

Mass Audubon's Endicott Wildlife Sanctuary  
346 Grapevine Road  
Wenham, MA 01984

*Come get your feet wet with inquiry-based learning!*



# Museum Institute for Teaching Science

2016 Summer Professional Development Institute  
For Middle and High School Educators

*Using Science and Engineering Design  
Practices to Engage Your Students  
in Inquiry-Based Learning*



## North Shore Region

*Research and Resiliency: Exploring the Ways  
Local Ecosystems are Responding  
to Global Change*

July 11-15



## North Shore Region

### Institute for Middle and High School Educators

#### *Research and Resiliency: Exploring the Ways Local Ecosystems are Responding to Global Change*

How do scientists study, protect and improve the health of the coastal habitats along the North Shore? How can an up-close look at a local marine environment help you to bring a perspective on global change to your students? During this institute, work alongside research scientists and land managers engaged in primary research and gain some first-hand experience in the techniques of field data collection and analysis. Investigate the ecology of some North Shore marshes, tidal flats and rocky shores, and look for evidence of the continuous threats to them, including more frequent storm events, water intrusion due to sea level rise, invasive species, nutrient loading, coastal runoff and tidal restrictions. Collect data in the field and learn how you can share your data with others from similar habitats in other parts of the world. Use your data to determine and evaluate the health of a local or distant ecosystem. Explore engineering solutions that could help to minimize the impact of climate change on local habitats, and investigate how all kingdoms of organisms, including plants, animals, protists and viruses, are responding to global change in their efforts to adapt to changing environmental conditions. Gain experiences to help you engage your students in their own authentic scientific field research and introduce them to potential career opportunities. The week will be filled with field trips, inquiry-based, minds-on, hands-on investigations, and discussions aimed to highlight ways research is supporting human efforts to enhance the resiliency of local ecosystems.



**Collaborators:** Mass Audubon's Endicott Wildlife Sanctuary, Plum Island Ecosystems LTER, Ipswich River Watershed Association, Ipswich High School, Boston University, U.S. Fish & Wildlife Services

**Course Dates:** July 11-15 (8:30 am - 3:30 pm); Half Day Introductory Session June 18; Half Day Fall Callback November 5

**Registration Fee:** \$350/participant; \$325/participant for team of 2 or more teachers from the same school district

**PDPs and Graduate Credit:** Cambridge College (3 credits, 67.5 PDPs; \$150), Framingham State University (3 credits, 67.5 PDPs; \$225); 40 PDPs available without graduate credit. PDPs and graduate credit will be awarded after participation in the Fall Callback.

Participate in content and skill development sessions taught by professional educators and scientists at each collaborating partner organization. Daily activities include indoor inquiry-based classroom experiences and outdoor field experiences. Take home investigations you can use in your classroom and a collection of teaching resources and field trip ideas!

- **Learn** how to present the Science and Engineering Practices to your students and how they relate to science inquiry.
- **Explore** STEM resources in your community.
- **Get ready** to meet the revised MA Science and Technology/Engineering Standards.
- **Become** part of a network of teachers from your region and across the state.



**Visit [www.mits.org](http://www.mits.org) for more info on this and MITS Professional Development Institutes in other regions and to register online.**

*For more information contact:*

**Liz Duff**  
Education Coordinator  
Mass Audubon's Endicott Wildlife Sanctuary  
978-927-1122  
[lduff@massaudubon.org](mailto:lduff@massaudubon.org)

**Brianna Wilkinson**  
Assistant Education Director  
Museum Institute for Teaching Science (MITS)  
617-328-1515  
[bwilkinson@mits.org](mailto:bwilkinson@mits.org)