



National Snow and Ice Data Center
Supporting Cryospheric Research Since 1976



MODIS Data at NSIDC

MODIS Science Team Meeting - Nov. 2, 2006

Outline

- NSIDC overview
- ECS status and plans
- MODIS distribution metrics
- MODIS user support and tools
- NSIDC-wide plans

Outline

- **NSIDC overview**
- ECS status and plans
- MODIS distribution metrics
- MODIS user support and tools
- NSIDC-wide plans

Institutional Relationships

- Part of the University of Colorado
- Within the CU Cooperative Institute for Research in Environmental Sciences (CIRES) Cryospheric and Polar Processes Division
- Chartered by NOAA's National Environmental Satellite, Data, and Information Service. Affiliated with the NOAA National Geophysical Data Center (NGDC)
- Funded by NASA, NOAA, NSF, and others at the program level
- Part of the World Data Center system



Major Programs



NASA Distributed Active Archive Center



NOAA at NSIDC and WDC for Glaciology, Boulder



NSF Arctic System Science Data Coordination Center



NSF U.S. Antarctic Data Coordination Center and Antarctic Glaciological Data Center

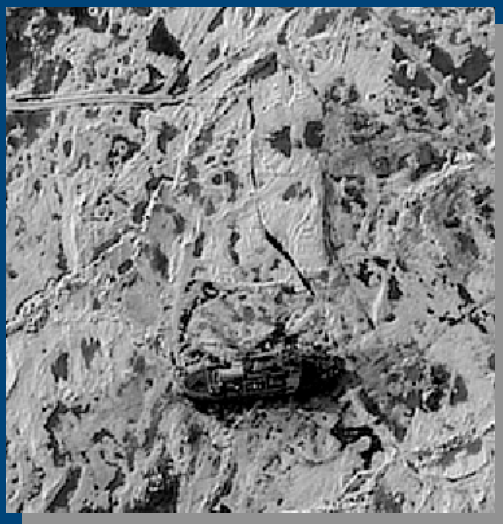


IARC Frozen Ground Data Center

Our Mission

To make fundamental contributions to cryospheric science and excel in managing data and disseminating information in order to advance understanding of the Earth system.

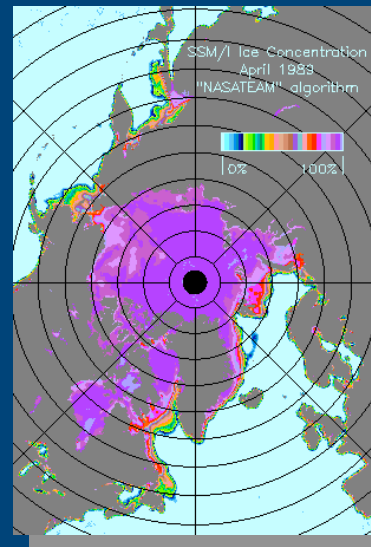
Data Management and Distribution



Outreach

**International
Data Activities**

Research



Outline

- NSIDC overview
- ECS status and plans
- MODIS distribution metrics
- MODIS user support and tools
- NSIDC-wide plans

Data System Status and Plans

- NSIDC's MODIS support provided by the NASA supplied ECS data system
- ECS will be significantly reworked for improvements in operations at NSIDC
 - Consolidating COTS software, moving to Linux platforms, commodity hardware
- 74 TB Data Pool upgrade recently installed
 - Now possible to retain popular data sets completely on-line
 - All Collection 5 MODIS snow and ice products will be available on-line (as soon as they are released)
 - All Collection 4 MOD10A1 products - available now
- Rel 7.20 will be delivered in May 2007; re-architected system that focuses on the work to be performed from 2007-2013

Outline

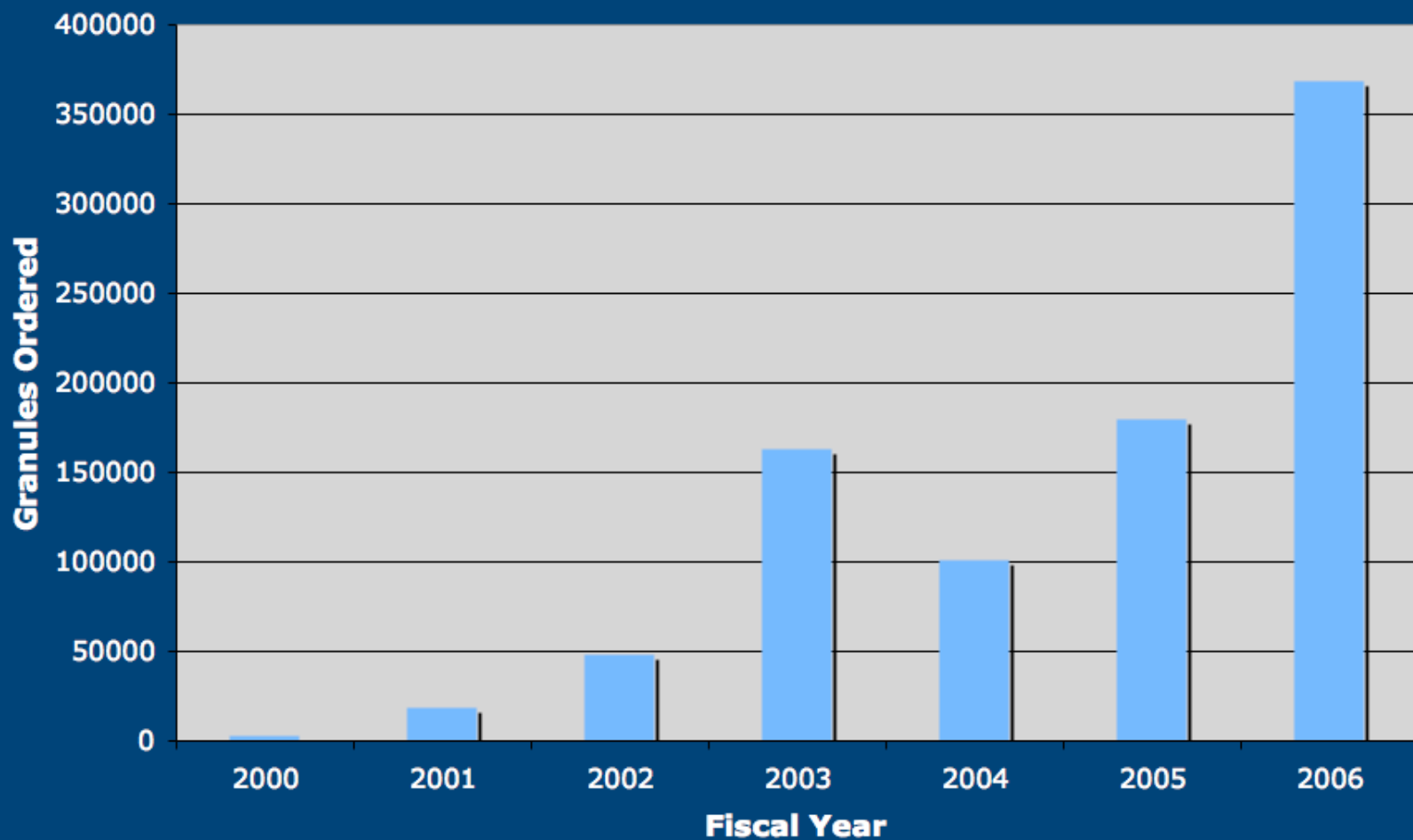
- NSIDC overview
- ECS status and plans
- **MODIS distribution metrics**
- MODIS user support and tools
- NSIDC-wide plans

NSIDC Web Visitors

- Over 6 million page views
 - Average over 16,000 views/wk
 - Average over 70,000 views/mo
- Over 1 million distinct IPs
 - Average 2,000/day
- Top 5 main pages visited
 - <http://nsidc.org/glaciers> 259,176
 - <http://nsidc.org> 235,557
 - <http://nsidc.org/snow> 187,180
 - <http://nsidc.org/cryosphere> 71,389
 - <http://nsidc.org/data> 63,346

MODIS Data Orders

Order Trends



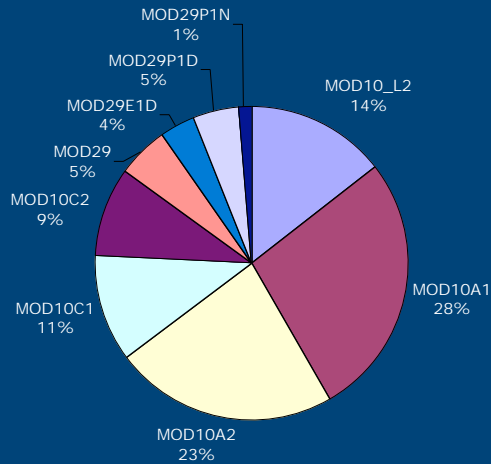
MODIS Data at NSIDC - R. Duerr
Presented at the MODIS Science Team Meeting, Nov. 2, 2006



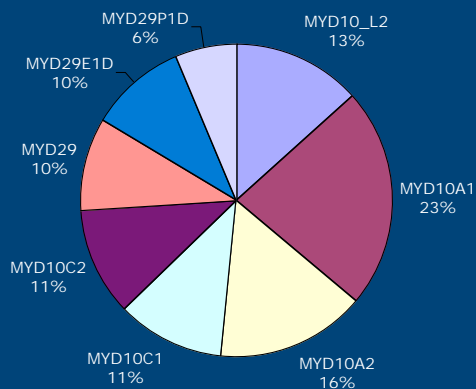
Metrics - Distinct MODIS Users

320 distinct MODIS users in 2006

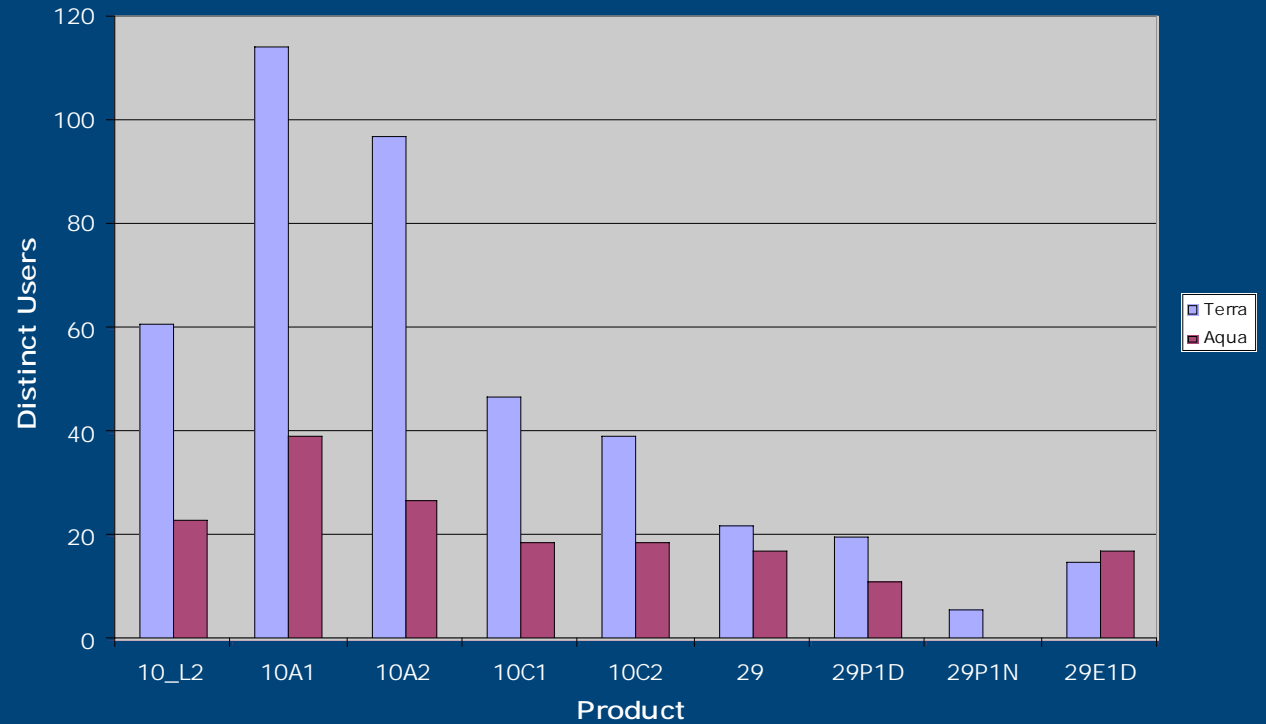
MODIS/Terra Distinct Users - 2006



MODIS/Aqua Distinct Users - 2006

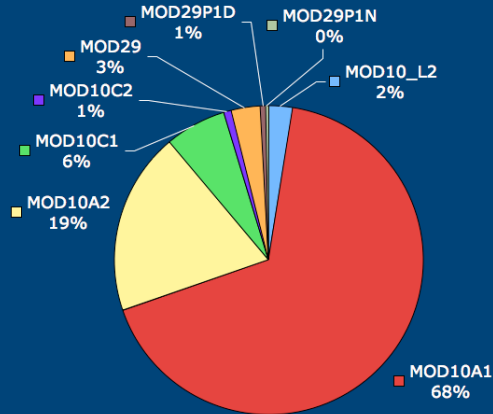


Distinct Users by Product



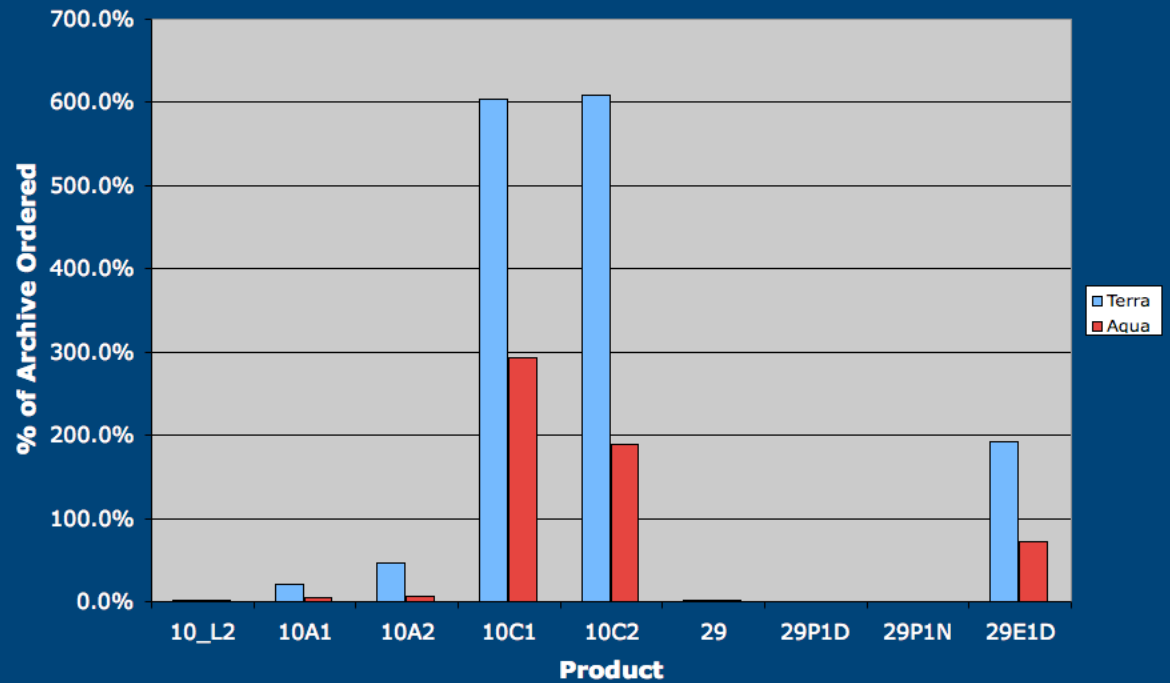
Metrics - Granules Ordered

Terra Product Orders (2006)

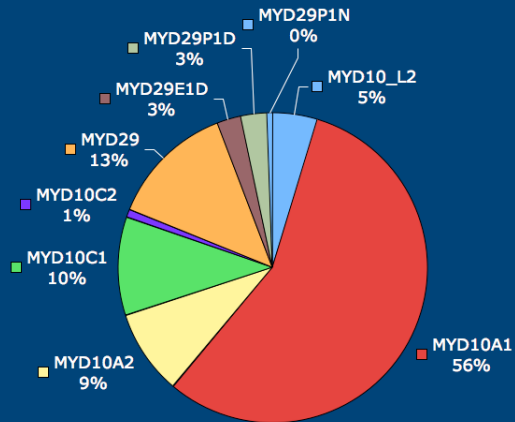


Granules	Ordered
Aqua	101,978
Terra	317,940
Combined	419,918

% of Archive Ordered in FY06



Aqua Product Orders



Outline

- NSIDC overview
- ECS status and plans
- MODIS distribution metrics
- **MODIS user support and tools**
- NSIDC-wide plans

Existing Access Methods

- Data Pool
 - MODIS data availability
 - All MOD10A1
 - Most recent 30 days of other L2/3 snow and ice products
 - Type of access
 - Web drilldown interface
(<http://n0dps01u.ecs.nasa.gov:22000/OPS/home>)
 - HDF-EOS-to-GeoTiff conversion available for most products (regridding, reformatting, subsetting capabilities)
 - Direct ftp access (<ftp://n0dps01u.ecs.nasa.gov/SAN>)

Existing Access Methods (continued)

- Subscriptions
 - MODIS data availability
 - All MODIS L2/3 snow and ice products
 - Type of access
 - Data staged for pickup or pushed to your machine whenever new data matching your criteria arrive (<http://nsidc.org/daac/subscriptions.html>)

Existing Access Methods (continued)

- EOS Data Gateway
 - MODIS data availability
 - All MODIS L2/3 snow and ice products
 - Type of access
 - Comprehensive web interface (<http://nsidc.org/~imswwww/pub/imswelcome/index.html>)
 - Interface functionality to be replaced by WIST (<http://delenn.gsfc.nasa.gov/~wist/wist/imswelcome/>)
 - Allows subsetting by spatial region and/or parameter

Existing Access Methods (continued)

- Search 'N Order Web Interface (SNOWI)
 - MODIS data availability
 - All MODIS L2/3 snow and ice products
 - Type of access
 - A “one-screen” version of the EDG (<http://nsidc.org/data/snowi/index.html>)
 - Can automatically order everything returned in a search

Existing Access Methods (continued)

- MODIS-SNOWI
 - MODIS data availability
 - MODIS L3 tiled/gridded snow and ice products only
 - Type of access
 - Same as SNOWI but allows specification of tiles (http://nsidc.org/data/modis_snowi/search.html)

Existing Access Methods (continued)

- Machine to Machine Gateway
 - MODIS data availability
 - All MODIS snow and ice products in NSIDC's archive
 - Type of access
 - Programmable interface

MODIS Tools

- MODIS Swath-to-Grid Toolbox (ms2gt):
 - Reformats MODIS HDF-EOS swath data (MOD02*, MOD10_L2, and MOD29) to flat binary gridded files
 - Supports a variety of map projections
 - Can “stitch” multiple input files

Outline

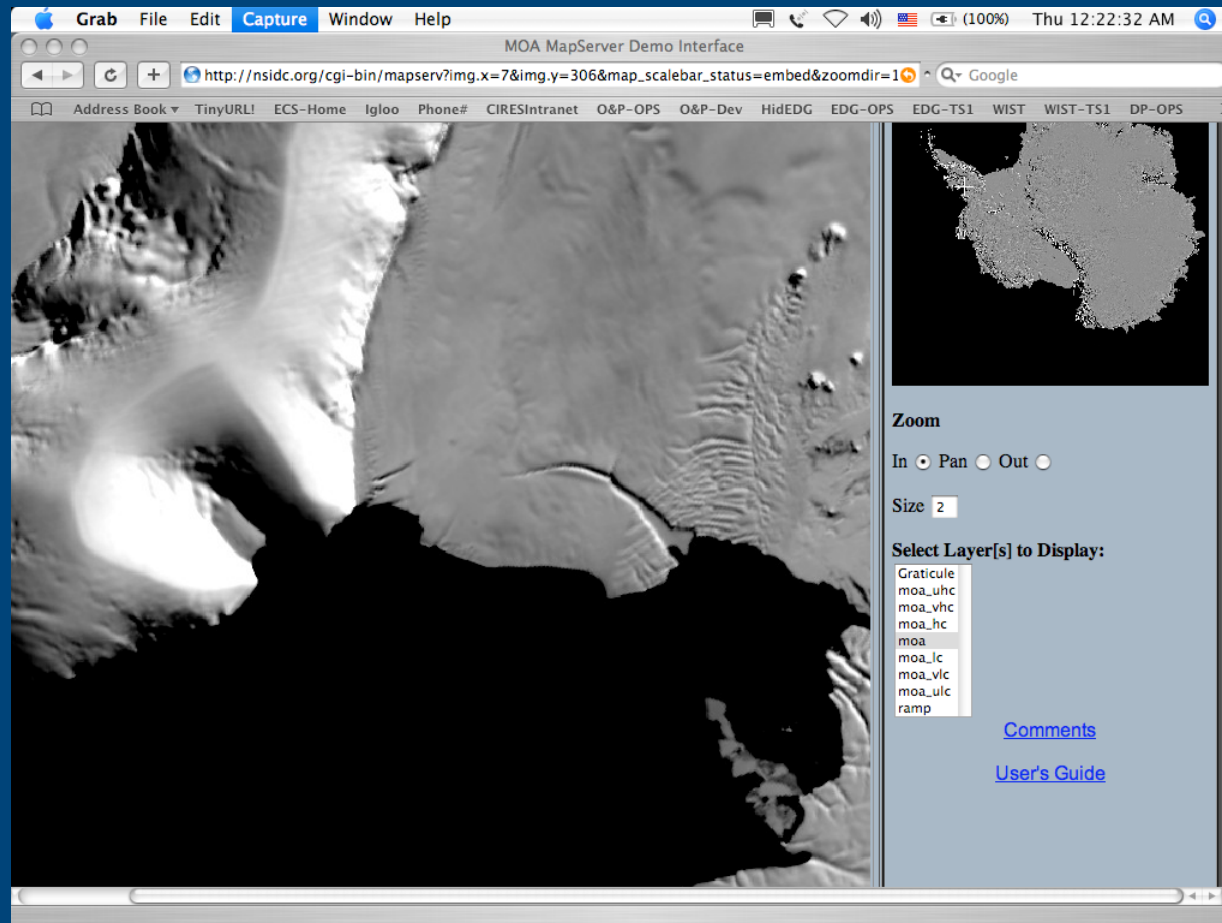
- NSIDC overview
- ECS status and plans
- MODIS distribution metrics
- MODIS user support and tools
- **NSIDC-wide plans**

Center-wide strategy and plans

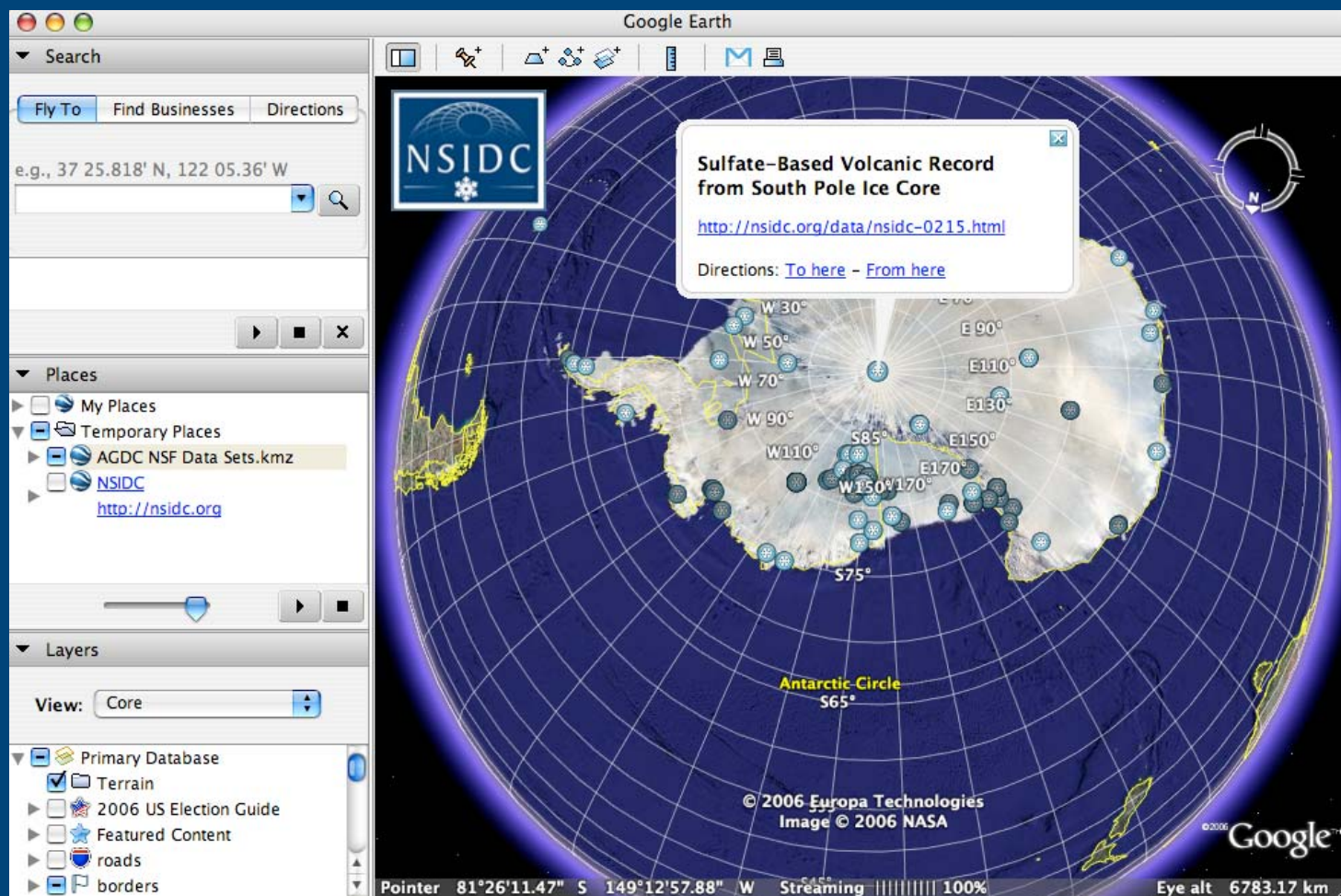
- From “order data” to “discover and use data”
- From manually or time-delayed staged processes to on-the-fly format conversions, re-projections, subsetting, etc.
- From “data repository” to a data exploration environment

Web-based Map Services

MODIS Mosaic of Antarctica MapServer demo



Google Earth - a Search Tool? A Visualization Tool?



http://nsidc.org/data/virtual_globes/

MODIS Data at NSIDC - R. Duerr
Presented at the MODIS Science Team Meeting, Nov. 2, 2006

