

# Center for STEM Teaching and Learning Projects - Closed

- [AccessData Workshops](#) —

**Principal Investigator:** [Tamara Shapiro Ledley](#) and LuAnn Dahlman

**Funders:** [National Science Foundation](#)

**Website:** <http://serc.carleton.edu/usingdata/accessdata/index.html>

TERC is expanding the work of the DLESE Data Services project through an annual workshop bringing together scientific and educational communities to develop educational modules using Earth science data and data analysis tools. [More »](#)

- [Amazing Earth CASIS Education](#) —

**Principal Investigator:** Dan Barstow

**Funders:**

**Website:** <http://www.windowsonearth.org/>

Through *Amazing Earth CASIS Education*, TERC will develop web-based educational activities that use images from the International Space Station ... [More »](#)

- [Arcadia: The Next Generation](#) —

**Principal Investigator:** [Jodi Asbell-Clarke](#)

**Funders:** [National Science Foundation](#)

**Website:** <http://edge.terc.edu/>

*Arcadia: The Next Generation* studies how the game elements from *Leveling Up* can be integrated into a transmedia gaming environment, Arcadia, for collaborative scientific inquiry among a community of game players. [More »](#)

- [Astrobiology Afterschool](#) —

**Principal Investigator:** Dan Barstow

**Funders:** [National Aeronautics and Space Administration](#) and the [National Science Foundation](#)

The Astrobiology Afterschool Instructor's Guide has been designed to meet the unique needs of afterschool students. Astrobiology Afterschool engages learners in the fascinating study of the possibilities of life elsewhere in the universe. [More »](#)

- [Astrobiology Institute Educator Resource Guide](#) —

**Website:** <http://nai.nasa.gov/media/medialibrary/2013/10/Astrobiology-Educator-Guide-2007.pdf>

In affiliation with NASA's Astrobiology Institute, TERC developed the Astrobiology Institute Educator Resource Guide, a series of five hands-on activities to introduce core ideas in Astrobiology. [More »](#)

- [Center for Ocean Science Education Excellence \(COSEE\)](#) —

**Principal Investigator:** [Harold McWilliams](#)

**Funders:** [National Science Foundation](#)

The New England Aquarium, Woods Hole Oceanographic Institution, and University of Massachusetts are working to create a New England Regional Center for Ocean Science Education Excellence. [More »](#)

- [Children's Understanding of Functions](#) —

**Principal Investigator:** [Maria Blanton](#)

**Funders:** [National Science Foundation](#)

**Website:** CUF

This research project addresses how children in grades K-2 understand concepts associated with functions—particularly as these concepts relate to different representational tools (e.g., natural language, algebraic notation, tables, and Cartesian coordinate tools). [More »](#)

- [CLEAN Core NOAA](#) —

**Principal Investigator:** [Tamara Shapiro Ledley](#)

**Funders:** [National Oceanic and Atmospheric Administration](#)

**Website:** <http://cleanet.org/>

The research team behind the nearly 500 resource-strong [Climate Literacy and Energy Awareness Network \(CLEAN\) Collection](#) are reviewing, cataloging and disseminating a new "core collection" of high-quality and easily-accessible resources targeted at educators of students in grades 6-16. [More »](#)

- [CLEAN Pathway](#) —

**Principal Investigator:** [Tamara Shapiro Ledley](#)  
**Funders:** [National Science Foundation](#)  
**Website:** <http://cleanet.org/>

*The Climate Literacy and Energy Awareness Network (CLEAN) Pathway* is the latest extension of the work of [Climate Literacy Network \(CLN\)](#) - an organization dedicated to establishing standardized climate education for all. [More »](#)

- [Climate Change Education and the Media](#) —

**Principal Investigator:** [Tamara Shapiro Ledley](#)  
**Funders:** [National Science Foundation](#)

This project seeks to overcome the challenges of effectively communicating the facts of climate change by combining new and ongoing initiatives to create an approach to climate change education in which students gain an understanding of cutting edge science and new media tools. In this, TERC is working with UMass-Lowell [More »](#)

- [DataTools](#) —

**Principal Investigator:** [Nick Haddad](#) and [Tamara Shapiro Ledley](#)  
**Funders:** [National Science Foundation](#)  
**Project Website:** <http://serc.carleton.edu/eet/msdatatools/>

The DataTools project is facilitating middle and high school science teachers' and students' use of Earth system science data and the IT tools needed to analyze and draw conclusions from the data. [More »](#)

- [Developing Algebra-Ready Students for Middle School: Exploring the Impact of Early Algebra](#) —

**Principal Investigator:** [Maria Blanton](#)  
**Funders:** [National Science Foundation](#)  
**Website:** <http://algebra.wceruw.org/>

This project is developing and testing a curricular learning progression of early algebra objectives and activities for students in grades 3 - 5. [More »](#)

- [Diversity and Innovation for Geosciences \(DIG\) Texas](#) —

**Principal Investigator:** [Tamara Shapiro Ledley](#)  
**Funders:** [National Science Foundation](#) and the [University of Texas at Austin](#)  
**Website:** <http://cleanet.org/>

DIG Texas aims to strengthen Earth science education in Texas by ensuring that the state's Earth and Space Science capstone course is taught at the appropriate level by teachers who are aided by online, well-defined and standards-aligned course 'roadmaps' (blueprints) comprising recommended research-based learning activities and teacher resources. [More »](#)

- [DLESE Data Services - Earth System Science Data in Education](#) —

**Principal Investigator:** [Tamara Shapiro Ledley](#)  
**Funders:** [National Science Foundation](#)

Through the Digital Library for Earth System Education (DLESE), this project is organizing workshops that bring together Earth science data providers, developers of data access and analysis/exploration tools, and developers of educational resources to guide the development of effective and usable data access and analysis tools and educational modules that access these tools and data. [More »](#)

- [Earth Exploration Toolbook](#) —

**Principal Investigator:** [LuAnn Dahlman](#) and [Tamara Shapiro Ledley](#)  
**Funders:** [National Science Foundation](#)  
**Website:** <http://serc.carleton.edu/eet>

The Earth Exploration Toolbook (EET) project is creating a collection of step-by-step guides for educators at both the pre-college and college levels on how to use, in an educational context, various Earth system tools and data sets developed and archived by and for scientists. [More »](#)

- [Earth Exploration Toolbook Workshops](#) —

**Principal Investigator:** Carla McAuliffe and [Tamara Shapiro Ledley](#)

**Funders:** [National Science Foundation](#)

**Website:** <http://serc.carleton.edu/eet/workshops.html>

Earth Exploration Toolbook (EET) Workshops is a professional development program in which teachers carry out data analysis techniques and learn to use the National Science Digital Library (NSDL) and the Digital Library for Earth System Education (DLESE). [More »](#)

- [Earth Exposed](#) —

**Principal Investigator:**

**Funders:** [National Science Foundation](#)

The Earth Exposed project introduces people to the artistic and Earth science aspects of images taken by astronauts and satellites. [More »](#)

- [Earth Science by Design](#) —

**Principal Investigator:** [Harold McWilliams](#)

**Funders:** [National Science Foundation](#)

**Website:** <http://www.esbd.org/>

Earth Science by Design has developed and field-tested a year-long program of professional growth for middle and high school Earth science teachers. [More »](#)

- [Earth Science by Design Leadership Training](#) —

**Principal Investigator:**

**Funders:** [National Science Foundation](#) and the [American Geological Institute](#)

**Website:** <http://www.esbd.org/>

Developed by TERC and the American Geological Institute with funding from the National Science Foundation, ESD is a year-long program of professional development for middle or high school teachers based on the Understanding by Design approach pioneered by Grant Wiggins and Jay McTighe. [More »](#)

- [Earth System Science: A Key to Climate Literacy](#) —

**Principal Investigator:** [Tamara Shapiro Ledley](#)

**Funders:** [National Aeronautics and Space Administration](#)

TERC is developing an *Earth Systems Climate EarthLabs* module that will join four existing *EarthLabs* modules (focused on Hurricanes, Fisheries, Corals, and Drought). [More »](#)

- [Earth to Orbit Engineering Design Challenges: Personal Satellite Assistant](#) —

**Principal Investigator:**

**Funders:** [NASA](#)

TERC and NASA are creating a challenge for grades 5–9 related to the Personal Satellite Assistant (PSA), an intelligent robot being developed by NASA to assist astronauts in orbit. [More »](#)

- [EarthKAM](#) —

**Principal Investigator:** [Dan Barstow](#)

**Funders:** [NASA](#)

EarthKAM is NASA's ground-breaking initiative that allows students to have direct access to, and control of, a digital camera mounted on the International Space Station. [More »](#)

- [Enhancing the Use of Data in Education](#) —

**Principal Investigator:** [Tamara Shapiro Ledley](#)

**Funders:** [National Science Foundation](#)

This project facilitates the active integration of research and education by bringing together a professionally-diverse community that includes data providers, tools developers, scientists, curriculum developers, and educators for the purpose of 1) informing each other of their data use needs and capabilities, 2) contributing their expertise to the development of an educational module (a chapter in the *Earth Exploration Toolkit*) that features research quality Earth science datasets and data analysis tools, and 3) developing ongoing relationships with professionally diverse colleagues. [More »](#)

- [Expanding GeoFORCE Texas](#) —

**Principal Investigator:** [Harold McWilliams](#)

**Funders:** [National Science Foundation](#)

*GeoFORCE Texas* is the Jackson School of Geosciences (JSG) at the University of Texas-Austin's outreach program geared towards attracting minority high school and undergraduate students to careers in the geosciences. [More »](#)

- [Expanding the Data Cycle](#) —

**Principal Investigator:** [Tamara Shapiro Ledley](#)

**Funders:** [National Science Foundation](#)

The project provides middle school teachers with the ability to access and analyze Earth science data sets, use data analysis tools (IT), and adapt them in a way that addresses both the interests and curricular needs of their students. [More »](#)

- [Eyes in the Sky II: Facilitating Classroom Research Using NASA Resources and Geospatial Technology](#) —

**Principal Investigator:** [Carla McAuliffe](#) and [Erin Bardar](#)

**Funders:** [National Aeronautics and Space Administration](#)

Expanding on TERC's existing professional development program to reach a national audience, *Eyes in the Sky II* offers high school science teachers a long term, multi-faceted program that provides them with the tools to integrate NASA data, visualizations, and other technologies vital to Earth Science research into their teaching practices. [More »](#)

- [Eyes in the Sky: Applied Information Technology](#) —

**Principal Investigator:** [LuAnn Dahlman](#), [Jeff Lockwood](#), and [Carla McAuliffe](#)

**Funders:** [National Science Foundation](#)

Earth-orbiting satellites are producing an avalanche of scientific data about our planet. Information technology (IT) provides the tools necessary to explore, model, interact with, and analyze these data. [More »](#)

- [Facilitating a Deeper Understanding of Change in the Earth System on Multiple Time Scales](#) —

**Principal Investigator:** [Tamara Shapiro Ledley](#)

**Funders:** [National Science Foundation](#)

The goals of this project are to: 1) build, mainly with existing resources, a sequence of scaffolded activities and investigations that will help students more fully understand how the cryosphere changes on multiple time scales and how it impacts and is impacted by the other components of the Earth system; and 2) investigate the effectiveness of the developed sequence of activities and investigations at helping students understand how and why a component of the Earth system varies over time to apply that knowledge to improve the unit of activities used in this study, and to make that knowledge and materials available to the broader educational community. [More »](#)

- [Fulcrum Institute for Education in Science](#) —

**Principal Investigator:** [David Carraher](#) and [Sue Doubler](#)

**Funders:** [National Science Foundation](#)

TERC, in partnership with Tufts University, has offered leadership institutes for K-8 science educators. [More »](#)

- [FUN: A Finland-U.S. Network for Engagement and STEM Learning in Games](#) —

**Principal Investigator:** [Jodi Asbell-Clarke](#)

**Funders:** [National Science Foundation](#)

**Website:** <http://edge.terc.edu/>

The Finnish-US Network (FUN) is blending methods and test beds from both countries to get a broader picture of how engagement and learning are entwined in the growing field of game-based learning. [More »](#)

- [Girls InnovaTE3: Girls Innovating with Technology as Entrepreneurial Environmental Engineers](#) —

**Principal Investigator:** [Jeff Lockwood](#)

**Funders:** [National Science Foundation](#)

TERC is collaborating with SRI International (SRI) and Girls Incorporated of Alameda County (GIAC) to create an out-of-school, interest-driven STEM curriculum and programming for underrepresented urban girls in grades 8-11 in Oakland, California. [More »](#)

- [Handheld Signing Math and Science Dictionaries for Deaf or Hard-of-Hearing Museum Visitors Research Project](#) —

**Principal Investigator:** Judy Vesel  
**Funders:** [National Science Foundation](#)  
**Website:** <http://signsci.test.terc.edu>

TERC and the Museum of Science, Boston (MoS), are studying the integration—into MoS's Take a Closer Look and Science in the Park exhibits—of iPod Touch versions of the Signing Science Pictionary (SSP), Signing Science Dictionary (SSD), and the Signing Math Dictionary (SMD). Developed by TERC and Vcom3D (innovators of the SigningAvatar® technology that [More »](#)

- [Honors Earth Science Planning Work](#) —

**Principal Investigator:**  
**Funders:**

This project will develop ways to enhance typical Earth science courses to make them more challenging for use in honors level classes, by focusing on inquiry, visualizations, and Earth as a system. [More »](#)

- [Interactive Earth](#) —

**Principal Investigator:**  
**Funders:** [National Science Foundation](#)

TERC, in partnership with WorldLink, Inc. and with the cooperation of NASA Earth Observatory, is developing a DVD entitled "Interactive Earth 2.0." [More »](#)

- [Investigating Astronomy](#) —

**Principal Investigator:** Jodi Asbell-Clarke  
**Funders:** [National Science Foundation](#)  
**Website:** <http://ia.terc.edu/>

TERC, in partnership with the National Optical Astronomy Observatory and the Astronomical Society of the Pacific, has developed *Investigating Astronomy* - a set of instructional materials for high school students studying astronomy. [More »](#)

- [Kids' Survey Network](#) —

**Principal Investigator:** Elizabeth Rowe and Diana Nunnaley  
**Funders:** [National Science Foundation](#)

*Kids' Survey Network (KSN)* is an apprenticeship network whose goal is to prepare the nation's future adults to understand and use survey data that are pertinent to everyday concerns and public opinions of government, business, science, health, and other domains affecting the quality of our everyday lives. [More »](#)

- [Learning Science Online: A Descriptive Study of Online Science Courses for Teachers](#) —

**Principal Investigator:**  
**Funders:** [National Science Foundation](#)

With the rapid increase in online degree programs for teachers, it is imperative to understand what is happening in this new learning environment - yet to date, meta-studies in online education have focused primarily on institutional support and accessibility for students. Learning Science Online (LSO) is the first multi-institutional study of science courses taught online for teachers. [More »](#)

- [Mars Exploration Program](#) —

**Principal Investigator:**  
**Funders:**

Connect your students to the excitement and learning opportunities of NASA's missions to Mars through a series of four Mars education modules. [More »](#)

- [Martian Boneyards](#) —

**Principal Investigator:** Jodi Asbell-Clarke  
**Funders:** [National Science Foundation](#)  
**Website:** <http://edge.terc.edu/>

The Educational Gaming Environments group at TERC (EdGE @ TERC) and Virtual Space Entertainment (VSE) are developing *Martian Boneyards* - a game of scientific collaboration in the new high-definition massively-multiplayer online environment (MMO) called *Blue Mars*. [More »](#)

- [Mobile Signing Math Dictionary](#) —

**Principal Investigator:** Judy Vesel

**Funders:** [US Department of Education](#)

**Website:** <http://signsci.terc.edu/>

TERC and Vcom3D are adapting the use of the web-based *Signing Math Dictionary* for the iPod Touch and evaluating its use in formal and informal education settings. [More »](#)

- [Mobile Signing Science Pictionary](#) —

**Principal Investigator:** Judy Vesel

**Funders:** [US Department of Education](#)

**Website:** <http://signsci.terc.edu/>

TERC and Vcom3D are adapting the use of the web-based *Signing Science Pictionary* for mobile handheld devices and evaluating the mobile versions in K-3 classrooms for usability and implementation and to establish the kinds of learning gains that are possible when it is used as an assistive tool. [More »](#)

- [Philips Color Kinetics](#) —

**Principal Investigator:** Judy Vesel

**Funders:** [Philips Solid-State Lighting Solutions, Inc.](#)

**Website:** <http://signsci.terc.edu/>

Knowing that many visually impaired children can detect and respond to light, Philips Color Kinetics (PCK) is developing a device—named the LightAide—that uses arrays of colored LED lights to assess, engage and teach children who are blind/low vision. [More »](#)

- [Promoting STEM Career Interest In the Classroom: An Exploratory Study](#) —

**Principal Investigator:** Carla McAuliffe

**Funders:** [National Science Foundation](#)

This Innovative Technology Experiences for Students and Teachers (ITEST) Studies project looks at the ITEST portfolio of past and current projects from the perspective of two important and widespread roles that teachers are placed in during professional development programs.. [More »](#)

- [Reopening the Science Door: TERC/Lesley Online Master's in Science Education](#) —

**Principal Investigator:** Sue Doubler

**Funders:** [National Science Foundation](#)

**Website:** <http://scienceonline.terc.edu/>

TERC and Lesley University are extending the faculty development efforts of an online master's in science education program for K-8 educators. [More »](#)

- [Rethinking How To Teach Energy: Laying the Foundations in Elementary School](#) —

**Principal Investigator:** Sara J Lacy

**Funders:** [National Science Foundation](#)

**Website:** <http://energylens.terc.edu>

Responding to a need for a coherent pedagogical approach to teaching energy and matter, this exploratory project is researching and developing a proposed grade 3-5 learning progression that provides a strong base for understanding energy in middle school. [More »](#)

- [Revolutionizing Earth System Science Education for the 21st Century](#) —

**Principal Investigator:** Dan Barstow and Martos Hoffman

**Funders:** [National Oceanic and Atmospheric Administration](#)

**Website:** <http://www.oesd.noaa.gov/>

The National Oceanic and Atmospheric Administration (NOAA) commissioned TERC to complete a review of science education standards for all 50 states. The study analyzed K-12 Earth science standards to determine how well each state addresses key Earth-science content, concepts and skills. [More »](#)

- [Science After School Conference](#) —

**Principal Investigator:**

**Funders:** [National Science Foundation](#)

This project will take advantage of the increasingly academic nature of the afterschool community to introduce math and science activities into afterschool programs. [More »](#)

- [Science Online: Master's in Science Education Degree Program](#) —

**Principal Investigator:**

**Funders:** [National Science Foundation](#)

**Website:** <http://scienceonline.terc.edu/>

TERC and Lesley University have developed an online science education master's degree program for elementary and middle school educators. [More »](#)

- [Search for Extraterrestrial Life Museum Exhibit](#) —

**Principal Investigator:**

**Funders:**

TERC is working with the New York Hall of Science to create a permanent exhibit entitled "Extreme Life." [More »](#)

- [Seasons of Change](#) —

**Principal Investigator:** [Erin Bardar](#)

**Funders:** [The Watson Institute for International Studies](#)

**Website:** <http://seasons.terc.edu>

TERC is designing the citizen science component for [Seasons of Change](#), an interactive traveling exhibition that will illustrate the impact of climate change on regional landscapes over the changing of the seasons. [More »](#)

- [Second Conference on the Revolution in Earth Science Education](#) —

**Principal Investigator:**

**Funders:** [National Science Foundation](#)

This follow-up to the 2001 conference focuses on state-based implementation plans to make the revolution real. [More »](#)

- [Shared Signing Science Planning Project](#) —

**Principal Investigator:** [Judy Vesel](#)

**Funders:** [National Science Foundation](#)

**Website:** <http://signsci.test.terc.edu/>

Little is known about the use of dictionaries in home settings to help parents of children who are deaf and hard of hearing and their children develop visually-based ways of communicating about science that increase access to informal science learning and about what terms and types of home activities serve to maximize access to science learning in informal settings and support STEM learning in school. [More »](#)

- [Signing Earth Science Dictionary](#) —

**Principal Investigator:** [Judy Vesel](#)

**Funders:** [National Science Foundation](#)

**Website:** <http://signsci.test.terc.edu/>

TERC and Vcom3D are using the Signing Avatar® assistive technology to research and develop an illustrated interactive 3D dictionary of standards-based Earth science terms for high school students who are deaf and hard of hearing and whose first language is sign. [More »](#)

- [Signing Math Dictionary](#) —

**Principal Investigator:** [Judy Vesel](#)

**Funders:** [National Science Foundation](#)

**Website:** <http://signsci.terc.edu/>

TERC and Vcom3D are using the SigningAvatar® assistive technology to research and develop an illustrated interactive 3D dictionary of standards-based mathematics terms for students in grades K-8 who are deaf and hard of hearing and whose first language is sign. [More »](#)

- [Signing Math Pictionary for K-4 Learners](#) —

**Principal Investigator:** [Judy Vesel](#)

**Funders:** [U. S. Department of Education](#)

**Website:** <http://signsci.terc.edu/>

TERC and Vcom3D are using the SigningAvatar® assistive technology to create an illustrated interactive 3D dictionary of signed mathematics terms for children in grades K-4 who are deaf or hard of hearing. They will evaluate it for usability and feasibility, and add to the Avatar lexicon of signs for [More »](#)

- [Signing Science Pictionary](#) —

**Principal Investigator:** Judy Vesel

**Funders:** [US Department of Education](#)

**Website:** <http://signsci.terc.edu>

TERC and Vcom3D are using the Signing Avatar® accessibility software to create an illustrated interactive 3D dictionary of signed science terms for children in grades K-3 who are deaf and hard of hearing, evaluate it for usability and feasibility, and add to the Avatar lexicon of signs for scientific terms. [More »](#)

- [Space Science Careers: Building Hinode XRT, A Space X-Ray Telescope](#) —

**Principal Investigator:** Nick Haddad

**Funders:** [National Aeronautics and Space Administration](#)

TERC and its partners are developing a resource for high school guidance counselors to introduce high school students to space science careers. [More »](#)

- [SparkSense](#) —

**Principal Investigator:** Judy Vesel

**Funders:** [National Science Foundation](#)

With *SparkSense, Inc.*, TERC is researching, developing, and testing a proof-of-concept version of a game-like web solution that helps parents encourage tweens (ages 8-12) to use educational content online. [More »](#)

- [Student/Scientist Partnership for Fossil Research](#) —

**Principal Investigator:**

**Funders:** [National Science Foundation](#)

The Paleontological Research Institute (PRI) is conducting a research project in which students collaborate with scientists to analyze and date rock samples associated with fossils from the Devonian Era. [More »](#)

- [Talk Science](#) —

**Principal Investigator:** [Sue Doubler](#) and Harold McWilliams

**Funders:** [National Science Foundation](#)

**Website:** <http://inquiryproject.terc.edu/>

Talk Science is developing and studying web-based professional development that encourages productive classroom talk, helping teachers engage with science to linguistically meld subject (discipline) and practice (inquiry) to the benefit of their students. [More »](#)

- [Targeted Research for a Serious Games NSDL Pathway](#) —

**Principal Investigator:** [Jodi Asbell-Clarke](#)

**Funders:** [National Science Foundation](#)

**Website:** <http://edge.terc.edu>

EdGE (the Educational Gaming Environments group) @TERC has been awarded a targeted-research grant from NSDL to study the feasibility of creating a 'serious games' pathway for digital STEM resources. [More »](#)

- [The Inquiry Project](#) —

**Principal Investigator:** [Sue Doubler](#)

**Funders:** [National Science Foundation](#)

**Website:** <http://inquiryproject.terc.edu/>

TERC is partnering with Tufts University to help students in grades 3-5 to develop an understanding of science that will lay a foundation for later comprehension of the atomic-molecular theory of matter in middle and high school. [More »](#)

- [The Ocean in Our Backyard](#) —

**Principal Investigator:** [Brian Conroy](#)

**Funders:**



This afterschool science program allows middle school youth throughout Boston to explore the biology and ecology of Boston Harbor. [More »](#)

- [Transforming Instruction by Design in Earth Science \(TIDES\)](#) —

**Principal Investigator:** [Harold McWilliams](#) and [Carla McAuliffe](#)

**Funders:** [US Department of Education](#)

Funded by the Department of Education Institute of Education Sciences, this project is a partnership of SRI, TERC, the American Geological Institute, and Duval County Public Schools. The project evaluates how Earth system science teaching and learning can be improved by using different mixes of curriculum materials and teacher professional development strategies. [More »](#)

- [Try Science Online](#) —

**Principal Investigator:** [Sue Doubler](#) and [Linda Grisham](#)

**Funders:** [U.S. Department of Education](#)

**Website:** <http://scienceonline.terc.edu/>

Introducing inquiry and current technology resources into classroom science in ways that result in sound understanding of scientific concepts is a challenge that requires new and innovative teaching paradigms. [More »](#)

- [Using EarthScope Data in Secondary Classrooms](#) —

**Principal Investigator:** [Tamara Shapiro Ledley](#)

**Funders:** [National Science Foundation](#) and [UNAVCO](#)

TERC is improving the educational outreach for EarthScope, a partnership between NASA, the NSF, and the US Geological Survey using modern technology to investigate the geological processes shaping the North American continent. [More »](#)

- [Windows on Earth](#) —

**Funders:** [National Science Foundation](#)

**Website:** <http://winearth.terc.edu>

Windows on Earth responds to the need to improve public understanding of key issues in Earth science and their connections to daily life. [More »](#)

- [Windows on Earth: CASIS](#) —

**Funders:** [National Aeronautics and Space Administration](#) and the [Center for the Advancement of Science in Space \(CASIS\)](#)

**Website:** <http://www.windowsonearth.org/>

Through a new project, *Amazing Earth CASIS Education*, TERC will develop web-based educational activities that use these images in STEM, geography and other domains. [More »](#)

- [Women's Science Equity Online](#) —

**Principal Investigator:** [Jodi Asbell-Clarke](#) and [Elizabeth Rowe](#)

**Funders:** [National Science Foundation](#)

This research project will study the characteristics of online science courses for teachers that correlate to positive learning outcomes for women. [More »](#)