

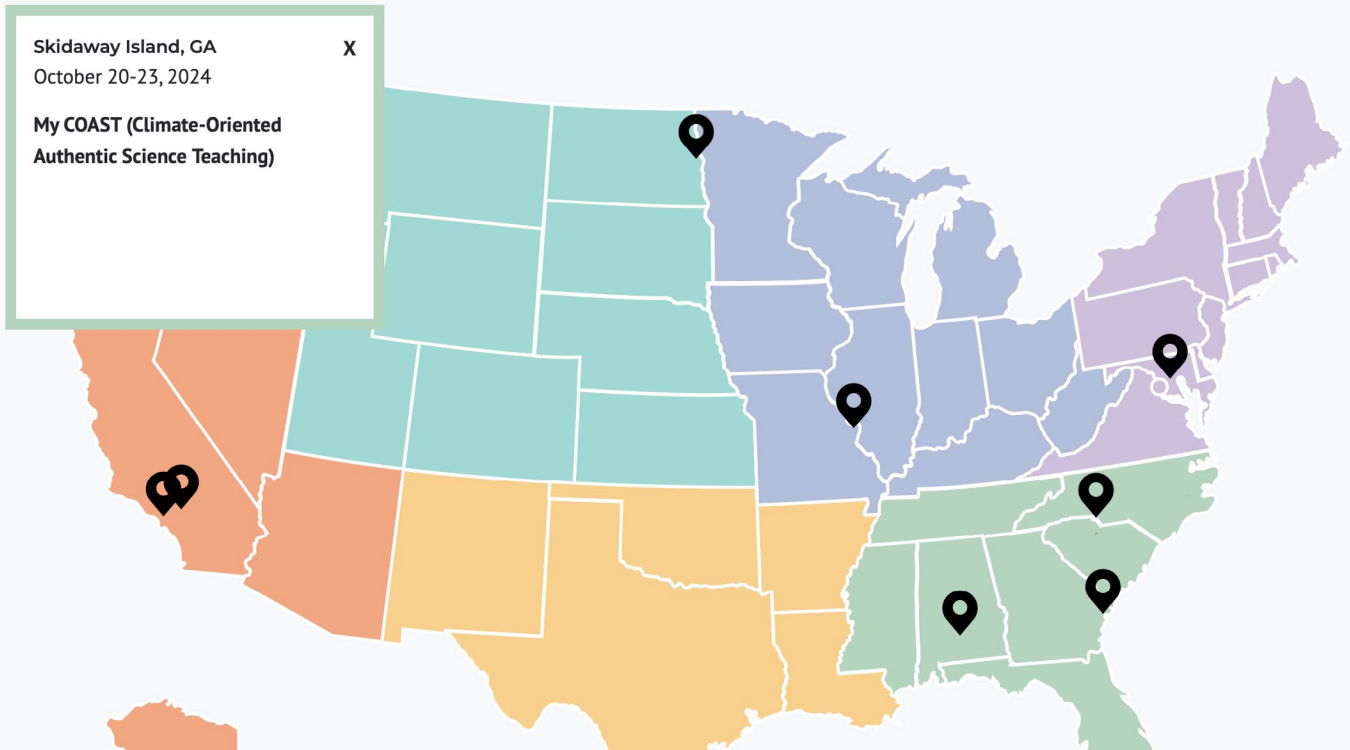
# reports

OF THE NATIONAL CENTER FOR SCIENCE EDUCATION | SUMMER 2024 | VOLUME 44 | NO 3

## FORTY-EIGHT STATES IN FIVE YEARS NCSE's Professional Learning Roadmap

### NCSE's Professional Learning Roadmap

A collection of workshops, speaking engagements, and special events around the country led by NCSE staff.



PAGE 3

FRIEND OF DARWIN AND FRIEND OF THE PLANET AWARDS FOR 2024	p. 5
RANDOM SAMPLES WITH ... BERTHA VAZQUEZ	p.12
RNCSE REVIEWS: <i>TEACH FOR CLIMATE JUSTICE</i>	p.14
<i>JOHN THOMAS SCOPES</i>	p.15

**EDITOR**

Paul Oh

National Center for Science Education  
230 Grand Avenue, Suite 101  
Oakland, CA 94610  
phone: (510) 601-7203  
e-mail: [editor@ncse.ngo](mailto:editor@ncse.ngo)

**BOOK REVIEW EDITOR**

Glenn Branch

**PUBLISHER**

Amanda L. Townley

**VOL 44, NO 3, SUMMER 2024**

ISSN 1064-2358 ©2024 by the  
National Center for Science  
Education, Inc, a not-for-profit 501(c)(3)  
organization under US law.  
*Reports of the National Center for  
Science Education (RNCSE)*  
is a quarterly publication providing  
the latest on our work supporting  
accurate and effective climate change  
and evolution education.

NCSE is a nonprofit, tax-exempt  
corporation affiliated with the  
American Association for the  
Advancement of Science and an  
Associated Group of the National  
Science Teachers Association.

**OFFICERS & DIRECTORS**

Kenneth R. Miller, President  
Sarah B. George, Secretary  
Michael Haas, Treasurer  
Prosanta Chakrabarty, Director  
Maya Garcia, Director  
Joseph L. Graves Jr., Director  
Jo Handelsman, Director  
Michael B. Lubic, Director  
Michael E. Mann, Director  
J. Marshall Shepherd, Director  
Emily Mendiola Sims, Director

Views expressed are those of the  
authors and do not necessarily  
reflect the views of NCSE.  
RNCSE is published 4 times a year.

Address editorial correspondence  
to [editor@ncse.ngo](mailto:editor@ncse.ngo)

Write to the publisher regarding  
address changes, missing issues,  
purchases of back issues, reprint rights,  
and related issues. [publisher@ncse.ngo](mailto:publisher@ncse.ngo)

## Dear NCSE Supporters,

The first six months of 2024 have been filled with excitement for all of us here at NCSE. As I reflect on the first half of the year, I cannot help but smile at what we have accomplished and the goals we have set for the future. For me, one of the most rewarding aspects of being Executive Director at NCSE has been getting to know our members, because it is your support that allows us to work with teachers around the nation to ensure that students have opportunities to engage with the evidence and learn about evolution, climate change, and the nature of science.

Summer is finally here and much like the teachers we support, NCSE is hard at work preparing for the fall! We are eagerly looking forward to upcoming trips to Alabama and Georgia, where we will be providing professional development experiences for teachers. These events are not just about learning, but also about building a community of educators who are passionate about teaching evolution and climate change in accurate and robust ways. You can learn more about our ambitions for the future of NCSE Professional Development (NCSEPD) in this issue (p. 3) as we focus on celebrating the amazing work of our Supporting Teachers team and sharing about forthcoming events.

We also have the pleasure of announcing the recipients of the 2024 Friends of Darwin and Friends of the Planet award (page 5). I participated in the 2023 awards ceremony during my first days as Executive Director; it is incredible now to be a part of the entire process from the start and awe-inspiring to learn more about the incredible work that is taking place in the fields of climate science and evolution to understand our past and guide our future. In addition to recognizing the Friend of Darwin and Friend of the Planet awardees, we want to introduce you to some new faces on the NCSE Board of Directors (page 7). In April, we welcomed three new board members: Prosanta Chakrabarty, J. Marshall Shepherd, and Emily Sims. Each brings to the board a wealth of experience and expertise that will guide us far into the future.

Finally, you may have noticed some exciting changes to our website over the past six months, and I am thrilled to share that there are more to come. Soon, you will be able to order NCSE-branded items, from shirts and hats to refillable water bottles, directly from our website. Donors will also have the option to print a membership card for NCSE to proudly display your support for our work. Recently, we shared the updated version of our climate change lesson segments, called Climate Story Shorts, which are more accessible and customizable for teachers to suit the needs of their classrooms. These are exciting days, and we look forward to sharing more of our successes over the next six months.

As always, thank you for supporting our mission and vision here at NCSE. Together we will reach teachers around the country to ensure that students have the opportunities to make sound science decisions for future generations!


**Amanda L. Townley**

is the executive director of NCSE.  
[townley@ncse.ngo](mailto:townley@ncse.ngo)



# FORTY-EIGHT STATES IN FIVE YEARS

That is one of the many ambitious goals for NCSE's new professional development initiative.

NCSE is planning to provide opportunities for science teachers across the entire continental United States to engage in face-to-face, hands-on professional development led by NCSE staff, according to NCSE Executive Director Amanda L. Townley. "We value teachers' time and ability to travel and therefore want to take our work to them, in their communities, so they can learn with us ... in the local context of what matters to them, their community, and their students," Townley said.

The aim, she added, is "to make professional learning on scientific topics like climate change, evolution, and the nature of science accessible."

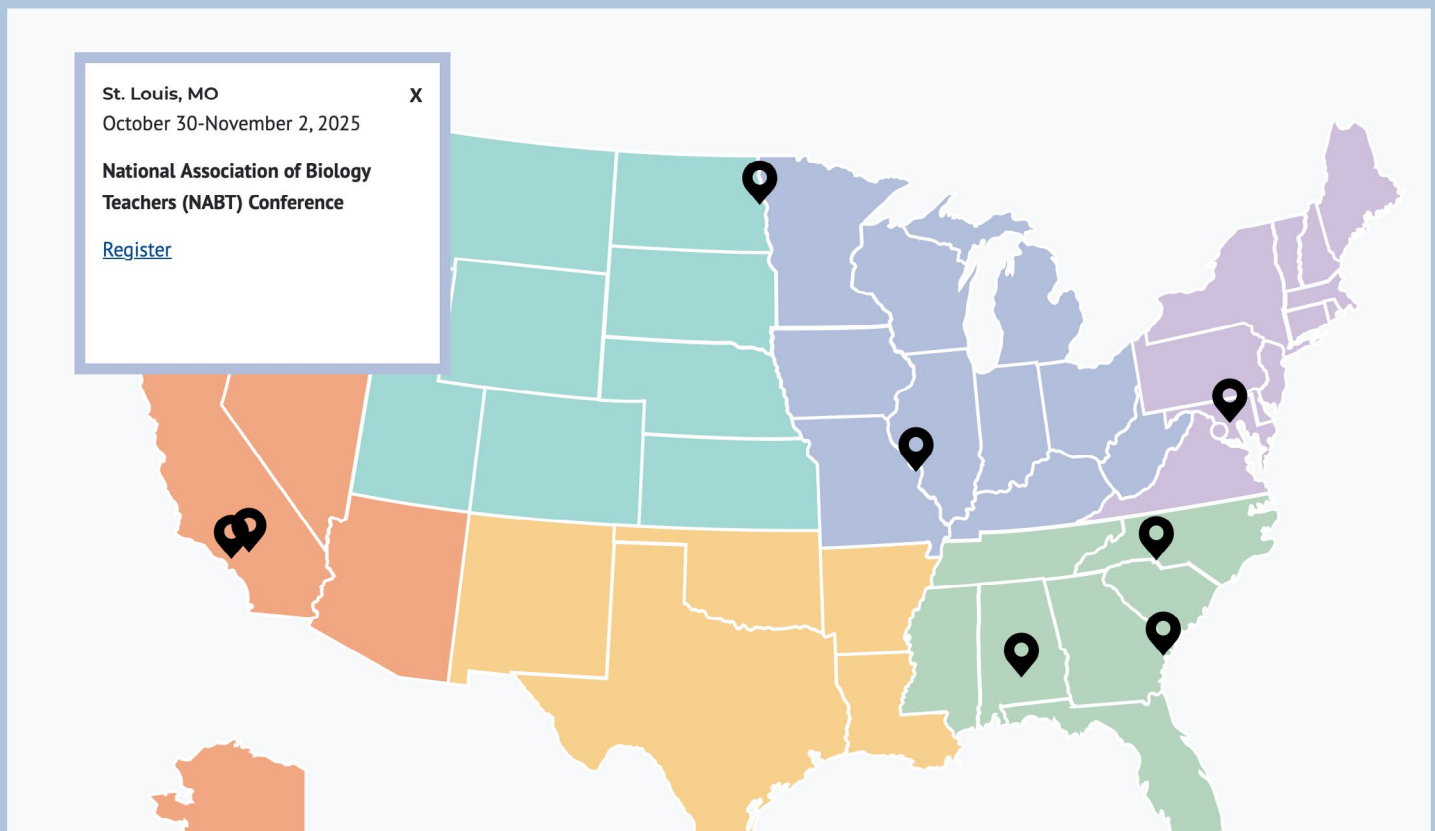
The focus of the professional learning will be on teaching strategies and pedagogies that help students accurately assess misinformation and disinformation about these topics. The professional learning experiences will also leverage

NCSE-created activities, including the recently unveiled Climate Change Story Shorts.

"We want to give teachers a toolkit to help them overcome student misconceptions in the science classroom," NCSE Director of Education Lin Andrews explained.

NCSE's Supporting Teachers program has released a new dynamic map that highlights this nationwide effort while also giving science teachers the opportunity to see if there is an upcoming chance to take advantage of upcoming opportunities in their community or region.

Already in 2024, NCSE has led professional development for teachers in seven states, at national and regional conferences, and at local school districts. NCSE has engaged in this work at the behest of individual teachers, such as Teacher Ambassador Jeff Grant, who organized the Climate of H.O.P.E. conference, and through collaborations with like-minded organizations, such as the National Association for Research in Science Teaching.





NCSE Executive Director Amanda L. Townley promotes an upcoming professional development for teachers called My COAST (Climate-Oriented Authentic Science Teaching).

## My COAST

Another result of a fruitful partnership is a planned four-day event on Skidaway Island, Georgia, coming up in October, 2024. NCSE's

My COAST (Climate-Oriented Authentic Science Teaching) is being developed in collaboration with the University of Georgia Marine Extension (MAREX) and Georgia Sea Grant, a federal-state partnership based at the University of Georgia that works

to improve the environmental, social and economic health of the Georgia coast through research, education and extension. The project is partially funded by the Justin Brooks Fisher Foundation.

Up to 30 science teachers from the region will have a chance to work directly with researchers in the field,

examine issues—often exacerbated by climate change—facing coastal communities and habitats in Georgia, dig into solutions being considered and implemented, and plan how to present what they've learned to their students back home.

"It is our hope that teachers who attend My COAST

will come away not only with a deeper understanding and appreciation of the intricacies of coastal Georgia ... but more confident in their ability to lead these discussions," Townley said.

Paul Oh is NCSE's Director of Communications. [oh@ncse.ngo](mailto:oh@ncse.ngo)

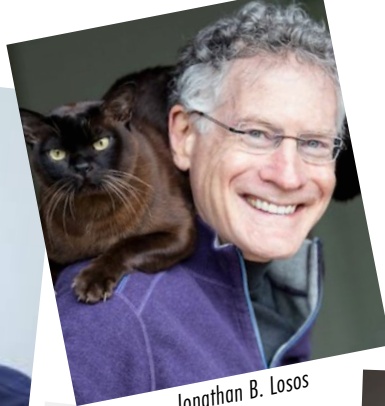




Riley Black



Kostas Kampourakis



Jonathan B. Losos



Dawn J. Wright



Edward W. Maibach



Lorne Trottier

## FRIEND OF DARWIN AND FRIEND OF THE PLANET AWARDS FOR 2024

NCSE is pleased to announce the winners of the Friend of Darwin award for 2024: Riley Black, a science writer and the author of the award-winning *The Last Days of the Dinosaurs*; Kostas Kampourakis of the University of Geneva, a prolific author and editor on topics in biology education whose latest book is the anthology *Darwin Mythology: Debunking Myths, Correcting Falsehoods*; and Jonathan B. Losos of Washington University in St. Louis, a leading evolutionary biologist and the author of *Improbable Destinies* and *The Cat's Meow*.

"Riley Black, Kostas Kampourakis, and Jonathan B. Losos have been consistently remarkable communicators about evolution with a variety of audiences, including the general public. A shelf filled with their books would be a marvelous introduction to evolution all on its own," commented NCSE's executive director Amanda L. Townley. She added, "And all three of them have worked extensively in various ways with NCSE to promote our shared goal of improving the public understanding of evolution, for which we are grateful."

NCSE is also pleased to announce the winners of the Friend of the Planet award for 2024: the George Mason University Center for Climate Change Communication, directed by Edward W. Maibach; Lorne Trottier, a Canadian

entrepreneur and philanthropist and a former member of NCSE's board of directors; and Dawn J. Wright, a geographer and oceanographer who is Chief Scientist of ESRI, a geographic information system and spatial data science company, as well as a 2024 U.S. Science Envoy for the U.S. Department of State.

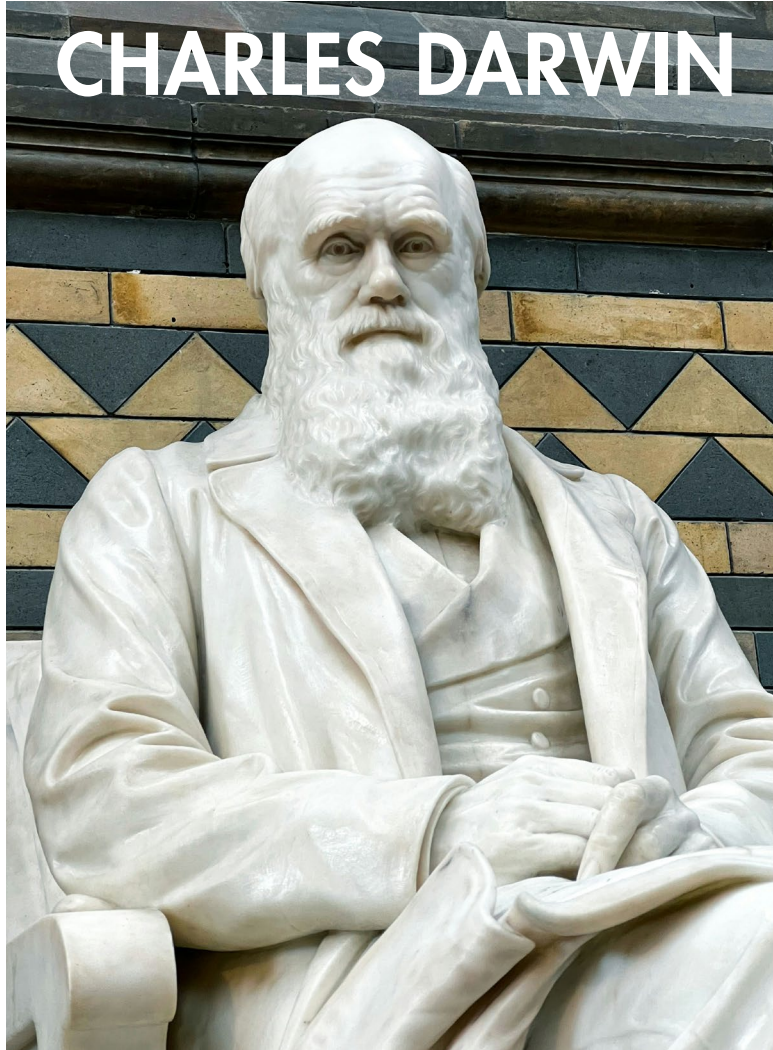
"The Friends of the Planet for 2024 have tirelessly promoted the cause of climate change education," Townley explained. "The Center for Climate Change Communication's work is deservedly influential, including at NCSE, while the value of 'Deepsea Dawn' Wright's outreach on the importance of oceanography in understanding climate change can't be overestimated." She added, "And of course it was Lorne Trottier's extraordinary generosity that enabled NCSE to expand its portfolio to include climate change."

The Friend of Darwin and Friend of the Planet awards are presented annually to a select few whose efforts to support NCSE and advance its goal of defending the teaching of evolution and climate science have been truly outstanding. [Previous recipients](#) of the Friend of Darwin award include Tim M. Berra, Philip Kitcher, Steve Mirsky, Bertha Vazquez, and Lisa D. White. [Previous recipients](#) of the Friend of the Planet Award include Andrew Dessler, Kelley T. Lê, and the Paleontological Research Institution.

# AMERICAN PUBLIC OPINION ABOUT

## CHARLES DARWIN

A 2023 YouGov poll asked Americans about their opinions regarding 15 scientists, including Charles Darwin, and their overall impact on the world. Asked “Do you have a favorable or unfavorable opinion of the following person?” and presented with the name of Charles Darwin, 62 percent of respondents indicated that they had a very (32 percent) or somewhat (30 percent) favorable opinion of Darwin, while 18 percent indicated that they had a somewhat (9 percent) or very (9 percent) unfavorable opinion; 19 percent indicated that they didn’t know.



Charles Darwin statue, Natural History Museum, London. Photo by Nathan Langer on Unsplash.

Asked “Do you think that the impact the following person has made on the world has been more positive or negative” and presented with the name of Charles Darwin, 59 percent of respondents indicated that they thought Darwin’s impact was very (34 percent) or somewhat (25 percent) positive, while 12 percent indicated that they thought it was neither positive nor negative, and 13 percent indicated that they thought it was somewhat (6 percent) or very (7 percent) negative; 15 percent indicated that they were not sure.

Darwin was in the middle of the pack, seventh, for favorable opinion (62 percent), between Marie Curie (63 percent) and Jane Goodall (59 percent), but last for unfavorable opinion (18 percent), with Neil DeGrasse Tyson (16 percent) next-to-last. If “don’t know” responses are understood as reflecting failure to recognize the scientist in question, Darwin was the fourth most recog-

nized scientist on the list (only 19 percent “don’t know” responses), ahead of Stephen Hawking (22 percent) and behind Isaac Newton (15 percent), Thomas Edison (11 percent), and Albert Einstein (9 percent).

Darwin was in the middle of the pack, seventh, for positive impact (59 percent), between Stephen Hawking (60 percent) and Jane Goodall (56 percent), but next-to-last for unfavorable opinion (13 percent), with J. Robert Oppenheimer (18 percent) last. If “don’t know” responses are understood as reflecting inability to assess the impact of the scientist in question, Darwin’s impact was the

fourth most assessable on the list (only 15 percent “not sure” responses), ahead of Stephen Hawking’s (20 percent) and behind Isaac Newton’s (12 percent), Thomas Edison’s (7 percent), and Albert Einstein’s (7 percent).

The poll was conducted by YouGov among 1000 U.S. adult citizens selected from an internet panel using sample matching between August 23 and August 27, 2023; the sample was weighted by demographic and political features. The margin of error was reported as plus/minus 3.7 percent. The 15 scientists were Niels Bohr, Marie Curie, Charles Darwin, Thomas Edison, Albert Einstein, Richard Feynman, Jane Goodall, Stephen Hawking, Michio Kaku, Isaac Newton, J. Robert Oppenheimer, Carl Sagan, Nikola Tesla, Neil deGrasse Tyson, and James Watson.

Glenn Branch is deputy director of NCSE.  
[branch@ncse.org](mailto:branch@ncse.org)



# NCSE Welcomes Three New Board Members

New NCSE board members Prosanta Chakrabarty, J. Marshall Shepherd, and Emily Mendiola Sims



**NCSE** is pleased to announce that Prosanta Chakrabarty, J. Marshall Shepherd, and Emily Mendiola Sims have joined [NCSE's board of directors](#). At the same time, NCSE bids a fond farewell to Benjamin D. Santer.

[Chakrabarty](#) is the George H. Lowery Professor in the Department of Biological Sciences and Curator of Fishes at the Museum of Natural Science at Louisiana State University. He is a TED Senior Fellow, an Elected Fellow of the American Association for the Advancement of Science, a Fulbright Distinguished Chair, and a National Geographic Certified Educator. He is also the author of a recent popular book, *Explaining Life Through Evolution* (MIT Press, 2023), which was [reviewed](#) in a recent issue of *RNCSE*.

[Shepherd](#) is the Georgia Athletic Association Distinguished Professor of Geography and Atmospheric Sciences at the University of Georgia. He is also the Director of the Atmospheric Sciences Program and a former President of the American Meteorological Society. He was elected to the National Academy of Science, the National Academy of Engineering, and the American Academy of Arts and Sciences in 2021. His many honors include NCSE's [Friend of the Planet](#) award in 2021.

Sims is Associate Dean of Students and Certification Officer in the College of Education at the University of Alabama. She works with numerous Council for the Accreditation of Educator Preparation (CAEP) site teams across the United States. Her engagement with education is both broad and deep: before taking her present position, she taught at the K–12 level, the community college level, and the university level, and served as a member of the board of education of the Jacksonville (Alabama) City School System. She has also been a National Board Certified Teacher (NBCT) for over 20 years.

The distinguished climate scientist Benjamin D. Santer of [Woods Hole Oceanographic Institution](#) and the [University of California, Los Angeles](#), who joined the board in 2012 and became its Secretary in 2020, left the board at its February 2024 meeting; he was succeeded as Secretary by Sarah George. "Ben Santer has been a tremendous champion for climate change education throughout his career," commented NCSE's Executive Director Amanda L. Townley. "NCSE was singularly fortunate to have the benefit of his knowledge and wisdom for a dozen years."

Chakrabarty, Shepherd, and Sims were officially welcomed to the board at its May 2024 meeting, joining Kenneth R. Miller, Michael Haas, Sarah George, Maya Garcia, Joseph L. Graves Jr., Jo Handelsman, Michael Lubic, and Michael E. Mann.



# UPDATES

Are there threats to effective science education near you? Do you have a story of success or cause for celebration to share? E-mail any member of staff or [info@ncse.org](mailto:info@ncse.org).

## CALIFORNIA

Governor Gavin Newsom signed [Assembly Bill 285](#), a measure to support climate change education in the Golden State's public schools, into law on October 8, 2023, [according](#) to a legislative update from his office. The new law requires the California course of study for grades 1–6 and grades 7–12 to emphasize the causes and effects of climate change and methods to mitigate and adapt to its effects. Additionally, appropriate coursework including such material is required to be offered as soon as possible, no later than the 2024–2025 school year. California is the second state to enact a statutory requirement for climate change education. In 2022, a similar requirement was included in a budget bill in Connecticut, as NCSE previously [reported](#).

## COLORADO, GRAND JUNCTION

In late October 2023, Barbara Evanson, a candidate for a seat on the school board for Mesa County Valley School District 51, declared, on a local conservative podcast, that when it comes to the Big Bang, teachers should teach both sides: "What I mean by that is if we're teaching the Big Bang Theory then we need to teach creationism as well." In a statement provided to the Colorado Times Recorder, Evanson and her husband Charles Evanson subsequently expanded on their views, writing, "We believe Biblical Creation, also known as Intelligent Design, Special Creation, because we have weighed the scientific evidence or facts such as the Law of Thermodynamics and others against the writings of the bible [sic]." In the November 7, 2023, election, Evanson narrowly prevailed over Cindy Enos Martinez."



## MAINE

A bill in the Maine legislature that would ban public school teachers from practicing "indoctrination"—and contained a provision that could adversely affect science education—was defeated in June 2023.

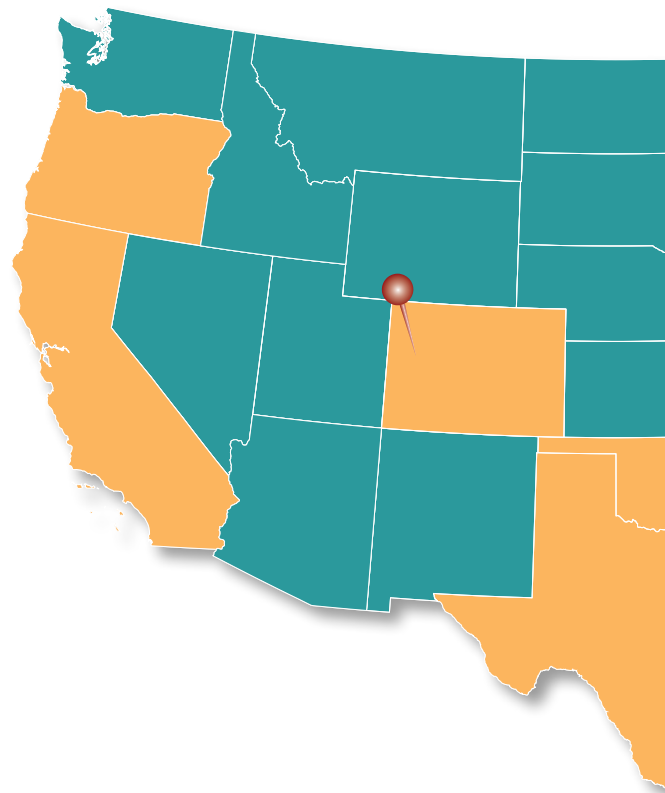
[House Paper 1034 \(PDF\)](#), would, if enacted, have required the state board of education to adopt rules to prevent public school teachers in the state from engaging in what it describes as "political, ideological or religious advocacy." The rules would in particular have required teachers to "provide

students with materials supporting both sides of a controversial issue being addressed and to present both sides in a fair-minded, nonpartisan manner," where a "controversial issue" is defined as "a point made in the most recent electoral party platform of any party that is qualified for the ballot at the state or federal level." As *Ars Technica* (January 29, 2019) [observed](#) in discussing a spate of similar measures, "a large number of state party platforms specifically mention evolution and climate change."

After the Committee on Education and Cultural Affairs voted 9–4 to recommend that the bill not pass, the House of Representatives voted to accept the committee's recommendation on June 20, 2023, and the Senate followed suit on the following day.

## MICHIGAN

Michigan's [House Bill 4961](#) would, if enacted, establish an environmental literacy task force charged with developing an environmental literacy model curriculum that would, among other things, "[p]repare students for understanding environmental challenges of this state and the United States, including the relationship of the environ-





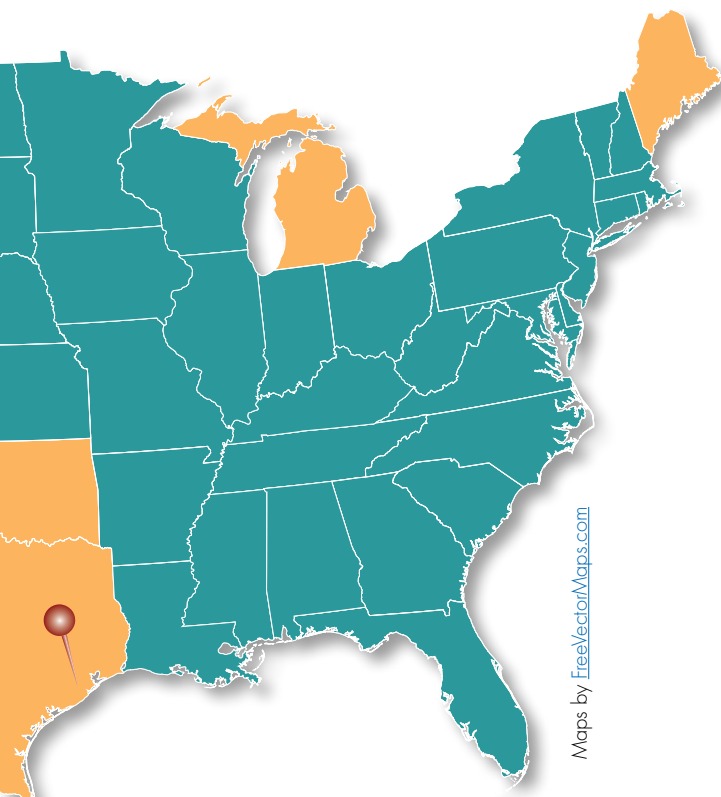
ment to ... climate change." "Climate change" is also listed among the "definitions for key terms that must be addressed in the environmental literacy model curriculum." Sponsored by Julie M. Rogers (D–District 41) and 30 of her colleagues, the bill was introduced on September 7, 2023, and referred to the Committee on Education.

## OKLAHOMA

The Oklahoma Department of Education announced a "partnership" with PragerU Kids, a project of a right-wing advocacy group that produces videos aimed at schoolchildren, on September 5, 2023, [according](#) to KFOR (September 5, 2023). Although the PragerU videos are endorsed only for use in social studies classrooms, E&E News (August 7, 2023) previously [observed](#) that they frequently "use talking points common among global warming skeptics to frame climate science and policy." Endorsement of PragerU's videos in Florida elicited concern in August 2023, as NCSE previously [reported](#); in the same month, there was a spurious claim of endorsement in Texas on the part of a member of the state board of education, as NCSE previously reported.

## OREGON

Oregon's Senate Bill 854, which, if enacted, would have required local school districts to establish, and periodically update, a climate change instructional program for K–12 students under the supervision of the state department of



Maps by [FreeVectorMaps.com](https://www.freevector.com)

## INDIA

The Indian Supreme Court dismissed a lawsuit challenging evolution and relativity. At a hearing, according to the *Deccan Chronicle*, the petitioner Raj Kumar complained that after learning about Darwin's and Einstein's theories in college, he decided that they were wrong. The bench replied, "What is the Supreme Court supposed to do?" In its October 13, 2023, order, the court wrote, "The petitioner wants to prove that the Darwinian Theory of Evolution and Einstein's equation of  $E=MC^2$  [sic] is wrong and he wants a platform for the said purpose. If that is his belief, he can propagate his own belief." The case was *Raj Kumar v. Union of India*.



education, died in committee when the legislature adjourned sine die on June 25, 2023. The bill received a hearing in the Senate Committee on Education on March 9, 2023, where it received support from the Oregon Education Association, Portland Public Schools, and the Oregon Sierra Club, among others. The committee did not take a vote. Senate Bill 854 was introduced by James I. Manning Jr. (D–District 7) and Deb Patterson (D–District 10) at the request of Oregon Educators for Climate Education, which describes itself as "a statewide group of educators working toward Oregon legislation that would integrate and infuse PK–12 climate change education across all core subject areas."

## TEXAS, HOUSTON

"Houston [Independent School District] says it will no longer use video content produced by PragerU, a California-based nonprofit that promotes conservative viewpoints, after a video that questioned the legitimacy of human-caused climate change was shown to students last week," reported Houston Public Media (November 23, 2023). The video, titled "How to Think Objectively," was reportedly included in a slideshow prepared for fifth-grade classes on "The Art of Thinking," a new districtwide project. A spokesperson for the district was quoted as saying, "After speaking with the curriculum team, they have decided to no longer use PragerU video content." Houston ISD is the largest school district in the state.



# Members in the SPOTLIGHT



A sentence from NCSE Deputy Director **Glenn Branch** now [appears](#) in the online Merriam-Webster dictionary to exemplify the word “anti-evolutionism”: “The latest incarnation of anti-evolutionism is intelligent design which, say its advocates, is not traditional, Bible-based creationism.” The

quotation appears alongside a quotation from **Stephen Jay Gould** to exemplify the word “anti-evolutionist”: “This apparent absence of life during most of the earth’s history, and its subsequent appearance at full complexity, posed no problem for anti-evolutionists.”



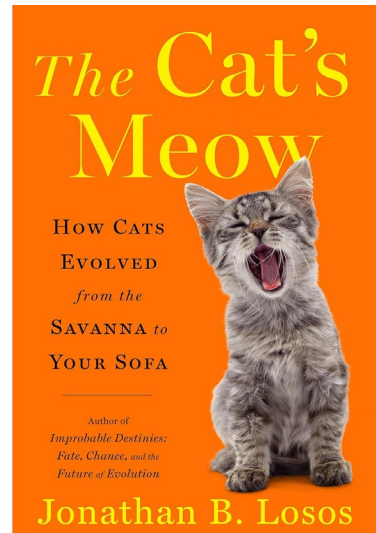
**Nina Jablonski**, Atherton Professor and Evan Pugh Professor Emerita of Anthropology at Pennsylvania State University, received the Fellows Medal for 2023 from the California Academy of Sciences. The medal is the academy’s highest honor; previous recipients include G. Ledyard Stebbins, NCSE’s former

executive director **Eugenie C. Scott, Marvalee H. Wake, David Wake, and Bruce Alberts.**



**Jonathan B. Losos’s** *The Cat’s Meow: How Cats Evolved from the Savanna to Your Sofa* (Viking, 2023) was published. The publisher writes, “The domestic cat—your cat—has, from its evolutionary origins in Africa, been transformed in comparatively little time into one of the most successful and

diverse species on the planet. Jonathan Losos, writing as both a scientist and a cat lover, explores how researchers today are unraveling the secrets of the cat, past and present, using all the tools of modern technology, from GPS tracking ... and genomics ... to forensic archaeology” (emphasis in original). Losos is Professor of Biology and William H. Danforth Distinguished University Professor at Washington University in St. Louis and a recipient of a 2024 NCSE Friend of Darwin award (see page 5).



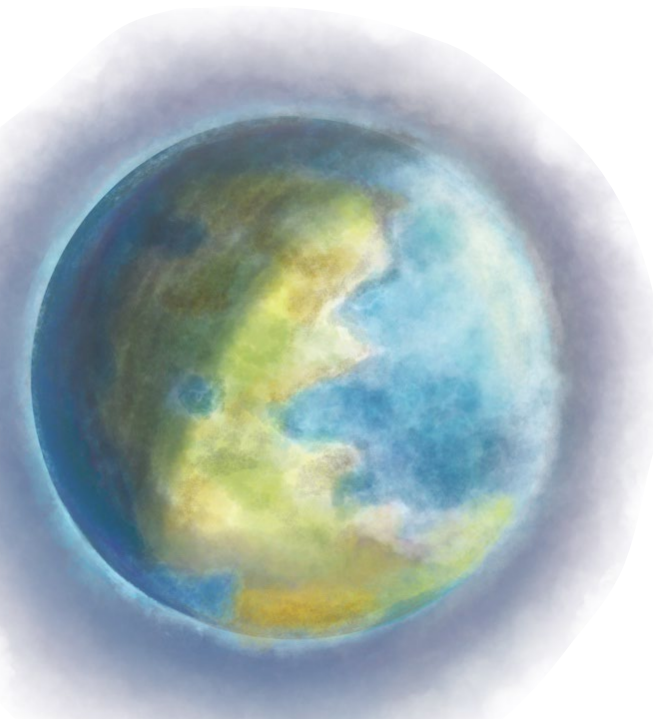
**Steve Rissing**, professor emeritus in the Department of Evolution, Ecology, and Organismal Biology at Ohio State University and a recipient of NCSE’s Friend of



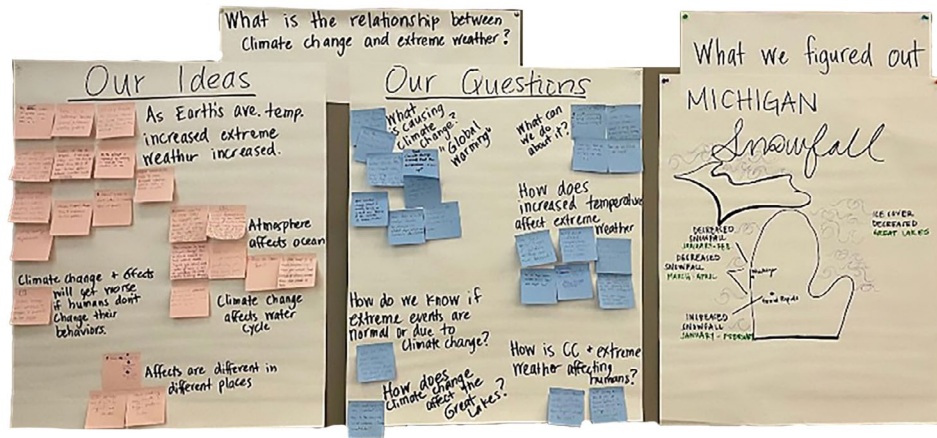
Darwin award, denounced Ohio’s Senate Bill 83, which would inhibit the discussion of climate change and/or climate policy at the state’s public colleges and universities, in a [column](#) for the *Ohio Capital Journal* (August 30, 2023). “Not only does academic freedom and responsibility permit me to

present the vast amount of evidence supporting our current understanding of climate change—and policies to address it—it *requires* me to do so,” he explained (emphasis in original).

—GLENN BRANCH



# Michigan Teachers Learn to Use NCSE Climate Change Resources



A Driving Question Board from a recent professional learning experience for Michigan teachers led by NCSE staff.

Michigan teachers got a sneak peek at NCSE’s redesigned climate change resources using our new [Story Short](#) format at a workshop April 19 and 20, 2024. The workshop, titled “Resolving Misconceptions about Climate Change with Sound Science,” addressed common misconceptions about climate change and prepared teachers to use evidence and NCSE’s no-conflict approach to help their students resolve these misconceptions.

The participants were primarily middle and high school science teachers, but we were excited to see non-science teachers join as well. These language arts and social studies teachers wanted to deepen their understanding of climate change to address it within their content areas effectively.

In order to plan for the workshop, we asked participants to share their most significant challenges in teaching about climate change. Teachers shared a range of concerns around misconceptions and climate change denial, including “keeping students focused on evidence over feelings” and addressing “preset notions and opinions that are not swayed by scientific evidence.” One teacher wrote, “I struggle with what is factual and what is not. There is a lot of

information out there, and I don’t talk about climate change very much in class because I want to make sure that I am always telling students the most up-to-date and factual information possible.” We used these responses to tailor the workshop to the needs of the participants.

On Friday, I led teachers through NCSE’s new Climate Change in Your Backyard Story Short to learn about the relationship between climate change and extreme weather. The teachers experienced the newly streamlined lessons through a student lens and then applied their learning to a place-based example to explain how climate change is affecting snowfall in Michigan. In the afternoon, Director of Education Lin Andrews facilitated reflection and discussion on [research-based practices](#) for addressing climate change in the classroom.

On Saturday, teachers considered the sources of misconceptions about climate change and the drivers behind climate change denial. They also learned that climate anxiety is increasing among young people and how a solutions-focused approach can address students’ fears and empower them to take action. The teachers engaged in activities from our new Sustainable Climate Solutions Story

Short and were introduced to our new [DataWISE](#) tool for data and media literacy.

As part of a survey after the workshop was completed, all participants shared that the experience helped them to address the challenges they face in the classroom. One teacher said, “I feel much more confident about eliciting and addressing student misconceptions. I also feel much better about handling student misconceptions that arise from scientific [misunderstanding] and cultural, political, and social reasons.” Another said of the workshop, “It helped my confidence level in understanding the topic of climate change.” Teachers especially appreciated NCSE’s [BRAVE](#) classroom approach to reduce conflict and our new Story Short format, which provides flexibility while addressing NGSS performance expectations.

This professional learning experience was the kickoff to a series of workshops NCSE staff will be leading throughout the remainder of 2024 (see page 3), helping teachers across the country to address their students’ misconceptions about climate change, evolution, and the nature of science.

**Wendy Johnson** is a Science Education Specialist at NCSE. [johnson@ncse.ngo](mailto:johnson@ncse.ngo)





A now-retired middle school science teacher in Miami, Florida, Bertha Vasquez is the education director for the Center for Inquiry (CFI), where she runs the Teacher Institute for Evolutionary Science (TIES), which provides professional development for science teachers, specifically on evolution. She received NCSE’s Friend of Darwin award in 2023 and the National Association of Biology Teachers Evolution Education Award in 2017. The interview has been edited for length and clarity.

*Glenn Branch: What sparked your interest in helping fellow educators teach evolution effectively?*

**Bertha Vasquez:** As a biology major, I was always very interested in evolutionary biology, but a meeting at the University of Miami Biology Department in 2013 sparked my interest in helping educators. Richard Dawkins was visiting, and after his talk, a handful of professors and graduate students sat down for lunch. Dawkins invited me to join them. The conversation was about evolution education in schools. One of the professors explained that a local private school had received a single parent complaint about evolution being taught at the school, and the school’s administration banned its teaching as a result. Everyone at the table was appalled. I realized I was “on the inside,” so to speak: the only one at the table in K–12 education. So I began by presenting evolution content and resources to my school’s science department.

One year later, I had the opportunity to meet with Dawkins again. He offered to come and speak to the teachers I had been working with. Miami-Dade County Public Schools invited all the district’s science teachers. It was a great success. A few days later, Dawkins asked me to help him do something similar nationally through his foundation, and TIES was

born. Our first workshop took place at the Miami Museum of Science in April 2015. Since then, over 85 teachers (including NCSE Teacher Ambassadors John Mead and Blake Touchet) have since presented over 350 workshops in all 50 US states. Thirteen of those teachers (including Mead and Touchet) published a book with me, *On Teaching Evolution*, in 2022. Check us out at <https://tieseducation.org/>.

*GB: What is the mission of TIES, and what have been its significant impacts?*

**BV:** TIES is about teachers helping teachers. We give teachers the opportunity to present our resources in their school districts and states, encouraging them to be leaders in their learning communities. Our initial aim was to cover evolution content as opposed to the pedagogy since many middle school science teachers must teach everything from weather fronts to photosynthesis. However, TIES has evolved to provide complete units on evolution with plenty of hands-on and student-centered activities, making it as easy as possible for teachers to cover their state or NGSS standards. For example, one week into the pandemic, we created free middle and high school asynchronous evolution units, including student response sheets, exams, rubrics, and answer keys. Three weeks later, we realized they had been downloaded over 2000 times!

We have since added units and resources for grades 3–5.

**GB:** *How has NCSE affected your work as a science teacher and as director of TIES?*

**BV:** My first stop as the newly-contracted TIES director was the NCSE office in Oakland, California. NCSE is, without a doubt, our country's greatest defender of evolution education. Thanks to your work, we know which states need our resources and workshops the most. NCSE's resources and outstanding Teacher Ambassador program were models for TIES. NCSE also allowed me to be a guest blogger back in 2015, which really got the ball rolling for us (<https://ncse.ngo/sharing-passion-evolution-education>). The fact that NCSE realized the importance of climate education and added it to its agenda is commendable. As a teacher, NCSE was one of the first places I went to look for resources and support. And your work is more important than ever.

**GB:** *Throughout your work, you've emphasized middle school evolution education. Why is this so important?*

**BV:** When I did my first deep dive into available evolution resources and professional development opportunities, I found many wonderful resources for high school teachers but not so many for middle school teachers. And

again, while a high school teacher may teach only chemistry, a middle school teacher must teach everything: earth, life, physical science, you name it. It's hard to be a content expert in every science and know where to find appropriate resources. Lord help those poor students who learned about rocks from me!

**GB:** *And in fact you conducted a comparison of the treatment of evolution at the middle school level in state science standards, published in Evolution: Education and Outreach in 2017. What did you discover?*

**BV:** That things were improving. In the early 2000s, many states did not have evolution standards at the middle school level. This is anecdotal, but many college professors are telling me they are finding less and less resistance to the science of evolution in their classrooms. Can it be that students are learning about it sooner?

**GB:** *Now that you're retired from the classroom, what are you working on?*

**BV:** I'm excited about our two other Center For Inquiry education programs, ScienceSaves and Generations Skeptics. ScienceSaves promotes science appreciation through National Science Appreciation Day, dozens of free teacher resources, and an annual scholarship contest for high school seniors

(<https://sciencesaves.org/>). Every year, hundreds of high school seniors send us 30-second videos of how science has improved their lives or those of somebody they know. ScienceSaves awards the best videos \$15,000 in cash scholarships. Generation Skeptics promotes teaching young people to think skeptically. The amount of misinformation our students encounter daily is scary; how can they tell what's credible and what's not? Our program is all about checking a claim before believing it or sharing it online. We are offering club stipends for teachers starting school GenSkeps clubs and developing camp programming for museums, private camps, homeschooling groups, congregations, etc.

Speaking of misinformation, NCSE's other theme is climate change, a topic unfortunately rife with disinformation. And in my opinion, the only thing scarier than all the misinformation out there is climate change itself. That's why I'm also writing a book on climate education with Corwin Press scheduled for release at the end of this year. It's tentatively titled *What Teachers Want to Know About Climate Change*. So yeah, when people ask me how's retirement, I tell them, "I don't know."

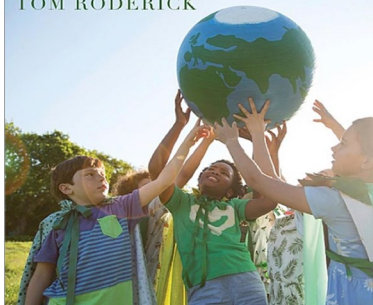


**Glenn Branch** is deputy director of NCSE. [branch@ncse.ngo](mailto:branch@ncse.ngo)

## TEACH FOR CLIMATE JUSTICE

A VISION FOR TRANSFORMING EDUCATION

TOM RODERICK



What does it mean to build “the beloved community” in the midst of escalating climate crises? This is the question that Tom Roderick seeks to answer in *Teach for Climate Justice*. Answering such a fraught question involves an education in the basics of climate change science, but for Roderick this is not even close to adequate given the stakes. Building thriving communities in a changed climate requires asking difficult questions about the nature of power and inequality, as these are the root causes of climate change and shape social impacts both now and into the future. Given his extensive background shaped by decades of work in social justice education, Roderick is exactly the right person to write such a book.

*Teach for Climate Justice* takes readers through some challenging intellectual terrain if they are unfamiliar with the historical and present-day environmental and social injustices at the heart of climate change. Roderick correctly roots the climate crisis in long-standing structures of capitalist exploitation of both people and planet and its related Global North/South pattern vis-à-vis colonial processes: “Rich nations, which have amassed wealth from extracting and depleting resources from colonized countries, have a moral obligation to share the wealth they have stolen to help those countries mitigate and adapt to the climate emergencies they are facing” (page 3). While well known to those of us in the social sciences, this was one of the first times I have encountered such an account in a book for general educators. This conversation is long overdue in my professional opinion, for these are the foundational

# THE RNCSE REVIEW

## *Teach for Climate Justice: A Vision for Transforming Education*

*author:* Tom Roderick

*publisher:* Harvard Education Press

*reviewed by:* Joseph Henderson

dynamics at work in producing the climate crisis and that presently work to hinder adequate responses.

Roderick’s book moves quickly from a descriptive “is” to a normative program of “oughts” centered on his liberal commitments to social and ecological justice. It is my view that this is a necessary move in climate change education literature, for it focuses attention on the social and political dynamics that have produced climate change in the first place and that continue to shape our collective (in)ability to respond necessarily at scale. Thankfully, this is not another climate change education book written by someone from within the scientific community. This is unapologetically a book about climate justice in educational settings. “When climate education is offered it is generally *about* climate change rather than *for* a habitable planet, for the transition from fossil fuels to sustainable sources of energy, and *for* climate justice” (emphasis in original, page 2). While there’s still much work to be done in climate change science education, the field seems to be maturing toward greater engagement with other traditions and educational disciplines.

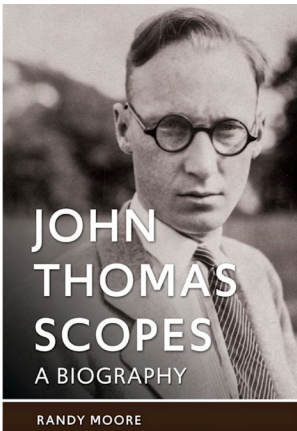
The book proceeds over eight chapters ranging from a “deep understanding of the climate crisis” to “teach[ing] for civil resistance.” Each chapter develops principled approaches to climate justice education via engagement with some of the leading thinkers on the subject and then shows how everyday teachers—both in the formal and informal sectors—are engaging in the embodied practices of climate justice pedagogy. We meet

some of the heroic educators developing climate justice practices, and each chapter presents a series of prompts so readers can pause and reflect on their own professional practice. A major strength of this book is that the author takes difficult and emotionally challenging concepts about social and environmental injustice and makes them both digestible and actionable for the reader. This is no small feat given the magnitude of the issues facing people and the planet right now.

Roderick is a long-time educator and activist with decades of experience in social justice education as the founding executive director of the Morningside Center for Teaching Social Responsibility in New York City. His philosophical and moral commitments echo critical and emancipatory approaches to education that were more popular during the civil rights movements of the 1960s, when educators asked questions about social inequality and environmental injustices. Unfortunately, many of these approaches were sidelined during the 1980s, when “Nation at Risk” neoliberal educational policies repoliticized education toward capitalist market logic and positioned both educators and students as individual actors attempting to maximize their economic capacities. These programs continue to flail and break down due to their inherent contradictions, thus (re)opening the door to the more foundational questions that have intrigued educational thinkers for ages. We again find ourselves asking what education is for, this time during a time of intensifying climate crisis. For Tom Roderick, the purpose of education “must be to nurture a generation of courageous, intelligent, and wise nonviolent fighters for climate justice” (page 7). I can think of no more urgent educational task given the resurgence of fascism as the climate emergencies accelerate.

**Joseph Henderson** is Associate Professor in the Department of Environment and Society at Paul Smith’s College. With Andrea Drewes he edited *Teaching Climate Change in the United States* (Routledge, 2020). [jhenderson@paulsmiths.edu](mailto:jhenderson@paulsmiths.edu)





## John Thomas Scopes: A Biography

author: Randy Moore

publisher: Bloomsbury Academic

reviewed by: George E. Webb

As we anticipate the centenary of the Scopes trial next year, it is instructive to reflect on the hundreds of books, articles, and essays (not to mention a play and a Hollywood film) that have been published about this notable American court case. The only significant gap in our knowledge has been a biography of John Thomas Scopes (1900–1970), an understandable omission considering his reticence, until the last decade of his life, to comment about the trial or himself to any great extent. Overshadowed by Clarence Darrow, William Jennings Bryan, and others, the individual listed as “defendant” on the court docket has remained a poorly understood figure.

In his new book, biologist Randy Moore, well known for his efforts to

bring the story of the Scopes trial to a general audience, has provided readers with a solid overview of the life of this famous figure in the American struggle to come to terms with Darwin. In order to achieve

*Moore has assembled a jigsaw puzzle of sources, including newspaper articles, interviews with family members, Scopes’s own autobiography, and various accounts of the trial itself.*

this result, Moore has assembled a jigsaw puzzle of sources, including newspaper articles, interviews with family members, Scopes’s own autobiography, and various accounts of the trial itself. He thus ferrets out sufficient

information to reconstruct his subject’s life to a significant degree. We learn, for example, that his father was a leftish free-thinker, an outlook adopted by the son at an early age that was influential in his willingness to stand trial in Dayton. Discussions of his career as a petroleum geologist and his challenges as a husband and father provide much of interest, although the trial remains, as it did for Scopes, a constant presence. Equally important is the account of Scopes’s decision to become a public figure in the wake of the play (and later film) *Inherit the Wind*, which ultimately led to his co-authored autobiography, *Center of the Storm*, published a few years before his death. As Moore admits, his portrait remains incomplete, largely because of the spotty nature of the source material. Yet he provides his readers with an intriguing glimpse into the life of the figure at the center of the famous “Monkey Trial” of 1925.

**George E. Webb** is Professor of History, Emeritus, at Tennessee Tech University and a former president of the Tennessee Academy of Science. He is the author of *The Evolution Controversy in America* (University Press of Kentucky, 1994). [GWebb@ntech.edu](mailto:GWebb@ntech.edu)



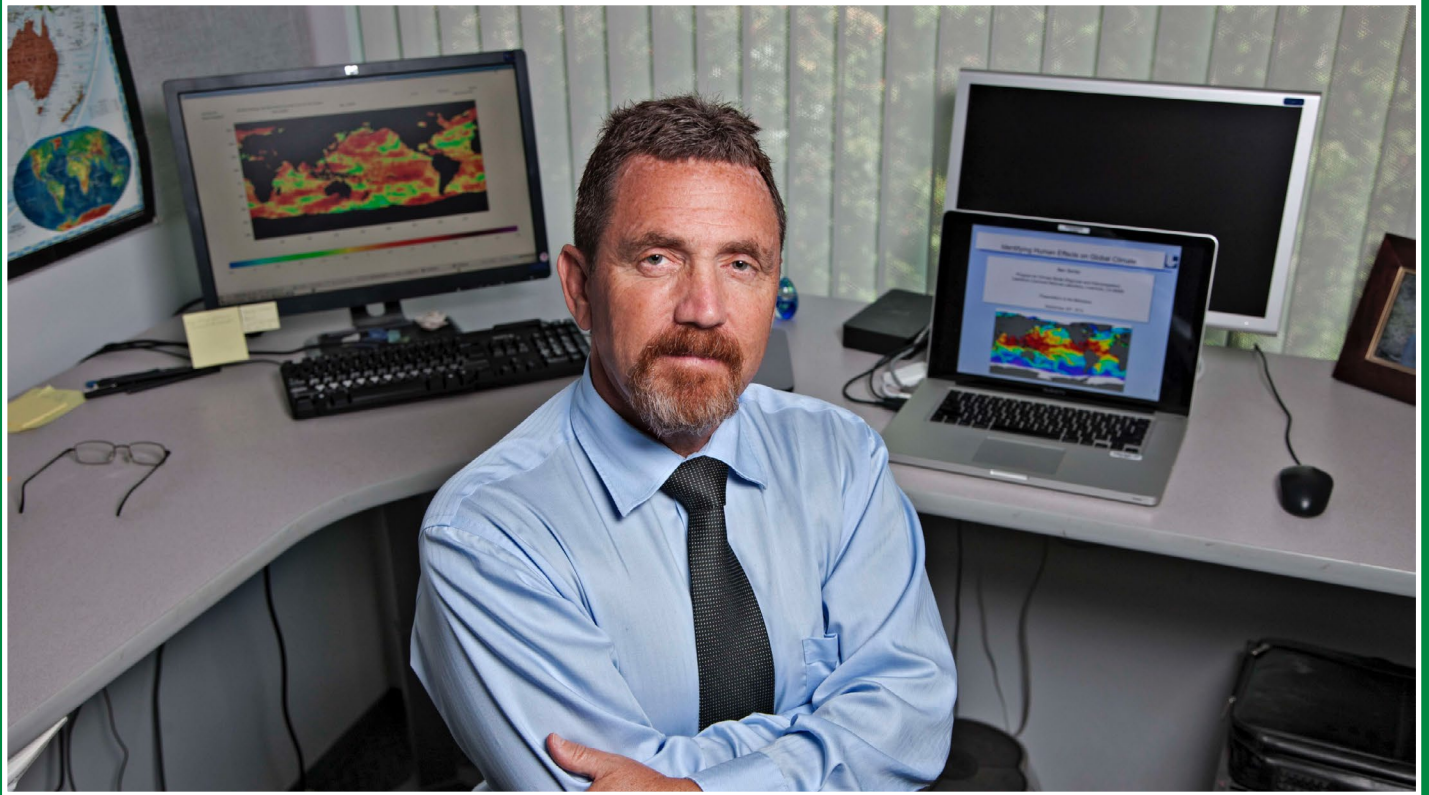
## WHAT WE'RE UP AGAINST Creationists Ignorant of History or Geography (or Both)

According to John G. West’s February 20, 2023, post on the Discovery Institute’s “Evolution News & Science Today” blog, “Charles Darwin did not actually visit Africa.” Actually, he did. The *Beagle* reached the Cape of Good Hope on May 31, 1836, with Darwin on board. Darwin proceeded to explore the local geology. Around June 15, he visited the astronomer John Herschel in Cape Town: it was, he wrote in his diary, “the most memorable event which, for

a long period, I have had the good fortune to enjoy.” The *Beagle* set to sea a few days later. The Discovery Institute offered the same claim on Twitter (now X) on the same day as West’s post, and—after receiving a flood of ridicule—silently revised West’s post to read “Except for a short visit to Cape Town on his way home back to England on the HMS *Beagle* [sic], Charles Darwin did not spend time in Africa.”

—GLENN BRANCH

# THANK YOU, BEN SANTER!



Benjamin D. Santer, the distinguished climate scientist, stepped down from the NCSE Board of Directors in February after 12 years of service.

**We greatly appreciate his dedication to the work of NCSE.**

