

LP DAAC Overview

Land Processes DAAC (LP DAAC)

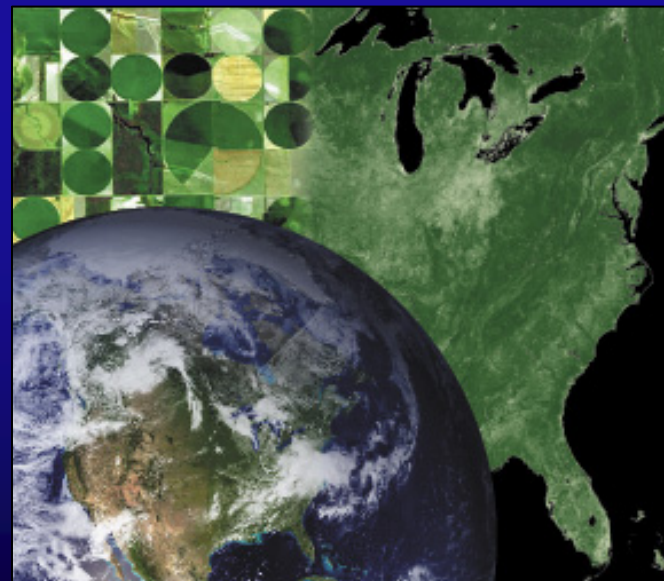
User Working Group

August 22-23, 2007

Tom Sohre

Acting LP DAAC Project Manager

USGS

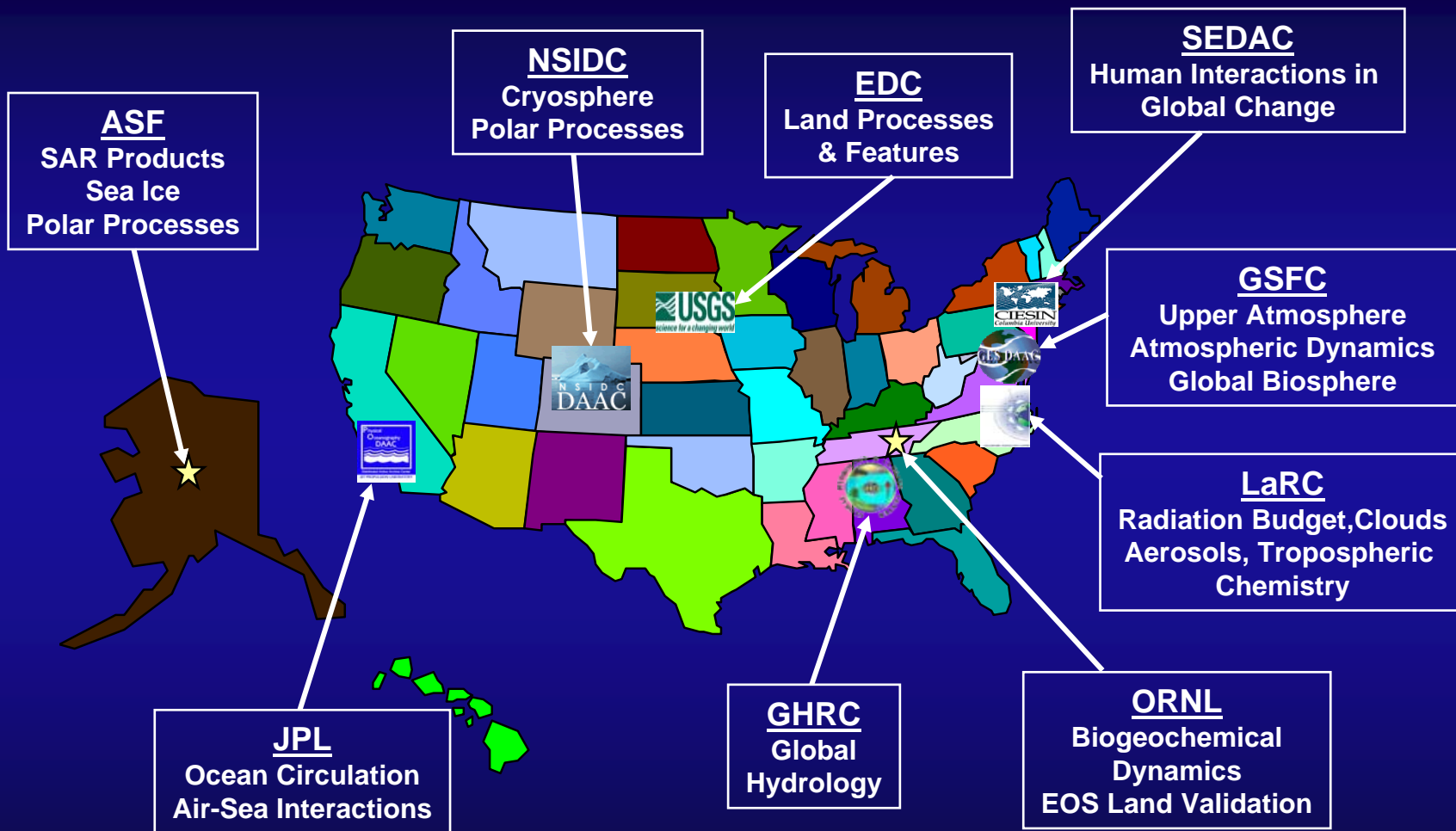


Agenda

- LP DAAC within EOS Program
- LP DAAC Management
- LP DAAC Work Breakdown
- Where we've been...
- Where we're at...
- Where we're going...



Distributed Active Archive Centers



NASA Earth Observing System (EOS) Program

EOS is a long-term, interdisciplinary, and multidisciplinary research mission to study global-scale processes that shape and influence the Earth as a system.

Earth Science Data and Information System (ESDIS) Project

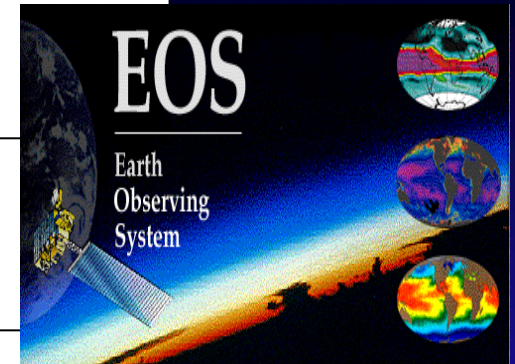
The ESDIS Project is an organization that contributes to, and complements the services provided by NASA's Earth Science Enterprise. The ESDIS Project develops, implements, and operates the data and information system called EOSDIS.

Earth Observing System (EOS) Data and Information System (EOSDIS)

EOSDIS is a system whose purpose is to acquire, archive, manage, and distribute Earth observation data to a diverse group of users.

EOSDIS Core System (ECS)

ECS will provide scientists the computing architecture needed to accomplish EOSDIS goals. ECS has been designed to enable evolution to support a broad range of data partners.



Data products from EOS and other NASA Earth science missions are stored at several Distributed Active Archive Centers (DAACs) to support interactive and interoperable retrieval and distribution of data products

USGS EOS Project at EROS

Land Processes Distributed Active Archive (LP DAAC) at EROS

ECS Science Data Processing Segment (SDPS)

DAAC Unique Extensions (DUEs)



LP DAAC Management

■ Management

- **Jenn Willems**, USGS Project Manager (on temporary assignment)
- **Tom Sohre**, Acting USGS Project Manager
- **Roger Oleson**, TSSC Work Manager

■ Science

- **Bryan Bailey**, USGS Scientist
- **Tom Maiersperger**, TSSC Scientist

■ Engineering

- **Brian Sauer**, TSSC Architect

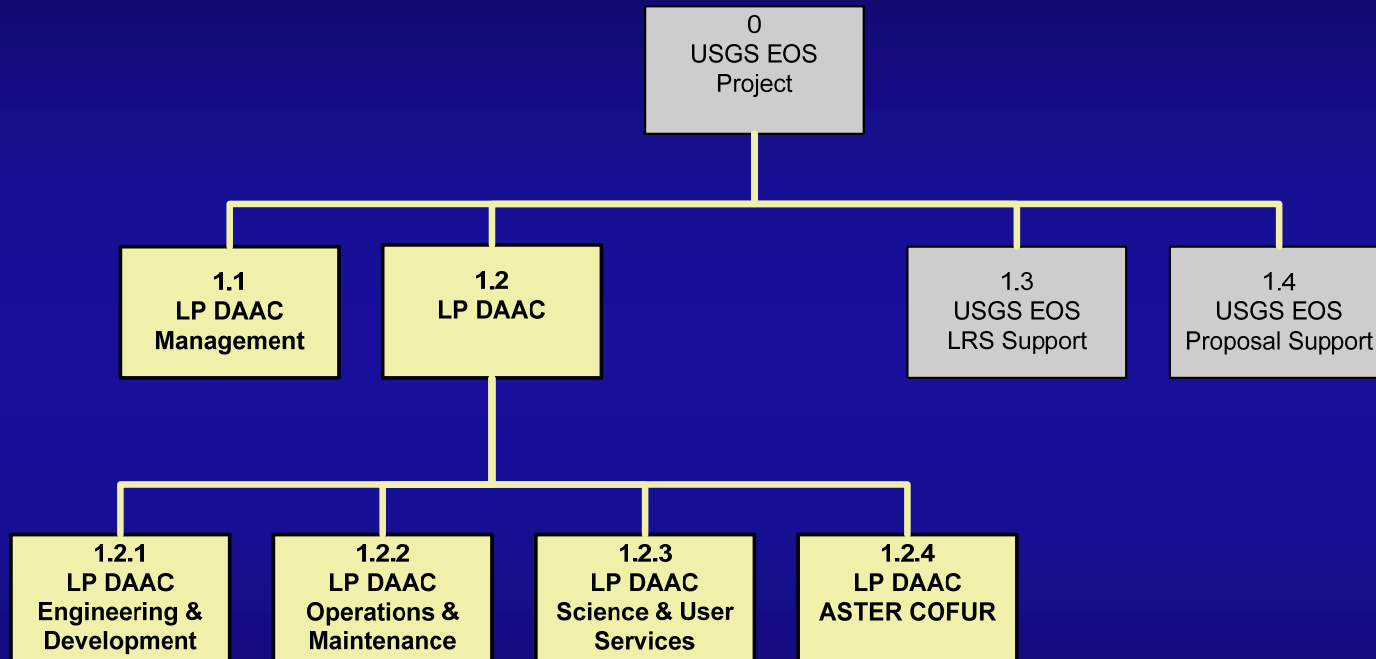


LP DAAC Management

- **EROS is experiencing rapid growth / change**
 - LDCM & Future of Land Imaging (FLI)
- **The LP DAAC remains a key project within EROS**
 - Largest distributor of data (approx. 76% in FY07 Q1)
 - Value of MODIS and ASTER data to Land Remote Sensing community and to the Long Term Archive
- **Former LP DAAC staff with new responsibilities at EROS**
 - Tom Kalvelage
 - LDCM Chief Engineer
 - John Dwyer
 - LDCM Scientist, TSSC
 - Jenn Willems
 - Temporary assignment in EROS Director's Office as Chief Scientist for Remote Sensing (backfill for Bruce Quirk)
 - Chris Doescher
 - Detail in EROS Director's Office as Special Assistant to the Director



Project Work Breakdown Structure



Recent enhancements to data & services

- **ASTER Billing – January 2006**
- **ASTER L1B On-Demand – May 2006**
- **ASTER Automated DEM Processing (Silcast) – May 2006**
- **MODIS V5 Reprocessing Campaign – started June 2006**
- **Secure Order Form (online payment info) - August 2006**
- **ASTER Orthorectified Product Release – March 2007**
- **ASTER Enhanced Processing Capacity/Redundancy - March 2007**
- **ASTER Available on Media (DVD) – March 2007**
- **ASTER DAR Tool Re-Design - April 2007**
- **ASTER Level 2/3 Release in GLOVIS – May 2007**

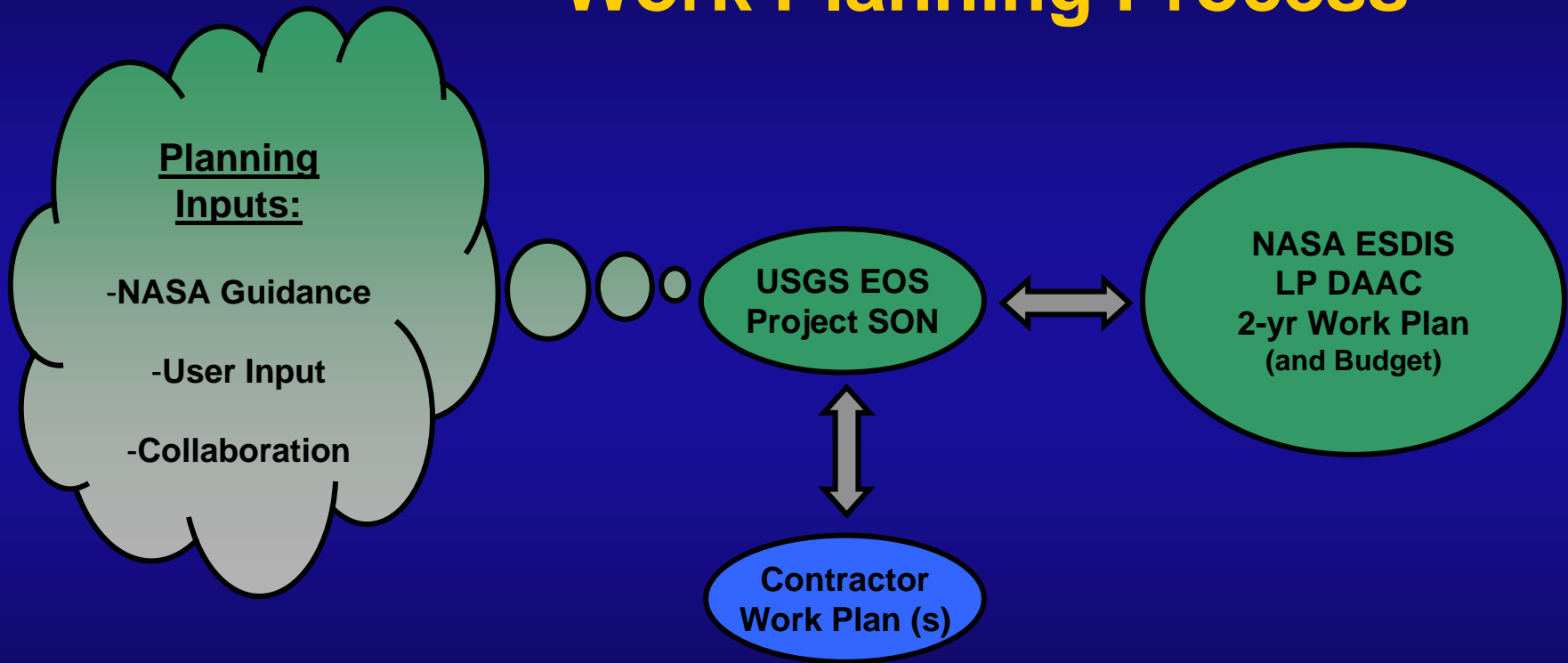


Current Activities

- MODIS V005 Re-processing campaign
- ECS Evolution
- MRTWeb Beta
- Landsat Metadata in ECHO
- Website Re-design
- NASA GIO OGC (WMS/WCS) Prototype
- Planning for FY08



USGS EOS Project Work Planning Process



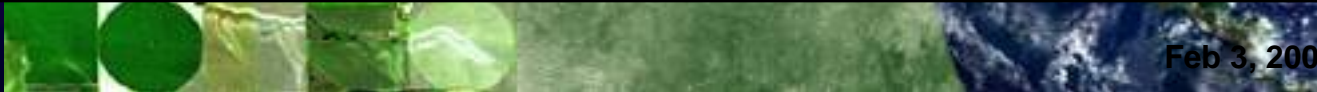
Inputs to Planning Process

- **NASA Guidance**
 - NASA EOSDIS Vision
 - NASA ESDIS Budget guidance
 - Previous NASA ESDIS Work Plan
- **User Community**
 - LP DAAC System Metrics, User Services Contacts
 - LP DAAC Online Data Survey (OLDS)
 - EOSDIS Annual User Satisfaction Survey
 - User Services Workshops and Conferences (outreach)
 - Science Workshops and Conferences
 - Science Team Meetings
 - User Working Group Input
- **Collaboration**
 - USGS LRS Funded Activities
 - Externally Funded Activities (proposal work)
 - Informal data collaboration with other DAACs and EROS Projects
 - Informal technical collaboration with other DAACs and EROS Projects

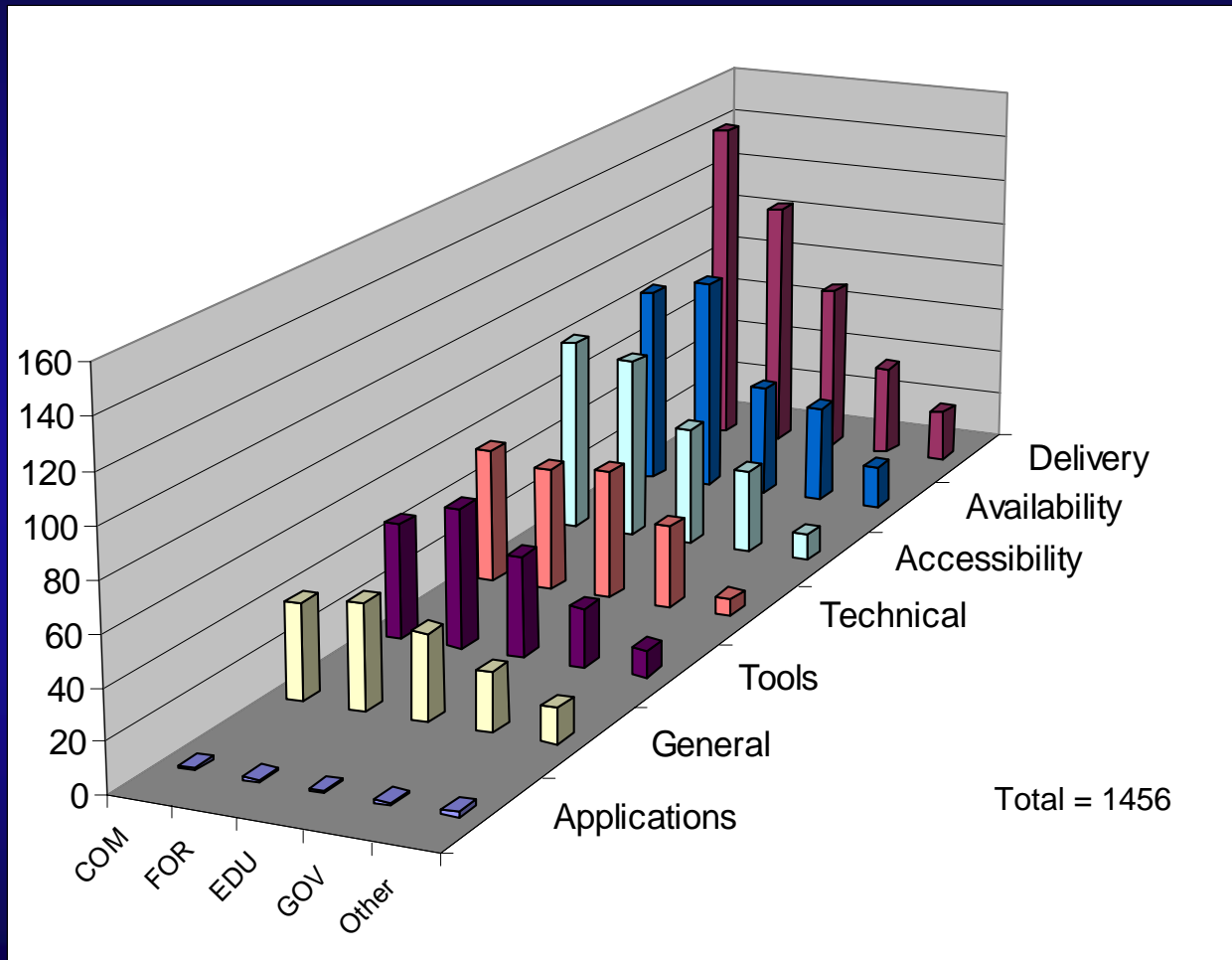


EOSDIS Evolution 2015 Vision Tenets

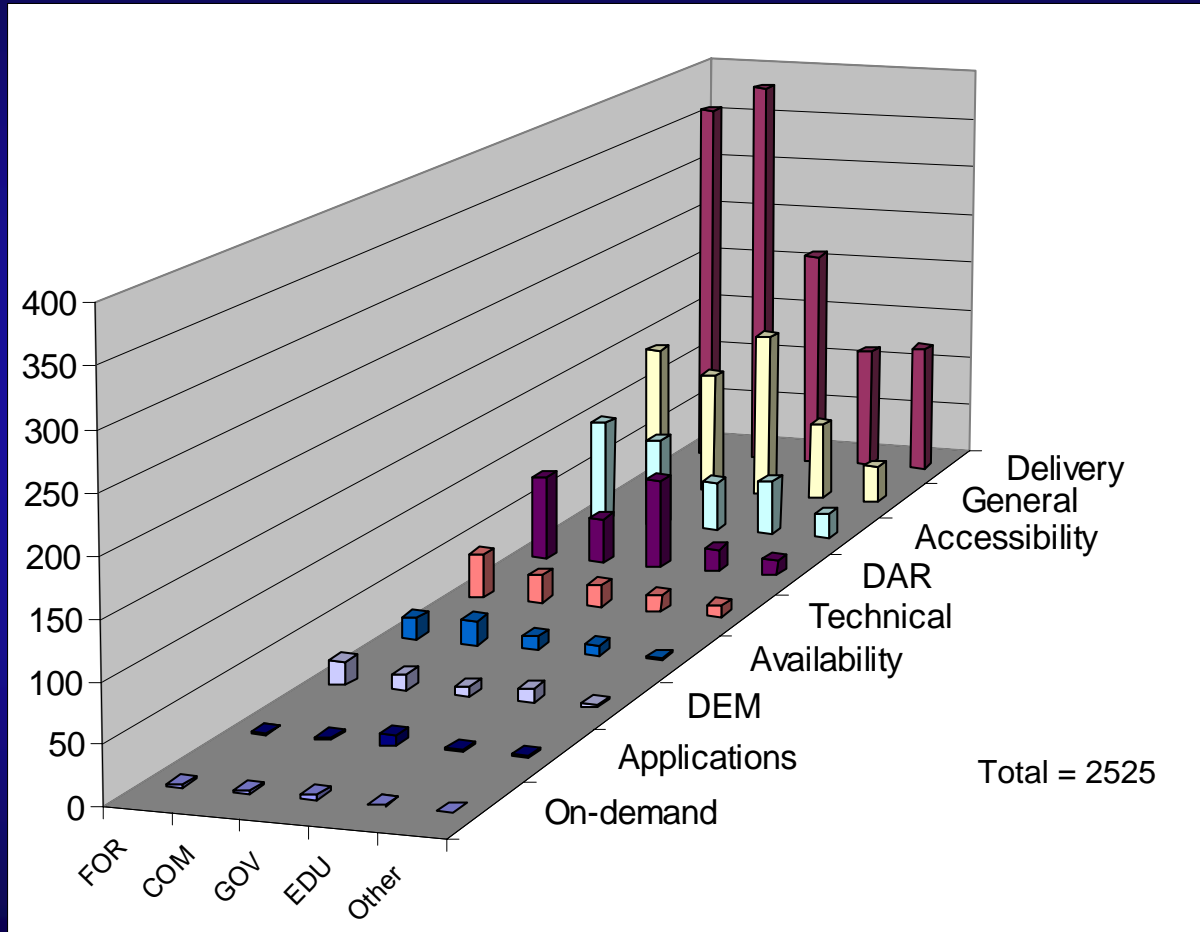
<i>Vision Tenet</i>	<i>Vision 2015 Goals</i>
Archive Management	NASA will ensure safe stewardship of the data through its lifetime. The EOS archive holdings are regularly peer reviewed for scientific merit.
EOS Data Interoperability	Multiple data and metadata streams can be seamlessly combined. Research and value added communities use EOS data interoperably with other relevant data and systems. Processing and data are mobile.
Future Data Access and Processing	Data access latency is no longer an impediment. Physical location of data storage is irrelevant. Finding data is based on common search engines. Services invoked by machine-machine interfaces. Custom processing provides only the data needed, the way needed. Open interfaces and best practice standard protocols universally employed.
Data Pedigree	Mechanisms to collect and preserve the pedigree of derived data products are readily available.
Cost Control	Data systems evolve into components that allow a fine-grained control over cost drivers.
User Community Support	Expert knowledge is readily accessible to enable researchers to understand and use the data. Community feedback directly to those responsible for a given system element.
IT Currency	<ul style="list-style-type: none"> Access to all EOS data through services at least as rich as any contemporary science information system.



MODIS User Services Contacts FY07TD



ASTER User Services Contacts FY07TD



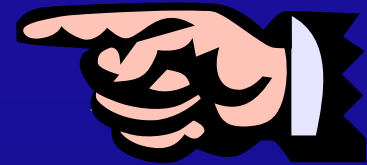
EOSDIS Customer Satisfaction Survey

Areas of Opportunity for NASA EOSDIS

Focus on the search, selection and ordering for improvement

Top Priority

Product Search (70)
Product Selection and Order (72)



Also important to keep an eye on Customer Support (82). High impact area – further declines will affect overall customer satisfaction.



EOSDIS Customer Satisfaction Survey

■ LP DAAC analysis for 2006 Survey

- 6,166 surveys to LP DAAC users were sent out, 909 responses (15%)
- Of the 909 responses, 274 provided comments

Product Search	26%	MRTWeb; OGC WMS/WCS; Google
Product Delivery	20%	MRTWeb; User Supplied Media Pilot; Data Pool Sizing; Services in ECHO
Product Cost	16%	
Product Documentation	14%	Website Re-Design
Product Order	11%	Online Credit Card Form; DAR Tool
Product Quality	10%	
Customer Support, Other	3%	



Collaboration Activities

Selected

- **FY06 USGS LRS, “A System for Rapid, Community-based Processing of MODIS Data”** (in partnership with multiple USGS stakeholders).
- **NASA ROSES EOS 2006, “Recent North American Forest Dynamics via Integration of ASTER, MODIS, and Landsat Reflectance Data”** (as collaborator, PI: Dr. J. Masek, NASA Goddard).
- **NASA ROSES EOS 2006, “Mining the ASTER Global Data Archive: Volcanic Hazards Evaluations”** (as collaborator; PI :Dr. D. Pieri, JPL).
- **NASA ROSES EOS 2006, “Expansion and synergistic use of the ASTER Urgent Request Protocol (URP) for natural disaster monitoring and scientific analysis”** (as Co-I, PI: Dr. M. Ramsey, University of Pittsburg).

Pending

- **FY07 USGS LRS, “Transitioning the eMODIS Prototype to Operational Status”** (in partnership with multiple USGS stakeholders).
- **FY07 USGS LRS, “Planning the Transition of ASTER and MODIS Land Data to NSLRSDA”**, (collaboration with USGS LTA).
- **Vegetation Index Products from Multiple Long Term Satellite Data Records”** (as collaborator, PI: Dr. K. Didan, University of Arizona).



LP DAAC Vision

- 1-2 year timeframe
 - Completion of ECS Evolution Activities
 - Enhanced Metrics / User Characterization
 - Operational Efficiencies / Automation
 - Enhanced Distribution Services
 - Completion of MODIS V5 Reprocessing Campaign
 - Increased Data Pool Capacity
 - Planning for Post “Evolved ECS”
 - Distribution of ASTER Global DEM (tbd)
 - Collaboration (proposals, university collaboration)



LP DAAC Vision

- **3-5 year timeframe**
 - **Distribution of additional products**
 - **Majority of data available online (vs. nearline)**
 - **Order-less process; Media no longer required**
 - **Technology will continue to reduce computer room footprint (plan for up to 50% reduction by FY2010)**
 - **Planning toward Long-Term Archive**
 - **Increased USGS funding to assist with LTA**
 - **Increased external funding (science proposals)**



LP DAAC Contact Info

- LP DAAC User Services

U.S. Geological Survey (USGS)
Center for Earth Resources Observation and Science (EROS)
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- Management Point of Contact

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Questions...

