OBSIC Oversight Committee
Fall Meeting
29-30 October, 2019
Woods Hole Oceanographic Institution
360 Woods Hole Road; Clark Building; Room 237

Minutes

Tuesday, 29 October
09:00 Welcome, Introductions, Meeting Overview (Rob Evans, WHOI; Gaherty)

09:15 Overview of OBSIC structure, award, and committee role (Candace Major, NSF)

- Historic perspective
  - 3rd iteration of NSF-supported (MGG program) OBS facility
  - First version was three subawards managed by NSF-MGG directly
  - Cascadia Initiative prompted OBSIP restructuring, including solicitation for management office to manage and oversee operations - IRIS
  - ARRA funding distributed between ICs; fleet becoming increasingly heterogeneous, not interoperable
  - ~2013: substantial increase in cost of OBS operations
    - partly due to change in funding structure to base-level support (previously no base-level from any source)
    - partly due to management office – added value (quality assessment, website and open information re experiments) but at a cost
    - partly (significantly?) due to increased capacity and operations
  - decided to re-compete for single manager and operator of all operations – OBSIC, with the first 5-year award going to WHOI
- Award is cooperative agreement – annual budget constrained by fixed total 5-year budget of $9M. Experiment budgets renegotiated each year – implies year-to-year changes that can be significant
- Demand has not diminished since transition from OBSIP to OBSIC
- NSF vision is same level of operation at reduced cost - committee charge partly to help streamline operations
- NSF wants to keep supporting shoreline-crossing science; but is cognizant of non-geophysical sub-fields that have not enjoyed as much recent support.
- NSF notes that seismology has v. high infrastructure costs compared to other components of MGG portfolio
- Fleet size diminished, ARRA instruments moved to WHOI
- NSF sees input from OBSIC-OC as crucial to prioritizing directions of recapitalization
  - recapitalization too expensive to renew entire fleet.
  - OC should seek/advise on other recap opportunities
  - need for advocacy of broad base of support for this facility outside of OCE-MGG (including other programs at NSF)
- Time frame for considerations of fleet development ~2 years (approx. equal to spin up of experiments between funding and scheduling)

09:30 Discussion of the OBSIC OC Terms of Reference (Gaherty)

- Discussion of role of this committee and its relationship to MSROC
- UNOLS exist to support NSF science writ large, not just OCE. In that context, OBSIC-OC being a part of that structure does not necessarily limit OBS activities to supporting only traditional marine-seismology science (and lose touch with shoreline-crossing work)
- A goal for OBSIC-OC is to broaden MSROC activities, while keeping strong link to traditional land seismic community

10:45 Overview of WHOI OBSIC facility (Collins)

- Goals of facility:
  - Max quality and quantity of data at minimal cost
  - "Tuned operational capacity" - combination of permanent personnel with surge capacity for extra trained techs to support experiments when needed
  - Standardization of hardware and software as well as at-sea operational protocols and in-lab task protocols
  - Improved tracking of inventory utilizing an OOI system
  - High-readiness state - more streamlined system for continuity of OBS use and in lab turnaround
  - Planning for long term - staffing and hiring plans to promote maintenance of expertise
  - Open platform - willingness to adapt new technology and methodologies and openness to community input for sensors/instrumentation
- Clear organization chart
  - internal advisory committee comprising WHOI and USGS personnel
- Staffing:
  - 8-9 full-time staff (technical), inc. 1-2 started Fall 2019
  - existing positions not full time (up to 11 months)
- 2019/2020 budget:
  - 82 person-months including to-be-hired positions
- WHOI support
  - post-doc to pursue marine seismology research in collaboration with OBSIC - 18-month fellowship (i.e. awarded very other year)
- USGS support/involvement
  - Two members on OBSIC Internal Advisory Council
  - provide both in-kind and direct funds
  - Shared sea-going technical staff
  - "RAPID response" OBS fleet
  - Instrument development + joint engineering
  - Continued funding of OBS experiments
- Outreach
  - New website with help from IRIS
  - OBSICtec: 16 new subscriptions ~180 total
- Informational budgets for experiments
- NSF vs. externally funded experiments
  - For non-NSF supported experiments: full operations must be funded - including mob/demob base costs.

    - For MGG funded experiments: only pay the deployment costs, not base
    - NSF experiments take priority
- Experiments supported by OBSIP/OBSIC
    - Alaska Amphibeous Community Experiment
    - Shillington Hawaii-Emperor phase 1
    - USGS NE seamounts
    - Shillington Hawaii-Emperor phase 2
    - Wilcock Bransfield Strait
    - Canales Cascadia
    - Boettcher EPR
    - Lizaralde Aleutians active source
    - Queen Charlotte (Worthington/Roland)
    - 3 additional recommended for funding
- OBSIC fleet (June 2019)
    - 104 BBOBS (+ 16 more funded in works) 30 SPOBS
    - Some ARRAs are yet to arrive from LDEO and SIO
    - Committee advice requested:
        - is priority to re-fit/upgrade these instruments, or to recapitalise and build new instruments
- New instrumentation
    - Node (4.5Hz sensor, acoustic release, compact instrument package w. sensor built into housing)
    - Test of new instruments from Guralp/Nanometrics/Kinemetrics
- Lab efficiencies
    - good space, organization
    - commercial dataloggers
    - well backed up and interfaced data system, all internal data saved, mirrored for on-ship techs
    - automated cable testing system
    - automated battery tester
    - test geophones using portable system dock-side
    - pier to test systems
    - Automated calibration system
    - Clock-testing system (SeaSCAN)
    - Data processing workflow
    - New inventory database - coordinated with OOI
    - Developing coordination with PASSCAL where possible
- WHOI facilities
    - Salt Water test tank (10' deep)
    - Pressure test facility
    - Rapid prototyping facility w/ 3-D printers, computer-controlled milling machines

11:45 Use of UNOLS TechPool personnel and training (Tominaga)

- Training program
    - 1-1.5 day training of extra-OBSIC techs using dedicated training/testing station

    - prototype booklet for training
- Education and outreach
    - local/regional high school and college students for assistance with basic lab operations

13:00 Scheduling/instrumentation for experiments recommended for funding (Collins)

- Evaluate new datalogger for 16 new WHOI-build OBS
    - Q8 Quanterra - release date in Q1 2020
    - Nanometrics Pegasus - prototypes have not yet arrived and likely a land setup (no clock input) initially.
- Other options for instruments
    - Subawards to SIO, LDEO, other institution-owned equipment
    - Future collaboration with planned Canadian pool
    - Commercial vendors
- Broader recapitalization issue
    - Need for testing - on bottom, side by side
    - Economy of scale - batch additions
- Short period instrument development uncertain -- tradeoff of simplicity/cost of operation versus longer-term deployments

13:45 Transition of OBSIP equipment: plans, updates, committee involvement (Collins)

14:00 Update on recent OBSIP/OBSIC transition experiments
AACSE – Collins
Hawaii-Emperor – Collins
PacificArray – Gaherty

14:30 Evaluation of existing OBSIP policies and implementation in OBSIC (Gaherty)

- Earlier interactions with PI, prior to instrument request/informational budget
- Possible early-career/on-shore outreach opportunity at Marine Seismology Symposium
- Establish clear hierarchy and a weekly reporting structure (back to OBSIC managers) for deck and seagoing operations and issues. New document included in policies and procedures

15:30 Website as facility-user interface (Tominaga)

- work with PI's and scientists to promote OBSIC activities on social media
- use of #OBSIC_now, OBSIP youtube channel, other outlets
- tours of lab

16:00 Tour of WHOI OBSIC facility

Wednesday, 30 October

- Recapitalization of short-period fleet

- long-term deployment of SP - leave flexibility at the facility for determining if SP or BB would be used, PI requests what they need
- rechargeable batteries for 3-6 month deployments
- commercial options for nodes
- "rare" or infrequent large deployments
- USGS/WHOI prototype I - 3km depth, future prototype II to try to go to 6km

09:00 Standard data processing and quality control procedures (Collins)

- OBSIC tasks need to be standard and routine, not merging into instrument development and improvement

09:30 Future instrument needs/testing/development: community/committee role (Gaherty)

- Systematic approach needed for testing instrumentation - not part of OBSIC budget
- Future test of required of the current build of WHOI instrument

10:45 Marine Seismic Workshop – overview, OBSIC role (Aderhold, Tominaga)
- ~140 attendees, 2 days, science focused
- NSF is very supportive of the previous OBS symposium model for community building
- Funded on ad hoc basis outside of OBSIC operational award
- Encouraging OBSIC staff to attend
- Potential coordination with other workshops such as seafloor geodetic

11:00 Community advocacy: OBSIC, Marine Seismic, broader geophysics (Gaherty)
- Citation and acknowledgement of facility appropriately
- Presence and voice at meetings; encourage special sessions etc.
- DOI use for data cataloguing

11:20 Mechanisms for reporting/communicating with community (Gaherty)
- UNOLS OBSIC-OC webpage
- WHOI obsic webpage
- OBSICTec
- Committee members as representatives of the community

11:40 Mechanisms for reporting/communicating with MSROC (Gaherty, Orcutt by phone)
- At least one person serves on both committees concurrently
- Present at annual MSROC pre-AGU meeting
- Important specific role of coordinating of seismic facility and OBS operations

12:15 Meeting end