



*Geodynamic Processes
at Rifting and
Subducting
Margins*



South Island, New Zealand workshop
Sunday December 14, 2014

What Is GeoPRISMS?

Successor to the decadal NSF MARGINS Program

Studies of origin & evolution of continental margins

Community-driven, interdisciplinary, cross-divisional NSF-funded
Integrating field, theory, experiment, and modeling

Focus on rifts and subduction zones

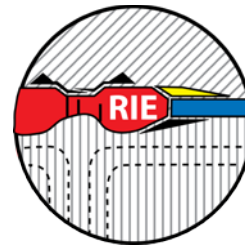
Active geodynamic processes; formation of continental crust
Where geology and society intersect; many economic resources

Shoreline-crossing, i.e., “amphibious”

Where most rifts and subduction zones occur
Geologic & geodynamic processes span the shoreline
Where focused, cross-divisional efforts most needed

Two broadly integrated initiatives

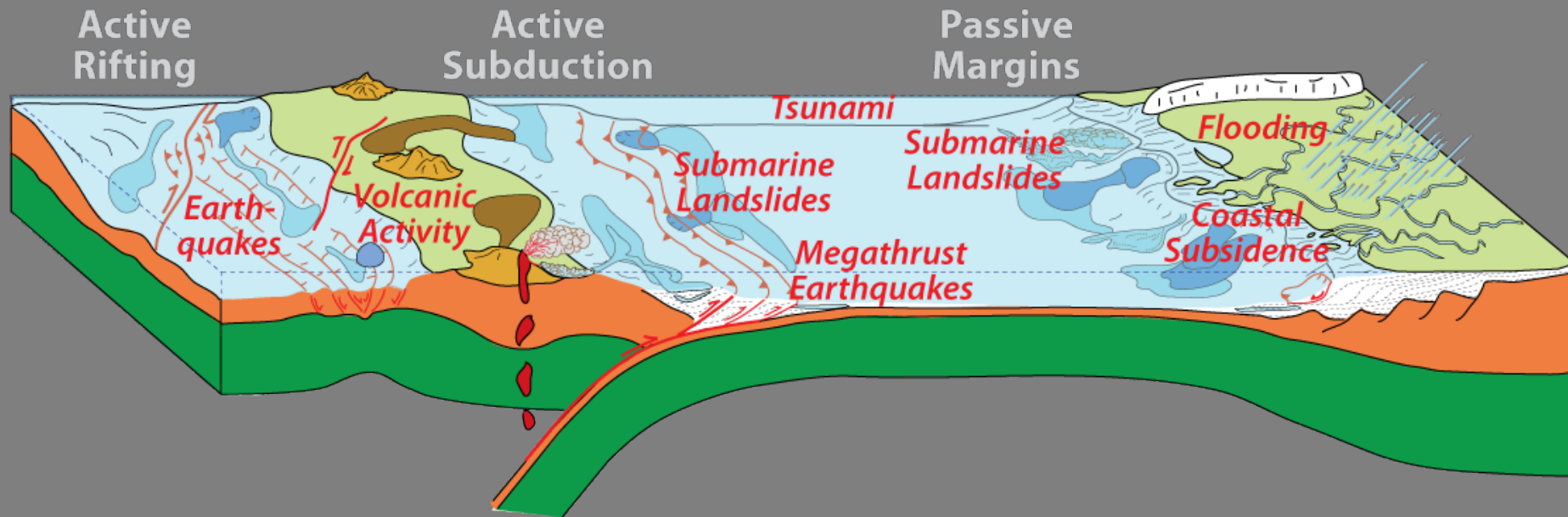
**Subduction
Cycles &
Deformation**



**Rift
Initiation &
Evolution**

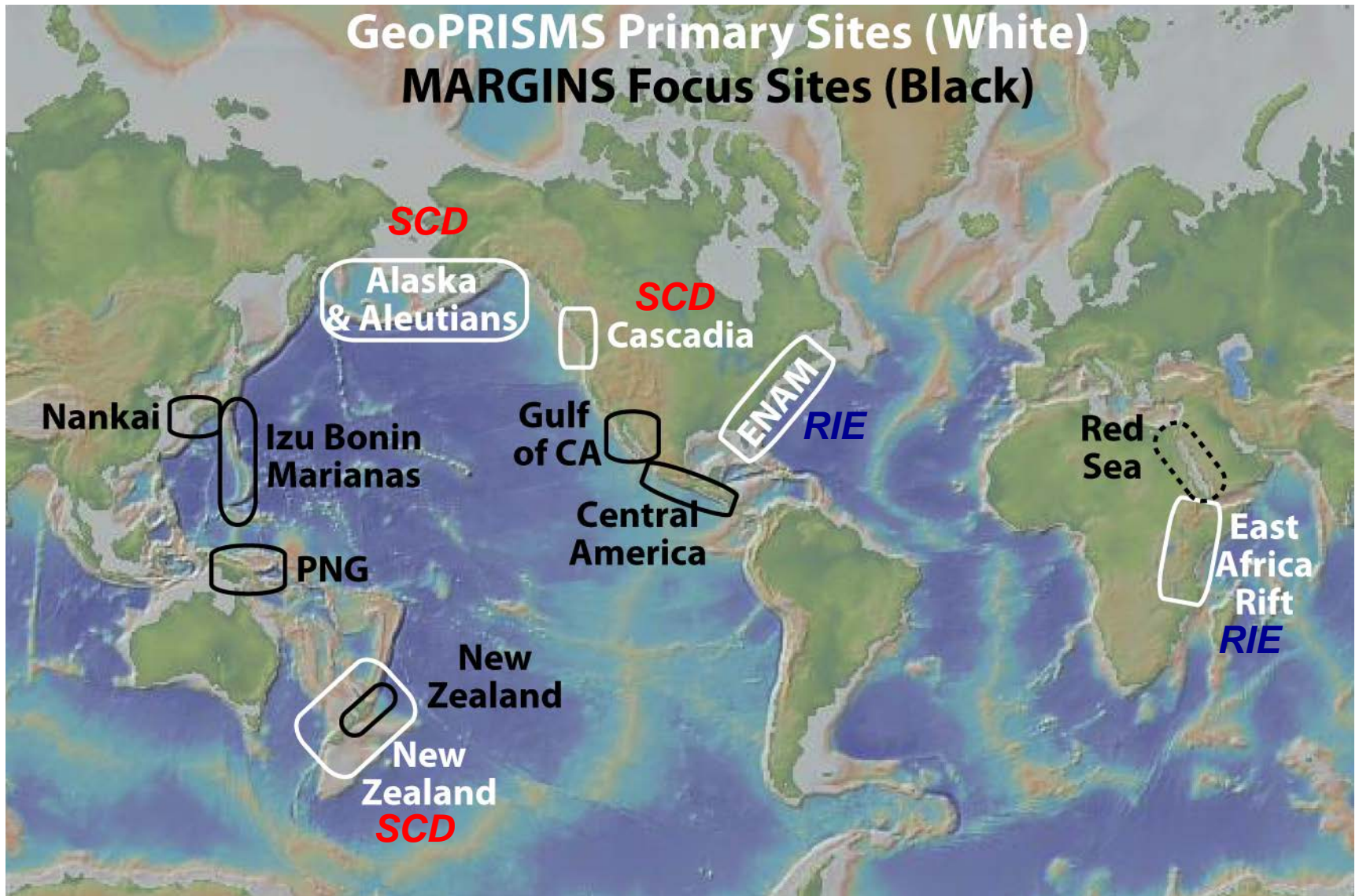
Research at Primary Sites & through Thematic Studies

GeoPRISMS Tectonic Settings

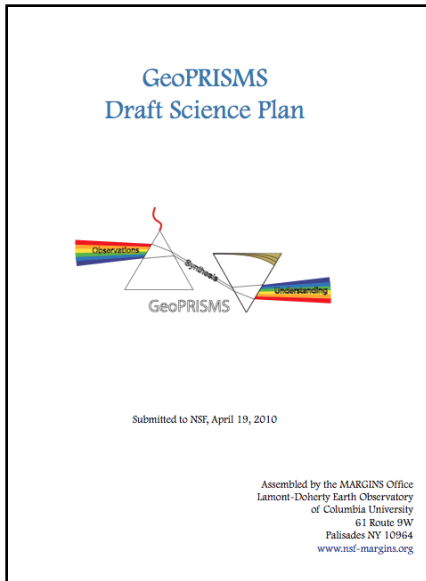


GeoPRISMS investigates the coupled geodynamics, earth surface processes, and climate interactions that build and modify continental margins over a wide range of timescales (from s to My), and cross the shoreline, with applications to margin evolution & dynamics, construction of stratigraphic architecture, accumulation of economic resources, and associated geologic hazards and environmental management.

Where GeoPRISMS Works



GeoPRISMS Community Science



Community planning at workshops

MSPW – Feb 2010

RIE IW – Nov 2010

SCD IW – Jan 2011

Alaska – Sep 2011

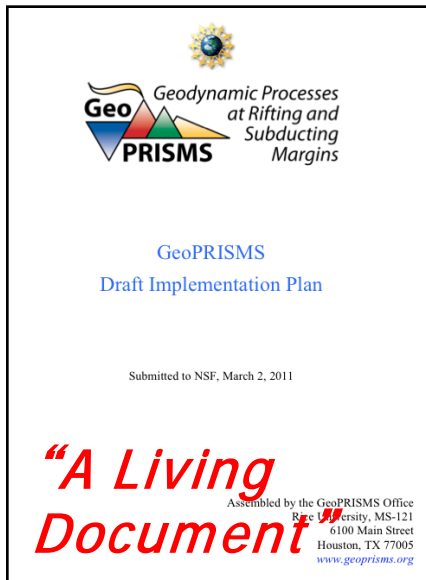
ENAM – Oct 2011

Cascadia – Apr 2012

EARS – Oct 2012

NZ – Apr 2013

Science Plans w/ research objectives



Proposals guided by Science Plan

PI-driven proposals (individual, team, postdoc)

Community-driven proposals (e.g., Amph. Array)

Workshop proposals (planning, science, synth.)

Deadline early July

GeoPRISMS is open, all can participate!!

Opportunities for Students & Postdocs

Education & Training

AGU Best Student Presentation prizes

Distinguished Lectureship Program

Postdoctoral fellowships

Student (and post-doc) symposia (at workshops)



Alaska



ENAM



Communication and Data Access

Communication

- GeoPRISMS website
- GeoPRISMS newsletter
- GeoPRISMS listserv

The Fall 2014 newsletter is now available
Download your copy!



Data Access

- GeoPRISMS data portal
- MARGINS data portal

The screenshot shows the MARGINS Data Portal website. At the top, there is a blue header with the text "MARINE GEOSCIENCE DATA SYSTEM" and a "Search for Data" button. Below the header is a large image of a volcano. A navigation bar contains links for Home, About, Tools & Services, Data Portals, Partners, Contribute Data, and Education. The main content area is titled "MARGINS Data Portal" and includes a "Portal Links" section with a list of links: Portal Home, What's New, Project Information, Related Links, MediaBank, Contributors, Google Earth files, Tutorials, References Database, GeoMapApp, Virtual Ocean, and Find Data. A central graphic features a world map and the text "Click to Enable Map Client". To the right, there is a text block describing continental margins and the MARGINS program, supported by the National Science Foundation.

Current and upcoming meetings & events

AGU 2014

Sunday December 14: NZ miniworkshops

Monday December 15: GeoPRISMS Townhall

Westin Franciscan Ballroom 6-9 pm

Thursday December 18: Subduction Zone Observatory
discussion at City Club of San Francisco, Salon room
3:30-5 pm

Fall 2015

GeoPRISMS SCD Theoretical and Experimental Institute
SZO planning workshop

Fall 2016

GeoPRISMS RIE Theoretical and Experimental Institute

GeoPRISMS funding opportunities for 'big' projects in New Zealand open for July 2015 and July 2016 proposal deadlines

Four out of seven SCD questions can be answered in New Zealand

What are the geological, geochemical and geophysical responses to subduction initiation and early arc evolution, and how do they affect subduction zone development?

What are the pathways and sources of magmas and volatiles emerging in the arc and forearc, and how do these processes interact with upper plate extension?

What controls subduction thrust fault slip behavior and its spatial variability?

What are the feedbacks between climate, sedimentation, and forearc deformation?