

AICC Report to ARVOC, June 14, 2006
from information supplied by Margo Edwards, Chair AICC
edited and expanded by Jim Swift

The Arctic Icebreaker Coordinating Committee (AICC) met April 18-19, 2006, at NSF in Arlington, VA. The committee spent most of its time on USCGC HEALY and her performance. There were many recommendations from the 2004 field season that were implemented prior to the 2005 field season. The 2005 season itself was very complicated with coring, towed sonar, multi-channel seismic, ROV and diving operations. Despite these complicated and diverse programs, there were very few recommendations for improvements from the 2005 programs. This is partially a result of scientists having a better handle on what HEALY can do, but it's also because HEALY is doing a good job of responding to recommendations from 2004 and earlier.

Dan Oliver, who has been an effective and admired Captain, is stepping down as HEALY CO. Doug Russell (former XO) took charge this month. He is also well regarded and science-friendly.

Captain Oliver expressed how well helo ops are going with the new commercial contractor approach implemented in 2006. There's more freedom, which is helping everybody. This is in contrast to 2005, where during the joint HEALY-ODEN Arctic Ocean crossing, there was wide agreement regarding the obvious effectiveness of ODEN's commercial operation vis-à-vis HEALY's USCG helo ops.

The AICC is preparing a "working with northern communities" article which will be submitted to EOS prior to the next AICC meeting, which is tentatively scheduled for Jan. 8, 2007.

Margo Edwards is departing AICC (normal rotation) and it is likely that Carin Ashjian will assume being the chair.

Finally, AICC and NSF would still really like for the joint meeting with ARVOC to occur. So ARVOC should think about whether January in Seattle would work. The AICC will be touring HEALY's hull in the shipyard, and that could be interesting in addition to other business.

The AICC agenda and the draft minutes are attached so that ARVOC members can gauge the nature of current AICC business. (The agenda includes items for the joint meeting with ARVOC which did not take place.)

Arctic Icebreaker Coordinating Committee (AICC) Meeting, April 18 & 19, 2006
The National Science Foundation, Arlington, VA 22230
April 18 & 19, 2006

AGENDA (draft; from UNOLS web site)

Day One Agenda (AICC)

General business & reports

- Welcome and introduction (NSF, Margo Edwards)
 - o Review and approve minutes of last meeting
 - o <http://unols.org/meetings/2005/200512aic/200512aicmi.html>
- Chair report
 - o AICC Action items (Margo Edwards)
- UNOLS Reports
 - o UNOLS (Mike Prince)
 - o Committee reports by liaison representatives or Mike Prince as appropriate.
- Agency reports
 - o NSF/OPP/Arctic (Simon Stephenson)
 - o NOAA (Kathy Crane)

Operations, scheduling and planning for 2006 and beyond

- Emergency Drydock (Dave Forcucci)
- HEALY 2006 Cruises
 - o Lovvorn/Grebmeier/Cooper Cruise/NSF
 - o Lawver Cruise/NSF
- Update on seismic system
 - o Mayer mapping cruise/NOAA
 - o Reves-Sohn & OE/NSF/NOAA
- AUV/ROV operations in ice
- HEALY Scheduling Update (Dave Forcucci)
 - o 2007 Plans and Availability (Forcucci)
 - o IPY Plans
 - o Funded project status (NSF, NOAA, Others)

Interactions with others - clearances, permits, native communities

- Clearance issues for HEALY
- Permits
- Native/local communities
 - o Ongoing efforts to work with the native/whaling community (Renee Crain)

Review of past programs, recommendations and responses

- Summary of HEALY 2004 recommendation responses
 - o Status of previous debrief recommendations and action items
- Summary of HEALY 2005 Post-Cruise Debriefs: (Margo Edwards)
 - o New recommendations and action items
- Suggested modifications for future debriefs
- Status of NIC debriefs

Science Modifications, Infrastructure and Equipment

- HEALY (Chayes)
 - o Seawater systems
 - o Environmentally controlled rooms
 - o Lab Space redesigns
 - o Multibeam
 - o Others?
- Equipment purchases
 - o Update on equipment for 2006
 - o Plans/requirements for 2007
- Incorporating AICC input into HEALY improvements
- Long-term plans

Science operations and technical support

- Ongoing services
 - o Science Data Network – (Rich Saunders)
 - o Website/cruise planning manual (Dave Forcucci)
 - o Science Technical Support (Dale/Dave)
- Plans and team for 2006
- Future plans
- Other issues??

AICC business and other issues

- AICC presentation to Arctic Research Commission
 - o Status of HEALY and POLARS
 - o Concerns about impact of observational networks on science budgets
- AICC membership
 - o New members
 - o New Chair
- Future Meetings
 - o Annual or semi-annual?
 - o Fixing the meeting time?
 - o Dates, venue, agenda for next meeting

Day Two Agenda (joint AICC & ARVOC meeting) (ARVOC members did not attend, due to last-minute cancellation of the ARVOC meeting due to an urgent/emergency situation)

Welcome and Introductions

- AICC Chair Margo Edwards & ARVOC Chair

General business & reports

- Agency Reports
 - NSF/OPP/Antarctic (Al Sutherland)
 - Others???
- USCG reports
 - Coast Guard Headquarters
 - Pacific Area - Alameda & Seattle
- Antarctic Research Vessel Oversight Committee (ARVOC)
- Raytheon Polar Services
- Others?

National Academy Panel on CG Icebreaker Needs

- Summarized results of Interim Report
- Additional outcomes from Final Report
 - Goals of Final Report
 - Timeline for Final Report
 - Likely impacts of Final Report

2005 Operations

- Operation Deep Freeze 2005/06
 - Ice Conditions
 - Vessel support
- RPS ship operations
 - Palmer
 - Gould

Scheduling and planning for 2006 and 2007

- Operation Deep Freeze 2006/07
 - Projected conditions
 - Vessel support plans
- RPS ship operations
 - Palmer
 - Gould
- IPY plans

Science Modifications, Infrastructure and Equipment

- Polar Star & Polar Sea
 - o Current ship status
 - o Plans for the future
- Palmer & Gould
 - o Current Status
 - o Future Plans
- Polar Research Vessel

Other issues of mutual concern for AICC and ARVOC

Arctic Icebreaker Coordinating Committee (AICC) Meeting
April 18 & 19, 2006
The National Science Foundation
Stafford I Room 770 and Room 120
4201 Wilson Boulevard
Arlington, VA 22230

Proceedings of the meeting (DRAFT: Final copy will be available from the UNOLS Office; see <<http://www.unols.org/meetings/2006/200604aic/200604aicmi.html>>.)

Welcome and Introductions

0827 Margo Edwards, AICC Chair, called the meeting to order. Introductions were made around the room. A list of participants is included as appendix II.

Congratulations were given to Simon Stephenson, NSF/OPP for his recent promotion to Arctic Sciences Section Head. Simon welcomed everyone to the meeting and re-emphasized the importance of AICC.

Accept the minutes of the December 2005 AICC Meeting

A Motion was made and approved to accept the minutes of the December 2005 AICC minutes.

Review of Action Items from December Meeting

Final recommendations were circulated to Dale Chayes. The recommendations were then circulated to the committee for discussion during this meeting AICC will use the debriefs as a form of input to the National Ice Center (NIC)

Change TeraScan to other data (ice and weather)

A recommendation will be made to Simon regarding lab layouts.

The State Dept. sent email notification that there was no need for discussion with Russia regarding the Lawver cruise. A Brief discussion took place with regard to getting the word out in an EOS article. The consensus, including that of NSF's, was that it is still important to make this information more broadly known. It is even more important in Canadian waters because there is a formal permitting process. EOS has an international readership and this article would alert foreign icebreaker users to the requirements. The toll for HEALY would range from \$20 to \$70 per ton for transiting the whole Russian Northern Sea Route. Recommendation about contacting TDRS - Dale contacted them, but the system is no longer viable. Efforts to commercialize TDRS did not pay off. There is another long-term option.

UNOLS Reports

UNOLS/NSF OCE report Mike and Mike's slides.

NSF/OPP/Arctic - Simon Stephenson

The IPY Solicitation is finally out. The research emphasis areas are: ice sheet history and dynamics; biological adaptations at the cellular and genomic level to life in extreme cold and prolonged darkness; and the arctic observing network. Each proposal to be considered for IPY needs to have an education component in it. The educational emphasis areas for this solicitation are: formal science education experiences for K-12 teachers and undergraduate or graduate students, informal science education for the broader public, and coordination and communication for IPY education projects. Also, plans for handling, distributing and archiving data must be addressed. The panels for this solicitation will not be

until August, so this will affect the timing for 2007 scheduling. A synopsis of the solicitation and links to the full text are at: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13615

The budget for FY07 looks better after two years of tough budgets. This is the first time that the President's request has included a significant increase for OPP. IPY is included (at about \$60M) and full funding for transfer to the Coast Guard for polar icebreaker maintenance and operations (around \$57M), which is about what is being spent. IPY projects will likely include the observing network and the Study of Environmental Arctic Change (SEARCH) projects. There was no new money in FY06, but there is in FY07.

For Scheduling, it is not really know what will be needed until the October time frame, but there is commitment to do scheduling in September. The plan will be to put together a straw man schedule to do budgeting with, which will probably be the high end cost estimate.

The Arctic Science Summit Week (ASSW) gets together to discuss plans for the next year. AVI (out of Germany) has agreed to host a website to make information about ship request and available ships. Simon will want to transfer data from the UNOLS requests to the AVI site and then ask PI's to enter missing data. This site is intended to increase collaborations. The Germans may have more work that they want to fund than they have available ships for. They may end up being net consumers of ship-time. There is already interest in what the HEALY schedule will be and how (End of sentence?)

FY08 is a continuation of IPY, but they still need to ask for the money. It is not necessarily true that they will get IPY money, but there is an indication from the director that IPY will be a two-year program. Justification for increases is educating the nation's science and engineering capability. They will be tying their request for increases to education and understanding the environment. Cyber-infrastructure will be an area of focus in FY08. There is an office of Cyber-Infrastructure (OCI, website - <http://www.nsf.gov/dir/index.jsp?org=OCI>)

Pablo and Carin asked questions about bandwidth or increasing the window of opportunity for connectivity to/from HEALY. Simon said that this would need to be proposal (science) driven. If data requirements or outreach requirements are stated in proposals, then funding for increasing bandwidth or length of access time could be funded. There was some discussion about whether or not the capability should be provided routinely or by specific request. AICC should make recommendations for the longer-term requirements.

Dale, Richard and Dave reported that two hour per day access would not be available unless a source for incremental funding can be found. The PI's need to be informed and their needs determined. This can be solved by putting the support for connectivity in Dale's budget if NSF approves.

NOAA Arctic Research Program - Kathy Crane

Kathy reported on the status of the budget for FY06, NOAA was cut substantially in particular OE and Arctic. The FY07 request for IPY didn't even make it out of Congress and was not included in the NOAA budget. They have some continuation funding for a NOAA mapping program around the Chukchi plateau for LOS sea-floor mapping. Rob Reeves-Sohn has been funded for proof of concept

and instrumentation testing and will look venting pockmarks on the Chukchi Plateau. . NOAA has a solicitation out for proposals for the Russian/American Long- Term Census of the Environment. Russian proposals are due next week. The NOAA component is dependent on budget appropriations. In FY08, they will try again for IPY funding.

In 2008, if they are successful with funding, they will continue with their mooring programs in the Bering Straits. They hope to have a bigger role in IPY in the 2008. They are working with an international group for collaborative work in the western Pacific.

New Developments: The Russian Dumas are taking under consideration the cancellation of transit fees for the Northern Sea Route during the IPY.

Jeremy Potter, NOAA – Jeremy stated that the announcement for IPY in 2007 is being scaled back. OE will get a slight increase in FY07, but not enough to cover the request for Healy time, which has been withdrawn.

Margo asked if NOAA, NSF and Coast Guard are paying attention to changes in how Canada is approaching territorial jurisdiction in the Arctic. Jeremy said that they are paying attention, but it is not clear what is happening.

Coast Guard report - CDR McFarland - PACAREA. Greg Stanclik

The emergency dry-dock was cancelled and the repairs to the bow- thruster will have to be included in the scheduled dry-dock. A thirteen-week maintenance period is needed, including holidays. If the ship returns on 30 October, they will have 18 weeks total, 13 weeks maintenance, with 9 weeks on dock. Would like to get the ship on dock before Thanksgiving. This will leave five weeks for shakedown and cruise preparations. This will be the second regularly scheduled dry-dock, plus two post availability dry-docks and one emergency dry-dock. March 7 is the planned date of availability for science.

Jon Berkson – USCG HQ

Jon reported that the Commandant is looking for guidance from the NAS study. The Commandant is pleased with the 1990 presidential determination for Polar requirements. After the NAS study, they would seek a National Security Council action and a new Presidential determination that may re-state the 1990 determination. The Commandant is also in favor of returning the budget for icebreakers to the Coast Guard.

2006 cruises - Dave Forcucci, USCG

Dave reported that pre-cruise meetings were held in Seattle in January for three of the cruises. The Mayer mapping cruise did not require a pre-cruise meeting, because it is a repeat. They held a two leg shakedown cruise that went well with an offshore science system shakedown.

They have added SIO in support of the CTD and STD (hydrographic) systems. SIO will send two techs on Jackie's cruise, but will not need to send anyone on the other cruises. Helo contract has been awarded

to Maritime Helicopters (www.maritimehelicopters.com/). There will not be any helicopter support for the Mayer cruise. The Lovvorn (Grebmeier) cruise and the Lawver cruise will have helo support. There will also be support for logistics from Barrow.

Dale asked about future support from Coast Guard aviation. Capt. Russell replied that POP-DIV has been disbanded and it is unlikely it will be re-formed, so procurement will be the long-term solution. There was some discussion about the ship's need for ice reconnaissance for ship control and whether or not you would always want a helo on board. This year will be a learning opportunity and they may find that the Coast Guard needs the helo on board. For Mayer, he is limited about where he can work. They plan to attempt it and if the ice doesn't allow it, they will go elsewhere.

Dave has requested a plan of daily movements from the PI's so that they can make the initial request for NIC coverage during the cruises. This is a planning document that is definitely subject to change.

Specific cruises - Grebmeier is loading this week and the others will load in Seattle or Dutch Harbor.

Margo asked about Lawver's seismic system. They are receiving compressors from USGS storage that belong to LDEO. LDEO will provide the seismic system and operation (Jay Ardai and Dale Chayes). The assumption for streamers is that they will all be destroyed in use and they plan to use the analog sections that are in Diebold's shop.

Rolf asked if the local communities have been contacted by PI's about this summer's work. Glen Sheehan has been working with the PI's and the local communities. Larry Lawver has attended an Alaska Eskimo

Whaling Commission meeting. Bernie thought that based on their experience last year, there is good reason that Lawver will not encounter significant mammal activity.

Margo asked about Reeves-Sohn's cruise requirements for using AUVs while the ship is in the ice. This cruise is intended as a field trial of the AUV system. One area of concern is operating AUV's in ice, launch and recovery in the ice, tracking and communications. Launching uses the crane and a sling. Ultra short baseline system was tested with a temporary install and test in open water by putting a transponder on the CTD. A big challenge is to navigate the AUV under the ice in the autonomous mode, which requires navigation to hold station, find targets. NOAA is still committed to supporting the four days over the Chukchi Plateau.

Ops asked where the helicopter support was coming from for the logistics in Barrow. It is in the requirements document but needs to finalize the specifics with the providers.

2007 Schedule and Dry-Dock Schedule.

Dave showed the spreadsheet dry-dock schedule options. The Scenario 4 - moderate risk plan assumes the ship gets back a week early from 2006 operations. Funded work includes Reeves-Sohn on the Gakkel Ridge, Lovvorn (Grebmeier) 2nd cruise and the BEST program. NSF is exploring the possibility of using a foreign icebreaker if they are already planning to go to the Gakkel Ridge. This would leave Healy free to support Pacific side work.

Native communities - article. Margo asked Renee to meet with them later to put together an outline for an EOS article and invited Renee to be a co-author.

Note: There will be an exhibit in the Museum of Natural History at the Smithsonian (2nd floor) on the Arctic.

Renee Crain reported on IHA's. OCE is going forward with a programmatic EIS for all scientific seismic work in the future. This will apply to work in the Arctic as well. This should make the process a little easier and less costly for individual projects. Polar Bears may become more of an issue if a pending lawsuit to make them endangered is successful.

There will be qualified marine mammals observers on Lawver's cruise. Renee reiterated the benefit of meeting with the local communities. NSF is also willing to pay for 3 to 5 days of participation by villagers on portions of Healy cruises. They are offering per diem, not pay. This is at the discretion of the Chief Scientist/PI.

Discussion about the ice support process. For 2006 there is a Coast Guard Command requirements document, which would be the baseline of support. At cruise planning meetings or earlier, science specific requirements over and above this level should be added to the Coast Guard's requirements document. Also decided that NIC should be invited to the pre-cruise planning meetings. 2006 requirements should be reviewed and modified as needed based on the lack of helo support for the last legs. More discussion and update of requirements between CG, NSF, LDEO and NIC needs to take place.

Action Item: Remove question number 17 from the debrief

There was discussion on the need for a debrief of scientists and the ship with NIC. This would be a separate debrief focused on delivery of ice coverage data.

Simon discussed the continuing need to have AICC provide a system analysis for delivery of ice data that would start with the ship's requirements and incorporate science requirements over and above that. Refer to Dale's block diagram.

Healy science systems - Dale Chayes

Seawater systems – The new system is a vast improvement. In defining the needs for seawater, many different areas are commingled. There needs to be a clear definition developed of the various needs, including but not limited to incubators, TSG's, sinks, sample washing with ambient temperature and wash down for cleaning with heated water. There is a need to include adequate water "aft" for sinks, samples, wash down, sample wash, etc. Need to identify all possible uses by getting feedback from AICC and other potential users in the community. This should include adding TSG forward. The TSG could be located in the passageway leading from the labs to the mess deck on the Port side. They are trying to fit this into the work for the 06 dry-dock.

Watchstander workstations-

They plan to update the displays and software, and add a telephone. They also plan to try sunlight readable screens for aloft con and aft con.

Walk-in chambers-

(2 "controlled" and 2 "cold" chambers. They perform as specified in the SOR, but this does not seem to be good enough for many science needs. One example is that there is too large of swings in temperature during defrost cycles. There needs to be a better definition of needs, and then we can design a solution and propose changes as needed. We also need to remember these spaces are used for other needs and we need to not preclude these uses or come up with alternatives. Dale would need help in defining the user community for these spaces in order to get appropriate input. Carin made the point that these spaces were very valuable to many programs.

Lab Space Improvements -

Computer Lab, will not be in DD07, but may still be possible in the 07 off-season. Showed drawing of revised computer lab and rendering.

Future Lab - after 07

Showed drawing

Met Lab

Aft Con

Lockers, access
improved visibility

Showed drawing with locker space just aft of the entry door. Remove some of the console and change the windows on the starboard side to make it easier for the conning officer to see aft and down. The drawing doesn't show the area for the CTD winch operator and other structures that won't change.

02 Copier Room - A better use needs to be made of this space.

Multibeam

There are significant problems with the current installation. There will be a lot of O & M money spent between now and 2010. Substantial performance and operational improvements are possible. We need to review the science needs for seafloor mapping from icebreaker for ten years, starting five years from now. Need to look at the structural issues that would impact a future installation. Most scenarios will require larger arrays and bigger holes in the ship, so we need to better understand the structural impacts. Part of this will include an under hull ship check to document the as-built conditions. Earliest realistic change is 2010 and will cost a lot of money. The ROM for this is 1 to 3 million for the hardware and probably around \$1M for shipyard, plus significant engineering costs.

Action Item: Determine the science needs and do the structural checks.

Sub-bottom profilers-

Healy has two systems and no spares (Bathy 2000 and Knudsen 320BR). There is a significant cost for training and maintenance because of two different systems. Automatic CG spending was going to upgrade the Bathy 2000, but changed to buying a second Knudsen for less money. Need to make sure that PSTAR and PSEA Bathy's aren't automatically updated.

TeraScan-

Upgrading from 1m to 1.5m antenna. This is happening today and they will test and accept it during HLY06TD. They will add alternate choices for heading input. They borrowed the TeraScan license from STAR for HLY06 to allow image processing independent of the WDS.

Broad band hydrophone-

Healy was delivered with a DT-513c that has been re-discovered and mildly tested in the ADCP performance analysis. They did a spectral analysis with a hydrophone and found interference around the 150kHz frequency, which would interfere with the ADCP. SeaBeam may be a source of this interference.

List of spares and equipment repairs.

Concerns and issues

Shipboard power, There will be a link to a tutorial on Dales webpage:

<http://ilab.ldeo.columbia.edu/Members/dale/how-to/shipboard-power-systems-are-different/>

Improved internet access for science on Healy. Renee suggested taking an incremental approach to improving Internet access. For the sure term, Renee does not think it is plausible that allowing the two hours of access to go away would happen. She would pay for it out of education funds if she could/had to.

Day Two

Action Items from Day one,

Item one – passed to Mike Prince. Mike meet with Liz Tirpak and ask State to adjust the procedures for research clearances and port clearances off Barrow and the Arctic coast of Alaska so that BASC is notified when foreign research vessels and icebreakers. Explain BASC to Liz.

Discussion about the need for medical review by doctor and having a doctor on board for deep arctic cruises

Continued Dale's report on science equipment

Returned to discussion of treating the science equipment on Polar Star as pooled equipment, which is not allowed by the order to put the ship in Commission, Special status. Decided support CDR McFarland in an attempt to write a request to make the science equipment pooled and available for Polar Sea and Healy. Dale will work with Pac Area to generate a specific list of equipment.

Fiber Optic 0.680 tow cable – We have used temporary winch installations for .68 FO programs. The temporary solutions are an expensive compromise and consume substantial deck space. Options include finding out if the FO cable can be stored and used on the existing winch or a new winch could be installed. The latter option would be very expensive and is probably a mid-life item.

INMARSAT Upgrade – INMARSAT is not the whole answer, especially at high latitudes. CG is exploring upping the bit rate from 64kbps to 128 kbps. Actual throughput is something less than this, but the upgrade would improve bandwidth. With the 64kbps they get about 40kbps throughput. With the Iridium link they get about 9kbps. They are proposing to share the bandwidth in a secure and rate-controllable manner between science and Coast Guard use. Over the next six months or so, some look at the feasibility of upgrades should take place for presenting a proposed plan.

Plans and needs for 2007 - Assumptions are that we will know by August whether the Gakkel Ridge trip for Reeves-Sohn will occur on a foreign icebreaker or not. Also, Dale is assuming that BEST will look a lot like SBI cruises in terms of operations and science needs. Dry-dock upgrades will need to be decided on and funded.

Carin asked if the ADCP problems would be solved by 2007. This is hard to determine until they get a better handle on the effects of interference on the data. They are pushing harder and making progress.

AICC needs to provide a prioritized list of items. During the dry-dock/maintenance period for 2007, the seawater system and computer lab upgrades are in the queue for funding. We should establish a process that allows for a continually updated list. AICC should rate the science importance or value of each item and perhaps also rate the urgency of each item. The best thing to do would be to make this happen so that we are looking ahead more than in the past and to review the list on a regular basis.

Long-term plans – Serious mid-life planning needs to start now for 2015. High latitude communications, including improved Iridium, VSat and TDRS will be important. For high latitude navigation, Dale has been working on Globally Corrected Differential GPS, which could give sub-meter accuracy for navigation.

Big-ticket items for the future include the multibeam, fiber optic winch, winches, cranes, and major upgrades to the labs.

Captain Russell asked about the computers for the SeaBeam. Dale replied that in the short term they are ok with working computers. At the moment, the software only works on specific computers. For the mid-term, they will try to get permission to migrate the software to LINUX operating systems.

Coast Guard Electronic Support Unit (ESU) – Richard Saunders

Richard reviewed what ESU is and what they do. He also covered issues and challenges.

Discussion about data policies - OPP data policy was last updated in 1997, and needs to be revised. Dale suggests that AICC review the OPP policy and comment on it. OCE data policy is a little more

specific. Dale is proposing that for ship collected data; such as underway data should be sent to archives by the operators.

Icefloe website – Dave Forcucci

Dave reviewed features of the icefloe website. Margo complimented him on the positive changes. Changes to the Polar Sea and Polar Star information would also go through Dave.

Science support

Dale reviewed the people who will sail on the various legs. The first leg is set, but subsequent legs may change somewhat. Dale plans to submit a three year proposal, but there needs to be a long term system for how this support is provided and funded.

Showed the IPY cruise website, Arctic Ship Coordination during IPY (ASCI). Agreed that we should send a note to Arctic Info about this webpage.

Margo received some feedback from the committee regarding her presentation to the Arctic Research Commission. She will include some information on the Arctic Observing Network and observing networks in general.

New Members - Margo Edwards

There are five applicants so far. The physical oceanography and MG&G positions are covered by these applicants, but the satellite and meteorology field is not represented. Suggestions for other possible candidates include Sohn Ngiem, Ron Kwok and Julienne Stroeve. Margo will solicit more applicants and then circulate the names to the committee for their vote by May 1st.

Chair will be selected at the next meeting. Carin has expressed interest.

Discussed the possibilities for the next meeting. Focused on December after AGU or January 8th week. Pre-cruise meetings could take place the same week, except for the BEST group, which should probably take place the first part of December. Invitations for pre-cruise meetings should go out as soon as PIs are identified for the BEST program.

Decided on the week of 8 January for AICC meeting in Seattle. We will look at hosting the meeting at UW.

Discussed set timing for meetings. Meetings should focus on improving Healy science operations so timing should be dependent on the availability of ship's personnel and will probably be held in Seattle from now on unless there is a reason to do otherwise.