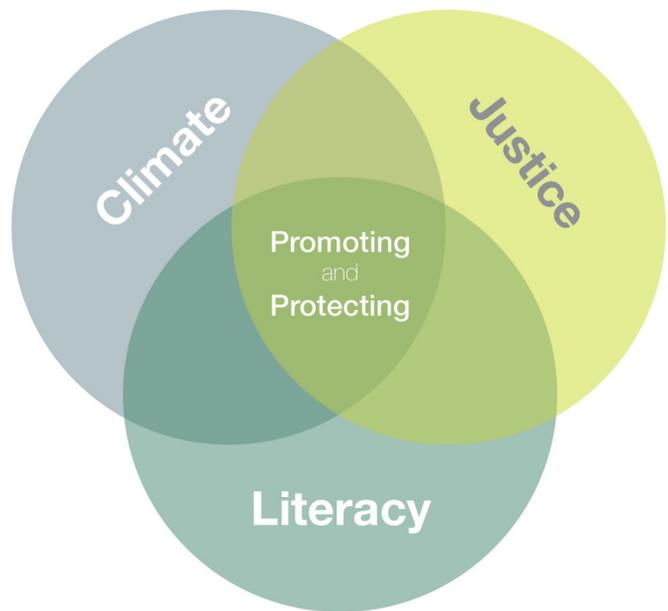




massachusetts environmental education society

The Language of Climate Change



March 9, 2016

Hogan Campus Center
College of the Holy Cross
Worcester, Massachusetts

The Language of Climate Change

Massachusetts Environmental Education Society | 2016 Conference

Conference Schedule

8:00 a.m. – 8:45 a.m.

- ⇒ Registration
- ⇒ Coffee & Breakfast
- ⇒ Exhibits

8:45 a.m. – 9:00 a.m.

- ⇒ Welcome
- ⇒ Annual Meeting

9:00 a.m. – 9:45 a.m.

- ⇒ Keynote Speaker

10:00 a.m. – 11:00 a.m.

- ⇒ Session A

11:10 a.m. – 12:10 p.m.

- ⇒ Session B

12:10 p.m. – 1:10 p.m.

- ⇒ Lunch
- ⇒ Exhibits

1:10 p.m. – 1:40 p.m.

- ⇒ MEELP Meeting

1:50 p.m. – 2:50 p.m.

- ⇒ Session C

3:00 p.m. – 4:00 p.m.

- ⇒ Session D

Join us for the 2016 Annual Conference!

This year we have decided to start the day off with a welcome and annual meeting led by MEES President Louise Beaudry followed by a keynote speaker. **David Sobel**, faculty member at Antioch University New England and noted author, will kick off the conference with a bit of inspiration. He will discuss positive examples of educational approaches that connect children to nature, engage them in constructive activities, and provide the foundations for responsible environmental behavior.

MEES has also brought in the **National Network for Ocean and Climate Change Interpretation** to create confident climate change communicators in all our attendees!

Along with NNOCCI there are many other fantastic workshops that are sure to educate, inspire, and lead you on the path of understanding the language of climate change.

We look forward to seeing you on March 9 in Worcester!



MEES Board of Directors

WELCOME | 8:45 a.m.—9:00 a.m.

Registration begins at 8:00 a.m. in the foyer of the Hogan Campus Center. Once registered, please enjoy coffee and breakfast and **find a seat** in the main Ballroom. MEES President Louise Beaudry will provide opening remarks and manage the MEES Annual Meeting.

Following the welcome, MEES welcomes **David T. Sobel, M.Ed.**, Senior Faculty in the Department of Education at Antioch University New England, for a keynote address.

KEYNOTE | 9:00 a.m.—9:45 a.m.

David T. Sobel is Senior Faculty in the Education Department at Antioch University New England in Keene, NH. He consults and speaks widely on child development and place-based education with schools, environmental organizations and the National Park Service. He has authored eight books and more than 60 articles focused on children and nature for educators, parents, environmentalists and school administrators in the last 30 years.

He has served on the editorial boards of *Encounter*, *Community Works Journal* and *Orion Afield* and writes a regular column for *Community Works Journal*. His articles and essays have appeared in *Orion*, *Encounter*, *Sierra*, *Sanctuary*, *Wondertime*, *Green Teacher*, *Play Rights*, *Educational Leadership* and the *Harvard Education Letter*. He has written chapters included in *Father Nature; Stories from Where We Live-The North Atlantic Coast*; *Place-based Education in a Global Age*; and *The Child: An Encyclopedic Companion*. His most recent books are *Nature Preschools and Forest Kindergartens* published by Redleaf and *Wild Play, Parenting Adventures in the Great Outdoors* soon to be republished by Green Writers Press.

He was recognized as one of the Daring Dozen educational leaders in the United States in 2007 by *Edutopia* magazine. He lives in the Monadnock region of southwestern New Hampshire and is committed to cold water swimming, the exploration of landscape nooks and crannies and to joyfully embracing the gift of life on earth.

Special Workshops for 2016

This year MEES is supported by the **National Network for Ocean and Climate Change Interpretation** (NNOCCI), a national collaborative effort led by the New England Aquarium with the Association for Zoos and Aquariums, FrameWorks Institute, Woods Hole Oceanographic Institution, the National Aquarium in Baltimore, Monterey Bay Aquarium, and the New Knowledge Organization in partnership with Pennsylvania State University and the Ohio Center for Science and Industry.

With support from the National Science Foundation Climate Change Education Partnership program, NNOCCI's goal is to establish a national network of professionals who are skilled in communicating climate science to the American public. MEES has brought NNOCCI facilitators to our 2016 Conference to lead four workshops that will transform attendees into effective climate change communicators. Conference attendees are encouraged to sign up for at least one of the four NNOCCI workshops as part of this year's grant-funded initiative to bring climate change education to the Commonwealth.

SESSION A | 10:00 a.m.—11:00 a.m.

A1: NNOCCI Special Workshop

Focusing on Values for Productive Climate Change Communications

Carrie Hawthorne, Buttonwood Park Zoo, and Kris Scopinich, Mass Audubon

Using a values orientation can help audiences understand what a conversation or a lesson is about and why it matters to all of us. In the absence of a values orientation, many listeners or learners may engage in conversations based on the idea that the information may be important for others, but not for themselves. This session will introduce what a “value” is from the perspective of strategic communications and illustrate some examples of how you can build a values orientation into your interpretive interactions or lessons. We’ll use slides and a practical exercise to engage participants in learning about and trying out the theory. Participants will learn how orienting with a commonly shared value can be done and what values are recommended, based on social science research, when initiating a conversation or interpretive dialog about climate change or ocean change issues.

Strand: PEC | CT | EOE | A

A2: Classroom Connections on Climate, Population and Society

Susan Byrant, Population Connection

Carbon emissions are changing the planet, disproportionately affecting the world’s most vulnerable people. Sharpen students’ understanding of the connections between population growth, industrialization and climate change with hands-on activities that combine environmental science with geographic literacy. Receive interdisciplinary lesson plans on CD-ROM for use in your classroom or nature center!

Strand: CT | EOE

A3: Identifying Environmental Vulnerabilities in Your Community

Nick Wildman, Massachusetts Division of Ecological Restoration

The scientific community has reached consensus on the likely effects of Climate Change in Massachusetts. This presentation will inform educators about ways to encourage critical thinking by students about what those effects will mean in their community. Identifying threats (to environment, infrastructure, health) can set the stage for real-world collaborative problem solving.

Strand: CT | EOE | NS



A4: A Practical Guide for Integrating Climate Literacy into Existing Curricula

Andrew MacBlane, Mass Audubon, and Tristan Horner, Woods Hole Oceanographic Institution

This workshop will strengthen the comfort level of educators with incorporating climate change messages into their programs, and increase their skills in presenting climate change information to a variety of audiences. Specifically, we will:

- Wrap our heads around the hard science of climate change in an easy to understand way
- Look at impacts of climate change on Massachusetts species and habitats
- Participate in modeled approaches used by other educators to incorporate climate change into their existing curricula and explore available and/or needed teaching materials, resources, and activities (for different age groups and grade levels)

Strand: PEC | CT | EOE

STRAND KEY

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A: Administrators

NS: Non-Strand / Other

SESSION A | 10:00 a.m.—11:00 a.m.

A5: Henry's Hat

Whitney Retailic and Matthew Burne, The Walden Woods Project

This workshop will give educators of young students (grades 3-6) tools to bring about a behavioral shift when teaching, talking, or communicating climate change science by introducing a cross-disciplinary, hands-on curriculum that provides a wide variety of lessons and activities modeled on Henry David Thoreau.

Strand: PEC | CT | EOE

A6: Exploring the Health Impacts of Climate Change Using Dynamic Web-Based Technology

Marc A. Nascarella and Margaret Round, Massachusetts Department of Public Health, Edward Considine, Boston Public Schools, and Elizabeth C. Homan, Waltham Public Schools

We describe a dynamic web platform used to develop

interdisciplinary curricula on climate change, social determinants of health, and evidence-based public health interventions. Our presentation will showcase hands-on instructional approaches designed to actively engage students in project- and inquiry-based analysis of interactive data on climate-related health impacts.

Strand: CT

A7: Getting the Kids to Buy In

Richard Swanson and Ron Woolley, Hingham High School

We Learn how Hingham High School won distinction as a 2015 USED Green Ribbon School. From organizing an annual school-wide “Teach In” that garners 100% faculty participation, to implementing recycling/composting programs that rely on the spirited support of its athletic teams, HHS has found creative ways to raise environmental awareness and promote sustainable behavior.

Strand: CT

SESSION B | 11:10 a.m.—12:10 p.m.

B1: NNOCCI Special Workshop

Metaphors: Your Friend in Climate Change Education

Hannah Pickard, New England Aquarium, and Cristina LaRue, Martha's Vineyard Public Charter School

Most Americans don't grasp the fundamental mechanisms of climate change without an orientation. Carefully tested metaphors can be helpful, while untested metaphors can lead to misunderstanding. In the absence of a clear, concise explanation, many conversations about climate change accidentally trigger thinking about ideas that won't actually address the root cause of problems. We'll introduce and practice with the concepts of an explanatory chain and a simplifying metaphor. These are tools that can help build a bridge from what we value to what we can do to help address a problem or challenge. At the end of this workshop, participants will understand how the core mechanism of climate change can be explained in less than a minute.

Strand: PEC | CT | EOE | A



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SESSION B | 11:10 a.m.–12:10 p.m.

B2: Developing a Ladder of Environmental Responsibility

David Sobel, Antioch University New England

A tidal wave of global climate change curriculum is crashing on schools. Teachers and administrators are baffled about whether it's a good idea to educate children about climate change and if yes, how they should do it. This workshop employs a research-based approach to thinking about how schools can change their own, and their students', behavior, so that the school is reducing its carbon footprint while helping students and families do the same thing.

Strand: CT | A

B3: What's Your Carbon Footprint: Stories From a Changing World

Thea Iberall and Rabbi Katy Z. Allen, Jewish Climate Action Network

Life in the future will involve a new relationship with nature. How can we, as educators, get students to change their behavior? In this workshop you'll complete exercises to open your heart and then draft a story or poem to find the emotional undercurrent of your scientific knowledge. Guidance given for non-writers. Tools to help your students draft their own stories and poems.

Strand: CT | EOE | NS

B4: Creating Engaging and Inspiring Climate Activities Amongst the Doom and Gloom

Corrine Steever and Michael Trumbower, New England Aquarium

With the revision of the new MA STE Standards emphasizing not only an understanding of the human impacts on climate change but also the engineering practices that are being used to mitigate the effects of climate change, now more than ever we need to investigate project-based lessons that address these ideas. Come explore some hands-on activities created at the New England Aquarium that use biomimicry, coastal engineering, and comics to tell the story of what is happening to our Earth along with what is currently being done to mitigate the effects of climate change.

Strand: CT | EOE

B5: Life in a Changing Climate

Patti Steinman and Brittany Gutermuth, Mass Audubon

"Life in a changing climate" is a model for climate change education for middle and high school students. Through field trips, classroom visits, and educator workshops, students and teachers are learning about climate change. This workshop will give an overview of the project and present a few activities such as an introduction to climate change, carbon cycle, and footprint calculation, wildlife data analysis, and how to use long term population data to teach about climate change. We will provide a resource list for participants to gain more information.

Strand: CT | EOE

B6: Climate Change Filmmaking in the Classroom

Jayde Lovell, New York Hall of Science

Climate change is the most pressing issue facing our planet today – and so it makes sense to equip the next generation with the skills to effectively communicate the science behind these challenging ideas.

Today's students all know how to make a video – the tools are already in their pocket! This interactive workshop will show educators how to teach climate change storytelling through video-making. We will focus on how to distill complex ideas into engaging content – as well as scriptwriting and presenting.

Whether making videos about nature, global warming, ethics, conservation or their own environment – this is an activity that both captures their imagination and helps them to really wrap their head around a topic. In this session we will share lesson plans for educators to use in the classroom or on a field trip that follow the common core standards.

Strand: CT

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SESSION B | 11:10 a.m.—12:10 p.m.

B7: Bringing Wetlands to Market: STEM Curriculum Linking Salt Marshes and Climate Change

Joan Muller, Waquoit Bay National Estuarine Research Reserve

Try out activities and resources for teaching about carbon sequestration, blue carbon, and sea level rise, through a curriculum designed around a research project conducted on Cape Cod, Massachusetts. The on-line curriculum includes engineering activities as well as a section on doing an “Adopt-a-Wetland” stewardship/field study activity.

Strand: CT | EOE | A

LUNCH | 12:10 p.m.—1:10 p.m.

Please use the lunch hour to **walk through the exhibit hall**, network with your fellow Environmental Education colleagues, and enjoy a delicious lunch.

Vegetarian and vegan options will be provided.

MEELP Meeting | 1:10 p.m.—1:40 p.m.

The vision for the Massachusetts Energy and Environmental Literacy Plan is for residents to have awareness, knowledge, and understanding of the interconnected relationship between community, economy, energy and the natural world. Equipped with awareness, knowledge, and understanding Massachusetts residents will be empowered to take actions aimed at creating a healthy balance between the needs of people and communities, and the needs of the natural world. This session will provide an opportunity for conference attendees to receive a summary of the newly released Massachusetts Energy and Environmental Literacy Plan: Phase 1—a Call to Action document and collaboratively discuss our next steps toward implementation.

SESSION C | 1:50 p.m.—2:50 p.m.

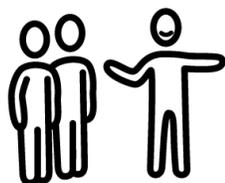
C1: NNOCCI Special Workshop

Communicating Productive and Meaningful Solutions to Climate Change

Jen West, Narragansett Bay National Estuarine Research Reserve, and Lindsay Jordan, New England Aquarium

Not all “solutions” are equally effective for engaging audiences in feeling empowered as participants who can make a meaningful difference. Participants will learn about criteria for assessing solution ideas to build into their conversations or lessons and why those criteria are recommended. We’ll use slides, short videos and activities to explore what “solutions” means for climate change interpretation and lessons. We’ll review and practice with three criteria that educators can use to help decide what sorts of ideas to look for and to share within their conversations or lessons.

Strand: PEC | CT | EOE | A



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SESSION C | 1:50 p.m.—2:50 p.m.

C2: The Work that Reconnects

Coleen O'Connell, Lesley University

It is often easy to get frustrated and depressed about the state of the world and climate change in particular. Joanna Macy's framework for moving us through those feelings to arrive over and over again at a place of insight and forward movement is a valuable framework for educators. An experiential workshop that will allow you to go home with a tool to use daily as we navigate the coming complex times.

Strand: NS

C3: How to Tell a Darn Good Environmental Story

John Porcino

This workshop will take attendees on the participatory journey of finding, learning, building, and polishing darn good environmental stories. The emphasis will be on bringing out the creative-unique storytelling voice in each of us. Participants will leave with at least one new story and a template for creating many more.

Strand: PEC | CT | EOE

C4: The Changing Climate of Conservation Work

Kris Scopinich and Lucy Gertz, Mass Audubon

It takes a lot of organizational work, collaborative thinking, and growth to effectively engage and activate audiences about climate change. We'll introduce Mass Audubon's 4-part climate change strategy: leading by example with interpreted sustainable features, advocating for public policy and resilient community planning, conservation and land protection, and climate change messaging in our visitor materials and educational programming. We'll describe the process and educational resources being developed, implemented, and evaluated for engaging students, teachers, sanctuary visitors, and the general public in climate literacy and solutions.

Strand: EOE | A | NS

C5: The New Climate Paradigm: Restoring Ecosystems to Reverse Global Warming

Adam Sacks, Biodiversity for a Livable Climate

This workshop provides an essential introduction to the role of living biology in climate processes. While emissions reductions are essential, at this point in time they are insufficient to the task of addressing climate change. Eco-restoration is the most optimistic antidote to climate despair. We will introduce a positive and inspiring new set of concepts and vocabulary into the climate conversation, adaptable and suitable for students of all levels.

Strand: CT | EOE

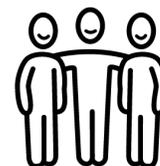
C6: Pollinators in a Pickle: Climate is Changing the Food Web and Habitat Habits

Barbara Passero and Jean Devine, Meadowsclaping for Biodiversity

Meadowsclaping for Biodiversity is an outdoor environmental education program that empowers participants to heal the Earth by creating and nurturing native plant meadows that help to restore wildlife habitats.

In this workshop, teachers will learn how to deepen students' understanding of the critical role pollinators play in nature (and the essential role native plants play in the food chain) by using engaging, hands-on activities from our curriculum. We will practice being citizen scientists by considering phenological studies and by applying inquiry-based practices to assess cause and effect and positive ways to address proven negative impacts of climate change.

Strand: EOE



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SESSION C | 1:50 p.m.—2:50 p.m.

C7: The Story of Carbon: Teaching Children About Climate Change

Sara Levine, Wheelock College

This workshop will share an interactive, story-telling lesson plan used to teach college-aged students about the carbon cycle and climate change. The activity can be easily and appropriately adapted for teaching younger students.

Strand: CT | EOE

C8: SAGEEE Meeting

Robin Organ, SAGEEE Chair and Project Manager of the Massachusetts Energy & Environmental Education Plan, MEES Board Member

Join the Secretary's Advisory Group on Energy & Environmental Education for an interactive discussion on the "State of Environmental Education" across our Commonwealth.

This meeting is open to all.

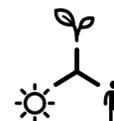
Strand: NS

SESSION D | 3:00 p.m.—4:00 p.m.

D1: NNOCCI Special Workshop

Visualizing Change

John Anderson, New England Aquarium, and Annette Brickley, Science Education Consultant



This session will illustrate theory from three other sessions earlier in the day incorporated into a practical demonstration. We will share a "visual narrative" that incorporates global data sets into a brief, interactive presentation framed with values and oriented with a brief explanation of the mechanism of global change. Those components lead toward discussion of solutions to global scale issues of our time. We will share an example and facilitate discussion about the theory involved in the program and how that theory may be applicable to participants' situations. We will also point to where participants can access "visual narratives" and supporting information that educators may access to use in their institutions.

Strand: PEC | CT | EOE | A

D2: What does Climate Literacy Look Like at Every Age? Practical Tools, Tips and Language

Jennifer Feller and Becky Gilles, Mass Audubon, and Jill Canelli, Drumlin Farm Community Preschool

What does climate literacy education look like in preschool? At summer camp? In a 3rd grade classroom? In an adult birding class? On a working farm? Join Mass Audubon for practical tips on language, activities and approaches to tailoring climate education to any age or setting.

The emphasis of this workshop will be on the practicalities of integrating climate literacy into a specific program: the language, activities, tools and materials that can incorporate the goals of climate literacy without changing the focus of the program itself.

Strand: PEC | CT | EOE | A

D3: Civic Engagement and Climate Action

Will Snyder, UMass Extension

Capacity for civic engagement is essential for meeting the challenges of climate change. High school youth can contribute much to their communities. This workshop will use Mass Envirothon's "Current Issue" experience to begin to answer: How can we help young people develop knowledge, skills, and values for effective engagement?

Strand: CT | EOE

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SESSION D | 3:00 p.m.—4:00 p.m.

D4: Teaching with an Interactive Topographic Modeling System

Robert Reynolds, Zephyr Education Foundation

Topographic Modeling Systems (Augmented Reality Sandbox) are an effective way to introduce and teach coastal processes such as sea level rise, storm surge, flooding, and land use. Other topics include watersheds and understanding topographic mapping. We will demonstrate these functions in a hands-on, collaborative session using an Augmented Reality Sandbox.

Strand: CT

D5: Tools of the Trade: Incorporating Research-Based Interpretation Techniques into Curriculum

Kati Maginel, Save the Bay

This interactive and action-packed workshop will teach you how to frame conversations and curriculum about climate and ocean change in a way that leaves students and guests feeling informed and inspired to both mitigate and prepare for the effects of climate change.

The workshop will cover climate science, climate in the classroom, shifting the environmental movement toward social change, and linking curriculum to NGSS. It provides participants with tools for interpreting climate science (metaphors, values, solutions) which they can practice using immediately and with all audiences.

Strand: CT | EOE | A

D6: “Cutting the Carbon” Environmental Engineering Club

Karen Mayotte, Nashoba Regional School District

Teaching the science behind climate change is an important concept for K-5 learners. The “Cutting the Carbon” Environmental Engineering unit teaches students about climate change in a kid-friendly, scientifically accurate manner. Participants will engineer solutions to the changing of Earth's albedo effect, rise in carbon emissions, lack of safe drinking water, and more.

Strand: CT

D7: I Speak For The Bees

Gail Howe Trenholm, Nature Visits with Gail

We will continue our exploration of native bees. Who are they? What do they need? Why should we care? What can we do?

We will build a bee house, learn how to enhance habitats for our bees and participate in bee related activities such as “Thank a Bee”, “Bee-Thankful Meal” and “Pollination Play”.

Strand: CT | EOE



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REGISTRATION INFORMATION

Register online at <https://mees.wufoo.com/forms/mees-2016-conference-registration/>

Registration deadline is Wednesday, March 2, 2016

REGISTRATION CLOSING MARCH 2—NO WALK-IN REGISTRATIONS PLEASE

Registration fee includes conference attendance, lunch, and an annual MEES membership.

Early Bird Rate—\$75

If registered by Wednesday, February 3

Registration Rate—\$90

For those registered between February 3 and March 2

Student Rate—\$25

Applies to high school, undergraduate and graduate students.

Exhibitor Rate—\$65

Includes six-foot table and lunch. Half-tables are available for \$40.

Additional attendee registrations are \$20 each for those Exhibiting.

MEES offers a generous **scholarship program**, open to anyone. The reduced scholarship rate is **only \$25** and is available to anyone who applies. Scholarships are provided on a first-come, first-served basis—there are 40 available. To apply, please email Ann Gisinger: ann.gisinger@gmail.com.

Presenting a Workshop? You are still required to register online!

Workshop LEAD Presenter—FREE Conference Registration—*Includes your annual MEES membership and lunch.*

Workshop Additional Presenter(s)—\$40—*Includes your annual MEES membership and lunch.*

If the conference is cancelled for any reason, MEES is unable to provide a refund.

Cancellation information will be announced via
the MEES website: www.massmees.org and the [MEES Facebook Page](#)

Questions? Concerns? Comments? Please email: board.massmees@gmail.com

