

Executive Summary-

The UNOLS Arctic Icebreaker Coordinating Committee, (AICC) met at the U.S. Coast Guard Base, Alaskan Way, Seattle, Washington on Thursday January 17 and Friday January 18, 2013. This was the winter meeting of the AICC committee. It was well attended by the AICC committee, federal agency and U.S, Coast Guard representatives and crew members of the Healy. This was also the last meeting for Dr. Robin Muench as AICC Chair. Dr. Lee Cooper commenced his term as AICC Chair. A framed certificate of appreciation was presented by Jon Alberts/UNOLS to Robin Muench for his dedicated service to the AICC over the past 6 years.

Action Items

- ❖ Get someone to attend this Open Water meeting. Steve Hartz did attend. Notes are available.
- ❖ Need an offline discussion between NSF and NIC on support for ice analyst. Question asked whether this can be an interagency Memorandum of Agreement.
- ❖ Sikuliaq oversight committee- a member of this committee might be a good addition to the AICC group
- ❖ Barrow- We need to help develop a risk matrix on logistics issues
- ❖ Provide input to NSF on Polar Star science equipment.
- ❖ Question asked on where is the Arctic data from foreign cruises kept.
- ❖ AICC to provide comments/input on new Icefloe web site. Send to Scott Hiller
- ❖ AICC needs to provide input on the photo lab
- ❖ For new CTD operators – Need to watch and encourage better training
- ❖ In years past we have sent a packet of information to the local communities. Needs to be done for the 2013 cruises.
- ❖ AICC needs to provide input on semi permanently installed equipment, (air samplers & methane samplers) STARC to determine how much care is required. Should these samplers be run on all cruises?

Thursday January 17, 2013

Robin Muench/AICC Chair called the meeting to order at 0830 with a welcome and introductions for all those present. In addition to meeting attendees, Renee Crain/NSF, Caryn Panowicz/NIC, and Phil McGillivray/USCG called in and participated via webex.

Minutes from the last meeting, which was held in March 2012, were accepted as written and currently posted. Lee Cooper made the motion and Larry Mayer seconded.

Robin Muench/Chair Report- See Power Point slides

Robin reviewed the topics and issues we need to cover over the next two days. This included a review of the 2012 cruises on the Healy, preliminary science results and debriefs from 2012

cruises, and the meeting schedule for the AICC committee. We discussed whether we needed two full in person meetings or perhaps a full meeting in Seattle with a tele-conference meeting in June.

Action Items from March 2012

- Operations outside Barrow
- Mooring winch storage location
- Healy data policy
- National Ice Center
- Healy van relocation.
- MSO on Healy- This is no longer an action item..
- AICC membership- we have several members who are due to rotate off, we will take this up at executive session.

Jon Alberts/UNOLS Report

Jon Alberts/UNOLS Executive Secretary provided an update on current UNOLS activities, goals, personnel changes within Council and the upcoming meeting schedule. See Power Point

Agency Reports

Renee Crain/NSF Report

Renee opened up by thanking everyone for working hard to make this past year a success. With a special thanks to the STARC team at Scripps and Oregon State University and the Coast Guard.

Although the budget situation is fairly grim, we can support the 2013 cruises. Our travel funds have been slashed. The Office of Polar Programs is now in the Division of Geosciences and OPP is no longer a Directorate. Dr. Kelly Faulkner is now head of OPP.

On the Alaskan native observer program, a question was asked if there are reports coming back from the local community on what they learned? A report is supposed to be sent back to their home community.

Karl Newyear of UMIAQ said he doesn't know of any reports coming back. Renee offered to work with Karl on strengthening this.

Woody Sutherland asked if NSF has any programs working with industry on what Arctic programs are going on. Renee wasn't aware of any but suggested the Open Water Meeting would be a good choice for this.

Carin- we need to be careful that we don't get lumped into the industry group.

Extended Continental Shelf Report - Larry Mayer/UNH- ECS- HLY 1202

Larry Mayer reported on the Healy 1202 cruise which ran from 26 August 2012 to 27 September 2012. This was an Extended Continental Shelf (ECS) cruise focusing on the Chukchi region. See Power Point. Ancillary projects included ice buoys, ice observations, the Geo-Camera, the Marine Mammal project and ocean acidification. Geo-camera is all geo-referenced. This helps to bridge the gap between satellite data and field data.

The cruise track was much more extensive than initially planned due to lack of sea ice. A review of ice concentration shown between 2007 and 2012, illustrated the dramatic decrease in ice coverage between 2007 and 2012.

Tim Schnoor/ONR Report-

Tim gave some background on ONR and that the Navy is working on building some programs for the Arctic. They are discussing which direction to take and whether ship time will be required. Mike Prince/ONR gave an overview on the current status of ocean class ships being built in Anacortes, Washington. AGOR 27 has been named the R/V Neil Armstrong. AGOR-28 is still to be named. The shipyard is progressing well on these two new UNOLS ships.

Caryn Panowicz/National Ice Center

Caryn provided a Power Point presentation on the NIC and changes taking place. The National Ice Center will now have civilian analysts. We hope this will bring some stability as the military analysts would be relocated every couple of years. NIC anticipates there will be times when they don't have enough people to travel. There is still concern over funding for radar imagery. We hope to be able to have an ice analyst out on every cruise. This gives them experience and helps ground truth the imagery. Caryn did say that normally the science team normally pays for travel and provides a room and board. It was stated that in terms of participation, it shouldn't be a problem finding a berth, but travel support might be a harder for us. Lee Cooper offered that we can find space, but harder to ask our program manager for travel support.

John Farrell/USARC -See Power Point

ARC and NIC are hosting a joint conference titled, "Impacts of an ice-diminishing Arctic on naval and maritime operations." It will be held in the Naval Memorial, in Washington DC. on July 16-18, 2013.

John thanked Larry Mayer and the Coast Guard for the opportunity to participate in the Healy cruises 1202 this past summer.

John gave an overview of the US Arctic Commission which is an advisory body. The current chair is Dr. Fran Ulmer. The duties of the commission are to develop Arctic policy and goals, facilitate Arctic research and provide cooperation among various groups.

Daily Arctic Update- go to www.arctic.gov and sign up.

Heather Crowley/BOEM Report

BOEM's budget for Arctic research is about 20 million per year. BOEM is currently developing some further research programs. Lee Cooper will be chief scientist for a cruise in 2013 funded by BOEM.

Karl Newyear/UMIAQ

Karl presented slides on the UMIAQ organization and their role in working with CH2Mill/CPS to provide logistical support in the Arctic. Some detail on researcher responsibilities was reviewed. Also some of the personnel changes within the organization were explained.

The 2012 challenges included competition from industry on a limited set of resources, hotel rooms are limited, rental vehicles, helicopter support,

The plans for 2013 include:-

- Create new science support web site
- Update Barrow logistics and stopover protocols
- Coordinate with STARC logistics in Barrow
- Provide Community Observers for cruises with researchers responsible for Marine Mammal Observer.

Scott Hiller/ STARC- Science Support

Scott Hiller/SIO provided the STARC report which is a ship based technical support NSF grant for the Arctic. A team from Scripps and Oregon State University are supporting this effort. This program was funded in 2011. Toby Martin/OSU supported these 3 main cruises last year.

In 2012 STARC supported:

HLY 1201 led by Dr. Jackie Grebmeier/University of Maryland. This was a BOEM funded COMIDA cruise on the Hanna Shoal Ecosystem Study

HLY 1202 led by Dr. Larry Mayer/UNH on HLY 1202 which was an Extended Continental Shelf cruise. Mapping on the cruise was supported by Steve Roberts.

HLY 1203 led by Dr. Robert Pickart/WHOI cruise in the Western Arctic Boundary Current which was a shelf dynamics mooring cruise.

STARC also supported a few shakedown transits, to conduct preventative maintenance and updates on various equipment.

STARC challenges in 2012- In 2012 we had some CTD wire issues, some CTD rosette “hard landings”, ADCP noise interference issues, winch displays and 3-party communication system issues. STARC highlights included improved communications between the Coast Guard and the STARC team. The Coast Guard boatswain mates are involved more which has been beneficial. STARC is also designing a new ICEFLOE web site.

Steve Hartz/ University of Alaska- R/V Sikuliaq Update

The R/V Sikuliaq was launched on Oct 13, 2012 in Marinette, Wisconsin and is the newest UNOLS global class research vessel. The ship is about 85% completed. Steve gave a detailed Power Point presentation with ship specifications, Polar Class 5- ice capable. Details on the sonar flat with specs on the multibeam, sonars, and hydrophones were highlighted. The Sikuliaq’s drop keel should allow them to get below the bubble sweep-down. The meteorological tower details were provided as well as crane details.

For the schedule, it is planned that the Sikuliaq will be ready to support science in mid June 2014. The ship will be home-ported in Seward, Alaska and an outline of facilities, the mooring shop, and dockage were covered.

US Coast Guard Reports- Mike Kraus/USCG

Mike Kraus gave the Coast Guard report to the AICC. At present the Healy is the only operational icebreaker in U.S. Coast Guard fleet. The Polar Star postindustrial sea trials were successful which was the first time sailing since 2006 and is expected to be back in service late 2013. It is the Coast Guard intention to fully decommission the Polar Sea.

Regarding the proposed new polar icebreaker, there is 8 million dollars in the president’s budget for FY 2013. This study will be to determine what the mission requirements are to be, but not for design work. The Coast Guard is targeting the Polar Star to be mission-capable for McMurdo resupply in 2013/2014.

Healy 2013 Cruise Schedule/ Dave Forcucci/USCG

In the 2013 schedule there are the following cruises planned with the following chief scientists identified:

- Dr. Lee Cooper/ University of Maryland cruise funded by BOEM
- Dr. Lloyd Keigwin/WHOI cruise funded by NSF, with coring support from STARC.
- Dr. Robert Pickart/WHOI cruise funded by NSF.

There was discussion concerning a recent teleconference with the agencies over port selection. Dutch Harbor is the only deep water feasible port and Barrow comes with real risks for handling cargo and shipping of samples. Also lodging, helicopter ops, and weather are all concerns to

working in Barrow. There is also increasing industry impact at Barrow is causing shortages in hotel accommodations, shipping and other shore-side infrastructure.

Update on the Polar Star/ Ryan Young/USCG

Ryan Young provided an update on recent engineering tasks completed and underway on the Polar Star. See Power Point slides in appendices. There is a new crew on the Polar Star now working to bring the ship to full operational status. However none of the science equipment received any funding and there hasn't been any maintenance performed on these systems. It was discussed that we have done science in the past on the deep freeze break in. The ten year ARGO float project is an example, one of them across the Ross Sea. It might be possible to deploy a different CTD or to do passive measurements.

Polar Sea status- Authorization Act of 2012 directed that a business case analysis be conducted on the Polar Sea.

Healy Update- There are two major availabilities for major maintenance, one of which is a dry docking; another is alongside. Concerning the Healy midlife, the ship structure and machinery evaluation was done in 2009. In 2014, Healy will reach the midpoint of a 30 year projected service life. Survey and design funding is required 2-3 years in advance of any projects being started. And between 2018 and 2022, there may be a 6-8 month midlife overhaul which will impact cruise schedules.

NOAA & NOAA Arctic Research Program/ Kathy Crane- NOAA report

Kathy provided a Power Point presentation, see appendices. RUSALCA program objectives are still the same. In July 2012 on Leg 1 they serviced the Bering Strait moorings and on Leg 2 they launched drifters. In 2013, we will be synthesizing the decadal survey data. Then NOAA is trying to decide if they want to do another 10 year study, the Russians are interested in continuing this program.

Communications with Local Communities/ Lee Cooper

Lee reported that there were no difficulties with local communities last year, details are in cruise debriefs. On the Hanna Shoal cruise we had meeting in May and did not have observer on board this year, but there were no problems. In years past we have sent a packet of information, this needs to be done for 2013. The importance of this outreach effort was stressed by other AICC members as it is very valuable. On the BOEM projects, prior to cruises, we talk with communities and prepare a poster of objectives in easy to understand language.

Karl Newyear from UMIAQ offered to help with this outreach as UMIAQ is experienced in this area and can lend a hand to reach the communities.

Regarding foreign ships in the Arctic, the State Department sends EEZ requests to Doug Wyatt and Dave Forcucci. Posting the cruise tracks on the Icefloe site would be desirable.

Friday- 18 January 2013- Day 2- AICC Winter Meeting

Science Modifications, infrastructure and equipment

Scott Hiller/STARC continued his review of the Healy science support and recent activities and status of various systems. Note that most of the core science equipment is the same as a UNOLS ship, so a UNOLS tech can join a cruise and help set up right away.

- The EM-122 Multibeam is being repaired right now with funding from NSF. Rack was removed and will be returned.
- Knudsen echosounder: There are two on the ship and a model upgrade has been purchased.
- ADCP 75/150: It is working at about 80 % of what it should be. There are some problems we are working on and fine tuning. Jules Hummon will be on board this summer to work on it.
- GPS receivers, all in good shape
- Met sensors and sea water sensors- we are working on a new seawater station installation and modifications. All met sensors being recalibrated and off ship right now.
- CTD systems and XBT systems are all fine.
- Gravity meters: There are two on ship and one is being transferred to R/V Sikuliaq and one will be reinstalled. Once it is installed, it must be kept at a constant temperature, so it needs to be watched carefully and a battery backup is required. They are in Woods Hole now and will be reinstalled once the ship is back in service.
- Laboratory equipment- all good working order.
- Hazmat/Isotope procedures- we have worked out protocols
- Icefloe.net- we are working on a new web site and Scripps is taking this over from UNOLS. AICC should provide input on the new web site and any comments can be sent to Scott.

For the Healy dry-docking scheduled in 2013 the projects to be worked on include:

- EM 122/Knudsen
- TSG/PCO@ relocation project
- Future lab renovation project
- Photo lab renovation project
- Routine sensor/equipment

- Transducer Installed- We are working to get a mooring release transducer installed. Last year a transducer was caught in the screws and the cable was pulled out of deck box. STARC is working on getting final permission to install it. This will help mooring operations a lot.
- Seawater system- it takes a minimum of 13 minutes from intake to sensors, which is too long. We are trying to relocate the sensors to cut down on residence time. We will have dual sensors, with the primary sensors in the new station and others in chemical lab. Have operational before June 1, 2013.
- Computer lab renovation project- Working on this and have a clean slate right now. Equipment will be combined into one equipment rack. On one bulkhead there will be new benches and will create a work station on aft bulkhead. We have all the new racks, just need benches and trying to get them onto ship before shipyard.
- For future lab renovations we have lowered all the benches to a better working height and improved work space.
- All the extra wires were pulled in the labs and we will have one cable tray up high and out of the way.
- Photo Lab Renovation- STARC would like to turn this into office space by taking out film developing equipment and make a new space for an MST office. Question was asked where will someone be able to do microscope work ? This space would still be available and if needed for science
- LED Backboard: Installed and prototype evaluation is progress-
- ADCP relocation: An evaluation is in progress
- Van Relocation Study-this was done by Elliot Bay Design Group. Final decision needs to be made on this effort. Lee Cooper stated that we should continue going forward on this van relocation study

Gas Hydrates C-Carolyn Ruppell from USGS, wanted to put some equipment on the ship (atmospheric methane samplers) and Jonathan Wynn has some water samplers (oxygen and hydrogen isotopes) they would like to install. Renee Crain asked if there was a real cost here to keep an eye on these systems.

Responsibility Matrix: This equipment matrix was started a few years ago to clearly state who is responsible for each piece of equipment. Renee Crain/NSF has the most recent copy on this form and will coordinate with Mike Kraus/USCG to finalize this document. Once the Healy document is finished, then the Polar Star equipment list needs to be done.

Map Server on Healy: STARC is transitioning this right now and will be responsible for running this. Scott Hiller will distribute a survey on what AICC needs from Map Server.

Kathy Crane reported there is a need to get some inter-calibration between ship and sensors that are working up in the Arctic at the same time. The AICC committee couldn't recall that this had been done in the past. We need to look for opportunities to enable this to happen.

Science Operations and Technical Support- Dave Cohoe provided an ESU Report, see Power Point slides.

AICC Chair- Passing the Torch

Dr. Robin Muench/ESR has completed his tenure as AICC Chair and this marks the official start of our new AICC, Dr. Lee Cooper/University of Maryland- Chesapeake Biological Laboratory. Robin was presented the UNOLS Certificate of Appreciation by Jon Alberts/ UNOLS Executive Secretary for all his leadership, hard work, and dedication to the AICC.

Last Order of Business- AICC wants to keep two meetings per year and needs to accentuate the difference between these two meetings. We will have a teleconference the summer of 2013 and then have the next meeting in January 2014 before Alaska Marine Science Symposium meeting.

Meeting Adjourned- Friday 18 January- noon