



National Snow and Ice Data Center
Supporting Cryospheric Research Since 1976



NSIDC Ice and Ocean Products

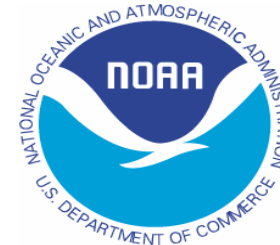
Examples and highlights for AOMIP

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With help from: Florence Fetterer, Donna Scott, Melinda Marquis

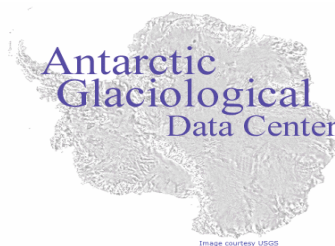
About NSIDC

- Part of the University of Colorado's Cooperative Institute for Research in Environmental Sciences (CIRES) Cryospheric and Polar Processes division
- Chartered in 1982 by the National Oceanic and Atmospheric Administration (NOAA) to provide data and information services to the cryospheric community
- Affiliated with NOAA through the NOAA-CIRES Cooperative Agreement
- Sponsored by the National Aeronautics and Space Administration (NASA), the National Science Foundation (NSF) and NOAA



Data Holdings

- NASA Distributed Active Archive Center (DAAC) *Provides archive and access for Earth Observing System (EOS) data products, and other heritage data products*
- NOAA at NSIDC *Focus on data rescue and access to non-traditional data sources*
- NSF Antarctic Glaciological Data Center *Data and metadata for and from NSF funded investigators*
- NSF Arctic System Science Data Coordination Center *Data and metadata from NSF's Arctic System Science program-funded investigators*
- NSF IARC Frozen Ground Data Center at NSIDC *In cooperation with the International Permafrost Association*



Reaching Out to Modelers

Goal: *Increase data usage, where appropriate, by sea ice, regional, and global modelers (e.g., CCSM community)*

Strategy: *Two-way interaction with modelers*

Identify: *Areas where NSIDC can improve user interface*

Outcome: *A more modeler-friendly website that will lead to increased usage*

Feedback on data usage, quality, needs, etc., wanted!

Links to NSIDC & recommended data from AOMIP web pages?

In Progress...

Web site upgrade:

- Improve web interface
- Integrate user comments
- Limited resources (1-2 persons)



AGU Special Session

(Fall 2005 target)

- NASA DAAC managers
- Global, regional modelers
- Opportunity to express concerns, suggestions

Accessing Data -- Where to start...

1) Main NSIDC Data Page:

- <http://www.nsidc.org/data/>

2) Sea Ice Data:

- http://www.nsidc.org/data/sea_ice.html

3) Ocean Data

- <http://www.nsidc.org/data/oceans.html>

4) Sea Ice Products at NSIDC:

- <http://www.nsidc.org/data/seaice/index.html>

5) List of All Sea Ice Products (Alphabetical):

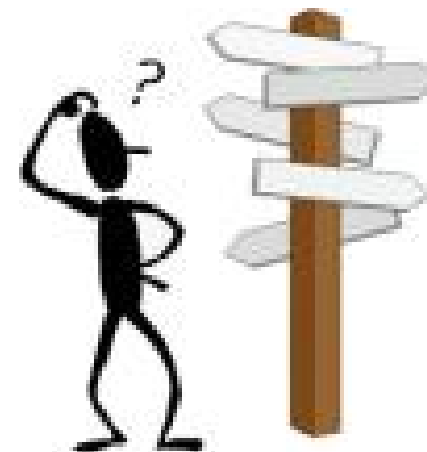
- <http://www.nsidc.org/data/seaice/alpha.html>

6) Data Summaries (All Sea Ice Products Available from NSIDC):

- <http://www.nsidc.org/data/seaice/all.html>

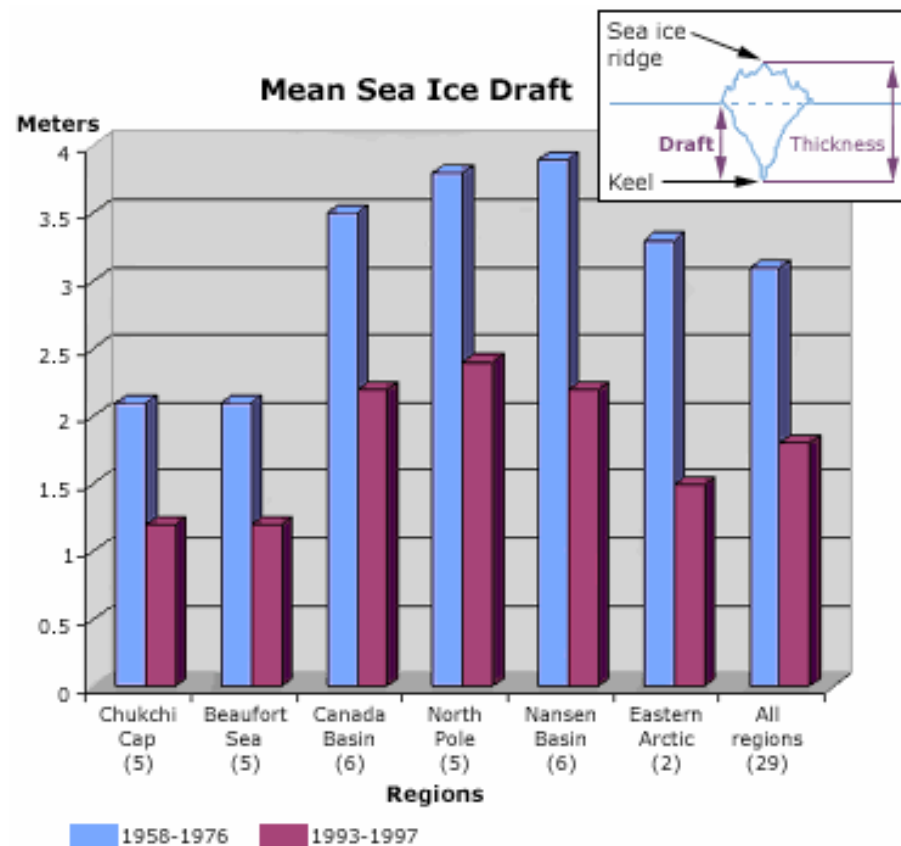
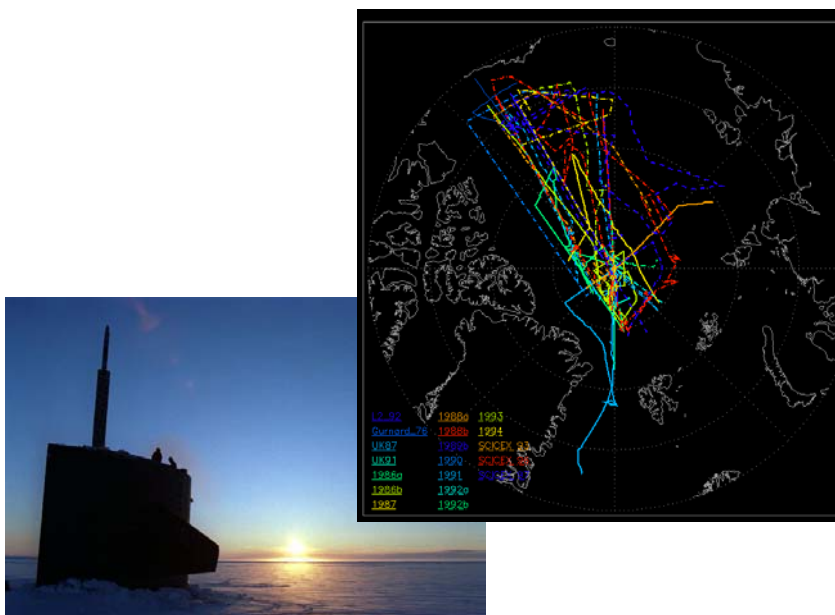
7) Links to other (external) Sea Ice Products:

- <http://nsidc.org/data/seaice/other.html>

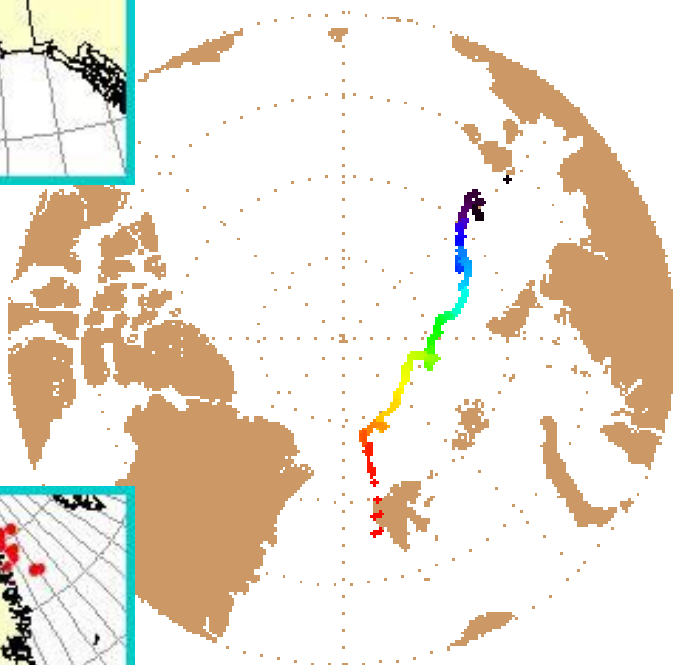
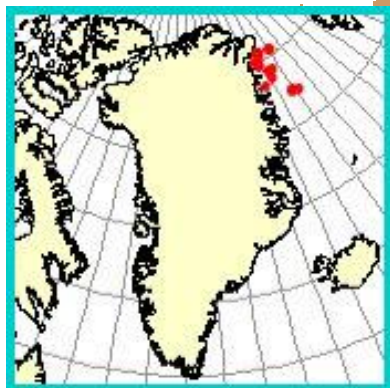


In Situ Data (Sea Ice)

- *Submarine Upward Looking Sonar Ice Draft Profile Data and Statistics*
- *IABP Drifting Buoy, Pressure, Temperature, Position, Interpolated Ice Velocity*



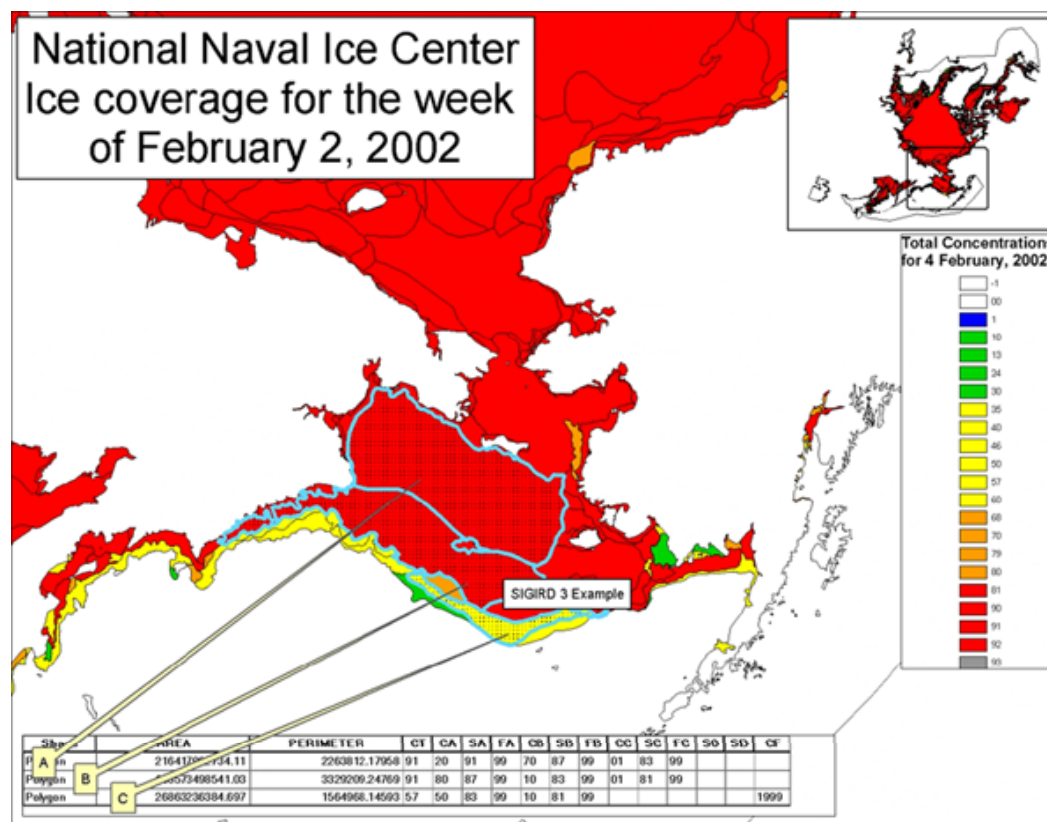
In Situ Data (Ocean)



- *Summer Surface Hydrography (AARI)*
- *North Pole Environmental Observatory (external link)*
- *Coordinated Eastern Arctic Experiment (CEAREX)*
- *Scientific Ice Expeditions (SCICEX)*
- *Norwegian North Polar Expedition 1893-1896 (Nansen)*
- *More...*

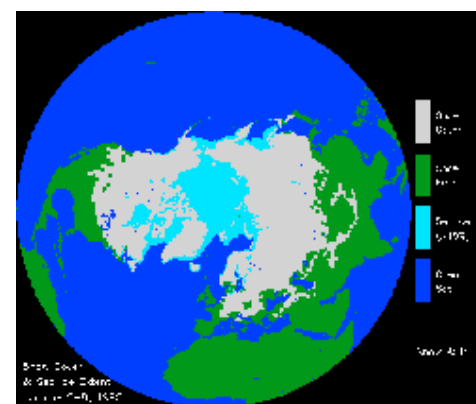
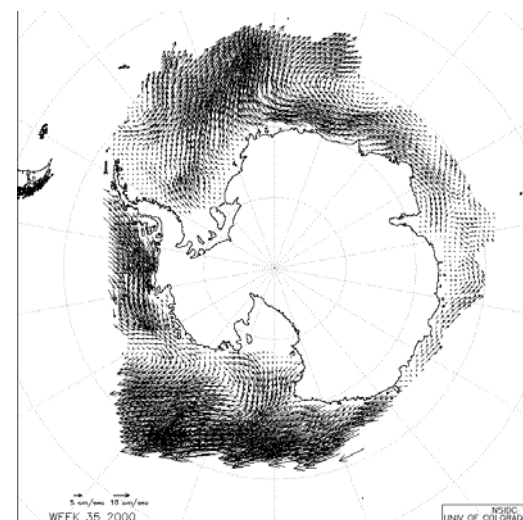
Ice Charts

- *Environmental Working Group Joint U.S.-Russian Arctic Sea Ice Atlas (1978-1993+)* CD-ROM
- *U.S. National Ice Center ice analyses*
- A variety of operational charts available through the *Global Digital Sea Ice Data Bank*



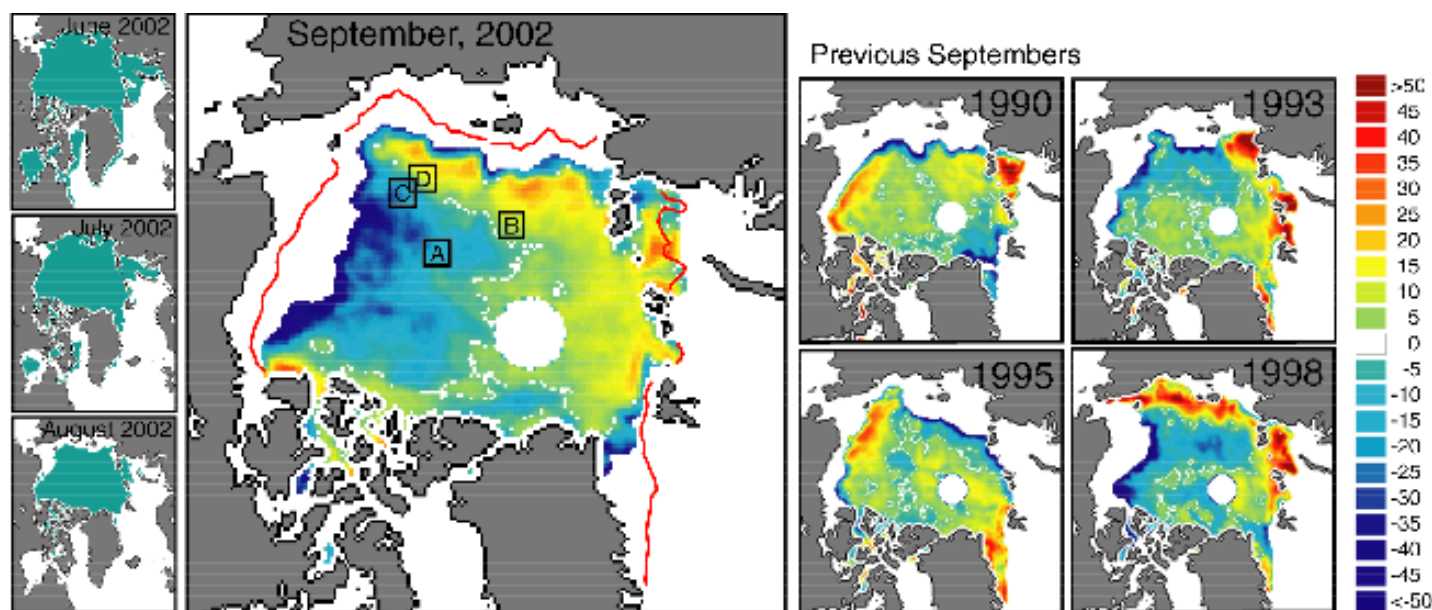
Decadal and Longer Time Series (Sea Ice)

- *Daily and Monthly Polar Gridded Sea Ice Concentrations 1978-present (several satellites and algorithms)*
- *Polar Pathfinder Daily 25-km Sea Ice Motion 1978-2003 (upper right)*
- *Arctic and Southern Ice Extent 1901-1995 (lower right)*
- *Environmental Working Group Joint U.S.-Russian Atlases (Ocean, Meteorology and Climate)*
- *NH Weekly Ice Extent/Snow Cover 1966/78-2001*
- *Arctic and Antarctic Drift Buoy Data*
- *More...*



Sea Ice Index (1978-present)

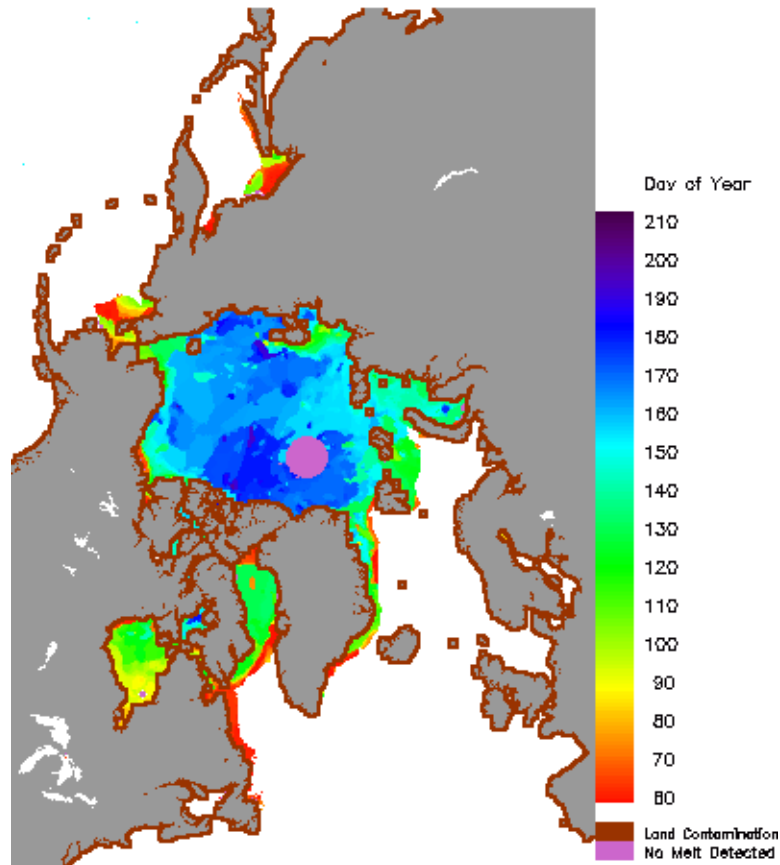
- Updated monthly
- Allows users to monitor sea ice extent, trends, and anomalies
- Access archived images illustrating ice conditions
- http://www.nsidc.org/data/seaice_index



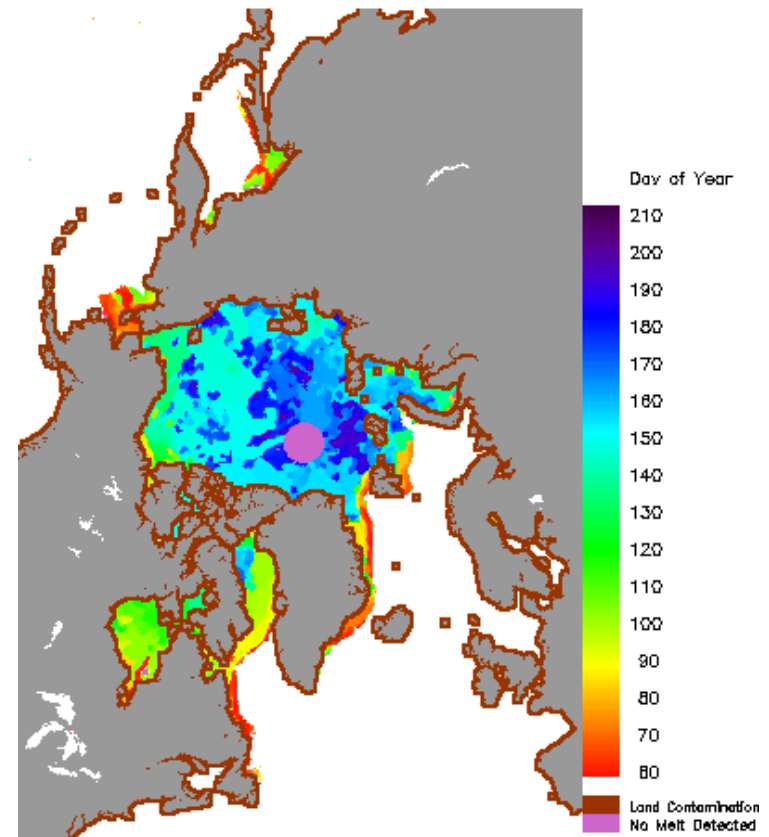
Stroeve et al. (2004)

Snow Melt Onset (1979-1998)

Onset of Melt Over Sea Ice 1988

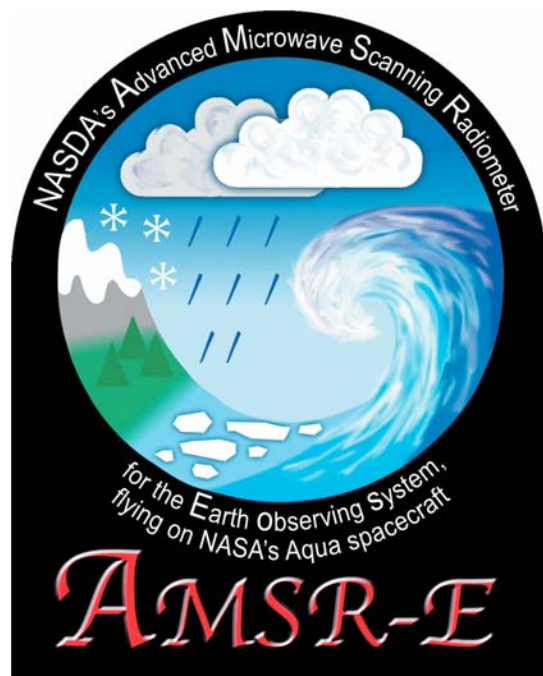


Onset of Melt Over Sea Ice 1998



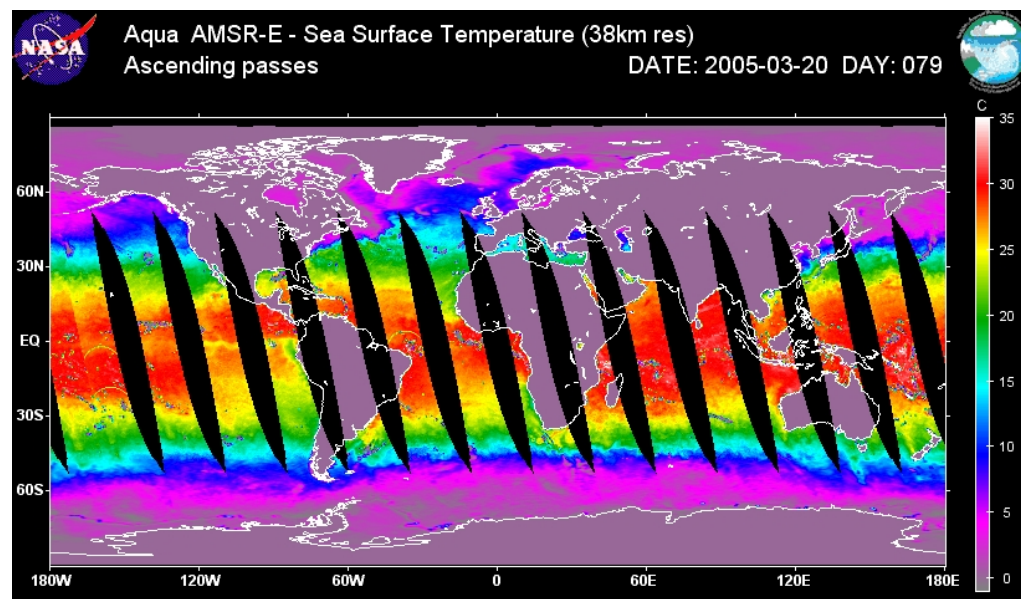
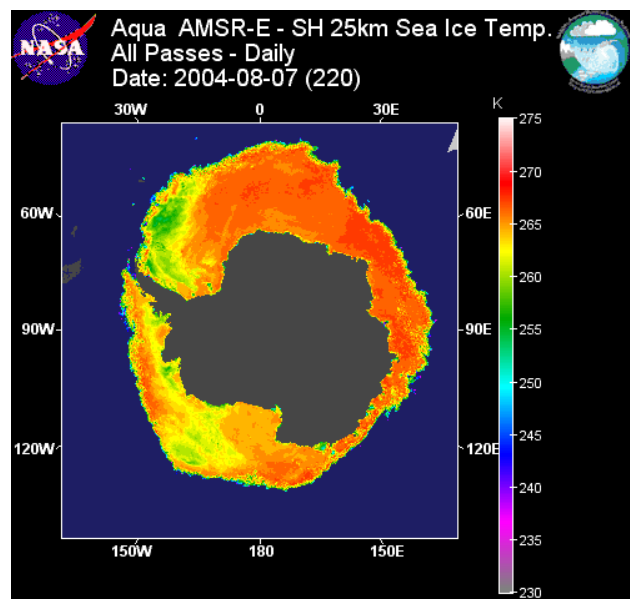
- Yearly snowmelt onset dates over Arctic sea ice

New Data: AMSR-E



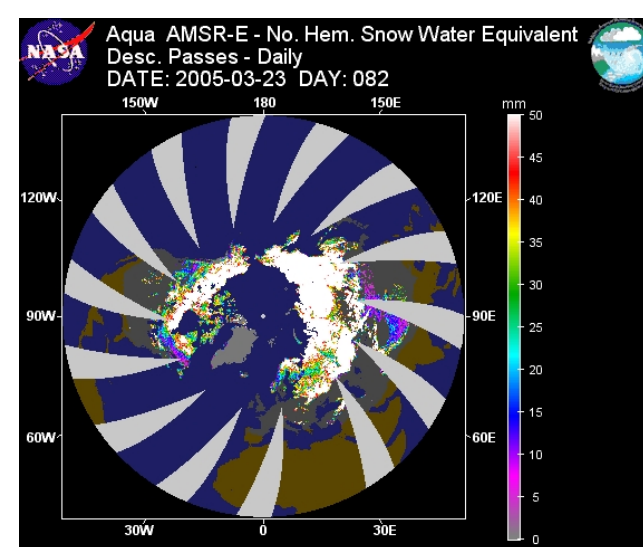
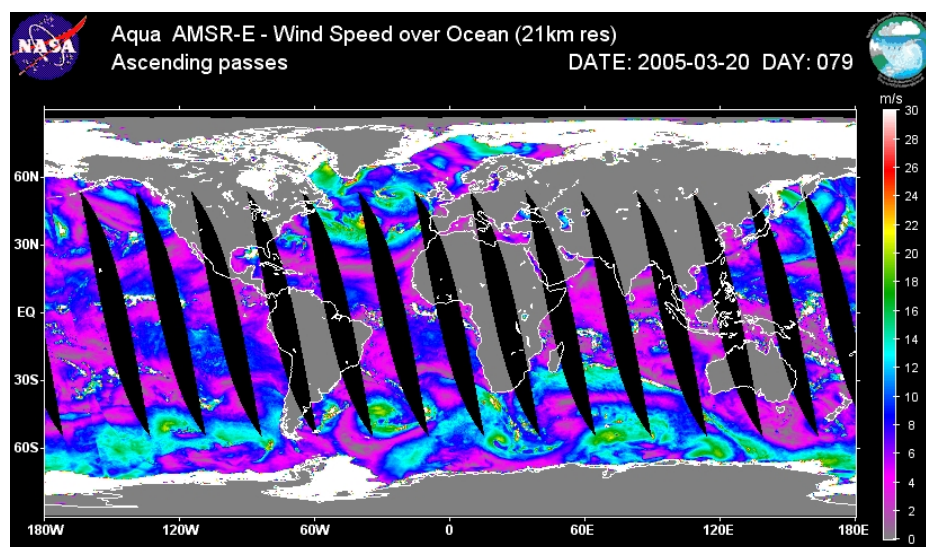
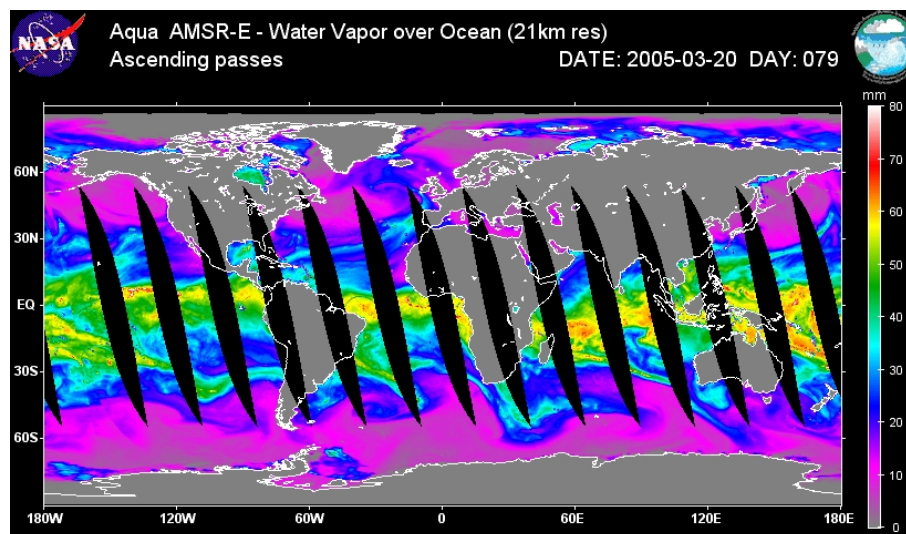
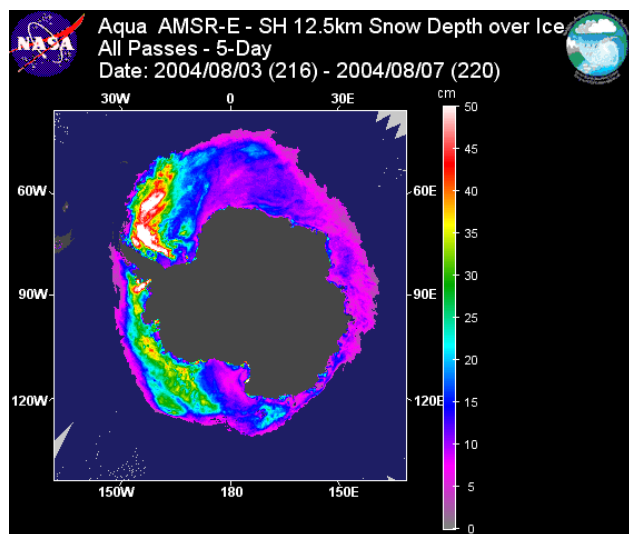
- Advanced Microwave Scanning Radiometer - Earth Observing System
- Launched 4 May 2002
- Twice the resolution of SMMR/SSM/I
- Combines channels that SMMR and SSM/I had individually
- <http://www.nsidc.org/data/amsre/>

New Data: AMSR-E



- Snow, Ocean, Land, Rain, and Sea Ice Fields
- Daily, 5-day, and Monthly Products
- Global and Polar Projections
- Coverage Varies by Product

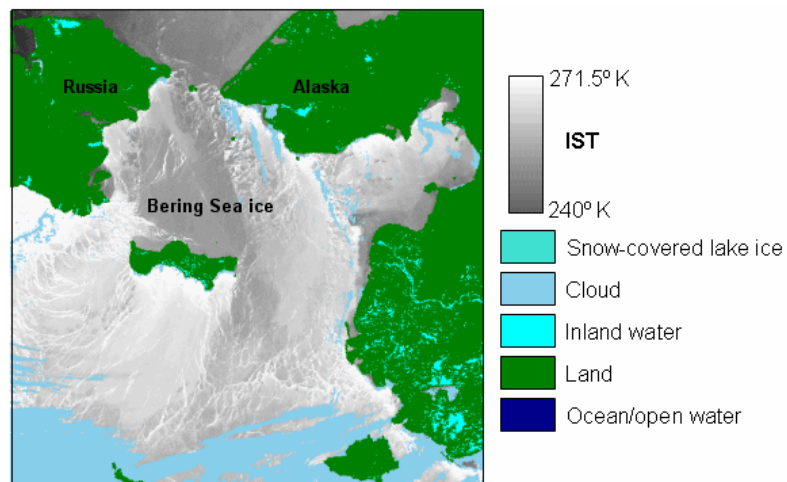
AMSR-E: Sample Images



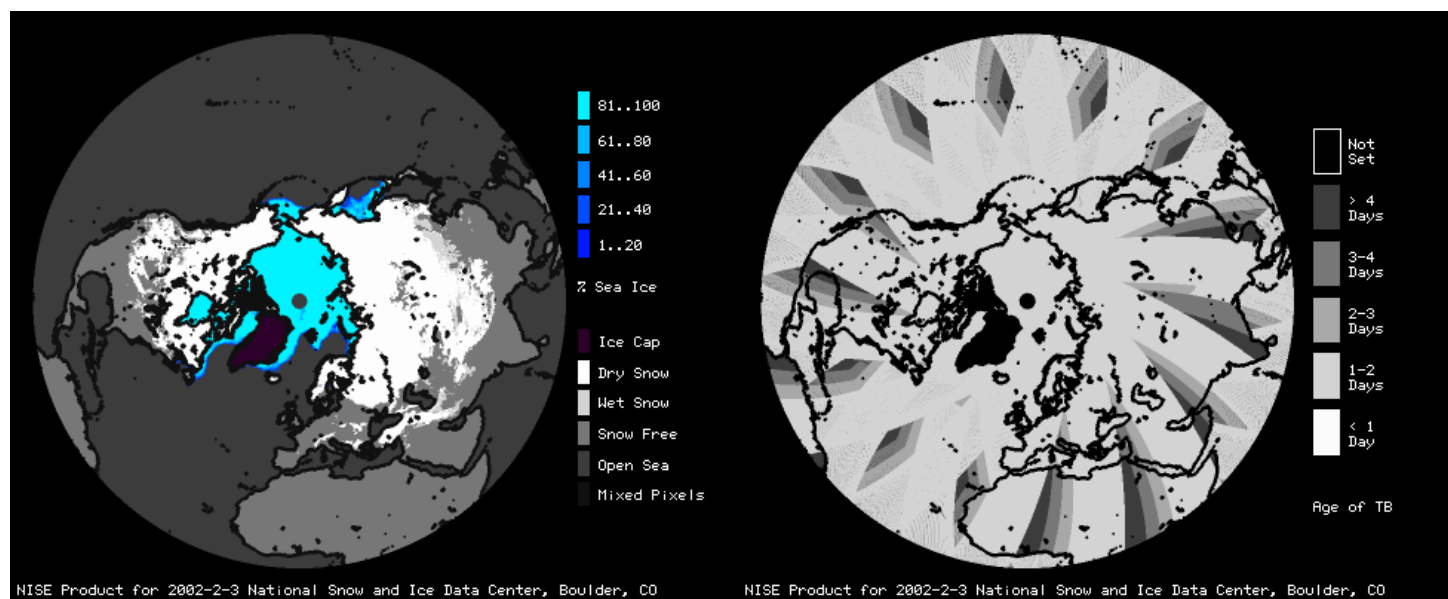
Data Products at NSIDC



Other Data



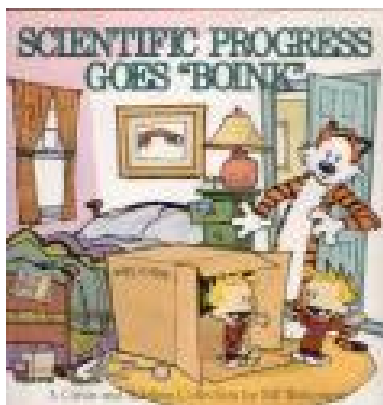
- Near Real-Time Products
- MODIS Products
- Field Project Data
- More...



Other Information

Getting more help:

- Data Help Center:
www.nsidc.org/data/help
- NSIDC User Services:
nsidc@nsidc.org



Supporting NSIDC:

- **Register** for Data; it helps User Services keep track of what's being used
- **Cite** data in reference section of papers; instructions for citation are included in dataset documentation