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Source Selection Information See FAR 3.104

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Section 1 Introduction

1.1 Background / Mission Assumptions

The USGS EOS Project is the USGS Center for Earth Resources Observation and Science (EROS) activity in support of the NASA Earth Observing System (EOS) Program (and the NASA Earth Science Data and Information System (ESDIS) Project).

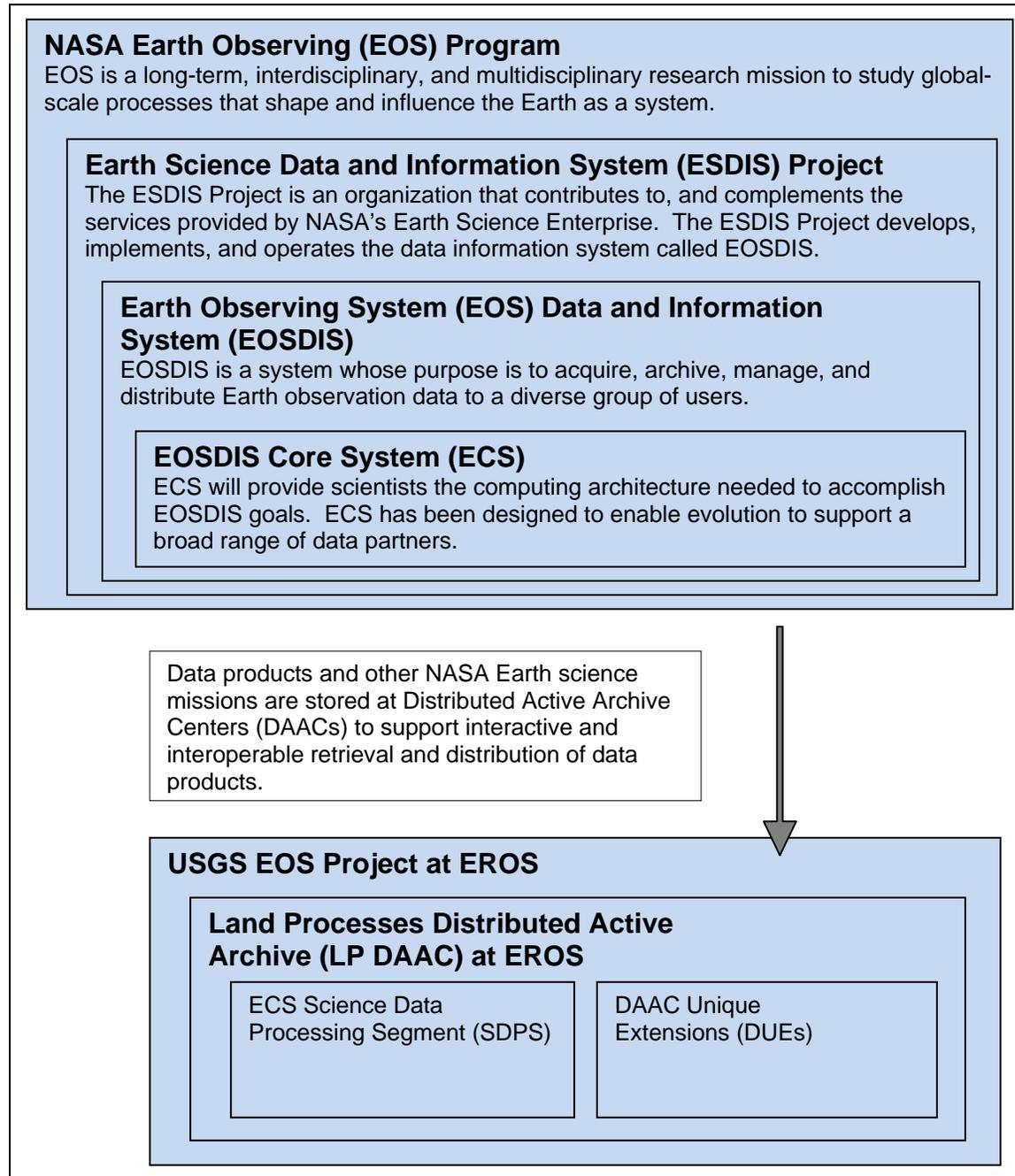


Figure 1-1. NASA EOS Program and ESDIS Project Overview.

NASA EOS is a long-term, interdisciplinary, and multidisciplinary research mission to study global-scale processes that shape and influence the Earth as a system. The EOS mission is partially accomplished through the provision of a comprehensive data and information system to provide the Earth science research community with easy, affordable, and reliable access to the EOS and other appropriate Earth science data.

The Earth Observing System Data and Information System (EOSDIS) provides a Core System (ECS) maintained under the EOSDIS Maintenance and Development (EMD) contract. The ECS Science Data Processing Segment (SDPS) provides a set of archive and distribution elements and is deployed at three Distributed Active Archive Centers (DAACs). The DAACs provide the facilities along with the management and operations support to produce, archive, and distribute EOS standard data products.

The Land Processes DAAC (LP DAAC) objectives are to ingest, process, archive and distribute NASA Earth Observing System (EOS) program data to the NASA and Department of the Interior (DOI) science community, the greater remote sensing science and application community, and the general public.

The LP DAAC handles a very large variety and volume of data; therefore, it must work as a part of, and in concert with, a wider NASA data system, the EOS Data and Information System (EOSDIS), and the organization responsible for it, the Earth System Data and Information System (ESDIS). This data is primarily land remotely-sensed data and is destined for transfer to the USGS Long Term Archive at a TBS date.

This project directly relates to the strategic plans of EROS, the Land Remote Sensing (LRS) Program, and the U.S. Geological Survey. It provides remote sensing data to the public and to scientists for global climate change research and science use in general.

The EOS project supports LRS program's long-term objectives by contributing directly to items two and three of its three major program components:

- (1) Satellite Mission Operations and Data Acquisition
- (2) Long-Term Data Preservation and Access
- (3) Remote Sensing Research and Data Utilization

Impact Statement: This new data, which is part of a global long-term data superset, strongly advances science. The systems developed and used for this work are state of the art, and provide a good opportunity to explore development and operations concepts for application to other USGS projects and tasks.

Section 2 Technical Agreement

2.1 Scope

The EOS Project is the USGS Center for Earth Resources Observation and Science (EROS) activity in support of NASA's (ESE) Earth Observing System (EOS). This project currently supports two active satellite missions: Terra and Aqua.

The Project's objectives are to ingest, process, archive, and distribute NASA Earth Observing System (EOS) program data to the NASA and Department of the Interior (DOI) science community, the greater remote sensing science and application community, and the general public. This data is primarily land remotely-sensed data. The data is destined for transfer to the USGS Long Term Archive at a to be specified date.

The Project handles a very large variety and volume of data; therefore, the project must work as a part of, and in concert with, a wider NASA data system, the EOS Data and Information System, and the organization responsible for it, the Earth System Data and Information System (ESDIS). This work is encompassed in an organization called the "Land Processes Distributed Active Archive Center" (LP DAAC).

The LP DAAC currently maintains a digital archive of over a petabyte of MODIS and ASTER data. In FY09 (thru July), the LP DAAC distributed over 26 Million granules of MODIS data and 1.8 Million granules of ASTER data. Additional information regarding the specific data products that the LP DAAC ingests, archives, and distributes can be found on the LP DAAC website (<https://lpdaac.usgs.gov/>).

The EOSDIS Core System (ECS) is developed, maintained, and enhanced externally to the LP DAAC by the NASA ESDIS Project. It is deployed at the LP DAAC as the operational software system for the NASA data collections. The LP DAAC will operate the ECS as required in order to maintain and manage the NASA land processes data collection. The LP DAAC will also develop, maintain, upgrade, and operate middleware or other DAAC Unique Extensions (DUE's) as needed to integrate with the ECS system.

The LP DAAC will continue to help accomplish NASA's goals to increase the accessibility, utility, and use of NASA remote sensing data in meeting the Nation's needs, to decrease costs, and to investigate significantly improving our effectiveness and efficiency in meeting these goals in the future. For FY10, key objectives to help meet these goals within the LP DAAC include:

- Implementation of the ECS On Line Archive to enable enhanced distribution
- Increased understanding of LP DAAC users and associated use cases
- Cross-DAAC, external collaboration and increased proposal support.
- Planning toward the long-term archive of ASTER and MODIS data.
- Enhanced web-based tools and services for access to ASTER and MODIS data

By the end of FY10, the LP DAAC will have completed the ECS Evolution including the transition from a tape-based archive to a fully online archive. The ECS re-architecture along with LP DAAC process improvements should allow for a more efficient Operational organization in FY10. The focus for FY10 and beyond will be continued user support, operational efficiency, enhanced data access and delivery mechanisms, and planning toward long-term archive activities.

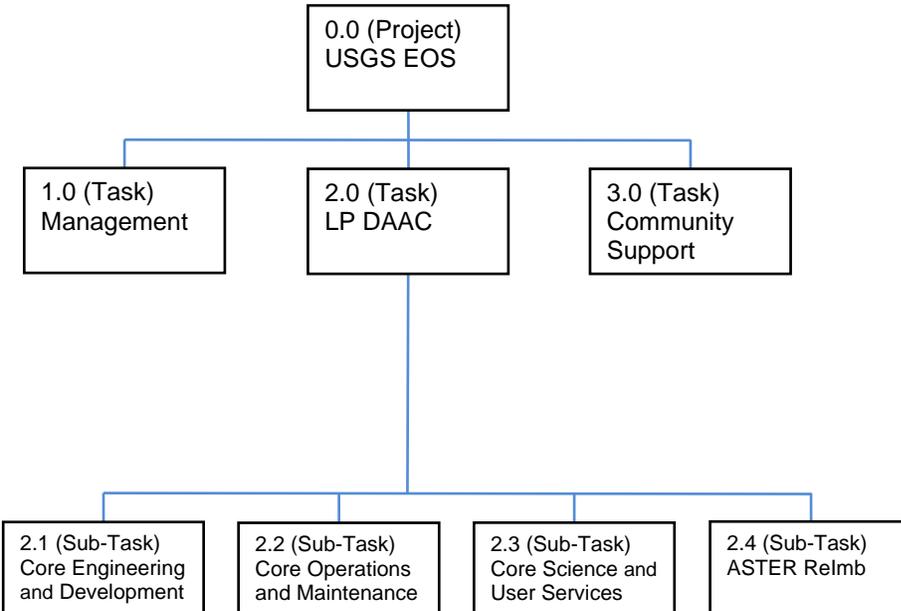


Figure 2-1. USGS EOS Project WBS.

2.2 Assumptions

- TSSC will provide specific estimates for non-LOE work package, track cost and schedule at the work package level, and report at the work package level for these activities.
- TSSC will provide planning and scheduling for project activities to include an Integrated Master Schedule (IMS) with the associated necessary attributes
- TSSC will provide a comprehensive Communications Plan that ensures appropriate communication with USGS & NASA management as well as internal to the project with EMD Liaisons and TSSC staff
- TSSC will ensure Project documentation is available and maintained with scheduled updates
- TSSC will provide status reporting on a monthly basis for performance goals, milestones and deliverables (schedule), expenses and risks
- TSSC Work Management will coordinate TSSC project staffing needs (transition planning, key personnel identification, training, etc.) and associated scenario planning
- TSSC will ensure coordination of work activities with USGS Management, EMD, Vendors, other EROS projects, etc.

- TSSC will foster collaboration within EROS through activities such as presentations at EROS Forums
- Each defined work package will have a Lead assigned.
- The TRD will be updated if new work packages are identified and/or if the scope of a defined work package changes significantly. This will result in a change to the Work Plan and potentially to the Work Commitment.
- Transition plans for key personnel will be developed and communicated with the USGS.

2.3 (WBS 2.1) LP DAAC Core Engineering & Development

2.3.1 Scope

Engineering and Development (E&D) includes and the planning and implementation of additional capabilities to the DAAC baseline. Tasks may include the analysis of new business needs, requirements definition, system architecture, system design, development, implementation planning, system integration, and on-going performance analysis. Prototype efforts may be used to assist in clarifying scope and requirements.

Work Management (8836-D6DBP) should include the work packages necessary to develop and maintain overall TSSC USGS EOS Project Work Plan (WP); maintain the TSSC Contract Work Breakdown Structure (CWBS); manage and report on the TSSC Budget; maintain the TSSC organization, staffing profile, and resource allocations; prepare and maintain the USGS EOS Project Integrated Master Schedule (IMS); maintain the TSSC Management Plans; and coordinate work activities with other EROS projects.

E&D Architecture (8836-D6DBA) should include work packages that identify and assess technical alternatives for the project including cost/benefit analysis and risk identification. Proposed technical enhancements to increase efficiencies and/or provide new capabilities should be communicated through white papers, technology demonstrations, presentations, and forums. Work should also be included within this task relative to the maintenance and communication of the LP DAAC system architecture.

E&D Search, Order, & Distribution (8836-D6DBB) should contain the work packages necessary to implement initial operational capabilities for search, order, and distribution DAAC Unique Extensions (DUEs).

E&D Ingest & Archive (8836-D6DBC) should contain the work packages necessary to implement initial operational capabilities for ingest and archive DAAC Unique Extensions (DUEs).

E&D Image Processing (8836-D6DBD) should contain the work packages necessary to implement initial operational capabilities for image processing DAAC Unique Extensions (DUEs).

As part of this work, the TSSC will support USGS and NASA project management activities; support USGS & NASA strategic planning; support NASA Evolution efforts; and support collaboration with other DAAC's, other EROS projects, and external agencies. Activities often require coordination with external data providers, vendors and other contractors (including EMD), internal USGS/EROS projects, as well as internal to the EOS project.

2.3.2 Assumptions

- TSSC will follow best practices for project management as well as system/software engineering such as those defined by PMI, INCOSE, and SEI.
- TSSC will ensure coordination of E&D work activities with stakeholders from within the EOS Project (including SUSO), USGS Management, EMD, Vendors, other EROS projects, etc.
- Reviews will be conducted at major milestones during the engineering process to ensure technical maturity, communicate technical status, and to gain customer consent in acceptance of deliverable and to begin the next phase of work. Milestone review examples include: Kickoff, System Requirements Review (SRR), Preliminary Design Review (PDR), Critical Design Review (CDR), Test Readiness Review (TRR), and Operations Readiness Review (ORR).
- The USGS will sign off on the Project Plan and the Closeout Report for work packages. The Project Plan should include specific scope, schedule, and cost details.
- LP DAAC technical documentation will be maintained at a system and project level. Up-to-date LP DAAC architecture documentation will be maintained.
- ASTER Global DEM dataset was archived in ECS and enabled for distribution thru ECHO/WIST. Alternate distribution mechanisms for this now “core” dataset may be implemented thru enhancements to existing clients.

2.3.3 Deliverables

Task	Deliverable(s)	Target
Work Management (8836-D6DBP)	- Project Mgmt Plan	Q1
	- Communication Mgmt Plan	Q1
	- Risk Mgmt Plan	Q1
	- TSSC EOS Project self-evaluation	Quarterly
	- TSSC EOS Project IMS (baseline update)	Quarterly
	- TSSC EOS Project Work Package status report	Monthly
Architecture (8836-D6DBA)	- TSSC EOS Project Financial report	Monthly
	- TSSC EOS Project Status report	Weekly
	- Project Architecture reviews	Quarterly
	- Whitepaper(s) with recommendations (including, but not limited to: Processing Service, Machine-to-machine data access)	Quarterly

2.4 (WBS 2.2) LP DAAC Core Operations & Maintenance

2.4.1 Scope

O&M Sustaining Engineering (8836-D6DBE) should contain the work packages necessary to provide System Engineering and Development in support of existing operational capabilities. Activities include the maintenance of software baselines, configuration management, software installs, install testing, performance analysis, preventative maintenance, and recovery and resolution of issues identified in the operational system. Minor development and/or system enhancements may be added to the baseline capability.

Sustaining Engineering also includes development, management, and maintenance of the LP DAAC Security Management Plan. Scope of the Security Management plan includes the physical and digital protection of program resources (software, hardware, networks, facilities, archives, and backup systems) as well as contingency planning.

O&M Infrastructure (8836-D6DBF) should contain the work packages necessary to perform system administration, database administration, and hardware management functions for the ECS and DUEs within the LP DAAC..

The Operations Tasks within the LP DAAC include work associated with monitoring and providing day-to-day operations of the ECS system as well as DAAC Unique Extensions (DUEs).

O&M Search, Order, & Distribution Operations (8836-D6DBG) should contain the work packages necessary to operate search, order, and distribution systems within the LP DAAC.

O&M Ingest & Archive Operations (8836-D6DBH) should contain the work packages necessary to management of the LP DAAC data, which include the data, metadata, and catalogs. This includes Data Management activities to perform routine checks to assure the system records reflect what the satellite acquisitions match the long running mission archives and that data is available to the public.

O&M Image Processing Operations (8836-D6DBI) should contain the work packages necessary to operate systems within the LP DAAC necessary to provide image processing and data productions capabilities.

2.4.2 Assumptions

- TSSC will work cooperatively with NASA EMD Contractor to support ECS
- TSSC will participate in EMD document reviews and integrated product teams (IPT's) as necessary.
- TSSC will continue to identify and recommend potential system and/or operations flow efficiencies for the ECS baseline and other LP DAAC DUE systems
- TSSC will identify opportunities to consolidate data management activities to allow for improved practices and overall efficiency
- An Integrated Master Schedule (IMS) managed within 8836-D6DBP is supported with Core Operations and Maintenance inputs
- MODIS V004 data deletion strategy was implemented in FY09; MODIS V006 reprocessing will begin in FY10.
- ECS R7.22 became operational in FY09 as part of the Online Archive work package.
- TSSC will effectively troubleshoot issues to ensure maximum system availability (goal of 24x7 availability)
- All currently operational DUE's will be supported thru Sustaining Engineering. Corrective engineering and minor enhancements will be handled thru the ERB process.
- TSSC will maintain DAAC IT security in compliance with NASA and USGS security guidelines including the recommended security controls specified in NIST 800-53.
- TSSC will provide for weekly configuration management, including CCB processes and procedures. Configuration management should cover the ECS system and all DUE's.
- TSSC will provide a monthly Engineering Review Board to manage DUE enhancements
- Standard media options were removed in FY09.

2.4.3 Deliverables

Task	Deliverable(s)	Target
Sustaining Engineering (8836-D6DBE)	<ul style="list-style-type: none"> - System Operations Incident Management Report - NASA security review report - Contingency test report - Security plan update - Change Management Report - LP DAAC release schedule - Top issues list (ECS, ECHO) - DUE CR Report - DUE release schedule - ECS Test Reports - Online Archive Status Report 	Monthly Annual Annual Annual Monthly Weekly Weekly Monthly Quarterly As Needed Quarterly
Infrastructure (8836-D6DBF)	<ul style="list-style-type: none"> - Network Management Report - Database Management Report - System Administration Report - Hardware Management Report - Annual Procurement Plan 	Monthly Monthly Monthly Monthly Monthly
Ingest and Archive Operations (8836-D6DBH)	<ul style="list-style-type: none"> - Data Ingest Report - Data Archive Report - Data Export Report - Data Management Report 	Monthly Monthly Monthly Monthly
Search, Order, and Distribution Operations (8836-D6DBG)	<ul style="list-style-type: none"> - Data Publishing Report - Data Access Report - Data Order Report - Data Distribution Report - Bulk Order Report 	Monthly Monthly Monthly Monthly Monthly
Image Processing Operations (8836-D6DBI)	<ul style="list-style-type: none"> - Data Production Report 	Monthly

2.5 (WBS 2.3) LP DAAC Core Science and User Services

2.5.1 Scope

The existing LP DAAC Science Advisory Panel (SAP) was reconstituted in FY07 as a User Working Group (UWG). The UWG primary objectives are: (1) to assist in defining and accomplishing the LP DAAC's EOSDIS science goals; (2) to provide guidance to the LP DAAC Project Scientist to prioritize LP DAAC tasks; (3) to provide science oversight of and guidance to LP DAAC development activities and operational functions; and (4) to enhance coordination of science issues with EOS and EOSDIS advisory panels and with EOS Program and ESDIS Project Scientists.

Science, User Support and Outreach (SUSO) activities provide the primary interface between the LP DAAC and its end users by supporting current data and systems, as well as understanding and documenting requests for new capabilities. SUSO hosts and participates in various meetings of NASA affiliated science data providers (instrument science teams) and data users, and coordinates the LP DAAC User Working Group meetings. SUSO is also responsible for performing characterization studies of Terra and Aqua land data products, and coordinates with ESDIS and the instrument science teams in conducting outreach activities. Additionally, SUSO should assist the LP DAAC to develop and implement measures that foster working-level interactions between DAAC personnel and researchers.

SUSO Science (8836-D6DBJ) should contain the work packages necessary to support science strategy / policy / requirements, science communications, and science support.

SUSO User Support (8836-D6DBK) should contain the work packages necessary to support level I/II/III user services, user communications, and user characterization efforts.

SUSO Outreach (8836-D6DBL) should contain the work packages necessary to support outreach events and workshops.

Science and User Support activities include:

- Identification of new opportunities, technologies, or methods to enhance user support and/or create efficiencies. Investigation of the User Services technical environment. Review existing capabilities for call logging and FAQ generation. Identify potential technology enhancements including web-based user forums, RSS feeds, FaceBook, podcasts, etc. Reporting capabilities (use of EMS, NetInsight)
- Identification of new opportunities, populations, technologies, or methods to enhance the outreach mission
- “User” characterization and “Use” characterization
- Web-based workshop planning
- Identification of opportunities to employ user-centered design principles to improve the discovery, browse, assessment and retrieval of LP DAAC data holdings in conjunction with other Earth science data archives within the USGS as well as other EOS DAACs
- Canvas of user applications and utilization methods of LP DAAC holdings in conjunction with other Earth Science data archives within the USGS as well as other EOS DAACs.

2.5.2 Assumptions / Objectives

- TSSC SUSO staff will identify opportunities to increase the number of users using our data (distinct new users)
- TSSC SUSO staff will provide recommendations to the USGS regarding enhanced data access and operational efficiencies based on input from users as well as personal observations, in coordination with the assumptions in section 2.3.2 requiring end-user representation by serving as proxy to the end-user wherever appropriate in requirements definition, design review and acceptance testing of LP DAAC capabilities and systems.
- TSSC SUSO staff will demonstrate excellent service to users (people using data)
- Will approve of requirements that are implemented by E&D; will be involved in testing new capabilities delivered by E&D (or external organizations including EMD and NASA).
- Will assist the EOS Project Scientist serve as an advocate for LP DAAC science users
- TSSC will maintain familiarity with NASA and USGS science strategic direction, and assist the EOS Project Scientist serve as proxy for LP DAAC science users in the development of

future LP DAAC systems and capabilities by coordinating end-user requirements with NASA and USGS strategic directions.

- TSSC SUSO staff will demonstrate science excellence within the LP DAAC and EROS
- Presentation materials will be reviewed thru the USGS Fundamental Science Practices process as required.
- TSSC will provide effective cross training to ensure user support availability during EROS business hours
- TSSC SUSO staff will have an understanding, adequate to represent the needs of LP DAAC science users, of the functions, capabilities, limitations, and purpose of systems used to advertise and distribute LP DAAC data including LP DAAC specific systems (i.e. MRTWeb, MTMGW), USGS/EROS systems (i.e. GloVis), and NASA systems (i.e. ECHO/WIST, GCMD).
- TSSC SUSO staff may act as a stakeholders on engineering efforts within the LP DAAC to ensure objectives are translated to requirements and goals are met
- TSSC SUSO staff will support liaison efforts to ASTER and MODIS Science Teams as well as maintain and improve relationships with Sensor Science Teams
- TSSC SUSO will act as the support liaison to other NASA DAACs to include ORNL, PO, NSIDC, etc.
- TSSC SUSO will act as the support liaison to MODAPS (PI Processing Meeting, etc.)
- TSSC SUSO staff may be asked to participate in LP DAAC strategic visioning exercises
- TSSC SUSO staff will support the coordination and execution of the LP DAAC User Working Group (UWG), including presentations, as well as publication of meeting artifacts on the website, and facilitate the implementation of UWG recommendations.
- TSSC SUSO staff will author science documentation to include fact sheets, publications and journals, provide content management and editorial oversight for various modes of LP DAAC science communication (i.e., Web site, conferences)
- Maintain involvement with Earth Science community and target specific opportunities to reach our users (conferences, etc.)
- Support collaboration with other projects at EROS and within the USGS Land Remote Sensing (LRS) organization to identify science activities relevant to the LP DAAC (such as emergency response and other USGS-funded activities)
- Support science research activities using ASTER or MODIS in conjunction with other sensor data sets
- TSSC will identify relevant science proposals and support development of proposals by the USGS
- TSSC SUSO staff will foster collaboration with other DAACs to identify common processes

- TSSC SUSO staff will participate in investigative projects to demonstrate the utility and value of LP DAAC data holdings, and where appropriate suggest operational capabilities.
- TSSC SUSO staff will support relationships with other DAACs, universities, and other science investigators
- TSSC SUSO staff will assist with the coordination and documentation of the LP DAAC role in MEaSURES and SIPS product and service development efforts; e.g., those processes and procedures that should be common to all such activities (as opposed to the discrete activities listed under section 2.7). Examples include: collections of metrics from MEaSURES/SIPS product generation systems, metadata standards, transfer of production systems/product databases to the LP DAAC (as appropriate), product format definition and support, definition of data pedigree and citation standards.
- User Services will assist NASA Approved Investigators in support of grant activities such as “Exposure to Volcanic Ashes: Collect, Understand, Analyze, Respond (EVACUAR study).(PI Naumova)
- User Services will support Emergency Response activities within EROS, the USGS, and NASA. In addition, User Services should make USGS management aware of archived data that could be highlighted within EROS, USGS, or NASA.

2.5.3 Deliverables

Task	Deliverable(s)	Target
Science (8836-D6DBJ)	<ul style="list-style-type: none"> • Assessment of enabling technologies and methodologies to improve the science utility of LP DAAC holdings • UWG recommendation status report 	Quarterly Annually
LP DAAC User Support (8836-D6DBK)	<ul style="list-style-type: none"> • User support report • “User” and “Use” characterization report • NASA USWG meeting notes • NASA User Survey analysis w/ recommendations • User Services / Outreach Technology whitepaper with recommendations 	Monthly Annually Quarterly Annually Bi-Annual
LP DAAC Outreach (8836-D6DBL)	<ul style="list-style-type: none"> • Outreach plan • Outreach report (materials review, conference review, etc) • Web content change report • Web traffic report (e.g., NetInsight) • Outreach strategy whitepaper and briefing to USGS Management, to include target population assessments and visualization/presentation technologies • Web-based workshop plans 	Annually Monthly Monthly Monthly Quarterly Annual

2.6 (WBS 2.4) ASTER Reimbursable

2.6.1 Scope

COFUR is defined in public law 102-555, Section 3 as “the incremental costs associated with providing product generation, reproduction, and distribution of un-enhanced data in response to user requests and shall not include any acquisition, amortization, or depreciation of capital assets originally paid for by the U.S. Government or other costs not specifically attributed to fulfilling user requests.”

Currently, all ASTER data products are billable with the exception of those distributed through NASA’s “Free List” which allows approved NASA-affiliated users and Educators to receive access to ASTER data at no charge via an application process. An exception to the billable ASTER data is the ASTER L1B data over the United States and it’s territories that are available through the Data Pool at no charge on a two year rolling cycle.

Work supported within the ASTER Reimbursable Task (8836-94065) unique to this period will include:

- Removal of billing and accounting functionality in LP DAAC maintained systems in collaboration with other EROS and non-EROS (NASA) associated systems.

2.6.2 Assumptions

- Media will no longer be offered to the general public as an option for the LP DAAC after March 2009
- System requirements for billing and accounting to the general public will be terminated for the LP DAAC by the end of FY09.
- Manual procedures may be set up to support cross-agency agreements for the start of FY10

2.6.3 Deliverables

Task	Deliverable(s)	Target
Data Sales (8836-94065)	- COFUR Operations Report (ingest, archive, distribution) - COFUR User Services Status Report	Monthly Monthly

2.7 (WBS 3.0) USGS EOS Community Support

2.7.1 Scope

The EOS **core** comprises all the hardware, software, physical infrastructure, and intellectual capital NASA recognizes as necessary for meeting its requirements for Earth science data system management. Core data system elements reflect NASA’s responsibility for managing Earth science satellite mission data characterized by the continuity of research, ready access to and usability of data. The **community** elements are those tools or capabilities developed and deployed largely outside NASA’s core elements and are characterized by their ‘evolvability’ and leading-edge innovation. The activities described in this WBS element fall within the latter category. These include activities that augment access and utility of existing EOS data at the LP DAAC, to accommodate LP DAAC mandates that may be funded outside of core funding channels, or any activity that is approved by the UWG and adheres to standards adopted by the LP DAAC that may be funded outside of, or cost-shared with, ESDIS.

Community activities unique to this contract period include:

eMODIS (8836-D6DCA) should contain the work packages necessary implement an operational eMODIS system and manage the ongoing operational production, archive, and distribution for the standard eMODIS product(s).

MEaSURES Vegetative Phenology (8836-D6DBM) should contain the work packages necessary to support the ESDR Distribution and User Support subgroup.

2.7.2 Assumptions

- USGS Science Leadership may pursue future proposal activities as a PI or Co-I. Should such proposals be accepted, new work packages may be requested in this sub-task.
- TSSC will assist with the documentation and tracking of proposal development and community-funded activities.
- All activities within the Community work area will adhere to the LP DAAC's commitment to provide archive and distribution services to the land remote sensing community in support of the EOS program objectives:
 - Meet all applicable U.S. Government-mandated standards for data products and information systems.
 - Meet metadata requirements set by the Federal Geographic Data Committee (FGDC) to ensure standard searchability.
 - Provide products and services on a non-discriminatory basis.
 - Make available public-domain products and services on an Internet-accessible web server.
 - Use the Global Change Master Directory (GCMD) as one means to announce availability of project products and services.
- Other proposal activities are in progress that may lead to future work.

2.7.3 Deliverables

Work Package	Deliverable(s)	Target
eMODIS Standard Product (8836-D6DCA)	- eMODIS system architecture documentation - eMODIS O&M plan - eMODIS operations report (production, archive, distribution)	monthly
MEASURES Veg Phenology (8836-D6DBM)	- Estimate of work to be performed, list of deliverables to the PI in FY09 - Work status report	Q1 Quarterly

Section 3 Communications

3.1 Communications Mechanisms

The TSSC shall provide periodic status information through systematic reporting and milestone reviews. Status reporting shall include the use of the weekly, monthly, and quarterly meetings, along with configuration change meetings. Additional ad hoc reports and briefings to support technical and management activities will be required periodically.

Appendix A EOS Acronyms

Acronym	Definition
AA	Active Archive
AAG	Association of American Geographers
AAPG	American Association of Petroleum Geologists
ACCA	Automated Cloud Cover Assessment
ACL	Access Control List
AESICS	ASTER Emergency Scheduling Interface and Control System
AGU	American Geophysical Union
AMSTEC	ASTER Metadata Support to External Clients
ANSUR	Automated NASA Science User Registration
ASDC	Atmospheric Science Data Center (LaRC DAAC)
ASF	Alaska Satellite Facility
ASFPM	Association of State Floodplain Managers
ASMT	Automated System Management Tool
ASPRS	American Society for Photogrammetry and Remote Sensing
ASTER	Advanced Spaceborne Thermal Emission and Reflection Radiometer
ATBD	Algorithm Theoretical Basis Document
AVHRR	Advanced Very High Resolution Radiometer
BMGT	Bulk Metadata Generation Tool
BURL	Bulk URL script/tool
CCA	Cloud Cover Assessment
CCB	Configuration Control Board
CCR	Configuration Change Request (a local or EMD CCR)
CDR	Critical Design Review
CI	Configuration Item
CM	Configuration Management
CMMI	Capability Maturity Model Integration
CMP	Configuration Management Plan
CMT	Configuration Management Team
COB	Close of Business
COFUR	Cost of Fulfilling User Request
CONOPS	Concept of Operations
COOP	Continuity of Operations Plan
COR	Contracting Officer's Representative
COTS	Commercial Off-The-Shelf
CRT	Catalog Reconciliation Tool
CSR	Customer Service Representative
DAAC	Distributed Active Archive Center
DAR	Data Acquisition Request
DB	Database
DBA	Database Administrator
DBMS	Database Management System
DCN	Document Control Number

DCPF	Data Capture and Processing Facility
DCS	Data Capture System
DEM	Digital Elevation Model
DFD	Data Flow Diagram
DIF	Directory Interchange Format
DLT	Digital Linear Tape
DM	Data Management
DMP	Document Management Plan
DMT	Data Management Tool
DOI	Department of the Interior
DOORS	Dynamic Object Oriented Requirements Software
DPL	DataPool System
DPS	Data Processing System
DTD	Document Type Definition
DUE	DAAC-Unique Extension
ECHO	EOS ClearingHouse
ECS	EOSDIS Core System
EDF	ECS Development Facility
EE	Earth Explorer
EIAT	ECHO Ingest Accounting Tool
EMD	EOSDIS Maintenance and Development
EMS	ESDIS Metrics System
EOS	Earth Observing System
EOSDIS	EOS Data and Information System
ERB	Engineering Review Board
EROS	Earth Resources Observation and Science
ESDIS	Earth Science Data and Information System
ESDT	Earth Science Data Type
ESIP	Earth Science Information Partner
ETC	ECHO Technical Committee
EWOC	ECS WSDL Ordering Component
F&PRS	Functional and Performance Requirements Specification
FAQ	Frequently Asked Question
FFS	Fiscal Financial System
FTE	full-time equivalent
FTP	File Transfer Protocol
FY	Fiscal Year
GCMD	Global Change Master Directory
GDEM	ASTER global DEM
GDS	Ground Data System
GES	Goddard Earth Sciences
GESDAAC	GSFC Earth Sciences DAAC
GHRC	Global Hydrology Resource Center
Glovis	USGS Global Visualization Viewer
GSA	Geological Society of America

GSFC	Goddard Space Flight Center
GUI	Graphical User Interface
HDF	Hierarchical Data Format
HEG	HDF-EOS to Geotiff
HTTP	Hypertext Transfer Protocol
ICD	Interface Control Document
IGARSS	International Geoscience and Remote Sensing Symposium
IMS	Integrated Master Schedule
IPT	Integrated Patch Team
IRR	Iteration Requirements Review
ITAR	International Traffic in Arms Regulations
IV&V	Independent Verification and Validation
JPEG	Joint Photographic Experts Group
JPL	Jet Propulsion Laboratory
L0	Level 0
L0R	Level 0 Reformatted
L1	Level 1
L1G	Level 1 Geometrically corrected
L1G (ortho)	Level 1 Geometrically corrected, orthorectified
L1Gp	Level 1 Geometric precision corrected
L1Gs	Level 1 Geometric systematically corrected
L1Gt	Level 1 Geometric terrain corrected
L1R	Level 1 Radiometrically corrected
L2	Level 2 swath
L2G	Level 2 gridded
L3	Level 3
L4	Level 4
LAADS	L1 and Atmospheres Archive and Distribution System
LaRC	Langley Research Center DAAC
LDCM	Landsat Data Continuity Mission
LDOPE	Land Data Operational Product Evaluation
LP DAAC	Land Processes DAAC
LRS	Land Remote Sensing
LST	Land Surface Temperature
LTA	Long Term Archive
MOC	Mission Operations Center
MODAPS	MODIS Adaptive Processing System
MODIS	Moderate Resolution Imaging Spectroradiometer
MODLAND	MODIS Land Science Team
MRT	MODIS Reprojection Tool
MTMGW	Machine-To-Machine Gateway
NASA	National Aeronautics and Space Administration
NCR	Non-Conformance Report
NIST	National Institute of Standards and Technology
NOAA	National Oceanic and Atmospheric Administration

NPOESS	National Polar-orbiting Operational Environmental Satellite System
NPP	NPOESS Preparatory Project
NSIDCDAAC	National Snow and Ice Data Center DAAC
NSLRSDA	National Satellite Land Remote Sensing Data Archive
ODC	Other Direct Costs
OGC	OpenGIS Consortium
OPS	Operations
ORNLDAAC	Oak Ridge National Laboratory DAAC
ORR	Operations Readiness Review
PDR	Preliminary Design Review
PGE	Product Generation Executable
PMP	Project Management Professional
PO.DAAC	Physical Oceanography DAAC
POC	Point of Contact
PSR	Pre-Ship Review
PUMP	Provider User Management Program
QAMUT	Quality Assessment Metadata Update Tool
RAID	Redundant Array of Independent Disks
RCN	Revision Control Number
ROM	Rough Order of Magnitude
S4PM	Simple, Scalable, Script-based Science Processor for Missions
SAN	Storage Area Network
SCLI	Science Command Line Interpreter
SCM	Software Configuration Management
SDP	Science Data Processor
SDSRV	Science Data Server
SE	Systems Engineer
SEDAC	Socioeconomic Data and Applications Center
SEEDS	Strategy for Evolution of ESE data Systems
SEMP	Systems Engineering Management Plan
SIPS	Science Investigator-led Processing System
SME	System Maintenance Engineer
SOAP	Simple Object Access Protocol
SOB	Search, Order, and Browse
SOP	Standard Operating Procedure
SPL	Software Project Lead
SRR	System Requirements Review
SRTM	Shuttle Radar Topography Mission
SWIR	Short Wave Infrared
TAMI	Terra ASTER Metadata Inventory
TAMMI	Terra Aqua MODIS Metadata Inventory
TCOC	Traffic Cop / Order Controller
TOC	Table of Contents
TRR	Test Readiness Review
TS1	Test Mode 1

TS2	Test Mode 2
TSSC	Technical Services Support Contract
UIS	USGS Inventory Server
UPS	Uninterrupted Power Supply
URL	Universal Resource Locator
USGS	U.S. Geological Survey
USWG	User Services Working Group
UWG	User Working Group
VNIR	Visible Near Infrared
WBS	Work Breakdown Structure
WIST	Warehouse Inventory Search Tool
WM	Work Manager
WSDL	Web Services Description Language
XML	eXtensible Markup Language