

**Notice to Data Users:**  
**The documentation for this data set was provided solely by the Principal Investigator(s) and was not further developed, thoroughly reviewed, or edited by NSIDC. Thus, support for this data set may be limited.**

## AMSRice03 Photomosaics

### Summary

This data set contains photographic mosaics of sea ice in the Barrow, Alaska USA area as part of the joint in situ and aircraft AMSRice03. Photographs were taken from a Cessna 185 aircraft on 07 March 2003 and on 11 March 2003 using a Nikon digital camera. Data are provided in four Adobe Photoshop files (.psd), and four corresponding Joint Photographic Experts Group (JPEG) files (.jpg) converted from the Photoshop files. The total volume of the Photoshop set of files is approximately 133 MB and the total volume of the JPEG set of files is approximately 5 MB. All files are available via FTP.

These data were collected as part of a validation study for the Advanced Microwave Scanning Radiometer - Earth Observing System (AMSR-E). AMSR-E is a mission instrument launched aboard NASA's Aqua Satellite on 04 May 2002.

### Citing These Data:

The following example shows how to cite the use of this data set in a publication. List the principal investigators, year of data set release, data set title, publisher: NSIDC, and digital media.

Sturm, M., and Julienne Stroeve. 2009. *AMSRice03 Photomosaics*. Boulder, Colorado USA: National Snow and Ice Data Center. Digital media.

### Overview Table

<b>Category</b>	<b>Description</b>
<u>Data format</u>	Photoshop document (.psd) files, with JPEG files converted from the Photoshop files.
<u>Spatial coverage</u>	71.18 N to 71.28 N, 156.15 W to 156.40 W
<u>Temporal coverage</u>	07 March 2003 and 11 March 2003
<u>File naming convention</u>	CHUKCH~1-2.psd CHUKCH~1-2.jpg

<u>File size</u>	133 MB (.psd) 5 MB (.jpg)
<u>Parameter(s)</u>	Sea ice cover photographs, ice roughness, snow cover
<u>Procedures for obtaining data</u>	Data are available via FTP.

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## **1. Contacts and Acknowledgments:**

### **Investigator(s) Name and Title:**

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### **Acknowledgements:**

We thank the Barrow Arctic Science Consortium for providing logistics for the field campaign. Special thanks to Glenn Sheehan and Richard Glenn. Warren Matumeak provided field advice from his long experience on the sea ice. Tom Douglas, William Simpson and others enthusiastically participated in the field work. Don Cavalieri

provided encouragement and support for the entire concept of an in-depth field campaign.

## **2. Data Description:**

### **Format:**

Four Adobe Photoshop document files (.psd)  
Four JPEG (.jpg) image files

### **File Naming Convention:**

CHUKCH~1-2.psd  
CHUKCH~3-1.psd  
ElsonMosaicSmall-1.psd  
ELSONC~1-1.psd

CHUKCH~1-2.jpg  
CHUKCH~3-1.jpg  
ElsonMosaicSmall-1.jpg  
ELSONC~1-1.jpg

### **File Size:**

The four Adobe Photoshop files range in size from 4.6 MB to 53 MB totaling about 133 MB

The JPEG files range in size from 181 KB to 1.7 MB totaling about 5 MB

### **Spatial Coverage:**

Southernmost Latitude: 71.18 N  
Northernmost Latitude: 71.28 N  
Westernmost Longitude: 156.40 W  
Easternmost Longitude: 156.15 W

Spatial coverage is generalized to the above latitudes and longitudes spanning the full extent of the Barrow, Alaska, USA region of the AMSRIce03 study area. The photomosaics were derived from photographs of flight path swaths bracketing field study transect lines.

### **Temporal Coverage:**

Photographs were taken 07 March 2003 and 11 March 2003.

### **Parameter or Variable:**

This data set contains photograph mosaics from photographs of sea ice taken from a Cessna 183 aircraft using a Nikon digital camera.

### **3. Data Access and Tools:**

#### **Data Access:**

Data are available via FTP at:

[ftp://sidacs.colorado.edu/pub/DATASETS/AVDM/data/cryosphere/AMSRice03/ground\\_data/snowpits/](ftp://sidacs.colorado.edu/pub/DATASETS/AVDM/data/cryosphere/AMSRice03/ground_data/snowpits/)

#### **Software and Tools:**

The Photoshop photomosaic files can be displayed using the Adobe Photoshop software.

The JPEG photomosaic files can be displayed with any image editor software capable of reading JPEG files as large as about 1.8 megabytes.

#### **Related Data Collections:**

For related data collections, please see the AMSR-E Validation Data Web site:  
[http://nsidc.org/data/amr\\_validation/](http://nsidc.org/data/amr_validation/)

### **4. Data Acquisition and Processing:**

Vertical aerial photographs bracketing the AMSRice03 Barrow study area transect lines were taken from a Cessna 185 aircraft using a Nikon digital camera. The aircraft flew at 1200 meters, producing images with a ground resolution of about 0.7 meters.

Particularly during the March 7 flight, the lighting conditions were superb (low angle direct sun) producing photos with unusually fine detail that highlighted the surface roughness. Uncontrolled (i.e., we did not create a network of survey points within the coverage area) photomosaics were prepared from these photographs using Panavue software (<http://www.panavue.com/index.htm>). Photos were not available for the Navy Ice Camp region of the AMSRice03 study area (Sturm, et al. 2006).

The Aerial photomosaics could be used to identify un-deformed and deformed areas, and thus could also be used to make general predictions of ice thickness and snow depth.

## **5. References and Related Publications:**

Sturm, Matthew, James Maslanik, Don Perovich, Julienne Stroeve, Jackie Richter-Menge, Thorsten Markus, Jon Holmgren, John Heinrichs, and Ken Tape. 2006. Snow Depth and Ice Thickness Measurements from the Beaufort and Chukchi Seas Collected During the AMSR-Ice03 Campaign. *IEEE Transactions on Geoscience and Remote Sensing - Part 1*, 44(11): 3009-3020, doi:10.1109/TGRS.2006.878236.

Refer to the AMSRIce03 Web site for in-depth information on the science mission and goal of the AMSRIce03 project:  
<http://polarbear.colorado.edu/AMSRICE/AMSRIce03.html>.

## **6. Document Information:**

### **List of Acronyms**

The following acronyms are used in this document:

AMSR-E – Advanced Microwave Scanning Radiometer – Earth Observing System  
CCREL – Cold Regions Research and Engineering Laboratory  
CIRES – Cooperative Institute for Research in Environmental Sciences  
FTP – File transfer protocol  
NASA – National Aeronautics and Space Administration  
NSIDC – National Snow and Ice Data Center

### **Document Creation Date:**

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