



NOTES

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The sail of the U.S. Navy submarine USS Hawkbill rises out of the Arctic sea ice cover during the 1999 SCICEX expedition. Credit: University of Alaska Fairbanks Institute of Marine Science

NSIDC Spearheads Data Rescue Efforts

NSIDC is leading efforts to rescue two important sea ice data collections from loss, and is helping steward the data to make it accessible to more researchers. The collections, highlighting satellite data from the 1960s and submarine data from the 1990s, focus on sea ice extent and conditions. Because the data collections had no official archival home, researchers ran the risk of losing not just the data, but also the tools to work with and understand them.

NSIDC will be rescuing and archiving data from the Nimbus satellites, which were launched in the 1960s by NASA to monitor global weather and meteorological data. The Nimbus data files had been archived at NASA and included data on sea ice, but processing capabilities in the 1960s were limited, so sea ice data were never analyzed.

NSIDC scientists were interested in finding data from satellites prior to 1978, which currently marks the beginning of the satellite record for sea ice extent data. Through a pilot grant by the Cooperative Institute for Research in Environmental Science (CIRES) at the University of Colorado at Boulder, NSIDC researchers analyzed the Nimbus satellites tapes and demonstrated that they could potentially extract sea ice information from the Nimbus data, extending the satellite record of sea ice extent to the 1960s. With funding from NASA, NSIDC researchers will be analyzing the satellites' 2,600 half-orbit records, develop processing algorithms, and create sea ice products from these data.

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Polar Information Commons Launched at IPY Oslo Conference in Norway

On 8 June 2010, NSIDC data scientists helped launch the Polar Information Commons (PIC), a resource for archiving and sharing data collected during the International Polar Year (IPY).

Launched at the IPY Oslo Science Conference, the PIC includes a data sharing tool developed by NSIDC. The tool simplifies the declaration of data for broad use, while asserting the Ethical Norms of Data Sharing developed by the polar science community.

For more information, see the NSIDC PIC Badge Web site (http://nsidc.org/libre/share/picbadge_tool.html).

For general information on the PIC, visit the Polar Information Commons Web site (<http://www.polarcommons.org>).



NSIDC data manager Mark Parsons (top, right) explains the Polar Information Commons to a group at the IPY Oslo Science Conference. Credit: Taco de Bruin

Data rescue, continued from page 1

Researchers at NSIDC will also be rescuing data from Science Ice Exercise (SCICEX) and helping make it accessible to more researchers. SCICEX is data from joint naval and civilian research missions, and has been scattered among several institutions. This has made it challenging for researchers to find the complete data collection. NOAA@NSIDC will ensure that the different SCICEX data types, including upward looking sonar (ULS) ice draft measurements, bathymetry, and ocean nutrient and chemistry data, can be discovered and cross-referenced among the various disciplines and data centers that will ultimately house them.

These data continue to hold vital information for researchers in climate, cryosphere, and marine sciences—but only if they can be found and used.

For more information on these two data rescue efforts, visit the NSIDC Monthly Highlights page (<http://nsidc.org/monthlyhighlights/>).

NSIDC at the International Polar Year Oslo Science Conference

Staff members from NSIDC attended the International Polar Year (IPY) Oslo Science Conference held in Oslo, Norway, 8 to 12 June 2010, to present recent research, discuss data management strategies, gather with international project collaborators, and to meet some of our user community from Europe.

More than two hundred people, including scientists and teachers, visited the NSIDC booth. The exhibit space was shared with other data management groups, namely the Polar Information Commons, the Committee on Data for Science and Technology (CODATA), IPY's International Program Office, Australian Antarctic Data Center, the United Nations Environment Programme (UNEP) Global Resource Information Database-Arendal (GRID-Arendal), and Canada's Polar Data Catalogue.

During the conference, NSIDC scientists and staff contributed to over twenty-five talks and posters on NSIDC activity during IPY. NSIDC program manager Mark Parsons also gave a plenary lecture ti-

led, "The State of Polar Data." Research conducted during IPY produced a large amount of data, and Parsons described how the IPY data management community plans to manage the data, discussed how a single portal for all IPY data is being developed, and gave recommendations to preserve and sustain data over the long term.

For more information about the meeting or to watch video Webcasts of the presentations, including Parsons' talk, see the Oslo Science Conference Web site (<http://ipy-osc.no>).



User services staff David Korn, Kara Gergeley, Molly McAllister, Lisa Booker, Betsy Sheffield, and Peter Gibbons provide timely and thorough data support. Credit: Jane Beitler

NSIDC at your Service

Did you know that the NSIDC User Services Office staff is available to assist you with your data needs? The office is staffed Monday through Friday from 9:00 a.m. through 5:00 p.m. U.S. Mountain time, excluding holidays.

If you have questions about one of our data products, or need help finding data appropriate for your research, please contact us. Results from annual American Customer Satisfaction Index (ACSI) surveys conducted by NASA show that NSIDC consistently holds a high ranking in customer service. We provide technical support for our data with friendly, timely, and professional service.

If NSIDC does not have the product you need, we can refer you to other data and information sources. The best way to reach us is by e-mail, via contact forms on the Web site, or by phone.

Our contact information is listed on page 5. Please let us know how we can support you!



User Services representative Betsy Sheffield greeted conference attendees visiting the NSIDC booth at the IPY Oslo Science Conference. Credit: Betsy Sheffield



IceBridge utilizes equipment on aircraft to collect data on ice sheets, such as this laser altimeter mounted on a Turbine Single Otter aircraft in Alaska. Credit: NASA Earth Science Project Office

IceBridge Releases First Data Products

Operation IceBridge is a six-year NASA field campaign to provide three-dimensional information about ice sheets, ice shelves, and sea ice in the Earth's polar regions. IceBridge is collecting data during the gap between the first Ice, Cloud, and land Elevation Satellite (ICESat) mission, which concluded in 2009, and the second ICESat mission, scheduled to launch in 2015.

NSIDC archives and distributes the data collected during the IceBridge mission, and is pleased to release its first data products:

- Airborne Topographic Mapper Level 2 ICESat
- Airborne Topographic Mapper Level 1B Qfit Elevation and Return Strength
- Airborne Topographic Mapper (ATM) Position/Avionics Level 1B Corrected ATM GPS Track and Inertial Navigation System Data
- Continuous Airborne Mapping by Optical Translator Level 1B Geolocated and Orthorectified Images
- Digital Mapping System Camera Level 1B Geolocated and Orthorectified Images
- Digital Mapping System Camera Level 0 Raw Imagery
- Laser Vegetation Imaging Sensor Level 2 Geolocated Ground Elevation and Return Energy Quartiles
- Multichannel Coherent Radar Depth Sounder Level 2 Picked Ice and Bed Surfaces and Ice Thickness
- Pathfinder Advanced Radar Ice Sounder Level 2 Ice Thickness
- Sander Air GRAV Level 1B Geolocated Anomalies
- Snow Radar Level 1B Geolocated Radar Echo Strength Profiles

The IceBridge mission also uses its airborne platforms to make additional geophysical measurements, including gravity mapping and radar sounding of ice and snow depth. These measurements will provide important information about the landforms hidden beneath ice sheets and glaciers, and changes in ice volume.

For more information about the IceBridge Project and to access the data, please visit the IceBridge Data Web page (<http://nsidc.org/data/icebridge/>).

Narwhal Tusk Research Web Site Released

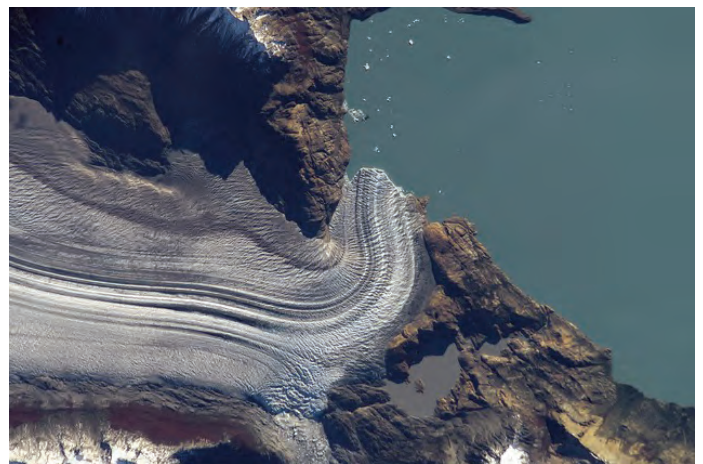
The Exchange for Local and Traditional Knowledge of the Arctic (ELOKA) project released a new Web site featuring research on the tusk of the narwhal, a whale found in Arctic waters. The purpose of the narwhal's tusk is a mystery that has long garnered much curiosity. A team of dental experts and other interdisciplinary scientists have partnered with various Arctic communities to answer this question.

The Baffin Bay Region Narwhal Research Web site provides information on narwhal tusk characteristics from traditional knowledge and science, as well as access to several interviews of Inuit hunters and elders. Currently, one interview is accompanied by a written English translation. More interviews and translations will be added in the future to the Narwhal Research Web site (<http://eloka-arctic.org/communities/narwhal/>).

500 New Photos Added to the NSIDC Glacier Photograph Collection

The NOAA@NSIDC team has added 500 glacier photographs to the NSIDC Glacier Photograph Collection. These photographs were taken by astronauts stationed on the International Space Station and the Space Shuttle Endeavor between 1994 and the beginning of 2010. The photos were collected in collaboration with the Gateway to Astronaut Photography of Earth project (<http://eol.jsc.nasa.gov/>).

To see the new photos, go to the Glacier Photograph Collection Search & Order Interface (http://nsidc.org/cgi-bin/glacier_photos/glacier_photo_search.pl) and select "Astronaut Glacier Photograph Collection" from the "Choose a Collection" drop down list.



This photograph of the Viedma Glacier taken from the International Space Station on 8 April 2002 is part of 500 photographs recently added to the NSIDC Glacier Collection. Viedma Glacier is located in Argentina. Its terminus is visible as it enters Lake Viedma on the right. Credit: NSIDC

ICESat/GLAS Release-31 Reprocessing Complete

All laser periods for the Geoscience Laser Altimeter System (GLAS) instrument aboard the NASA Ice, Cloud, and land Elevation Satellite (ICESat) have been reprocessed to the Release-31 level and are available for ordering. This includes three never-released laser periods: Laser 2D (2008-11-25 to 2008-12-17), Laser 2E (2009-03-09 to 2009-04-11), and Laser 2F (2009-09-30 to 2009-10-11).

This release includes several important changes to the processing code, including changes to the `rec_ndx` scale factor and the waveform Gaussian fitting solution matrix. There have also been changes to the atmospheric products delivered with each laser period. For the exact list, please refer to Table 1 on the Data Releases Web page (http://nsidc.org/data/icesat/data_releases.html).

Release-31 data should not be mixed with any other release for science analysis. There are DEM and geoid changes that manifest themselves in a number of ways, including in the troposphere corrections, where they caused some significant (centimeter level) differences in the computed elevations.

For more information about all of the Release-31 changes, see the ICESat/GLAS Data Releases Web page (http://nsidc.org/data/icesat/data_releases.html).

For more info about ICESat/GLAS data, including ordering options, see the ICESat/GLAS Data page (<http://nsidc.org/data/icesat/>).

New Data Sets from AGDC

The Antarctic Glaciological Data Center (AGDC) at NSIDC has released new data sets.

- *Laboratory Study of Stick-Slip Behavior and Deformation Mechanics of Subglacial Till* contains the results of laboratory experiments examining the constitutive properties of subglacial till, under dynamic stressing. To view this data set, see the product Web page (<http://nsidc.org/data/nsidc-0460.html>)
- *Ice Flow History of the Thwaites Glacier, West Antarctica* provides past flow lines of Thwaites Glacier, based on radar measurements. To access this data set, visit the product Web page (<http://nsidc.org/data/nsidc-0463.html>).
- *Ion Concentrations from SPRESSO Ice Core, Antarctica* contains ion measurements from co-registered samples from the South Pole Remote Earth Science and Seismological Observatory (SPRESSO) ice core. To access the data, visit the product Web page (<http://nsidc.org/data/nsidc-0471.html>).

For more information on Antarctic data from AGDC, see the AGDC Data Catalog Web page (<http://nsidc.org/agdc/data.html>).

Update to AMSR-E Level-3 Ocean Products

The three Advanced Microwave Scanning Radiometer-Earth Observing System (AMSR-E) Level-3 ocean products have been updated to Validated 4 (V04-Stage 1). The new V04 algorithm incorporates measures to further reduce Radio Frequency Interference (RFI), and the products now include an RFI angle grid as a parameter.

NSIDC encourages data users to always work with the latest data, indicated by the highest version number, available for a given date. More information regarding the updated algorithm is provided on the Data Versions for V002 Web page (http://nsidc.org/data/amsre/data_versions/version2.html#algorithm_l3_ocean).

For more information on the daily, weekly, and monthly AMSR-E/Aqua L3 Global Ascending/Descending .25x.25 deg Ocean Grids products, please see the AMSR-E/Aqua Data Summaries Web page (http://nsidc.org/data/amsre/data_summaries/).

AMSR-E Soil Moisture in Google Earth

NSIDC is pleased to announce that soil moisture data from *AMSR-E/Aqua Daily L3 Surface Soil Moisture, Interpretive Parameters, & QC EASE-Grids* are now available as .kml files for use in Earth browsers, such as Google Earth.

This time series shows changes in global soil moisture derived from both morning and evening satellite passes for the most recent 30, 60, and 90 days. The animations are updated daily and are available at our Virtual Globes Web page (http://nsidc.org/data/virtual_globes/index.html).

AMSR-E/Aqua Global Daily Gridded Brightness Temperatures Data Update

Both the *AMSR-E/Aqua Daily EASE-Grid Brightness Temperatures* and *AMSR-E/Aqua Daily Global Quarter-Degree Gridded Brightness Temperatures* data sets have been updated.

This quarterly update extends the time series of both data sets through 31 March 2010. This includes data in all three EASE-Grid projections (North, South, and Global) as well as global quarter-degree latitude-longitude gridded data.

Please see the data set Web pages for further information and data access:

- *AMSR-E/Aqua Daily EASE-Grid Brightness Temperatures* (<http://nsidc.org/data/nsidc-0301.html>)
- *AMSR-E/Aqua Daily Global Quarter-Degree Gridded Brightness Temperatures* (<http://nsidc.org/data/nsidc-0302.html>)

NSIDC TRIVIA

Last issue's question: What is the name of the frozen ground feature that was shown in the photograph accompanying the trivia question for Notes issue number 71, Spring 2010?

Answer: Patterned ground. For more on frozen ground landforms, see the All About Frozen Ground Web site (<http://nsidc.org/frozenground/>).

This issue's question: What is the name of the NASA field campaign that is collecting data on ice sheets, ice shelves, and sea ice until the next satellite mission begins in 2015? The answer can be found in this issue of NSIDC Notes.

PERSONNEL

Arrivals

Jeff Braucher	Systems Administrator
Mark Furaus	Database Administrator
Timy Gonzalez	Technical Writer
Jess Lacy	Application/Services Programmer
Heidi McCann	ELOKA Knowledge Exchange Coordinator
Stuart Reed	Software Developer
Dr. Zhi Wen	Visiting Scientist
Dan Young	Database Administrator

Position Changes

Lisa Booker	User Services Office Lead
Peter Gibbons	User Services Representative
Donna Scott	Passive Microwave Product Team Lead

CITING NSIDC DATA

Please acknowledge NSIDC as the source when you obtain data from us. Refer to the data set documentation for suggested forms of acknowledgement and citation, or contact User Services for more information.

NSIDC also requests one reprint or the exact reference of any publication that was supported by data received from NSIDC. We also greatly appreciate reprints of any publication related to snow and ice research, for inclusion in our Roger G. Barry Resource Office for Cryospheric Studies collection.

If you have published data that you wish to archive and make available to the scientific community, please contact User Services to discuss the content, form, and size of the data set. A list of guidelines for submitting data in electronic format is available.

SUBSCRIPTION, SUBMISSION & CONTACT INFORMATION

For information about any of the products or services offered by NSIDC, or to subscribe to NSIDC Notes, please contact User Services.

NSIDC welcomes the submission of short items from our readers that are of interest to the cryospheric community. Please use the following address to submit news items, publication notes, research notices, or brief articles for publication in NSIDC Notes.

View back issues on the NSIDC Web site (<http://nsidc.org/pubs/notes/>).

NSIDC User Services
National Snow and Ice Data Center
CIRES, 449 UCB
University of Colorado
Boulder, CO 80309-0449

Phone: +1 303.492.6199
Fax: +1 303.492.2468
E-mail: nsidc@nsidc.org
<http://nsidc.org>

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