

Deformation across all timescales • Group 1

Where do we have gaps in our understanding?

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RIFTING

- Rift Initiation and propagation – what controls amagmatic vs magmatic rifting?
- What *triggers* dike intrusion events and eruptions?
- What is the rheological and chemical evolution of rifting crust and lithosphere?
- What is the nature of inherited structures on rift deformation and the impact of *timing* of these preexisting structures – can healing be important?
- What are the *processes* that turn a rift into seafloor – rift to drift transition
- How does post rifting lithosphere evolve?

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SUBDUCTION

- What are the *mechanism, conditions*, physical characteristics, *triggers* of tremor and slow slip
- What is the relationship between fast and slow slip events, and creep across large spatial scales
- How does subducting plate heterogeneity influence slip behaviors, what is the relationship between down going plate and interface evolution.
- Subduction initiation: what are the *triggers*, precise *processes* and *mechanisms* that accommodate subduction initiation. Desire for detailed *timing*
- What happens when you subduct the products of amagmatic rifting?
- What is the role of the mantle (e.g., plumes) in these processes (both rifting and subduction)?

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- Identify useful data products for cross-disciplinary applications
- Recognized the need for synthesis across scales, disciplines, perspectives

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- Workshops at a range of scales – process and site specific
- Tiered workshops: project specific site specific RIE/SCD all of GeoPRISMS
- CIDER-style workshops and idea to integrate data, perspectives, create and execute collaborations
- Create an aligned (set?) of AGU session proposals allow collaboration and integration of some of these goals – perhaps specific to process, site etc.

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Education: integration of our science outcomes with the broad geoscience community

- Upper level undergraduate textbook? living/evolving website?
- Would help us recognize our gaps

As we move forward...beyond GeoPRISMS

- *Was the community experiment model successful?*
- How can we even begin to assess success? What are the metrics of success?
- What are the pros and cons of such an approach?
- Initial proposal to get data – means there is a longer lag between data collection and the scientific products
- e.g., ENAM – provided backbone to allow for more innovative work that wouldn't have happened otherwise
- Student perspective – allows for getting plugged into a large network to collaborate with
- What are the blind spots this approach causes for our community?