



Teton Science Schools

Connecting people, place, and nature through education.

**PLACE-BASED EDUCATION SYMPOSIUM:
CLIMATE CHANGE EDUCATION FOR A JUST,
VIBRANT, AND SUSTAINABLE WORLD**

FRIDAY, APRIL 26 | 4:00 PM-8:00 PM (MST)

AGENDA

4:00 p.m. - 4:15 p.m.

Welcome, Opening & Raffle

North Education Center

4:15 p.m. - 4:30 p.m.

Lightning Presentations

North Education Center

4:30 p.m. - 5:10 p.m.

Student Project Overview - *North Education Center*

Student Project Showcase - *Dining Lodge Breakout Rooms with snacks*

5:10 p.m. - 5:30 p.m.

Dinner Line open - *Dining Lodge Get dinner & find a seat*

5:30 p.m. - 6:45 p.m.

Keynote and Dinner Discussion - *Dining Lodge*

6:45 p.m. - 7:00 p.m.

Break & Transition to Individual Presentations

7:00 p.m. - 8:00 p.m.

Individual Presentations - *2 concurrent tracks of 4 individual presentations with 10 minutes for presentation and 5 minutes for questions & transition North Education Center & South Education Center*

8:00 p.m.

Closing, Awards, and Afterparty

North Education Center

THEMES

Place-Based Educational Approaches to Climate Change

- How can we approach climate change through ecological, cultural, and economical lenses over time?
- How can we adapt to a changing climate?
- Who are the people most impacted by climate change and how do we connect with and relate with them?

Supporting Social Emotional Learning and Student Mental Health in Climate Education

- How do we teach about climate change in a developmentally appropriate way?
- How might social emotional learning equip students to confront climate issues?
- What systems and strategies can help support student mental health in the face of climate change?



LIGHTENING PRESENTATIONS

Rooted Learning: A Transdisciplinary Journey for Earth-Centric K-8 Instruction

Kyri Sierra, Teacher leader for Academy for Global Citizenship - ksierra@agcchicago.org

Embark on an exploration of environmental sustainability through science, literacy, math, and social science. Educators from the Academy for Global Citizenship in Chicago showcase K-8 student work and action around environmentalism in an urban context. The presentation will offer ideas and inspiration for how to get learners of all ages, in all subjects becoming better stewards of our earth.

Place-Based Education Climate Change Action Projects (3rd Grade)

Kelli Petrick, K-5 Science Teacher / Munger Mountain Elementary School - kpetrick@tcsd.org

A showcase of 3rd grade action-based projects focused on how climate change is going to impact avalanche, wildfire, drought and flood activity in Jackson, WY. The curriculum includes interpreting graphs, the PBE triangle, science content, and student choice and creativity.

Teton Valley Campus Community Food Systems Initiative

Katie Rose Griffith, Director of Farm & Garden and Outdoor Education - katie.rose.griffith@tetonscience.org

This presentation will showcase two innovative projects, the Community Food System Initiative and Smoothie Bike Project, that offer hands-on learning experiences in climate change education. Attendees will learn how these projects integrate sustainability practices, promote community engagement, and provide interdisciplinary learning opportunities. Through practical examples, participants will gain insights into how to implement similar initiatives in their communities to foster environmental stewardship and address the challenges of climate change.

STUDENT PROJECT SHOWCASE

Jackson Hole Middle School Greenhouse Project

Students: Eleanor MacGregor, Hadley Merritt, and Lincoln Merritt

School: Jackson Hole Middle School Greenhouse Project

Teacher: Hunter Jones

Why does JHMS not have a greenhouse? Our mission is to build a greenhouse at JHMS to educate our students and provide a sustainable way to grow produce for our school. This mission supports the JHMS mission to ensure that all students have the foundation for success and are challenged to reach their full potential. We are designing a passive solar greenhouse with a climate battery to warm the greenhouse through the long winter season.

Sustainable Business Leaders

Student: Augusteen Lantier

School: Jackson Hole Middle School

Teacher: Hunter Jones

This project is an informative slideshow on the Sustainable Business Leaders program, and how making your business sustainable can impact the community and climate change. The presentation also touches on the why behind reducing carbon emissions and what you can do to create a sustainable community in Jackson Hole.

JHMS Greenhouse Fundraising

Students: Ida Lantier, Emerson Huesby

School: Jackson Hole Middle School

Teacher: Hunter Jones

Students are fundraising for a greenhouse at JHMS. They are making handmade products out of reused materials, upcycling clothing with embroidery, and selling indoor plants and garden starts to raise money.

STUDENT PROJECT SHOWCASE

The Climate and Our Food

Students: Greta Nydam, Revi Kleyman
School: Mountain Academy Middle School
Teacher: Hannah Pagel

Students explored two questions in our final climate project. “How does the climate affect our food?” (Why is our food grown in specific climates?) and “How does our food affect the climate?” (What is the carbon footprint of our food?). Note that these two students completed this project in 6th grade but are currently in 7th grade. Students chose a food item and explored the interactions between this food item and the climate.

The American White Pelican: Migration Patterns and Threats

Student: Jackson Kinney
School: Mountain Academy Upper School
Teacher: Christa Carson

Jackson researched the American White Pelican, a bird whose migration path intersects with our local ecosystem. He researched common threats that this species faces due to a variety of factors, including climate change.

Climate Change in the GYE

Students: Madeleine Zderski, Dylan Witherite, Raleigh Morgenstern-
School: Mountain Academy Upper School
Teacher: Christa Carson

Madeleine, Dylan, and Raleigh investigated the recorded impacts and projections of climate change in the Greater Yellowstone Ecosystem. Using the Greater Yellowstone Climate Assessment, The Montana Climate Solutions Plan, local research, and their learning about climate change indicators, they developed a summary of changes in their local headwaters and considered what actions can and should be taken to best serve the economy, ecology, and culture of our place.

INDIVIDUAL PRESENTATIONS

	Place-based Educational Approaches to Climate Change <i>North Education Center Classroom</i>	Supporting Social Emotional Learning and Student Mental Health in Climate Education <i>South Education Center Classroom</i>
7:00 p.m. - 7:15 p.m.	Everyday Scientists Halie Shea	Alternate Approaches to Deficit Thinking Sam Neirman
7:15 p.m. - 7:30 p.m.	Centering Equity Tanya Anderson	Strengthening Resilience Brittanie Kuhn
7:30 p.m. - 7:45 p.m.	WaterWise Kids Mary Rose Horner-Richardson	Changing Classroom Climates Tim Gruber
7:45 p.m. - 8:00 p.m.	Finding Climate Solutions Tom Crowell	Teaching Astronomy Eric Newell

INDIVIDUAL PRESENTATIONS

Supporting Social Emotional Learning and Student Mental Health in Climate Education

Alternative Approaches to Deficit Thinking in the Age of Climate Change

*Sam Neirman, Field Education Program
sam.neirman@tetonscience.org*

Deficit thinking is a widely pervasive mindset relating to climate change. Rather than accepting what is, we commonly obsess on our inability to make things how they once were. This creates a “deficit” in our thinking. It often leads to individualized paralysis and a lack of motivation to make meaningful change to combat climate change. This presentation seeks to explore the following question: What are alternative approaches to navigating climate change which empower individuals to recognize there is a future where their actions matter?

Strengthening Resilience: The Impact of Place-Based Education on Early Adolescent Students’ Social-Emotional Development

*Brittanie Kuhn, University of Wyoming Graduate Student and Teton Science Schools Alumni
bkuhn1@uwyo.edu*

Mental health issues such as anxiety and depression are increasing at an alarming rate among early adolescent students. At the same time, public school education often fails to effectively engage this age group, missing an opportunity for positive developmental impact. Place-based education (PBE) offers a promising solution by connecting learning with students’ lived experiences within their local communities. While links between PBE, nature exposure, and mental health are recognized, limited research exists on how implementing PBE in public schools may enhance resilience to issues like climate anxiety. This study advocates for a tailored approach to address the unique developmental needs of these students, using a case study methodology to analyze PBE’s effects on social-emotional resilience through surveys and interviews.

INDIVIDUAL PRESENTATIONS

Supporting Social Emotional Learning and Student Mental Health in Climate Education

Classroom Climate Change

*Tim Gruber, Lower School, Teton Valley Campus Faculty
tim.gruber@tetonscience.org*

Traditional classroom settings are organized along systems of power (i.e. age, intelligence, ability). In our society too, those with power are more insulated than those without from the impacts of climate change. How can lower school students begin to see everyone as equal and recognize that the success of the group is more important than the success of the individual?

Teaching Astronomy--Why it matters (and who really cares how many moons Saturn has?): Searching for \ the things that matter in standardized curriculum

*Eric Newell, Director of Experiential Learning/Edith Bowen Laboratory School
eric.newell@usu.edu*

Have you ever wondered if really matters to have students memorize the capital cities of each state? Or to teach them gee whiz facts about the solar system, like how many moons Saturn has? This session explores one educators’ journey to find relevance in standardized curriculum, spotlighting 6th grade astronomy and how asking the question “Why does this matter?” led to teaching about pirate stories in the South Pacific and the importance of stewardship and sustainable living.

INDIVIDUAL PRESENTATIONS

Place-based Educational Approaches to Climate Change

Everyday Scientists: Unlocking Environmental Engagement through Citizen Science

Halie Shea, UWY Graduate Student
hshea1@uwyo.edu

Citizen science engages public participants in authentic scientific investigations, providing educational opportunities while advancing research. This study investigates the University of Wyoming Biodiversity Institute's Moose Day project and its influence on participants' self-efficacy and perspectives on environmental action. Moose Day engages volunteers in collecting data on moose populations, range, and reproductive success in Wyoming to inform knowledge of local moose dynamics. Understanding this citizen science project's impacts will help inform future public science education efforts, encourage environmental action, and guide best practices for citizen science initiatives.

Centering Equity in Climate Action and Resilience Planning

Tanya Anderson, Ecosystem Stewardship Administrator/ Town of Jackson
tanderson@jacksonwy.gov

Many communities are creating climate action and resilience plans, but the people who are most impacted by climate change don't always have a seat at the table during the planning process. How can we listen to and incorporate the perspectives of the most vulnerable people in our communities? With support and funding from the University of Wyoming and the Western Water Assessment Small Grants Program, the Town of Jackson embarked on a two-year program to engage our local immigrant community in climate action and resilience planning. Learn how we set up community engagement sessions, interviews, and a sustainability working group and what we've learned so far.

INDIVIDUAL PRESENTATIONS

Place-based Educational Approaches to Climate Change

WaterWise Kids: A Novel Program for Place-Based Water Conservation Education

Mary Rose Horner-Richardson, Education Coordinator, Montana Outdoor Science School
mrichardson@outdoorscience.org

How can we teach about the future of water in the Northern Rockies in a way that is responsive, action-oriented, and connects students to place and others? Montana Outdoor Science School (MOSS) has developed the WaterWise Kids curriculum in response to the need to educate the next generation about water and climate change. This multi-day, inquiry-based program teaches students about their watershed and who depends on it, and is scalable and adjustable to ecosystems and communities across the country (and the world!).

Finding Climate Solutions through Emissions Inquiry

Tom Crowell, Independent consultant
twcrowell@comcast.net

This presentation reviews ways to use carbon footprints to inspire climate action through a variety of learning models: experiential, service, and learner-designed projects. Tom shares some ways to inspire students to personalize the climate challenge and take action to address emissions in their community. A variety of online resources will be shared to be used as tools for the educator developing a lesson plan or for the student doing research.

KEYNOTE SPEAKER



Alan R. Townsend is Dean and Franke Professor at the WA Franke College of Forestry and Conservation at the University of Montana. His childhood in Hawaii and Montana led him to a career devoted to understanding our changing planet, and what we can do to chart a more sustainable relationship between human progress and the environments on which we all depend. He is a highly cited author of more than 140 peer reviewed articles, and a strong advocate for academic engagement beyond the ivory tower. Townsend has served as Dean of the Nicholas School of the Environment at Duke University, Director of the University of Colorado's Environmental Studies Program and its Institute of Arctic and Alpine Research, Director of the Division of Environmental Biology at the National Science Foundation, and Co-Director of the Aldo Leopold Leadership Program. He is an Aldo Leopold Leadership Fellow and a Google Science Communication Fellow, and his book *This Ordinary Stardust* will be published by Hachette in June 2024. Alan lives in Missoula, MT with his family and two ridiculous dogs.

Making Our Lives Fit Our Places

Wendell Berry has written eloquently about the importance of a connection to place, and the title is adapted from one of his poems. In this talk, I'll tell some stories of three places that have been

fundamental to the arc of my life as a scientist, and ultimately, as simply a human being. And I'll talk about how a crippling loss reshaped my view of what science can mean to all of our lives, and how a connection to place both helped pull me through those hardest moments, and deepened my belief in how essential those connections are — for reasons that go well beyond just learning and appreciating science. I'll end with some discussion of how an orientation to place is perhaps more important than ever, as we face a deeply fractured society in which a number of forces are eroding community.

SUMMER WORKSHOPS AND PROGRAMS



Teacher Workshop

May 4

In Mud: Nature-based Early Childhood Education

Get inspired to work with children in our natural environments through this in-person workshop!



Teacher Workshop

June 26

Place-Based Education Deep Dive: Virtual Book Study

In this virtual workshop, teacher participants will have the opportunity to go deeper into topics of place-based education through a book study.

August 2, 2024



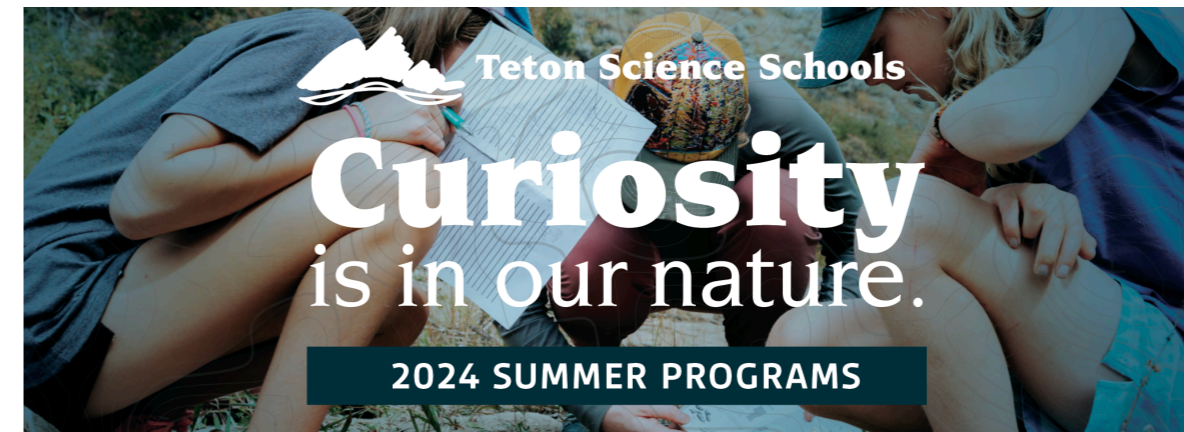
Teacher Workshop

June 26

Introduction to Place-Based Education Virtual Course

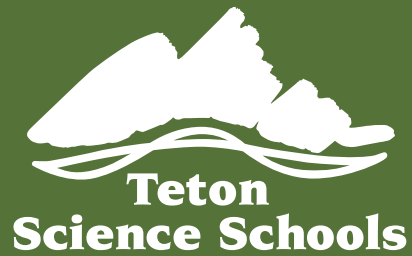
Explore the theory and application of place-based education!

August 7, 2024



Register today for summer!
Offerings for Pre-K through 12th Grade





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