



Teaching Science and Engineering Practices using STEM and Environmental Literacy

Session Organizer: Kirsten Jackson, Maryland State Department of Education

1:50 pm - 2:40 pm

[Padlet Collaboration Link](#)

Adapting to a changing climate will call on society to have a firm understanding of how to use evidence-based data and information to make informed decisions and take appropriate action. This includes but goes beyond understanding climate change content to also foster an understanding of how science is conducted and why that matters. This session will explore how STEM and environmental literacy programming allows students to engage in contextualized science and engineering practices that build the critical thinking skills students need to better understand and respond to changing environmental conditions.

Discussion Questions

- What needs to be in place to ensure students use problem solving and scientific ways of thinking in their approach to understanding and addressing the existential threat of climate change?
- How do we ensure that this is done equitably both within districts and across the state?
- How can we meaningfully advance this work using existing COVID-19 Economic Relief funding, and the potential for additional funding for pandemic recovery, infrastructure, and/or climate change efforts?

Three Things You Must Know:

- The Science and Engineering Practices make students' content acquisition more meaningful and relevant.
- Oceans, Climate Science and Big Data work together to support the productivity and health of the oceans
- How to support teachers in their learning in taking deeper learning about oceans, climate and big data back to the classroom

Background & Key Resources

- [Science and Engineering Practices](#) - Defining the science and engineering practices from the *Framework for K-12 Science Education*
- [Using Phenomena](#) - Describes the role of phenomena in STEM education
- [STEM Teaching Tools](#) - Instructional practice support for STEM education
- [U.S. Department of Education Education Stabilization Fund](#)
 - [Elementary and Secondary School Emergency Relief Fund](#)
- [National Science Foundation Environmental Research and Education \(ERE\) Active Funding Opportunities](#)

Session Speakers

- Jean Moon, NGSX Principal Investigator, TideMark Institute, www.ngsx.org
- Tonyea Mead, Delaware Department of Education, [Science](#)