

*UNOLS Report to the Arctic Icebreaker
Coordinating Committee
(AICC) Meeting
April 20-21, 2011*



Vers: 5-14April2011

AICC Membership-December 2010

Robin Muench/ ESR- Chair(12/09)- 1/2007 to 12/2012

Carin Ashjian/WHOI- Immediate Past Chair

Lee Cooper-U.Maryland-9/2008 to 9/2011

Karen Frey-Clark- 10/2009 to 10/2012

Bob Campbell-URI-1/2010 to 1/2013

Larry Mayer-UNH-11/2009 to 11/2012

Don Perovich-USACE-5/2008 to 5/2011

Luc Rainville-UW-11/2009 to 11/2012

Jeremy Mathis-UAF-10/2009 to 10/2012

Steve Hartz-UAF- RVTEC Rep- 05/2007 to xxxx

Doug Russell-UW-RVOC Rep-9/2010 to xxxx

UNOLS Office

- Annette DeSilva, Pam Thompson, Erin Jackson, Sandy Fontana, Dennis Nixon, Alice Doyle, Jon Alberts, Steve Ciesluk
- Year-3 Starts May 1, 2011

Recent Efforts

- Ongoing support to our 9 standing committees- Added the Ocean Observing Science Committee (OOSC)
- Rebid the UNOLS Medical Advisory Service Contract
- UNOLS website redesigned- Erin Jackson
- UNOLS Technician Recruitment and Retention Pilot Project- Alice Doyle
- Cruise Opportunities- Matching students with cruises
- R/V Sikuliaq Science Workshop May 10 & 11,2011-Marquette, WI
- Polar Research Vessel Refresh Project
- AGU (Dec 2010) & Planning for AGU 2011
- Greening the Fleet- Workshop Planning Underway for January 10-11, 2012

Memorandum of Agreement

Update to Ongoing UNOLS
Effort

MOA Between United States Coast Guard
Pacific Area and University-National
Oceanographic Laboratory System
(UNOLS) Regarding Training Cruises for
Coast Guard Marine Science Technicians
Assigned to USCG Icebreakers

Key Points

- UNOLS on a space available basis will provide training cruise opportunities for USCG-PACAREA Marine Science Technicians.
- Gain hands-on experience with science operations similar to those conducted on Coast Guard Icebreakers
- CG Science Liaisons will submit request to UNOLS Executive Secretary with details of who is available and types of experience needed.
- UNOLS will work with Chief Scientists and UNOLS Operators to identify available cruises

Key Points cont'

- UNOLS vessel operators will communicate with CG Pacarea science liaisons to work out details.
- Cruise Opportunities will be free of charge
- MST's will have an active role in science operations.
- MOA signed on February 10, 2011 between UNOLS Exec. Sec. & USCG

USCG MST on UNOLS RVs

USCG POLAR SEA MSTs:

- Lewis Beck and Elizabeth Adams on the THOMPSON, 27 Dec – 04 Jan 11
- Elizabeth Adams on the SHARP, 2-18 Mar 11
- Lewis Beck on the SHARP, 21 Mar - 3 Apr 11

HEALY MSTs

- Lee Brittle on the KNORR, 27 Feb – 1 Apr 11

Two USCG POLAR SEA MSTs are signed up to participate in the MST Training cruise on the MELVILLE in 10-14 Jun 11.

Ship-based Science Technical Support in the Arctic - STARC

Outreach to potential proposers

Renee Crain

Arctic Research Support and Logistics
rcrain@nsf.gov



Hedy Edmonds

Arctic Natural Sciences
hedmonds@nsf.gov



Summary of Solicitation Purpose

Fund a single Cooperative Agreement to:

- Plan and execute science support for Arctic cruises on icebreakers, augmenting USCG
 - Coordinate with Chief Scientist, USCG, NSF, UNOLS and other providers
 - Some work directly funded through CA, some funded by NSF through UNOLS agreements
- Manage science equipment onboard icebreakers in cooperation with USCG and NSF
 - Track maintenance and upgrade requirements with budget planning
 - Provide recommendations for equipment purchases or upgrades

Ships:

- *Healy*
- *Polar Star*
- Transitions to other ships as needed

Users:

- NSF, Arctic Sciences Division awardees
- Other agencies that reimburse NSF for services



Status Report

NSF held competition through the STARC solicitation to identify an institution that would provide NSF with a mechanism to offer a dedicated cruise planner to coordinate required resources and to steward the science equipment onboard Healy. That competition is still underway and NSF will announce an award sometime in April hopefully, allowing time to review and process the proposals.

Polar Research Vessel Committee (PRV)- Established Dec. 2010

- Review Science Mission Requirements from PRV Study completed in 2006
- Assess if 2006 SMR's meet current and emerging needs for Polar Research
- Consult existing UNOLS/SMR's for Ocean & Regional Class ships
- Develop a survey to gather feedback
- Prepare an Interim Report for NSF by June 2011, with a final report in late 2011.

Polar Research Vessel Committee- PRV

Rob Dunbar/Stanford- Chair

Hugh Ducklow/MBL

Vernon Asper/USM

Carin Ashjian/WHOI

Larry Lawver/UTexas

Dale Chayes/LDEO

Doug Russell/UW

Dan Oliver/UAK

Maria Vernet/UCSD

Eugene Domack/Hamilton

Bruce Huber/LDEO

Craig Smith/UH

SMR's

- Enhanced ice breaking capabilities -4.5 ft level ice @ 3 kts
- Increased Endurance to 80 days
- Increased accommodation and lab space for 50 scientists
- Moon Pool for drilling. ROV's & AUV's, etc..
- Ability to tow nets and research instrumentation from the stern during ice-breaking
- Acoustically quiet vessel with hull form designed for installation and operation of remote sensing instruments
- Helicopter Capable
- Long Coring System Capable
- Box Keel Design for Transducers
- "Greener" Ship
- Portable Lab Vans- 5-6
- Microscope Rooms (2) & Environmental Rooms (2)
- Walk-in Freezer

SMR's

- Easy Access in hold to containers
- Large Otter Trawl 2-point Winch System

Antarctic Marine Geology/Geophysics Workshop- March 2002

- Continued oversight of vessel plans, design, construction and testing by research scientists with appropriate technical expertise
- Addition of more “sea-worthy” small boats
- AUV/ROV Handling Systems & Garage Type work space
- Increased refrigerated storage and core processing capabilities
- Consideration for “logical” pathways for moving equipment
- Increased flexible lab space
- Separation of permanent computing facilities
- Plan for long-term archiving of swath mapping data.

SMR's

Antarctic Oceanography Planning Workshop-June 2002

- Capable of new technologies for Marine Molecular Biology- Gimbaled platform/lab space for centrifuges/electrophoresis equipment
- Aquarium Space
- Trace-Metal Clean Molecular laboratory
- Scientific Community should be involved in entire process.
- Internet Capable
- Excellent open water capabilities

Marine Science Drivers for the Polar Regions

UNOLS Polar Research Vessel Workshop
February 28, 2011 & March 1, 2011

<http://www.unols.org/committees/fic/smr/PRV/index.html>



Feb 28, 2011 Monday-

Workshop Facilitator and PRV Chair- Rob Dunbar/Stanford & PRV Committee set the tasking, timeline, workshop purpose, scope, expected results

NSF Opening Remarks- Dr. Karl Erb/NSF/OPP Director-

NSF Program Office- Alex Isern, Hedy Edmonds, Lisa Clough, Tim McGovern
Historical Review, Path Forward, PRV Timeline

James St. John- Science & Technology Corp. – Review of PRV Study- Operational Feasibility of desired features and specifications that impact ship size and cost.

Review PRV Community Responses from 2011 Survey

Developing Science Drivers- Breakouts Groups

- Biological Oceanography-Maria Vernet/Craig Smith
- Chemical Oceanography-Vernon Asper
- Physical Oceanography & Atmospheric Interactions-Dale Chayes/Bruce Huber
- Marine Geology and Geophysics-Larry Lawver/Gene Domack

March 1, 2011 - Tuesday

Translating Science Drivers into Science Mission Requirements

- Overview of UNOLS SMR Process- Annette/Jon-UNOLS
- Purpose & Background
- Developing SMR Table & Elements of SMR
- Vessel Mission Statement, Prioritization, Mission Scenarios
- Review of existing SMR's and current planning activities

Direction Forward and Next Steps

- Questions/Comments
- Priorities
- Intersection of science
- Request for short reports & future contributions

Open Discussion & Written Inputs

Workshop Adjourn

PRV Committee Working Lunch

PRV Committee- Recover information, begin writing report

Next Meeting May 5 & 6, 2011- PaloAlto, CA

<http://www.unols.org/committees/fic/smr/PRV/index.html>

Dinner- Grand Cru- Wed. 20 April

First Course Options

Heirloom Beet Salad with baby tomato, avocado, yuzu gelee, arugula, basil and pomegranate-saba reduction

Romaine Salad with dried tomatoes, parmesan, creamy anchovy and garlic crouton

Asparagus and Exotic Mushroom Soup

Second Course Options

Pan Roasted Breast of Chicken with baby potatoes, olives, capers and cara oranges

Grand Cru “Bouillabaisse” with Saffron Aioli

Carrot Risotto with wilted spinach, roasted asparagus and herb essence

Roast Breast of Duck with parsnip, glazed carrots and plum gastrique

Dessert Options

Upside Down Pear Frangipane with vanilla ice cream and caramel

Belgian Chocolate Mousse

\$45 per person, plus tax and 18% gratuity

Alcohol charged on consumption

R/V SIKULIAQ Keel Ceremony 11 April 2011



R/V SIKULIAQ
Alaska Region Research Vessel

The Sikuliaq will allow researchers to collect sediment samples directly from the seafloor, host remotely operated vehicles, use a flexible suite of winches to raise and lower scientific equipment, and conduct surveys throughout the water column and sea bottom using an extensive suite of scientific sonar systems.

The ship will be able to transmit real-time information directly to classrooms all over the world. The Sikuliaq will have accommodations for up to 26 scientists, marine technicians and students at a time, including those with disabilities.

Although the Sikuliaq has global capability and will be used in other polar and sub-polar regions, its predominant operating area is expected to be in the productive and diverse waters of the western Arctic surrounding Alaska.

www.sfos.uaf.edu/arrv

NSE
UAF
UNIVERSITY OF ALASKA

The sign is positioned in a shipyard at night, with a large red, white, and blue striped flag visible in the background.



R/V SIKULIAQ Keel Laying 11 April 2011



R/V SIKULIAQ SCIENCE PROPOSALS

Science Community Workshops- May 10 & 11 in
Marinette and at Ocean Sciences in Salt Lake
City 2012

NSF Proposals for OCE- Aug 15, 2011, allows for
resubmission Feb 15, 2012, Aug 15, 2012, Feb
15, 2013 &

OPP Oct 18, 2011, Oct 18, 2012, Oct 18, 2013
January 2013 Global Ship Scheduling Meeting