

# ALOHA Cabled Observatory (ACO)

## Science and Technology Advisory Group (STAC) Meeting Notes

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The ACO Science and Technology Advisory Group (STAC) held an initial, informal meeting coincident with the December AGU meeting on the evening of December 15<sup>th</sup>. Bruce Howe (UH), Jim Potemra (UH), Julie Thomas (Scripps/UCSD) and Francisco Chavez (MBARI) were able to attend; Henry Ruhl (NOC), Bruce Cornuelle (Scripps/UCSD) and Steve Etchemendy (MBARI) could not make it but sent in comments separately.

**Review:** The ACO has been maintaining deep-sea observations despite environmental, technical and fiscal challenges. A proposal to continue operations was submitted to NSF in February 2015, and notification was given in July that the ACO would receive continued funding for another two years (the proposal was seeking five years), at a level amount (increases were requested due to increased costs of equipment and salaries). The new grant covers the two-year period October 2015 through September 2017.

A maintenance cruise was conducted in September 2015. The UH ROV was used (after many tests) and was ultimately able to deploy a new sensor package that includes a pressure sensor and a turbidity/chlorophyll sensor. Unfortunately we could not replace the lights, so the one working camera is still recording dark images. All the data are being released in real-time and can be viewed at <http://aco-ssds.soest.hawaii.edu/dataDisplay.php>.

**Actions:** The comments from NSF following our proposal submission made it clear that we need to focus on two main areas: 1) demonstrate the utility of the ACO to the community either through collaborative proposals or use of existing data streams, and 2) developing metrics or milestones to help justify NSF funding.

**STAC Discussion:** The group agreed that the ACO needs to focus on attracting new users, both people willing to include ACO operations in their proposal but also users of the data streams. One suggestion was to “advertise” the ACO in various electronic newsletters, *e.g.*, from NSF. There was also a lengthy discussion about the various sensors and cables used in the ACO array and the degree to which they are successful. This included the various failed sensors and connectors. It was agreed that the knowledge gained by the ACO deployments was valuable, and that this information would be good to document. It was also felt that the manufacturers might want to learn about the performance of their instruments. It was then suggested that a multi-day workshop focused on this issue would be very useful. Such a workshop would bring together scientists who typically deploy and/or use sensors, connectors and cables at sea and the manufacturers of these. The goal would be to document the successes and failures, as well as identifying ways in which (perhaps) manufacturers could make improvements. There will be an

issue with the scope for such a workshop, and various ideas ranging from just cables and connectors to all in situ sensors/packages were discussed. Regardless, such a workshop was thought to be valuable to the community and at the same time provide a deliverable to NSF.

Actions:

1. Check with MBARI. One thing that might be another data point to help set us in context with respect to other cable systems is to have from MARS a list/timeline of projects that have used MARS (time, duration, project, sponsor, PI, amount paid, etc). For instance, my recollection was it was several years before any significant use started. Did OOI use MARS? What has the NSF "return on investment" been, etc. The latter is what they are asking us now. (Note added by BruceH: Extend this by looking at how NEPTUNE Canada/ONC is handling the same issue of "return on investment".)
2. Begin to organize a planning committee for a "lessons learning in observational oceanography" workshop.
3. Seek to promote ACO in various on-line newsletters and announcements.
4. Mike Kelly will be asked to replace Steve Etchemendy on the ACO-STAC since Steve has retired. Mike has replaced Steve at MBARI as Director of Marine Operations. He worked both at UW on the Cabled Array (coming from industry) as well as at OceanLeadership on the OOI.