

Geological Society of America's GeoTeachers™ Program

Geoscience Teacher Resources and Experiences

Background

School teachers, after parents, are the most influential people through which our children learn. They provide our children not only with the tools that they will need to survive in our ever changing and technological advancing society, but they also provide students with values about subjects and topics that they present in their classrooms.

Teachers do not do this in a random and illogical progression. They use specific educationally based curriculum to ensure that our children get a balanced education. However, within these curricula there is scope for teachers to expand upon subjects for which they have enthusiasm and passion.

In the current education environment of “No Child Left Behind” and other policies, teachers’ enthusiasm and passion are sorely compromised. In fact, many of the Earth science teachers in the USA do not have the proper training, background, or resources to teach the course. But given the right encouragement, knowledge and resources, passion and enthusiasm can be ignited.

We need to ensure that we spark excitement and fervor about Earth in our educators so that they will instill in our children the importance of and an interest in Earth science. We can do this by sharing our passion and enthusiasm through providing teachers with exciting Earth science resources and experiences.

As each teacher will see many hundreds of students throughout any year, their influence as an advocate for Earth science is enormous. If we can provide them with the right materials and experiences, then they will do all the hard work in preparing society, through their students, for the future challenges to which Earth science will contribute.

Students will also take these Earth science experiences home, further influencing their families and broaden the impact into the wider community.

Providing teachers with the right materials and experiences is the key to helping them become our advocates, and so using Earth science educators who have been in the classroom and yet who have a fundamental understanding of the nature of Earth science is necessary for the success of any program. The Geological Society of America operates a program to meet this need and we are seeking support and partnerships to increase its impact.

Geological Society of America

The Geological Society of America (GSA), founded in 1888, is a nonprofit organization dedicated to the advancement of the geosciences. GSA is an expanding global membership society with more than 26,000 members in countries around the world.

The Society's primary activities are organizing scientific conferences and publishing scientific literature. Other activities include disbursing research grants, honoring outstanding scientific contributors with medals and awards, assisting teachers in geosciences education, and fostering public awareness of geosciences issues.

GSA has an Education, Communications, and Outreach group which operates a wide range of programs to raise awareness of Earth science in the community.

Program Goals

The Geological Society of America's GeoTeachers program goal is to promote geoscience to school students and their families through active and enthusiastic teacher advocates. It will do this by:

- Providing up-to-date, curriculum-linked, engaging geosciences teaching resources to school teachers across the USA and beyond which are developed by people with recent classroom teaching experience, and
- Providing teacher activities in which they experience the importance, relevance, and wonder of geosciences through first-hand contact with geosciences in the field or laboratory.

Current Program Resources

The GeoTeachers program currently operates with a staffing level of 0.8 full-time equivalent and an operating budget of around \$30,000. Two GSA staff members, both who are trained geologists and have taught face-to-face in schools, work on the program. Most operational funding comes from the sale of developed resources and support through the GSA Foundation.

What have we done so far?

We began in February 2003 with the initial plan of creating a cadre of excellent teaching resources on CD-ROM for middle-high school teachers that covered a range of basic earth science topics. The following topics have been developed and released for teachers as part of the *Explore Geoscience* series:

- Plate Tectonics
- Volcanoes
- Geologic Time
- Cross Sections
- Climate Change
- Silicate Minerals
- Science of Gold
- Earthquakes
- Tsunami
- Fossils
- Weathering & Erosion
- Earth Cycles
- Caves & Karst
- Energy
- Forensic Geology

In addition, we have developed a poster on basic rock types and a series of CD-ROMs with cut-out models of aspects of geoscience (*Geology on Paper Series*). We also actively maintain an education section of the GSA Website.

The second phase of GeoTeachers has been to operate teacher training sessions at teacher conferences around the nation. This started in earnest in 2006. So far 2,097 teachers have undergone training and they estimate that they will use the program materials with over 230,000 students over the next school year. We have sold and freely distributed over 12,000 of these CDs which, according to statistics reported by these teachers, indicates an impact to over **1.1 million students** across the nation.

The program has also taken groups of teachers on field trips to Hawaii, Iceland, Costa Rica, Namibia, Australia, and Colorado. This aspect of the program is funded fully by the teacher participants who may obtain grants from their school district and other sources to attend. Evaluations of teacher who attend these trips show that the teachers who have these experiences are becoming some of geosciences strongest advocates in the classroom.

Increasing the Impact

There is no doubt that the impact of this program is through teacher training and field-based experiences. We believe that if we could extend the program so that we could operate teacher training sessions at all the major state science teacher conferences, as well as the national and regional National Science Teachers Conventions, we could easily increase the number of teachers trained to over 4,000 and have a student usage rate of 400,000 a year.

Likewise, if it was possible to subsidize teachers to attend field based workshops, we believe that we could strongly influence more teachers to be advocates for our science and form a core group that could initiate a change in the way Earth Science is seen at their local, regional, and state levels.

What does the Program need to increase impacts?

To increase the impact of this remarkable program, GSA is seeking funds to:

1. Support the team working on workshops and development of new teaching resource;
2. Attend more teacher conferences across the U.S., to present professional development sessions/workshops;
3. Enable teachers to attend field-based educational opportunities by subsidizing travel costs.

Contributions

Specifically, we will be seeking donors to help us increase the number of teacher meetings we can attend and CDs we can distribute at no charge. We also hope to create more resources that teachers are asking for (e.g., CDs on glaciers, rocks, minerals, evolution, and natural disasters) and additional posters. The program would benefit greatly from any single or long-term contributions from donors who care about Earth science education in this nation.

What about sponsor recognition?

Individuals or corporate sponsors who make a substantial contribution to this program will work directly with Bill Tortorici, Director of Development or Debbie Marcinkowski, Director of Corporate Partnerships to discuss appropriate recognition.

Thank you!

We hope you will consider becoming part of the GeoTeachers Program to help encourage and assist teachers of Earth Science all over the nation.

Program Contacts

Christa Stratton

Director of Education, Communications, and Outreach

(303) 357-1093

cstratton@geosociety.org

Matthew Dawson

Education Programs Manager

(303) 357-1025

mdawson@geosociety.org