

# Using Data in the Classroom: Resources for Undergraduate Faculty

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On-line access to geoscience data and tools for data visualization and analysis are creating exciting new opportunities for engaging undergraduate students with data. The National Science Digital Library (NSDL) and DLESE both include access to data and tools as fundamental aspects of their vision and are currently striving to support faculty in using data in their courses. This poster highlights the variety of efforts and resources currently underway.

## Using Data in the College-University Classroom Workgroup

This group of participants in the DLESE Annual meeting is developing information that will support broader use of data in undergraduate geoscience teaching. Group discussions focused on:

- The need for a repository in DLESE for unpolished material including data, illustrations/animations, modules, activities
- The importance of labeling and contextual information in making data useable
- The relationships between data-data services-education-learning
- Strategies for increasing use of data in undergraduate teaching

Highlights of the working group discussion are available at

[wiki.dlese.org/ReportOut2003/26](http://wiki.dlese.org/ReportOut2003/26)

## DLESE Data Access Working Group (DAWG)

Originally formed in 2001 and recently reconstituted, this group has been asked by the DLESE community to explore what it means to incorporate datasets into a digital library with an educational mission. Challenges are recognized in four areas:

- Discovery and visualization of data (including integration of data distributed archives)
- Development and dissemination of educational resources that use earth data
- Professional development of educators that are enabled to use these tools
- Support for independent learning from data

Further information about the DAWG is available at

[www.dlese.org/workgroups/dawg](http://www.dlese.org/workgroups/dawg)

## Using Data in Undergraduate Science Classrooms Report

Based on an NSDL workshop held in 2002 this addresses:

- What do we mean by data?
- Why is using data important?
- How do we do it?
- What do we know about how well this works?
- What are the implications for digital libraries and data providers ?

### • NSDL Using Data in the Classroom Portal: [serc.carleton.edu/usingdata/](http://serc.carleton.edu/usingdata/)

Provides faculty from all STEM disciplines with information, examples, tools and data that support their use of data in the classroom. A special section for developers provides information about faculty needs for data access and manipulation.

### • Earth Exploration Toolbook: [serc.carleton.edu/EET/](http://serc.carleton.edu/EET/)

providing step-by-step instructions and case studies for using Earth science datasets and software tools in educational settings.

### • On the Cutting Edge-Using Data Topic: [serc.carleton.edu/NAGTWorkshops/usingdata/](http://serc.carleton.edu/NAGTWorkshops/usingdata/)

Based on workshops and sessions sponsored by this NAGT professional development program, this site offers access to resources specifically in the geosciences with a focus on pedagogy

### • Starting Point-Teaching with Models: [serc.carleton.edu/introgeo/models/](http://serc.carleton.edu/introgeo/models/)

For faculty teaching entry-level geoscience, this site combines information on effective pedagogy with examples for use in the classroom or lab.

### • Data Discovery Toolkit and Foundry: [www.newmediastudio.org/DataDiscovery/index.html](http://www.newmediastudio.org/DataDiscovery/index.html)

A service providing middle-ware for embedding data-access in on-line learning resources

### • Atmospheric Visualization Collection: [www.nsd.arm.gov/index.shtml](http://www.nsd.arm.gov/index.shtml)

A digital library collection based on the visualization of atmospheric data

## Resources

