

SCICEX Phase 2

Science Advisory Committee Meeting
2&3 February 2012

AGENDA

Thursday, 2 Feb

Morning:

- State of SCICEX
- 2011 SCICEX: Lessons learned
- Optimizing future SCICEX SAMs

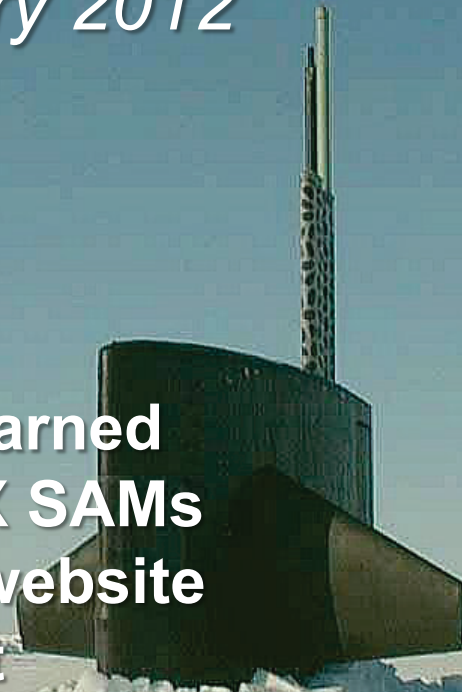
Lunch: Tour of new SCICEX website

Afternoon: Data management

Friday, 3 Feb

Morning:

- Support and sustainment
- SAC Membership



US Submarine Arctic Science Program *SCICEX*

“The overall goal of SCICEX is to improve understanding of Arctic Ocean processes and their role in the Earth’s climate system by dual use of nuclear submarines, thus fully capitalizing on existing national platform capabilities. This Agreement is intended to mutually support the objectives of both the civilian and military communities.”



SCICEX

- **Unique program**
- **Key insights on characteristics of Arctic Ocean**
 - **Seafloor**
 - **Ocean**
 - **Ice cover**
- **Region remains of high interest**
 - **Bellwether of climate change**
- **Possible increase in operational activities**
- **Strong motivation to maximize utilization of SCICEX agreement**



SCICEX

Twist: Transition, in 1998, from dedicated to accommodation cruise (SAM)

SAM: SCICEX data collected during a classified mission

Challenge: Little to no advance opportunity for planning

Solution: Scientifically endorsed planning matrix (aka SCICEX Science Plan)



SCICEX Phase 2

Accommodation Cruises

SAM IMPLEMENTATION

Navy's Arctic Submarine Laboratory will examine each cruise for its potential to collect SCICEX data

Consider (among others):

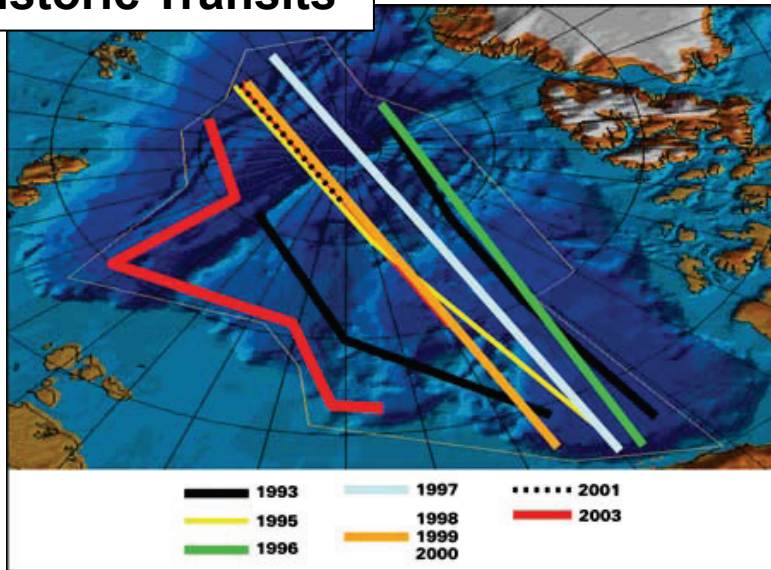
- Type/destination of the transit
- Science Plan priorities
- Equipment available on sub
- Possible additional time
- Time of year
- Complementary AON plans



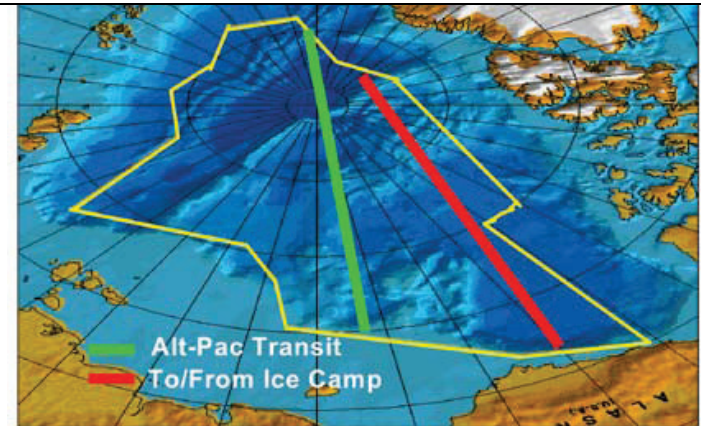
SCICEX Science Plan

Recommended Transits

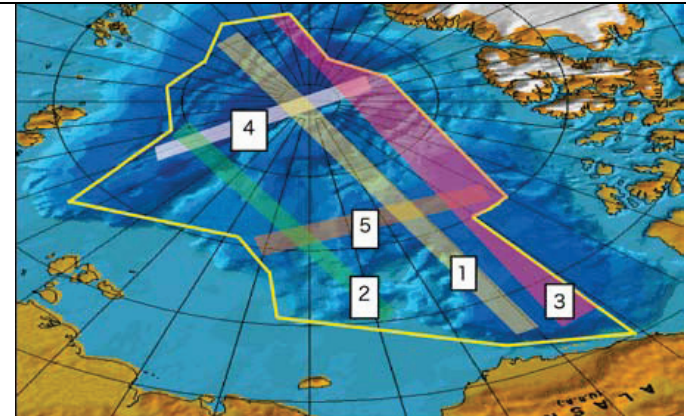
Historic Transits



Baseline: Direct Transits (0-1.5day)



**Augmented:
Sampling Corridors (1-3 days)**



SCICEX Science Plan: Top Recommendation

‘The routine collection of SCICEX data during direct submarine transits and in support of ice camp exercises is strongly encouraged, as past and recent experience has shown the value of virtually all of the historic submarine-based data.’

SCICEX

SCICEX Science Advisory Committee

OBJECTIVES

- Re-invigorate the SCICEX Program
- Maximize the contribution of SCICEX in understanding the Arctic Ocean processes and their role in the Earth's climate system
- Provide guidance to ASL
- Promote timely community access to SCICEX data



SCICEX

SCICEX Interagency Advisory Committee

OBJECTIVES

- Actively support objectives of SCICEX SAC
- Promote SCICEX program
- Develop plan for sustaining SCICEX, including the collection and dissemination of data



SCICEX Phase 2

Accommodation Cruises

State of SCICEX

- Report from SAC (Richter-Menge)
- Report from IAC (Jeffries)



SCICEX Phase 2

State of SCICEX

SAC Report: Progress

- ICEX2011: First SAM since 2005
- Increasing visibility
 - New SCICEX web site, launched Dec 2011
 - SCICEX poster at 2011 Fall AGU
- Promoting value to USN
 - Navy Arctic Environmental CBA: Acknowledged resource
 - Revised white paper(s)
 - Jeffries/Dr. Mike Meyers (ONR-Global)
 - Newton/CDR Fridley (Arctic Review Group)



SCICEX Phase 2

State of SCICEX

SAC Report: Progress

- **Data management: Shift of responsibility**
 - Previous:
 - LDOE: Adapt R2R product for sub data
 - NSIDC: Data archive & host SCICEX website
 - Current:
 - NSIDC: Responsible for all aspects



SCICEX Phase 2

State of SCICEX

SAC Report: Progress

- Agency support
 - ONR:
 - Boyd: XCTDs
 - Sambrotto & Smethie: Water sample protocol
 - Wensnahan: Ice draft
 - Navy Research Lab (Gardner & Brozena): Airborne ice thickness measurement
 - NSIDC: Data archive
 - USARC:
 - SAC travel
 - Publication of Science Plan
 - SCICEX Logo



SCICEX Phase 2

State of SCICEX

SAC Report: Concerns

- **Securing routine SAM (1 per year minimum)**
 - USN support for SCICEX
 - Establish value of data to USN
 - USN support for Arctic exercises
 - Tightening of ASL budget
 - Delay/decrease of ICEX
- **SAMs protocol development**
 - Need to demonstrate quality of data
- **Risk loss of SCICEX program**



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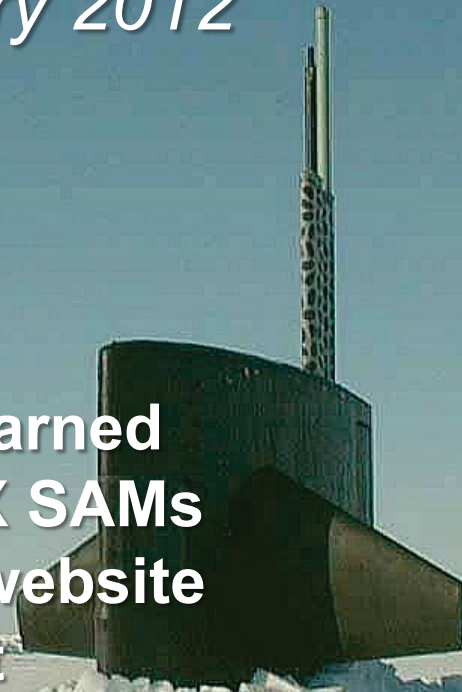
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SCICEX Phase 2

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Day 1

State of SCICEX

- Overall: 'Use it or lose it'
- Engaging operational side of USN key to continuation of program
 - Identified new points of contact
 - Refocus: Emphasize safety and efficiency of operation
 - Establish high priority environmental needs
 - Employ vignettes



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Day 1

SCICEX 2011: Lessons Learned

- **Valuable: Data and experience**
- **Good start on sampling protocols**
- **Need to address topsounder data**
- **Communication key to success**

Data management:

- **Outlined data transfer from sub to NSIDC**
- **Expect follow up to address gaps**



SCICEX Phase 2

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Day 1

State of SCICEX (continued)

- **Emphasize value of baseline data**
 - Data collection along transit
- **Opportunity to broaden role of program**
 - **Bridge between scientific and operational communities**
 - **Addressing national need**
- **Improve communication**

