

SCICEX Data Stewardship: FY2012 Report

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<http://nsidc.org/scicex>

LONG-TERM GOALS

The Submarine Arctic Science Program, SCICEX, 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.

The SCICEX program seeks to acquire comprehensive data about Arctic sea ice, water properties, and bathymetry. This project's long term goal is to build a permanent data archive for new and old data collected as part of SCICEX, making the data usable by scientists now and preserving data for the future.

OBJECTIVES

Our objective is to support SCICEX in all aspects of data management including archiving, documenting, and making SCICEX data available to a wide scientific community. Programs of the size and complexity of SCICEX often need more in the way of support services, including outreach, a Web presence for the program, and development of higher-level products or tools. We provide these services as well.

For fiscal year 2012, specific objectives were to:

- Create a dedicated SCICEX Web presence where scientists and other users can go to obtain data and read about SCICEX meetings and reports. It is also a place to capture historical information and photographs about the SCICEX program.
- Continue to find, collect, organize, and to the extent possible provide complete documentation for existing SCICEX data. In particular, work to get all SCICEX bathymetric data archived and discoverable by working with NGDC and the SCICEX bathymetric scientists.
- Act as a liaison to find and provide homes for data collected under newly active SCICEX missions.

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APPROACH

To create the dedicated SCICEX Web site, Ann Windnagel used HTML and JavaScript to create the layout and effects on the site and used email and the internet as well as personal contacts through the Science Advisory Committee to research SCICEX history and find data.

To continue to find and collect data, no special technology was used other than email, internet, and phone.

WORK COMPLETED

During fiscal year 2012, the Web site task was fully completed and the collection of old and new SCICEX data was completed to the extent possible.

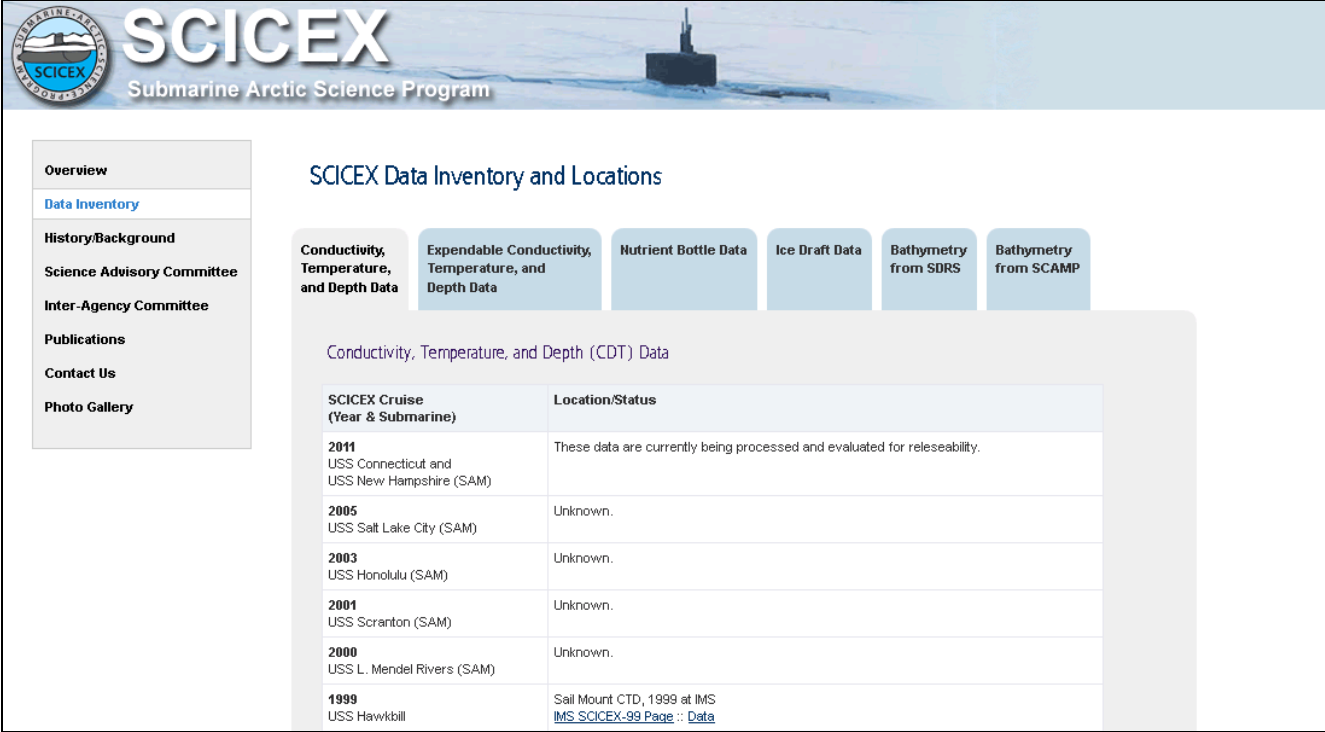
The SCICEX Web site task has been completed and delivered to the SCICEX community via the following URL: <http://nsidc.org/scicex>. A screen shot of the new SCICEX home page is shown in Figure 1.



Figure 1. SCICEX Home Page

The site is comprised of nine pages that include an overview page, with a brief history of the program and a listing of sponsors and awards; two pages devoted to the SCICEX Science Advisory Committee (SAC) and the Inter-agency Committee (IAC), with links to presentations and reports; and a data

inventory page (Figure 2), with links and locations of SCICEX data. Also included in the site is a detailed history and objectives page, a publications page with recent and past publications using SCICEX data, and a gallery of historic SCICEX photos. The original SCICEX URL (www.scicex.org) now points to the NSIDC network.



The screenshot shows the SCICEX website header with the logo and title "SCICEX Submarine Arctic Science Program". A left sidebar contains navigation links: Overview, Data Inventory (highlighted), History/Background, Science Advisory Committee, Inter-Agency Committee, Publications, Contact Us, and Photo Gallery. The main content area is titled "SCICEX Data Inventory and Locations" and features a table of data categories: Conductivity, Temperature, and Depth Data; Expendable Conductivity, Temperature, and Depth Data; Nutrient Bottle Data; Ice Draft Data; Bathymetry from SDRS; and Bathymetry from SCAMP. Below these is a section for "Conductivity, Temperature, and Depth (CTD) Data" containing a table with SCICEX Cruise information.

SCICEX Cruise (Year & Submarine)	Location/Status
2011 USS Connecticut and USS New Hampshire (SAM)	These data are currently being processed and evaluated for releasability.
2005 USS Salt Lake City (SAM)	Unknown.
2003 USS Honolulu (SAM)	Unknown.
2001 USS Scranton (SAM)	Unknown.
2000 USS L. Mendel Rivers (SAM)	Unknown.
1999 USS Hawkbill	Sail Mount CTD, 1999 at IMS IMS SCICEX-99 Page :: Data

Figure 2. SCICEX Data Inventory Table

Over FY12, we have maintained the SCICEX site by adding new presentations or reports from committee meetings and posting any relevant updates or news that the SCICEX community needs.

The task of finding the last 10 percent of the historic SCICEX data has been slower than first anticipated. Ann Windnagel has located a majority of it via email communications with principal investigators; but due to busy schedules, she has not yet received all of it. This is the case with remaining nutrient bottle data. We did acquire the raw SCAMP data from the principal investigator and then provided it to NGDC, however, the files are missing metadata with information on how to use or read them. Inquiries are out to the principal investigator to locate this metadata, but no progress has been made in locating them thus far. We continue to gently nudge these investigators through email and phone conversations, asking them to send in their data.

We have located and acquired XCTD data from 2000 and 2003. We have archived it at NSIDC and made it available from the SCICEX data inventory web page. We learned that the 2005 data is corrupted and unusable. This has been noted in the inventory table. We also learned that ULS data from 2001 and 2003 are of poor quality and cannot be released; that is now noted on the data inventory page. Efforts to find the remaining missing bathymetry data and CTD data from 2000, 2001, 2003, 2005 have proven unsuccessful. Those data, however, comprise a small amount of the total SCICEX data collection, so we feel successful in our endeavor to archive the majority of SCICEX data.

In an effort to make the data more discoverable, we have created a metadata record in the NSIDC data catalog. This makes the data searchable in our catalog but because our metadata is harvested by other metadata databases, it is also searchable in other catalogs as well. The URL for the catalog page is <http://nsidc.org/data/g02187.html>.

We anticipate acting as a liaison for new SCICEX data, and are ready and waiting for the most recent data to be processed and released by SCICEX scientists. Once we obtain the data, we will document it to the best of our ability and make it available to the public via the new SCICEX Web presence. This assumes that our project continues to be funded.

RESULTS

Since being released in December 2011, the new SCICEX site consistently averages approximately 100 visitors per month with a total of approximately 3400 visitors as of August 31, 2012. SCICEX data are much more easily discovered and acquired with the addition of this web presence. In addition, new SCICEX data have a home at NSIDC.

IMPACT/APPLICATIONS

Edwards and Coakley (2003) speak to the impact of SCICEX data: During the 1990s, SCICEX scientists were some of the first to notice marked changes in the Arctic Ocean such as thinning of the present-day arctic ice canopy and changes in water temperature. SCICEX data provide an extraordinary volume of ice draft measurements that constitutes one of the best mappings of the ice canopy in the central Arctic Basin and provide orders of magnitudes more depth soundings of the Arctic Basin than previously acquired. SCICEX is important because it adds a critical piece to the overall information needed to analyze sea ice and ocean dynamics in the Arctic.

By providing archive and access services for the SCICEX data collection, we help ensure that these data are preserved for use in analyses and models for years to come. We are also helping to increase interest in the program through the larger Web presence and by promoting SCICEX through NSIDC news posts.

Edwards, M.H. and B.J. Coakley. 2003. SCICEX Investigations of the Arctic Ocean System. *Chemie der Erde - Geochemistry* 63(4): 281-328.

RELATED PROJECTS

No related projects to note.