

Meeting Minutes

**Arctic Icebreaker Coordinating Committee (AICC) Meeting
Tuesday and Wednesday, April 27 and 28, 2010
Fourth Floor Conference Room
Consortium for Ocean Leadership
1201 New York Ave NW
Washington, DC**

Appendices (All appendices are in pdf format unless otherwise noted.)

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Executive Summary-

The spring 2010 meeting of the Arctic Icebreaker Coordinating Committee, (AICC) was held on April 27 and 28, 2010. This meeting was held at the Consortium for Ocean Leadership in Washington D.C.

Welcome and Introductions

Robin Muench, AICC Chair, called the meeting to order and introductions were made around the room. The minutes from the meeting held in Seattle on December 8-9, 2009 were accepted as written. A review of the Action items was conducted.

General Business and reports

AICC Report- Robin Muench-Chair Report-see power point presentation in Appendices. Robin Muench led with a meeting schedule review and provided details on several AICC topics which included:

- Shipboard Issues on the *Polar Sea* and *Healy*
- Planning and Logistics Issues
- Ongoing Challenges
- Communications with Native Alaskan Communities
- Preview of 2010 cruises
- *Polar Star* and the 62 million dollar refit

UNOLS Report-

Jon Alberts, UNOLS Executive Secretary, provided a UNOLS report on recent activities for the UNOLS Office. Included in the Power Point presentation was a review of the UNOLS staffing and recent efforts, UNOLS Council highlights, details on the regional class research vessel and the ocean class research vessel updates. The UNOLS goal to "Green the Fleet" was described. Also details on a new standing committee within UNOLS is the Ocean Observing Science Committee. The UNOLS Charter will be revised and re-adopted in 2010. Also details on the DESSC, FIC, RVTEC, MLSOC, and the SSC committees was given.

Agency Report

USGS

Deb Hutchinson of USGS provided an extensive explanation in her presentation on the Law of the Sea Extended Continental Shelf seismic surveys. She described the technology and challenges, the two-ship operation with the CCGS *Louis S. St. Laurent* and the USCG *Healy* as well as the schedule for the upcoming cruises

NOAA

Kathy Crane/ NOAA gave a presentation on: "Highlights from RUSALCA 2009 Project". She discussed in detail issues on sea ice extent, the 2009 station locations, cruise objectives, highlights and successes. Preliminary data on the impact to benthic life, migration, and biodiversity was provided.

Larry Mayer- Update on Arctic Extended Continental Shelf Mapping Activities, Details on the *Healy* August 2009 cruise with the CCGS *Louis St. Laurent* were given with multibeam data shown from the cruise

Mineral Management Service

Ron Lai presented a presentation for MMS with a focus on the science missions for MMS, what the current scientific questions were and what the focus will be. This included a review of the planned Chukchi Sea Studies. Also covered were trends in physical oceanography, meteorology, sea ice and modeling. A physical oceanography study in the Chukchi Sea will be done with funding provided by Shell and Conoco.

National Ice Center

Caryn Panowicz reported that NIC provides ice imagery to AICC and we expect to continue in the future. There are issues in transmitting data to the ships. NIC recommends planning as early as possible. They have a limited staff and this is an issue. Radar Sat 1 & 2 should be available this year. NIC relies on funding from National Geospatial-Intelligence Agency (NGA). X Band radar imagery should be available.

USCG Reports

Lisa Mack provided the report on the USCG. She informed AICC that Mike Krause would be her replacement in June. See Power Point presentation in appendices.

The Coast Guard priorities that impact the AICC are to get budget authority back within the CG in 2010, but our spending plan has already been decided. Current MOA is only for 2010. In 2011 NSF will hold budget authority again.

Polar Star is undergoing a reactivation which would add 7-10 years of service life.

CG will be conducting a high latitude study and business case analysis. CG is working with other government agencies to help define this new mission.

Kathy Crane offered that NOAA is asked quite often if NOAA will be getting into ice breakers. Should we be looking outside the Coast Guard to support Arctic research?

Rajiv Khandpur offered that the *Healy* will continue to be a science platform, this will not change and science will continue to be an important piece.

Two audits occurred in the past year on CG Arctic Operations, and on the polar icebreakers.

1) The GAO Audit reviewed the Coast Guard's Arctic operations in general (briefly mentioning the icebreaker fleet, but moving well beyond it). Their report stated the Coast Guard lacks adequate infrastructure or equipment in the Arctic and that its funding for such programs faces uncertainty. It also stated the CG needs to communicate its overall Arctic strategy.

2) DHS OIG reviewed the CG polar icebreaker fleet specifically. The report made several recommendations regarding determining the best uses for the icebreakers; developing a way forward for the CG icebreaker program and requesting resources for polar operations. The Coast Guard will work with the Administration to address these recommendations.

Jonathan Berkson- USCG update

A Coast Guard representative was added to the Extended Continental Shelf task force.

Jonathan stressed that it is important to remember that NOAA and CG are cooperating agencies. There is an environmental assessment underway with a draft report on ice breaker noise. This study is titled: US Geological Society Coastal and Marine Geology Report on Cooperative Agreement, GO9AC00352, Noise Levels Generated by Research Icebreakers and Marine Seismic Sources in the Deepwater Arctic Ocean. . The link to this report is: <http://cet.uscd.edu/Reports/RothMPLTM-527-2010.pdf>.

There may be some precedent setting documents on ice breaking noise coming out soon which will impact science operations. AICC will want to give input on these studies.

National Ice Center Memorandum of Agreement renewal coming in July 2010.

Pacific Area Report

Greg Somers provided a Power Point presentation on Pacific Area (Alameda and Seattle)

Operations as well as District 17. They are still waiting congressional approval on CG modernization.

No current foreign research requests in the Arctic so far.

The new policy for foreign visitors was discussed in detail. Foreign scientists have to be cleared by CG and it must first come through the foreign embassy of the country where the person is from. It is then entered into the SPAN system. We have run into some problems if cruise is not a government sponsored cruise. This has just started so there are some problems. Clearance is not guaranteed. We recommend you get extra people cleared as it can take 20-30 days. This will be required for every cruise.

There is one person at HQ who is doing this, so it takes several weeks to get this approval. I don't see this policy being reversed. SPAN will not go away.

Kathy Crane/NOAA offered that they go through this with the RUSALCA program and nearly every science cruise has at least one foreign national.

Phil McGillivray added that he is looking at this and he has had discussion with Liz Tirpak at the State Dept.

Greg continued the discussion with the proposed schedules for FY11 for the *Polar Sea* and the *Healy*. The *Healy* window for science ops in 2011 is 26 May to 02 July. NSF/OPP has proposals for this window.

Update on the R/V Sikuliaq-

Steve Hartz/ UAF presented a Power Point on the progress made to date on the *Sikuliaq*. Some details of various ship's equipment was shown. This included the A-frame which will lay down (inboard) to be able to install blocks of opportunity. The ship has been lengthened by 12 ft which will accommodate a flume tank, no impact to superstructure. Two multibeam, (EM302 & EM710), two ADCP's (75 & 150), with a well for a 38 kHz ADCP are planned. Also a sub-bottom profiler with multiple frequencies.

Z-Drives configured in tractor-mode are now planned which will be more ice efficient.

Science operations are planned for 2013. The ship will be Polar Class 5- IMO specs. ABS will approve.

Operations, Scheduling and Planning for 2011 and beyond

Greg Stanclik/ USCG Engineering and Project Section Chief presented a Power Point highlighting the polar engineering update-

Healy- just delivered back from the shipyard which was completed in March 2010.

Work was completed on the multibeam sonar installation, propeller shafts, and shaft tubes were pulled and inspected with no surprises.

Polar Sea- A dry-docking is planned from May to July 2010. One concern is the davit that was installed for the inflatable boat. It was a failed prototype. Plan to move davit aft.

Polar Star- We have \$57 million to bring the *Polar Star* back up to operational status.

The hull, mechanicals, and electrical will use most of the 57 million. A team is looking at entire systems. This will include inspections, cleaning of main motors, servicing of the controllable pitch propellers and bringing all electrical systems up to date.

Will be in the shipyard at Todd Shipyard from 17 May through 17 Nov 2010, then April 2011 to Sept 2011 will be for dockside work.

The \$57 million didn't have anything for science, that will need to go in FY2012 budget.

Healy 2010-2011 Cruise and Schedule Updates

Dave Forcucci/USCG presented a *Healy* 2010 overview in a Power Point.

Current plan is to do a shakedown cruise in May off Honolulu, then the NASA cruise, the ECS cruise, and the Pickart cruise. The Coakley cruise was postponed due to seismic issues. NSF realized we couldn't get a seismic system in time, plus the permitting issue complicated things. Coakley is concurred with this decision. The Pickart leg will service the HARP moorings (instead of the ECS cruise as in past years.) Pickart will need a Canadian clearance.

2011 *Healy*- There are 3 programs that are funded for *Healy* which include NASA 30 days. Then the NSF/OPP- Coakley requests for 26 days in September, followed by

NOAA/OAR- ECS cruise, 39 days. Pickart is also funded to turn around moorings.

Polar Sea 2010

Phil McGillivray/USCG gave a Power Point highlighting:

Recent Issues: Swab tests on the *Polar Sea* indicated a contamination issue which was cleaned up. There was also some multi-core damage which has not yet been resolved.

A review of the PSEA -01-10 BEST (Bering Sea Ecosystem Study) Cruise was given issues- PSEA 01-10

C130 (Arctic domain awareness) flights began two weeks ago in mid-April. Last year we did AXT+CTD deployments for Jamie Morison (UW/APL) and we will continue to do the CO2 and methane monitoring for Colm Sweeney. We are planning to install a Maslanik Lidar inside

a C130 to measure ice and open water as well as ice ridging.

Interaction with Others- Clearances, permits, native communities

Lee Cooper discussed recent efforts in science initiated public outreach and the issue of how does science budget for these outreach efforts. In January 2010 Cooper and Grebmeier attended meetings in Savoonga. A large group of people turned out in force to hear about the science, ask questions and we learned who to talk to.

In February 2010, Carin Ashjian attended AEWG meetings in Barrow AK.

There was more discussion on where the funds to cover travel for PI's to do outreach in Alaska and the idea of bringing a representative down to Seattle was discussed.

Jonathan Berkson mentioned that he has heard that there is some confusion with too many people visiting and we need more of a focused effort.

Robin Muench added that there are different ways we can structure this, such as inviting them to Seattle or perhaps go up as a team. This past year Carin Ashjian did the coordination.

Healy Foreign Clearances in the EEZ

For 2010, there is a NASA cruise proposed to do a Bering Strait transit, but we missed the deadline for to request foreign clearance in Russian waters.

HLY 1002 and 1003 requests for Canada have been submitted

Industry Activities- There was no response from Shell after our discussion held at the AICC meeting in December 2009.

NSF/OPP Arctic Report

Renee Crain/ OPP gave an overview of recent activities within NSF/ OPP. The logistic support program is putting people in the Arctic and Antarctic with approximately 150 programs a year, which includes Greenland and the North Pole. Pat Haggerty/NSF/OPP- works on facilities and large projects. The subcontractor, CH2M Hill handles logistics in Barrow and is our science liaison on the ground. There are 3 sections within NSF involved in ship operations, the Arctic, Antarctic, and Geo/Ocean Sciences.

NSF/OPP provides funding to UNOLS for the AICC and AICC provides that input back into NSF. The portable vans are funded through Jim Holik and Matt Hawkins in NSF's Ocean Sciences.

CPS (CH2MHill Polar Services) is contracted to provide logistics support, but not directly ship support, although last year they did provide some support to the ships. We want a small group of people responsible to support/do cruise planning.

NSF/OPP is writing a solicitation for proposals to bridge the gap for science support in the Arctic. We hope they will work with UNOLS infrastructure and bring it to the Arctic. It will be released in a few weeks. NSF/OPP wants people to call and ask for expectations to the proposal. We expect to make an award sometime in fall of 2010.

On the Barrow support, BASC had been science support contractor, but NSF decided to cancel their cooperative agreement and now are using CH2MHill (CPS). CPS does use BASC to do work for them.

Steve Hastings from CH2MHill called in from Barrow and presented a Power Point. He highlighted areas of support they can provide including communications with AEWG and Barrow Whaling Captains Assoc.

Native Observer Program

The Barrow community would like to have someone on the ship during cruises so NSF started it a few years ago. It was designed to be a short term thing. NSF/OPP has been working on a position description for the observer. NSF will fund CH2MHill/BASC to pay for these observers and there will be a planned budget.

Marine mammal observers are now called Protective Resource Observers. It is important that the observers be brought into the fold early on and integrated into the science party.

On the medical issue, we are having a lot discussion on this. We want to make regulations based on risk and don't think we want to go down the same path as the Antarctic medical clearance process. Our records show most medevacs are injuries, not part of the medical clearance process. NSF will come back with what NSF policy will be and for now we sign on to Coast Guard screening process. It was noted that UNOLS/RVOC is looking at this right now and will be making some recommendations.

On the *Polar Sea* science equipment recommendations, we put them into a spreadsheet so that we could prioritize them. JMS is also looking at the ship's science systems and will provide an independent view to combine with the Coast Guard evaluation and then we will move forward.

Science modifications, infrastructure and equipment/Healy

Dale Chayes and Dave Forcucci provided an update on various ship systems on the *Healy*. (See Dale's power Point Presentation.)

The *Healy* multibeam replacement, first proposed in 2003, is now finished and installed. It has been run twice and the acceptance test will be

done on the transit from Honolulu to Dutch Harbor .

The new system is a Kongsberg EM 122. We removed the old Seabeam 2112 transmit and receive arrays. The Science watchstanders work station now new monitors in the same location as the old SeaBeam monitors but the system is very different and will require some re-education/training. The proposed acceptance testing and system characterization time was cut from the proposed 20 days to 5 days, this will impact the ability to understand the system as installed on Healy. The integration with real-time data output is being worked on now.

Other science modification for 2010 will be the bow boom for the optical mast required by NASA and the stern tube water sipper (also for NASA. _ After the 2010 *Healy* season other projects will include:

Acoustic Communications

Replacement ADCP150 which we borrowed from Steve Hartz for 2010 season.

New TSG/PCO2 locations

Computer winch renovation

Mooring Winch

Winch/wire monitor upgrade- needs to be upgraded to become complaint with Appendix A of the UNOLS Research Vessel Safety Standards, (RVSS)

Potential Berthing Modifications- The CG is looking at a plan to convert 7 berths /rooms to improve privacy and habitability. This would increase the science capacity to 53. The CG is asking for AICC input on this. Some issues identified in the discussion were the need for sound proofing in bulkheads and possibly adding a sliding door at end of bunks so there is a separate berthing compartment. Also the question was asked if a science party size of 53 is too many. We need to be concerned with wire time, outreach issues, taking bunks away from the CG has implications as we lose some training capabilities.

AICC will look at the berthing plan and provide some input.

ESU Report

The computers were upgraded on the *POLAR SEA/STAR* and cloned onto system at ESU to enable ESU to work on shipboard system. They are now fully ESU supported.

On the *Healy* we will have VSAT SYSTEM for 24/7 Internet connectivity dedicated to science programs. Unknown at what latitude it will cut off.

Open Port Iridium will also be available with up to 129 bits per second real-time transmission rates.

Other Issues

Radiation Safety Oversight- On this upcoming NASA cruise we will have two "Rad" vans. Scripps has offered to do the oversight work for this year's rad use. Until a new science support contractor is awarded.

MATE intern from Humboldt College will be on the *Healy* for the Pickart cruise and working under Pickart's supervision .

Ice Imagery- We are working with NIC to come up with improved support for ice imagery. They are looking at our cruise tracks on Icefloe. It would be very helpful to get ice coverage for the whole area we are working in, not just the cruise track of the day. Raw data would also be useful to the scientists and NIC can provide this. Some NIC issues we are working on are: lack of timely responses, stability of product produced and sometimes geo referencing is off.

Icefloe.net- UNOLS is continuing to support the icefloe web site and Tom Cook is still doing the back end stuff.

Review of Action Items-

Robin Muench discussed the foreign visitors issue- Arctic research will always be international in nature, and I would like to recommend the CG develop a means by which the CG could internally process these requests, without going through the the visitors embassy.

Greg Somers will take it to HQ and see what can be done to improve the process for us.

It is an area of concern for AICC.

The health screening and rule that no pregnant women will be allowed aboard ship needs to be communicated up front. It is on Icefloe.net. It was suggested that if an NSF PI is pregnant then we will delay her field work a year so that she can go at a later time.

Resuming the PACAREA visit with the Admiral by AICC was discussed. Greg Somers will try and set something up when the new admiral comes on next month,

28 April 11:50 Meeting adjourned