National Snow and Ice Data Center

Supporting Cryospheric Research Since 1976

NSIDC DAAC

NASDA's Advanced Microwave Scanning Radiometer for the Earth Observing System, flying on NASA's Aqua spacecraft
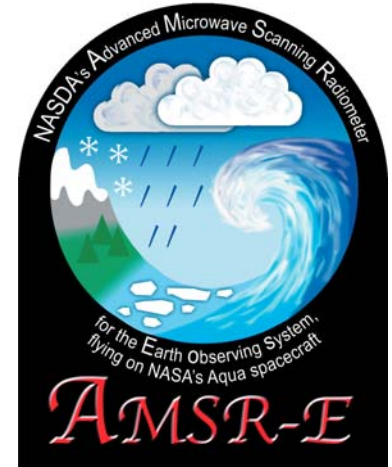
AMSR-E

Status of AMSR-E at NSIDC

Amanda Leon

NSIDC Product Team Lead, AMSR-E

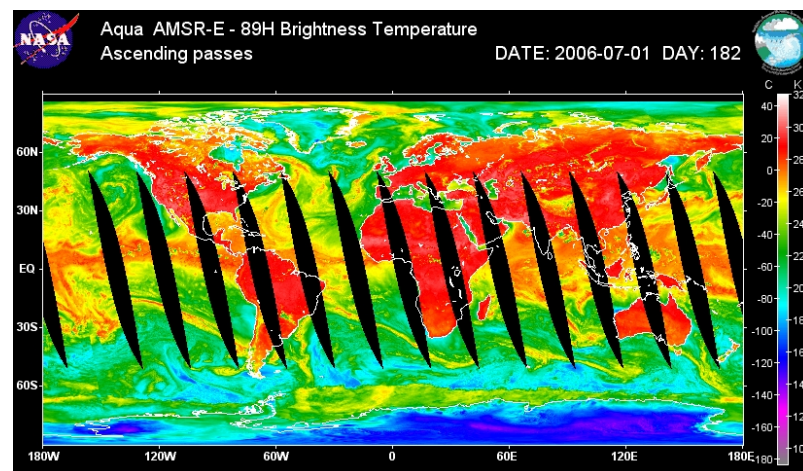*Joint AMSR-E Science Team Meeting*

*La Jolla, CA*

6-8 September 2006

Outline

- Archive and Distribution Status

- Ordering AMSR-E Data

- AMSR-E Documentation

- Tools for AMSR-E Data

- Distribution Statistics

- AMSR-E Activities at NSIDC

Joint AMSR-E Science Team Meeting
Amanda Leon, NSIDC DAAC   6-8 September 2006

Archive and Distribution Status

- ## NSIDC archives and distributes:
  - L1A Raw Observation Counts

  - L2A TBs & Browse

  - L2B and L3 Products & Browse:
    - o Rain
    - o Ocean
    - o Land
    - o Snow
    - o Sea Ice
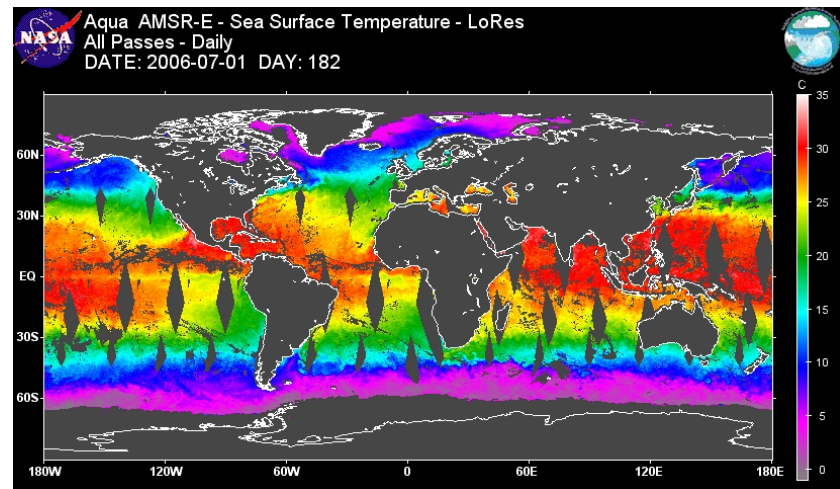
Archive and Distribution Status: Data Versions

AMSR-E Versions Page: http://nsidc.org/data/amsre/versions.html

- ## L1A data Version 2
  - Began on 1 March 2005
  - Completed ingest of reprocessed Version 2 L1A in April 2006

- ## Level 2A data Version 2
  - Began on 1 August 2006

- ## Level 2B & 3 data Version 1
  - Various algorithm versions within Version 1

Documentation

AMSR-E Documentation: http://nsidc.org/data/amsre/order.html

- Provide product guide documents for the AMSR-E L1A, L2, and L3 products
  - data format
  - spatial & temporal coverage & resolution
  - parameter descriptions
  - data acquisition & processing
  - quality assessment & error sources
  - software & tools for reading data

- Documents are updated with each algorithm change

Documentation

AMSR-E Research: http://nsidc.org/data/amsre/research.html

- ## Extensive additions were made to the AMSR-E bibliography
  - Citations will be updated annually

  - Please email any additions or corrections
    Amanda.Leon@nsidc.org or nsidc@nsidc.org

  - Action item from 2005 JSTM to use published papers on algorithm development as supplements to the ATBD

Ordering AMSR-E Data

> AMSR-E Order Data Page: http://nsidc.org/data/amsre/order.html

- **EOS Data Gateway (EDG):** Search and order client for the entire AMSR-E archive.
  - Provides spatial and parameter subsetting
  - http://nsidc.org/~imswww/pub/imswelcome/index.html

- **Data Pool:** On-line access to the most recent 75 days of AMSR-E data. Will soon hold entire archive of select products.
  - Provides HDF-EOS to GeoTiff (HEG) - reformat, reproject, subset
  - http://nsidc.org/data/data_pool/

- **Search 'N Order Interface (SNOWI):** Developed in-house as a simpler alternative to the EDG.
  - http://nsidc.org/data/snowi/

Ordering AMSR-E Data

- **Subscriptions:** Data are automatically provided to the user at the time they are ingested at NSIDC.

  - http://nsidc.org/daac/subscriptions.html

- **Warehouse Inventory Search Tool (WIST) Beta:** Search and order utility for the EOS ClearingHouse (ECHO).

  - Planned replacement for the EDG
  - Currently weekly and monthly AMSR-E product are available
  - http://delenn.gsfc.nasa.gov/~wist/wist/imswelcome/

- **Preliminary (NRT) Data:** Most recent eight days of L2 & L3 data provided on a non-ECS FTP server.

  - Registration is required
  - http://nsidc.org/data/amsre/prelim.html

Tools for AMSR-E Data

AMSR-E Tools Page: http://nsidc.org/data/amsre/tools.html

- **AMSR-E Swath-to-Grid Toolkit (AS2GT)**
  - Subset and grid Level 1-B and Level-2A AMSR-E swath data
  - Process data into custom grids with any temporal or spatial resolution
  - Recently updated to also work on subsetted L2A data
  - Tested on V08 L2A data
  - http://nsidc.org/data/tools/pmsdt/as2gt.html

Tools for AMSR-E Data

- **HDF-EOS Web-based (HEW) Subsetter**
  - Spatially subset L2 and L3 products (excluding L2B Land) via EDG orders

- **HDF-EOS to GeoTiff (HEG)**
  - Geolocate, subset, stitch, and regrid some AMSR-E products
  - Available with Data Pool orders and as a stand-alone tool

- **Hierarchical Data Format - Earth Observing System (HDF-EOS)**
  - Tools are provided to convert from HDF-EOS to binary and to dump HDF metadata into ASCII text
  - http://nsidc.org/data/hdfeos/

AMSR-E Distribution Statistics

Distribution from the ECS Archive (not including Data Pool)
18 June 2002 – 29 August 2006

| Data Type	# Requests
AE_5DSNO.001	167
AE_DYOCN.001	153
AE_DYSNO.001	5289
AE_L2A.001	**116492**
AE_L2A.002	602
AE_LAND.001	10002
AE_LAND3.001	**16023**
AE_MOOCN.001	19
AE_MOSNO.001	98
AE_OCEAN.001	12347
AE_PMSCI.001	1994
AE_RAIN.001	**19708**
AE_RNGD.001	60
AE_SI12.001	7188
AE_SI25.001	5567
AE_SI6.001	4144
AE_WKOCN.001	14
AMSREL1A.001	433
AMSREL1A.002	19
Total	**200,319**

Data Type	# Granules
AE_5DSNO.001	2276
AE_DYOCN.001	2552
AE_DYSNO.001	18319
AE_L2A.001	**514850**
AE_L2A.002	1105
AE_LAND.001	**114970**
AE_LAND3.001	71702
AE_MOOCN.001	264
AE_MOSNO.001	965
AE_OCEAN.001	41281
AE_PMSCI.001	2139
AE_RAIN.001	**223658**
AE_RNGD.001	654
AE_SI12.001	32383
AE_SI25.001	18461
AE_SI6.001	14249
AE_WKOCN.001	527
AMSREL1A.001	4142
AMSREL1A.002	1060
Total	**1,065,557**

Data Type	Volume (GB)
AE_5DSNO.001	4.695
AE_DYOCN.001	30.557
AE_DYSNO.001	37.979
AE_L2A.001	**40541.200**
AE_L2A.002	89.749
AE_LAND.001	84.686
AE_LAND3.001	**4440.723**
AE_MOOCN.001	3.163
AE_MOSNO.001	1.990
AE_OCEAN.001	407.579
AE_PMSCI.001	170.426
AE_RAIN.001	**2719.078**
AE_RNGD.001	0.063
AE_SI12.001	1859.930
AE_SI25.001	396.957
AE_SI6.001	631.226
AE_WKOCN.001	6.320
AMSREL1A.001	155.925
AMSREL1A.002	39.900
Total	**51,622.146**

AMSR-E Distribution Statistics

Distribution Requests for 2004-2006

Joint AMSR-E Science Team Meeting
Amanda Leon, NSIDC DAAC   6-8 September 2006
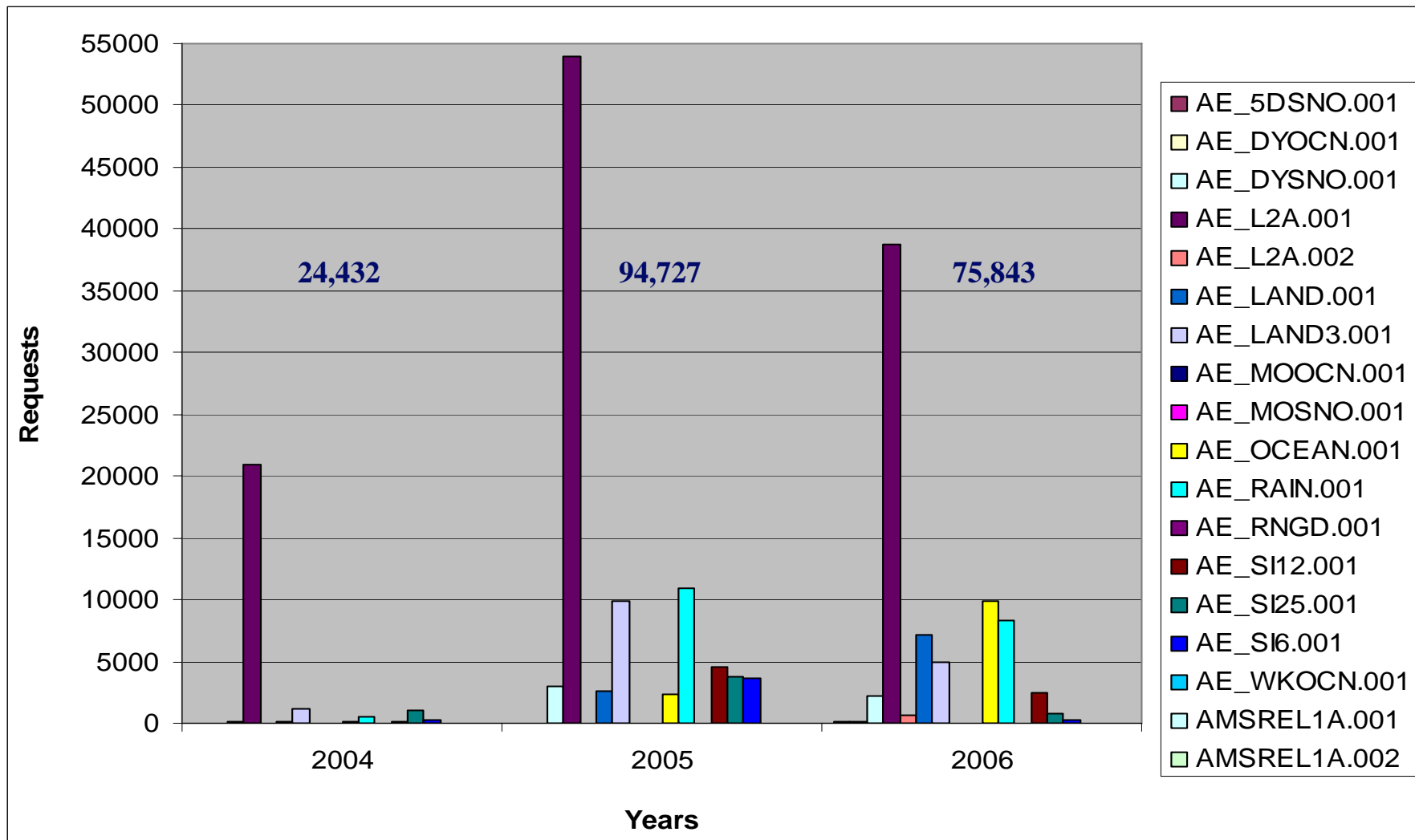
AMSR-E Distribution Statistics

Distribution Volumes for 2004-2006
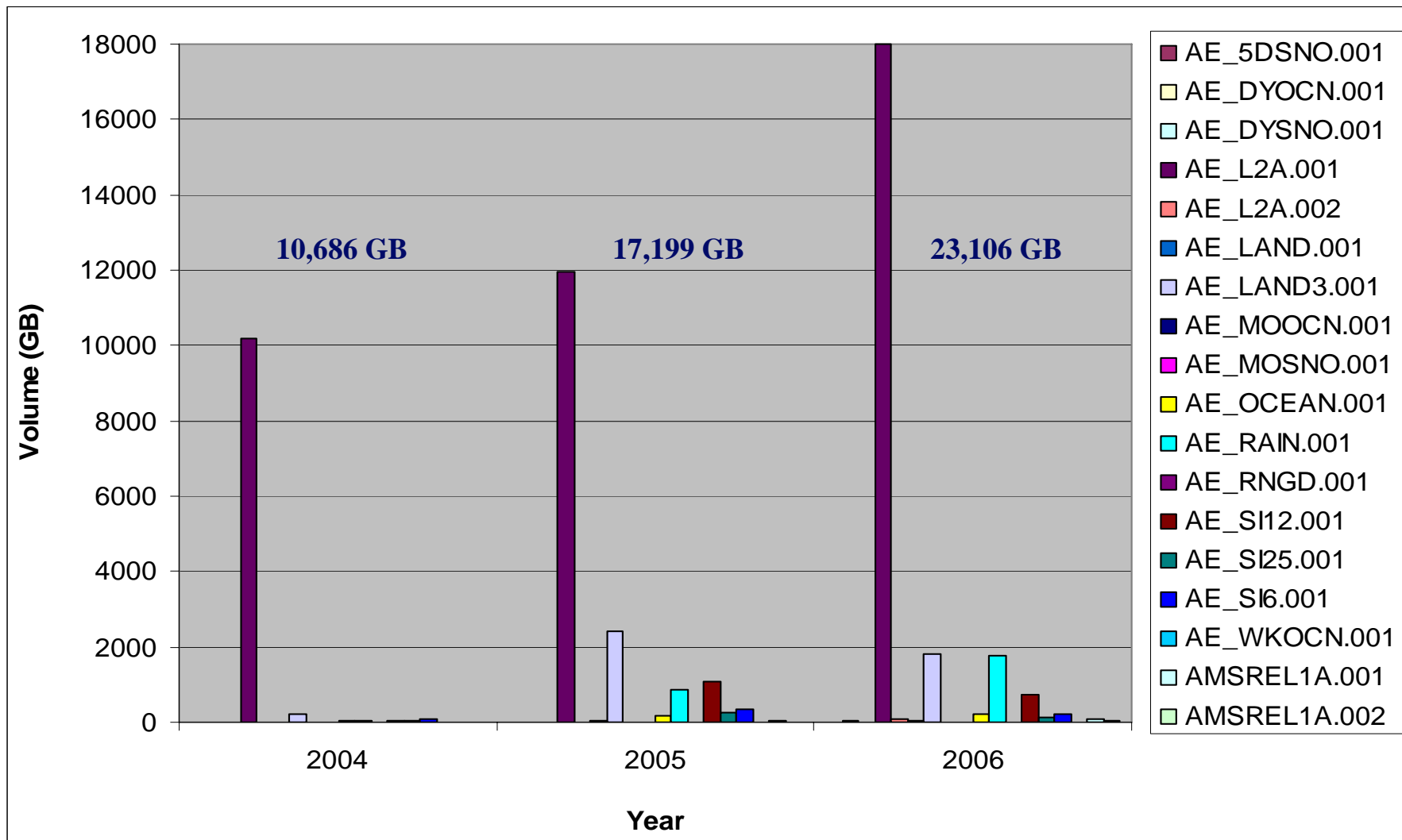
AMSR-E Distribution Statistics

Distribution from the Data Pool
18 June 2002 – 29 August 2006

Data Type	# Files
AE_5DSNO	618
AE_DYOCN	344
AE_DYSNO	1850
AE_L2A	131607
AE_LAND	17978
AE_LAND3	8328
AE_MOOCN	30
AE_MOSNO	167
AE_OCEAN	16815
AE_RAIN	3260
AE_RNGD	62
AE_SI12	5380
AE_SI25	702
AE_SI6	4316
AE_WKOCN	120
AMSREL1A	124033
Total	315,610

Data Type	Volume (GB)
AE_5DSNO	0.79
AE_DYOCN	1.98
AE_DYSNO	1.93
AE_L2A	5495.68
AE_LAND	6.03
AE_LAND3	256.45
AE_MOOCN	0.23
AE_MOSNO	0.19
AE_OCEAN	139.88
AE_RAIN	30.10
AE_RNGD	0.00
AE_SI12	158.52
AE_SI25	8.56
AE_SI6	98.69
AE_WKOCN	0.52
AMSREL1A	2285.07
Total	8,484.60

| File Type	# Files
METADATA	87228
SCIENCE	228382
Total	315,610

NSIDC

NSIDC DAAC

AMSR-E Distribution Statistics

Distinct Users and Requests for Information/Data
18 June 2002 – 29 August 2006

Data Type	Users	Requests
AE_5DSNO	41	83
AE_DYOCN	32	48
AE_DYSNO	69	243
AE_L2A	306	5963
AE_LAND	95	290
AE_LAND3	179	1051
AE_MOOCN	16	21
AE_MOSNO	31	55
AE_OCEAN	56	206
AE_RAIN	93	642
AE_RNGD	34	45
AE_SI12	92	402
AE_SI25	68	183
AE_SI6	50	183
AE_WKOCN	6	13
AMSREL1A	55	100
Total	**721**	**9276**

User Type	Users
FOREIGN COMMERCIAL	14
FOREIGN GOVERNMENT	56
FOREIGN OTHER	205
FOREIGN UNIVERSITY	134
NASA	50
NOAA	10
UNIVERSITY	1
US COMMERCIAL	19
US FEDERAL GOVERNMENT	16
US GENERAL PUBLIC	7
US GOVERNMENT	1
US OTHER	21
US STATE/LOCAL GOVERMENT	10
US UNIVERSITY	174
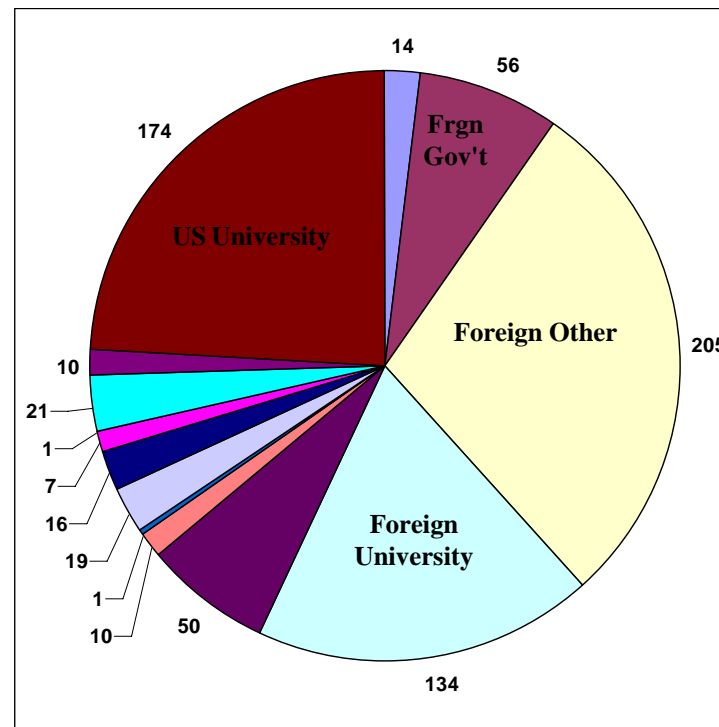
56.96 % - Foreign Users

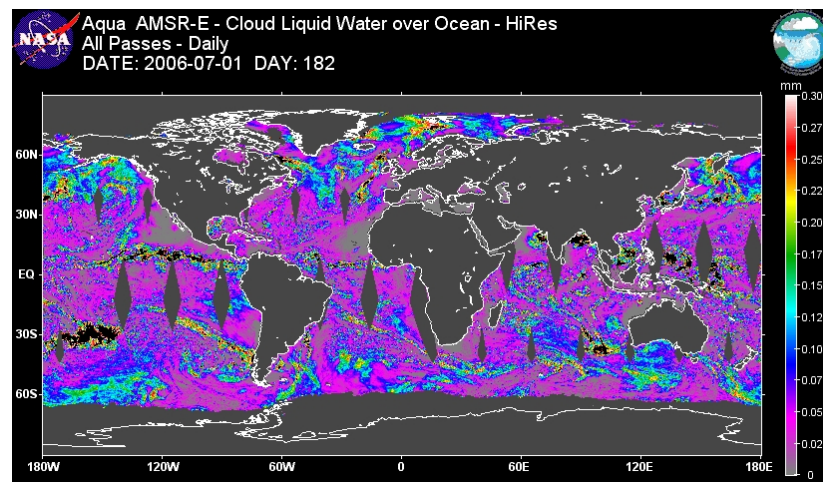43.04 % - U.S. Users

AMSR-E Distribution Statistics

Preliminary (NRT) AMSR-E Data

Distinct Users	Files	Volume (GB)
234	113,220	1,537.45

During January – September 2006, 70 distinct users have registered for the NRT data.

AMSR-E Swath-to-Grid Toolkit

Distinct Users	Files	Volume (GB)
203	622	0.298

AMSR-E Activities at NSIDC

- **Distribution of large volumes to users**
  - Seeing an increase in requests for time series of AMSR-E products – L2A, L2 Rain

  - Current ECS system limitations
    - Ordering: 1000 granule limit in EDG
    - Distribution: Inefficient delivery options

  - 1 month of L2A data: 870 granules and 70 GB = 15 DVDs

 - Working on in-house solution to provide data on USB disk drives
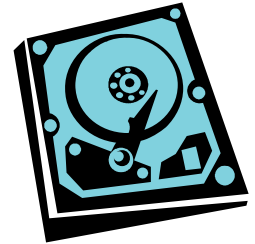
AMSR-E Activities at NSIDC

- ## Meeting with JAXA at NSIDC on 11 July 2006

  - Mr. Mitsuhiro Tsuchiya, Dr. Toshiaki Takeshima, and Makoto Imanaka attended

  - JAXA future missions overview
    - GCOM-W/AMSR

  - Status of operations at JAXA & NSIDC

  - Signed updated Operations Agreements

  - Acquired a username and password for JAXA's EODIS data order site

AMSR-E Activities at NSIDC

- ## AMSR-E 89 GHz Sea Ice Motions – Walt Meier

  - Feature matching between image pairs

  - Cross-correlation technique

  - Completed 2002-2003 and 2005-2006

  - Additional QC needed before release
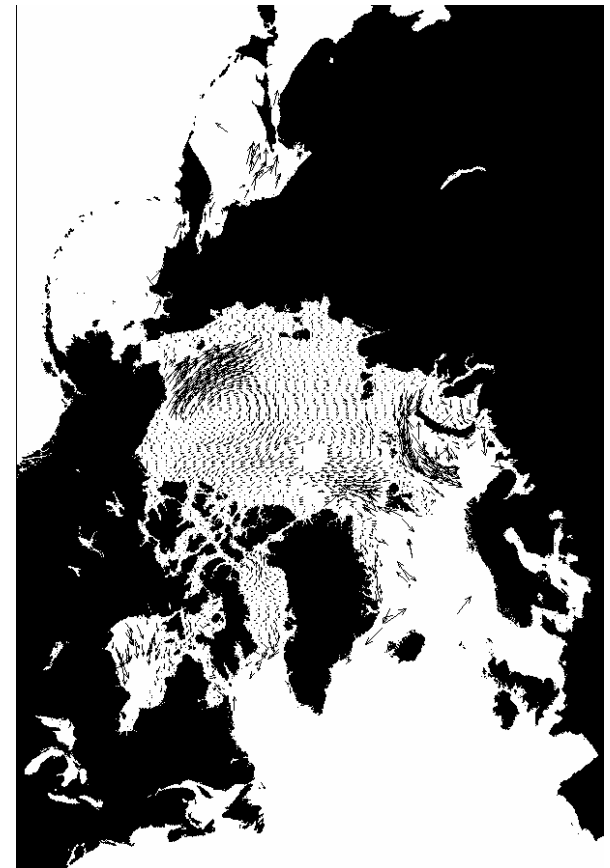
Every 4th vector plotted, 125 km

AMSR-E Activities at NSIDC

Richard Armstrong, Mary Jo Brodzik, & Matt Savoie

- AMSR-E Gridded TBs
  - Northern and Southern Azimuthal, and Global Cylindrical 25 km EASE-Grids
  - 0.25-degree global grid
  - DAAC has agreed to support the production and distribution of the products
  - Distribution expected to begin this winter

- MODIS+AMSR-E Blended Snow Product
  - Currently running in a batch mode
  - Plans to have automatic updating as new data arrive

AMSR-E Activities at NSIDC

- ## AMSR-E Outreach
  - **Product announcements**
    - o NSIDC Notes
    - o Website
    - o Email

  - **AMSR-E Brochure**
    - o Distributed by NASA

  - **Presence at meetings**
    - o Fall AGU abstract on AMSR-E products and validation data

  - **Feedback: Other audiences? Other outreach?**

AMSR-E Team at NSIDC

Thanks to the AMSR-E Team at NSIDC!

Siri Jodha Khalsa – ECS Science Coordinator

Cari Gallap – Operations

Jeff Smith – Programmer

Deann Miller – Technical Writer

Walt Meier – Scientist

Doug Fowler – Test Engineer

Cathy Fowler – Database Administrator

Backup Slides

Joint AMSR-E Science Team Meeting
Amanda Leon, NSIDC DAAC   6-8 September 2006

ADEOS-II/AMSR Data Status

- Started ingesting Version 2 AMSR L1A data from JPL

- After ingest has completed, the on-line metadata tables will be populated

- Considering using ECHO and WIST to facilitate search and order for NASA approved users

  - ECHO provides Access Control Lists that permit only approved users to search and/or order restricted data sets

ADEOS-II/AMSR Data Status

◀ Data Products & Services

◀ :: data providers :: data tools :: data help :: data search

ADEOS-II / AMSR Data at NSIDC

Home | Order Data | News | FAQs

Level-1A Data Availability

Following are the dates for which AMSR Level-1A data are available. Click on a date to view file names, start and end times, spatial coverage, and quality assurance (QA) metadata. After you have viewed the metadata and decided which files to order, please choose an order option:

- Order data directly from the Japanese Aerospace Exploration Agency (JAXA).

- Order data from NSIDC. JAXA requires that you must first provide your contact information through an online form. This information will be sent to NASA Headquarters to see if you qualify as a NASA-designated user. NSIDC User Services will contact you as soon as possible with ordering instructions if you qualify.

April 2003

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

May 2003

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

June 2003

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

July 2003

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

ADEOS-II/AMSR Data Status

Joint AMSR-E Science Team Meeting

Amanda Leon, NSIDC DAAC   6-8 September 2006

Archive and Distribution Status: Data Versions

	B01 algorithm	B02 algorithm	B03 algorithm	B04 algorithm	B05 algorithm	B06 algorithm	B07 algorithm	B08 algorithm
Version 1								
AE_L2A	2002-06-18 (23:40) to 2004-11-04 (00:46)	2004-11-04 (00:46) to 2005-01-02 (00:27)	2005-01-02 (00:27) to 2005-03-01 (00:14)	2005-03-01 (00:14) to 2005-08-15 (10:13)	2005-08-15 (10:13) to 2005-09-28 (05:41)	2005-09-28 (05:41) to 2006-03-21 (04:16)	2006-03-21 (04:16) to present	
AE_Land	2002-06-18 (23:40) to 2005-02-09 (22:05)	2005-02-09 (22:04) to 2005-06-29 (04:21)	2005-06-02 (23:37) to 2005-08-25 (00:57)	2002-06-18 (23:40) to 2006-03-10 (09:31)	2006-03-10 (09:31) to present			
AE_Land3	2002-06-18 to 2005-02-22	2005-02-15 to 2005-09-05	2002-06-18 (23:40) to present					
AE_Ocean	2002-06-18 (23:40) to 2005-02-07 (23:56)	2005-02-07 (23:56) to 2005-08-23 (04:27)	2005-08-23 (04:27) to 2006-03-10 (09:31)	2006-03-10 (09:31) to present				
AE_DyOcn	2002-06-18 (23:40) to 2005-08-19 (12:44)	2005-08-19 (12:44) to present						
AE_WkOcn	2002-06-18 (23:40) to 2005-08-14 (12:26)	2005-08-14 (12:26) to present						
AE_MoOcn	2002-06-18 to 2005-08-23	2005-08-23 to present						
AE_Rain		2002-06-18 (23:40) to 2004-09-24 (14:04)	2004-09-24 (14:04) to 2004-11-04 (00:46)	2004-11-04 (00:46) to 2005-04-01 (04:28)	2005-04-01 (04:27) to 2005-07-06 (04:28)	2005-06-02 (04:28) to 2005-08-23 (04:27)	2005-08-23 (04:27) to 2006-03-10 (09:31)	2006-03-10 (09:31) to present
AE_RnGd		2002-06-18 to 2004-11-01	2004-11-01 to 2005-08-25	2005-08-25 to 2006-03-01 (00:33)	2006-03-01 (00:33) to present			
AE_SI6		2002-06-18 (23:40) to 2004-09-24 (00:03)	2004-09-24 (00:03) to 2005-02-25 (00:39)	2005-02-25 (00:39) to 2005-09-05 (00:38)	2005-09-05 (00:38) to 2006-03-16 (00:40)	2006-03-16 (00:39) to present		
AE_SI12		2002-06-18 (23:40) to 2004-09-24 (00:03)	2004-09-24 (00:03) to 2005-02-25 (00:39)	2005-02-25 (00:39) to 2005-09-05 (00:38)	2005-09-05 (00:38) to 2006-03-16 (00:40)	2006-03-16 (00:39) to present		
AE_SI25		2002-06-18 (23:40) to 2004-09-24 (00:03)	2004-09-24 (00:03) to 2005-02-25 (00:39)	2005-02-25 (00:39) to 2005-09-05 (00:38)	2005-09-05 (00:38) to 2006-03-16 (00:40)	2006-03-16 (00:39) to present		
AE_DySno		2002-06-19 (00:29) to 2004-11-28 (00:46)	2004-11-25 (12:15) to 2005-02-25 (00:39)	2005-02-25 (00:39) to 2006-01-14 (12:20)	2006-01-14 (12:20) to 2006-03-16 (00:40)	2006-03-16 (00:39) to 2006-03-31 (00:46)	2006-03-31 (00:46) to present	
AE_5DSno		2002-06-20 (00:23) to 2004-11-17 (00:15)	2004-11-22 (00:33) to 2005-02-20 (00:21)	2005-02-20 (00:20) to 2006-01-11 (12:39)	2006-01-11 (12:38) to 2006-03-12 (00:15)	2006-03-12 (00:15) to 2006-03-27 (00:21)	2006-03-27 (00:21) to present	
AE_MoSno		2002-06-19 to 2004-11-01	2004-11-01 to 2005-02-01	2005-02-01 to 2006-01-01	2006-01-01 to 2006-03-01 (00:33)	N/A	2006-03-01 (00:33) to present	

Joint AMSR-E Science Team Meeting
Amanda Leon, NSIDC DAAC   6-8 September 2006

NSIDC — National Snow and Ice Data Center

NSIDC DAAC

Tools for AMSR-E Data: NSIDC-developed Toolset

- The AMSR-E toolset presented at the JSTM in September 2005 will now be incorporated into a center-wide tools package to be developed for all ECS data sets

- AMSR-E Toolset functionality

  - GUI-driven tool set to display and manipulate AMSR-E Level 2 swath and Level 3 gridded data

  - Re-grid Level 3 data to alternative projections

  - Custom gridding of Level 2 swath data

  - Subsetting: row-column and lat-lon

  - Create composite images

AMSR-E Data at NSIDC

Home | Order Data | Preliminary Data | Tools | News | FAQs | Research

Ordering AMSR-E Data from NSIDC

Data Pool: All AMSR-E products are retained for 160 days. See AMSR-E Temporal Coverage.

EOS Data Gateway: This interface provides access to the entire archive of data.

Search 'N Order Interface (SNOWI): This tool provides a quick and simple way to search and order limited products from NSIDC and other Distributed Active Archive Centers (DAACs).

Preliminary FTP Data: Registration is required to access the most recent eight days of data via FTP.

The links in data set titles below provide access to documentation.

Short Name	Data Set Title	Order Options
AMSREL1A	AMSR-E/Aqua L1A Raw Observation Counts	Data Pool SNOWI EOS Data Gateway
AE_L2A	AMSR-E/Aqua L2A Global Swath Spatially-Resampled Brightness Temperatures (Tb)	Data Pool SNOWI EOS Data Gateway Preliminary FTP Data
AE_Land	AMSR-E/Aqua L2B Surface Soil Moisture, Ancillary Parms, & QC EASE-Grids	Data Pool SNOWI EOS Data Gateway Preliminary FTP Data
AE_Land3	AMSR-E/Aqua Daily L3 Surface Soil Moisture, Interpretive Parms, & QC EASE-Grids	Data Pool SNOWI EOS Data Gateway Preliminary FTP Data
AE_Rain	AMSR-E/Aqua L2B Global Swath Rain Rate/Type GSFC Profiling Algorithm	Data Pool SNOWI EOS Data Gateway Preliminary FTP Data

AE_RnGd	AMSR-E/Aqua Monthly L3 5x5 deg Rainfall Accumulations	Data Pool SNOWI EOS Data Gateway Preliminary FTP Data
AE_Ocean	AMSR-E/Aqua L2B Global Swath Ocean Products derived from Wentz Algorithm	Data Pool SNOWI EOS Data Gateway Preliminary FTP Data
AE_DyOcn	AMSR-E/Aqua Daily L3 Global Ascending/Descending .25x.25 deg Ocean Grids	Data Pool SNOWI EOS Data Gateway Preliminary FTP Data
AE_WkOcn	AMSR-E/Aqua Weekly L3 Global Ascending/Descending .25x.25 deg Ocean Grids	Data Pool SNOWI EOS Data Gateway Preliminary FTP Data
AE_MoOcn	AMSR-E/Aqua Monthly L3 Global Ascending/Descending .25x.25 deg Ocean Grids	Data Pool SNOWI EOS Data Gateway Preliminary FTP Data
AE_DySno	AMSR-E/Aqua Daily L3 Global Snow Water Equivalent EASE-Grids	Data Pool SNOWI EOS Data Gateway Preliminary FTP Data
AE_5DSno	AMSR-E/Aqua 5-Day L3 Global Snow Water Equivalent EASE-Grids	Data Pool SNOWI EOS Data Gateway Preliminary FTP Data
AE_MoSno	AMSR-E/Aqua Monthly L3 Global Snow Water Equivalent EASE-Grids	Data Pool SNOWI EOS Data Gateway Preliminary FTP Data
AE_SI6	AMSR-E/Aqua Daily L3 6.25 km 89 GHz Brightness Temperature (Tb) Polar Grids	Data Pool SNOWI EOS Data Gateway Preliminary FTP Data
AE_SI12	AMSR-E/Aqua Daily L3 12.5 km Tb, Sea Ice Conc., & Snow Depth Polar Grids	Data Pool SNOWI EOS Data Gateway Preliminary FTP Data
AE_SI25	AMSR-E/Aqua Daily L3 25 km Tb, Sea Ice Temperature, & Sea Ice Conc. Polar Grids	Data Pool SNOWI EOS Data Gateway Preliminary FTP Data

NSIDC

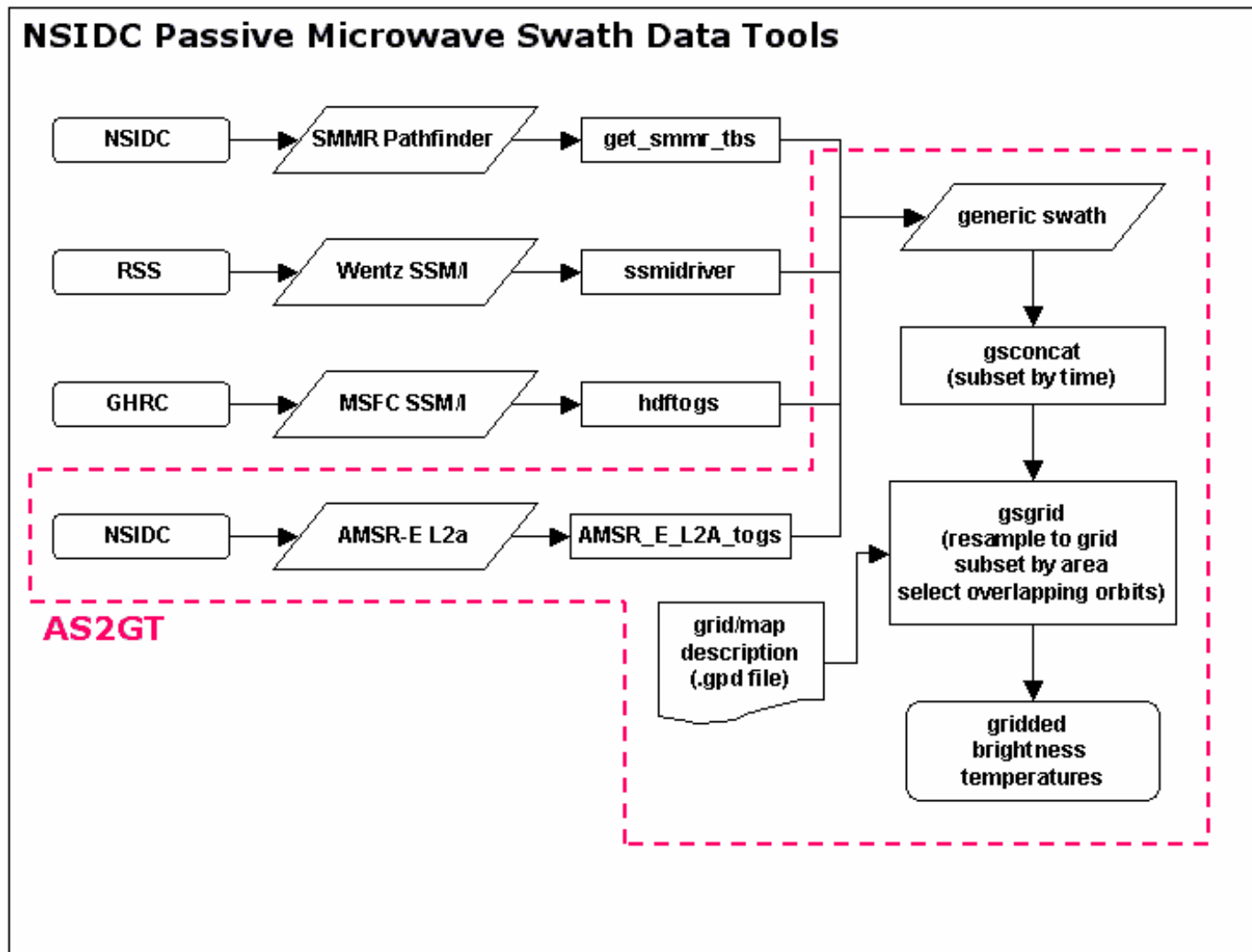National Snow and Ice Data Center

NSIDC DAAC

AS2GT: AMSR-E Swath-to-Grid Toolkit

- NSIDC's Ken Knowles developed AS2GT.
- The AMSR-E Swath-to-Grid Toolkit (AS2GT) is a suite of software tools to subset and grid Levels 1B and 2A AMSR-E swath data.
- AS2GT makes it possible to quickly and easily work with the AMSR-E data in ways that may not be available in the Level 3 gridded data sets.
- This toolkit allows you to process data into custom grids with whatever temporal or spatial resolution you require.
- AS2GT maintains the highest data quality for your application by giving you control over map projection, number of samples per day, input resolution and interpolation method.
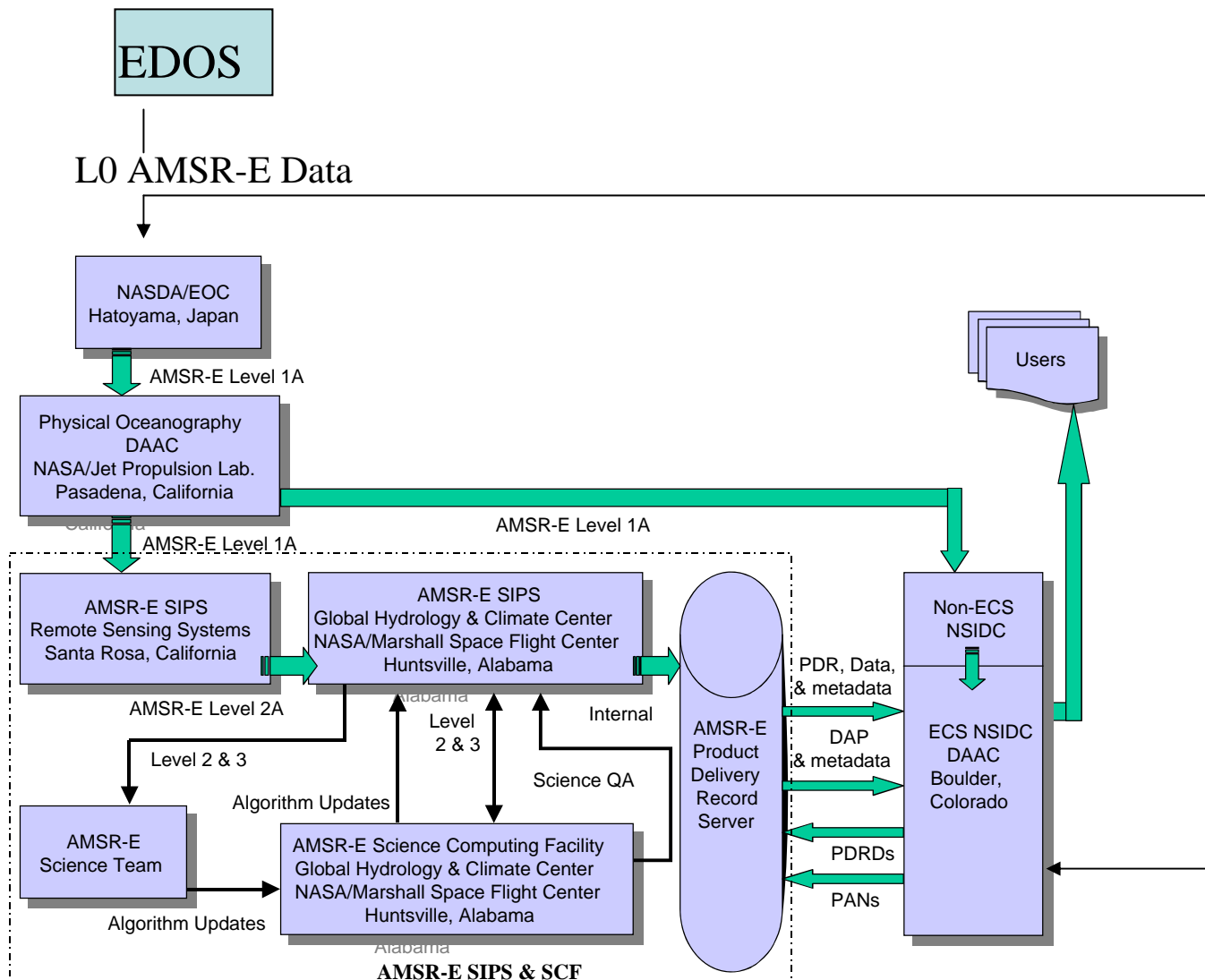
 Gridding options in AS2GT include:
- Map projection
- Resolution and grid dimensions
- Resampling method
- How to handle overlapping swaths
- Subsetting by time or region

AS2GT: AMSR-E Swath-to-Grid Toolkit

Joint AMSR-E Science Team Meeting

Amanda Leon, NSIDC DAAC   6-8 September 2006

NSIDC
National Snow and Ice Data Center

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AMSR-E Data Flow Interfaces

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AMSR-E Data Products

Short Name	Data Level	Collection Description	Delivery Frequency	Data Volume uncompressed
PM1GBAD1	Level-0	Ground-Based Attitude Determination Data for EOS Aqua in 1 second intervals	Every two hours	small
PM1GBAD4	Level-0	Ground-Based Attitude Determination Data for EOS Aqua in 4 second intervals	Every two hours	small
PM1GBAD8	Level-0	Ground-Based Attitude Determination Data for EOS Aqua in 8 second intervals	Every two hours	small
AE-PMSCI	Level-0	AMSR-E Science and Engineering Data	Every two hours	1.3 GB/day
AMSR_L1A	L1A	ADEOS-II AMSR L1A Raw Observation Counts	~28 half-orbits / day	1.2 GB/day
AMSREL1A	L1A	Aqua AMSR-E L1A Raw Observation Counts	~28 half-orbits / day	1.2 GB/day

AMSR-E Data Products (cont.)

Short Name	Data Level	Collection Description	Delivery Frequency	Data Volume uncompressed
AE_L2A	Level-2A	Aqua AMSR-E global swath Brightness Temperatures are resampled at resolutions of 57 km, 36 km, 21 km, 11 km, and 5.5 km.	~28 half-orbits / day	2.489 GB/day
AE_Ocean	Level-2B	Aqua AMSR-E global swath ocean wind speed at 36 and 21 km res., water vapor over ocean at 21 km res., cloud liquid water at 11 km res., and sea surface temperature at 57 and 36 km res. generated using the Wentz Algorithm and Level-2A product.	~28 half-orbits /day	277.1 MB/day
AE_Land	Level-2B	Aqua AMSR-E swath surface soil moisture and interpretive parameters including surface type, vegetation water content, surface temperature, and QC parameters are generated from Level-2A AMSR-E TBs spatially resampled to a nominal 25 km equal area earth grid	~28 half-orbits /day	11.9 MB/day
AE_Rain	Level-2B	Aqua AMSR-E global swath rain rate and rain type products are generated using the Level-2A spatially resampled TBs as input. Over ocean the Goddard Profiling Algorithm produces rain rates and types; over land the Ferraro Algorithm is used.	~28 half-orbits /day	497.7 MB/day
AE_RnGd	Level-3	Aqua AMSR-E global monthly global rainfall accumulations are 5 x 5 degree grids generated using the Wilheit Algorithm and Level-2 rain products as input.	1 / month	.005 MB/month
AE_DyOcn	Level-3	Aqua AMSR-E global ocean Level-3 daily products are .25 x .25 degree ascending and descending grids generated using the six Level-2B ocean products as input.	1 / day	14.5 MB/day

AMSR-E Data Products (cont.)

Short Name	Data Level	Collection Description	Delivery Frequency	Data Volume uncompressed
AE_WkOcn	Level-3	Aqua AMSR-E global ocean Level-3 weekly products are .25 x .25 degree ascending and descending grids generated using the six Level-2B ocean products as input.	1 / week	12.4 MB/week
AE_MoOcn	Level-3	Aqua AMSR-E global ocean Level-3 monthly products are .25 x .25 degree grids generated using the six Level-2B ocean products as input.	1 / month	12.4 MB/month
AE_DySno	Level-3	Aqua AMSR-E Level-3 daily product contains global snow water equivalent EASE grids. Snow depth EASE grids are included as research products.	1 / day	4.2 MB/day
AE_5DSno	Level-3	Aqua AMSR-E Level-3 product contains 5-day global snow water equivalent EASE grids. Snow depth EASE grids are included as research products	1 / day	4.2 MB/ 5-day
AE_MoSno	Level-3	Aqua AMSR-E Level-3 product contains monthly global snow water equivalent EASE grids. Snow depth EASE girds are included as research products	1 / month	4.2 MB/ month
AE_WkOcn	Level-3	Aqua AMSR-E global ocean Level-3 weekly products are .25 x .25 degree ascending and descending grids generated using the six Level-2B ocean products as input.	1 / week	12.4 MB/week

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AMSR-E Data Products (cont.)

Short Name	Data Level	Collection Description	Delivery Frequency	Data Volume uncompressed
AE_SI6	Level-3	Aqua AMSR-E Level-3 products at 6.25 km contain polar stereographic grids of 89.0 GHz brightness temperatures . Grids are daily averages, daily ascending averages, and daily descending averages.	1 / day	46.3 MB/day
AE_SI12	Level-3	Aqua AMSR-E Level-3 products at 12.5 km are polar stereographic grids of sea ice concentration, snow depth over ice, 18 - 89.0 GHz TBs. The sea ice concentration and TBs are daily, daily asc, and daily desc grids. The snow depth is a 5-day grid.	1 / day	64.6 MB/day
AE_SI25	Level-3	Aqua AMSR-E Level-3 products at 25 km contain polar stereographic grids of sea ice concentration, sea ice temperature, 6.925, 10.65, 18.7, 23.8, 36.5, and 89.0 GHz TBs. Grids are daily averages, daily ascending averages, and daily descending averages.	1 / day	22.4 MB/day
AE_Land3	Level-3	Global surface soil moisture with vegetation water content, surface temperature, and TB parameters are generated on a nominal 25-km equal area earth grid by time-compositing the Level-2B parameters, separately for ascending and descending passes.	1 / day	58.3 MB/day

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