

A8. Response to questions by NSF to GSOC March 2015



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Drs. Jennifer Wade and Donna Blackman
National Science Foundation

Ann Arbor, March 21, 2015

Dear Jenn and Donna,

Thank you very much for your time and your kind hosting of our annual GeoPRISMS Steering and Oversight Committee (GSOC) meeting held at NSF on March 12 and 13. We had a very productive meeting and covered a lot of topics that included progress reports on GeoPRISMS funded research, activities of the Office and those at AGU, the connections with facilities and other research collaborations. Please extend our thanks and regards to Drs. Frost and Murray for their very constructive participation in our meeting. We will send you the full minutes of the meeting when we have finalized them.

An important part of our discussion focused on the written questions that you provided ahead of the meeting regarding the planned Theoretical and Experimental Institutes in the 2014-2016 period, the scope of the program, the program review, and the role of the GeoPRISMS Office. We thank you for the time and thought that went into the formulation of these discussion points. We are fully aware of the impact of tight and reducing budgets and understand that the full scope of the program laid out in the science and implementations plans may not be fully achieved. We appreciate your interest in our recommendations for how we could proceed to optimize the impact of the program.

We distributed your discussion points to the committee ahead of the meeting. The committee received written responses from the three committee members (Drs. Rooney, Hajek and Dugan) who could not attend the meeting in person. Drs. Hajek and Dugan participated in part or all of the discussions by phone.

I will describe the outcome of our deliberations and recommendations to you in the order with which we discussed these topics. I will provide a short discussion of the

Program Review

The committee is preparing for the upcoming mid-term review and is looking forward to the charge that will be sent to the committee to help us start preparing the review materials.

Theoretical and Experimental Institutes (TEI) planned in 2014-2016.

The proposed Office budget submitted for the 2014-2016 Office period included funds for two ‘all-hands-on-deck’ meetings for the SCD and RIE initiatives. Due to the sequester the budget lines for these meetings were significantly reduced (to \$150k total) and we have been in negotiations with you whether we could augment these funds, should maximize efficiency by scheduling a TEI together with other meetings, or have to modify the original plan to accommodate the reduced budgets. The combination of the SCD TEI with the Subduction Zone Observatory (SZO) logistics meeting that was proposed in January by Bob Detrick (IRIS), Meghan Miller (UNAVCO), Anne Meltzer (IRIS Board of Directors) and myself was found to be too premature and too costly and we were asked to consider the role of the TEIs under the assumption that no additional funds would be available.

The GSOC discussed three options: 1) hold two TEIs with much reduced scope and smaller attendance for both the SCD and RIE initiatives; 2) consider combining the SZO meeting and SCD TEI at a later stage and organize a smaller RIE TEI; 3) combine the funds to hold the SCD TEI as originally planned and have the next Office (2017-2019) organize the RIE TEI.

Some of the GSOC members recalled favorably the more focused TEIs held at the end of MARGINS, but also noted that these were held together with other TEIs. Since we only can host a single TEI per initiative under option 1 we felt this would exclude a significant number of researchers interested in the broader SCD and RIE goals. Option 2 was received with more enthusiasm. We anticipate that a significant number of researchers interest in SCD would also apply to attend the SZO meeting leading to some cost savings. We did not reach a strong consensus in favor of this option however, as the cost and the length of the meeting were cited as major concerns. The cost of the combined meeting would still exceed the available funds (taking into account the budget estimate provided by NSF for a separate SZO meeting). The committee expressed the strong desire to make sure any meeting is done right and that delaying one TEI to make sure the other has a large impact was more important than trying to do both with limited budget. As such there was strong consensus in favor of option 3. The committee recommends to hold a single SCD TEI with the budget currently available to the GeoPRISMS Office with the recommendation that the next GeoPRISMS Office organizes a comparable TEI for the RIE initiative.

Role of the Office

The question was put before us to consider whether it was beneficial to continue the Office to guide GeoPRISMS activities. The cost of the Office (\$1.2M for 3 years on a current budget of \$3.5M per year) creates an effective 11% overhead. We discussed the main budget items of the Office in comparison to the cost of the Rice Office, which had a larger budget principally due to organization of a significant number of planning meetings and a larger indirect cost rate. The committee concluded that it would be hard to find internal cost savings that can significantly reduce the current Office budget. As a consequence it considered the possibility of terminating the Office as part of the GeoPRISMS program to provide more funds for funding of science projects.

The committee concluded unanimously that the Office is essential for the program. The strong and effective community building (as displayed for example by the nearly 1,000 unique individuals who have attended GeoPRISMS meetings) was seen as essential to keep GeoPRISMS a vibrant and growing program. The Distinguished Lecturer Program (DLP), which is designed to maximize outreach opportunities at institutions with limited access to scientific speakers has furthermore reach an estimated 9,000 people. The Office activities provide several mechanisms to reach new members of the geosciences community through the DLP, student symposia at meetings, and the AGU Townhall and Student Forum. These activities similarly allow students and junior scientists to be part of a vibrant and growing community. The use of the Office and its activities as a focal point of the program is seen as fundamental to the GeoPRISMS goals of achieving an active community with a strong interdisciplinary and amphibious approach. While the relative cost appears high when measured to just GeoPRISMS-funded science, it is clear that GeoPRISMS reaches a much larger audience than just those funded by GeoPRISMS and that many research activities funded by NSF outside of GeoPRISMS benefit from the Office activities. The true relative cost of the Office is therefore seen as significantly less than 11%. The committee unanimously recommended that the Office remains an integral part of the GeoPRISMS effort.

Program Scope

The committee recognized the importance of discussing the program scope within the limited budget availability. The science plans that were drawn up with two main initiatives and five focus sites could be seen as ambitious within the reality of funding well below the amount that had been anticipated.

The committee first discussed whether the program scope could be reduced by the removal of any focus site. A strong consensus emerged that this is not possible due to the way the NSF-approved science plans have been developed and the significant investment of time and effort by the community to establish implementation plans for the focus sites. Each focus site is connected to the other sites in the science plans and the removal of one site would effectively render the science plan of that initiative along with implementation plans of the related focus sites invalid. The need for colocation with other efforts (such as

EarthScope) and the phased funding for large projects have further complicated this. It was noted that the timing of initiatives in SCD (Cascadia first, followed by Alaska-Aleutians and New Zealand) did not strictly follow the scientific priorities laid out by the community (which selected the focus sites in order of priority: Alaska-Aleutians, Cascadia, New Zealand as described in the GeoPRISMS Implementation Plan). Similarly, the study of incipient rifting at EARS is highly complementary to the longer-term rift processes studied at ENAM. A termination of the EARS focus site would fatally weaken the science plans developed for RIE.

The committee was asked to take into account the low success rate of the proposals that were submitted in the first year of funding available for large projects in the EARS focus site. The committee is concerned about the possible reasons for this and is eager to work with the EARS community to find ways to improve this success rate. Nevertheless, the committee feels that it is fair to the entire community to let the proposal process decide whether projects are feasible or not, rather than trying to anticipate the outcome of future funding rounds and exclude the EARS community from the outset.

The committee discussed the impact of the phased funding model as a whole and the shared logistical support specifically for the Aleutians. These clearly have had a positive impact: the phased funding with limited time periods allows for a fairer distribution of financial resources among the focus sites and the logistical support allows PIs of multiple projects to participate in shared resources. However, the committee also noted that the phased funding has had some negative impact by not always providing an optimal time window for certain projects that required expensive ship time or for projects that could not benefit directly from the logistical resources that were provided for the Aleutians.

The committee recognizes the fundamental importance of the science objectives at all focus sites and feels strongly that as much as possible should be done to facilitate the community efforts at all sites. The committee accepts the fact that the budgetary pressures may limit the overall impact of the program and that this is an anticipated outcome of doing difficult amphibious and interdisciplinary science under significant budget pressures. The committee strongly recommends that the impact of reduced funding should be borne by the entire program and not by a single focus site.

The committee discussed possible ways to reduce the impact of the delay of logistical support for the Aleutians and the poor initial round of reviews for EARS proposals. It was suggested that the EARS community might benefit from a RIE-focused workshop at AGU to discuss further community efforts and to put the EARS effort in perspective with that at ENAM. Such a workshop could be organized with modest additional funds to the Office but would logically require postponement of the second year of phased funding to EARS by one year. The NSF efforts to provide logistical support for projects in the Aleutians is generally seen as very positive, but the delay in this support effectively made this only available for the second year of phased funding. The committee felt it would be worthwhile to allow another year of proposals for large scale experiments at the Alaska-Aleutian focus site. Since the second year for big project submissions for the last focus site (New Zealand) is in FY17 and the decadal program ends in FY20 the committee feels

there is flexibility for an extension of the very difficult Alaska-Aleutian field site and for a delay in the second year for EARS. The original and modified phase funding model would then look as follows:

Original schedule

FY14	FY15	FY16	FY17	FY18
AA	AA			
	EARS	EARS		
		NZ	NZ	

Modified schedule

FY14	FY15	FY16	FY17	FY18
(AA)	AA	AA		
	EARS		EARS	
		NZ	NZ	

Summary statement

The GSOC is thankful for the thoughtful comments and questions that were raised and for the opportunity to provide feedback. The committee unanimously considers the Office an essential and integral component of GeoPRISMS. The committee recommends that the current Office organizes a SCD-focused TEI in 2015 using the currently available meeting funds and that the next Office is charged with the organization of the RIE TEI. The committee shares the concerns regarding the scope of the program within the budget realities but recommends that this is resolved through normal proposal competition rather than by explicitly adjusting the scope of the program by, for example, the removal of a focus site. Given delays in the logistics support and difficulty of field work in the Alaska-Aleutian site we recommend that this focus site is allowed for one more round of competition. To accommodate this we recommend that the second year of large project submissions to the EARS focus site is delayed by one year.

Kind regards,

Peter van Keken,
on behalf of the GeoPRISMS Steering Committee: Drs. Estella Atekwana, Brandon Dugan, Jeffrey Freymueller, Liz Hajek, Kerry Key, Maureen Long, Sarah Penniston-Dorland, Tyrone Rooney, Harold Tobin, Harm van Avendonk, Paul Wallace, Anthony Watts, Gene Yogodzinski.

Cc: Dr. Bilal Haq