



# NOTES

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## PRODUCTS & SERVICES

### AMSR-E Product Updates

The AMSR-E 89 GHz A-horn developed a problem on 04 November 2004. Data from this horn are no longer valid. The AMSR-E algorithm developers made the following changes to accommodate this data loss:

Starting 04 November, a revised (B02) Level-2A processing algorithm was implemented that uses only 89 GHz B-horn data.

The Level-2B and Level-3 rain products were not produced from 04 November 2004 to 21 January 2005, while the algorithm developers modified the rainfall algorithm and produced new versions (B04) of both products. The new Level-3 monthly rain product will become available in mid-February 2005.

The Level-3 snow and sea ice processing algorithms were not revised after the 89 GHz A-horn failure, because the Level-2A input to these algorithms was modified to use only B-horn data.

The Level-2B and Level-3 soil moisture and ocean products were not affected by the loss of 89 GHz A-horn data.

On 01 January 2005, the Level-2A algorithm developers released data with an updated algorithm (B03) that improves calibration and produces brightness temperature data more quickly.

Please visit <http://nsidc.org/data/amsre/versions.html> for further details of algorithm updates for AMSR-E products.

### AMSR-E Swath-to-Grid Toolkit (AS2GT) Update

NSIDC is pleased to announce a new version of the AMSR-E Swath-to-Grid Toolkit (AS2GT), which is incorporated into the 0.3 version of the Passive Microwave Swath Data Tools (PMSDT) software. This update is required for use with the new B04 algorithm files of the "AMSR-E/Aqua L2A Global Swath Spatially-Resampled Brightness Temperatures (Tb)" data set that have been distributed as of 01 March 2005. It will still function with previous versions (B03 and earlier) of the AMSR-E Level-2A data set.

The main AMSR-E Swath-to-Grid Toolkit web page is available at <http://nsidc.org/data/tools/pmsdt/as2gt.html>.

For access to the PMSDT software and for information about the changes made to this Toolkit, please review the "Release Notes" at <ftp://sidads.colorado.edu/pub/tools/pmsdt/>.

### ICESat/GLAS Product Updates

Release-19 data from GLAS laser 2A are now available for all ICESat/GLAS products distributed by NSIDC. Data span 25 September to 18 November 2003. Release-19 offers improved sea ice roughness calculations in GLA13, corrected energy computation, improved aerosol and cloud discrimination and layer detection, and many other product enhancements.

A new version of the GLAS Visualizer is available with improved features and plotting capabilities at <http://nsidc.org/data/icesat/tools.html>. The most anticipated new feature is that users without Interactive Data Language (IDL) can run the Visualizer with the free "IDL Virtual Machine," available from Research Systems, Inc. at <http://www.rsinc.com/download/>.

### TOVS Product Updates

NSIDC is now distributing Southern Hemisphere data from the TIROS-N Operational Vertical Sounder (TOVS) Pathfinder Path-P Daily Arctic Gridded Atmospheric Parameters product. The time series has also been extended through December 2001 for both hemispheres. This product provides atmospheric observations poleward of 60 degrees latitude at 100 km gridded resolution. Please visit <http://nsidc.org/data/nsidc-0027.html> for more information.

### Sea Ice Concentrations from Nimbus-7 SMMR and DMSP SSM/I Passive Microwave Data

Daily and monthly averaged sea ice concentrations were updated through December 2003. Users can now order the entire time series by FTP. Visit <http://nsidc.org/data/nsidc-0051.html> for documentation and access to data.

### GIS Data and Resources at NSIDC

NSIDC is iteratively developing a repository of Geographic Information Systems (GIS)-compatible snow, ice, and frozen ground data for research and planning. We welcome feedback from existing and potential users. Please fill out our feedback form at [http://nsidc.org/forms/gis\\_feedback.html](http://nsidc.org/forms/gis_feedback.html) to tell us what type of GIS data would be helpful in your research, which geographic regions you are interested in, and how we can improve this site.

### IFSAR Imagery and Related GIS Data for Barrow, Alaska, USA

The ARCSS Data Coordination Center (ADCC) announces the release of a new data set, *IFSAR Imagery and Related GIS Data for Barrow, Alaska, USA*. This suite of products contains Interferometric Synthetic Aperture Radar (IFSAR) imagery and terrain models, and related Geographic Information Systems (GIS) layers to support multidisciplinary research of environmental changes in the Barrow, Alaska area. Two versions of the data are available. High-resolution data on five DVDs are available to National Science Foundation (NSF)-funded investigators. Reduced-resolution data are available to the general public and are distributed by FTP or on one CD-ROM. For more information and to order data, please see <http://nsidc.org/data/barrow/>.

### Glacier Mass Balance and Regime Measurements and Analysis, 1945-2003

This GLIMS data set has been updated to include annual mass balances, ablation, accumulation, and equilibrium-line altitude of mountain and sub-polar glaciers outside the two major ice sheets. Please visit <http://nsidc.org/data/g10002.html> for more information.

### NASA DAAC Annual Celebrates 10 Years

The National Snow and Ice Data Center has produced the 10th Anniversary edition of the NASA Distributed Active Archive Center (DAAC) Annual publication entitled *Supporting Earth Observing Science 2004*. This multidisciplinary volume, which highlights new uses of data from NASA's Earth Observing System, is available in PDF format (2.4 MB) at [http://nasadaacs.eos.nasa.gov/pdf/annual\\_2004.pdf](http://nasadaacs.eos.nasa.gov/pdf/annual_2004.pdf), or you can order it in print by contacting NSIDC User Services at [nsidc@nsidc.org](mailto:nsidc@nsidc.org).

### NSIDC At Your Service

Did you know that NSIDC's User Services Office staff is available to assist you with your data needs? The office is staffed Monday through Friday from 9:00 AM through 5:00 PM Mountain time, excluding U.S. holidays. We are accessible by e-mail, the Internet, phone, fax, and postal mail. Please see our contact information on page four. If you have questions about one of our data products, or need help finding data appropriate for your research, please contact us. We provide technical support for our data with friendly, timely service. Additionally, we can refer you to other data sources if NSIDC does not have the product you need. Let us know how we can help you!

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## NEW PRODUCTS

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**Scatterometer Data at NSIDC:** The NASA-funded Scatterometer Climate Record Pathfinder (SCP) has been generating a comprehensive suite of processed imagery to support climate studies over the polar and terrestrial regions. NSIDC is collaborating with Brigham Young University (BYU) and the Physical Oceanography DAAC (PO.DAAC) to develop integrated active/passive microwave sensor products. This new web site provides links to BYU's and PO.DAAC's scatterometry products. Visit <http://nsidc.org/data/scatterometry/> for more information.

**Radiocarbon Dates and Pollen Data, Peterson Erosional Remnant, Arctic Coastal Plain, Alaska:** This data set consists of pollen data and radiocarbon ( $^{14}\text{C}$ ) dates resulting from microscopic analysis and

mass spectrometry of soil cores taken from the Peterson Erosional Remnant, located on the Arctic Coastal Plain near Barrow, Alaska. For more information, visit <http://nsidc.org/data/arcss136.html>.

**Margin Migration Rates and Dynamics: Siple Coast Ice Stream:** This Antarctic Glaciological Data Center (AGDC) product includes ice velocity data between stations S17 and UpB on the Upper Whillans Ice Stream, Siple Coast, West Antarctica, from January 1994 to January 1995. Visit <http://nsidc.org/data/nsidc-0263.html> for more information.

**Global Snow-Water-Equivalent Depth Coefficient-of-Variation Classification:** This data set provides global winter snow cover variability data using nine categories on a 2.5 arc-minute grid. Visit <http://nsidc.org/data/arcss138.html> for more information.

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## NSIDC NEWS

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### Personnel

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## Report on the “Workshop on EOS Snow and Ice Products”

The first EOS Snow and Ice Products Workshop convened on 16 November 2004. The specific goals of the workshop were to provide current and prospective users of EOS snow and ice products with updated information on the products, their validation status, and future enhancements. Other goals were to help users work with the data products through hands-on demonstrations, and to facilitate the integration of EOS products into models.

Oral and poster sessions represented a wide variety of snow and ice topics. Three panels convened to discuss workshop themes. Panel discussions focused on data fusion and assimilation of the products into models. Approximately 110 people attended, representing a wide array of interests and organizations in the cryospheric community.

### Presentations and Demonstrations

The workshop highlighted data products from the Moderate-Resolution Imaging Spectroradiometer (MODIS), Advanced Space-borne Thermal Emission and Reflection radiometer (ASTER), Multi-angle Imaging Spectro-Radiometer (MISR), Advanced Microwave Scanning Radiometer – EOS (AMSR-E), Clouds and the Earth’s Radiant Energy System (CERES), the Enhanced Thematic Mapper Plus (ETM+), and the Geoscience Laser Altimeter System (GLAS).

A keynote address by Waleed Abdalati highlighted the important tools such as aircraft and satellite lasers that NASA now has available to study ice sheet elevation changes in Greenland and Antarctica. Other presentations focused on details of product characteristics and usage, and ways to best utilize the capabilities of the EOS product suite.

Representatives from the NSIDC and Goddard DAACs provided hands-on demonstrations to answer users’ questions and to instruct prospective users about product details and ordering methods. Demonstrations of new data analysis tools showed users the broad utility of the products.

### Panel Discussions

Discussions resulted from three panels and from oral presentations. Robert Dickinson of the Georgia Institute of Technology chaired a modeling panel, David Robinson of Rutgers University chaired a data fusion panel, and

Michael Van Woert of the NOAA/National Ice Center chaired a sea ice panel. Discussions highlighted concerns about differing requirements of operational monitoring and modeling organizations, compared to those of the scientific research community. A common concern was the need for timely, quality data products that could be used alone or blended with other products to help achieve the operational or research goals of the user.

During the modeling panel, participants discussed one of the biggest issues in global climate models (GCMs), which is that many subgrid scale processes are averaged in GCM grid cells when they should not be. Models also need to improve their parameterization of snow albedo, including analyzing the effect of desert dust on the albedo of snow. EOS products have enabled improvements in data-assimilation models since early 2000.

### Workshop Recommendations

Significant recommendations emerged from the workshop concerning validation, the importance of estimating errors, and creating Climate Data Records (CDRs). Optimally, validation should be conducted (and funding provided) when data-product proposals are awarded by NASA. While there is a tradeoff between science and validation in terms of funding, validation should be an integral part of algorithm and product development, and validation activities should be a component of product monitoring. Including error estimates associated with a product’s derived geophysical parameters is necessary to evaluate the product, especially those used to construct CDRs. Scientific stewardship should be applied in constructing and maintaining CDRs so that they possess the consistent quality necessary for the study of change in a geophysical component. Some EOS products are expected to be used in the creation of CDRs.

An agenda and presentations from the workshop are available at [http://nsidc.org/events/eos\\_workshop04/](http://nsidc.org/events/eos_workshop04/).

### Acknowledgments

The workshop was sponsored jointly by NASA/Goddard Space Flight Center in Greenbelt, Maryland, and NSIDC. Meeting support for the workshop was provided by Raytheon in Upper Marlboro, Maryland, the Cryospheric Processes Program at NASA Headquarters, and the MODIS Project at NASA/GSFC.

This article was modified from “Earth Observing System (EOS) Snow and Ice Products for Observation and Modeling,” by Dorothy K. Hall.

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## CITING NSIDC DATA

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So that we may broaden awareness of our services, NSIDC requests that you acknowledge use of our data.

Please refer to the data set documentation for suggested forms of acknowledgement and citation, or contact User Services for further 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 the World Data Center Information Center 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.

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## SUBSCRIPTION, SUBMISSION & CONTACT INFORMATION

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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.

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