



Newsletter - Issue No. 35, Fall 2015

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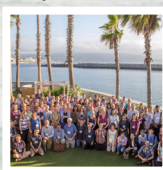
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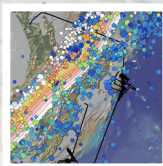
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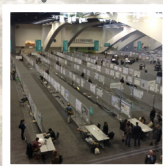
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The GeoPRISMS Newsletter is published twice a year and is designed to provide to the GeoPRISMS community summaries of recent GeoPRISMS activities and meetings, synthesis articles, editorials, and discussion of science opportunities. Archives of the Newsletter are available on the GeoPRISMS website.

## From the Chair



Dear GeoPRISMS community,

It is a pleasure to welcome you to the Fall newsletter, which per usual is distributed only in electronic form. You will find some reports and many announcements regarding GeoPRISMS activities. In the Spring newsletter we will feature GeoPRISMS-funded science projects.

It has been a busy year for the Office with the mid-term review (held in August at NSF Headquarters) and the Theoretical and Experimental Institute (held in October at Redondo Beach, CA) which focused on the Subduction Cycles and Deformation Initiative.

The mid-term review of the GeoPRISMS program was mandated by NSF as is typical for decadal programs. The review was prepared by the Office with significant input from the community (specifically through contributions of 'nuggets' or one-pagers that describe outcome of specific grants), the GSOC, an ad-hoc review writing committee with significant citation database support from Andrew Goodwillie (IEDA, Lamont-Doherty). I would like to thank everyone who contributed to the review materials which was received very well by the ad-hoc review panel that was appointed by NSF (with Doug Wiens as Chair). I want to give a special thanks to the members of the review writing committee (John Jaeger, Maureen Long, Juli Morgan, Sarah Penniston-Dorland, and Paul Wallace) who volunteered significant time and effort on putting the materials together. The documents relevant for the review are available at <http://geoprisms.org/2015-review/> and the review itself is discussed in more detail in this newsletter on page 4.

In October some 125 scientists converged to the sunny California coast just south of LAX airport to spend three full days discussion progress in the Subduction Cycle and Deformation Initiative. I'd like to thank the conveners (Jeff Freymueller, Sarah Penniston-Dorland, Donna Shilling, Keling Wang, Erin Wirth and Gene Yogodzinski) for putting together a great program – the meeting is discussed in a separate report on page 10.

In closing, I would remiss if I would not give a shout out to Jeff Freymueller who is one of the current GSOC members. He has taken over the oversight of the EarthScope Office from (also former GSOC member) Ramon Arrowsmith and the Office has moved from Arizona State to Alaska Fairbanks. His experience and leadership skills will greatly help in the final stages of the EarthScope project. He has kindly agreed to stay on the GSOC for one more year. His insights and contributions to the GeoPRISMS community effort will be missed.

Peter van Keken  
Chair, GeoPRISMS Program

Cover Photograph:  
Participants during the post TEI field trip on Catalina Island.  
Photo Credit: Juli Morgan

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[www.geoprisms.org](http://www.geoprisms.org)

# FUNDING OPPORTUNITIES FOR GEOPRISMS-RELATED PROPOSALS



## **EAR Postdoctoral Research Fellowships (solicitation # NSF 15-568)**

Submission Deadline: January 12, 2016

<http://www.nsf.gov/pubs/2015/nsf15568/nsf15568.pdf>

The Division of Earth Sciences (EAR) awards Postdoctoral Fellowships to recent recipients of doctoral degrees to carry out an integrated program of independent research and education. The research and education plans of each fellowship must address scientific questions within the scope of EAR disciplines. The program supports researchers for a period of up to two years with fellowships that can be taken to the institution of their choice (including facilities abroad). The program is intended to recognize beginning investigators of significant potential, and provide them with research experience, mentorship, and training that will establish them in leadership positions in the Earth Sciences community. Because the fellowships are offered only to postdoctoral scientists early in their career, doctoral advisors are encouraged to discuss the availability of EAR postdoctoral fellowships with their graduate students early in their doctoral programs. Fellowships are awards to individuals, not institutions, and are administered by the Fellows.

## **Dear Colleague Letter: Prediction of and Resilience against Extreme EVENTS (PREEVENTS)**

<http://www.nsf.gov/pubs/2015/nsf15117/nsf15117.jsp>

PREEVENTS is one of the successors to the Hazards SEES program, and one element of the FY16 Risk and Resilience activity at NSF. PREEVENTS will focus on natural hazards and extreme events, not those that are deliberate or accidental. PREEVENTS will include opportunities for disciplinary and multidisciplinary projects at multiple scales, particularly in areas ripe for significant near- or medium-term advances. Through this letter, GEO welcomes proposals for research projects and/or focused workshops that would advance the goals of PREEVENTS. Research projects may involve any PREEVENTS-relevant scientific area supported by existing GEO programs. PIs who are considering a submission pursuant to this Dear Colleague Letter are strongly encouraged to contact the PREEVENTS Management Team ([preevents@nsf.gov](mailto:preevents@nsf.gov)) and the program officer(s) responsible for the intended target GEO program(s). Subject to the availability of resources, NSF intends to release a formal PREEVENTS solicitation in 2016 that will specify program guidelines and proposal requirements, including eligibility and budgetary information, review criteria, and other relevant information.

## Message from NSF

This year has been a busy one for the GeoPRISMS Program at NSF. Maurice Tivey joined the Division of Ocean Sciences, and is leading the OCE side of the GeoPRISMS team. Debbie Smith (OCE), Barbara Ranson (OCE), and Dennis Geist (EAR) have also handled proposals and been involved in other strategic aspects of the program. We've certainly appreciated their perspectives. The program went through a mid-term review that was incredibly interesting and useful, thanks in large part to the enormous amount of work put in by the Office staff, GSOC, and review committee, headed by Doug Wiens. We're taking their recommendations into consideration, and we will use the input as we move forward with revising the next solicitation, as well as in the coming years.

The coordinated work that we supported in the Aleutians was, by all accounts, a huge success. By investing in the combined logistics platform, we saved a lot of money for the program and fostered collaborations, new and old. Working with the USGS and Alaska Volcano Center, the Fish and Wildlife Service, the Deep Carbon Observatory, and Polar Programs at NSF, GeoPRISMS got a group of multi-disciplinary projects into the field to deploy seismic instruments, sample tephra and volcanic gases, and repair + restore monitoring stations for AVO on 5 active volcanoes. Polar Field Services and the crew of the Maritime Maid were essential to the success of these projects, and deserve some cheers. Concurrently, a few combined seismic, MT, and geodetic experiments were funded in the eastern segment. By strategically supporting these projects together, we hope to spur real progress in our understanding of the Aleutian arc.

As for this year's round of funding – we are waiting, along with the rest of the federal government, for a budget appropriation and the many allocations that must follow internally at NSF. Until then, we cannot finalize our decisions from the last panel meeting. We're excited, though, to move a new set of projects forward, and wish the entire GeoPRISMS community all the best at the end of this year.

Jennifer Wade & Maurice Tivey  
GeoPRISMS Program Managers, National Science Foundation



# GeoPRISMS mid-life review

Peter van Keken<sup>1</sup>, John Jaeger<sup>2</sup>, Maureen Long<sup>3</sup>, Julia Morgan<sup>4</sup>, Sarah Penniston-Dorland<sup>5</sup>, Paul Wallace<sup>6</sup>, Anaïs Férot<sup>1</sup>

<sup>1</sup>University of Michigan, <sup>2</sup>University of Florida, <sup>3</sup>Yale University, <sup>4</sup>Rice University, <sup>5</sup>University of Maryland, <sup>6</sup>University of Oregon

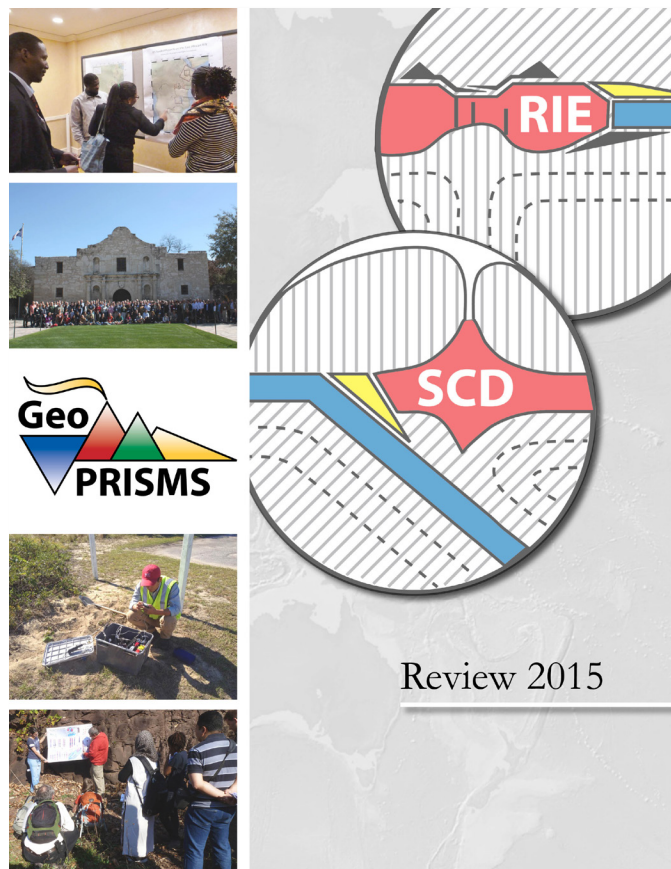
The GeoPRISMS research effort is in its fifth year and underwent its first check up in a formal review by NSF in August 2015. This ‘mid-life’ review allows for the GeoPRISMS-funded PIs to demonstrate the impact of their research thus far and for an evaluation of the broader community effort. This review follows similar mid-life and final reviews of the MARGINS program. It allows NSF to evaluate the program and to make, if necessary, any mid-course changes to the scope of the program.

In this article we will summarize the organization and execution of the review. In this description we have borrowed extensively from the existing materials without formal quotations to improve the flow of the narrative, which we think is appropriate for citations from documents that are developed by committee.

## Organization of the review

The charge to the committee, the review materials and the final report by the review panel are available at [www.geoprisms.org/2015-review](http://www.geoprisms.org/2015-review). The review materials that summarized the state of the GeoPRISMS program are based on very significant input from the community, the GeoPRISMS Steering and Oversight Committee and an ad-hoc review writing committee (consisting of current and former GSOC members John Jaeger, Maureen Long, Julia Morgan, Sarah Penniston-Dorland, Peter van Keken and Paul Wallace). The final report weighs in at 107 pages with more than 300 pages of appendices (including the ‘nuggets’ contributed by GeoPRISMS and late-MARGINS PIs). During this review we also updated (with significant help from Tyrone Rooney, Liz Hajek, Gene Yogodzinski, and Andrew Goodwillie) the MARGINS and GeoPRISMS citation databases which are maintained by IEDA at Lamont-Doherty ([iedata.org](http://iedata.org)). The final report was formatted by Anaïs Férot with final editorial oversight by Peter van Keken. Thanks to all who contributed to this significant work!

NSF convened a mid-term review committee chaired by Doug Wiens (Washington University in St Louis) with members Jay Ague (Yale), Tobias Fisher (New Mexico), Monica Kohler (Caltech), Anne Meltzer (Lehigh) and Hans Thybo (Copenhagen). Their charge included to provide a review of and give recommendations to EAR and OCE about the scientific issues (‘what are the major accomplishments?’; ‘has the phased deployment been successful?’; ‘what are the strengths/weaknesses of approach to amphibious sciences?’; ‘given limited funding should the community consider fewer primary sites?’) and on management issues (‘is the Office effective?’; ‘is the Office worth the cost?’; ‘is the Steering Committee effective?’).



Cover of the 2015 GeoPRISMS Review. The full report, the charge to the committee and the final report by the review panel are available online at [www.geoprisms.org/2015.review](http://www.geoprisms.org/2015.review)



## Highlights from the review materials

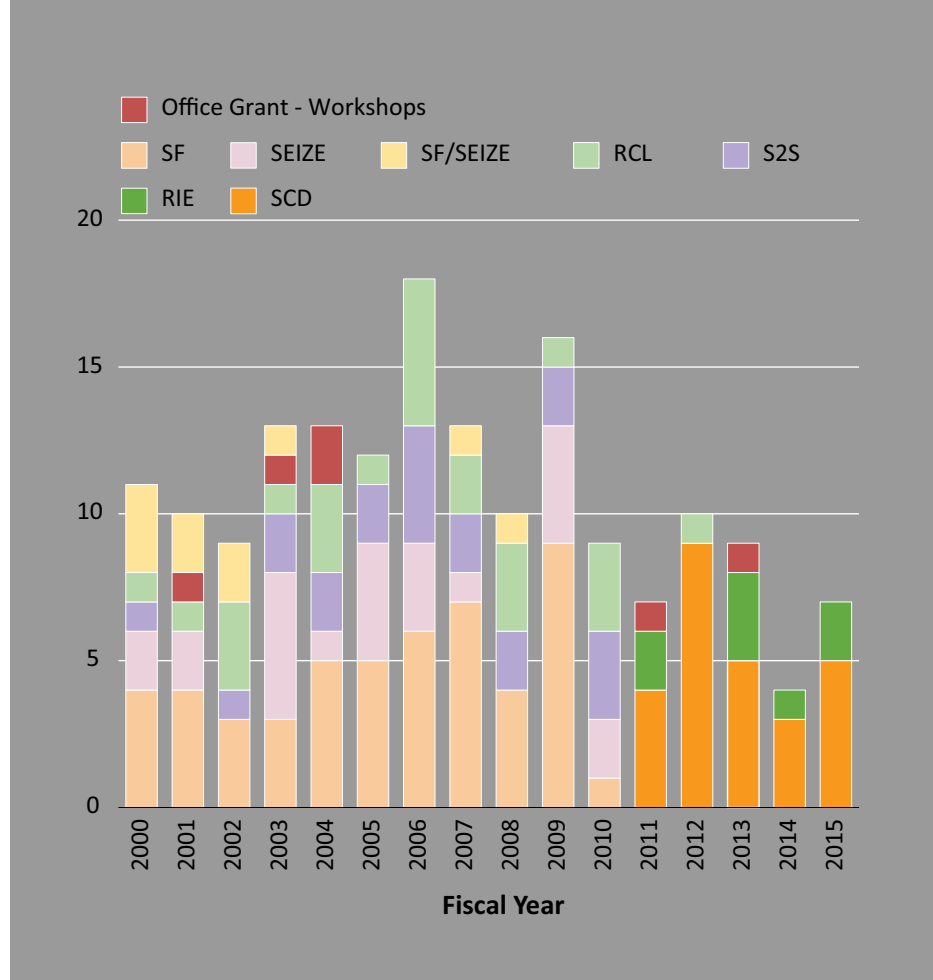
The review document provided a documentation of the research that has been made possible by GeoPRISMS funding as well as a demonstration of the significant impact of the community effort. The report addresses in seven chapters GeoPRISMS as a decadal program, the research conducted within the SCD and RIE initiatives, the program management, education and outreach, broader impacts and a summary & outlook. The Appendices provide a documentation of all funded projects, citations that resulted from these, and other metrics that were used to evaluate the program. We only provide a brief summary of the main findings here.

GeoPRISMS is both a funding opportunity and a community effort. To fulfill the vision laid out in the science plan it is essential to have an amphibious (shore-line crossing) approach, interdisciplinary research teams, a special NSF panel to evaluate proposals and a well-informed scientific community. The funding aspects are entirely guided by NSF through an annual call for proposals. The Office and GSOC help oversee the community effort, but are not at any stage involved in proposal evaluation or funding decisions.

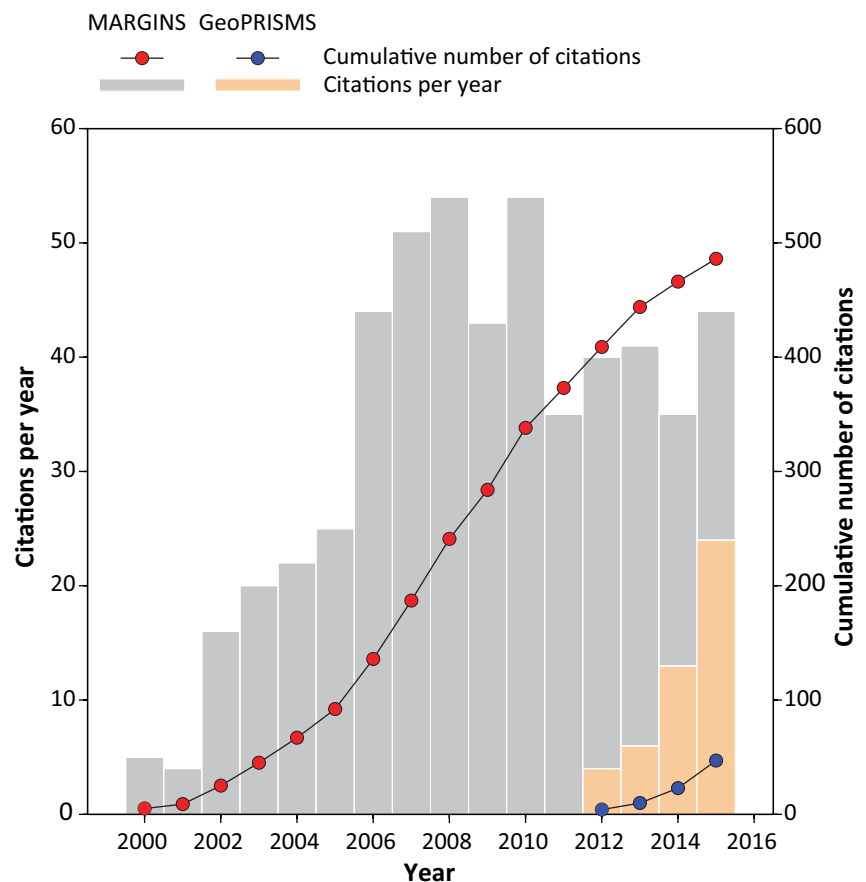
In terms of funding there is no doubt that GeoPRISMS researchers work with less funding than was hoped for. While funding levels during the last few years of MARGINS were near \$6M/year we are currently seeing about \$3.5M/yr available for funding, particularly due to the federal sequestration orders of FY13. The rate of projects funded is somewhat lower than during MARGINS but we see a greater diversity among the PIs. Compared to the average MARGINS PI, a GeoPRISMS PI is 50% more likely to be early career, twice as likely to be female, and tends to be involved in projects that are more interdisciplinary and collaborative.

The phased funding model, where primary sites were open only for a limited window for large projects, has helped manage the limited resources but this makes it difficult to fully evaluate the impact of funding on all primary sites. The long duration of many field efforts logically limits our ability to fully evaluate funding impact when measured in terms of publications. The number of publications directly funded by GeoPRISMS has started accelerating and tracks that of the early years of MARGINS.

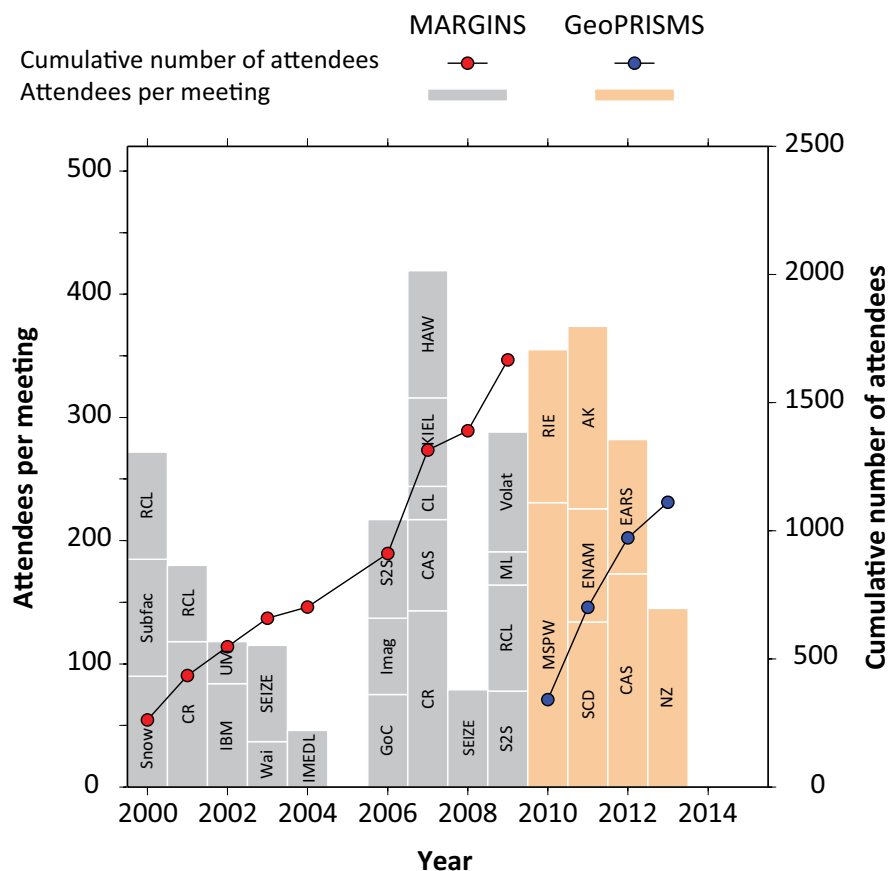
*Graph of MARGINS/GeoPRISMS funded research papers since 2000. For 2015 we extrapolated the numbers to date to the end of the year. For 2011-2015 we have an average of 70 citations per year for work that is related to GeoPRISMS science objectives, but not explicitly funded by it.*



MARGINS and GeoPRISMS funding by initiative.







Top. Attendance per meeting and cumulative attendance for MARGINS and GeoPRISMS Meetings.

Bottom. Attendance at GeoPRISMS Mini-Workshops at the Fall AGU. For a full list of the meetings and workshops see <http://goo.gl/QrVdF2>

for a room, refreshments and AV, which leads to a low-cost but high-impact opportunity for science discussions and entrainment of new talent. Nearly 700 attendees have attended the mini-workshops over the last four years at a cost of less than \$100 per attendee.

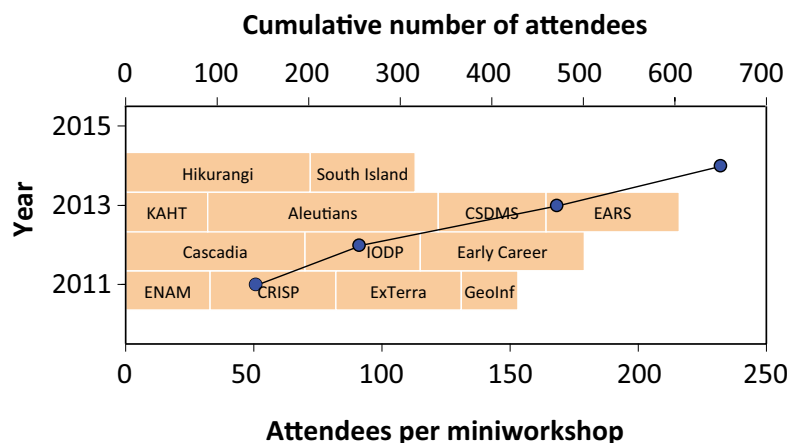
The GeoPRISMS community effort is further enhanced by a number of Office activities. These include the organization of student & postdoc symposia at every workshop or meeting, a Best Student Presentation competition at the AGU Fall Meeting, a biannual newsletter, and an active listserv, website and Facebook & Twitter presence. GeoPRISMS also hosts a Distinguished Lecturer Program which brings annually some 6-8 distinguished GeoPRISMS speakers to a large diversity of US academic institutions and museums. The data management is actively supported by Andrew Goodwillie from the Interdisciplinary Earth Data Alliance (IEDA).

Broader impacts of the GeoPRISMS program include ongoing mini-lesson development to integrate MARGINS and GeoPRISMS science into the undergraduate curriculum, broad encouragement of student and early career participation in field work and cruises, postdoctoral opportunities. GeoPRISMS participates strongly in international work and has strong relationships with other NSF sponsored facilities.

The report concluded with the statement that the GeoPRISMS community is alive and well.

Many PIs are engaged in GeoPRISMS-funded

projects; many more scientists and students engage in closely related research and participate in GeoPRISMS community initiatives; and the general public is exposed to new findings about the structure of continental margins. It is still too early to be able to fully synthesize or quantify the progress towards the science goals, but initial reports from funded projects demonstrate the high quality of exciting new interdisciplinary, collaborative and shoreline crossing work, and set the stage for another five years of quality GeoPRISMS research. We expect that the research productivity will accelerate in a similar fashion to that of MARGINS-funded work before it and that it will continue to have an impact long after the final GeoPRISMS funding decisions have been made.



The GeoPRISMS science plan was developed by the community in part through a number of workshops, including the large MARGINS Successor Planning Workshop in San Antonio, TX (2010). For just these planning workshops we had more than a thousand attendees with 680 unique individuals. The number of female participants grew to 32% (compared to 24% in MARGINS) but the international participation dropped somewhat, mostly due to the location of the workshops (most of them in the US) and the location in the US of three of the five primary sites.

GeoPRISMS also holds mini-workshops during the AGU. Following an annual call for proposals the GSOC prioritizes the submissions and up to four workshops are held. The Office provides funds only





*Locations of institutions visited by Distinguished Lectureship Program Speakers between 2010 and 2015.*

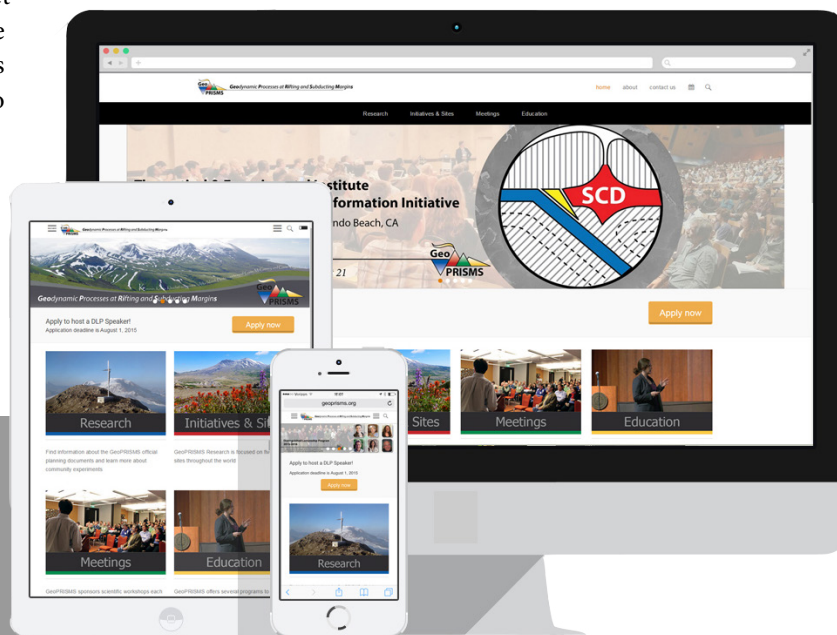
## Summary of the panel review and recommendations

The evaluation by the review panel was generally very positive. It lauded the outstanding nature of the interdisciplinary research program that crosses both the shoreline and the EAR&OCE divisions in NSF. It judged that GeoPRISMS fills a unique role by building broad research communities that cut across traditional disciplinary boundaries.

The committee deemed that the management functions provided by the Office are essential and commended the Office for its crucial role in maintaining and building the community effort with focus on engaging new scientists and enfranchising new generations of scientists in cutting-edge interdisciplinary research.

The committee raised a few concerns, in particular regarding the ability of the program to fulfill the scope of research questions in the SCD initiatives and the need for more funded projects within RIE to achieve the stated science objectives at ENAM (beyond the very successful community experiment) and need for focusing of the research effort at the East African Rift System.

The committee recommended that current budget levels be augmented to the extent that funds become available (recognizing the funding difficulties following the federal sequestration). It also recommended to NSF that major field proposals should be allowed at all sites (except for the mature Cascadia site) in FY17-FY19 with a turn to synthesis and thematic studies in the final years of the GeoPRISMS decadal program.



Visit the GeoPRISMS website for more information about science planning, meeting outcomes, jobs opportunities and funding


[www.geoprisms.org](http://www.geoprisms.org)



# New MARGINS (and GeoPRISMS) Mini-Lessons now available!

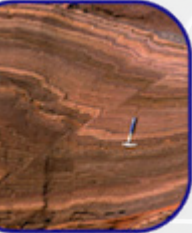
We are pleased to announce the availability of 15 data-rich class exercises (mini-lessons) that explore tectonic, structural, geochemical, and sedimentary processes along continental margins. Designed for upper-level undergraduate courses, the exercises use cutting edge science and data resulting from MARGINS and GeoPRISMS research to teach about chemical cycling in subduction zones (SubFac), seismogenic zone processes at subduction zones (SEIZE), rift structure and evolution (RCL), and sediment cycling from “source to sink” at continental margins (S2S). Representative mini-lessons include:

## Rupturing Continental Lithosphere | RCL




- Bathymetry of Rifted Margins
- Exploring Styles of Extension in the Gulf of California
- Role of Sedimentation in Rifting
- Role of Plate Motion Obliquity in Rifting

## Seismogenic Zone Experiment | SEIZE



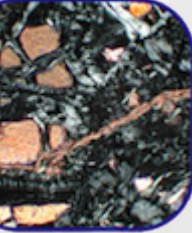
- Accretionary vs. Erosive Subduction Margins
- The Spectrum of Fault Slip
- The Plate Boundary Fault of the 2011 Tohoku Earthquake

## Source to Sink Lessons | S2S



- From Source to Sink: How Sediment Reflects the Journey from the Mountains to the Sea
- Sediment Dispersal and Continental Margin Stratigraphy
- Contemporary Climate Oscillations: ENSO and a case study of the Huanghe River
- Holocene Optimum: A Time of Massively Increased Sediment Discharge for Asian Rivers
- Sediments and Carbon Burial on the Continental Margins

## Subduction Factory Lessons | SubFac



- Subduction Zone Metamorphism
- Slab Temperatures Control Melting in Subduction Zones, What Controls Slab Temperature?
- Central American Arc Volcanoes, Petrology, and Geochemistry



These lessons and more information about the MARGINS Mini-Lesson Project can be found at: <http://serc.carleton.edu/margins/index.html>  
We also invite additional contributions to this collection as new scientific observations and data become available through ongoing continental margin studies. For more information about adding to the collection, please contact Juli Morgan ([morganj@rice.edu](mailto:morganj@rice.edu)).

*The mini-lessons were developed by an interdisciplinary team of about 20 scientists and educators, who participated in a three year curriculum development project funded by an NSF DUE grant. Many thanks to all of the following contributors: Julia Morgan (GeoPRISMS, Rice University), Andrew Goodliffe (University of Alabama), Jeff Marshall (Cal Poly Pomona), Ellen Iverson (SERC, Carleton College), Cathy Manduca (SERC, Carleton College), Jenn Beck (EvalArts Consulting), Robert Stern (Univ. of Texas Dallas), Ben Edwards (Dickinson College), Sarah Penniston-Dorland (Univ. of Maryland), Chris Kincaid (Univ. of Rhode Island), Casey Moore (UC Santa Cruz), Jeff Marshall (Cal Poly Pomona), Eliza Richardson (Penn State University), David Pearson (Idaho State University), Scott Bennett (USGS Golden, CO), Rebecca Dorsey (Univ. of Oregon), Andrew Goodliffe (Univ. of Alabama), Jack Loveless (Smith College), Lisa Lamb (Univ. of St. Thomas), Sue Cashman (Humboldt State University), Steve Kuehl (Virginia Inst. Marine Science), Lonnie Leithold (North Carolina State University), Kathleen Surpress (Trinity University), Adam Hoffman (Univ. of Dubuque), August Costa (GeoPRISMS, Rice University), Kristin O'Connell (SERC, Carleton College).*



# Distinguished Lectureship Program

2015 - 2016

An opportunity for US colleges, universities, museums, and other institutions to host lectures by outstanding scientists.

The distinguished Speakers present technical and public lectures on subjects related to the two GeoPRISMS science initiatives: Subduction Cycles and Deformation and Rift Initiation and Evolution.



*DLP Speaker Kyle Straub at University of Nevada, Reno in January 2015.*

As usual, we received a strong interest in the program with applications from 60 institutions.

Thank you for making this year's GeoPRISMS Distinguished Lectureship Program successful!

Questions?  
Email [info@geoprisms.org](mailto:info@geoprisms.org)

Applications to host a DLP Speaker for the Academic Year 2016-2017 will be available in the Spring semester on the GeoPRISMS Website.

Visit the GeoPRISMS website to learn more about the DLP schedule for 2016.

Northeastern Illinois University  
Vanderbilt University  
University of California, Davis



ELIZABETH COTTRELL  
*Smithsonian Institution*

Louisiana State University  
Lehigh University  
Missouri State University



BRADLEY HACKER  
*UC Santa Barbara*

Boston College  
Marshall University  
Stanford University



BEATRICE MAGNANI  
*Southern Methodist U*

Eastern Kentucky University  
Montclair State University  
University of Akron



ANDY NYBLADE  
*Penn State University*

Montana State University  
University of South Florida  
West Virginia University



ROBERT STERN  
*UT Dallas*

Iowa State University  
Penn State University  
University of Montana



LAURA WALLACE  
*UT Austin*

Questions?  
Email [info@geoprisms.org](mailto:info@geoprisms.org)  
For more information, visit the GeoPRISMS Website at:  
<http://geoprisms.org/education/distinguished-lectureship-program/>



# Theoretical and Experimental Institute for the SCD Initiative

Peter van Keken<sup>1</sup>, Erin Wirth<sup>2</sup>, Sarah Penniston-Dorland<sup>3</sup>,

<sup>1</sup>University of Michigan, <sup>2</sup>University of Washington, <sup>3</sup>University of Maryland

In October, nearly 130 scientists converged on Redondo Beach, CA to discuss progress on research within the GeoPRISMS Subduction Cycles and Deformation (SCD) Initiative. This Theoretical and Experimental Institute (TEI) follows the format of MARGINS meeting by integrating observational and field-based work with theoretical, computational, and experimental approaches.

The organizing committee (consisting of Jeff Freymueller, Sarah Penniston-Dorland, Donna Shillington, Kelin Wang, Erin Wirth, and Gene Yogodzinski) prepared a schedule that guided participants from the incoming plate through the forearc, the subducting plate and back up into the mantle wedge and arc crust.

*Top: Keynote Speaker Doug Wiens introducing the incoming plate on the first day of the meeting. Bottom: Attendees had one minute to advertise their posters.*

The first session (with a keynote by Doug Wiens and invited talk by Magali Billen) focused on the physical and chemical state of the incoming plate. These talks and others in this session discussed in particular the role of outer rise faulting and active rehydration of the incoming plate.

The second session (with a keynote by Kerry Key and invited talk by Nathan Bangs) focused on the shallow forearc. Geophysical imaging has led to a much better understanding about the nature of the forearc, including processes in the shallow seismogenic zone, the role of fluids produced by shallow dehydration, and the nature of the accretionary prism.

The seismogenic zone, or mega-thrust, was explored in a separate session, with a keynote by Laura Wallace and invited talk by Rocco Malservisi. The discussion focused in particular on the great progress made in interpreting the full earthquake cycle and importance of episodic tremor and slow slip in many of the world's subduction zones.

The nature of the deep slab was the focus of the fourth session with a keynote by Brad Hacker and invited talk by Pierre Bouilhol. The discussion focused in particular on the thermal and physical structure and dynamics of the slab at depth and the consequences for fluid flow, deformation, and slab melting.

The subduction zone cycle was completed with a visit to the mantle wedge and arc crust with a keynote by Peter Kelemen and invited talk by Ellen Syracuse. Topics ranged from the chemical structure and evolution of the Aleutian arc, the role of primitive magmas, geophysical imaging of the roots of volcanoes and deformation experiments to help interpret seismic anisotropy.

The last session of the meeting was dedicated to international collaborations with talks by Saskia Goes (United Kingdom), Shuichi Kodaira (Japan) and Simon Turner (Australia), and a broad discussion of the Subduction Zone Observatory, introduced by Terry Plank. This forward-looking discussion focused on how the GeoPRISMS community can further grow in its international partnerships and collaborative work with NSF sponsored facilities.





*Fifty early-career scientists attended the Student & Postdoc Symposium organized the Sunday before the TEI. Participants were introduced to the Subduction Zone Observatory and discussed the major questions this effort should address.*

The oral discussions were augmented by two lively evening poster sessions, before which presenters had the opportunity to introduce their research through a one-slide, one-minute presentation in the oral sessions. As part of an impromptu 'Best Student Poster Award', attendees ranked the student poster presentations each evening. Winners Kirstie Haynie (University of Houston) and Miles Bodmer (University of Oregon) received a copy of the recent Moho review book that was kindly provided by two of the editors, Hans Thybo and Irina Artemieva.

### Student and postdoc symposium

This meeting was the first in GeoPRISMS and MARGINS history to have more than 50% early-career scientists (defined as pre-tenure and before) and more than 40% female attendees. These demographics indicate that the GeoPRISMS community is vibrant and young, which is in part due to the dedicated attention that GeoPRISMS has given to the interests of early-career scientists.

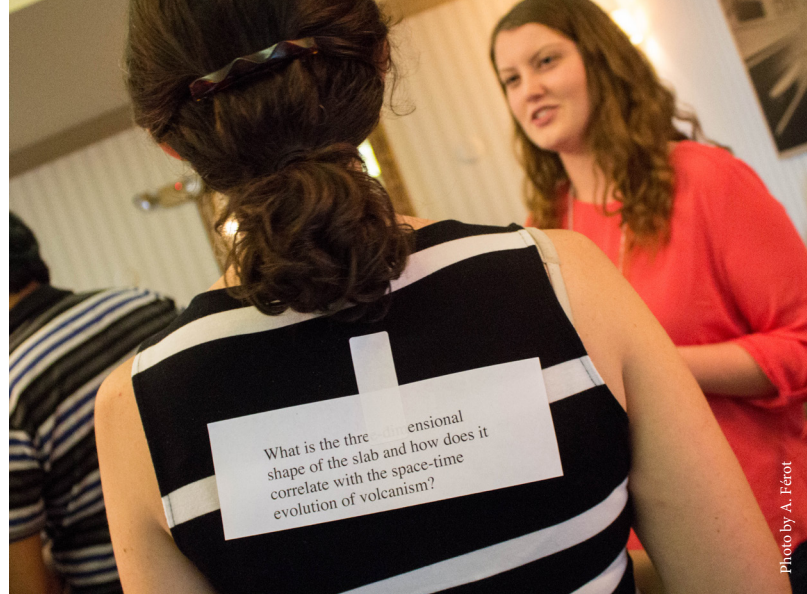


Photo by A. Férot

GeoPRISMS continued its tradition of hosting a dedicated student and postdoc symposium ahead of each meeting. This TEI featured the highest symposium attendance thus far, with some 50 students and postdocs participating. Erin Wirth organized the agenda, which featured introductory talks on major concepts that would be addressed at the TEI.

*Participants of the TEI for the SCD Initiative facing the ocean at sunset. Thank you to all for making the TEI such a success!*



Photo by A. Férot



The symposium culminated with a spirited discussion of the Subduction Zone Observatory led by Joan Gomberg. For many of the students and postdocs in attendance it was their first introduction to the idea of a Subduction Zone Observatory. They discussed the major scientific questions that the Subduction Zone Observatory should address, with a particular focus on the role of fluids in the subduction system and the spectrum of slip behaviors, which were later echoed

by participants in the TEI. Further discussion revolved around the necessary tools and equipment (including a strong component of offshore instrumentation), and national and international partners. Participants also debated geographical targets, pondering the question: “Should we do a few things in many subduction systems, or many things at just one?”

*Participants of the Catalina Island field trip overlooking the bay at Two Harbors.*



Photo by A. Férot



Photo by A. Férot

## Field trip to Catalina Island

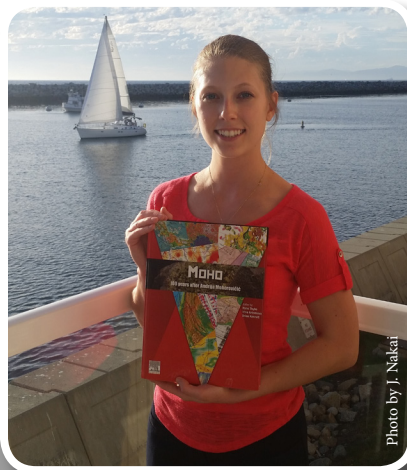
Twenty participants stayed an extra day to participate in the optional field trip to view the Catalina Schist on Santa Catalina Island led by Sarah Penniston-Dorland. Catalina provides world-class exposures of subduction-related rocks. The trip focused on high-grade

amphibolite-facies mélange and coherent rocks near the (rather fogged in) Airport in the Sky and the blueschist-facies mélange rocks along the beach near Two Harbors. The group observed the block-in-matrix structures that are well-exposed in both localities, with amphibolites, serpentinites, and pegmatites surrounded by ‘rosette rock’ and chlorite schist matrix in the amphibolite facies, and metaconglomerates, metabasalts and metagraywackes surrounded by chlorite-amphibole-rich matrix in the blueschist facies. Interesting and unusual features included migmatitic stringers and reaction ‘rinds’ indicative of partial melting and fluid-rock reaction respectively in the high-grade exposures, and metamorphosed pillow basalts and veins in the low-grade exposures.



For many this was their first experience of the island, its impressive topography and scenery (once the clouds broke) and its unique zoology (with bison left over from a silent-movie western, a bald eagle and golden eagle at the Conservancy's rescue center, a baby rattlesnake protecting mélange matrix, and a healthy fox population).

More photos, agenda, list of participants, and many of the presentations and posters for this TEI can be found on <http://geoprisms.org/tei-scd-2015/>. This article is a summary of the meeting prepared by Sarah Penniston-Dorland, Erin Wirth, and Peter van Keken on behalf of the other organizers.



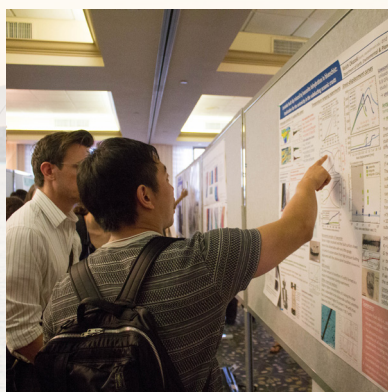
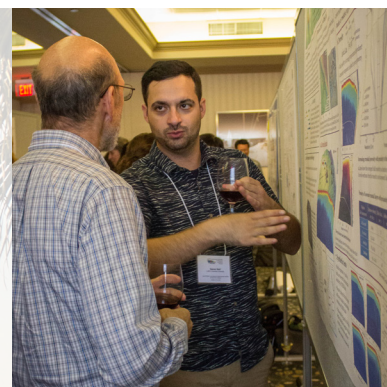
## Congratulations!

Kirstie Haynie (University of Houston) and Miles Bodmer (University of Oregon) received a copy of the recent Moho review book that was kindly provided by two of the editors, Hans Thybo and Irina Artemieva.

Couldn't make it to the TEI?  
No problem!

More than 60 presentation slides & posters are now available online

Presentations are available at:  
<http://goo.gl/EuWQ6w>





# Status Report on the GeoPRISMS Data Portal: November, 2015

Andrew Goodwillie and the IEDA Database Team

Lamont-Doherty Earth Observatory, Columbia University

The GeoPRISMS data portal ([www.marine-geo.org/portals/geoprisms](http://www.marine-geo.org/portals/geoprisms)) was established in 2011 to provide convenient access to data and information for each primary site as well as to other relevant data resources. Since the last newsletter report, highlighted below are recent contributions of data sets and field program information of interest to the GeoPRISMS community. Most of the data sets described are also available in GeoMapApp under the Focus Site menu.

During summer 2015, Data Portal staff helped the GeoPRISMS Office expand the on-line, searchable [GeoPRISMS bibliography](#) which now contains more than 1,120 citations and includes links to papers, data sets, and field expedition information.

## New Zealand

Basic field expedition information was added to the Portal for two Revelle cruises to the Hikurangi subduction margin: The “STINGS” expedition led by PIs Robert Harris, Anne Trehu, Stuart Henrys, and Andy Fisher that collected heat flow and seismic data to help understand the region’s thermal structure; and, the “HOBITSS” cruise in which sea-bottom pressure gauge, seismometer, and electromagnetic instruments were recovered after a year-long deployment (co-chief scientists were Laura Wallace, Susan Schwartz, Anne Sheehan, and Spahr Webb).

## Cascadia

High-resolution airborne LiDAR land elevation data sets with a horizontal grid spacing of 1/9th arc second (~3m) has been added to [GeoMapApp](#) for the Cascadia margin volcanoes Mount Rainier, Mount St. Helens, Mount Hood, Three Sisters, Mount Bachelor, Crater Lake, and Mount Shasta. As shown in Fig.2, the LiDAR data provides unprecedented map detail for these volcanic regions.

For the marine Cascadia component, Paul Johnson contributed multibeam swath bathymetry data from 2005 cruise [TN177](#) which surveyed the shelf break and canyon area offshore Grays Harbor, WA.

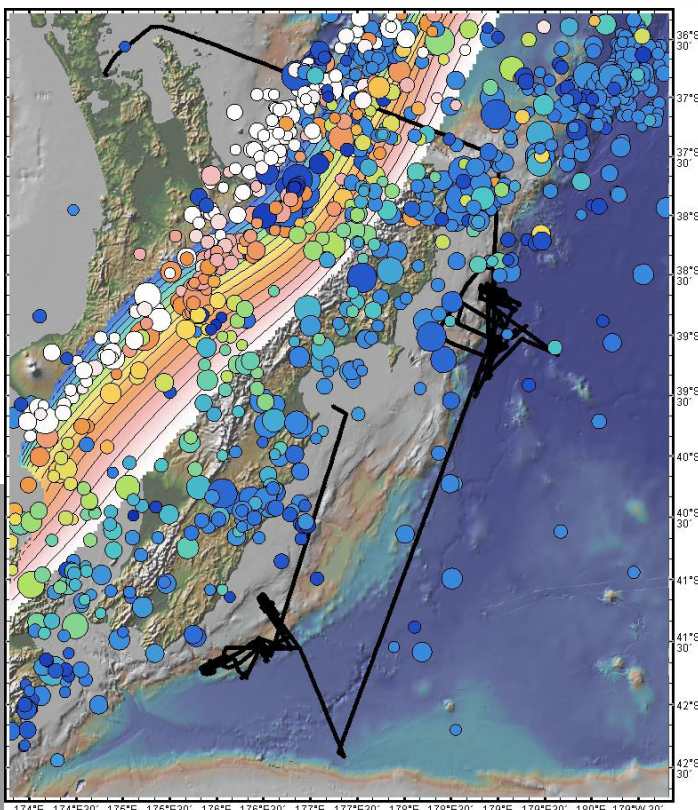


Figure 1. The bathymetric expression of the Hikurangi subduction zone lies to the east of New Zealand’s North Island. Here, the track line for the 2015 Revelle 2015 “STINGS” cruise ([RR1508](#)) is shown with the thick black line. The expedition surveyed both the northern part of the margin which is characterised by a creep-dominated subduction interface and shallow slow slip earthquakes (SSEs) and a southern area with deep SSEs. The 10km-contoured rainbow-coloured surface plotted on top of the North Island and trending NE-SW is the depth to the top of the subducting slab from the work of MARGINS/GeoPRISMS researchers Ellen Syracuse and Geoff Abers. Circles are the epicenters of earthquakes with magnitude > 4.5 for the period 1973-2009 from the USGS NEIC catalogue. They are coloured by depth (cool colours are shallow, warm are deeper) and scaled on magnitude. The follow-on “HOBITSS” cruise ([RR1509](#)) recovered instruments from the northern survey area. The image was created with GeoMapApp (<http://www.geomapapp.org/>) using the built-in geophysical data sets under the DataLayers menu and an imported track line for the cruise.

The GeoPRISMS Data Portal team is here to serve the community.

Please contact us at [info@marine-geo.org](mailto:info@marine-geo.org)

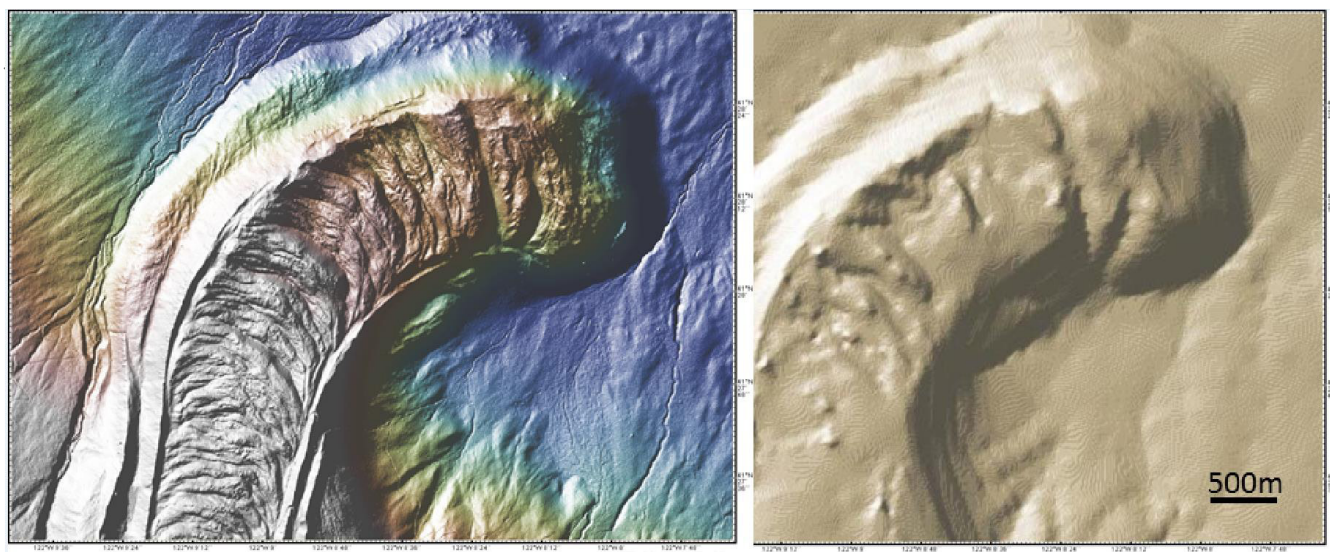


Figure 2. Mount Shasta's Military Pass lava flow is shown in the 10m USGS National elevation Data set (right) and the newly-added ~3m LiDAR data set (left), plotted at the same scale. The LiDAR data is available in GeoMapApp under both the Focus Sites and the DataLayers menus. It provides a notable increase in resolution to reveal significantly more detail of field project areas as well as hiking trails and roads.

## ENAM

Continuing the USGS Extended Continental Shelf survey of the ENAM margin, Deb Hutchinson, Nate Miller, and Warren Wood conducted a 2-D multi-channel seismic reflection survey aboard R/V Langseth, [MGL1506](#), in April 2015. That was followed by [MGL1510](#), a community-based, open access 3-D seismic survey of the New Jersey margin in which PIs Greg Mountain, Craig Fulthorpe, Mladen Nedimovic, and Jamie Austin mapped the stratigraphic detail of shallow depositional systems as part of their study on facies and sea-level change. Field information for both expeditions is available through the Portal.

## Experimental

The Portal now provides links to Kyle Straub's GeoPRISMS sediment tank [modelling experiments](#) related to the stratigraphic architecture and geomorphological dynamics of passive margins.

GeoMapApp - ([www.geomapapp.org](http://www.geomapapp.org)) version 3.6.0 of GeoMapApp was released. The new DataLayers menu consolidates the wide range of built-in global, regional, and local geoscience data sets that were originally listed under the Basemaps and Datasets menus in earlier versions of GeoMapApp. The consolidation allows the DataLayers menu to be structured more intuitively and managed more efficiently. The many built-in data sets are now arranged in the following categories that were chosen to reflect big-picture geoscience fields and themes.

For example, the new Geophysics menu includes data sets ranging from lithospheric plate deformation, earthquake catalogues, gravity and magnetics anomalies, to heat flow data; and, the Geology category includes geological maps and interpretations, volcano catalogues, and seafloor characteristics. LiDAR data shown in Fig. 2 was also added to GeoMapApp.

The Session Manager (Save Session) has been enhanced and offers a basic ability to store, share, and re-use an instance of a GeoMapApp session. The captured information is stored as a small file that can be shared with colleagues and students. A saved session could be shared with a class to allow every student to open GeoMapApp at exactly the same starting point with the same data layers loaded and the same area displayed. When using GeoMapApp to generate a figure for publication, storing the session could be useful for its later reuse.

DataLayers	
Click For Searchable Tear-Off Menus	
Bathymetry and Land Topography	▶
Climatology	▶
Cryosphere	▶
Geochemistry	▶
Geology	▶
Geophysics	▶
Human Impact	▶
Oceanography	▶
Remote Sensing	▶
Planets and Moon	▶



## GeoPRISMS Data Portal Tools and Other Relevant IEDA Resources

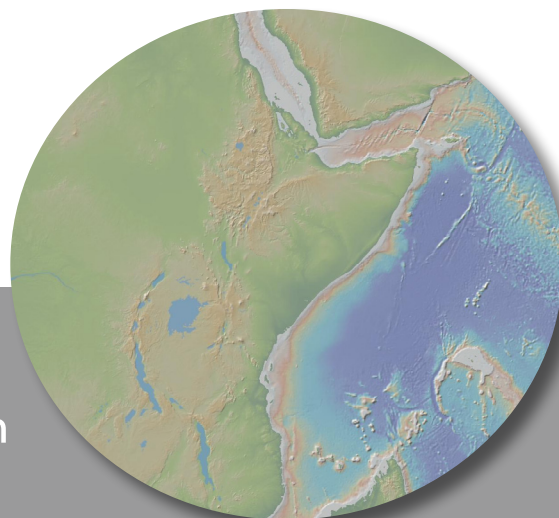
**Search For Data** - The customised GeoPRISMS search tool ([http://www.marine-geo.org/tools/new\\_search/index.php?funding=GeoPRISMS](http://www.marine-geo.org/tools/new_search/index.php?funding=GeoPRISMS)) provides a quick way to find GeoPRISMS data using parameters such as keyword, NSF award number, publications, and geographical extent.

**Data Management Plan tool** - ([www.iedadata.org/compliance](http://www.iedadata.org/compliance)) generates a data management plan for your NSF proposal. The on-line form can be quickly filled in, printed in PDF format and attached to a proposal. PIs can use an old plan as a template to create a new plan. We also have developed a tool to help PIs show compliance with NSF data policies.

**GeoPRISMS Bibliography** - ([www.marine-geo.org/portals/geoprisms/](http://www.marine-geo.org/portals/geoprisms/)

[references.php](#)) with more than 1,120 citations, many tied to data sets. The references can be searched by primary site, paper title, author, year, and journal. The lists of publications can be exported to EndNote™. Submit your papers for inclusion in the bibliography – just the DOI is needed! [http://www.marine-geo.org/portals/geoprisms/ref\\_submit.php](http://www.marine-geo.org/portals/geoprisms/ref_submit.php)

**Contribute Data** - (<http://www.iedadata.org/contribute>) Web submission tools support PI contributions of geophysical, geochemical, and sample data. File formats include grids, tables, spreadsheets, and shapefiles. Once registered within the IEDA systems, the data sets become available to the broader community immediately or may be placed on restricted hold. Additionally, PIs can choose to have a DOI assigned to each submitted data set, allowing it to become part of the formal, citable scientific record.



## GeoPRISMS at AGU Fall Meeting 2015 Mini-Workshop - East African Rift System

### Sunday December 13

8a-1:30p | From rifting to drifting: evidence from rifts and margins worldwide

*Conveners: Rebecca Bendick, Ian Bastow, Tyrone Rooney, Harm Van Avendonk, Jolante van Wijk*

This mini-workshop is followed by the STEPPE Workshop “Lake Tanganyika: A Miocene-recent Source-to-Sink laboratory in the African Tropics” that starts at 2pm in the same location

*Conveners: Michael McGlue, Christopher Scholz*

Grand Hyatt San Francisco  
345 Stockton Street, San Francisco, CA  
Union Square Room – 36<sup>th</sup> Floor

Questions should be directed to the GeoPRISMS Office:  
[info@geoprisms.org](mailto:info@geoprisms.org)

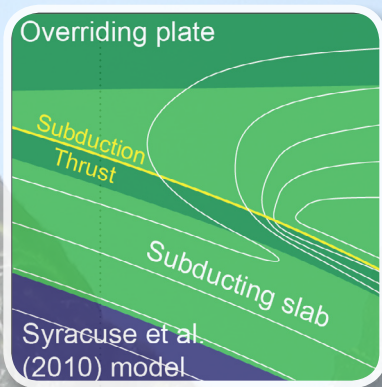
More information can be found at:  
<http://geoprisms.org/meetings/mini-workshops/>  
A detailed description of the workshops is available p.24



# Opportunity for Students & Postdocs

## ExTerra Field Institute and Research Endeavor

*The E-FIRE Field Institutes will gather ExTerra and European scientists in the field to collect field data and rock samples, discuss research questions, and develop new approaches to answering these questions together.*

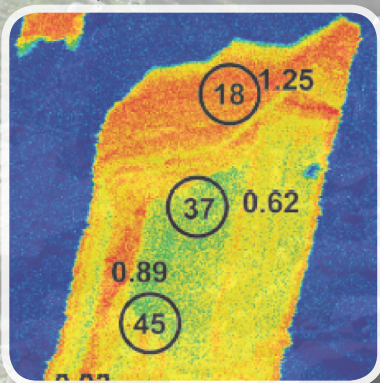


The ExTerra Field Institute and Research Endeavor (E-FIRE) will consist of 8 PhD students and 2 post-docs working on projects investigating exhumed metamorphic rocks with ExTerra and European ZIP (Zooming in between Plates) scientists in the Western Alps to develop new approaches to answering questions about the nature of subduction.

We are actively seeking applications for student and post-doctoral fellows.

We encourage interested, motivated, bright students to visit our website:

<http://geoprisms.org/exterra/e-fire/>



More information about ExTerra can be found at:  
<http://geoprisms.org/exterra/>

Stay informed, get involved!  
Sign up to the ExTerra Listserv to learn more about ExTerra activities



# GeoPRISMS Sessions of Interest at the 2015 AGU Fall Meeting

December 14-18, 2015 AGU Fall Meeting, San Francisco

The complete AGU Fall Meeting program can be daunting so the GeoPRISMS Office has compiled a list of GeoPRISMS-related sessions that may be of special interest to the GeoPRISMS Community. Please refer to the AGU meeting program to confirm date and time of sessions (<http://fallmeeting.agu.org/2015/scientific-program/>)

MS: Moscone South

MW: Moscone West

## TECTONOPHYSICS

### **T31B. T33B. T34B. Cumulative deformation in the overlying plate due to subduction and related feedbacks**

Wednesday 8:00-12:20 (MS Poster Hall)

Wednesday 1:40-6:00 (MS 306)

Conveners: Hiroshi Sato – University of Tokyo, David Okaya – University of Southern California, Susan Ellis – GNS Science-Institute of Geological and Nuclear Sciences Ltd, Thorsten Becker – University of Southern California

### **T31D. T33C From the seismic cycle to geological time scales, how do subduction processes that can possibly modify the megathrust geometry and mechanical properties control the tectonic evolution and deformation of active margins, and the subduction seismic behavior?**

Wednesday 8:00-10:00 (MS 306)

Wednesday 1:40-6:00 (MS Poster Hall)

Conveners: Frédérique Leclerc – Earth Observatory of Singapore, Frederick Taylor – Institute for Geophysics, Nathalie Feuillet – Institut de Physique du Globe de Paris, Luc Lavier – Jackson School of Geosciences

### **T11E. T13F. New insights into the active deformation, tectonic evolution, and hazard mitigation of the Caribbean Plate and South America**

Monday 8:00-12:20 (MS Poster Hall)

Monday 1:40-3:40 (MS 104)

Conveners: Daniel Laó-Dávila – Oklahoma State U., Katharine Cashman – U. of Bristol, Alberto Lopez – U. of Puerto Rico Mayaguez, Ellen Wohl – Colorado State U.

### **T11G. T23D. Results of the Deep Fault Drilling Project (DFDP), Alpine Fault, New Zealand**

Monday 8:00-10:00 (MS 306)

Tuesday 1:40-6:00 (MS Poster Hall)

Conveners: Virginia Toy – University of Otago, Rupert Sutherland, GNS Science, John Townend – Victoria University of Wellington

### **T42B. T51C. Revisiting the tectonics, regional structure, and geodynamics of Alaska and the North Pacific**

Thursday 10:20-12:20 (MS 306)

Friday 8:00-12:20 (MS Poster Hall)

Conveners: Jeffrey Freymueller – University of Alaska Fairbanks, Margarete Jadamec – University of Houston, Douglas Christensen – University of Alaska Fairbanks

### **T41F. T42C. T51E. T51F. T53C. T54C. Rifts and passive margins: Tectonics, dynamics, processes**

Thursday 8:00-12:20 (MS304)

Friday 8:00-12:20 (MS Poster Hall)

Friday 1:40-6:00 (MS306)

Conveners: Sascha Brune – University of Sydney, Peter Clift – Louisiana State University, Gwenn Péron-Pinvidic – Geological Survey of Norway, Giacomo Corti – Istituto di Geoscienze e Georisorse, Consiglio Nazionale delle Ricerche

### **T41G. T43G. T44B. T51D. Scientific advances from subduction zone observatories**

Thursday 8:00-10:00 (MS306)

Thursday 1:40-6:00 (MS104)

Friday 8:00-12:20 (MS Poster Hall)

Conveners: Joan Gomberg – USGS, Douglas

Wiens – Washington University in St Louis, Katherine Kelley – University of Rhode Island, Anne Meltzer – Lehigh University

### **T11H. T12C. T13H. T14B. T21D. T21E. T24 C. Subduction across scales**

Monday 8:00-6:00 (MS 304)

Tuesday 8:00-12:20 (MS Poster Hall)

Tuesday 4:00-6:00 (MS 304)

Conveners: Philippe Agard – University Pierre and Marie Curie Paris VI, Kelin Wang – Geological Survey of Canada Sidney, Luce Fleitout – Ecole Normale Supérieure Paris, Bradley Hacker – University of California Santa Barbara

### **T43H. T44C. T51G. Tectonic, magmatic, and geodynamic studies of extensional processes: Applications in Iceland and the Nubia-Somalia-Arabia plate system**

Thursday 1:40-6:00 (MS 304)

Friday 8:00-12:20 (MS Poster Hall)

Conveners: Cory Reed – Missouri University of Science and Technology, D Sarah Stamps – University of California Los Angeles, Tyrone Rooney – Michigan State University, Ian Bastow – Imperial College London

### **T32E. T33D. Marine sedimentary records of climate-tectonics interactions**

Wednesday 11:20-12:20 (MS 104)

Wednesday 1:40-6:00 (MS Poster Hall)

Conveners: Jonathan Bull – University of Southampton, John Jaeger – University of Florida, Sean Gulick – University of Texas at Austin, Kolluru Krishna – National Institute of Oceanography



## **T32C. T41E. Oceanic and lithospheres: Clues from modern examples and ophiolites**

*Wednesday 10:20-12:20 (MS 304)*

*Thursday 8:00-12:20 (MS Poster Hall)*

Conveners: Cesar Ranero – ICM-CSIC, Philippe Agard – University Pierre and Marie Curie Paris VI, Mathilde Cannat – Institut de Physique du Globe de Paris, Robert Stern – Univ Texas Dallas

## **SEISMOLOGY**

### **S31A. S33E. S34A. Advances in understanding slow slip and transitional regions**

*Wednesday 8:00-12:20 (MS Poster Hall)*

*Wednesday 1:40-6:00 (MS 305)*

Conveners: Noel Bartlow – University of California San Diego, Lucile Bruhat – Stanford University, David Bekaert – University of Leeds, Heidi Houston – University of Washington

## **VOLCANOLOGY, GEOCHEMISTRY & PETROLOGY**

### **V23C. V31A. 4D Variations in Cascade Arc Magmatic Systems: Linking Tectonics, Geochemistry, and Geodynamics**

*Tuesday 1:40-3:40 (MS 305)*

*Wednesday 8:00-12:20 (MS Poster Hall)*

Conveners: Bradley Pitcher – Oregon State University, Thomas Sisson – USGS, Patricia McCrory – US Geological Survey, Haiying Gao – University of Massachusetts Amherst

### **V43A. V53G. A Tangled Web? Generation and transport of fluids, volatiles and melts in subduction zones from source to surface**

*Thursday 1:40-6:00 (MS Poster Hall)*

*Friday 1:40-3:40 (MS 308)*

Conveners: Julia Ribeiro – University of Texas at Dallas, Christy Till – Arizona State University, Leif Karlstrom – Stanford University, Horst Marschall – Woods Hole Oceanographic Inst.

### **V44A. V51B. Geochemistry of sediments and sediment recycling and implications for crust and mantle evolution over Earth history**

*Thursday 4:00-6:00 (MS 310)*

*Friday 8:00-12:20 (MS Poster Hall)*

Conveners: Richard Gaschnig – University of Maryland College Park, Xiao-Ming Liu – Carnegie Institution of Washington, Elizabeth Bell – University of California Los Angeles

### **V11A. Geology, Geophysics, Geochemistry and Biology of Serpentinization Processes on Earth and Other Planets**

*Monday 8:00-12:20 (MS Poster Hall)*

Conveners: Aida Farough – Virginia Polytechnic Institute and State University, Robert Lowell – Virginia Polytechnic Institute and State University, Jeffrey Alt – University of Michigan

### **V23E. V33C. Heterogeneity in the Earth's interior: The on-going processes of differentiation**

*Tuesday 1:40-3:40 (MS 307)*

*Wednesday 1:40-6:00 (MS Poster Hall)*

Conveners: Fred Davis – Smithsonian Institution, Sujoy Ghosh – Indian Institute of Technology Kharagpur, Ananya Mallik – Bayerisches Geoinstitut, Universitaet Bayreuth

### **V23F. V24B. V31B. How and when do volcanic eruptions start and stop, and what controls the tempo of everything in between?**

*Tuesday 1:40-6:00 (MS 308)*

*Wednesday 8:00-12:20 (MS Poster Hall)*

Conveners: Colin Wilson – Victoria University of Wellington, Michelle Coombs – Alaska Volcano Observatory Anchorage

Bruce Houghton – University of Otago, Paul Wallace – University of Oregon

### **V33E. V34B. V42B. V43B. Quantifying Storage, Transport, and Volumes of Magmas in the Earth's Crust**

*Wednesday 1:40-6:00 (MS 308)*

*Thursday 11:20-12:20 (MS 104)*

*Thursday 1:40-6:00 (MS Poster Hall)*

Conveners: Mattia Pistone – Smithsonian Institution – National Museum of Natural History, Benoit Taisne – Earth Observatory of Singapore, Olivier Bachmann – ETH Swiss Federal Institute of Technology Zurich, Katherine Dobson – Ludwig Maximilians University of Munich

### **V14C. V21C. The Earth's geodynamic carbon cycle: subduction, storage, migration, and outgassing**

*Monday 4:00-6:00 (MS 103)*

*Tuesday 8:00-12:20 (MS Poster Hall)*

Conveners: Sami Mikhail – The University of St. Andrews, Anja Rosenthal – Bayerisches Geoinstitut, Universitaet Bayreuth, Vincenzo Stagno – Geodynamics Research Center, Taryn Lopez – University of Alaska Fairbanks

### **V11D. The ophiolite-subduction connection: Using peridotites as analogs for subduction zone mantle**

*Monday 8:00-12:20 (MS Poster Hall)*

Conveners: Marlon Jean – Luh Institut Fuer Geologie, John Shervais – Utah State University, Julian Pearce – Cardiff University, Véronique Le Roux – Woods Hole Oceanographic Inst

### **V43C. V54A. Transport of Volatiles from Mantle to Surface: Insights on Diffusion, Exsolution and Migration of Fluids in Magmatic Environments from Natural Samples and Experiments**

*Thursday 1:40-6:00 (MS Poster Hall)*

*Friday 4:00-6:00 (MS 308)*

Conveners: Sarah Cichy – Arizona State University, Adrian Fiege – University of Michigan, Thomas Giachetti – University of Oregon

### **V51I. V53F. Volatile distribution and cycling in the mantle**

*Friday 8:00-10:00 (MS 308)*

*Friday 1:40-6:00 (MS Poster Hall)*

Conveners: Anne Peslier – Jacobs Technology, NASA Johnson Space Center, Jaime Barnes – University of Texas at Austin, Marion Le Voyer – Carnegie Institution, Jessica Warren – Stanford University

### **V41D. V51G Where Arc Magmas Reside: Comparing the Volcanic and Plutonic Records**

*Thursday 8:00-10:00 (MS 308)*


*Friday 8:00-12:20 (MS Poster Hall)*

Conveners: Valbone Memeti – California State University Fullerton, Gary Michelfelder – Missouri State University, Anita Grunder – Oregon State University, Emily Salings – Missouri State University









# GeoPRISMS AGU Townhall & Community Forum

**Monday December 14 at 6:00PM**

**The Park Central Hotel (*formerly Westin Market Street*)**

**50 Third Street - Franciscan Ballroom**

The event is open to all with interests in the GeoPRISMS Program and GeoPRISMS (or MARGINS) research. Come hear updates about the GeoPRISMS Program, the latest GeoPRISMS research projects & study areas, and ongoing GeoPRISMS research from student presenters.

- ✳ A short formal session (starting at 6:30PM) will include welcome opening remarks from the GeoPRISMS Chair Peter van Keken and updates from NSF Program Manager Jenn Wade.
- ✳ Erin Wirth (University of Washington) will provide a summary of the GeoPRISMS Theoretical & Experimental Institute for the SCD Initiative that took place last October in California
- ✳ Peter Kelemen (Lamont, Columbia University, will present a report of GeoPRISMS Field Research that took place in the Aleutians last Summer.
- ✳ Tyrone Rooney (Michigan State University) will give a summary of the RIE Workshop held the day before AGU.

## Students, welcome!

Student entrants for the GeoPRISMS Prize for Outstanding Student Presentations are also invited to display their AGU posters (or poster versions of their AGU talks) and discuss their research with event participants. This will be a great opportunity for students to share their results further and to interact with a wide spectrum of GeoPRISMS scientists.

## Stay informed, get involved

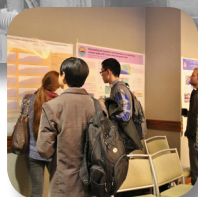
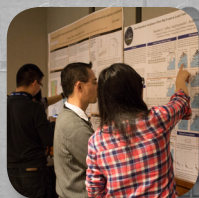
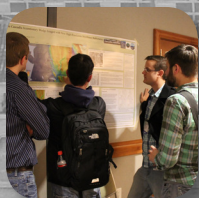
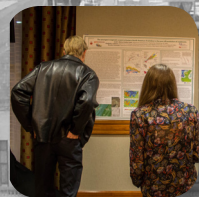
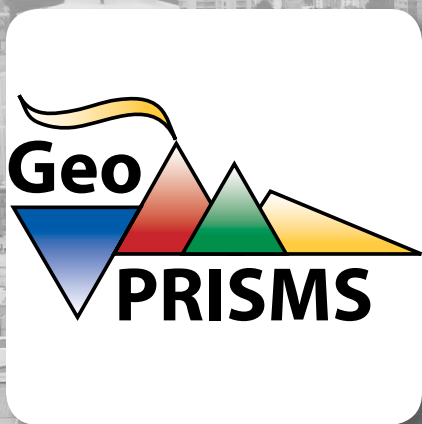
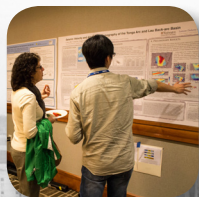
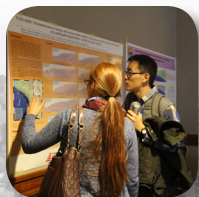
There will be ample time to mingle and refreshments will be available. Among those present will be Peter van Keken (GeoPRISMS Chair), members of the GeoPRISMS Steering and Oversight Committee, and Program Manager for GeoPRISMS from the National Science Foundation.

**We hope to see you there!**

Questions should be directed to the GeoPRISMS Office:  
[info@geoprisms.org](mailto:info@geoprisms.org)

More information can be found at:  
<http://geoprisms.org/meetings/agu-townhall-and-student-forum/>

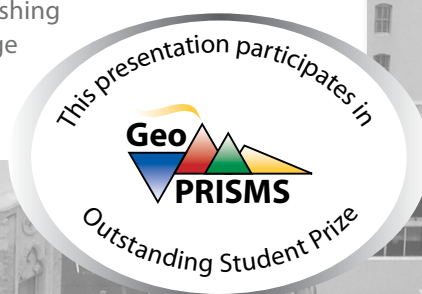




## GeoPRISMS Prize for Outstanding AGU Student Poster and Oral Presentations

The GeoPRISMS Program is offering two \$500 prizes for Outstanding Student Presentations on GeoPRISMS- or MARGINS-related science at the AGU Fall Meeting in San Francisco, December 14-18, 2015.

The two prizes, one each for a poster and an oral presentation, will be awarded to highlight the important role of student research in accomplishing MARGINS- and GeoPRISMS-related science goals, and to encourage cross-disciplinary input.





# GeoPRISMS Steering and Oversight Committee



PETER VAN KEKEN<sup>\*</sup>, GeoPRISMS Chair, University of Michigan, [keken@umich.edu](mailto:keken@umich.edu)



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# GeoPRISMS Mini-Workshops at AGU 2015

Grand Hyatt San Francisco, 345 Stockton Street  
Union Square Room - 36<sup>th</sup> Floor

Sunday December 13, 2015 • 8 – 1:30pm

## From rifting to drifting: evidence from rifts and margins worldwide

Conveners: Rebecca Bendick<sup>1</sup>, Ian Bastow<sup>2</sup>, Tyrone Rooney<sup>3</sup>, Harm Van Avendonk<sup>4</sup>

<sup>1</sup>University of Montana; <sup>2</sup>Imperial College London; <sup>3</sup>Michigan State University; <sup>4</sup>University of Texas Institute for Geophysics

The purpose of this workshop is to facilitate discussion on the current state of research into continental extension. Our aim is to be broadly inclusive by bringing an audience with widely varying backgrounds to a common understanding of the state of the art in this field. Our ultimate goal will then be to pursue a discussion on future research challenges for the community and how these challenges align with the existing science plans for the GeoPRISMS Eastern North America and East African Rift Focus Sites. We will organize this meeting around the following themes:

1. Melt generation in extensional environments: Mantle decompression, thermal state and composition of the mantle.
2. Magma-lithosphere interaction: dikeing, metasomatism, thermal weakening, changing the composition of the lithosphere, coupling between deformation and melt migration.
3. Stretching of the lithosphere: Strain localization in brittle and ductile rheology, rates of extension, punctuated events.
4. Feedback loops – rifting and surface processes: sedimentation, margin architecture

followed by

Sunday December 13, 2015 • 2 – 8:30pm

## STEPPE Workshop: "Lake Tanganyika: A Miocene-Recent Source-to-Sink Laboratory in the African Tropics"

Conveners: Michael McGlue<sup>1</sup>, Christopher Scholz<sup>2</sup>

<sup>1</sup>University of Kentucky; <sup>2</sup>Syracuse University

This STEPPE workshop will investigate source-to-sink processes through an examination of the Lake Tanganyika rift (East Africa), which faithfully records profound signals of tectonics, climate variability, and surface processes in a high-continuity sedimentary archive. The workshop will bring together inter-disciplinary experts to discuss the geodynamic, atmospheric, hydrologic, and biological processes affecting the Tanganyika hinterland that influence sediment generation and transport, as well as the limnological and depositional processes influencing stratal architecture and the composition of sediment. Lake Tanganyika is widely considered to be the premier target to recover a long-term, high resolution record of tropical climate, evolutionary biology, and rift tectonics via scientific drilling, and it is also an active frontier petroleum basin. The goal of the workshop is to lay the framework for future scientific drilling and consider the best pathways for deconvolving forcing mechanisms from the depositional signal, potentially through the application of new analytical techniques, integration of large digital datasets, or process modeling.

Tuesday December 15, 2015 • 7 – 9pm

## The Himalayan Seismogenic Zone

Conveners: Larry Brown<sup>1</sup>, Judith Hubbard<sup>2</sup>, Marianne Karplus<sup>3</sup>, Simon Klemperer<sup>4</sup>, Hiroshi Sato<sup>5</sup>

<sup>1</sup>Cornell University; <sup>2</sup>Earth Observatory of Singapore and Nanyang Technical University; <sup>3</sup>University of Texas at El Paso; <sup>4</sup>Stanford University;

<sup>5</sup>Earthquake Research Institute of Tokyo University

The April 25, 2015 Mw 7.8 Gorkha earthquake in Nepal was a dramatic reminder that not all great thrust earthquakes occur on oceanic subduction zones. This mini-workshop is intended to facilitate discussion and organization of possible international, multidisciplinary efforts to study the Himalayan Seismogenic zone to better understand both the threat of future ruptures in this region and mechanics of large thrust earthquakes at convergent plate boundaries in general.





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*Scripps graduate student Georgianna Zelenak takes field notes while deploying a magnetotelluric station inside the caldera of Okmok volcano on Umnak Island in the summer of 2015 as part of a combined magnetotelluric and seismic imaging project to map the crustal and mantle magmatic system. Photo credit Kerry Key*



The GeoPRISMS mid-term review, the charge to the committee and the final report by the review panel are available online at [www.geoprisms.org/2015.review](http://www.geoprisms.org/2015.review)