EarthScope Update

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Spectrum of Fault Slip Behavior
Portland, Oregon
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EarthScope Facility

Plate Boundary Observatory
the first five years

San Andreas Fault Observatory at Depth
the first five years

USArray
the first five years
SAFOD

- 11 research groups using 400+ Phase 3 core samples
- SAFOD Advisory Committee established by UNAVCO
- Observatory restoration plans in final development.
- Observatory was removed

Zoback et al. (2009, EOS sub.)

Mittempergher et al., 2009
Transportable Array Installation Plan

USArray
USArray

Transportable Array Installation Plan

Station removal follows in 24 months
USArray

TA: 900 stations down, ~750 to go
USArray

RefNet: 115 stations from multiple networks
USArray
FA: 326 BB, 120 SP, 1700 active source; 15 ES+9 other expts
USArray

Magnetotellurics: 7 BB sites, 221 temp, ~50/year
EarthScope Research

- Broad, integrated studies across the Earth sciences
  - Crustal/lithospheric structure
  - Active deformation of North America
  - Continental evolution through geologic time
  - Deep Earth structure and dynamics
  - Earthquakes, faults, and lithospheric rheology
  - Magmas and volatiles in crust and mantle
  - Topography and tectonics
  - Hydrosphere, cryosphere, atmosphere

- Using techniques from...
  - Geodesy, Seismology, Geology, Geodynamics, Potential fields, Geochronology, Rock Mechanics, etc.
EarthScope Science Program

- EarthScope Science Program (2009 – 30% success rate)
- NSF budget for 2011 is 7% above 2010, but still in congressional committee
- In 2010 there were about 100 proposals for the 17 July 2010 deadline. Decision should be in January 2011.
- 2011 solicitation by 16 April 2011 with full proposal deadline of 16 July 2011
Additional Opportunities  
(www.nsf.gov)


- **Continental Dynamics**: one solicitation in November. Next deadline 15 November 2010.

- **Tectonics**: two solicitations per year (Dec-Jan, Jun-Jul). Next submission 6 December – 6 January 2011.

- **Petrology and Geochemistry**: two solicitations per year (Dec-Jan, Jun-Jul). Next submission 6 December – 6 January 2011.

- **GeoPRISMS** (Geodynamic Processes at Rifting and Subducting Margins): deadline 1 July 2011.