

JOIN THE COLLABORATION

Teaching about Earthquakes with Data and 3D Visualizations serc.carleton.edu/NAGTWorkshops/visualization/examples/57568.html

Three new activities, created by the KeckCAVES group, that allow students to visualize and experience complex and highly visual geologic concepts.

Resources from Workshops and Webinars

Catch up with career advice, emerging science, and effective pedagogy by viewing the webcast files for webinars offered by On the Cutting Edge and others during the 2010-2011 academic year.

Pursuing an Academic Career in the Geosciences Webinar Series

serc.carleton.edu/NAGTWorkshops/careerdev/AcademicCareer2011

Resources for and insights into effective teaching, career planning, the job search, and faculty positions in different types of institutions.

Climate and Energy Climate and Webinar Series serc.carleton.edu/NAGTWorkshops/climatechange/webinar

Quickly evolving and constantly in the news, these topics are ones which our students find to be both relevant and interesting. This monthly series explored the science of energy and climate, along with promising teaching approaches for these topics.

CLEAN Workshops and Webinars cleanet.org/clean/community#events

Upcoming events plus webcasts of past workshops and webinars, including talks by Richard Alley and John Cook, author of the Skeptical Science website.

InTeGrate serc.carleton.edu/integrate

This NSF STEP center, opening in 2012, is a community effort to improve geoscience literacy and build a workforce prepared to tackle societal issues. In addition to a workshop series, it includes opportunities for faculty to collaborate on the development of teaching materials. Check the website for information on how to be involved.

Share ideas, activities, and materials you have developed and tested in your classes — and receive recognition for that development process.

The website content at Teach the Earth is developed by projects and individuals who believe we can improve geoscience teaching by learning from one another.

For a full list of collaborators, go to: serc.carleton.edu/serc/site_guides/projects.html

We invite you to join the collaboration. For information on the types of materials you can share and the procedures for doing so, visit:

serc.carleton.edu/teachearth/contribute.html

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Teach the Earth is maintained by the Science Education Resource Center (SERC), an office of Carleton College funded by grants from NSF and others.

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(Background Cover Image) Namib Desert, Namibia, where coastal winds create sand dunes as much as 980 feet high. Image courtesy of USGS National Center for EROS and NASA Landsat Project Science Office

<http://serc.carleton.edu/teachearth>

WHAT'S NEW AT Teach the Earth

Online Resources for Geoscience Educators





Thousands of pages of online activities, workshops, and course descriptions. The work of more than a dozen projects. The contributions of more than 1,000 faculty, teachers, and researchers. That is **Teach the Earth**.

Teach the Earth knows that the crucial work of educating students about Earth science is made significantly more effective when geoscience educators share their ideas and resources with one another. Teach the Earth was created to help make that happen—by providing access to leading-edge geoscience content and in-depth information on the methods that excellent teachers use to connect with their audiences.

Developed by experienced educators, the materials, ideas, and activities at Teach the Earth are ideal for use by faculty, teachers, students, and future teachers. And use them they do! Each year, some 100,000 individuals visit the site repeatedly. If you haven't visited recently, we invite you to do so now. The collection adds new materials monthly.

(Above) Photo by Cathy Connor, from In The Trenches

(Right) Photo courtesy of KeckCAVES, UC Davis [all rights reserved]



Pedagogic Guidance

Teaching Large Classes

serc.carleton.edu/NAGTWorkshops/intro/large_classes.html

This popular site has added a new section with ideas on how to keep large classes engaging, relevant, and accessible to a student population with diverse interests and experiences. Active learning strategies are also provided.

Designing Online Courses

serc.carleton.edu/NAGTWorkshops/online/design.html

Are you adapting an existing course to an online format or designing a new online course? These pages offer concrete strategies for designing courses specifically for the online classroom.

Teaching about Hazards in Geoscience

serc.carleton.edu/NAGTWorkshops/hazards/index.html

Major hazardous events and natural disasters provide powerful opportunities to engage students with class content and demonstrate how the geosciences impact everyday lives. This new module from On the Cutting Edge provides resources and advice for effectively teaching about hazards.

It's About Time: Teaching the Temporal Aspects of Geoscience

serc.carleton.edu/NAGTWorkshops/time

Expanded resources, including a list of barriers to learning about time, with summaries of research and strategies for improving student understanding of Deep Time and related topics.

Developing Strong Writing Assignments

serc.carleton.edu/sp/library/writing_assignments

Writing assignments provide a means of demonstrating learning as well as a method to stimulate learning. Writing instruction emphasizes both learning to write and writing to learn. This module, part of the Pedagogy in Action teaching methods collection, offers information, advice, examples, and references that can help you integrate strong writing assignments into your classroom.

Teaching Metacognition in Large Classes

serc.carleton.edu/NAGTWorkshops/metacognition/largeclasses.html

Metacognition allows students to be more aware of how they learn. This site offers practical advice, tools,

and examples for improving students' ability to reflect on the state of their learning. New information geared towards large classes has been added to this popular site.

Interactive Lectures

serc.carleton.edu/introgeo/interactive

Draw students into your lectures by interspersing short individual, pair, or small-group activities. Updated material in this popular module includes new ideas, advice, and an expanded array of examples.

Collections of Teaching Materials

The CLEAN Collection

cleanet.org/clean/educational_resources

Over 300 reviewed and annotated classroom activities, visuals, and short videos for teaching about climate and energy.

Resources for Two-Year College (2YC) Faculty

serc.carleton.edu/geo2yc/index.html

Essays on the state of 2YC education, teaching activities, and course descriptions submitted by 2YC faculty, discussion and networking venues, and links to workshops, 2YC efforts in other disciplines, and the new Two-Year College Division of the National Association of Geoscience Teachers.

K-12 Science Portal

serc.carleton.edu/k12

Hundreds of lessons, activities, lab investigations, and field trip ideas covering biology, chemistry, Earth and space science and environmental science, plus web resources to improve teaching and build understanding of how students learn.

New Earth Exploration Toolbook Chapters

serc.carleton.edu/eet/index.html

New activities include: How Permanent is Permafrost?, Investigating Climate Change Using Observed Temperature Data, Tsunami Run-up Prediction for Seaside Oregon, Protecting Wetlands from Exurban Development, Climate History from Deep Sea Sediments, and Exploring NCAR Climate Change Data Using GIS.

Geology of National Parks Spreadsheets Across the Curriculum Collection

http://serc.carleton.edu/sp/ssac/national_parks/

This collection of modules engages students using the geologic wonders of the national parks. Self-paced activities allow students to apply core mathematics to the science behind decision-making.