STARC Report to AICC

USCG Base Seattle

November 13 – 14, 2014
NSF STARC Grant

Collaboration with OSU
New 5-year award
Annual Maintenance

Met & Sea Surface Instruments
CTD & Sensors
Rosette Carousel
Water Bottles
Lab Clean Water Systems
Underway pCO2 System
Bell BGM-3 Gravimeter
Seatex SeaPath 330+
Vessel Motion Motion Sensor

Purchase
End User Statement for Export Control
Installation
Configuration
Dock Tests
Sea Trials
Used as primary system
University of Hawaii
Mosaic Software

Purchase of IMAC
Initial installation at SIO
Flew Roger Davis to Seattle for final installation
Dock Tests
Sea Trials
Ran successfully through season
MOSAIC Software

- Grids and renders incoming data in geo-referenced chart-like displays
- Data typically processed in three operator-selectable resolutions
- A master navigation chart shows survey track lines and swath coverage
  - Users can simultaneously open multiple views
  - All displays optimized for quick pan and zoom
  - Updated in real time from multibeam system
Arctic Field Safety Risk Management (ARM) Workshop

February 4 – 5, 2014
Arlington, VA (NSF)

O’Gorman presented
Sutherland participated
Risks and Mitigations Of Ship Based Science in the Arctic

• Logistic
• Environmental
• Technical
• Political
• Arctic Diving Operations
• Lessons Learned
Arctic Encounter Symposium

February 7 – 8, 2014
University of Seattle
School of Law

Sutherland participated
Overview

“The goal is to engage participants in a focused discussion, through a balanced forum, highlighting shared interests and concerns of the United States and the global community as we look north to the last emerging frontier – the Arctic. The Symposium will incorporate a diverse group of leaders and experts to debate how a rapidly changing Arctic will impact international law, domestic policy, business and commerce, the environment and the people of the Far North.”
USCGC HEALY
Mid-Life Workshop

February 11 – 13, 2014
USCG Base Seattle

Hiller presented
Sutherland participated
In Port Pre-Departure

Minor upgrades to Computer Lab
USCG remodel of Main Lab
New wiring for SeaPath 330+
Installation of underway sensors
Continued effort with LCi90
New computer for echosounder
Hacked MapServer
Isotope and HazMat support
In Port Pre-Departure

- Worked with UNH to install GeoCam in Aloft Con
- 3 cameras with ~160 degree view
- Software from UNH producing geo-referenced TIFF images
- Hourly images displayed on icefloe.net
Sea Trials
Mar 31 – Apr 4, 2014
2 – OSU Techs
2 – SIO Techs

Groomed Science Systems
EM122 Calibration
Check Winch Data Systems
Transit to Alaska
May 4 – 10, 2014

STARC techs on board to prep for first cruise
HLY1401
Arrigo
May 13 – June 24, 2014

3 STARC Techs
(2 SIO, 1 OSU)

Many, many CTDs
HLY1402
Pickart
July 5 – 29, 2014

3 STARC Techs
(2 SIO, 1 OSU)
CTDs and Moorings
HLY1403
R&D
August 8 – 30, 2014

1 STARC Tech
(SIO)

Provide underway data support
HLY1403
R&D
August 8 – 30, 2014
1 STARC Tech
(SIO)
Acoustic Study
Findings

- Boiler Feed Pumps are major source of interference
- Other Minor Sources of Interference
  - Portable Water Pumps
  - Main Seawater Pump 2
  - Bridge Doppler Speed Log
- Bubble sweepdown not a major problem
- Propeller cavitation starts at 6 knots
- Acoustic data in ice collected and being analyzed
Transit Alaska to Seattle
Sep 1 - 11, 2014

1 STARC Tech
(OSU)

Provide underway data
Support
US Navy Acoustic Range
Range Findings
Sep 1 - 11, 2014

- Ship noise measured at 4.6, 8, 11, 16 knots
  - Ship noise lowest at 4.6 knots
  - Ship noise greatest at 16 knots
- 5 & 10 degree rudder movement did not increase noise
USCG
Seattle
Sep 5 - 19, 2014

1 STARC Tech
(SIO)

Provide underway data support
Planning for 2015

Van Relocation on bow
MapServer replacement

- IFREMER Globe
- GeoServer (CSIRO)