Introduction

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UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

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MARINE SEISMIC RESEARCH OVERSIGHT COMMITTEE (MSROC)

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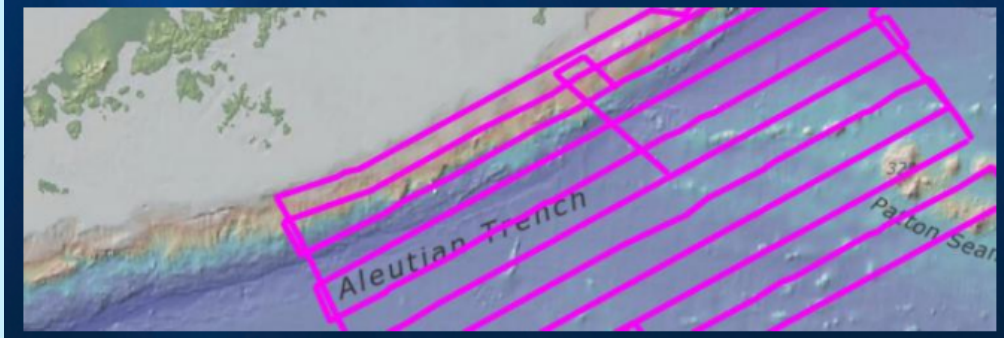

ANNOUNCEMENTS

The Marcus Langseth Science Oversight Committee (MLSOC) recently transitioned to the Marine Seismic Research Oversight Committee (MSROC).

Overview

Marine Seismic Research Oversight Committee

The Marine Seismic Research Oversight Committee (MSROC) provides scientific oversight, asset coordination and strategic advice for NSF-supported marine seismic facilities. MSROC fulfills a role as the representatives for the marine seismic research community, ensuring broad access and maximum participation in the utilization of marine seismic assets. MSROC also advises UNOLS and funding agencies on the adoption of technical advances that maintain a cutting edge capability for the facilities that support marine seismic research.

Members

Other Resources & Links

- MSROC Terms of Reference
- R/V Marcus G. Langseth Website
- Regional Framework Plan for Marine Seismics
- MSROC News
- SMR for Global Class Vessel with Seismic Capabilities
- Marine Seismic Imaging Brochure
- Marcus Langseth Environmental Compliance
- Lessons Learned from the Marine Seismic Questionnaire

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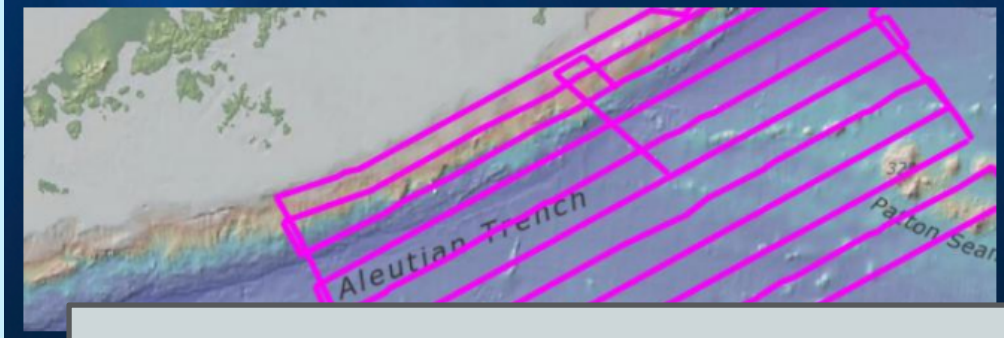


ANNOUNCEMENTS

The Marcus Langseth Science Oversight Committee (MLSOC) recently transitioned to the Marine Seismic Research Oversight Committee (MSROC).

From 2016 MLSOC AGU meeting minutes:

The transition from the previous MLSOC to the MSROC will have some "bumps along the way". A comment was made that the new committee could easily become the place where all problems land. To prevent this a clear path forward and a well thought out course of action needs to be developed.

seismic research community, ensuring broad access and maximum participation in the utilization of marine seismic assets. MSROC also advises UNOLS and funding agencies on the adoption of technical advances that maintain a cutting edge capability for the facilities that support marine seismic research.

Members

- Seismic Capabilities
- Marine Seismic Imaging Brochure
- Marcus Langseth Environmental Compliance
- Lessons Learned from the Marine Seismic Questionnaire

Marine Seismic Research Oversight Committee Meeting Agenda

Wednesday July 12
8:00 – 8:30 AM: Continental breakfast
8:30 – 9:00 AM: Introduction and meeting overview (Pat Hart)
- o Meeting Goals
- o MSROC Membership discussion

9:00 – 9:30 AM: NSF Briefing (Candace Major)
- o NSF Seismic Capabilities Solicitation
- o MLSOC/MSROC Transition

9:30 – 10:15 AM: IODP and MSROC (Sean Gulick)
10:15 – 10:45 AM: Break
10:45 – 11:30 AM: OBSIP and NOBSIP (Donna Blackman)
MSROC Terms of Reference Tasks:
11:30 – Noon: (A) Regional Framework plan (Nathan Bangs)
Noon – 1:00 PM: Lunch
1:00 – 1:30 PM: (B) Coordination of international participation (John Hopper)
1:30 – 2:00 PM: (C) Technical capabilities of marine seismic assets (Warren Wood)
2:00 – 2:30 PM: (D) Training (Pat Hart)
2:30 – 3:00 PM: (E) Outreach (Emily Roland)
3:00 – 3:30 PM: Break
3:30 – 4:30 PM: Discussion
- o Revisit earlier topics
- o Possible additional agenda items for Thursday morning

7:00 PM: Group dinner at Ivar's Fish Bar (401 NE Northlake Way)

Thursday July 13
8:00 – 8:30 AM: Continental breakfast
8:30 – 9:15 AM: MSROC Statement regarding NSF Seismic Capabilities solicitation
9:15 – 9:45 AM: Planning for winter MSROC meeting at New Orleans AGU
- o Potential invited speakers

9:45 – 10:15 AM: Discussion of added agenda items
10:15 – 10:30 AM: Break
10:30 – 11:30 AM: Continued discussion of added agenda items and meeting summary
11:30 AM: Adjourn meeting

3. MEMBERSHIP / ORGANIZATION

The MSROC membership shall be composed of up to nine individuals who can represent the spectrum of marine seismic research and fulfill the committee tasks as outlined below. The MSROC Chair will also serve as an ex-officio of the UNOLS Council.

At least three members with expertise in long-offset 2-D and/or 3-D MCS studies, ideally one of these members will have significant marine seismic industry involvement.

Two members with expertise in ocean bottom seismology (ideally, one each for active and passive source methods), one of whom can serve as a liaison to/from the OBSIP advisory committee

A member who can serve as a liaison to the IODP community through current membership on one of that program's committees

A representative with expertise in issues related to environmental permitting for marine seismics

A member with expertise in high-resolution seismic imaging for shallow subsurface structure

One or more members from the international geophysics community who can serve as a liaison to represent scientists/agencies on issues pertaining to international projects in marine seismic research

Ex-officio representatives of the UNOLS RVTEC and RVOC committees may serve on the Committee.

The Langseth operating institution and the OBSIP management may designate non-voting ex-officio member(s).

3. MEMBERSHIP / ORGANIZATION

The MSROC membership shall be composed of up to nine individuals who can represent the spectrum of marine seismic research and fulfill the committee tasks as outlined below. The MSROC Chair will also serve as an ex-officio of the UNOLS Council.

At least three members with expertise in long-offset 2-D and/or 3-D MCS studies, ideally one of these members will have significant marine seismic industry involvement. *(Recruit industry ex-officio?)*

Two members with expertise in ocean bottom seismology (ideally, one each for active and passive source methods), one of whom can serve as a liaison to/from the OBSIP advisory committee *(We need to appoint a (N)OBSIP liaison. Del Bohnenstiehl (currently on the OBSIP oversight committee)?)*

A member who can serve as a liaison to the IODP community through current membership on one of that program's committees. *(Sean Gulick?)*

A representative with expertise in issues related to environmental permitting for marine seismics

A member with expertise in high-resolution seismic imaging for shallow subsurface structure

One or more members from the international geophysics community who can serve as a liaison to represent scientists/agencies on issues pertaining to international projects in marine seismic research

Ex-officio representatives of the UNOLS RVTEC and RVOC committees may serve on the Committee. *(Lee Ellet or Scott Ferguson / Thomas Glennon or Stewart Lamerdin, but is this needed?)*

The Langseth operating institution and the OBSIP management may designate non-voting ex-officio member(s*). (Sean Higgins and Donna Shillington, maybe OBSIP ex-officio not needed)*

NSF/ MSROC Statement

Marine Seismic Research Oversight Committee

Purpose (From 2016 Annual MLSOC meeting UNOLS presentation)

- Provide Scientific Oversight
- Asset Coordination
- Strategic Advice for NSF Supported Marine Seismic Facilities
- Represent Marine Seismic Research Community for broad access to all marine seismic assets.

Red indicates a new emphasis for MSROC

Purpose (From MSROC Terms of Reference)

The Marine Seismic Research Oversight Committee (MSROC) provides scientific oversight, asset coordination and strategic advice for NSF-supported marine seismic facilities. MSROC fulfills a role as the representatives for the marine seismic research community, ensuring broad access and maximum participation in the utilization of marine seismic assets. MSROC also advises UNOLS and funding agencies on the adoption of technical advances that maintain a cutting edge capability for the facilities that support marine seismic research.

Marine Seismic Research Oversight Committee

Specific Tasks (From 2016 Annual MLSOC meeting UNOLS presentation)

Red indicates a new emphasis for MSROC

- Work to Develop Regional Plan for Operations
- Encourage and help facilitate advancement of cooperative international programs
- Review Technical Capabilities of Existing Marine Seismic Assets and advocate for upgrades based on compelling scientific needs.
- Promote Engagement & Training of next generation marine seismic researchers
- Liaise more closely with IODP and OBSIP
- Provide outreach tools and feedback mechanism to the community

Specific Tasks (From MSROC Terms of Reference)

(a) Implementation of the Regional Framework Plan
(b) Act to engage and coordinate international participation in the regional framework planning process and to identify international resources that might be available to U.S. researchers. Regularly review the technological information available for use of assets and identify needed updates.
(c) Regularly review the technical capabilities of existing marine seismic assets to ensure they meet the needs of the scientific community, and advocate for upgrades when compelling needs for new capabilities are identified.
(d) Promote the engagement and training of the next generation of marine seismic researchers.

(e) Provide outreach tools and a feedback mechanism to the community, including a forum for input on emerging directions in marine seismic studies

Provision of Marine Seismic Capabilities to the U. S. Research Community

PROGRAM SOLICITATION
NSF 17-563

National Science Foundation

Directorate for Geosciences
Division of Ocean Sciences

Full Proposal Deadline(s) (due by 5 p.m. submitter's local time):

August 21, 2017

IMPORTANT INFORMATION AND REVISION NOTES

Any proposal submitted in response to this solicitation should be submitted in accordance with the revised *NSF Proposal & Award Policies & Procedures Guide* (PAPPG) (NSF 17-1), which is effective for proposals submitted, or due, on or after January 30, 2017.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Provision of Marine Seismic Capabilities to the U. S. Research Community

Synopsis of Program:

Proposals are solicited to support needs of the marine seismic research community that are currently provided by the specialized seismic research vessel R/V *Marcus G. Langseth*. The vessel is owned by the National Science Foundation and operated by the Lamont Doherty Earth Observatory of Columbia University (LDEO). NSF has determined that the current operational model is unsustainable and, with this solicitation, seeks proposals that provide comparable access to marine seismic capability through innovative approaches to R/V *Marcus G. Langseth* use or by other means.

The successful proposal will be administered as a Cooperative Agreement over the five-year period of performance.

Cognizant Program Officer(s):

Please note that the following information is current at the time of publishing. See program website for any updates to the points of contact.

- Bob Houtman, telephone: (703) 292-8583, email: bhoutman@nsf.gov
- Candace Major, Program Director, Marine Geosciences Section, telephone: (703) 292-7597, email: cmajor@nsf.gov
- Richard Murray, Division Director, Ocean Sciences Division, telephone: (703) 292-7240, email: rwmurray@nsf.gov

Applicable Catalog of Federal Domestic Assistance (CFDA) Number(s):

- 47.050 --- Geosciences

Award Information

Anticipated Type of Award: Cooperative Agreement

Estimated Number of Awards: 1

Anticipated Funding Amount: $50,000,000

$50 million total for five years at $10 million per year. Amount is subject to the availability of funds

From NSF Seismic Capabilities Solicitation:

NSF/OCE anticipates that proposals are likely to fall into one or more of the three categories listed below, with each category subject to operating within the specified annual budgetary constraints and in the context of providing the required seismic capabilities necessary to meet the scientific needs described above.

1. A qualified institution, organization, or consortium provides access to alternative technologies to replace the existing approaches used by R/V *Marcus G. Langseth*. NSF encourages creative strategies for meeting NSF's seismic research needs. In this approach, NSF would follow established U.S. governmental procedures for divestment of R/V *Marcus G. Langseth*, as described in Section III.B. below, and the vessel would no longer be available to researchers.

2. A qualified institution, organization, or consortium assumes ownership of R/V *Marcus G. Langseth*, following the NSF procedures for divestment, described in Section III.B. below, and commits to supporting NSF-funded research at the usage levels described above. Such support of NSF-funded research need not involve R/V *Marcus G. Langseth* if, for example, such an organization or consortium has other assets that could also, or instead, be used. If NSF no longer owns the vessel, any remaining ship-time after annual NSF seismic needs are met would be available to support the business model of the new owner(s).

3. NSF retains ownership of the vessel and a new financial and operational structure is established for management of R/V *Marcus G. Langseth*. In this model, the institution, organization, or consortium would guarantee access to the vessel via UNOLS for 75-150 days, subject to annual budgetary constraints. Due to the overall age of the vessel and the potential for vessel replacement in the future, however, NSF will not commit to a service life extension via a mid-life refit for R/V *Marcus G. Langseth*.

Proposals based on any of the three identified categories, or on any other model, may take advantage of the fact that the provision of marine seismic capabilities may potentially be assisted by alternative scheduling plans, regardless of platform, in which large and complex marine seismic programs funded by NSF would be conducted only on a periodic basis, for example every 2-3 years, rather than annually. Such a schedule could align well with the community's parallel need for multi-year planning for complex research projects, and could also allow large uninterrupted blocks of time for non-NSF projects to be conducted by the provider.

If no acceptable proposals are received, NSF will divest from R/V *Marcus G. Langseth* and will work with academic, international, and/or commercial partners for ad hoc access to third-party seismic capabilities within budgetary and logistical constraints and responsive to science proposals.

Important Update
"Provision of Marine Seismic Capabilities to the U.S. Research Community"
(NSF 17-563)

The Division of Ocean Sciences (OCE) of the National Science Foundation recently issued NSF 17-563, which is a solicitation entitled "Provision of Marine Seismic Capabilities to the U.S. Research Community." The following information does not modify the solicitation.

One or more commercial entities have expressed an interest in potential collaboration with an entity eligible for award under the solicitation (such eligibility as specified in the solicitation; i.e., academic or other non-profit institutions or organizations).

An eligible entity interested in contacting one or more commercial entities may contact me either by telephone or email (as detailed below) to obtain a point of contact. Additional commercial entities may also contact me with a request to share their information. Such information would only be provided to eligible entities if requested.

Importantly, NSF does not imply endorsement of any entities or specific approaches in connection with this information.

Regards,

Rick Murray
Director, Division of Ocean Sciences
NSF
rwmurray@nsf.gov; 703-292-7240

From the NSF_2015_Seismic_Portable_Workshop_Report:

Recommendations (with input from the MLSOC)

1. Eliminate the “portable system” option. A portable/removable system hosted on the Revelle (the most suitable candidate) would be a significant step backward, to Ewing and pre-Ewing capability, and would be inadequate to meet current and future science needs.

2. Do not adopt an industry-only approach. Relying fully on industry contracting to conduct the current level of academic seismic research would cost more, especially if long transits were needed. Thus, less science could be accomplished for the same research dollars. While contracting industry could work for the occasional project, uncertainties of contracting schedules and market availability would not be a feasible alternative to support an ongoing academic program in marine seismics.

3. Retain the Langseth as the facility for academic marine seismics and geophysics and search for new external support. Under the new regional model for seismic operations, there is opportunity for potentially attracting paid foreign usage for research programs aboard the Langseth. With areas of operation decided a few years in advance, foreign scientists and their funding agencies would have the time needed to secure funding and meet their permitting requirements. This avenue could be pursued under existing NSF ownership of the Langseth.

4. Pursue international facilities agreements, including MOUs, through NSF perhaps making use of the channels of communication already in place for IODP. MLSOC members are willing to reach out to international colleagues, but agency-level discussions will need to occur in tandem.

5. Immediately communicate the OCE plan for near-term marine seismics. There is currently high uncertainty about the future of Langseth, in both the US and foreign research communities, in light of the SeaChange Report and the NSF public response. Many infer that OCE will lay up Langseth soon and this impedes forefront scientific planning. OCE should determine and announce a near-term period for which Langseth will continue to serve the academic marine seismic community (something like 5 yrs), during which time international support and a potential consortia model(s) would be vigorously explored. Certainty of operations is essential for engaging foreign entities in paid usage discussions, reliability of access will be key for attracting/retaining prospective consortia members (regardless of whether/when an ownership transfer occurs), and a reduction in proposal pressure 'backlash', such as occurred in recent past times of high uncertainty for marine seismics, may be avoided.

August 2016

Lessons from the Marine Seismic Questionnaire Assessed by the Marcus Langseth Science Oversight Committee:

How a Marine Seismic Oversight Committee could help:

o Identify geographic regions where coordinated marine seismic (possibly other) asset use could enable integrated research or unique new, or next-level, insight into Earth or Ocean processes.
o Recommend geographic regions for near-term (3-5 yr) NSF ship/equipment experiments and explain why this timing would be beneficial.
o Provide advice on developing interests for future (5-8 yr) region focus.
o Gather advice on technical needs for OBSIP, Langseth and high-resolution seismic assets and determine whether there is consensus on prioritization amongst currently desired improvements
o Direct PIs with questions on marine seismic asset use to appropriate contact(s)
o Develop mechanisms for improved marine seismic training
o berth provision on research cruises
o regular (series) webinars on various aspects of data access, processing, interpretation guidance
o consider different models for access to processing capability (and advise NSF when possible)
o 2-4 national processing centers with well-equipped facilities where researchers spend some weeks during their project, and where regular training sessions for new users and more advanced users are scheduled throughout the year.
o Encourage all marine seismic proponents to participate in training activities, webinars, berth opportunities, as (a component of) their Broader Impacts for proposals
o Identify topics where different subfields could benefit from cross training/info exchange & suggest mechanisms to achieve this, for example:
o experiment design & planning
o seismic data processing/analysis and integration of results that use complementary techniques
o pre-experiment clearances: environmental, margin security, foreign waters, ITAR
o integrated analysis & model testing using multiple types of constraint
o interdiscplinary opportunities (e.g. seismics to understand oceanography)
o Advocate for marine seismic research within the broader geoscience community; ennunciate and clarify how offshore seismology can achieve outcomes not possible with well-established, onshore seismic efforts; occasionally, provide an alternate perspective to well-established IRIS efforts.

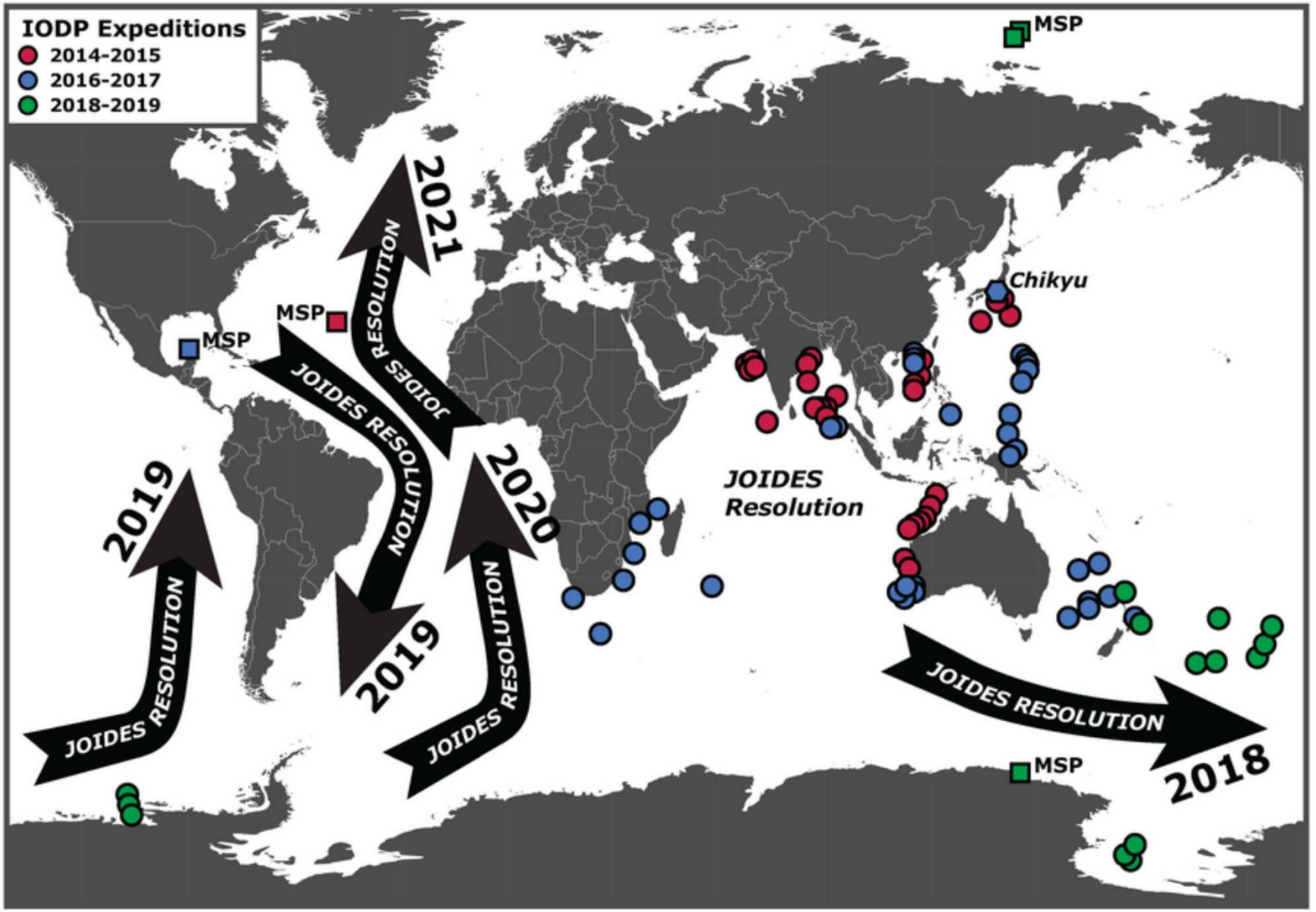
IODP

The Need to Continue the Robust Relationship Between Seismic Imaging and Scientific Ocean Drilling

James A. Austin, Jr., Chair, IODP Forum
Nathan Bangs, Former Chair, *Marcus Langseth* Scientific Oversight Committee

Executive Summary

The NAS "Sea Change" report to NSF/OCE has ushered in an ongoing balancing act between PI-driven science and critical supporting technical infrastructure, which includes the dedicated seismic platform *Marcus G. Langseth*, in the U.S. Similar stresses are affecting imaging capabilities in Germany, the UK, Japan and China. As a result, a healthy future for seismic imaging in the world's oceans is at risk; programs like IODP, the latest incarnation of the international collaboration in support of scientific ocean drilling, depend in part on such a global imaging capability. In response to warning coming from within IODP, international groups both inside and outside the drilling program have met to consider paths forward. More fiscal resources are not yet available, but the view of these groups is that more efficient scheduling and coordination of international imaging assets will optimize their functioning, and in the process support the continuation of IODP. A recent development in the U.S., execution of the Terms of Reference for a new international imaging oversight body, the Marine Seismic Research Oversight Committee (MSROC), suggest that such collaboration and coordination are possible, if an MOU mechanism among the known national purveyors of imaging can be developed.


IODP Expeditions
2014-2015
2016-2017
2018-2019
MSP
MSP
MSP
MSP
Chikyu
JOIDES Resolution
2021
JOIDES RESOLUTION
2020
JOIDES RESOLUTION
2019
JOIDES RESOLUTION
2019
JOIDES RESOLUTION
JOIDES RESOLUTION
2018

(N)OBSIP

NATIONAL SCIENCE FOUNDATION
4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230

NSF 17-080

Dear Colleague Letter: Management and Operation of a National Ocean Bottom Seismometer Instrument Pool

May 1, 2017

Dear Colleagues:

The Division of Ocean Sciences in the Geosciences Directorate of the National Science Foundation (NSF/OCE) intends to issue a solicitation to establish, manage and operate a National Ocean Bottom Seismometer Instrument Pool (NOBSIP) through a competitive, merit-based external peer-review process. This initiative is expected to result in the award of a five to ten-year Cooperative Agreement (CA) for this activity.

This letter provides general information regarding the upcoming competition to potential proposing organizations and other interested parties as to the material and information needed for responsive proposal preparation.

ELIGIBILITY INFORMATION

It is anticipated that the competition for management and operation of the National Ocean Bottom Seismometer Instrument Pool (NOBSIP) will be open to U.S. universities, colleges, and other non-profit, non-academic organizations. NSF will require that a single academic or non-profit U.S. organization serve as the lead organization, with any other collaborators being identified as subawardees.

NOBSIP must be managed in the public interest with objectivity and independence, and with full disclosure of the successful Awardee's technical, financial and programmatic performance, to NSF. The NSF will have overall responsibility for award oversight and anticipates that regular programmatic reviews will be conducted.

Regional Framework

4. SPECIFIC TASKS

(a) Implementation of the Regional Framework Plan

The Regional Framework Plan for the marine seismic data acquisition is designed to reduce overall data acquisition costs, provide guidance to the community about when to submit proposals for research in a particular area, encourage investigators (both U.S. and potential international teams) with new ideas to submit a proposal that could mesh geographically (e.g., modest transit), and provide rotating access to all regions of scientific interest within a timeframe of several years.

The MSROC will develop and implement a mechanism for ongoing regional planning that maps out and advertises areas of operation several years in advance. Areas of operation will be identified based on community interest and input, and detailed planning will include considerations for both vessel-based operations and OBSIP utilization. When relevant, opportunities for coordination with other geoscience assets, such as land instrumentation through the IRIS Portable Array Seismic Studies of the Continental Lithosphere (PASSCAL) Instrument Center for onshore-offshore experiments, may be addressed.

MSROC will actively and continuously seek input on regional planning from the U.S. and international science communities through a variety of means, including for example letters of interest, online bulletin boards, community science plans, input from agencies and operators, and through the one open regional planning meeting held each year. As part of regional planning activities, the MSROC will help identify and convey to the research community new collaborative opportunities.

In addition to longer-term regional planning the MSROC will also be available to provide perspective and advice to the operators and funding agencies regarding short-term scheduling issues.

Regional Framework Plan for *R/V Marcus G. Langseth*

(Status as of June 2017)

The regional framework plan is designed to reduce overall data acquisition costs by developing an efficient plan that minimizes transit costs. It is also designed to:

- Stimulate science interests compatible with the plan from US and international academic users, as well as potential commercial applications.
- Provide guidance on the timing of proposal submissions.
- Coordinate with other major science initiatives, such as IODP.
- Provide rotating access to all regions of scientific interest within a timeframe of 4-5 years.

In pursuit of these objectives, there are a few considerations.

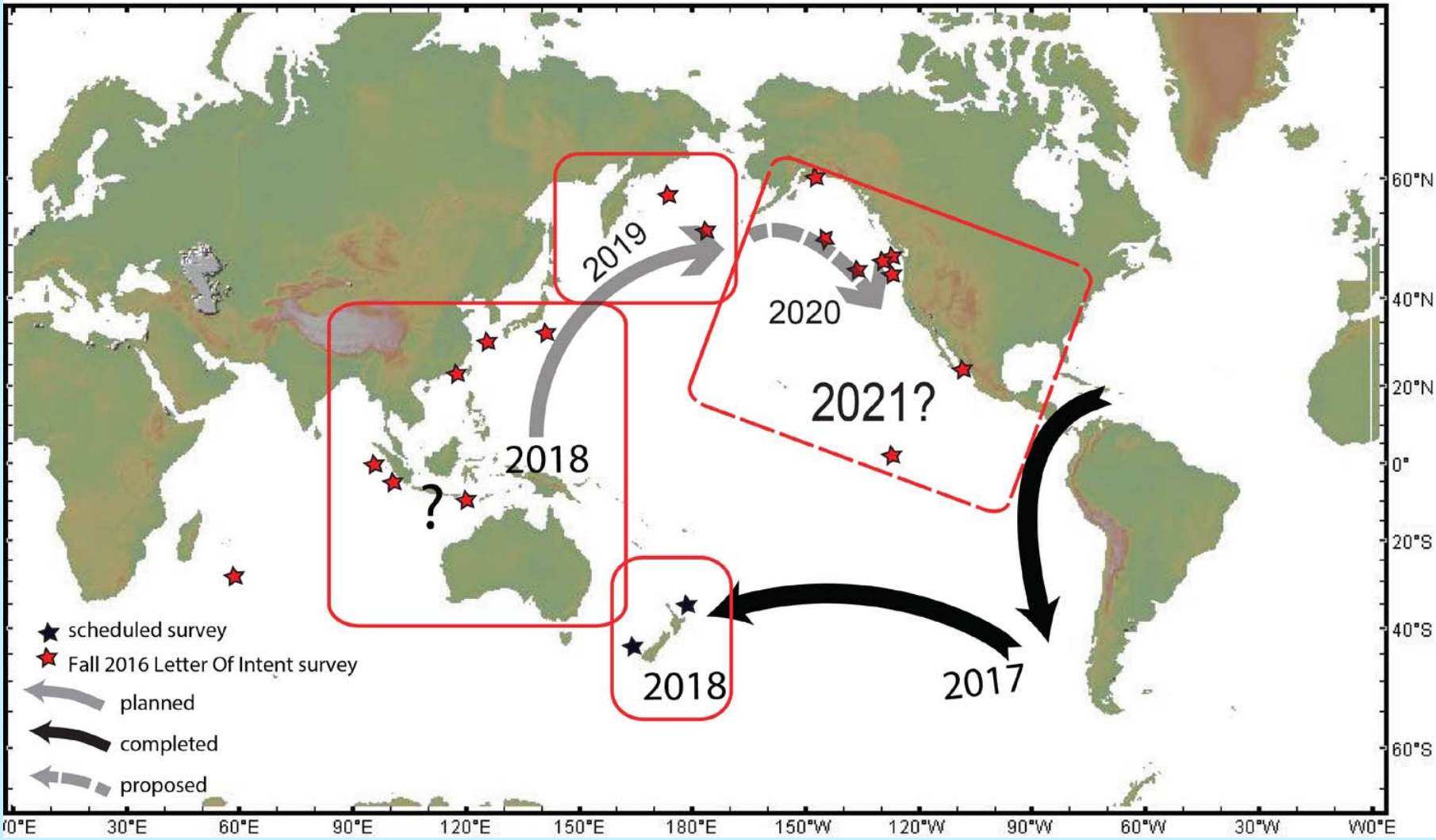
The plan is not entirely rigid and can flex somewhat in response to demand, particularly in the outlying years. MSROC recommends NSF proposal submissions at least 18 months prior to *Langseth's* expected arrival to field areas outlined by the plan, and as early as approximately 30 months. Details of the path can evolve as proposals are funded and opportunities emerge, but MSROC expects that the main regions defined in the plan will not change. The length of time *Langseth* operations will be conducted in any specific region will reflect demand, considerations for operations and opportunities in subsequent region(s) within the plan, and availability of funds. This framework is intended to guide planning, including planning of proposal submissions by PIs, ~4 years into the future. Subsequent path route(s) will be announced approximately biennially, based on NSF's understanding of projected areas of interest that are to be developed by MSROC with community input.

It is important to note that NSF has recently issued a solicitation aimed at moving to a new operational model for active-source marine seismic acquisition as early as March 2018 (see the NSF announcement included below). There are no presently scheduled R/V Langseth cruises for approximately 12 months following the last currently scheduled cruise offshore New Zealand, which will be completed in March 2018. However, non-NSF funded operations could be added to the 2018/2019 schedule provided that any mobilization and demobilization costs needed to deviate from the plan are covered from sources outside of NSF. As a consequence of the new operational model, marine seismic acquisition after March 2018 may not necessarily be conducted by the *Langseth*. However, MSROC anticipates operations will resume with an equivalent capability and in keeping with the regional framework plan.

NSF announcement regarding solicitation for the provision of seismic capabilities to the U. S. research community:
The Division of Ocean Sciences (OCE) of the National Science Foundation (NSF) has recently issued an important solicitation (NSF 17-563) regarding the provision of marine seismic capabilities to the U.S. research community. Proposals are solicited to support needs of the marine seismic research community that are currently provided by the specialized seismic research vessel R/V Marcus G. Langseth. The vessel is owned by the National Science Foundation and operated by the Lamont Doherty Earth Observatory of Columbia University (LDEO). NSF has determined that the current operational model is unsustainable and, with this solicitation, seeks proposals that provide comparable access to marine seismic capability through innovative approaches to R/V Marcus G. Langseth use or by other means. The successful proposal will be administered as a Cooperative Agreement over the five-year period of performance.
For additional information, please visit:

HTML: https://www.nsf.gov/pubs/2017/nsf17563/nsf17563.htm?WT.mc_id=USNSF_25&WT.mc_ev=click
PDF: https://www.nsf.gov/pubs/2017/nsf17563/nsf17563.pdf?WT.mc_id=USNSF_25&WT.mc_ev=click

Long-Term Langseth Cruise Track



Letters of Interest from 2016 MLSOC presentation:

1 Adrien Arnulf Juan de Fuca Ridge, 45°45'N, 130°W
2 Anne Bécel Wharton Basin
3 Tanya Blacic Bowers Ridge-Western Aleutians, 50.8°-55.2° N, 172.8°E-177.7°W
4 J. Pablo Canales Southwest Indian Ridge, 32°40'S, 57°15'E
5 J. Pablo Canales Offshore S. Oregon and N. California; 40°00'N--44°50'N and 125°15'W
6 Suzanne Carbotte Cascadia Subduction Zone
7 Gail Christeson Indian Ocean; btwn Austr. and Antarc. (42°S - 48° S, 120° W -130° W)
8 Robert A. Dunn Havre Backarc area, 33°50'S, 179°30'E
9 Shuoshuo Han Ryukyu Subduction Zone
10 Shuoshuo Han Cascadia Subduction Zone offshore south Oregon (43°N-44.5°N)
11 Shuoshuo Han Cascadia Subduction Zone near 44.5°N
12 Shuoshuo Han Sumatra Subduction Zone 0°-4°N
13 Nick Hayman Sao Paulo Plateau (27°S -28.5°S & 39°W-41°W)
14 Kirk McIntosh South China Sea 17.8 - 19.2N, 115.4 - 116.8 W
15 Dan Lizarralde Aleutian Arc; 48 - 54 N; 182 - 188 W
16 James S. McClain Gulf of California 22oN to 24oN, 107oW30' to 109oW30'.
17 Michael Steckler Indian Ocean off Bangl. and Myan.. 17°-21° N; 90.5°-94.5° E
18 Katsuyoshi Michibayashi Bonin Trench; 27.5N - 29N; 141 W - 145 W
19 Ingo Pecher Hikurangi Margin; 39 - 38.5 S; 178 - 178.75 W
20 Emily Roland Gulf of Alaska; 59 - 61 N, -146 to -152 W
21 Emily Roland Gofar Fault, Approximately 4.5° S 106° W on EPR
22 Donna Shillington Solomon Islands subduction zone
23 Donna Shillington Pacific ocean crustal structure and properties
24 Lindsay Worthington Central Alaska-Aleutian trench

Other Tasks

4. SPECIFIC TASKS

(b) Act to engage and coordinate international participation in the regional framework planning process and to identify international resources that might be available to U.S. researchers. Regularly review the technological information available for use of assets and identify needed updates.

The MSROC will solicit international input and participation in the regional planning process both through committee membership (section 3) as well as through the annual open regional planning community meeting. It will seek to promote international collaborations through information gathering and sharing (e.g. web sites on upcoming US and international programs, focused breakout sessions at international meetings such as EGU). It will also serve as a resource for the international community interested in using US marine seismic facilities to help facilitate the process and identify/address agency and other issues.

(c) Regularly review the technical capabilities of existing marine seismic assets to ensure they meet the needs of the scientific community, and advocate for upgrades when compelling needs for new capabilities are identified.

The MSROC will provide high-level input on scientific needs and guidance on prioritization for implementation of upgrades and deployment of new marine seismic capability. It is expected that the OBSIP liaison on the MSROC will serve as the conduit for information to/from the OBSIP advisory committee. Additional ad hoc groups will be formed as needed to address other marine seismic technical and operational issues.

4. SPECIFIC TASKS

(d) Promote the engagement and training of the next generation of marine seismic researchers.

The MSROC will help to identify and develop opportunities to broaden participation in marine seismic research, including promotion of training opportunities to help grow the research community with expertise in these approaches (e.g. training cruises and/or data processing webinars, classes, and short courses).

MSROC will seek opportunities to promote marine seismic research and maintain the vibrancy of the field such as community workshops. It will also consider mechanisms to convey marine science research outcomes to the broader community and/or public.

(e) Provide outreach tools and a feedback mechanism to the community, including a forum for input on emerging directions in marine seismic studies

The MSROC will establish mechanisms for feedback from and to the community regarding existing marine seismic research capabilities and emerging directions (for example, “how-to” guides, science user reports on recent expeditions, web sites and online bulletins).

Training task

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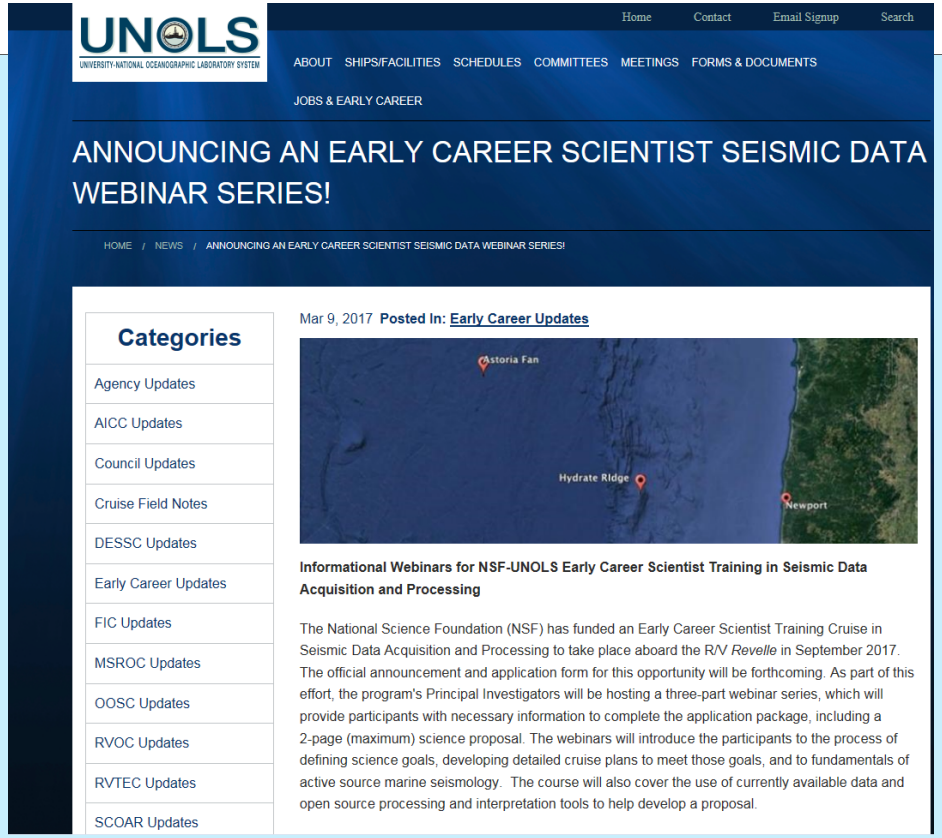

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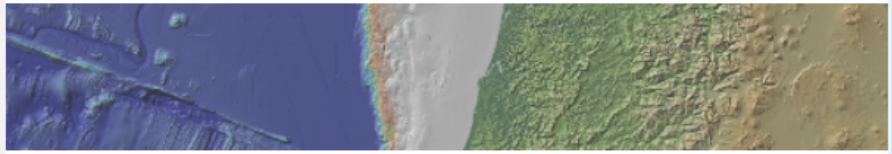
U.S. SCIENCE SUPPORT PROGRAM

Apply for the 2017 UNOLS Marine Seismic Training Cruise



The National Science Foundation (NSF) has funded an **Early Career Scientist Training Cruise in Seismic Data Acquisition and Processing** to take place aboard the R/V *Revelle* in September 2017. The deadline to apply for the cruise is **Wednesday, May 31st.** Please see the information and links below for the cruise application form and for access to the recorded webinar training sessions that will help with your application.

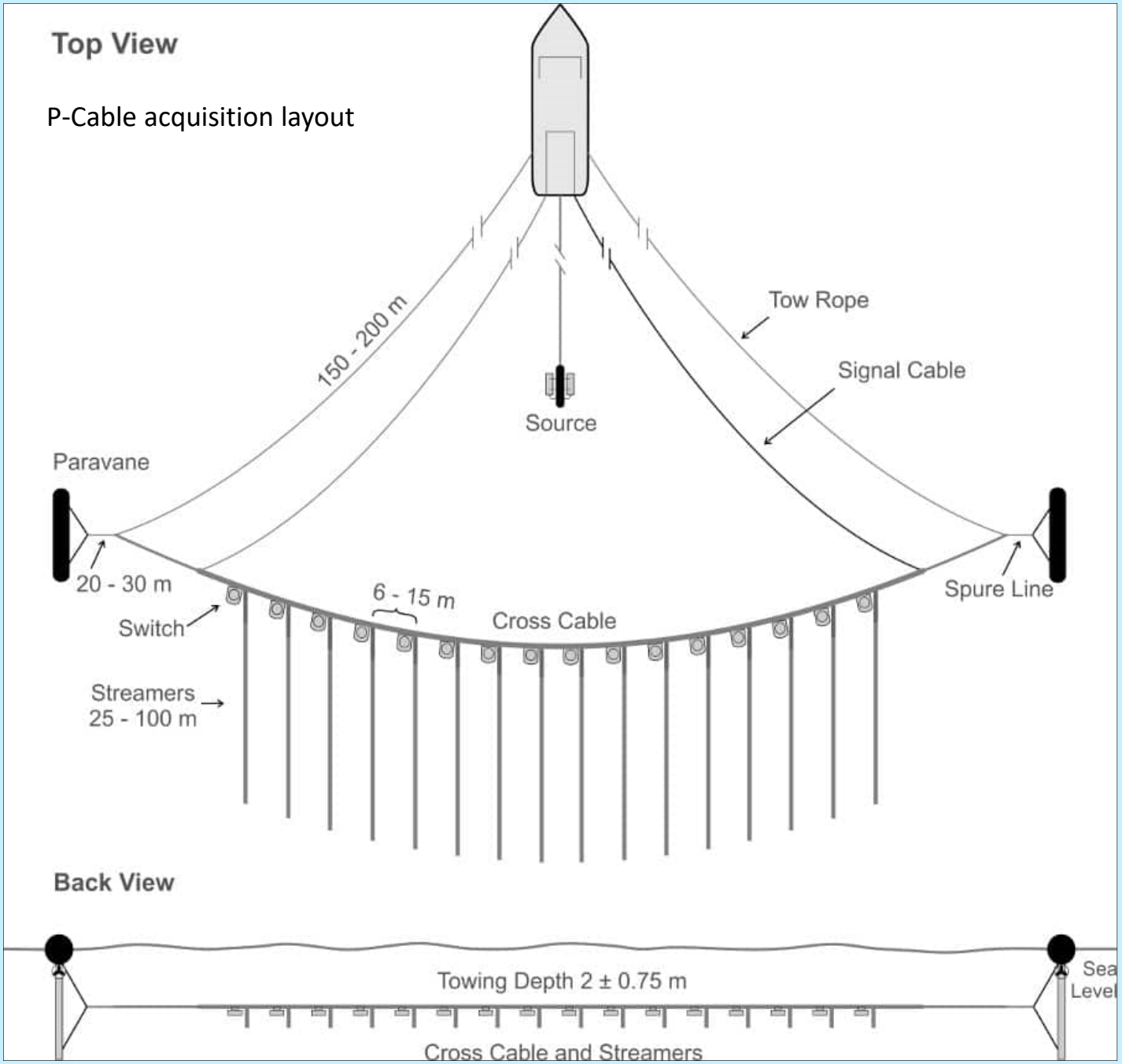
- **Training cruise application form:** https://www.surveymonkey.com/r/2017seismicCSW
- **Helpful documents** to complete your application: https://www.dropbox.com/sh/iwuprfj1sv6o7sn/AABd9qYeXNnX1-o6v7DxyIXza?dl=0
- If you need to access to the **recorded webinar sessions** (Day1-Day3), or if you have any **questions** about the cruise or application, please email ecs.seismiccruise2017@gmail.com

Sincerely,
Seismic ECS PI team

The program PIs are: Masako Tominaga (TAMU), Anne Trehu (OSU), Mitch Lyle (OSU), and Gregory Mountain (Rutgers), with additional support from Nathan Bangs (UTIG).

2017 UNOLS Marine Seismic Training Cruise
project PI: Masako Tominaga (UTEP)
coPIs: Mitch Lyle, Anne Tréhu (OSU), Greg Mountain (Rutgers), with additional support
from Nathan Bangs.
Prior to the cruise: Series of webinars on April 1-12 from 4:30-6 pm EDT
Webinar agenda at: https://www.unols.org/news/early-career-updates/announcing-early-career-scientistseismic-
data-webinar-series. Contact UNOLS for links to videos of presentations.
>100 registrants
Day1: 51-52 participants
Day2: 33-44 participants
Day3: 28-35 participants
Cruise scheduled for September 26 – October 2, 2017:
R/V Revelle: Newport OR – Newport OR
SIO 48-channel portable streamer; 2 GI-guns as source; swath bathymetry; magnetics; gravity; XBTs
Chief Scientist: Masako Tominaga (TAMU)
co-chiefs: Anne Trehu, Mitch Lyle (OSU)
Two days before the cruise for planning; 2 days after the cruise for finalizing processing/interpretation.
Processing on board using freeware (e.g. SIOSEIS, SeismicUnix, OpendTect)
Application deadline for the cruise: May 31, 2017.
Requires a short proposal.
~16 students expected to participate

P-Cable acquisition layout



MSROC Fall 2017 AGU meeting agenda

Marcus Langseth Science Oversight Committee (MLSOC)

Sunday December 11, 2016
Golden Gate University
536 Mission St.- Room 5224
San Francisco, California

MLSOC/MSROC AGU 2016 Meeting Agenda Draft

10:00 – 10:45 AM: Business
- o Welcome/overview of meeting objectives
- o UNOLS – Update/Charter revision/MSROC status/ Jon Alberts
- o Lamont – Operators report on Langseth/Sean Higgins
- o Review of MLSOC activities

10:45 – 11:30 AM: Langseth science accomplishments and seismic data needs
- o Reece/Christeson – S. Atlantic (20 min)
- o Hooft/Toomey – Santorini project (10 min)
- oExp363 and seismic data needs for drilling - Greg Mountain (10 min)

11:30-12:15 PM – NSF Report- NSF Program Managers
12:15- 1:00 PM- Lunch
1:00 –1:45 PM - Invited Talk- Science opportunities with Langseth long streamer/OBS – FWI Adrien Arnulf (30 min)
- Invited Talk- New Jersey 3D update – Mladen Nedimovic (15 min)
1:45-5:00 Planning the Future- MSROC (getting off the ground)
- o Status and implications – interactions between MLSOC (subcomm), OBSIP, UNOLS and NSF
- o Overview of OBSIP – Goals, long-range planning, membership, etc. – Brent Evers
- o How much overlap in membership? What are the OBSIP concerns? How will we coordinate meetings, goals, etc.? How will we coordinate MSROC planning and possibly outreach with OBSIP? Annual meetings with international participants

MLSOC/MSROC AGU 2016 Meeting Agenda Draft (continued)

Review/Discuss the goals of the MSROC –
Regional planning (3-5 years out for all marine seismic facilities) Possible model for developing a 5-year regional plan for NSF

- o Call for short expressions of interest from PIs
- o Short PI presentations on future interests at Fall MSROC meeting
- o Review of IODP seismic needs
- o Review Non-NSF funding prospects
- o Develop opportunities with international facilities/programs
- o Communication/interaction with community on model development

International collaboration

- o Developing "how-to" manual to lower barriers for sharing facilities and increasing communication – What needs to go into this and who will do it?
- o Development of international collaboration/cooperation – How do we follow-up from Lamont workshop?
- o Other ideas?
- o Outreach/community feedback

Early Career Training

- o EAGER proposal for at-sea training for "non-specialists" (Tominaga, 15 min)
- o Issues: Only on Langseth? MCS and OBS? Transits or dedicated days? Will the acquisition be driven by science objectives? Classroom training in processing?
- o What other efforts are needed for early career marine seismologists training/development?

Langseth regional planning

Invite presentations on potential future marine seismic science plans beyond 2018 (3 min. overview of locations, facilities needed, and general science goals)

- o Overview of submitted letters of interest
- o Volunteer PI presentations (PIs give 3 min. overview of locations, facilities needed, and general science goals)
- o Short summaries of all other submitted letters of interest
- o **Executive session -** Discussions on developing Langseth regional model

Other topics

https://www.whitehouse.gov/the-press-office/2017/04/28/presidential-executive-order-implementing-america-first-offshore-energy

MSROC Membership

Nathan Bangs*, UT Austin
Donna Blackman*, SIO (ex-officio)
Del Bohnenstiehl, NCSU
Patrick Hart, USGS, CA (Chair)
Sean Higgins, L-DEO, (ex-officio)
John Hopper, Geological Survey of Denmark and Greenland
Daniel Lizzaralde*, WHOI (ex-officio)
Beatrice Magnani*, S. Methodist U., TX
Emily Roland, UW
Donna Shillington, L-DEO, (ex-officio)
Joann Stock, CalTech
Anne Tréhu, OSU
Warren Wood*, NRL Stennis