful Watershed Educational Experience (MWEE) Capacity Building Continuing Education

Join Virginia Sea Grant, VIMS Marine Advisory Program, and the Chesapeake Bay National Estuarine Research Reserve in VA for a two-day training focused on hands-on field experiences you can lead with your students! Participants will improve knowledge of local flora and fauna of the shallow shoreline ecosystems, practice a number of field exercises, and review safety, gear, and ideas for conducting MWEEs with students. Teachers will receive relevant field supplies to complete MWEE at their school!

WHO: Secondary science teachers
WHEN: Friday, April 25 - Saturday, April 26, 2014
TIME: 9:00 am - 4:00 pm each day
WHERE: Virginia Institute of Marine Science, Gloucester Point, VA
For more information and to register please contact Sarah Nuss at mcguire@vimns.edu or 804-684-7878.

5) Women in STEM Day

Women in the fields of science, technology, engineering, and math (STEM) will be on hand to discuss their careers, with the intent of encouraging young women to become more involved in STEM education and professions.

WHEN: Saturday, March 29
TIME: 10:00 am - 5:00 pm

North Carolina

GATHERING IN GREENSBORO
A SUCCESS!

The Greensboro Science Center hosted the NC Mini-Conference on Saturday February 1, 2014. Eight MAMEA members and eighteen new members gathered together to take tours the Science Center, learn more about all of the exiting things happening in MAMEA this year, and to share ideas and resources with one another. Particular highlights were behind the scenes tours led by former MAMEA President Martha Register, and an excellent presentation on online learning and professional development by former MAMEA Secretary Allison Besch. A great time was had by all!

1) North Carolina Aquariums host Regional Aquatics Workshop (RAW)

The North Carolina Aquariums will host RAW 2014 in Wilmington, NC on April 21 - 25. Along with sessions on professional development, veterinary medicine, and other topics of interest, several coastal field trips are being offered. For more information and registration, please visit http://www.rawconference.org/. Registration closes April 1, 2014.

Acknowledgements

This issue of the Masthead would not have been possible without contributions submitted by Sarah Nuss, Carrie Bateman, Allison Besch, David Christopher, Kathy Fuller, Andy Gould, Carol Hopper Brill, Trish Mace, Maria Madero, Carol McCollough, Chris Petrone, and Allie Toomey.

Feedback

Please feel free to email comments, questions, or concerns about this issue of the Masthead to info@beachchairscientist.com. After all, this newsletter is for YOU, the members of MAMEA!

The most recent edition can be found online at http://www.mameamasthead.wordpress.com.
Mid-Atlantic Research Updates

Taming Hurricanes: Offshore Wind Turbines Could Weaken Hurricanes, Reduce Storm Surge

Wind turbines placed in the ocean to generate electricity may have another major benefit: weakening hurricanes before the storms make landfall.

New research by the University of Delaware and Stanford University shows that an army of offshore wind turbines could reduce hurricanes' wind speeds, wave heights, and flood-causing storm surge.

Accurate Maps of Streams Could Aid In More Sustainable Development of Potomac River Watershed

Where a stream ends is clear, but where it begins can be more difficult to discern. Researchers from the University of Maryland Center for Environmental Science have developed a new method to solve this problem, resulting in a new map of the Potomac River watershed stream network that significantly improves the information needed for assessing the impact of urbanization on aquatic ecosystems.

“For the first time, we have an accurate representation of where streams once flowed through major urban areas of Baltimore and Washington, DC and where streams currently flow through forests,” said the study’s lead author Dr. Andrew Elmore of the University of Maryland Center for Environmental Science’s Appalachian Laboratory. “This information is critical for quantifying the impact of urbanization on aquatic ecosystems.”

Local Factors Cause Dramatic Spikes in Coastal Ocean Acidity

A new Duke University-led study has documented dramatic, natural short-term increases in acidity in a North Carolina estuary.

“The natural short-term variability in acidity we observed over the course of one year exceeds 100-year global predictions for the ocean as a whole and may already be exerting added pressure on some of the estuary’s organisms, particularly shelled organisms that are especially susceptible to changes in pH,” said Zackary I. Johnson, Arthur P. Kaupe Assistant Professor of Molecular Biology at Duke’s Nicholas School of the Environment.

Cow nose Ray Research Finds Challenges to Opening a Fishery

The cow nose ray has been in the industry cross hairs ever since they’ve been seen gobbling up shellfish crops. As industry considers the range of options for keeping rays off shellfish farms, including developing a commercial fishery, new research about cow nose ray biology may help in making those decisions.

“I hope this work provides a better understanding of the cow nose ray life history by all involved,” says Bob Fisher about his latest peer-reviewed publication.

Fisher, Virginia Institute of Marine Science Fisheries Specialist and Virginia Sea Grant extension partner, studied cow nose rays’ age, growth, and reproductive biology—necessary factors to assess before developing a cow nose ray fishery.

For more information on any of these research stories please contact Chris Petrone at petrone@udel.edu.
Get Ready for Environmental Education (EE) Week April 14 - 18, 2014 with the Grand Green Challenges for Engineering Webinar

**WHEN:** Wednesday, April 9, 2014  
**TIME:** 7:00 pm  
**REGISTER:** To register please follow the instructions on this link [http://www.eeweek.org/register.htm](http://www.eeweek.org/register.htm). By registering for EE Week you will gain access to all of the webinars leading up to EE Week 2014, along with many other benefits.

Also, be sure to check out the National Environmental Education Week’s webpage on Meeting Common Core Language Objectives through Environmental Education [http://www.eeweek.org/ee-and-common-core-standards](http://www.eeweek.org/ee-and-common-core-standards).

Save the date:  
June 8th is  
World Oceans Day!  

### Capitol Hill Ocean Week (CHOW) 2014

For over a decade, CHOW has provided marine professionals, government officials, and ocean enthusiasts with unique venues to network with colleagues, advance policy goals, and mingle with ocean champions – all in the heart of Washington, DC. Agenda is available [http://nmsfocean.org/CHOW-2014-agenda](http://nmsfocean.org/CHOW-2014-agenda). CHOW 2014 Honorary Congressional Committee can be found [http://nmsfocean.org/CHOW-2014-honorary-congressional-committee](http://nmsfocean.org/CHOW-2014-honorary-congressional-committee). Each year the National Marine Sanctuary Foundation (NMSF), a private, non-profit, 501(c)(3) tax-exempt organization, produces CHOW. The NMSF was created to assist the federally managed National Marine Sanctuary Program with education and outreach programs designed to preserve, protect and promote meaningful opportunities for public interaction with the nation’s marine sanctuaries.

**WHERE:** Knight Conference Center at the Newseum, 555 Pennsylvania Avenue, NW, 6th Street Entrance, Washington, DC 20001  
For more information please contact Katie Zacharkiw with the NMSF at chowinfo@nmsfocean.org or 301-608-3040 x5.
Featured Facebook Page: World Oceans Day
Stay up to date on all the action for this global event on June 8, 2014 by following the World Oceans Day page on Facebook. https://www.facebook.com/WorldOceansDay

Featured Pinterest Board: Live Science
Live Science has created boards on Pinterest with themes on Summer Science, Under the Sea, Infographics, Creepy Crawlers, Wild Weather, and much more. http://www.pinterest.com/livescience/

Featured Twitter Handles: Earth Day
@ClassroomEarth
@Defenders
@EarthDayNetwork
@EarthEcho
@EH2ED
@MotherEarthDay
@Earth911
@Neefuse
@SharkDefenders
@SustainableSoc
@TreeHugger
@WylandORG

Please submit ideas for featured Facebook pages, Twitter handles, or Pinterest boards to Ann McElhatton, Masthead Editor, at info@beachchairscientist.com.
10 Featured Resources

Ecology 180
Ecology 180 offers science delivered in three minutes or less. The website aims to offer viewers important and complex environmental issues in digestible bites.
http://www.ecology180.com/

Marine Science Apps
Fish Navy Films is a small production company that explores the relationship between the ocean and mankind. They have posted a webpage with ten fun, interesting, and free marine science apps, along with several available for a small charge.

MPA List
Created by MPA News and hosted by OpenChannels, MPA. It provides a way for managers, researchers, and others to share knowledge, discuss current issues, and stay up-to-date on the latest news and announcements.
http://openchannels.org/community/mpalist

Northern Fur Seal Curriculum
This K - 6th curriculum from Alaska Fisheries Science Center addresses northern fur seal natural history: the fur seal's importance to Unangam (Aleut) culture; the history of the fur seal commercial harvest; and research, conservation, and sustainability of the northern fur seal population.
http://www.afsc.noaa.gov/education/Activities/northernfursealcurriculum.htm

Reach
U.S. Sailing’s Reach program engages youth and enhances career opportunities in the fields of STEM and environmental stewardship through learning experiences. Combining educators, sailing instructors, engineers, scientists with youth to provide them with a one of a kind authentic learning experience, gives students the opportunity to apply classroom learning in a cooperative work environment.
http://reach.ussailing.org/

Resources for Marine Educators
Ryan Cilsick offers this website with links to various resources for marine educators, including links to the Castro-Huber textbook, marine science apps, and more.
https://sites.google.com/a/share.brevardschools.org/cilsick/resources-for-marine-educators

Tides & Currents
The Center for Operational Oceanographic Products and Services (CO-OPS) and its predecessors have gathered oceanographic data along our nation's coasts for over 200 years to protect life, property, and the environment. It offers tides, water levels, currents, and other oceanographic information. Educators can easily access the products for data analysis.
http://tidesandcurrents.noaa.gov/education.html

Waterways
The Smithsonian Institution has assembled this portal of resources that feature water related content from all of its museums. Links include artwork, exhibits, and other collection items from around the Smithsonian.
http://my.si.edu/initiatives/waterways/waterways

What If Scientific—Leave Only Bubbles
What If Scientific—Leave Only Bubbles provides innovative educational materials to supplement marine, earth, and environmental science curriculums. What If... offers materials for earth & space science curriculums, and Leave Only Bubbles hosts marine science curriculum supplies.
http://www.leaveonlybubbles.com/catalog/

What the Fish?
The Field Museum in Chicago, IL offers a series of Science Podcasts, with commentary on the museum's in-house research, exhibits, and more. What the Fish? was a biweekly podcast series with 26 episodes, covering topics surrounding the biodiversity of fishes, including discussions on their general biology, ecology, and evolution. You can still access the series archives from this website.
http://fieldmuseum.org/explore/science-podcasts