

GreatBREAK Workshop

(Great Basin & Range Evolution And Kinematics)

June 21-23, 2004, Tahoe City, California



Preparing for EarthScope in the Great Basin and its margins

When and Where:

June 21-23, 2004; Granlibakken Resort and Conference Center, Tahoe City, California

Synopsis of workshop:

In the Great Basin region, the EarthScope Observatory will sample a diverse record of continental growth and overprinted fabrics associated with continental assembly and evolution. Chief among the formative events in the Great Basin were 1) Early Proterozoic accretion; 2) Late Proterozoic rifting that created the Proterozoic /Phanerozoic continental margin; 3) Late Devonian-Permian shortening, terrane accretion, and development of an active margin; 4) Mesozoic-early Tertiary subduction and compression culminating in the largely amagmatic 80-40 Ma Laramide orogeny; 5) Neogene post-orogenic collapse and voluminous magmatism and hydrothermal activity; and 6) the contemporary extensional activity which is increasingly affected by transform conditions. The mantle structure displays a wealth of small-scale structure above the transition zone suggestive of vigorous asthenospheric/lithospheric interactions. Because of its strong mantle, crustal, and topographic interactions and active tectonics, the Great Basin is also an ideal venue for enhancing geodynamical understanding. The history and active processes make the Great Basin a world-class natural laboratory to investigate current and past processes affecting continental evolution and its implications for hazards and resources, and a region where Earthscope is most likely to stimulate exciting breakthroughs.

The EarthScope Observatory is the first Major Research Equipment and Facilities Construction initiative in the Earth sciences. The scientific goal of Earthscope is to understand the structure, and evolution of the North American continent and the physical processes controlling earthquakes and volcanic eruptions. EarthScope will provide a foundation for fundamental and applied research that will contribute to the mitigation of risks from geological hazards, the development of natural resources, and the public's understanding of the dynamic Earth.

The purposes of the workshop are to promote community self-organization that we believe is necessary to realize the full potential of EarthScope, to deepen the understanding of the state of knowledge among scientists who are active in the Great Basin, to identify directions where Earthscope is expected to make major contributions, and to expand the constituency of Earthscope in this region to include resource industries and the broad education community. Invited plenary talks will survey current knowledge, leading scientific themes, and unsolved problems. Poster presentations will give individuals and groups opportunities to

present research and ideas in greater detail, and are requested from all participants. Participants are also encouraged to contribute a summary paper (4 pages or longer) prior to the workshop for advance distribution to participants and publication in the workshop proceedings volume. Topical breakout sessions will seek to sharpen the research focus and provide opportunities for response and interaction. The organizing committee will also post participants' contributions (papers, abstracts, powerpoint presentations, etc.) on the worldwide web for wider access by the research community, and will prepare a workshop proceedings summary reportings volume. Topical breakout sessions will seek to sharpen the research focus and provide opportunities for response and interaction. The organizing committee will also post participants' contributions (papers, abstracts, powerpoint presentations, etc.) on the worldwide web for wider access by the research community, and will prepare a workshop proceedings summary report.

Organizing Committee:

John Anderson, (Chair) University of Nevada, Reno
Rick Aster, New Mexico Tech
Glenn Biasi, University of Nevada, Reno
Geoff Blewitt, Nevada Bureau of Mines and Geology
Jim Faulds, Nevada Bureau of Mines and Geology
Gene Humphreys, University of Oregon
John Louie, University of Nevada, Reno
Jon Price, Nevada Bureau of Mines and Geology
Phil Wannamaker, University of Utah
Steve Wesnousky, University of Nevada, Reno
Lew Gustafson, Independent Consultant

Participation and Support:

Persons wishing to attend the workshop should submit the workshop application by February 27, 2004, including name, organization and contact information, along with a brief statement of a prospective contribution to the workshop, and an abstract (250 words or fewer) relating the science of the Great Basin and its margins to EarthScope objectives. Travel support is available for a limited number of participants.

Message Discussion Group:

For the latest information on the workshop, please visit our web site at <http://www.seismo.unr.edu/greatbreak>. The web page will allow you to sign up for an email discussion group to receive all future announcements.

Questions regarding the workshop can be addressed to:

John Anderson, Director
Nevada Seismological Laboratory, Mail Station 174
University of Nevada, Reno
Reno, NV 89557
Ph: 775-784-4265
Fax: 775-784-4165
Email: jga@seismo.unr.edu