

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>



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

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>

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

NSF
UAF
UNIVERSITY OF ALASKA

The sign features three images: a side view of the research vessel, a top-down view of the vessel, and a map of the Arctic region with a red circle highlighting the Seward area.



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/SIKULIAQ- Aug 15,
2011, allows for resubmission for 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