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## HIGHLIGHTS

Wednesday Kick-off Event ★ Thursday Community Science Workshops from NASA  
★ Thursday Lunch Panel Discussion ★ Thursday Night Networking ★ Friday In-Depth Workshops ★ Friday International Sustainable Schools Panel ★ Community Meetings ★ Virtual Exhibit Hall ★ 40+ Saturday Workshops ★ Saturday Night Virtual Happy Hour ★ Field Experiences

**MAEOE is very happy to announce, Dr. John Francis, Keynote Speaker for the 2021 Conference!**



**John Francis'** environmental work began in 1971, when he witnessed a tanker collision and oil spill in San Francisco Bay. It was then that he gave up the use of motorized vehicles and began to walk. He started walking because he felt partly responsible for the mess that washed up on the shore.

In 1991, for his work in raising environmental consciousness, John Francis known the world over as the Planetwalker, was appointed the United Nations Environment Program's Goodwill Ambassador to the World's Grassroots Communities. Along with six fellow Ambassadors who use their time, talents and energy to: Raise awareness of central environmental issues and work of UNEP, as well as developing their own projects in areas of environmental education.

Over the years, John Francis has walked across the US, walked and sailed through the Caribbean, Venezuela, Brazil, Bolivia, Argentina, and Chile. He recently began a walk studying organic agriculture and sustainable development in Cuba, and is developing Planetlines, an environmental education curriculum based on the walking pilgrimage for high school, college and civic organizations.

In 2005, he published Planetwalker: How to Change Your World One Step at a Time. Published by The National Geographic Society.

Since John Francis began using motorized vehicles to return to and from his walking pilgrimage he speaks and consults with a variety of audiences around the world, including redefining environment for the travel and tourism industry, introducing the role of ethical advisor for civilian/military humanitarian operations, and encouraging diversity and inclusiveness within traditional conservation and environmental organizations.

Dr. Francis has taught graduate and undergraduate seminars in environmental studies at the University of Wisconsin, Madison. He is also the first education fellow at the National Geographic Society where he has published two books, Planetwalker: 17 Years of Silence, 22 Years of Walking, and The Ragged Edge of Silence: Finding Peace in a Noisy World.

Come find out more about John Francis at the MAEOE Conference on Saturday, February 6.

## Special Conference Activities

### 2021 Virtual Exhibit Hall

Connect with a variety organizations, agencies, businesses and vendors offering a range of information and resources. The Exhibit Hall opens Wednesday afternoon for networking and is open throughout the day on Thursday, Friday, and Saturday. Do not miss the special networking sessions built into the schedule. Although Covid-19 means that we are going virtual in 2021, there are lots of opportunities to connect with organizations that can support your work. Come to explore or sign up for specific times to meet with exhibitors!

### The Robert Finton Outdoor Educator of the Year Award

MAEOE will present the Robert Finton Outdoor Educator of the Year Award to an individual who demonstrates leadership and innovation in environmental and outdoor education. Bob Finton personified enthusiasm, innovation and excellence in the field of environmental education and this award honors his memory by rewarding a non-formal practitioner of outdoor education who strives to match these qualities. **For more information and to submit a nomination, please visit:**

<https://forms.gle/AVPujLrqKg71PXTA6>

**Nominations due by 5:00PM on December 18, 2020.**

### MAEOE Trivia

Join us to unwind with fellow environmental education providers! We'll have a relaxed evening complete with time to chat and a trivia quiz. Prizes will be awarded to the top players. Register today to guarantee a spot!

## Sunday Field Experiences

Go on a DIY adventure with a Green Center! All conference attendees will get a link to information about Green Centers across the state about their programming during the MAEOE conference and beyond. You, your family, your colleagues and/or your school can participate in a variety of virtual or in-person hikes, ranger-led experiences, service projects or more. Please be sure to double-check all details directly with the Green Center, since things do have a tendency to change quickly these days.

### Tom Horton Film - High Tide in Dorchester

Watch the film, High Tide in Dorchester and then participate in a Q&A session with Tom Horton. The film, High Tide in Dorchester, aims to foster a conversation about climate change and related impacts of sea level rise and erosion, and leverage that conversation into action. The focus, Dorchester County, MD, is already experiencing the future that increasingly faces coastal areas worldwide. This low-lying county on the Eastern Shore of the Chesapeake Bay is the fourth largest of Maryland's 23 counties by land area, but it is destined to drop to the 14th largest by 2100 — or sooner — as waters rise and erosion worsens. Dorchester is the coal miner's canary; ground zero for the Chesapeake Region.



High Tide in Dorchester is a wake-up call: It's time for a retreat from the shoreline, of which the Chesapeake estuary has some 11,000 miles. Historically, millions of people have sought to live as close to that shoreline as possible, but few communities are doing adequate planning to meet the imminent challenges of restraint, retreat and adaptation to living on the edges of a rising tide.

Rising seas also threaten many species of waterfowl and other birds that nest in Dorchester's extensive wetlands — 45 per cent of Maryland's total tidal wetland acreage. It is imperative that we give these wetlands space to migrate upland as they are flooded in the lowlands. The film looks closely at the Blackwater National Wildlife Refuge, where scientists and managers are already dealing with the impacts of the rising tide.

## 2021 MAEOE Challenge

Every year the MAEOE Challenge encourages organizations to get a group together to participate in an activity! Winners get the organization name added to the coveted MAEOE Challenge Paddle AND get to determine the challenge for the following year.

This year Arlington Echo Challenges to you a virtual outdoor scavenger hunt!! The challenge activity will occur during the week of the conference over the course of 1.5 days, all-day Friday with submissions due by noon on Saturday.

Challenge participants will be tasked with going outdoors in the area around their home and photographing observations from a variety of categories (abiotic and biotic). Once you have your team together, sign up and you will be sent the challenge instructions on Friday, February 5, no early starts and the challenge must be completed in the 1.5 days allotted.



## Reaching *Drawdown* in Our Communities

The genesis of Project Drawdown was curiosity and hope, not fear and failure. Since 2014, Project Drawdown has conducted an ongoing review and analysis of climate solutions--the practices and technologies that can stem and begin to reduce the excess of greenhouse gases in our atmosphere--to provide the world with a current and robust resource. These solutions have influenced university curricula, city climate plans, commitments by businesses, community action, philanthropic strategy, and more. How might you integrate more or different climate solutions into your education work?

Join Dr. Elizabeth Bagley, Director of Drawdown Learn at Project Drawdown and Joe Richardson, Founder of Bar-T for a panel discussion exploring Project Drawdown's climate solution framework: reducing sources, supporting and enhancing sinks, and improving society. The presentation will explore climate solutions--from reduced food waste to conservation agriculture--that are appropriate for the Mid-Atlantic region and identify solutions that are easiest to implement. The panel will look at solutions that can be student led and explore how Bar-T has implemented dozens of Drawdown climate solutions.

How can students effect change? Student engagement is key, and school green clubs can select and implement their own Drawdown solutions in their schools and communities. Students can host education forums on Drawdown as well as advocate for legislative actions on the state and local level.

Why have organizations such as the World Wildlife Fund and Kiss the Ground engaged in climate solutions which align with Drawdown solutions? Community outreach and partnerships with civic organizations such as Rotary International, county run sustainability commissions, and community climate action groups will be examined. Join our discussion to find out more.



## NASA Goddard Community Science – Thursday Workshops

Did you know that NASA has a huge emphasis on better understanding our home planet? Most people think of space as being related to NASA, but not everyone is aware of the essential role NASA plays in improving life on Earth. Join us for NASA Day and find out how you and your students can also be involved in helping collect and analyze environmental data with NASA.

## NASA Goddard Panel Discussion

Interested in learning more about how NASA studies Earth? Want to find out how you and your students can help NASA scientists with environmental observations? Attend this panel to find out about NASA's Earth observing missions, NASA's Earth to Sky Program which enables interpreters from the NPS and FWL and other parks are working to interact with NASA, and learn how you and your students can be involved in the GLOBE Program.

## Friday Global Sustainable Schools Panel

Dr. Andrea Kane, Superintendent, Queen Anne's County Public Schools and Samia Kassid, Senior Program Manager, World Future Council will moderate a global panel of formal and non-formal education experts from Scotland, Australia, Mexico, Kenya, and Maryland. Panelists will talk about Environmental Education and Sustainability Education in schools. We will hear about environmental education for sustainability and the opportunities this creates for students to learn and develop skills to create a sustainable future.

# Saturday Conference Highlights

## Saturday Sessions

Over 50 workshops offering a wide variety of topics, presenters and strands. Workshop descriptions are found on page 16

## Community Meetings

Friday 7:00pm - 8:30pm, join a “community” gathering where you can participate in discussions about relevant topics. This year our “communities” will discuss DEIJ, COVID-19 and education, and other environmental education priorities. The format is facilitated group discussion. Choose from the following:

- Early & Elementary Education
- Secondary & Higher Education
- Outdoor Education Centers
- Young Professionals
- Diversity, Equity, and Inclusion
- Sustainable Schools

There is no fee if you are registered for the conference, \$25 if you are not registered for the conference. You must sign up for a group during registration. A great way to connect with peers.

## MAEOE Maryland Green School & Green Center Sessions and Application Review Opportunity

Is your school or center working on an application to become a Maryland Green School or Green Center in 2021? Regardless of how far along you are in the process, check out all of the sessions on Friday and Saturday (Greening your Schools strand) that can help you achieve your Green School status.

You should also consider signing up for a post-conference one-on-one review session on the week of February 15. Sign up at the MAEOE Exhibit Booth Review sessions provide you with an opportunity for informal chat with an application reviewer. Learn what your school or center needs to do to receive this prestigious recognition. Bring any documentation and receive feedback from our experienced review team

## Saturday Night Celebration

More to Come!!



## SCHEDULE AT A GLANCE

Date	Time	Event
<b>Wednesday, Feb. 3, 2021</b>	1:00 p.m. – 9:00 p.m. 5:00 p.m. – 5:15 p.m.  5:15 p.m. – 6:30 p.m. 6:30 p.m. – 8:30 p.m.	<ul style="list-style-type: none"> <li>◆ Exhibit Hall Open / Networking Time</li> <li>◆ Opening Remarks – MAEOE Executive Director and Conference Co-chairs</li> <li>◆ Virtual Happy Hour</li> <li>◆ The Drawdown Project – Joe Richardson</li> </ul>
<b>Thursday, Feb. 4, 2020</b>	8:00 a.m. – 9:00 a.m. 8:30 a.m. – 9:00 a.m.  9:00 a.m. – 5:00 p.m. 9:00 a.m. – 12:00 p.m. 12:00 p.m. – 12:30 p.m. 12:30 p.m. – 1:30 p.m.  2:00 p.m. – 5:00 p.m. 4:30 p.m. – 7:00 p.m. 7:00 p.m. – 8:30 p.m.	<ul style="list-style-type: none"> <li>◆ Exhibit Hall Open / Networking Time</li> <li>◆ Opening Remarks – NASA Goddard - Community Science</li> <li>◆ Full Day Workshops</li> <li>◆ Half Day Workshops</li> <li>◆ Lunch Break</li> <li>◆ Panel Discussion- NASA Goddard – Community Science</li> <li>◆ Half Day Workshops</li> <li>◆ Exhibit Hall Open / Networking Time</li> <li>◆ Evening Session - Overview of NASA/GLOBE Programs</li> </ul>
<b>Friday, Feb. 5, 2020</b>	8:00 a.m. – 9:00 a.m. 8:30 a.m. – 9:00 a.m. 9:30 a.m. – 3:30 p.m. 9:00 a.m. – 11:30 a.m. 11:30 a.m. – 1:00 p.m. 1:00 p.m. – 3:30 p.m.  3:30 p.m. – 5:30 p.m. 6:00 p.m. – 7:00 p.m. 7:00 p.m. – 8:30 p.m.	<ul style="list-style-type: none"> <li>◆ Exhibit Hall Open / Networking Time</li> <li>◆ Opening Remarks</li> <li>◆ Full Day Workshops</li> <li>◆ Morning Half Day Workshops</li> <li>◆ Lunch Break and Networks</li> <li>◆ Workshops - Full Day Workshops continue</li> <li>◆ Afternoon Half Day Workshops</li> <li>◆ International Sustainable Schools Panel</li> <li>◆ Exhibit Hall Open / Networking Time</li> <li>◆ Community Meetings</li> </ul>
<b>Saturday, Feb. 6, 2020</b>	8:00 a.m. – 6:00 p.m. 8:30 a.m. – 9:00 a.m.  9:00 a.m. – 12:30 p.m. 12:30 p.m. – 1:00 p.m. 1:00 p.m. – 2:30 p.m.  3:00 p.m. – 5:15 p.m. 5:30 p.m. - 6:30 p.m. 6:30 p.m. – 8:00 p.m.	<ul style="list-style-type: none"> <li>◆ Exhibit Hall Open / Networking Time</li> <li>◆ Opening Remarks – MAEOE EE Certification Recognition</li> <li>◆ Concurrent Workshops – Sessions 1 thru 3</li> <li>◆ Lunch break</li> <li>◆ Finton Award</li> <li>◆ Keynote Speaker – John Francis</li> <li>◆ Concurrent Workshops - Sessions 4 and 5</li> <li>◆ Virtual Happy Hour</li> <li>◆ MAEOE Social of a Different Sort!</li> </ul>
<b>Sunday, Feb. 7, 2020</b>	All day 12:00 p.m. – 1:30 p.m.	<b>Field Experiences – Your Own DIY Adventure!</b> Tom Horton Film Viewing & Q&A

## CONFERENCE DETAILS

### Community Service Project – MAEOE Virtual Conservation Initiative Go Plogging!

What is Plogging and Planking? Picking up litter while jogging or walking. Plogging is the latest environmental fitness craze in Sweden and for good reason according to Statista, more than 64 million Americans went running or jogging in 2016, while 110 million used walking as a form of exercise. That could amount to millions of pounds of litter removed if every person just picked up a little every time they exercised. This activity also has additional health benefits, bending over to pick up litter will also help tighten your abs. This fun activity can be done in teams or solitary. Fun prizes will be awarded for top competitors in team and solitary categories, as well as for the most unusual trash found! Do your part daily to help the environment and your community.

#### Let's Go

- Track daily distance walked or jogged
- Track how much you pickup
- Report personal or team totals to MAEOE virtual conference
- Take photos or video of your efforts and send to MAEOE
- Be proud of your efforts and let others know.

#### Safety

- Use gloves and wash after each use, a litter claw can be helpful.
- Do not pick up anything sharp, dangerous, or gross.
- Bag it – Be sure to choose a bag that will safely contain sharp, dirty or moist items, and is comfortable to carry.
- Always follow all walking and jogging safety protocols including warming up, being mindful and choosing safe areas.
- Please be aware and follow any COVID-19 protocols for your area.

## REGISTRATION INFORMATION for 2021 Virtual Conference

**Rates for the Conference include: member rate, regular rate, and student rate.** If you are a member, you will receive an email with a discount code when registration opens. If you are a full-time High School, College, Graduate student email [info@maeoe.org](mailto:info@maeoe.org) to receive a discount.

**All registration is online through February 7, 2021. Visit the 2021 MAEOE Conference page at:** at <https://maeoe.org/professional-development/maeoe-conference-2021>.

#### Membership Matters!

Being a MAEOE member saves you even more money this year, individual or organizational members. Check out our Organizational Membership where organizations with five staff or more can

receive discounted rates. **Membership must be up-to-date before registering. Find out more about membership [here](#).**

Members save 30% off registration rates through January 4, 2021.

Members save 20% off registration rates January 5 - January 31, 2021

Members pay regular registration rates in February 2021.

**Conference Registration-** Includes Wednesday, February 3 - Sunday, February 7. This means that you can attend any workshop, panel, keynote, trivia, movie, exhibit hall, over the 5 days. Friday Happy Hour, Conference Opening & Keynote, Exhibitors in a virtual hall. NOTE: Field Experiences can be added to your Registration.

**Can't attend the whole conference? Here are other options:**

**Register for a day: Wednesday - Conference Opening, Exhibit Hall, Virtual Happy Hour, The Drawdown (2 hour workshop and panel)**

**Thursday - Workshops, NASA Goddard, Community Science, Panel, Exhibit Hall, Evening Workshop**

**Friday - Workshops, International sustainable Schools Panel, Exhibit Hall, Community Meetings**

**Saturday - Sessions and Keynote**

**OR Register for a workshop, Thursday or Friday**

**Register for a panel: Wednesday Drawdown, Thursday Globe, Friday Sustainable Schools and Learning for Sustainability (international panel)**

**Register for the Keynote: Dr. John Francis, III**

**Register for community meetings: DEIJ, Outdoor Education, Early and Elementary Education, Secondary and Higher Education, Young Professionals, Sustainable Schools**

**Register for the Tom Horton Film and Q&A ([CVENT LINK HERE](#))**

### **MEMBERS SAVE:**

***Greatest Savings options for Members Only!! 30% off of registration rates during the "Early Bird" registration period, valid through January 4, 2021! Members will receive 20% off January 25 through February 2. MEMBERS will be emailed with this information when registration opens.***

Member rates are for Conference registration February 3 - 6 and full-day registration;

Wednesday, Feb 3, Thursday, Feb 4, Friday, February 5, or Saturday, Feb 6 only.

Individual speakers or workshops there is no member rate, see fees for more details.

**Student Registration-** (Proof of full-time schedule is required) Students need to email [conference@maeoe.org](mailto:conference@maeoe.org) to receive a onetime use discount code for registration.

**Presenter Registration- *Must be a member to receive 30% discount. Register by 1/4/21.***

Thank you for presenting at the MAEOE Conference, your contribution ensures that we are offering current and relevant workshops enhancing the conference experience for all attendees.

Additional Saturday presenters must be registered.

## Refunds?

Cancel by January 4, 2021 and you will receive a full refund less a \$50 processing fee. Refunds requests received by January 21, will receive a 50% refund. Sorry, no refunds after January 21.

Because this is a virtual conference, there will be no cancellation.

## Registration Questions?

Check out FAQs first [FAQ](#)

Call the MAEOE office at 410-777-9530 ext. 164. You may leave messages at any time and we will return your call. You can also email your questions to [conference@maeoe.org](mailto:conference@maeoe.org). Be sure to visit the MAEOE [website](#), for updated and detailed information.

## Promote Yourself!

Want to reach over 600 environmental educators? Sponsor the MAEOE Conference or be an Exhibitor! Be present the MAEOE conference platform and the MAEOE website! The more visibility you have the more business you get! For rates and more information please contact [director@maeoe.org](mailto:director@maeoe.org) by January 11, 2021.

## Scholarships!

The Maryland Association for Environmental and Outdoor Education has established a Conference Scholarship program to assist high school and college students, classroom teachers, and beginning (1-2 years experience) outdoor center educators attend the annual conference.

We raise scholarship funds with the Silent Auction, the amount of funds varies every year. Full and partial scholarships are available.

**The scholarship covers the cost of standard conference registration fee, Wednesday - Sunday, Feb 3 - 7 are included in 2021.**

To apply, [click here for the scholarship link](#).

### Important Dates

Scholarship Opens: December 4<sup>th</sup>

Scholarship Closes: December 31<sup>th</sup>

Scholarship will be announced on a rolling basis

Awardees can register once they have received notification.

## Virtual Exhibitor Information: Be a part of the MAEOE Conference

We have a team working with exhibitors to make sure that you reach as many conference attendees as possible. Training and setup support is available. Check out our FAQ before you get started. Don't miss out on this great opportunity!! We are expecting hundreds of participants and want them to connect with you!!

Want to see how this works, sign up for an Accelevent webinar and get ready to set up your Conference 2021 Exhibit Booth! Easy to set up; block off several hours to meet with participants or set up and check in to see who has come by to visit. Click here to attend the webinar: <https://www.accelevents.com/webinar-series-virtual-event-exhibitor-training/>

Exhibitor Registration Package: Includes one (1) virtual exhibit booth, and one (1) standard conference registration. Additional staff or volunteers must register separately and purchase the standard registration package if they want to attend conference sessions/events. Register on-line at: [www.maeoe.org](http://www.maeoe.org). **Non-profit, Government and For-profit organization rates apply for a small booth.**

### Exhibitors

Set up and Go!! You do not have to be in your booth during the event.

- Set up your booth with your company logo and branding.
- Download a video or photos .
- Download PDF brochures, handouts, and product information for attendees to access.
- Provide in-booth offers for attendees.

### Exhibit Live!!

Set up as above and be a part of the Conference!!

Schedule times to be at the event (check out the schedule at a glance to know what is happening and when).

Wednesday 1:00pm – 9:00pm

Thursday 8:00am – 9:00am

4:30pm – 7:00pm

Friday 8:00am – 9:00pm

6:00pm – 7:00pm

Saturday 8:00am – 6:00pm

- Host a live "event" in your booth.
- Set up a chat and meet with conference attendees.

### Exhibit Hall Lounge

- Another opportunity to meet people live and talk about your company
- Times to be determined – Hosted by MAEOE

**Sponsors Registration Package: Includes one (1) virtual exhibit booth and one (1) standard registration.** Additional staff or volunteers can help at the booth, but will not have access to the conference unless they are registered separately for the conference. Booth size see sponsorship information.

- General Event attendance
- Ad Placement
- Interaction
- Data
- Networking
- Sponsors Lounge
- Host a Happy Hour or an event activity

Consider sponsoring the MAEOE Conference to increase visibility and make an impression within the environmental/outdoor education community. This is a great way to support the MAEOE Conference and to promote your organization to the Environmental Education and Environmental Literacy professional audience that will be attending. We offer sponsors at various levels starting from \$250. For more information please contact MAEOE's Executive Director, Laura Johnson Collard, at [director@maeoe.org](mailto:director@maeoe.org).

## Workshops

**THIS IS A TENTATIVE LIST OF ALL THURSDAY, FRIDAY AND SATURDAY OFFERINGS.**

### THURSDAY Workshops

#### **Project WET/WILD/Learning Tree: Climate Edition! – (Two Day Workshop)**

*Maggie Cavey, MDOT/MPA  
Mary Westlund, MAEOE  
Kerry Wixted, MD DNR  
Elena Takaki, AFWA*

*Strand: Climate Science*

*Audience: Early Childhood, Elementary, Secondary, College/University, Adult, General, Special Education*

Venture through “Project WET/WILD/Learning Tree: Climate Edition!” and discover what we'll learn today and what we'll teach tomorrow! This is an incredible opportunity to participate in a combined workshop featuring Project WET, Project WILD, Aquatic WILD, and Project Learning Tree. Participants will learn to navigate award-winning environmental education programs designed for teachers and non-formal educators of Pre-K through 12th grade. These multi-disciplinary activities will promote awareness, appreciation, and knowledge of natural resources with a climate-themed twist. This workshop will highlight the activity guides of four environmental education programs which participants will receive upon completion of the workshop. \*\*\*NOTE: This is a two-day workshop – both Thursday and Friday participation are REQUIRED to receive credit.

#### **Leopold Education Project – (Full Day)**

*Peggy Eppig, Maryland Agricultural Education Foundation*

*Strand: Natural History & In-depth Science*

*Audience: Secondary, College/University, Adult, General, Limit of 30 participants*

The Leopold Education Project is a hands-on, conservation literature-based curriculum that focuses on Aldo Leopold's land ethic, his legacy, and his writings. LEP is aligned with Maryland's E-Lit and NGSS for middle through high school levels and can easily be adapted for post-secondary and upper elementary grades. Participants receive a teacher's curriculum guide, a copy of A Sand County Almanac, and the Aldo Leopold Foundation journal. Plan on being outside!

### **“Earthrise” to Today: How Has Our Understanding of Climate Change Evolved? – (Full Day)**

*Sylvia Glassco, STEAM and Coding Teacher, Francis W. Parker School*

*Strand: Climate Science*

*Audience: Elementary, Secondary, College/University*

Climate Change is a political as well as environmental problem. Participate in a time travel simulation tracing 50 years of research and public discourse from fears of global cooling to modern understanding of anthropogenic climate change. Read “breaking” research, comment on contemporary media, and negotiate in mock UN summits. This workshop is an adapted version of a course the presenter has developed for students in middle school and older. Teachers particularly welcome.

### **The GLOBE Program and GLOBE Observer – (Half Day)**

*Todd Toth, Manager, NASA Goddard GLOBE Partnership*

*Strand: Climate Science*

*Audience: Early Childhood Education, Elementary, Secondary, College/University, Adult, General, Special Education*

An overview of the GLOBE Program and the GLOBE Observer. Participants will learn how to register, how to become trained, how to navigate in the GLOBE and GLOBE Observer online workspace, and how to do the atmosphere protocols and become trained in that sphere.

### **The GLOBE Observer Tree Height and Land Cover Tools and “Trees Around the Globe” Campaign**

**AND**

### **What’s the Buzz? From Satellites and Smart Phones – Working together to reduce the threat of mosquito-transmitted disease – (Half Day)**

*Brian Campbell, NASA Senior Earth Science Specialist*

*Dorian Janney, Senior NASA Earth Science Education and Communications Specialist*

*Strand: Climate Science*

*Audience: Early Childhood Education, Elementary, Secondary, College/University, Adult, General, Special Education*

The first, tree focused workshop, will do a deep dive into tree height, ICESat 2, land cover, doing these observations, LANDSAT missions, and how to be involved in the campaign. The What’s the

Buzz? workshop will do a deep dive into mosquitoes. It will cover biology, NGSS associated with this protocol and campaign, how to use GLOBE and GO to do science research projects and support MWEES, and have them use the MHM. Participants will also find out what a GLOBE “campaign” is and how to become involved. Live larvae will be utilized to learn identification and participants will learn how to access and analyze NASA data for the five parameters related to active mosquito season: GPM, AURA/AQUA for surface temperature, SMAP for soil moisture, and NDVI for vegetation.

**The GLOBE Observer Tree Height and Land Cover Tools and “Trees Around the Globe” Campaign  
AND  
The GLOBE Program and GLOBE Observer – (Half Day)**

*Brian Campbell, NASA Senior Earth Science Specialist*

*Todd Toth, Manager, NASA Goddard GLOBE Partnership*

*Strand: Climate Science*

*Audience: Early Childhood Education, Elementary, Secondary, College/University, Adult, General, Special Education*

The first, tree focused workshop, will do a deep dive into tree height, ICESat 2, land cover, doing these observations, LANDSAT missions, and how to be involved in the campaign. An overview of the GLOBE Program and the GLOBE Observer. Participants will learn how to register, how to become trained, how to navigate in the GLOBE and GLOBE Observer online workspace, and how to do the atmosphere protocols and become trained in that sphere

**Bring NASA Climate Science Into Your MWEE– (Half Day)**

*Genevieve de Messieres, Lead, Earth to Sky Interagency Partnership*

*Brian Shilling, MCPS*

*Strand: Climate Science*

*Audience: Early Childhood Education, Elementary, Secondary, College/University, Adult, General, Special Education*

The Earth to Sky Partnership is a special program that “Here, interpreters, educators and scientists join in a collegial environment to learn and share science and communication techniques. Our community of practice centers on developing interpretive and educational products and programs for use in refuges, parks and other sites of place-based education. This site is designed for participants to connect and collaborate with others through our online training and resource sharing. Membership is free and provides access to a variety of professional development events, our archives, and many valuable resources for effective communication of science to a variety of audiences.” Anita and Genevieve have many great presentations sharing information about climate change, NASA’s earth observations to study climate change, and how they work collaboratively with Fish and Wildlife, National Park Service, interpreters, and other formal and informal educators across the US. Brian Shilling, from the MCPS OEEP Program, will also assist by sharing ways to integrate many of these ideas and resources into outdoor education settings and to support MWEES.

# **THIS IS A TENTATIVE LIST OF ALL THURSDAY, FRIDAY AND SATURDAY OFFERINGS**

## **Friday Workshops**

### **Project WET/WILD/Learning Tree: Climate Edition! – (Two Day Workshop)**

*Maggie Cavey, MDOT/MPA, Mary Westlund, MAEOE, Kerry Wixted, MD DNR & Elena Takaki, AFWA*

*Strand: Climate Science*

*Audience: Early Childhood Education, Elementary, Secondary, College/University, Adult, General, Special Education*

Venture through “Project WET/WILD/Learning Tree: Climate Edition!” and discover what we'll learn today and what we'll teach tomorrow! This is an incredible opportunity to participate in a combined workshop featuring Project WET, Project WILD, Aquatic WILD, and Project Learning Tree. Participants will learn to navigate award-winning environmental education programs designed for teachers and non-formal educators of Pre-K through 12th grade. These multi-disciplinary activities will promote awareness, appreciation, and knowledge of natural resources with a climate-themed twist. This workshop will highlight the activity guides of four environmental education programs which participants will receive upon completion of the workshop. \*\*\*NOTE: This is a two-day workshop – both Thursday and Friday participation are REQUIRED to receive credit.

### **Monarchs and More! – (Half Day)**

*Molly Hoopes, Baltimore City Recreation and Parks (BCRP) and the Monarch Sister Schools Program (MSSP)*

*William Dent, Natural Partners*

*Strand: Natural History*

*Audience: Early Childhood Education, Elementary, General, Special Education*

The monarch butterfly is the longest living butterfly with the longest insect migration in the world. Its migration is threatened by various factors at each end of the journey. Learn fun activities utilizing art, math, science, writing, foreign language, social studies, and geography to involve your students and children in discovering the wonders of the monarch butterfly. This amazing insect symbolizes the importance of habitat and the benefits of countries collaborating to solve problems.

### **Wonder Moments – Emergent Curriculum! – (Half Day)**

*Sarah Lank, Carrie Murray Nature Center/ Baltimore City Rec & Parks; Monica French, Wild Haven Forest Immersion Program/Baltimore City Rec & Parks and Darrea Frazier, Chesapeake Conservation Corps Member, Host site - Carrie Murray Nature Center*

*Strand: Natural History*

*Audience: Early Childhood Education, Elementary, General, Special Education*

What is emergent curriculum? We'll explore what it means to guide students in discovering natural wonders in a way that combines both structure and spontaneity. We'll also joyfully cover the concepts of place-based learning and the skill of noticing. Hands-on activities will be the focus. A guide sheet will be provided. This is an inquiry-based practice meant to deepen a culture of nature connection that integrates all academic topics.

## **Phun with Phenology! – (Half Day)**

*Kimberly Curren & Tania Gale, Calvert County Natural Resources*

*Strand: Tips, tricks, technology and lessons from the field*

*Audience: Early Childhood Education, Elementary, General*

Phenology, or the study of the timing of life cycle events and their relationship to the environment, can be used to teach a number of concepts. It can be adapted to any grade level and can be used to teach a variety of subjects, from math to art. In this session participants will have a chance to try out some phenology measurements and fun seasonal activities.

## **Special Spots in Nature – (Half Day)**

*Jessie Lehson, Watershed Public Charter School*

*Strand: Expanding Capacity*

*Audience: Early Childhood,, Elementary, Secondary, College/University, Adult, General*

Special Spots (Sit Spots, Special Places) are an important tool for helping students who now find themselves expected to sit in front of a screen for 5+ hours interact with nature, self-calm, and engage in rigorous standards based multidisciplinary learning.

## **Which Climate Scenario Will We Choose? – (Half Day)**

*David Yarmcuck, DBY STEM Education Services*

*Rebecca Davis, Clean Air Partners*

*Strand: Climate Science*

*Audience: Secondary*

How can we teach climate change to middle school students in a way that is engaging, meaningful, and action-driven?

Come to WHICH CLIMATE SCENARIO WILL WE CHOOSE? and find out! In this session, you will experience four activities from a new free middle school science curriculum that is designed to teach climate science through active exploration. Afterwards, learn how to use this curriculum in your school or setting. The activities we will experience explore the phenomenon of sunny day flooding using technology, hands-on learning, and data analysis.

## **The Live Carbon Footprint Calculator – (Half Day)**

*Maddalena Nesbit & Helen Dwyer, Charles County Public Schools*

*Strand: Greening Maryland Schools*

*Audience: Secondary, College/University, Adult, General, Special Education*

Looking to revamp your human impact lesson? Are you looking to engage your learners on their impact on the planet? Join us for a live interactive carbon footprint calculation lesson. Get a hands-on experience of how the carbon footprint impacts our world and get a global comparison. Are we as energy efficient as other countries? How can we decrease the carbon footprint? Find out the

answer to these questions and more! Join our session! We will also discuss modifications and extensions for specific programs and regions.

### **Native Gardens: Landscape Design for Nature Educators – (Half Day)**

*Lauren Belle, University of Maryland Extensions, 4-H*

*Joe Mudd, M-NCPPC Department of Parks and Recreation, Prince George's County*

*Strand: Tips, tricks, technology and lessons from the field*

*Audience: Elementary, Secondary, College/University, Adult, General*

Many nature educators know which plants support pollinators, birds and other wildlife, but most of us have created gardens that look too wild for many public spaces. Join landscape professionals to learn what makes plantings look landscaped instead of wild and how to design and maintain plantings that support healthy ecosystems and engage visitors throughout the year. We will explore how to work with landscape maintenance professionals, select plants, develop maintenance plans, and assist community members in creating native plant landscaping themselves.

### **Hair, Dirt and Weeds: Using Fibercraft in the Classroom – (Half Day)**

*Antonia Bookbinder & Adilah Wutoh-Baylor, M-NCPPC Department of Parks and Recreation, Prince George's County*

*Strand: Tips, tricks, technology and lessons from the field*

*Audience: Early Childhood Education, Elementary, Secondary, Adult, General*

Fibercraft engages students in creative activities related to STEAM topics such as botany, chemistry, anthropology, engineering, and multimedia art. Fibercraft also offers effective stress reduction techniques for people of all ages and skill levels. Learn how fibercraft fits in the K-12 curriculum, how to engage students, and how to use activities for emotional regulation. Participants will receive a kit to create mudcloth, a dyed scarf, and a felted ornament, along with written and video instructions and access to presenters after the conference for further help with projects.

### **Nature Begins at Your Backdoor Virtual Club – (Half Day)**

*Amy Lang & Elizabeth Hill, University of Maryland Extensions, 4-H*

*Strand: Expanding Capacity*

*Audience: Elementary*

Nature Begins in Your Backyard Virtual Activity Club. Come join Maryland 4-H as we share an innovative model for overcoming traditional program access barriers of transportation and cost, allowing youth to access highly engaging, interactive environmental education from the comfort of their own homes. Participants will leave with all the tools needed to launch your own virtual six week Nature in Your Backyard club!!

### **So, is it working? A Workshop on Assessing Virtual Audience Engagement – (Half Day)**

*Jillie Drutz & Karen McDonald, SERC*

*Strand: Expanding Capacity*

*Audience: Tips, tricks, technology and lessons from the field*

As we settle in our new online reality and adapt our audience engagement strategies, how do we know if our methods are working? Ongoing assessment makes us adaptive - and with the increasing demands of adaptability, assessment is necessary now more than ever. In this workshop, we will go through diverse ways educators can incorporate virtual engagement assessment. Participants will practice creating data-based assessments, like surveys, and informal assessments, like behavioral observations (even online!). The information shared will be based on our research and recent experiences, but the workshop will be a collaborative space for everyone to learn from each other.

## **THIS IS A TENTATIVE LIST OF ALL THURSDAY, FRIDAY AND SATURDAY OFFERINGS**

### **Saturday Workshops**

#### **Farm Exploration...From the Classroom**

*Ron Ohrel, Environmental Outreach, American Dairy Association North East*

*Strand: Ag Education*

*Audience: Secondary, College/University, Adult, General*

Curious about agriculture's role in sustainability and climate resilience? Sadly, few are able to visit working farms, meet farmers, and learn how food reaches their tables. Covid-19 made such opportunities even scarcer. This session will highlight resources available to help students "visit" different dairy farms throughout the Chesapeake Bay watershed and learn from farmers about the conservation practices they use to protect the Bay and mitigate the effects of climate change.

#### **Ag Kits & Ag Lit**

*Shannon Brown, MAEF, Laura Menyuk, Great Kids Farm, Pam Hosimer, Master Gardener & Anne Rosenthal, Great Kids Farm*

*Strand: Ag Education*

*Audience: Elementary, Secondary, Student-centered organizations*

Come explore how hands-on, ag kits & paired ag literature offer an engaging framework for phenomena-based learning. You'll get a close look at 6 kits, (made for K-12), with their affordable/easily-acquired/no-expertise-needed supplies & upkeep. We'll also explore paired ag literature & a simple way of using picture books to explore NGSS cross-cutting concepts with your students. From aquaponics to microgreens, ag kits & ag lit offer a foundation for deep questioning & investment in food sources.

#### **Design Thinking for a Hungry World**

*Jennifer Chambers, The Siena School*

*Jose-Luis Izursa, University of Maryland Environmental Science and Technology Department*

*Strand: Ag Education*

*Audience: Secondary, College/University*

With climate change at our doorstep, educators need to engage students to design think outside the box to feed increasing populations of people while reducing our footprint. Learn about a model that combines design thinking, practices engineering skills, enhances scientific thinking through storytelling and is built on an anchoring phenomenon to inspire replication. Participants will workshop ways all or parts of this model can be implemented in their organization.

## **Environmental Citizen Science as a Pillar of Environmental Education**

*Dixon Butler, Youth Learning and Citizen Environmental Scientists*

*Dorian Janney, Senior NASA Earth Science Education and Communications Specialist*

*Strand: Expanding Capacity*

*Audience: General*

In this interactive workshop, educators who have been recipients of YLACES scientific measurement equipment grants will share their experiences incorporating citizen science into environmental education programs. Speakers will discuss how they have addressed curricula requirements, engaged with the broader research community and addressed the particular challenges related to online learning during the COVID-19 pandemic.

## **Practical Applications of Student Environmental Research**

*Dixon Butler, Youth Learning and Citizen Environmental Scientists*

*Jennifer Bourgeault, US Country Coordinator GLOBE*

*Strand: Expanding Capacity*

*Audience: Adult*

In this engaging workshop, teachers and students from GLOBE schools will share their research on topics that have practical applications for local and regional environmental policies and practices. Approaches for identifying research projects and applying the findings in local communities will be addressed.

## **What's Outside Your Door? Virtual Outdoor Environmental Education**

*Courtney Hebert & Antonio Carrillo, MCPS Smith Center*

*Strand: Expanding Capacity*

*Audience: Secondary*

What do you do when you can't get students outdoors for their 6th Grade MWEE? You write lessons that they can do outside their door. Our workshop will include an overview of the modules we developed to support the MCPS Grade 6 program. Each module includes a Google slide show that a teacher and/or students could easily use to review the main objectives and activities for a remote stream study, predator prey simulation, student service learning, watershed media project and a land study.

## **Cultivating Community Through Climate Victory Gardens**

*Chiara D'Amore & Erica Jones, The Community Ecology Institute*

*Strand: Climate Science*

*Audience: Secondary, College/University, Adult, General*

Have you heard of Climate Victory Gardens? They are a meaningful way to take local action around climate change by growing local food while enhancing biodiversity and sequestering carbon in the soil. At Freetown Farm, CEI has a large demonstration CVG and we are working on a "Climate of Hope" initiative to help get these gardens established in properties throughout our community. Come learn about how to get these gardens going in your context and how doing so can help cultivate community.

### **“One in Seven Billion” Project: Individual Level Climate Change Solutions from K-12**

*Hemalatha Bhaskaran, James M. Bennett High School*

*Strand: Climate Science*

*Audience: Elementary, Secondary*

Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has. In this session, participants will learn about an action project that was piloted in a high school. The action project challenged students to alter a behavior of their choice for a month and track the potential positive environmental impacts that would result if everyone on earth in their same situation made a similar change. Students were also asked to reflect on their behavior change and the lessons learned from their experience. This session will focus on sharing the action plan template, lessons learned and how these individual changes can bring about large-scale changes.

### **More Than a Metaphor: Human Impact, Drowned Cities, and Social Justice**

*Juliann Dupuis & Kelly Bull, Notre Dame of Maryland University*

*Strand: Tips, tricks, technology and lessons from the field*

*Audience: Secondary*

Gain an inside look into an interdisciplinary English/Science unit that explores both environmentalism and social justice. Engage in conversation and activities illustrating how students can be immersed in interdisciplinary discussions that center on human impact, drowned cities, and social justice, asking the essential question: How does humankind survive and transform when a city drowns?

### **Recent Scientific Evidence Linking Old-Growth Forests with Carbon Uptake**

*Joan Maloof, Old Growth Forest Network*

*Strand: Climate Science*

*Audience: College/University, Adult, General*

A debate over the value of old forests in capturing and storing carbon has prompted a surge of studies during the last decade. Come hear the latest science discussed and see the evidence that old forests are very important.

## **Trees are Terrific!**

*Sean McGuinn, Arlington Echo Outdoor Education Center*

*Strand: Natural History*

*Audience: Early Childhood Education, Elementary, Secondary, College/University, Adult, General, Special Education*

There's a belief that if you pick a flower from a certain tree that you'll be eaten by a lion! The oldest living tree system in the world is 80,000 years old and can be found in Utah. It's called Pando and is made up of over 40,000 trees. From historical witnesses to famous trees and jaw dropping features, attend this session to find out more about what makes trees so TERRIFIC!

## **The Environmental Impact of the Maryland Green Schools Program**

*Sarah Haines & Ayla McDonough, Towson University*

*Strand: Greening Maryland Schools*

*Audience: Early Childhood Education, Elementary, Secondary*

What is the environmental impact of Maryland Green Schools? To determine the relationship between Maryland Green School program implementation and environmental impact, we evaluated all 635 Maryland Green Schools by quantifying several different environmental parameters. Our primary assumption was that Maryland Green Schools are advantageous for all individuals involved, as well as for Maryland's local environment. Come hear whether that assumption was correct.

## **Trees and Schools: Growing the Connection**

*Frank Rodgers, Cacapon Institute*

*Strand: Expanding Capacity*

*Audience: General*

"Trees-Growing the Connection" is a fast passed discussion on trees, why we need them and how to get them. We all know trees make oxygen. Did you know trees also clean the air we breathe by trapping C3, NO2, SO2 and fine particulate matter? Trees benefit people immensely in personal ways and on a global scale. Join us to learn how trees improve physical and mental health including improving student attention and faster recovery from stress. Take home resources on where to find help for your school so you can plant trees and learn from them.

## **Proven Success Strategies to Energize your "Green School"**

*Max VanDerBeek & Sara Ford, Bates Middle School - Annapolis*

*Strand: Tips, tricks, technology and lessons from the field*

*Audience: Secondary*

"Proven success strategies to energize your Green School and your certification or re-certification process". Are you trying for "Green School Certification" or "Re-Certification" this year or next?

Come hear our stories and strategies guaranteed to energize your students, faculty, and parent volunteers.

## **Best Management Practices on School Grounds for Watershed Health and Learning**

*David Kline & Steve Kerlin, Stroud Water Research Center*

*Strand: Greening Maryland Schools*

*Audience: Early Childhood Education, Elementary, Secondary, College/University, Adult, General*

Learn about research of Best Management Practices (BMP) on school grounds in the Chesapeake Bay Watershed and steps to inform BMP installation and learning with an easy-to-follow workflow process. We'll also demonstrate how you can use two GIS-based applications that prioritize which BMPs are most effective in reducing stormwater runoff, nutrients, and sediment at your school in addition to companion curricula.

## **Intentional Integration of Environmental Literacy Standards across subject areas in the K-12 Classroom**

*Chelsea McClure, Towson University*

*Amy Wolff, HCPS*

*Strand: Tips, tricks, technology and lessons from the field*

*Audience: Elementary, Secondary, College/University*

Today's students must understand their ecological, economic, and cultural connections with the environment as well as the impact of interactions between humans and the environment. But, how do we nurture this essential understanding in an engaging and meaningful way across content areas? In this session, we will discuss aspects of the intentional integration of Environmental Literacy Standards into your planning and instruction.

## **Building a Better MWEE Together: Insights from Formal and Field-based Environmental Educators**

*Cassie Doty, UMCES Appalachian*

*Mary Helen Gillen, Pickering Creek Audubon Center*

*Strand: Tips, tricks, technology and lessons from the field*

*Audience: Elementary, Secondary, Nonformal EE providers*

The NOAA BWET-funded Making the Link project partners formal educators and EE providers in a professional learning community (PLC) to co-develop peer-reviewed standards-based MWEEs and implement them systemically. Come hear about the Making the Link PLC and resources provided; and then hear PLC member from Pickering Creek Audubon Center share her experience and outcomes, including benefits from peer review, an overview of their MWEE, strategies for implementation, and more!

## **Using Art to Connect Nature and People**

*Raine Valentine, BCPS*

*Strand: Tips, tricks, technology and lessons from the field*

*Audience: Early Childhood Education, Elementary, Secondary, Adult, General, Special Education*

Participants will learn about multiple lessons that integrate art and science, to help students learn more about science, advocacy, and making a difference in the world through creativity. There will also be examples of how to do this in the virtual world.

## **Arts Integration in the City**

*Molly Hoopes, Baltimore City Recreation and Parks*

*Strand: Expanding Capacity*

*Audience: Early Childhood Education, Elementary, Special Education*

Learning about science is fun! Especially when it involves sensory tables, drawing, sculpting, putting things together and taking things apart, and making and eating creative snacks! Let Molly share with you how art and play can lead to science discoveries, even with students for whom learning seems a chore.

## **Fun with Field Journaling**

*Liz Wist, Maryland Coastal Bays Program*

*Mary Helen Gillen, Pickering Creek Audubon Center*

*Strand: Tips, tricks, technology and lessons from the field*

*Audience: Elementary, Secondary, Adult, General*

Come one, come all and be inspired to take pause and learn about all the wonders right outside your front door! As scientists and educators, we are constantly exploring, and all that scientific exploration starts with observation and questioning. Field, or nature journaling allows us to cultivate curiosity, focus attention, and gives space of reflection on all those amazing observations. In this session, you will learn tools and tips to use field journaling as a practice in scientific study and instruction, as well as engaging in a few fun field journaling activities!

## **Breaking Down “the District” – Connecting City Schools with City Farms**

*Laura Menyuk, Great Kids Farm*

*Farmer Chippy, Plantation Park Heights Urban Farm, Baltimore City*

*Strand: Ag Education*

*Audience: Early Childhood Education, Elementary, Secondary*

Though farm education tends to be associated with schools and students in rural settings, urban farming holds enormous potential to enhance learning for students in city settings as well. In Baltimore City Public Schools (BCPSS), the Farm to School team works to promote student opportunities related to farming, gardening, and food systems. Come hear from BCPSS staff and a small panel of urban farm partners about the value of forging collaborations with urban growers to bring meaningful farm-to-school experiences to more students across the city.

## **Living Local: Connecting Community and Agriculture**

*Chandler Joiner & Liz Wist, Maryland Coastal Bays Program*

*Strand: Ag Education*

*Audience: Secondary, College/University, Adult, General*

Have you ever wondered about relocalizing agriculture through education? Or how to effectively communicate the connection between sustainable farming and climate resiliency? If yes, then join the Maryland Coastal Bays Program to learn about their unique environmental education program, Living Local! The initiative began as an online outreach program highlighting local farmers, and has since grown into an expansive EE project that incorporates educator trainings, in-class and outdoor educational programming, and community workshops. Come prepared to hear from local farmers and discuss your own experience with agriculture education!

## **Walking Your Talk: finding your own journey**

Join Keynote Speaker John Francis for a discussion on walking your talk, climate advocacy from your own place. In preparation for this workshop participants should listen to The John Francis TEDtalk

[https://www.ted.com/talks/john\\_francis\\_walk\\_the\\_earth\\_my\\_17\\_year\\_vow\\_of\\_silence/transcript#:~:text=TED%20Talk%20Subtitles%20and%20Transcript%3A%20For%20almost%20three,speaking%29.%20A%20funny%2C%20thoughtful%20talk%20with%20occasional%20banjo.](https://www.ted.com/talks/john_francis_walk_the_earth_my_17_year_vow_of_silence/transcript#:~:text=TED%20Talk%20Subtitles%20and%20Transcript%3A%20For%20almost%20three,speaking%29.%20A%20funny%2C%20thoughtful%20talk%20with%20occasional%20banjo.)

Also pre-conference; participants should do a walk in their neighborhood or park or natural area (silent or talking) after or before watching the TEDtalk, as preparation for the workshop. Come to the workshop to share thoughts and experiences.

## **Green Schools: How to earn State, National, and International Recognition**

*Mary Westlund, MAEOE*

*Kirsten Jackson, MSDE*

*Riley Cassidy, NWF*

*Strand: Greening Maryland Schools*

*Audience: General*

Are you already a Green School or maybe you're just getting started? This session is designed for newbies and experts alike to learn more about three state, national, and international recognition programs that Maryland PreK-12 schools are eligible to apply for -- Maryland Green Schools, Green Ribbon Schools, and Eco-Schools USA. Attendees will learn about program objectives, benefits, and application processes of each as well as how the programs are aligned. Presentations will be interspersed with hands-on activities and discussion to help Green Leaders and Team members identify concrete next steps to pursue one or more of these programs.

## **Mad Science LIVE! Online – Making Virtual Youth Programming Interactive and FUN!**

*Jessy Oberright, Calvert County Natural Resources Division*

*Strand: Expanding Capacity*

*Audience: Elementary, General*

Many outdoor educators scrambled to convert summer youth programming to virtual platforms this year, and struggled with how to keep it engaging, interactive and fun for the kids. This session will highlight a STEM summer camp 2020 program model for ages 7 to 11. We will cover methods to provide live, online learning that gets kids and parents excited and still encourages "hands-on" exploration and investigations. Examples of activities and experiments will be provided.

## **The Summer We Went Virtual: Educator PD During COVID**

*Elise Trelegan, NOAA Chesapeake Bay Office*

*Tara Drennan, Chesapeake Bay Trust*

*Strand: Tips, tricks, technology and lessons from the field*

*Audience: College/University, General*

How do we conduct effective professional development for teachers during this time of social distancing? What are productive ways to incorporate outdoor field experiences when group site visits and team-based investigations aren't possible? How can we create spaces of sharing and authentic community in the virtual context? Explore these questions and more during an informative panel with several organizations that will share success stories and lessons learned from the summer that went virtual.

## **Nature's Clock: Climate Change and Phenology**

*Clare Walker, Benjamin Banneker Historical Park*

*Strand: Climate Science*

*Audience: Elementary, Secondary, Adult, General*

Phenology is the timing of seasonal natural events and is an easy to understand way to explain the local impacts of climate change. It requires you to get outside to observe changes such as leaf out or flowering in common plants. Practice some citizen science as we learn how and what to monitor in backyards or schoolyards, on a single day or through the seasons. The session will also look at local relationships between plants and animals and how climate change is impacting species in Maryland.

## **Earth Force Advanced Professional Development**

*Alexis Thorbecke & Alyssa McConkey, Earth Force*

*Strand: Best Practices in Program Management*

*Audience: Elementary/Secondary/Special Education*

This intensive session, led by Earth Force in collaboration with MAEOE, will review educators' challenges with implementation of the student-led action component, offer supported planning time to address these challenges as well as to network and build community.

## **Idle Reduction Programs at Your School**

*Michael Stricker & Lisa Jones, MD Dept of the Environment*

*Strand: Greening Maryland Schools*

*Audience: Elementary, Secondary, College/University, Adult, General*

Schools play an important role in protecting children from the health hazards of idling engines. There are ways that your school can start implementing its own idle reduction plan.

Learn how to help your school reduce unnecessary idling:

1. Let others know that exhaust fumes are dangerous and children are particularly vulnerable to the pollutants in exhaust.
2. Define your school's idle reduction plan and let students, parents, administration, bus drivers and visitors know about the new policy.
3. Develop ways to help sustain your idle free school zone all year long.

## **Appreciating the Wonder of Periodical Cicadas: A Rare Opportunity for an Educational Entomological Extravaganza**

*Diane Lill, Audubon Naturalist Society; John Lill, GWU & Martha Weiss, Georgetown*

*Strand: Natural History*

*Audience: Elementary*

Be inspired to bring wonder, appreciation, and entomological knowledge to your elementary students in the spring of 2021 by leveraging the periodical cicada emergence of Brood X – one of the largest and densest cicada broods in the world - into a special and memorable educational experience that replaces fear with fascination. Learn about the natural history of these amazing insects with scientists from Georgetown and George Washington Universities, and receive access to unique educational materials we have designed for educators to use with your elementary students this spring.

## **Mussel Power: Engaging High School Students in Freshwater Mussel Restoration on the Anacostia River**

*Ariel Trahan, Anacostia Watershed Society*

*Strand: Tips, tricks, technology and lessons from the field*

*Audience: Secondary, Adult, General*

Come learn all about Freshwater Mussel restoration on the Anacostia River! Anacostia Watershed Society (AWS) is committed to making the Anacostia River swimmable and fishable by 2025. Freshwater Mussels are the latest restoration method we are exploring to help improve water quality and restore the ecosystem. In this presentation, you will hear from students and teachers who are part of the Citizen Science project to restore this important part of the Anacostia River ecosystem.

## **Going Green Challenge**

*Harry Preston & Cole Bishop, Green Street Academy's Innovation Center*

*Strand: Greening Maryland Schools*

*Audience: Early Childhood Education, Elementary, Secondary*

Let's gamify environmental awareness in your school and in your community. Let the WORKshop build your community and save our environment. Join our competition developed by students for students around the world.

## **A Breath of Fresh Air**

*Patrice Donnelly, Adventures in Learning*

*Strand: Greening Maryland Schools*

*Audience: General*

Are you concerned about Indoor Air Quality? This 40-minute presentation will focus on strategies for improving ventilation at your school. We will take a brief look at all of the Indoor Air Quality components, then focus on ventilation strategies. Handouts will be provided with EPA endorsed best practices and a practical checklist for teachers/staff. The presentation will be followed by a 15-min participatory discussion on promoting awareness, involving students, and solving unique problems.

## **Diving into the World of Plastic Waste and Student-driven Action with the Wave of Plastic Curricular Unit**

*Jenna Linhart, University of Maryland Center for Environmental Science, Appalachian Lab*

*Jamie Testa, University of Maryland Center for Environmental Science, Chesapeake Biological Lab*

*Strand: Tips, tricks, technology and lessons from the field*

*Audience: Elementary*

Plastic waste is currently a hot topic and whether we like to admit it or not, it's also an issue that we each have contributed to in some way. While unfortunate, the prevalence and relevance of plastic pollution in everyday life makes it a great topic to deliver engaging, relevant and empowering science education! Join us to learn about the NGSS/MWEE aligned Wave of Plastic curricular unit rooted in authentic student-driven inquiry of plastic waste, its impacts on marine ecosystems, and solutions big and small.

## **Drugs in streams: Bringing real research, real data, and a real big problem into the classroom**

*Aaron Curry, Prince George's County Public Schools*

*Bess Caplan, Cary Institute of Ecosystem Studies*

*Strand: Tips, tricks, technology and lessons from the field*

*Audience: Secondary*

Here in Maryland, top ecologists are studying the impact of Pharmaceuticals and personal care

products (PPCPs) on the health of our streams. Follow the experience of a PG County science teacher who spent a summer researching PPCPs and developing a Data Nugget (a free classroom activity that brings research and authentic data into the classroom), using authentic data from his research experience. Participants will explore Data Nuggets and discuss ideas for bringing data into their classrooms. Participants will also learn about PPCPs and the impacts these contaminants are having on our freshwater streams and surrounding ecosystems.

## **Creating Picture Books to Celebrate Nature**

*Sarah Stockdale, Peachtree Publishing Company*

*Strand: Natural History*

*Audience: Early Childhood Education, Elementary, General, Special Education*

Today's picture books about our natural world are treasured by kids, educators and parents. Important hallmarks include an engaging voice, vibrant illustrations, and scrupulous research. Join Maryland children's book author and illustrator Susan Stockdale as she demonstrates how she employs these elements in her picture books to celebrate animal life. She will suggest activities in language arts, visual arts and more to deepen children's appreciation for animals and their habitats.

## **Knot Tying for Environmental Education**

*Maureen Larkin, Freelance*

*Strand: Tips, tricks, technology and lessons from the field*

*Audience: Elementary, Secondary, College/University, Adult, General*

Imagine a world without knots. How would we tie our shoelaces? Secure a boat? Fly a kite? Catch a fish? Tie a dog to a post, or tie a ribbon around a package? Knots are essential in our daily lives. How can we use knots in environmental education? Learn how to tie four (4) of these six (6) basic knots: bowline, square, sheet bend, sheepshank, figure eight, or clove hitch. Learn how to use knots in your teaching and how to use knots to make your life as a teacher easier.

## **People and Climate Change: Activities for Any EE Setting – Double Session**

*Laura Short, Population Connection*

*Strand: Climate Science*

*Audience: Secondary*

Put climate science in a social perspective by examining causal trends over the past 200 years (population growth, fossil fuel use, industrialization, changing land use), as well as impacts (sea level rise, severe weather and threats to habitats/ecosystems). Engage in small and large-group activities to use in the classroom, environmental education center, or remote learning. Receive lesson plans and background materials matched to state standards and NGSS.

## **Schools Abuzz with Bees and Butterflies – Double Session**

*Kerry Wixted, Wildlife and Heritage Service, Department of Natural Resources*  
*Clare Walker, Benjamin Banneker Historical Park*

*Strand: Natural History*

*Audience: Elementary, General*

Have a schoolyard pollinator patch already but need activities to connect it to the curriculum? Or want to create one with minimal work and maintenance? Join us for fun, curriculum-based lesson ideas and resources. This session will explain the easiest way to implement the updated Department of Natural Resources Simple School Wildlife Garden Guide. Then participants will try NGSS-ready activities exploring flowers, native bees and butterflies for K-8, including adaptations for online learning.

### **Applying the Meaningful Watershed Education Experience Approach in Support of Community Resilience – Double Session**

*Bart Merrick, NOAA Chesapeake Bay Office; Trystan Sill, DNR; Elise Trelegan & Krysta Hougen, Plantation Park Heights Urban Farm, Baltimore City*

*Strand: Climate Science*

*Audience: General*

Communities across the country are dealing with environmental issues and hazards due to extreme weather events, the impacts of climate change, as well as other social and environmental changes. In this session we will discuss the critical role environmental education plays in supporting individuals and community resilience as they deal with these challenges.

### **Using Classroom Created Virtual Contexts to Explore Local Environments – Double Session**

*Danielle Cullen & Christina South, Somerset County Public Schools*

*Strand: Tips, tricks, technology and lessons from the field*

*Audience: Elementary, Secondary*

Learn ways to engage students through place-based education by creating virtual contexts with Google Tour Creator. Students can use technology to explore places they have never been before. Virtual contexts allow students to go on “field trips” when going to a location is not possible. While this is not meant to permanently replace in-field, hands-on learning, using virtual contexts provides an alternative solution.