

Key Issues from the Earth Systems Science Education Summit

The American Geological Institute (AGI) hosted the first Earth System Science (ESS) Education Summit in Houston, Texas, at BP Exploration's new Helios Plaza meeting facility on February 8-11, 2010. The Summit was supported by a grant from the National Science Foundation, as well as by funding from AGI, the American Association of Petroleum Geologists and the Geological Society of America. Forty-two representatives of AGI member societies and key partners met to discuss and address key issues facing the K-12 geoscience education community.

Key issues included:

- Perception of high school ESS as a non-rigorous, non-laboratory course;
- Status of the preparation and continuing education of ESS teachers;
- Inclusion of ESS alongside other sciences in the new national science education standards;
- Lack of an ESS advanced placement course;
- Challenges to ESS in schools by the creationist and Intelligent Design movements; and
- Role of the International Earth Science Olympiad in raising the profile of ESS.

Summit participants aimed to establish a formal consensus about key challenges, identify initiatives and individuals to address challenges, form teams to work on specific projects, identify possible funding sources for projects, and plan for U.S. participation in the International Earth Science Olympiad. In addition to affirming the priority issues listed above, the meeting resulted in five chaired Working Groups, as well as lists of Big Ideas and Action Items.

Big Ideas

Participants substantively agreed:

1. The geoscience community must speak with a common voice.
2. The geoscience community needs a public relations campaign for ESS education.
3. ESS education needs to be inclusive.
4. Teacher professional development for ESS must be organized nationwide.
5. There needs to be a state-level network to deal with crises in ESS education.
6. A nationwide campaign is needed to encourage institutions of higher learning to accept ESS high school courses as laboratory science courses.
7. The geoscience community must be politically savvy in ensuring ESS inclusion in national and state standards.
8. The geoscience community needs to work with guidance counselors and parents to raise the profile of ESS in schools for subject literacy and as a career option.
9. An AP Earth Science Exam can legitimize ESS in schools.
10. Look to the International Earth Science Olympiad as a public relations opportunity for ESS education and a chance to engage students at all levels in solving local geoscience problems.

Action Items

Participants made a shared commitment to:

1. Collect baseline data on existing ESS teacher pre- and in-service programs in the U.S.
2. Collect baseline data on four-year institutions that do and do not accept a high school ESS course for admission.
3. Update AGI's Pulse of Earth Science web site to reflect states that both require a course in ESS and that accept a course in ESS for high school graduation.
4. Review the draft version of the new national science education standards and provide feedback.
5. Seek funding support for a Center for Geoscience Understanding.
6. Seek funding and explore potential partnerships for the International Earth Science Olympiad.

- Ann Benbow

Education, Outreach and Development Director