



National Snow and Ice Data Center
Supporting Cryospheric Research Since 1976



SCICEX Effort at NSIDC – An Update

Florence Fetterer
fetterer@nsidc.org

Ann Windnagel
ann.windnagel@nsidc.org

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Outline

- New web site is live!
- Web page traffic
- Historical data location update
- Newest SAM data
- What we need



SCICEX Web Site Live!

More than just a jump page...

nsidc.org/scicex

NSIDC National Snow & Ice Data Center

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SCICEX
Submarine Arctic Science Program

Overview

The Science Ice Exercise (SCICEX) program is a federal interagency collaboration among the operational Navy, research agencies, and the marine research community to use nuclear-powered submarines for scientific studies of the Arctic Ocean. Unlike surface ships, submarines have the unique ability to operate and take measurements regardless of sea ice cover, weather conditions, and time of year. This allows for a broad and comprehensive investigation of an entire ocean basin. The goal of the program is to acquire comprehensive data about Arctic sea ice, water properties (biological, chemical, and hydrographic), and water depth (bathymetry) to improve our understanding of the Arctic Ocean basin and its role in the Earth's climate system.

SCICEX was officially launched in 1994 after a successful feasibility test in 1993 where civilian scientists joined Navy personnel on a submarine to acquire scientific data. From 1995–1999, five more dedicated science cruises were completed aboard nuclear-powered submarines. Since then, a modified approach has been taken, where some time is set aside for the collection of unclassified scientific data during otherwise classified submarine exercises. These are known as Science Accommodation Missions (SAMs) which are facilitated by the Arctic Submarine Lab (ASL). The most recent SAM took place in March and April 2011.

This site is supported by the [National Science Foundation](#) (NSF) award number 0632296 for the [Arctic Observing Network](#) (AON) and by the [Office of Naval Research](#) (ONR) and the [U.S. Arctic Research Commission](#) (USARC). SCICEX is a Navy contribution to AON, the observational change component of a federal interagency committee called the [Study of Environmental Arctic Change](#) (SEARCH).

Data Inventory

- Sea Ice
- Hydrography
- Bathymetry
- Chemistry

Related NSIDC Data

- Submarine Upward Looking Sonar Ice Draft Profile Data and Statistics
- Moored Upward Looking Sonar Data
- Ice Draft and Ice Velocity Data in the Beaufort Sea, 1990-2003

Other Related Data

- National Geophysical Data Center (NGDC) Marine Trackline Database
- National Oceanic Data Center (NODC) Biology Data
- International Bathymetric Chart of the Arctic Ocean (IBCAO)

Logos: NSF, ONR, AON, USARC

Who's Looking at the Data

- SCICEX views in 2011
 - ~1200 total
 - ~830 unique



Google analytics graph, 01 Jan 2011 – 31 Jan 2012

Historical Data Location Update

- NGDC put SCICEX SDRS bathymetry data into their Marine Trackline database.
- XCTD for 2000 and 2003 SAMs is in NSIDC's possession.
- T. Boyd recalls that XCTD for 2005 is too noisy for release
- M. Wensnahan believes that the 2001 and 2003 ULS were of poor quality.
- T. Whitledge has nutrient bottle data for 1998, 1999, 2000, and 2001.

SCICEX in Other Databases

- SCICEX data in these atlases:
 - SDRS bathymetric data in NGDC's marine trackline database
 - SDRS bathymetric data in NGDC's IBCAO
 - PSC Unified Sea Ice Thickness CDR
 - PSC Hydrographic Climatology (PHC)

Newest SAM Data

- T. Boyd has XCTD data along with a report. Will work to get those online in 2012.
- R. Sambrotto has nutrient bottle data but there isn't much of it.
- Is there ULS data?
- Is there Bathymetry?

Data Inventory Table

http://nsidc.org/scicex/data_inventory.html

Cruise (Year and Submarine)	CTD Data	XCTD Data	Nutrient Bottle Data	ULS Data	Bathymetry from SDRS	Raw Bathymetry from SCAMP
1993 USS Pargo	Two sources: • SCICEX Hydrographic Data, 1993 at NCAR EOL Description :: Data • Temperature and salinity measurements, 1993 at NODC Description :: Data	Temperature, salinity, topsounder, and bottom sounding data from onboard sonar and XCTD casts, 1993, 1995, 1996, 1997, 1998, 1999, and 2001 at NODC Description :: Data	Two sources: • Temperature, salinity, and nutrient measurements, 1993 at NODC Description :: Data • SCICEX Dissolved Barium Data, 1993-1997 at NCAR EOL Description :: Data	SCICEX ULS data are part of <i>Submarine Upward Looking Sonar Ice Draft Profile Data and Statistics</i> data set at NSIDC Description :: Data	These data will be available from NGDC in the near future. To obtain the data now, contact NSIDC SCICEX project manager, Ann Windnagel . Additionally, the International Bathymetric Chart of the Arctic Ocean (IBCAO) used these data to create a digital data base that contains all available bathymetric data north of 64° N.	N/A. The SCAMP instrument was not aboard this submarine.
1995 USS Cavalla	Surface Seabird CTD, 1995 at LDEO LDEO SCICEX Page :: Data	Two Sources: • Temperature, salinity, topsounder, and bottom sounding data from onboard sonar and XCTD casts, 1993, 1995, 1996, 1997, 1998, 1999, and 2001 at NODC Description :: Data • XCTD casts, 1995 at LDEO LDEO SCICEX Page :: Data	SCICEX Dissolved Barium Data, 1993-1997 at NCAR EOL Description :: Data	Not available. Navigation recorder had a malfunction, so data are unusable.	These data will be available from NGDC in the near future. To obtain the data now, contact NSIDC SCICEX project manager, Ann Windnagel . Additionally, the International Bathymetric Chart of the Arctic Ocean (IBCAO) used these data to create a digital data base that contains all available bathymetric data north of 64° N.	N/A. The SCAMP instrument was not aboard this submarine.
1996 USS Pogy	CTD	Temperature, salinity, topsounder, and bottom sounding data from onboard sonar and XCTD casts, 1993, 1995, 1996, 1997, 1998, 1999, and 2001 at NODC Description :: Data	Two sources: • Nutrient data and bottle salinities, 1996 at LDEO LDEO SCICEX Page :: Nutrient Data :: Bottle Salinity Data • SCICEX Dissolved Barium Data, 1993-1997 at NCAR EOL Description :: Data	SCICEX ULS data are part of <i>Submarine Upward Looking Sonar Ice Draft Profile Data and Statistics</i> data set at NSIDC Description :: Data	These data will be available from NGDC in the near future. To obtain the data now, contact NSIDC SCICEX project manager, Ann Windnagel . Additionally, the International Bathymetric Chart of the Arctic Ocean (IBCAO) used these data to create a digital data base that contains all available bathymetric data north of 64° N.	N/A. The SCAMP instrument was not aboard this submarine.
1997 USS Archerfish	SCICEX Hydrographic Data, 1997 and 1998 at NCAR EOL Description :: Data	Temperature, salinity, topsounder, and bottom sounding data from onboard sonar and XCTD casts, 1993, 1995, 1996, 1997, 1998, 1999, and 2001 at NODC Description :: Data	SCICEX Dissolved Barium Data, 1993-1997 at NCAR EOL Description :: Data	SCICEX ULS data are part of <i>Submarine Upward Looking Sonar Ice Draft Profile Data and Statistics</i> data set at NSIDC Description :: Data	These data will be available from NGDC in the near future. To obtain the data now, contact NSIDC SCICEX project manager, Ann Windnagel . Additionally, the International Bathymetric Chart of the Arctic Ocean (IBCAO) used these data to create a digital data base that contains all available bathymetric data north of 64° N.	N/A. The SCAMP instrument was not aboard this submarine.
1998 USS Hawkbill	SCICEX Hydrographic Data, 1997 and 1998 at NCAR EOL Description :: Data	Temperature, salinity, topsounder, and bottom sounding data from onboard sonar and XCTD casts, 1993, 1995, 1996, 1997, 1998, 1999, and 2001 at NODC Description :: Data		SCICEX ULS data are part of <i>Submarine Upward Looking Sonar Ice Draft Profile Data and Statistics</i> data set at NSIDC Description :: Data	These data will be available from NGDC in the near future. To obtain the data now, contact NSIDC SCICEX project manager, Ann Windnagel . Additionally, the International Bathymetric Chart of the Arctic Ocean (IBCAO) used these data to create a digital data base that contains all available bathymetric data north of 64° N.	These data will be available from NGDC in the near future.
1999 USS Hawkbill	Sail Mount CTD, 1999 at IMS IMS SCICEX-99 Page :: Data	Two Sources: • Temperature, salinity, topsounder, and bottom sounding data from onboard sonar and XCTD casts, 1993, 1995, 1996, 1997, 1998, 1999, and 2001 at NODC Description :: Data • XCTD data, 1999 at IMS IMS SCICEX-99 Page :: Data	Bottle Data	SCICEX ULS data are part of <i>Submarine Upward Looking Sonar Ice Draft Profile Data and Statistics</i> data set at NSIDC Description :: Data	These data will be available from NGDC in the near future. To obtain the data now, contact NSIDC SCICEX project manager, Ann Windnagel . Additionally, the International Bathymetric Chart of the Arctic Ocean (IBCAO) used these data to create a digital data base that contains all available bathymetric data north of 64° N.	These data will be available from NGDC in the near future.
2000 USS L Mendel Rivers (SAM)		XCTD		SCICEX ULS data are part of <i>Submarine Upward Looking Sonar Ice Draft Profile Data and Statistics</i> data set at NSIDC Description :: Data		N/A. The SCAMP instrument was not aboard this submarine.
2001 USS Scranton (SAM)	CTD	Temperature, salinity, topsounder, and bottom sounding data from onboard sonar and XCTD casts, 1993, 1995, 1996, 1997, 1998, 1999, and 2001 at NODC Description :: Data		ULS		N/A. The SCAMP instrument was not aboard this submarine.
2003 USS Honolulu (SAM)	CTD	XCTD	Bottle Data			N/A. The SCAMP instrument was not aboard this submarine.
2005 USS Salt Lake City (SAM)		XCTD	Bottle Data	SCICEX ULS data are part of <i>Submarine Upward Looking Sonar Ice Draft Profile Data and Statistics</i> data set at NSIDC Description :: Data		N/A. The SCAMP instrument was not aboard this submarine.

What We Need from You

- Point scicex.org at NSIDC site
- Help fill in last spots in data table: CTD and Bathymetry are outstanding
- List of what experiments were done for 2011 SAM
- Documentation for new data: data description, processing steps, etc.
- Processed SCAMP data – is it possible to get this?



Thank You!

Florence Fetterer
fetterer@nsidc.org

Ann Windnagel
ann.windnagel@nsidc.org

