

# Break-Out Session 2

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# What studies are necessary for synthesis for a GeoPRISMS synthesis?

- Regional workshops and collaborations necessary to not only present work but also to synthesize results – need to sit in a room and create documents
  - Possibly focus on specific aspects of each focus site, not necessary to have one huge document
- Create textbooks, publicly accessible websites (Wikipedia?), and other educational materials for schools and general public
- Have repositories of processed data - not just raw data - for research and educational purposes
  - All collected material should be documented and added to databases for general use

# Where do we have gaps in our understanding?

- Unifying theme: fluid-rock interactions
  - How does  $V_p$ ,  $V_s$ ,  $V_p/V_s$ , etc. actually relate to the actual fluid properties of rocks
  - How do fluids and gasses affect rheology - controlled source EM, conductivity, resistivity
  - Possible TEI for fluid-rock interactions: important for keeping community together, question combines both aspects of GeoPRISMS
- Volcanic systems – triggering of eruptions, deformation at both long and short time scales
- Role of pre-existing structures – how do we quantify this? Focus on specific questions
- Slab hydration and slabs in the mantle – focus should not solely be on subduction zone hazards – possible new synthesis on known material here
- How does deformation occur in different areas at different time scales? i.e. on the megathrust vs in the frontal wedge, or deformation near the rift vs far-field?

# What kind of infrastructure does our community need?

- Dense geodetic networks – campaign vs continuous
  - Backbone networks similar to Africa-Array Network
  - Offshore geodetic networks - continued investment in technological investments for offshore
- Need to keep momentum for push for new marine seismic vessel – necessary for most of these studies, and really crucial for EC geoscientists
- Funding for rock-physics labs
  - Experimental petrology and rheology labs -- few successor labs coming online
- Computational resources
  - Large-scale, high performance computing
  - Need support for HPC at the national level - look at ways to leverage NASA, DOE, other organizations with these capabilities
- More support for real-time data access – even just to check instruments are still running and don't need to be moved
- Samples – many onshore samples are undiscoverable, need a synthesis and easily-searchable database

Is an amphibious research program required to accomplish our goals?

- Yes

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- Yes - necessary to bridge land-sea boundary, and necessary bridges NSF funding organizations (OCE and EAR) - promotes funding + collaboration

# How do we capture the momentum of the GeoPRISMS community?

- SZ4D, Research Collaboration Networks, and CIDER have similar goals to GeoPRISMS
- Clear ideas in terms of subduction zones – less comparisons for rifting
  - Should rifting and subduction be in the same initiative? Is anyone prepared to lead a rift-based initiative similar to SZ4D?
- Should focus on what are the big questions are, and what people want to work on – i.e. RCN on deformation, or volcanoes, not on rift vs subduction

How do we capture the momentum of the GeoPRISMS community?

“Do we just wake up tomorrow with a bad hangover and call it quits, or do we go out to brunch?” –  
Damien Saffer