

Education and Outreach Needs and Opportunities

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EarthScope is a National Science Foundation (NSF) program that applies the latest science and technology to explore the structure and evolution of the North American continent and to understand the physical processes that cause earthquakes and volcanic eruptions. The EarthScope National Office (ESNO) is working with the Incorporated Research Institutions for Seismology (IRIS), UNAVCO, Inc., and other partners to expand the program's education and outreach. The ESNO efforts will complement ongoing E/O aimed at formal educators in the K-16 school system by targeting interpretive professionals who engage the public in informal education settings such as parks and museums.

One of the fundamental aspects of EarthScope is the integration of many types of observations to study the structure and evolution of the continent. Two challenges facing the EarthScope community include providing the public with access to timely EarthScope science and presenting complex data and related principles in language and formats accessible to varied audiences. Park rangers and museum educators are in a unique position to engage the public on the relevance of Earth processes by incorporating EarthScope discoveries as they are being made. A series of three-day workshops will combine presentations by EarthScope scientists with interpretive methods to convey stories of geological hazards and the development of the dynamic landscape of the western United States. The initial workshop, to be held April 7-10, 2008, at the Mt. Rainier National Park Education Center, will focus on results of EarthScope's USArray and PBO observations from the Cascadia Subduction Zone. The workshop will show how incorporating EarthScope data and scientific results into interpretive programs and exhibits can enhance the "sense of place" represented by the dynamic landscape of the Pacific Northwest. Presentations and activities will focus on engaging visitors on not only how and why science is important, but also that it is understandable and meaningful. Earthquakes, volcanoes, and tsunamis reveal the power of Earth's forces that form the spectacular landscape of the Pacific Northwest. Interpretive professionals can draw on connections that park and museum visitors have to the landscape to relate how and why seismic and geodetic measurements are so important. Participants will learn how to use EarthScope data and science results, and will develop and present actual programs and exhibits during the workshop.

The EarthScope National Office is working with partners in many other ways to engage students, teachers, and the general public on how deformation of the North American continent affects their lives. The 2008 EarthScope Speaker Series presents scientific results of EarthScope research to faculty and students in geology/geophysics departments at colleges and universities. Increased awareness of EarthScope and its achievements by scientists is a first step toward broader outreach. The series will be expanded in future years to include presentations to more general audiences in public forums. ESNO is also working with programs such as the Science and Math Investigative Learning Experiences (SMILE) program at Oregon State University. SMILE focuses on school districts throughout the state that have large minority and underrepresented student populations. We are focusing on the informal education component of SMILE that works with teachers and students in after-school science clubs. During discussions at the "Aseismic Slip, Non-Volcanic Tremor, and Earthquakes" Workshop we will examine these examples and others from workshop participants to discuss needs and opportunities for ETS education and outreach.