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Glossary of Terms for the EOSDIS Core System (ECS) Project

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Preface

The purpose of this Glossary is to define terminology as used within the EOSDIS Core System (ECS) project. The Glossary was created by ECS engineers and scientists and is maintained by the ECS Data Management organization.

This document is not a formal government deliverable and does not require government approval prior to acceptance and use. It has been reviewed and approved by the ECS Configuration Control Board, and is under that Board's control.

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Glossary of Terms for the ECS Project

A

abstraction	The act or process of separating the inherent qualities or properties of something from the actual physical object or concept to which they belong. For example, developing an icon to represent a system resource and using the icon to actually select the resource.
acceptance testing	Verification activities conducted to show the item under test does satisfy its acceptance criteria as determined by requirements allocated to the item under test. Test results are used for deciding to accept or reject the software release. Acceptance tests are witnessed by government personnel, who have contracted work out to be performed and available end users of the system. Acceptance testing also applies to toolkits, science algorithm integration, and unit-level verification of COTS products.
access control List	A mechanism used by DCE to control the access by DCE principals (e.g., users) to named objects (e.g., files, directories).
accountability management data	Information collected about the usage of ECS resources and services attributed to specific accounts (i.e., users.) This information is forwarded by the SDPS to the MSS for accounting and billing purposes. The information includes Request Identifier, date and time of request, media cost, CPU usage, I/O usage, personnel costs, shipping and handling costs, and networking costs as applicable.
acknowledgment	A message to the sender of a Service Request, to inform the sender of the receipt or the receipt and acceptance by the intended recipient.
ACLs Editor	Provided by CSS, facilitates creation and maintenance of access control lists for given resources and services.
acquire request	A request to obtain data and associated metadata from the ECS inventory located in the Science Data Server persistent storage.
acquire results	The return of data granules and associated metadata from the ECS inventory as a result of an acquire request.
active parameter	A Parameter state status indicating the telemetry parameter is being updated.

active plan	The plan currently used by ECS production processing.
activity	A specified amount of scheduled work with a defined start date, takes a specific amount of time to complete, and comprises definable tasks.
Admin. & Mod. ESOD	HTML-based tool for the administration and moderation of the Earth Science Online Directory (ESOD).
advertisement	A text description that announces the availability of an EOSDIS Data Set, Data Product, and/or associated ECS service(s.)
advertisement request	A request for information contained in an Advertisement as part of the advertising service uniquely identified by the request.
advertising request	The same description as an advertisement request.
advertising server	A server that holds information about the availability of data and services for authorized ECS users in data storage.
advertising service	The advertising service provides users with search and query capabilities to view descriptions of the data and services available in the ECS network. This data is called advertisements and is prepared by the data and/or service providers.
affiliated data center	An Affiliated Data Center (ADC) facility (not funded by NASA) processes, archives, and distributes Earth Science Data used for global change research, through a working agreement with the EOS program. The working agreement establishes the degree of connectivity and interoperability between EOSDIS and the ADC needed to meet their specific data access requirements in a manner consistent and compatible with EOSDIS services.
agent system	An agent system is a device or computer system that is managed by the HP OpenView Network Node Manager.
aggregation	The association between a whole unit or item and the individual distinct parts of the whole unit or item.
Alaska SAR Facility (ASF)	An EOSDIS DAAC specializing in sea ice and polar processes imagery.
algorithm	A formula or set of steps used, sometimes repetitively, to solve a problem. Algorithms implemented as software are delivered to the SDPS by a science investigator (principal investigator, team leader, or Interdisciplinary Investigator) to use as primary tools in the generation of science products. The term includes executable code, source code, job control scripts, and documentation.

algorithm integration and test tools	Software processes or packages used by the DPS DAAC Integration and Test Team for configuration control and initiation of executable processes, test execution, error diagnosis, metric collection, and acceptance testing.
algorithm updates	Algorithm updates with test data sets and calibration data included, are delivered to the integration and test environment by scientists at a science computing facility. They represent changes to existing production algorithms, or a new algorithm to produce a new standard product. Algorithm updates include the source code for the candidate algorithm, its associated documentation, and a job step control skeleton. The source code is compiled to form an executable program suite as part of the integration and test process. The job step control skeleton contains instructions to control the sequence of execution and the interchange of data between programs from the executable program suite.
allocated baseline	The detailed technical description to allocate all segment/element functional characteristics to HWCIs and CSCIs. This baseline is initially established at PDR and refined and expanded into a detailed design at CDR
analysis	Technical or mathematical evaluation based on calculation, interpolation, or other analytical methods. Analysis involves the study, evaluation, or processing of accumulated data collected during tests and demonstration activities.
ancillary data	Data other than instrument data required to perform an instrument's data processing. This includes orbit data, attitude data, time information, spacecraft engineering data, calibration data, data quality information, and data from other instruments.
Application Identifier (APID)	A number assigned by the spacecraft mission management representing the on-board application that generated the telemetry data.
application software	The programs designed to provide specific functionality required for the production of a defined product. Application software follows the steps of the implemented algorithm to perform operations on the input data.
architectural unit	A generic term for any of the following: system, segment, element, subsystem, HWCI, CSCI, CSC, or CSU.
archive activity log	The log of archive activity (insert requests, acquire commands, retrievals, etc.)

archive tape library	The ECS archive robotics unit for retrieving and storing data on tapes stored as a library.
Archival Management and Storage System (AMASS)	The AMASS is an automated library of management software that lets media in a library appear as a single, large hard drive on a server. Files are allocated to media stored in robotic libraries, jukeboxes, and stand-alone drives. AMASS manages the process of storing files in libraries. After being stored, these files are referred to infrequently.
ASCII file	A data file with contents encoded as ASCII characters.
assets	Assets are defined as useful or valuable properties. Assets or resources can include, accounts receivable, negotiable instruments, applications, office equipment or furniture, cash accounts, personnel, communications systems, procedures, databases, security systems, documentation, system software, facilities, supplies/consumables, fire detection/suppression, support systems, hardware, utilities, intangibles, accounts payable, and organization. To effectively protect the organization's resources, all resources, including data residing in a computer system, must be properly identified, quantified, and classified into one or more of the following distinct categories: a. **Critical assets** directly support the organization's ability to sustain its mission. Assets or resources are considered critical if their absence or non-availability would significantly degrade the organization's ability to carry out its activities, and if the time the organization can function without the asset is substantially lower than the time required to replace the asset. Critical assets may be redundant or may be backed up to reduce their potential impact. b. **Confidence schema** include financial, controlled, validated, certified, or accountable assets for assigning criticality values. Moveable property, cash, inventories, accounting or auditing systems, and automatic money handling software are financial or accountable assets. These assets are susceptible to both internal and external fraud. This category also includes payroll, billings, supply inventories, accounts payable and receivable, other financial assets, small pilferable items, cash, consumables, negotiable instruments and services, and automated billing systems. (Special attention is required as a result of the report by the U.S. Government Accounting Office directive entitled, Improvements Needed in Managing Automated Decision

Making by Computers Throughout the Federal Government, FGMS D765, April 23, 1976.) This category includes databases, programs, and information detailing unauthorized and invalid modifications that cannot be tolerated.

c. **Sensitive assets** include processes, information, and classified, controlled, proprietary, or private assets requiring controlled dissemination. The unauthorized disclosure and dissemination of sensitive matter can result in high magnitude losses which, generally, are not recoverable. Sensitivity is an asset's (generally data) status as agreed upon by the person or organization furnishing the sensitive resource and the person or organization receiving it. Sensitivity describes a resource's warranted degree of protection. Privacy data is a subset or special case of sensitivity requiring protection under the Privacy Act of 1974. An effective liaison with each functional office maintaining personal data is essential. The Privacy Act specifically describes the scope and requirements for data protection and privacy data collection reporting. Generally, losses relating to sensitive matters result from disclosure; and therefore, backup enhances the potential for disclosure and increases vulnerability exposure.

d. **Supportive assets** rank all other justifiable, organizational, or otherwise unclassified assets in one or more of the critical, sensitive, or financial/accountable categories. Such items might include furniture, vending machines, and other amortizable property. Loss resulting from asset threat occurrence is too small to warrant further safeguard consideration and development. These resources, therefore, are excluded from the risk analysis evaluation.

association	A relationship among instances of two or more classes with links of common structure and common semantics.
ASTER Look Up Table (LUT)	A Table containing atmospheric correction parameters (and is located on the ASTER LUT CI at EDC only, which has Sun Ultra CPUs.) The information is static and loaded from a tape provided by the U.S. ASTER IT. For testing and B.1 operation, the B.0 copy of the file can be used when no new parameters are supplied. Loading the new parameters is, however, a routine activity.
asynchronous	A format used in digital communication between computers with no timing requirements for transmission and with the start of each character individually signaled by the transmitting device.

attitude data	Data that represent spacecraft orientation and on-board pointing information. Attitude data includes: • sensor data to determine the pointing of the spacecraft axis, calibration and alignment data, Euler angles or quaternions, rates and biases, and associated parameters • data generated on-board in quaternion or Euler angle form • Refined and routine production data related to the accuracy or knowledge of the attitude
authorized work	Work defined and on contract, plus work authorized and not yet defined.
AutoSys/AutoXpert	COTS software that provides job scheduling and management. Also provides graphics to monitor, analyze, forecast, and plan AutoSys implementations.
auxiliary data	Any data set which enhances the processing, or usage, of satellite remote sensing instrument data. The same data collection process as the instrument data does not capture the auxiliary data. Auxiliary data sets can include data collected by any platform or process, preferably in geo-referenced digital format.
availability	A measure of an item is in an operable and committable state at the start of a "mission" (a requirement to perform its function) with the "mission" is called at random times. (Mathematically, operational availability is defined as the mean time between failures divided by the sum of the mean time between failures and the mean down time [before function restoration].
availability (inherent) (A_i)	The probability that, when under stated conditions in an ideal support environment without consideration for preventive action, a system will operate satisfactorily at any time. The “ideal support environment” referred to, exists when the stipulated tools, parts, skilled work force manuals, support equipment and other support items required are available. Inherent availability excludes whatever ready time, preventive maintenance downtime, supply downtime and administrative downtime required. A_i can be expressed by the following formula: $A_i = MTBF/ (MTBF + MTTR)$ Where: MTBF = Mean Time Between Failures MTTR = Mean Time To Repair

availability (operational) (A_O)

The probability a system or equipment, when used under stated conditions in an actual operational environment, will operate satisfactorily when called upon. A_O can be expressed by the following formula:

A_O = MTBM / (MTBM + MDT + ST)

Where:

MTBM = Mean Time Between Maintenance (either corrective or preventive)

MDT = Mean Maintenance Down Time where corrective, preventive administrative and logistics actions are all considered.

ST = Standby Time (or switch over time)

averaging

Standard data averaging involves extraction from a data granule of aggregate pixels formed by numerically averaging the N adjacent pixels in each of one or more dimensions of the granule. The number of pixels in each dimension to be averaged is characterized by the value of "N."

B

baseline

Identification and control of the configuration of software and hardware at a given point in time.

baseline, *configuration management specific*

A configuration identification document or a set of such documents formally designated by the Government at a specific time during a configuration item's life cycle. Baselines, plus approved changes from those baselines, constitute the current approved configuration identification.

baseline activity profile

A schedule of activities for a target week corresponding to normal instrument operations (including routine and repetitive activities) constructed by integrating long term plans (i.e., LTSP, LTIP, and long term spacecraft operations plan.)

baseline activity profile

A schedule of routine and repetitive activities for an instrument.

baseline change control

The process used to establish, analyze, communicate, and record approved changes to the project baseline.

batch and incremental scheduling	Two modes of scheduling. Batch scheduling is automatic scheduling of a defined set of events that run in the background (does not interfere with normal operations) or on a timer. Incremental scheduling is interactive scheduling of events via a GUI or other human/machine interface. For example, the initial generation of a schedule uses batch scheduling, while the addition of a single event to avoid perturbing previous scheduled events uses incremental scheduling.
bibliographic reference papers	A record of the use of data products, documentation on the generating algorithms, and other related material.
binary file	A data file with binary data format (e.g., not encoded) contents.
boundary limit	An established range value associated with a warning or alarm.
browse data product	Subsets of a larger data set, excluding the directory and guide information, generated to allow rapid viewing (i.e., browsing) of the larger data set by a potential user. For example, the browse product for an image data set with multiple spectral bands and moderate spatial resolution could be an image in two spectral channels, at a degraded spatial resolution. The form of browse data is generally unique for each type of data set and depends on the nature of the data and the criteria used for data selection within the relevant scientific disciplines.
browse request	A request for a browse data product.
browse search request results	The output of a browse data product as the result of a browse request.
budget/schedule change request	The document used to record changes to work breakdown structure (WBS) elements that affect the scope of work, budget, and/or schedule at a specified level.
build	The selection of a thread(s) to demonstrate a defined set of capabilities within a system. A document defining the elements to use and the steps to follow when compiling, linking, and checking out a software build.
bulk data server	A non-standard extension to NFS, implemented as an enhancement on the client system and a daemon process on the server for transferring large (100 megabytes or larger) data files over high speed networks such as the High Performance Parallel Interface (HIPPI) communications lines.

Bulletin Boards	Interface that manages posting of electronic messages and files/attachements for sharing information among users and operations staff.

C

calibration data	The data required for performing the calibration of the instrument science data, instrument engineering data, and the spacecraft engineering data. It includes pre-flight calibration measurements, in-flight calibrator measurements, calibration equation coefficients derived from calibration software routines, and ground truth data used in the data calibration processing routine.
campaign	A coordinated, relatively short-term data collection effort conducted as a subset of time or region of an experiment or project's data collection activity (e.g., one summer's worth of data for a time series that covers sequential summers for comparison.)
cancellation request	A request for a server to terminate the execution of a Service Request.
candidate plan	A plan not currently used in production, but usable as input to a Plan Activation Request.
catalog interoperability	The capability of one system to use it's own protocol to connect and exchange catalog information with another system, and vice versa, while continuing normal operations. The three levels of catalog interoperability for the ECS include: • simple network interconnectivity among computers • catalog systems with limited search and user information exchanged • catalog systems using their standard search protocol in "virtual" similarity
catalog service	An organization of data into logical groupings or collections for storage and retrieval. The cataloged data is accessible by authorized users only.
catalog system	A specific implementation of catalog services, with a guide and an inventory of information and mechanisms to provide specified data access to users. Services provided are browsing, searching, and product ordering.

cell	A cell is an administrative entity within DCE that consists of a set of associated users, computers, and supporting resources. A cell establishes a security boundary between the users and resources within the cell and those outside the cell.
Cell directory service	The Cell Directory Service (CDS) is the DCE component that looks up and manages names within a DCE cell.
class	A description of a group of objects with similar properties, common behavior, or common relationships.
class I change	Engineering changes that impact ECS Project-level milestones, budget, costs, and requirements. Class I change can not be implemented until approved by the Earth Science Data and Information System (ESDIS) change control board.
class II change	Engineering changes not defined as Class I changes (e.g., changes in documentation to correct errors or add clarifying notes or new information.)
ClearCase	Software change manager that stores ECS custom software and science software, regulates access to the files, controls and logs file changes, performs software builds, and maintains a recordd of the build. Maintains a library of software deployed to sites.
client	A user or software process making a request for ECS data or services.
client/server architecture	An architect where the majority of the information is stored on a server and client applications communicate with the server via an established application program interface to obtain data or services.
client session	See “Session.”
Client Subsystem (CLS)	A set of CSCIs and processes to access the services and data available in the ECS and other systems interoperable with the ECS. The CLS consists of the Desktop and Workbench CSCIs. The CLS contains no HWCIs. The DMS hardware (Interface Servers) provides the processing storage for the workbench. software.
close request	A service request for a DIM, LIM, or Data Server to terminate a client session and release resources supporting the processing of Service Requests being terminated.

code analysis	Static/dynamic code checking for memory leaks, argument list mismatches, code coverage, error handling and standards or conventions not being followed.
coding guideline	A recommended, but not required programming convention.
coding standard	A required programming convention for a software project.
collection	A grouping of related science data.
collocated	Physically located in the same institution.
color table	A table to map pixel values to colors.
command	Instruction for one or more steps to be followed within a script in a software process or function defined by an algorithm. A request to perform a specific activity or task (e.g., insert data, retrieve data, initiate a process, start/stop a device, load data into a computer.)
Command and Data Handling (C&DH)	The spacecraft command and data handling subsystem which conveys commands to the spacecraft and research instruments, collects and formats spacecraft and instrument data, generates time and frequency references for subsystems and instruments, and collects and distributes ancillary data.
command group	A logical set of one or more commands not stored on-board the spacecraft and instruments for delayed execution, but are executed immediately upon reaching their destination on board. For the U.S. spacecraft, from the perspective of the EOS Operations Center (EOC), a pre-planned command group is preprocessed by, and stored at, the EOC in preparation for later up-link. A real-time command group is unplanned and therefore, it is not preprocessed and stored by the EOC.
Commercial off-the-Shelf (COTS)	A hardware or software item available for purchase from the existing stock of the manufacturer at prices based on established catalog or market prices. **(See FAR 15.804-3(c) for explanation of terms.)**
Common Gateway Interface (CGI)	Programs spawned by the Netscape Enterprise server and run on the ADSHW CI assist the Earth Science On-line Directory HTML interface communicate with the Advertising Server.

Communications Subsystem (CSS)	The ECS subsystem for transferring ECS data between sites and within a single site, providing connections between ECS users and ECS service providers, and providing requested services to support the System Management Subsystem operations. The CSS is composed of one CSCI, the Distributed Computing Configuration Item (DCCI) and one HWCI (a Sun workstation with an external disk.)
Communications and Systems Management Segment (CSMS)	Provides the communications infrastructure for the ECS and systems management for all ECS hardware and software components. The CSMS provides the interconnection between users and service providers within the ECS, and transfer of information between subsystems, CSCIs, CSCs, and processes of the ECS.
component	The generic term for a single piece of hardware or a software item in the ECS functional hierarchy.
comprehensive batch and incremental scheduling	Two modes of scheduling events. Comprehensive scheduling is the automatic scheduling of a defined set of events. Incremental scheduling is interactive scheduling of selected events. For example, comprehensive scheduling is the initial generation of a schedule, while the addition of a single event to a previously generated schedule of events is incremental scheduling.
comprehensive telemetry monitor	The telemetry software residing on the real-time server that provides complete parameter processing with temporary limit definitions controlled by the user with ground configuration authority.
Computer Program Library (CPL)	A library designated to establish and maintain software in media form. The computer program library handles, stores, and manages master magnetic media and related data.
Computer Software Component (CSC)	A distinct part of a computer software configuration item. CSCs may be further decomposed into other CSCs, components, and computer software units.
Computer Software Configuration Item (CSCI)	A logical set of related capabilities, implemented with COTS and custom developed software to satisfy a defined subset of system software requirements.
Computer Software Unit (CSU)	A separately testable element specified in the design of a CSC. A package of work allocated to an individual member of the software development team (CSUs do not span personnel boundaries.)

computer system	A computer system is hardware consisting of a central processing unit (CPU), memory, controllers and peripherals, disc and/or tape drive(s), and a printer.
configuration	The functional and physical characteristics of hardware, firmware, software or any combination, set forth in a technical document, and achieved in a product.
configuration change control	The systematic coordination, evaluation, and disposition of approved changes to an established and controlled baseline.
Configuration Change Request (CCR)	A document recording the request and justification of a change to a controlled configuration item in an established and controlled baseline.
configuration control	The systematic proposal, justification, evaluation, coordination, approval or disapproval of proposed changes, and the implementation of all approved changes for a configuration item after initially establishing its controlled (formal) baseline.
Configuration Item (CI)	An aggregation of hardware, firmware, software or any of its discrete portions, which satisfies a system's end use function and is submitted for control by configuration management.
configuration management	The implementation of a set of detailed procedures and instructions defining the creation and control steps of a new baseline, updating a baseline, conducting configuration audits, reporting status of controlled software, processing CCRs, software transfer and installation, software/baseline promotions, document control, and configuration of science software.
configuration management data	Information which relates specific versions of individual software, data and hardware items to each other (i.e., defining a configuration of such items), and describes changes to such configurations.
configuration management specification	A configuration management specification is a comprehensive report on the items controlled by configuration management.

configuration management tool	Software tool for automating configuration management of source code, scripts, documentation, and other configuration items.
Consent to Ship Review (CSR)	A review to determine the readiness of a release for transition to sites for integration testing.
Consultative Committee for Space Data Systems (CCSDS) recommendations	Consultative Committee for Space Data Systems recommendations for spacecraft telemetry and tele-command packet formats and protocols.
contingency plan	A plan of the resource schedules, procedures, and documentation required to provide alternative operational capabilities and support to all day-to-day system operations.
Continuity of Operations Plan (COOP)	A plan to identify the resource schedules, hardware and software configurations, backup, restore, and recovery procedures, standard operating procedures, and documentation required to provide continuing operating capability, disaster recovery provisions, and support to all system operations.
Contract Data Requirements List (CDRL)	A list of the deliverable items (such as system software, database schema, operational scenarios and documentation) required by the contract to be delivered to the customer.
contractor-acquired property	Property acquired or otherwise provided by the contractor for performing a contractwith the contractor maintaining possession of the property title.
contractual milestones	Specific delivery or event dates specified in the contract. These dates can not be changed in the schedules without Government approval through a contract change.
control milestones	Any event or task the project manager and/or the Government considered critical enough to track its progress. Control milestone dates are not revised without approval.
core inventory metadata	The data items or attributes of the granule specific metadata for an ECS standard data product. The core inventory metadata can be unique for each ECS standard data product.
correctable BER	The rate bit errors can be corrected (on average) applicable to transmission of data across a computer network.

correlative data	Scientific data from other sources used in the interpretation or validation of instrument data products, e.g., ground truth data and/or data products of other instruments. (This data is not used for processing instrument data.)
cost account	A management control level where actual costs are normally collected and compared to earned value. A cost account is a natural control point for cost/schedule planning and control since it represents the work assigned to one responsible organizational element for one element of the work breakdown structure.
Cost Account Manager (CAM)	Usually a member of first-level project management responsible for a unit or segment of work and has the appropriate authority level for planning, performing and controlling the work.
CPU time	Elapsed time spent by a processor doing some task, without including CPU idle time (wall clock time includes idle time.)
Crack	Used to determine if passwords are secure.
Critical Design Review (CDR)	A detailed review of the CI level design, including program design language for software modules, and interfaces associated with a release.
critical path	A path on a development schedule network with identified tasks having the greatest risks of development/production or greatest number of task dependencies to meet critical milestones.
critical resources	Physical and informational assets required for system, subsystem, or site functional performance
criticality levels	See ”Sensitivity Levels.”
criticality rating	An important value assigned to a computer application indicating the maximum downtime before functional or mission impact.
Cryptographic Management Interface (CMI)	An Interface process to generate accounts with random passwords for controlled access to non-DCE services like Sybase.

D

data	The output (and input) of an ECS service, and includes Data Products, subsets of Data Products, Data Granules, Search Results, browse images, and the output of processing requests.
data access log	Log of all data access (inserts, retrievals, and information changes) within the data server.

data access privilege	Information specifying the types of accesses (i.e., read, update, insert, delete) a user is given for aa specific type of data.
Data Acquisition Request (DAR)	A request the user constructs and submits to the CLS Data Acquisition Request (DAR) Tool for data collection (scenes of temporal or spatial pictures for example) associated with a specified instrument (ASTER) aboard a satellite. A DAR contains such information as the following: • Observation number • User identification • User address • Investigation identification • Scientific discipline • Observation repetition period • Minimum coverage required • Maximum coverage desired • Number of instruments involved in the investigation • Which instruments are involved in the investigation
DAR disposition	The notification of confirmation, rejection, schedule status, or completion of a Data Acquisition Request, and includes at a minimum: • Date and time • Instrument identifier • DAR identifier • DAR status • Implementation schedule • Reason for rejection (if applicable)
Data Archive and Distribution System (DADS)	The DADS stages data needed for processing at a collocated PGS, archives EOS and non-EOS data, and distributes processed data on request over networks or on a variety of physical media.
Data Availability Acknowledgment (DAA)	Status returned when a data availability notice is sent.

Data Availability Notice (DAN)	Notification sent to the Ingest Subsystem to alert the ECS of data ready for ingest from an external data provider.
data availability schedule	A schedule indicating the times at which specific data sets are available from remote DADS, EDOS, the international partners, the ADCs, and other data centers for ingestion by the collocated DADS. The schedules are received directly by the PGS.
data center	A facility storing, maintaining, and making available data sets for scientific activities. Data centers provide selection and replication of data and applicable documentation and the generation of user tailored data products.
data collection	A logically organized set of related earth science data, including observation data, data products, and documents.
Data Delivery Acknowledgment (DDA)	The Landsat 7 Processing System sends an acknowledgment to the Ingest Request Manager via the Landsat 7 Gateway Server to acknowledge a delivery of ingested data.
Data Delivery Notice (DDN)	The Ingest Request Manger sends a notice to the Landsat 7 Processing System via the Landsat 7 Gateway Server to provide information about a delivery of ingested data.
data destination	Information describing where data is to be transmitted electronically.
data dictionary contexts	A method for organizing information in the data dictionary from a user perspective. Requests to the data dictionary can reference a context to restrict the visibility of information to the context.
data dictionary domains	A method for organizing data dictionary information in the data dictionary from a provider perspective. The domain of a data dictionary could be a distributed information manager, a specific site (i.e., a local information manager), or a Data Server.
data dictionary information	Provides explanation for the various ECS data types, their data elements, the operations available on these data types, explanations of abbreviations used by the values of such data elements, and lists of valid values for data elements.
Data dictionary maintenance	Tool that allows the operator to maintain the ECS Data Dictionary.
data dictionary query	A request to obtain the physical location of data, the data collection type, or the attribute mappings from the data dictionary.
data dictionary request	See “Data Dictionary Query.”

data dictionary views	A method for pre-selecting a subset of data dictionary information for access. For example, a view might select only the attributes that correspond to product directory information.
data distribution request	A request to distribute data from the ECS inventory to a user, account, or location.
data format	The units conversion specification and the compression format specification are the data format.
data granule	The smallest aggregation of data independently managed (i.e., described, inventoried, retrievable.) Granules can be managed as logical granules and/or physical granules.
data identifier	Information uniquely identifying the data to be manipulated by an ECS service.
Data ingest	Provides a means for external providers to ask for ECS ingest services.
data insert request	A Service Request to store data and associated metadata into a Data Server.
Data Management Subsystem (DMS)	The DMS provides catalog interoperability between the V0 Information Management System (IMS) and the ECS. The D MS consists of the Local Information Manager (LIMGR), Distributed Information Manager (DIMGR), Data Dictionary (DDICT), V0 Interoperability Gateway (GTWAY), and ASTER Catalog Interoperability Gateway (ASTGW) CSCIs, and the Data Management HWCI.
data model	An earth science metadata model, which supports the data standardization necessary for total system interoperability within a hetergeneous, open systems environment. The Data Model includes diagrams, which graphically illustrate the relationships of classes, the attributes contained within the classes, the characteristics of the relationships between classes, and the attribute specifications.
data processing request	A Service Request to the Data Processing Subsystem (DPS) to initiate the processing of a PGE. The request provides the DPS information about one specific production job. The data processing request contains information used to execute a PGE. This information includes priority; user specified input data, output data, and resource information.

data products

A processed collection (one or more) of parameters packaged with associated ancillary and labeling data, and formatted with uniform temporal and spatial resolution. (For example, the collection of data distributed by a data center or subsetted by a data center for distribution.) There are two types of data products:

a. Standard: A data product produced at a DAAC by a community consensus algorithm for a wide community of users.

b. Special: A data product produced at a science computing facility by a research algorithm for later migration to a community consensus algorithm and can be archived and distributed by a DAAC.

data product

Level 0 data or Level 1 through Level 4 data products obtained by the PGS from the collocated DADS representing the primary input to the product generation process.

data product levels

- Raw data--Data in original packets, as received from the observer, unprocessed by EDOS.
- Level 0--Raw instrument data at original resolution, time ordered, with duplicate packets removed.
- Level 1A—Reconstructed, unprocessed instrument data at full resolution, time referenced, and annotated with ancillary information, including radiometric and geometric calibration coefficients and geophysical referencing parameters (i.e., platform ephemeris) computed and appended, but not applied to Level 0 data.
- Level 1B--Radiometrically corrected and geo-located Level 1A data processed to sensor units.
- Level 2--Derived geophysical parameters at the same resolution and location as the Level 1 data.
- Level 3--Geophysical parameters spatially and/or temporally re-sampled (i.e., derived from Level 1 or Level 2 data.)
- Level 4--Model output and/or results of lower level data not directly derived by the instruments.

(Data Levels 1 through 4 are as defined in the EOS Data Panel Report and are consistent with the Committee on Data Management and Computation and Earth Science and Applications Data System definitions.)

data pyramid	A method for representing the multi-layered aspects of earth science and related data. The various levels of the pyramid correspond to the levels of abstraction, aggregation, or synthesis of data, and the narrowing towards the top reflects the generally decreasing amounts of data at those layers. Although all types of data at the various layers do not adhere to these general rules, the pyramid is an effective tool for presenting the multi-layers nature of earth science and related data.
data quality request	A request issued by the PGS to a scientist at a science computing facility to perform a Quality Assurance check of a particular product before future processing or distribution. A time window is applied to the request in keeping with the production schedule.
data rate profile	An instrument or subsystem's data rate requirements (e.g., recorder data rate) included in the instrument or subsystem resource profiles.
data receipt log	A log of the data received from an external data provider. Alias for “Ingest History Log.”
data request	A Service Request for the SDPS to stage and/or distribute specified data. The data specification can direct the SDPS to perform processing (e.g., sub-setting) on the data prior to its final staging or distribution. An example of a data request is the distribution of a specified data product. There are two kinds of Data Requests; staging and distribution. Data requests contain: • User Identifier • Request Priority • Data Type • Data Identifier(s) • Processing instructions (e.g., sub-setting instructions) if applicable • Suggested earliest start time • Latest completion time • Distribution instructions or staging instructions (as applicable)

data request status	The current progress of an ongoing Data Request or the outcome of a completed Data Request including the following information: a. User Identifier b. Request Identifier c. Request State d. If rejection, then the reason for the rejection e. Adjusted start and completion times if request was delayed longer than latest completion time specified by a user f. Distribution Status (if the Data Request was a Distribution Request)
data server	A logical, associated combination of hardware and software providing access to a collection of earth science and related data. (Either the data server subsystem as a whole, or a specific instance of a data server. A data server is a (hardware/software) entity that accepts, stores, and distributes EOS (and other) data, for other subsystems within ECS and for external users.)
Data Server Subsystem (DSS)	The Data Server Subsystem (DSS) provides capabilities to store, search, retrieve and distribute earth science and related data. The DSS contains the Data Server (SDSRV), Document Data Server (DDSRV), Storage Management (STMGT), and Data Distribution (DDIST) CSCIs, and the Access and Control Management, Working Storage, Data Repository and Distribution and Ingest Peripheral Management HWCIs.
data set	A logical grouping or collection of similar or related data. Data products a producer has defined as an advertisement.
data set documentation	Information describing the characteristics of a data set and its component granules, including format, source instrumentation, calibration, processing, and algorithms.
data type	A classification of data with related features and handled by a particular data server. A preliminary list of ECS Data Types is contained in the SDPS Database Design / Schema Specification (DID 311.) An example of a data type is MODIS Level 1a products.
data type identifier	A description or name for unique data identification.

data type taxonomy	The classifying of earth science and related data into types by general principles.
data visualization	The capability to examine a data file as a raw data dump, a plot, or image on a computer screen.
database administration	The application of database procedures and instructions describing product installation and disk storage management, configuration of the SQL server, database user administration, database integrity checks, backup and recovery, data migration, changing schema, and standard trouble shooting procedures.
database transaction	A database query or request occurring in response to a user or client application request which is encapsulated such that, in the event of any error within it, all effects of the transaction can be easily undone.
DCE	DCE is the Distributed Computing Environment. DCE is a set of services that support interaction of applications in a distributed computer syste. DCE supports interprocess communication between clients and servers, a common location-independent naming system for computer resources, a distributed time service, a security service, and a distributed file service.
DCE Cell Manager	Manages a DCE cell's directory namespace, time-provider processes and configuration and security registry.
deep copy	A C++ term to copy an object and its attributes in memory ensuring that the new object has allocated memory for its attributes which are different than the allocated memory being used by the attributes of the original object (there is no sharing of attributes between the two objects now).
definitive attitude data	Down-linked attitude data received with Level 0 data.
definitive orbit data	Spacecraft orbit data computed by the FDS based on tracking data from TDRSS satellites or ground stations, and spans a time interval that corresponds to the tracking data interval.
degradation	The routine loss of data continuity on a physical medium due to a combination of age and usage. The potential loss of data continuity and response when operating with less than the full functionality of a system.
delivered algorithm packages	The full content of data and information delivered by a data producer during the process of standard product Algorithm Integration & Test, including all elements defined as minimum content within Volume 4 of the Science User's Guide.

delivery record	File containing information describing data to ingest and with the same structure as the Network Ingest Request.
delta limit	The maximum allowable value change in a given parameter.
demonstration (demo)	Observation of the functional operation of the verification item in a controlled environment to yield qualitative results without the use of elaborate instrumentation, procedure, or special test equipment.
dependent valid values	The parameters to describe the acceptable values or range a user can specify for a given parameter and are dependent on information the user has previously specified.
descriptor	A set of information to fully describe an Earth Science Data Type (ESDT.)
desktop objects	A computer system item displayed to the user as an icon in user-selectable levels of detail and with respective attributes that can be manipulated.
detailed schedules	Schedules used by the CAMs to manage their scope of work on the project. A detail schedule contains all work packages within a cost account with a collection or a network of activities or a combination of both.
detailed activity schedule	The schedule for a spacecraft and it's instruments covering up to a 10 day period. The schedule is generated/updated daily based on the instrument activity on the respective spacecraft. The spacecraft subsystem's activity specifications for routine spacecraft maintenance and/or for supporting instrument activities can be incorporated in the detailed activity schedule.
deviation	To temporarily vary (for a specific period of time or number of units) from the authorized baseline requirements or values.
direct broadcast	A continuous down-link transmission of selected real-time data to a specific ground data system for archival and distribution.
directive(s)	Information received by the PGS from the System Management Center (SMC) as a final authoritative directive for action. It can include general policies, official procedures, and resolutions of schedule conflicts that have not been resolved with the IMS.
directive	A dissemination of policy, procedures, or guidelines to be followed within the ECS.

directory	A set of descriptions of the contents of a large number of data sets. It provides information to make an initial determination of the existence and contents of each data set with file names, sizes, date of creation, time of creation, modification privileges, and owner's name.
discipline	A field of study (e.g., oceanography, meteorology, geology, land biology.)
disk space usage	The space a process requires on a disk pack for input data storage, instruction storage, and output storage.
Distributed Active Archive Center (DAAC)	An EOSDIS facility that generates, archives, and distributes EOS Standard Products and related information for the duration of the EOS mission. Each DAAC contains functional elements for processing data (the PGS), for archiving and disseminating data (the DADS), and for user services and information management (elements of the IMS.) The DAACs for EOS are: ASF -- Alaska SAR Facility EDC -- EROS Data Center GSFC -- Goddard Space Flight Center JPL -- Jet Propulsion Laboratory LaRC -- Langley Research Center NSIDC -- National Snow and Ice Data Center
DAAC Engineering Liaison	The Systems Engineer responsible for bi-directional flow of information between the DAAC and the ECS. Responsible for ensuring DAAC lessons learned are properly incorporated in the ECS design, development, and documentation. Also, responsible for ensuring the DAAC is current with the ECS baseline architecture.
DAAC Science Liaison	The ECS DAAC Scientists located at the EOSDIS DAACs to provide a working level interface between the ECS development and DAAC Science Advisory Groups, DAAC user communities, and DAAC scientific staffs. The objectives are to facilitate understanding, by the ECS developers, of the scientific data needs of the DAAC user communities and to foster DAAC and science community involvement in the ECS requirements definition and development process.

DAAC SSI&T environment	The hardware (processing platforms, other workstations, etc.) and software (compilers, linkers, diagnostics, compiler, linker tolls, etc.) used to integrate and test the science software at the DAAC.
DAAC SSI&T staff	The personnel assigned to perform the integration and test of the science software at the DAAC. This includes DAAC personnel and SCF developers helping with SSI&T.
DAAC-unique	Functions and capabilities provided by the DAAC beyond those provided by the EOSDIS core system. The functions are integrated with ECS via APIs or other similar mechanisms. Examples of DAAC-unique functions include visualization, specialized interfaces, and data set-unique functionality.
Distributed Computing Environment (DCE)	A COTS product that provides the basis for building scaled, secured applications that are distributed, interoperable with other resources, and portable across heterogeneous platforms. Applications use remote procedure calls to facilitate client/server communication to access the services provided by the DCE.
Distributed Defect Tracking System (DDTS)	A software COTS application used to enable ECS site staffs to enter, maintain, and keep track of configuration change requests (CCRs) and non-conformance reports (NCRs) electronically.
Distribution activity log	The log file of distribution activity.
Distribution failure message	Information logged to the Distribution Activity Log when a Distribution Request fails validation. The log information includes: a. User Identifier b. Request Identifier c. Date and Time d. Reason for failure
distribution instructions	Information in a Distribution Request specifying how data is to be distributed. An Electronic Distribution request contains Distribution Instructions consisting of: a. Data Format b. Push-pull flag c. Data Destination A Media Distribution Request contains Distribution Instructions

	consisting of the following: a. Data Format b. Media Specification c. Media Destination d. Shipping Information
distribution request	A Data Request for SDPS to distribute specified data electronically or via the shipment of hard media. The specified data can be data permanently stored, generated on-demand, or it can be staged data temporarily stored in a user-accessible staging area. Staged data can be a Data Product or data generated as a result of processing performed by a previous Service Request. See Data Request, for the format of a Distribution Request.
distribution request status	An item in the Data Request Status when the Data Request is a Distribution Request. See “Data Request Status.”
Distribution status	Information describing the amount of data written to media or transmitted electronically during the processing of a Distribution Request.
distribution status request	A request for the status of a Distribution Request including user identification, and shipping address. (See “Status Request.”)
Document Change Notice (DCN)	A change page(s) included in all published documentation (before the table of contents) to describe the page changes made in the document, the status (e.g., draft or final) of the document, and a history of the version numbers, status, publication date and CCR governing the change(s) to the document.
Document Data Server	Provides search, on-line access nad storage of documents in HTML, Postscript, ASCII, PDF, and RTF Formats.
Domain Name Service (DNS)	A naming service between the hosts on the local administrative domain and also across domain boundaries. The domain name service provides host name and addresses to a specified network by querying and answering queries.
down-link	A transmission of data directly from a satellite to a ground station of science and engineering data collected or generated by the satellite.
dynamic data sets	Data with values changing routinely and predictably at set intervals in time.

Dynamic link library (dll)

To establish a collection of data granules, the metadata attributes relevant to the collection and granules are organized into an ESDT descriptor file. Services available for the data are also specified in the descriptor file. Thus, the ESDT descriptor file is viewed as a composite of several parts with an implicit data dictionary containing the description of the attributes for:

- Collection level metadata attributes
- Granule level metadata attributes
- Valid values and ranges
- Services available for the data

The software to implement the services are separately compiled in the dynamic link library. The descriptor files must be created and maintained using the Object Description Language (ODL) format for insertion into the Science Data Server. The ODL files are ASCII files and can be edited.

E

earned value

The sum of the values for accomplished work plus the appropriate portion of the values for level of effort and apportioned effort. On C/SCSC projects, this is the budgeted cost for work performed.

Earth Observing System Data and Information System (EOSDIS)

The overall NASA earth science discipline data system. It provides a ground system for the collection and analysis of science data to support scientists in resolving the dynamics of the earth's ecosystems and how they interact. EOSDIS supports:

- Planning, scheduling, and control of the EOS series of spacecraft
- Exchanging commands, data, and algorithms with the European Space Agency (ESA), Japan, Canada, and NOAA
- Coordination of activities with other data gathering systems and any other non-NASA entities involved in the overall EOS mission
- Transformation of the observations into formats providing for higher levels of processing and presenting the data to users in forms that facilitate and stimulate interactive scientific research

Earth Resources Observation System (EROS) Data Center (EDC)	An EOSDIS DAAC specializing in land processes data.
Earth Science Data Type (ESDT)	Each type of science data collected by an instrument aboard a satellite supported by the ECS is given a data type name to be stored or archived in the ECS inventory (e.g., MISR001.) ESDTs also define the Services which can be applied to the data and the metadata associated with the data. In addition, ESDTs are defined for all data referenced in the ECS inventory and this includes some non-satellite data, and some non-instrument data (e.g., science software archive packages, algorithm packages, pge tar files, and delivered algorithm packages.)
ECS contractor team	Raytheon Company SM&A (Steven Myers & Associates) EDS (Electronic Data Systems Corporation) EOSL (Earth Observation Services Ltd.) RTSC (Raytheon Technical Services Corporation) Lockheed Martin
ECS Desktop	Simlulates Commong Desktop Environment (CDE); interface that acts like a file manager, allowing launch of applications, creation, of directories and moving/copying/deleting files.
ECS evolutionary development	The process for developing and delivering ECS functionality through the use of multiple development tracks and delivery mechanisms (software releases and drops within releases) with an overall goal of providing stable functionality of the system in comparison to releases rapidly adapted to the system's environment.
ECS project	The functionality providing single-point access (for a worldwide science community) to multiple satellites and multiple instruments aboard the satellites and regular production of validated science products using science community-supplied algorithms. A NASA coordinated and sponsored program for the science community.
ECS-supported	Completely tested by the ECS contractor and found in conformance with Earth Science Data and Information System (ESDIS) standards. ESDIS is a project office located at GSFC overseeing the ECS project.

EOS Data and Operations System production data set	Data sets generated by EDOS using raw instrument or spacecraft packets with space-to-ground transmission artifacts removed, in time order, with duplicate data removed, and with quality/ accounting (Q/A) metadata appended. The time span, number of packets, or number of orbits encompassed in a single data set are specified by the recipient of the data. These data sets are equivalent to Level 0 data formatted with Q/A metadata. For EOS, the data sets are composed of: instrument science packets, instrument engineering packets, spacecraft housekeeping packets, or on-board ancillary packets with Q/A information from each individual packet and the data set itself and with essential formatting information for unambiguous identification and subsequent processing.
EDOS data unit (EDU)	The message packets generated by EDOS containing the reconstructed spacecraft telemetry packet.
EDOS expedited production data sets	Data sets generated by EDOS using raw instrument or spacecraft packets from a single Tracking and Data Relay Satellite System (TDRSS) acquisition session and made available for delivery to a user with a high priority. Transmission history logs are removed, and time ordering and duplicate packet removal is limited to packets received during the TDRSS contact period.
EDU service header (ESH)	Contains an EDU time tag, and quality and accounting information.
Electronic Distribution Request	A request for the SDPS to distribute requested scientific data or products.
Electronic Mail (E-Mail)	A message (asynchronous data transfer) passed from one user to one or more users between computers.
element test review	A review to determine if unit level testing (for each release) has been successfully completed.
emergency fix	A change installed and documented in controlled hardware or software with the responsible change control board's (or designated representative's) approval, but separate from a formally released change.
emergency response	The procedures and resources to use in emergency situations correcting software non-comformances.

encapsulation	A modeling and implementation technique of transparently including specific ECS infrastructure features by the use of a software library of existing services. Also, separating the external aspects of an object from the internal implementation details of the object (called information hiding.)
engineering data	The data available from instruments aboard a spacecraft about the health, safety, environment and status of the spacecraft or instruments. The various types of engineering data include: • Housekeeping data: The subset of engineering data required for mission and science operations including health and safety, ephemeris, and environmental parameters. • Instrument engineering data: The non-science (not labelled as science data) provided by the instrument. • Platform engineering data: The subset of engineering data from platform sensor measurements and on-board computations. • Spacecraft engineering data: The subset of engineering data from spacecraft sensor measurements and on-board computations.
engineering unit	A unit of measure assigned to a given engineering data parameter (e.g., volts, amperes, and degrees.)
EOSView	A custom HDF file verification tool. Displays HDF files and HDF-EOS data.
ephemeris data	Data representing spacecraft location. See "Orbit Data."
ESSM	Tool that interfaces with Sybase to perform database administration. Available through Tivoli.
E-Systems Modular Automated Storage Systems (EMASS)	EMASS is a subsidiary of the Raytheon Systems Company and the developer and keeper of the AMASS used on the ECS Project.
evaluation package	A delivery mechanism for incrementally developed components and selected prototypes. The objectives of evaluation packages are to increase user involvement in system evolution and rapid evaluation and to facilitate rapid incorporation of user feedback into the incremental development process.
event	For subscriptions, the occurrence that triggers a subscription action. Data, messages commands, requests, or status codes passed between two subsystems, CSCIs, CSCs, or processes.

Event Log	The Event Log Database resides at each ECS site. It records status and error messageges generated by the various ECS applications at the site. The Event Log Browser is used to view the status and error messages.
Event Log Directory	This directory resides on every computer platform and contains the log files used by applications to report status and error messages. Log files in the Event Log Directory are loaded into the Event Log Database on a periodic basis.
expedited data	Data received during one TDRSS contact period that has been processed to level 0 (to the extent possible for data from a single contact.) These are data that have been identified to EOSD as requiring priority processing.
external data provider	An external data source providing data to be ingested into the SDPS of the ECS.

F

facility instrument	An instrument defined by NASA as having broad significance to the EOS Program and provided by a designated NASA center or foreign agency.
fault management data	Information describing system faults, such as hardware and operating system failures and application software errors forwarded by the SDPS to the MSS (within the CSMS) upon detection of the fault. The information includes type of fault, date and time of the fault, and identification of the failing system.
feature enhancement	Various techniques for enhancing the display of an image by highlighting, labeling, reverse video or zooming so certain features are more easily seen.
federated schema	A schema for distributed data repositories constructed from the schema for each individual repository in a simple manner (called federating or forming a union.)
field-expandable	Storage hardware where the capacity or size of archival storage can be increased at the local site without removing the hardware from the local site.
filecopy	A utility to copy large files from a specified source location to a specified destination with the option of compression and decompression. The utility uses the gzip option to reduce the file size using the Lampel-Ziv coding (LZ77) technique. For Decompression, filecopy uses the gunzip option to return the file to its original size.

file directory	Table of data granules listed by name, size, and creation date.
Flex/Im	COTS for the administration of licenses.
Flight Dynamics System (FDS)	The source for precise satellite attitude and orbit data. The FDS is the prime source for attitude data and is the secondary source for orbit data. Both data sets are necessary for processing AM-1 Level 0 data into higher level products. [Note: This organization was formerly known as the Flight Dynamics Division (FDD.)]
Flight Operations Team (FOT)	The team monitoring and commanding the spacecraft.
formal development track	A development process distinguished by a complete tree of requirements, documentation, formal reviews at major milestones and a single waterfall of phases leading to a formal release. The single waterfall of phases has a long time frame relative to the incremental development track and prototypes.
formal qualification testing	A process enabling the contracting agency to determine if a configuration item(s) complies with the allocated requirements for the item by formally witnessing the testing of the item(s.)
formal release	An ECS system update delivered and tested as a part of the EOSDIS version. ECS releases represent the current ECS baseline in EOSDIS. The Configuration Management group controls formal releases.
format	The general plan for organization and arrangement of data to follow for its specific type.
function	The action(s) or operation(s) an item performs.
functional baseline	The initial baseline established at SRR and refined at SDR.
Functional Configuration Audit (FCA)	The formal examination of the functional characteristics of a CI, to verify the item has achieved the performance specified in its allocated functional requirements.
Functional and Performance Requirements Specification (F&PRS)	The system level requirements specification provided to the ECS Contractor and maintained by the customer or the designated contractor which is used by the ECS Contractor to build the EOSDIS Core System (ECS.)

G

geographic location	The spatial area of coverage by a granule, usually, specified as one of a fixed set of pre-determined regions or "Global."
Global Change Data and Information System (GCDIS)	A collection of distributed information systems operated by government agencies (both foreign and domestic) involved in global change research. It includes multi-disciplinary data from atmospheric science, ecology and oceanography, as well as economics and sociology.
Global Change Master Directory (GCMD)	A comprehensive directory of descriptions of data sets relevant to global change research. The GCMD database includes data set descriptions covering climate change; the biosphere, hydrosphere and oceans; geology, geography, and human dimensions of global change.
GCMD Data Export	Extracts Data Interchange Format (DIF) from the SDSRV inventory database to the Global Change Master Directory (GCMD).
Government Furnished Equipment (GFE)	Equipment provided by the government, to a contractor, for use on a specified contract.
government furnished information	Specific, non-tangible items of data supplied by the government to the contractor necessary to achieve contractor performance requirements. GFI items include a delivery time requirement. Examples of GFI include answers to questions, promulgation of policy, scientific data sets and science algorithms, and spacecraft databases.
Government Furnished Property (GFP)	Property in the possession of or directly acquired by the Government and subsequently made available to the contractor.
granule	The smallest aggregation of data that is independently managed (i.e., ingested, processed, stored, or retrieved) by the ECS. Granules may be managed as logical granules and/or physical granules.
granule location	The storage path name or the path name to the product using the granule.
granule package	The package or combination of the science granule browse data, production history, and QA statistics.
ground configuration authority	The privilege granted to one FOT user per logical string to alter the configuration of the comprehensive telemetry monitor.

ground script	a collection of time-stamped, time-ordered directives that provides an automated approach to planned activities.
ground telemetry	The status and accounting data for the ground system.
ground truth data	Geophysical parameter data, measured or collected by means other than the instrument itself; used as correlative or calibration data for that instrument data. It includes data taken on the ground or in the atmosphere. Ground truth data is another measurement of the phenomenon of interest (not necessarily more "true" or more accurate than the instrument data.)
guide	A detailed description of a number of data sets and related entities, containing information suitable for making a determination of the nature of each data set and its potential usefulness for a specific application.

H

HP OpenView	Cutsomized COTS used to monitor system performance and manage system components.
hard media ingest request	A request to transfer data into the SDPS from hard media provided by an external data provider. The Ingest Request contains the following information. a. User Identifier for the external data provider b. Media Type c. List of one or more Hard Media Identifiers
hardware	The combination of subcontracted, COTS, and government furnished equipment (e.g., cables and computing machines) making the platforms for software execution.
Hardware Configuration Item (HWCI)	A deliverable hardware item (delivered to the customer) under the control of the configuration management group.
Hierarchical Data Format (HDF) file	A data file whose format follows the National Center for Super Computer Applications (NCSA) Hierarchical Data Format standard with ECS-developed extensions.
housekeeping data	See "Engineering Data."

I

iFOR/ls	COTS for the administration of network licenses.
ILM	Helps M&O maintain records that descrive all inventory components, structures, and interdependencies.
immediate command	A Command issued to an instrument or subsystem and transmitted with minimum delay for immediate execution. Delay would be due only to non-availability of up-link and/or the actual time to transmit the command.
Incremental Design Review (IDR)	A design review conducted to evaluate subsystem designs associated with a release.
incremental development track	A development process distinguished by multiple iterations of requirement decompositions, detailed design, and implementation with frequent demonstrations for user evaluations. Documentation and design reviews are streamlined. Documentation of non-mission critical functionality is created after development has completed. Each iteration is developed with the potential of being integrated into the formal track for release.
incremental scheduling	See "Comprehensive and Incremental Scheduling."
Independent Verification and Validation (IV&V)	Verification and validation activities performed by a contractor or government agency not responsible for developing the product or performing the activity being evaluated. IV&V is an activity conducted separately from the software development activities governed by the ECS contract.
Information Management System (IMS)	An element of the SDPS which is an interface between the ECS users and the ECS information management functions to give users access to the ECS data products by providing information and tools to search, locate, select, and order products required to perform science investigations.
ingest error log	A log of error messages or events written during ingest processing for error tracking purposes.
Ingest GUIs	Allows monitor and control of Ingest requests, modification of system and external data-provided parameters and initiate hard media ingest. An HTML interface allows for submission of ingest requests for processing.

ingest history log	The information associated with a completed Ingest Request that provides the details of how the external data was ingested into the ECS. An alias for the Ingest History Log is "Data Receipt Log."
ingest request	A Service Request for the SDPS to ingest data from an external data provider.
ingest status request	A request for the status or progress of an ingest request.
Ingest Subsystem (INS)	The ECS subsystem for ingesting data from external data providers into the ECS repositories in accordance with approved Interface Control Documents (ICDs.) The INS consists of one CSCI (INGST) and the Ingest Client HWCI (ICLHW.)
INN	Bulletin Board Server.
in operations (or operational)	An ECS capability is in operations if one or more of the following are true: • Capability accessible by non-ECS personnel (no matter how restricted the group) • Capability residing outside of the ECS Development Facility • Capability supporting outside agencies/projects (including testing of interfaces) "Operations" does not imply responsibility of the formal M&O organization. For example, the early EPs are operated by a combination of the ECS developers and the site liaisons.
Input/Output (I/O) access	A read or write operation to a data file.
insert	The storage of data or metadata into a data server.
insert request	The request to insert data into a data server.
in-situ data	Geophysical parameter data, measured or collected by means other than the instrument itself, used as correlative or calibration data for that instrument data. See "Ground Truth Data."
inspection	The visual, manual examination of the verification item and comparison to the applicable requirement or other compliance documentation, such as engineering drawings.
installable	Services within client applications that can be down-loaded to the user's workstation.
instance	An object described by a class.

institutional facilities or elements	Facilities with responsibility for supporting EOSDIS or elements of the EOSDIS functioning as part of an institution while representing both EOSDIS and the purposes of the institution.
instrument	• A hardware system for collecting scientific or operational data. • Hardware connected/integrated as one or more sensors with the associated controls to collect data.
instrument activity deviation list	A list of deviations from an existing instrument activity list, used by the EOC for developing the detailed activity schedule.
instrument activity list	An instrument's list of activities covering seven days used by the EOC for developing the detailed activity schedule.
instrument data	Data specifically associated with an instrument, either because it was generated by the instrument or included in data packets identified with the instrument. These data consist of instrument science and engineering data, and possible ancillary data.
instrument engineering data	See "Engineering Data."
instrument housekeeping data	See "Engineering Data."
instrument microprocessor memory loads	The storage of data into the memory of an instrument's microprocessor. Loads include microprocessor-stored tables, microprocessor-stored commands, or updates to microprocessor software.
instrument resource deviation list	An instrument's anticipated resource deviations from an existing resource profile, used by the EOS Operations Center (EOC) for establishing the Tracking and Data Relay Satellite System (TDRSS) contact times and building a preliminary resource schedule.
instrument resource profile	The anticipated resource needs for an instrument over a target week, used by the EOC for generating the TDRSS contact times and building a preliminary resource schedule.
instrument science data	The data produced by the science sensor(s) of an instrument, constituting the mission of the instrument.

Integrated Logistics Support (ILS)	The disciplined, unified, and iterated approach to management, engineering and technical activities necessary to plan and direct support considerations into every aspect of system development and operation. ILS is the integration of multiple technical disciplines addressing the support aspects of a system. The integration of all system elements is necessary to provide support at minimum life cycle costs.
integrated schema	A schema for integrating distributed data repositories so the data of the individual repositories as a single integrated database. A mapping between the integrated schema and those of the individual repositories are the derivations.
integration	The orderly progression of combining lower level software and/or hardware items to form higher level items with broader capability.
Intelligent Query (IQ)	Generates reports by extracting and formatting information from a database.
Interactive Data Language (IDL)	Interactive Data Language used to interactively visualize and analyze scientific and engineering data products.
Interdisciplinary Investigator Computing Facilities (IICF)	The project-provided facilities at interdisciplinary (different fields of study) investigator locations to pursue EOS-approved investigations and produce higher-level data sets.
interface(s)	The functional and physical characteristics required to exchange data at a common boundary.
interface classes	The interfaces offered by a class of objects or object collections.
Interface Control Document (ICD)	A document describing the data types and formats exchanged over an interface between systems. This document can contain scenarios showing how the data is sent or received over the interface.
Interface Definition Language (IDL)	A language definition to provide uniform semantics (the meaning of the language form) for all interfaces.
interface milestones	The milestones representing the delivery of hardware, software or documents between organizational elements within the ECS project. The “hard” interface milestones, defined as hardware or software movement between organizations is included and generally are the significant “soft” interfaces between organizations, defined as the “paper“ interfaces.
Interface Requirements Document (IRD)	A document containing the requirements governing the data or service to be provided by a system to an external system.

interim release	A delivery of system capability as a result of early efforts on the formal track development to the customer for testing of EOS functionality prior to an operational version.
intermediate activity log	The log of operations including file space allocations, file space deallocations, media mounts, media dismounts, media loads, media unloads, file writes, files reads, and file deletions.
intermediate schedules	The summary level bar chart schedules showing activity spans, events, and interdependency milestones at the release, subsystem, or major organizational levels.
internet	A collection of government, educational, and commercial networks interacting to transfer data between computer systems.
Internetworking Subsystem (ISS)	The subsystem providing networking services based on protocols and standards corresponding to the lower four layers of the Open Systems Interconnection (OSI) reference model: the transport layer's TCP and UDP protocol, the network layer's IP protocol, and the physical/data link layer's Ethernet, FDDI, and HiPPI protocols.
interoperability	The capability of the user interface software of one data set directory or catalog to interact with the user interface at another data set directory or catalog. Three levels of Catalog Interoperability are recognized: • Level 1 - Simple network interconnectivity among systems. • Level 2 - Catalog systems can exchange limited search anduser information. • Level 3 - Catalog systems exchange standard search protocols to provide "virtual" similarity between different systems.
Interoperability Subsystem (IOS)	Allows ECS servers and non-ECS users to insert and subsequently search for Earth Science related services, advertisement providers, and data. The IOS consists of the Advertising Service CSCI and the Interface Hardware CI. The Interface Hardware CI is shared with the Data Management Subsystem.

inventory	A uniform set of descriptions of granules from one or more data sets with information required for selecting and obtaining a subset of those granules. Granule descriptions typically include temporal and spatial coverage, status indicators, and physical storage information. An inventory can describe physical granules, logical granules, or both, including a mapping between them if they are not identical. Note: The inventory is not the granules themselves, but rather the descriptive data for each of them, specifically used by both system and user to locate the granules of interest.
inventory characterization	The enhanced content-based metadata describing granules or aggregations of granules (phenomenology databases, super-granules, and feature tags.)
inventory information	The collection of data granule specific information describing the individual data granules managed by a data server.
inventory search request	A request for a search of inventory at a Local Information Manager (LIM), Distributed Information Manger (DIM), or Data Server.
inventory search results	The information (e.g., science data, browse data, or a product) returned as the result of an inventory search request.
inventory update log	The checkpoint log of archived data (inventory) and their locations used in conjunction with the file directory to allow recovery of archive contents in the event of a system failure.
investigator	An individual who is contracted to conduct a specific scientific investigation. (An instrument principal investigator (PI) is the person designated by the EOS program as responsible for the delivery and performance of standard data products derived from an EOS instrument investigation.) See “Scientist.”
investigator computing	Investigator computing activities are undertaken by scientists to pursue EOS-approved investigations and research.
Investigator Working Group (IWG)	The principal investigators and research instrument team leaders associated with the instruments on a single spacecraft. The IWG defines the specific observing programs and data collection priorities for a single spacecraft.
isql	SQL command parser utility used to interact with a SQL server and databases on a SQL server.

J

Jet Propulsion Laboratory (JPL)	An EOSDIS DAAC specializing in ocean circulation and air-sea interaction.

L

Landsat 7 Processing System (LPS)	The ground system used to process data transmitted from the Landsat 7 satellite. Reformatted data or products from this system can be obtained via the ECS and distributed to users via the world wide web.
Langley Research Center (LaRC)	An EOSDIS DAAC specializing in radiation budget, clouds, aerosols, and tropospheric chemistry.
Length of time to store data on media	An Operation's personnel selected time value representing the residency time remaining for the associated archive data in the archive.
"Levels" pertaining to data	Data in the original packets, as received from the spacecraft and instruments, unprocessed by EDOS. See "Raw Data."
"Levels" pertaining to engineering drawings	Engineering drawings and associated lists that disclose a design approach suitable to support the manufacture of a production prototype and limited production models.
Level 1 Product Distribution System	Request Level 0 Data from ECS. Produce Landsat 7 Level 1 data products.
Level 2 (production prototype and limited production)	Engineering drawings and associated lists. that the drawings and lists provide engineering definition sufficiently complete to enable a competent manufacturer to produce and maintain quality control of an item(s) to the degree that physical and performance characteristics interchangeable with those of the original design are obtainable without resorting to additional product design effort, additional design data or recourse to the original design activity.
Level 3 (production)	
Level 0R (Landsat 7)	Level 0R data is received from the Landsat 7 Processing System (LPS) as files. Level 0R files include a band data file for each band, a mirror scan correction data file, a payload correction data file and a calibration data file.
Level 0 Data	The raw instrument data at original resolution, time ordered, with duplicate packets removed.

Level 1A Data	The level 0 data that could have been reformatted or transformed reversibly, located to a coordinate system, and packaged with needed ancillary and engineering data.
Level 1B Data	The radiometrically corrected and calibrated data in physical units at full instrument resolution as acquired**.**
Level 2 Data	The environmental variables retrieved from Level 1 data (e.g., ocean wave height, soil moisture, ice concentration) at the same location and similar resolution at the Level 1 source data.
Level 3 Data	The data or retrieved environmental variables that have been spatially and/or temporally resampled (i.e., derived from Level 1 or Level 2 data products.) The resampling can include averaging and compositing.
Level 4 Data	The model output and/or variables derived from lower level data not directly measured by the instruments. For example, new variables based upon a time series of Level 2 or Level 3 data.
Level of Effort (LOE)	The work not associated with a definable end product or result. Level of Effort (LOE) is planned and earned on the basis of time supported rather than a specific event.
lifecycle commands	The startup and shutdown commands for a server or software application. • Commands issued by the MSS subagent process to all ECS developed applications • Commands issued by the General Proxy agent process for all ECS COTS products • Commands issued by the HP OpenView COTS product for all ECS servers contained in the ECS network
link	An instance of an association. A physical or conceptual connection between objects.
list of data files	The list of specified files in a Data Insert Request containing the information (data and metadata) to insert.
Local Information Manager (LIM)	A server that accepts requests and processes them in conjunction with a data server at a site (a DAAC.)
Local Information Manager (LIMGR)	A software configuration item that provides access to site data or services with respect to data made available by data servers at the site. This software configuration item accepts requests (such as search, insert, or acquire) and executes the requests required by the site data servers.

logistics	The science of management, engineering and technical activities concerned with requirements, design, and supplying and maintaining resources to support objectives, plans and operations.
logistics support	The composite of considerations to assure the effective and economical support of a system throughout its projected life cycle.
Logistics Support Analysis (LSA)	The selective application of systematic and comprehensive analyses, performed during the conceptual, design, development, and operational phases as part of the system engineering and design process, to assist in complying with supportability and other ILS objectives.
logon authorization request	A message sent to the CSMS to verify a user is authorized to logon as an ECS user.
Long-Term Instrument Plan (LTIP)	The plan generated by the instrument representative to the spacecraft's IWG with instrument-specific information to complement the LTSP. The plan is generated or updated approximately every six months and covers a period of up to five years.
Long-Term Science Plan (LTSP)	The plan generated by the spacecraft's IWG containing guidelines, policy, and priorities for its spacecraft and instruments. The LTSP is generated or updated approximately every six months and covers a period of up to five years.
long term spacecraft operations plan	A plan of spacecraft subsystem operations and maintenance, along with forecasted orbit maneuvers from the Flight Dynamics System (FDS), spanning several months of operations.

M

maintainability	The measure of the ability of an item to be retained in or restored to a specified operational condition with personnel of specified skill levels, following prescribed procedures and the required resources, for each prescribed operational level. (The probability of corrective and preventive maintenance being performed in a specified amount of time using a specified set of prescribed procedures and resources and is expressed as Mean Time To Repair (MTTR).)
maintenance	The process of planning and executing activities (new concepts and required changes) necessary to ensure sustained operation of system functions.
Maintenance and Operations (M&O)	The ECS project organization responsible for providing maintenance and operations personnel and procedures to maintain the ECS after development has been completed.
maintenance downtime	The total time elapsed between the start of a planned or unplanned system shutdown and the restoration of that system to a fully operational status.
Main Window Manager	Provides login to UNIX and ECS, authenticates the user and brings up the appropriate ECS Desktop based upon the operator role.
make file	Input a file for the UNIX make facility, where a user specifies dependencies between source (and other) files, primarily for compiling and linking programs. Also used for building documentation and installing software.
Management Data Access	Centralizes, processes, and provides access to information logged into the management data log file on each management host from various sources via the MSS Management Agent Services.
manager system	An HP Open View software system that executes network management operations which monitor and control components (agent systems) of ECS.
Master summary schedule	The top level schedule showing major project activities and events and key contractual milestones and deliveries. The master summary schedule displays key management milestones and is used as the basis for all subsidiary schedules.
Mean Down Time (MDT)	The sum of the mean time to repair (MTTR) plus the average administrative logistics delay times.

Mean Time Between Failure (MTBF)	The reliability result of the reciprocal of a failure rate that predicts the average number of hours an item, assembly or piece part will operate within specific design parameters. (MTBF=1/(1)) failure rate, (l) failure rate = # of failures/operating time.
Mean Time Between Maintenance (MTBM)	The mean (average) time between maintenance actions including both the corrective (MTBCM) and preventive (MTBPM) maintenance activities. The calculation of the MTBM is MTBM = MTBPM + MTBCM.
Mean Time to Repair (MTTR)	The mean (average) time taken to perform corrective maintenance to restore a system/equipment to its fully operational status. The calculation of the mean time to repair (MTTR) is the sum of corrective maintenance times, divided by the total number of failures. MTTR can be calculated on a component or a system level. A basic measure of maintainability for a system.
Media destination	Information describing where the distributed media is physically shipped (a destination or address.)
Media distribution request	A request for the SDPS to record data on hard media and ship it to a specified destination. See “Data Request” for the format of a Media Distribution Request.
Media identifier	Information to uniquely identify a media cartridge.
Media specification	Information describing the type and number of media cartridges required to record data for distribution.
Media type	The type of hard media (e.g., 8mm tape) provided for ingest by an external data provider. Also, the type of hard media provided to a science user requesting hard media distribution from the ECS.
Mediation callbacks	Information from the user regarding directions for the execution of an active Service Request.
Memory leak	An erroneous use of memory by a program, such as reading from a non-initialized address or writing to an address not allocated.
Memory usage	The amount of memory used by a process during execution.
Message passing	The peer-to-peer asynchronous communications service notifying processes of specific event triggers. This service is provided by the CSS within the ECS.

Metadata	The descriptive information provided to the ECS by the external data provider or the generating algorithm. Metadata describes the characteristics of data origin, content, format, quality, and condition. Metadata also provides information to process and interpret data.
Metadata database	The database containing the collection and granule level metadata for ECS products, document metadata, suppliers, algorithms, and descriptive information. The metadata database resides on the ACMHW CI.
Migration coordination message	The messages passed between Version 0 sites and ECS to coordinate Version 0 migration.
Milestone	A specific, definable achievement or project event (e.g., a review or completion of a release delivery.)
Mirrored telemetry	The telemetry software residing on user workstations to provide complete parameter processing with temporary limit definition controlled in parallel with the comprehensive telemetry monitor.
Milestone table	The table containing Contractual Milestones, Control and Interface Milestones.
Mission Operations Center (MOC)	The ground center that provides mission planning and scheduling, and monitors health and safety of the spacecraft and instruments.
Mission Operations Manager (MOM)	The person at a NASA center responsible for managing a spacecraft mission.
Mission to Planet Earth (MTPE)	A NASA-initiated concept that uses space, ground-, and aircraft-based measurement systems to provide the scientific basis for understanding the climate system and its variations. The science objectives address the fundamental physical, chemical, and biological phenomenon that govern and integrate the Earth system.
Modeling	An investigative technique using a mathematical or physical representation of a system or theory accounting for all or some of its known properties. Models are used to test the effects of changes of system components on the overall performance of the system.

Mode management	The manner of operation enabling the ECS Maintenance and Operations (M&O) staff to perform testing and/or training activities while production activities continue uninterrupted. Each unique activity requiring process and data separation is classified as a mode. Mode Management enables the execution of multiple modes (using unique directories and codes per mode), so each mode functions without interfering with the other modes and each mode maintains data integrity throughout its execution.
MS Office	A collection of applications that work together as if they were a single program. Includes Word (word processing), Excel (spreadsheet), and PowerPoint (graphics/presentation) programs.
msql	An interactive query processor and SQL command line interpreter that provides access to the Illustra database.
Multicast	The messages addressing technique with data sent over a network along different paths for capture by multiple nodes.

N

NASA (National Aeronautics and Space Administration)	A U.S. government agency responsible for the study and exploration of space within and outside the earth's environment.
NASA Science Internet (NSI)	A NASA network used by NASA science and affiliated personnel all over the world.
National Oceanic and Atmospheric Administration (NOAA)	A U.S. Government agency responsible for oceanic and atmospheric conditions for the earth including weather, tides, and related phenomenon.
National Snow and Ice Data Center (NSIDC)	An EOSDIS DAAC specializing in snow and ice, the cryosphere and climate.
Netscape Commmerce Server	Server for the World Wide Web (WWW) documents.
Netscape Navigator	World Wide Web (WWW) browser. Used to obtain information from other sources.
network	A flow diagram depicting the time phased sequence and interrelationship of events and activities that must be accomplished to achieve project objectives. Also, a structured and organized set of devices and software used to communicate among system hosts (computers) to meet system needs.

Network File System (NFS)	A system for sharing files between computers. NFS consists of a mounting protocol with a server, a file locking protocol with a server, and daemons to coordinate the file services provided. A server exports (or shares) a system of files by providing file system access to other hosts on a common network.
network ingest request	An Ingest Request to automatically transfer data into the SDPS from an external data provider. The Network Ingest Request contains the following information: a. External data provider b. Date/time prior to which the data remains available c. Requested ingest priority d. List of Data Type Identifiers e. For each Data Type Identifier, a list of file identifiers f. The corresponding file volumes
Network Node Manager	The Network Node Manager is part of the HP Open View product and is a network management application that manages TCP/IP networks and devices that support SNMP.
Networker	Tool used by system administrators to perform site-wide system backup except databases.
nnpost	Software that allows posting material to the bulletin board.
nonconformance	The failure of a unit or product to conform to allocated requirement(s) or test/operational conditions.
notification	A message sent to a user indicating a user-specified event has occurred. The message can be an internal ECS message or an E-Mail message.

O

object	A concept, abstraction, or other item with well-defined boundaries and meanings for a given problem. Also, an instance of a class.
object implementation	The code and data to realize a target object's behavior.
Object Request Broker (ORB)	The mechanism to locate objects instantiation ensures the implementation readiness, transmits data, and return results.
off-line	The Access to information by mail, telephone, facsimile, or other non- direct interface.

office manager	The person responsible for managing the cost, schedule, and technical elements of an office within an organization.
on-board attitude data	The attitude data generated by the spacecraft or its instruments.
on-board orbit data	The orbit data generated by the spacecraft.
on-demand data products	A Data Product generated in response to a specific user request instead of as part of standard, pre-determined processing.
on-demand product generation	The capability to produce products on-demand. These products are produced upon request in contrast to routine product generation where products are always produced regardless of whether any current user requests the products.
on-line	Access to information by direct interface to an information database via electronic networking.
on-site SDL	Both common and site specific software released for operational use, are maintained in the on-site SDL located at each site. The on-site SDL also contains the master index of configuration items (hardware, COTS, documentation) residing at the specific site.
on time QA	A response to a request for data to complete the QA fields of the metadata received within the established production time window. Data for the QA fields come from a scientist at a science computing facility. Overdue QA responses are sent directly to the DADS.
open request	A Service Request for a DIM, LIM, or Data Server to initiate a session and allocate resources required for the processing of Service Requests.
Open View Windows	Open View Windows is supplied as part of the HP OpenView product and provides the X-Windows interface to the ECS System performance management capabilities.
operational data	The data created by an operational instrument (i.e., NOAA AMRIR.)
Operations Readiness Review (ORR)	A review conducted at the ECS system level for the project Operations Center upon completion of a release of the system. The review determines if the release operates according to system requirements, documentation, and the operations center personnel needs.

operations staff	A generic term for the personnel with the responsibility to operate, monitor, and control a DAAC position within the SDPS (e.g., a Data Archive Analyst, a Data Ingest Technician, a Data Distribution Technician, or a Data Base Administrator.)
orbit data	The data representing spacecraft location. Orbit (or ephemeris) data includes: Geodetic latitude, longitude and height above an adopted reference ellipsoid (or distance from the center of mass of the Earth), an accuracy statement concerning the position and time of position including the system time.
order creation	A request to create a product order for a specific user.
order creation results	The return of order information (order identifier, request identifier, user name, media type) to identify a product advertised by the Science Data Server in the advertising service.
order status results	The status or progress of a product order (ECS processed satellite data) requested by a user.
order tracking	User services tool that tracks order status and request status.
organizational breakdown structure	A functionally oriented pyramid-like structure indicating organizational structural relationships and used as the framework for the assignment of responsibility.
Other Data Center (ODC)	Data centers not affiliated with the ECS but have a need to obtain data from the ECS for scientific or research purposes.
Object Description Language (ODL)	A description language used to translate information about an object between the Version 0 Information Management System and the ECS.

P

p = v metadata format	The 'parameter = value' format for defining metadata values. Parameter is a metadata field(s); value is the single value or list of values to be assigned to the parameter field(s.)
Packaging, Handling, Storage and Transportation (PHS&T)	The resources, processes, procedures, design considerations and methods to ensure that all system, equipment and support items are preserved, packaged, handled and transported properly including environmental considerations and equipment preservation requirements for short and long term storage and transportability.

parameter	The output generated by applying predetermined transformation algorithms to previously existing products and ancillary data, using specified calibration coefficients, to represent a specific geophysical parameter. Included are Level 2-4 products.
parametric analysis	The analysis to obtain an approximation of a unit's inherent reliability when creditable data is not available. Parametric analysis compares a unit with known values and is similar to and used in a similar application as the unit in question. Parametric analysis uses the known units, R&M data, as representative of the vendor's unit. This often provides the best available estimate of the inherent reliability of a proposed COTS item.
pathfinder	A long-term global Earth science data set produced from non-EOS data using community consensus algorithms as part of the EOSDIS program. The EOS program office (in consultation with the IWG and the science community) selects the pathfinder data sets.
payload	The list of instruments for a mission on a spacecraft.
performance management data	The information collected by the SDPS and provided to the CSMS (MSS) about the performance of individual system components, such as current resource usage or throughput.
performance measurement baseline	The time phased budget plan against which contract baseline performance is measured. It is comprised of time phased cost account budgets, undistributed budgets, and indirect budgets. Management reserve is not a part of the performance measurement baseline.
phenomenological search criteria	The search criteria identifying data associated with an event or condition observable by instruments on a spacecraft supported by the ECS.
physical configuration audit	The formal examination of the "as-built" configuration of a configuration item against its technical documentation to establish the CI's product configuration identification.
physical media class	The class of physical media (e.g., 3480 tape, D3 tape, M/O disk.)
physical media distribution request	The request to distribute data on hard media (e.g., tape or optical disk.)
plan activation request	A request to the Planning (PLANG) CSCI to make a previously prepared plan (a Candidate Plan) active (i.e., the Active Plan.)
plan cancellation request	A request to cancel an Active Plan.

plan creation request	A request for creating a Candidate Plan based on the planning information provided as input.
planned site resource report	A report including: a. Resource ID b. Resource name c. Resource type d. Resource default activity e. String description (a unit of processor capacity – a CPU or set of CPUs) f. Capacity description
planned vs. actuals resource usage reports	The reports covering a specified time period, include the following information for each resource: a. Planned interval start time b. Planned interval stop time c. Planned ground event OR default activity d. Actual interval start time e. Actual interval stop time f. Actual ground event OR default activity performed
planning package	A future segment of work within a cost account not yet broken down into work packages. A planning package has a firm budget, estimated start and complete dates, and description of work.
Planning Subsystem (PLS)	Manages the data production activities at ECS sites by providing the following capabilities: • Identifies the data processing tasks (via data processing requests) performed by a site • Generates the data production plans for scheduling the identified processing tasks Coordinates data production with the DSS and the DPS to achieve an automated production system.
platform	The EOS spacecraft and its subsystems without the ECS instruments.

platform engineering data	The subset of engineering data from platform sensor measurements and on-board computations.
playback data	Data stored on-board the spacecraft for delayed transmission to the ground.
polling ingest request	A request for the SDPS to automatically transfer data from an external data provider. The Polling Ingest Request is triggered by periodic polling for files in a specified network-accessible location and contains the specified network-accessible location.
Preliminary Design Review (PDR)	A review held for each ECS Segment. The PDR addresses the design of the segment-level capabilities and subsystem interfaces through all ECS releases. The PDR also addresses prototyping results and how the results of both Contractor and Government prototyping efforts, studies, and user experience with EOSDIS Version 0 have been incorporated into the ECS design for each respective Segment.
Preliminary Qualification Testing (PQT)	The first entire system test witnessed by the customer and end users to determine if the system meets the requirements provided by the customer and derived by the contractor to build the system.
preliminary resource schedule	An initial integrated spacecraft schedule, derived from instrument and subsystem resource needs, that includes the network control center TDRSS contact times and nominally spans seven days.
pre-planned stored command	A command issued to an instrument or subsystem to be executed at some later time. These commands are collected and forwarded during an available up-link prior to execution. See “Command Group.”
preventive maintenance	The actions performed on a scheduled basis to retain the operation of a system/equipment within specified operating parameters. Preventive maintenance includes but is not limited to inspection, cleaning, filter changes, lubrication, calibration and alignment.
price estimate request	A cost estimate for the data granules and associated metadata requested by a user for research purposes prior to a product order request.
Principal	A principal is a user of a DCE-based system. DCE principals include human users, servers, machines, and cells.

Principal Investigator (PI)	An individual contracted to conduct a specific scientific investigation. (An instrument PI is the person designated by the EOS Program as responsible for the delivery and performance of standard products derived from an EOS instrument investigation.)
Principal Investigator Computing Facility (PICF)	The project-provided facilities at PI locations used to develop and maintain algorithms, produce data sets, and validate data.
principal investigator instrument	An instrument selected pursuant to the EOS announcement of opportunity and provided by a PI and his home institution.
priority information	The information specifying the ranking of a service request assigned by a user or operations staff, or as assigned as the default or maximum priority a user can assign to a service request.
problem management	The procedures and instructions involved in the generation of trouble tickets, the trouble ticket review process, and the generation of Configuration Change Requests (CCRs.)
problem tracking tool	The software tool for doing automated tracking of problems found in the science software and maintaining the status of the resolution of those problems.
procedure	A subroutine, function, or other module within a process. A step-by-step set of instructions for performing an activity or task.
process	A logical sequence of tasks to accomplish a job.
process control file	Specifies the names and locations of files used by science software executables, and defines the correspondence between the file specifications and the logical identifiers used by the science software to reference the specified files.
process framework	A flexible mechanism (encapsulation) for the ECS Client and Server applications to transparently include ECS infrastructure features. The PF process is the encapsulation of an object with ECS infrastructure features and therefore the encapsulated object is fully equipped with the attributes needed to perform the activities assigned to it. The PF is built by first developing a process classification for the ECS project from the client/server perspective. Then the required capabilities are allocated at different levels of abstraction for each object.

process framework classes	The classes to support mode management. When a management agent starts a process, PF supplies the mode identifier as a command line argument available to all PF client applications. The PF also encapsulates the object started by the management agent with access to the ECS operational directory structure by providing a method PfMakeAbsPath () to prefix the root pathname "/usr/ecs/mode/" to a relative path. (All resources (files, data, and structure) are partitioned by mode.)
processing platform	A computer used to run science software. (As opposed to miscellaneous workstations and PCs used by the AI&T personnel for other purposes.)
product	A permanently archived set of output data generated by the science software.
product baseline	The baseline establishing the "as-built" configuration for system-level integration and testing and independent acceptance testing. This baseline is validated by functional and physical configuration audits, and reviewed and approved by GSFC as part of the Release Readiness Review (RRR.)
product coordination	The coordination of the receipt, staging, and storage of data necessary to carry out the Product Generation Segment (PGS) processing schedule.
Product Generation Executive (PGE)	Science software algorithms executed to produce products from raw satellite or lower level data products using the ECS Data Processing Subsystem. A set of one or more compiled binary executables and/or command language scripts. It is the smallest scheduled unit for the PGS processing.
PGE database	The database of information about the science software, organized by PGE, used by the Planning and Data Processing Subsystems to execute the PGEs. Includes disk space and memory requirements, estimated run time, etc.
PGE execution management	The pre-and post-PGE execution services such as building the PCF and bundling log files.
PGE installation package	A single record in the PGE database, containing all of the required information about a PGE.
Product Generation System (PGS)	An element of the SDPS that produces the science products used by the science community to fulfill the scientific objectives of the EOS mission.

Product order	A request for the generation of a specific product with an associated time window, a priority processing request, a reprocessing request, or a standing order for a product to be generated on a regular basis with a rough time line, or changes to standing orders. Product orders are received by the PGS from the Information Management Segment (IMS.)
Product planning workbench	Used to include a Production Request in a plan and receive a forecast of the resource needed based on past experience with the same kind of request.
Product request editor	Allows the operator to submit production requests which produce data product.
Product specific metadata	Product metadata defined specifically for a single product, or a set of related products and is in addition to the standard product metadata as defined in the ECS Data Model.
Product status dialog	The information to assist the IMS in tracking the status of a product order. The IMS sends a request to the PGS for the status of a product and PGS responds with the current product status. The PGS sends a schedule conflict notice to the IMS if a product request causes a schedule conflict and the IMS can respond with an adjustment to the time window. Schedule conflicts not resolved at this level are resolved by the System Management Center. The PGS sends an overdue alert to the IMS if it is clear a product order is not going to be on time.
Product strategies	Used to tailor the priority of the Production Requests.
Production history	A record of each step in the creation of a particular product identifying the generating PGE, inputs, and other variables.
production plan	See “Active Plan” and “Candidate Plan.”

production request	A request for the processing of specified ECS data by a pre-existing ECS process. A Production Request contains the following information: a. User Identifier b. Algorithm input requirements c. Text description of need for processing d. Level 0-4 data set/subset e. Required time of generation f. Requested priority for product processing g. Resulting product type h. Processing parameters
profiling	The measurement of the science software resource usage, such as memory and disk space usage, CPU time used, and input/output length of times.
Program Management Review (PMR)	The formal start of ECS design activities. The PMR is held to ensure a common understanding of how the ECS development effort is managed.
Project Instruction (PI)	A set of instructions defining a process to perform work scheduled on a project or in a Work Breakdown Structure.
project intermediate schedule	A summary of selected activities in the detailed schedules. This schedule is the primary schedule used by the Office Managers to manage the scope of work assigned to them.
project network	The network of project activities to show horizontal traceability at the project level.
Project Status Review (PSR)	An extension to the PMR, this review provides the management of the program, the forum for timely risk management, and possible adjustments to the schedule.
protocol	A specification of the semantics of an operation, including its signature, a description of the function performed by the operation and any pre-conditions or post-conditions.
prototype	The focused developments of system aspects to advance functional and operational changes. Prototypes are developed on a faster time scale than the incremental and formal development tracks.

prototype product	The data product generated as part of a research investigation, of wide research utility, requiring too much data or computer power for generation at the investigator science computing facility, and accepted as a candidate standard product by the IWG. Prototype products are generated at DAACs. Only during the time not interfering with other standard product generation.
prototyping	The construction of a solution of a design or implementation problem, the feasibility of which needs to be determined as early as possible in order to arrive at a critical decision.
Prototyping Results Review (PRR)	The reviews to announce the results of specific prototyping activities. The PRRs are timed to coincide with the points in the development cycle where information regarding the prototype (or prototypes) is needed. A PRR is used to reach conclusions concerning incorporation of the prototype into the mainline system development.

Q

QA Monitor	Assist in manual quality assurance activities such as query and retrieve data granules, visualize data products, and update metadata.
QA Statistics	Quality indicators associated with an individual data product including drop-outs, data gaps, out-of-range values, etc.
quality assurance	A subset of the total performance assurance activities generally focused on conformance to standards and plans.
query	A search conforming to the format and protocols required by a COTS product to execute the search request.
quick-look data	The data received during one TDRSS contact period processed to Level 0 (to the extent possible for data from a single contact.)
quick-look product	The product produced at a PGS by applying science algorithms to quick-look (expedited) data.

R

raw data	The data in the original packets, as received from the spacecraft and instruments, unprocessed by EDOS at original resolution, time ordered, with duplicate packets removed. • Level 2 – Retrieved environmental variables (e.g., ocean wave height, soil moisture, ice concentration) at the same location and similar resolution as the Level 1 source data. • Level 3 – Data or retrieved environmental variables that have been spatially and/or temporally resampled (i.e., derived from Level 1 or Level 2 data products.) Such resampling can include averaging and compositing. • Level 4 – Model output and/or variables derived from lower level data, which are not directly measured by the instruments. For example, new variables based upon a time series of Level 2 or Level 3 data.
real-time command group	See "Command Group."
real-time data	The data acquired and transmitted immediately to the ground (as opposed to playback data.) Delay is limited to the actual time required to transmit the data.
re-configuration	A change in operational hardware, software, data bases or procedures brought about by a change in a system's objectives.
refined attitude data	The attitude data generated by the Flight Dynamics System (FDS) in response to a request from the ECS.
refined orbit data	The orbit data generated by the FDS in response to a request from the ECS.
refresh	The physical act of recopying data from one media to a degraded media. The act of copying data from one media to another for viewing (such as copying data from a database or file to a computer screen.)
Registry database	The registry database is a database utilized by DCE to maintain information about DCE users (principals), groups, organizations, and accounts. The database contains information similar to that contained in the UNIX group and password files.
registry server	A new ESDT implementation library. (A location for source data products and information.)

regression testing	A repeat of an existing test to demonstrate that added, replaced, or corrected functionality has not disturbed previously demonstrated functionality.
Release B Search and Order Tool (BOSOT)	Searches data holding for Release B; allows users to search for and order data from the ECS Data and V0 data servers.
Release Initiation Review (RIR)	An internal review conducted at the start of the development phase of a release to revisit the requirements and issues associated with that particular release.
Release Readiness Review (RRR)	A review conducted at the ECS system level for a GSFC project review team upon completion of release acceptance testing. The Independent Acceptance Test Organization leads the RRR to determine, with the Government Acceptance Test Team and the Contracting Officer's Technical Representative, if the release is ready to be delivered, installed, and incorporated into the operational system.
reliability	The probability of system/equipment operating within design parameters under stated conditions, for a specified interval expressed as MTBF.
Remedy Action Request System	Provides DAACs with a trouble ticketing service to classify, track and report problems.
Remote Procedure Call (RPC)	A DCE service that facilitates client-server communication so an application can effectively access resources distributed across a network.
repaired attitude data	The attitude data provided by the Flight Dynamics System (FDS) to cover a time period when the on-board attitude data was not available or was invalid.
repaired orbit data	The orbit data provided by the FDS to cover a time period when orbital measurements were not available or were invalid.
Replication Server	Maintains warm standby copies of applications data and replicates changes among databases at different sites.
report	The formatted documentation of an automated or manual activity.
report file	An electronic copy of a report.
request identifier	The information uniquely identifying a Service Request. Status Requests and other Service Requests to monitor or control the execution of Service Requests reference request identifiers.

request priority	The information to determine (1) the order for the processing of a Service Request is initiated relative to other Service Requests and (2) the priority for the services and resources required for the Service Request processing.
requests	The means for users to ask for and obtain ECS data and services.
request state	The state of a Service Request once accepted by the SDPS (e.g., queued, active, complete.) The Request State is returned as part of the Service Request Status.
requirement	This set of procedures detail the procedures and instructions needed to create a resource plan, update an existing plan, and update the resource list.
requirements	A statement to which the developed system must comply. Varieties of requirements: Levels 2, 3, 4 and types of requirements: Performance, functional, and interface.
Requirements-by-Release (RBR)	RBRs are duplicates of the ESDIS level 2 requirements from the Functional and Performance Requirements Specification (F&PRS) which are stored in the Requirements and Traceability Management (RTM) database. RBRs are decomposed and allocated to ECS releases and the requirement histories and linkages are kept in the RTM database. Each RBR can either be: 1. allocated in its entirety to a release or 2. explicitly (using identical wording captured from the original requirement) broken into subsets to describe partial functionality allocated to earlier Releases on the way to providing full functionality at a later release.

requirements traceability	The process of allocating requirements to the software design and deriving requirements from higher requirements to define the needs of the ECS. There are three recognized levels of requirements on the ECS Project: • ESDIS (Level 2) • ECS System (Level 3) • ECS Detailed Subsystem (Level 4) Traceability is the relationship between the ECS Levels 2, 3, and 4 requirements as they are allocated to subsystems, CSCIs, CSCs, and processes. An analysis of requirement text, allocation to design elements, and linkage between requirement levels for traceability are done by the ECS Project System Engineering Department and Science Development Organization.
resource planning	A set of procedures to detail the instructions to create a resource plan, update an existing plan, and update the resource list. The process of planning for the needed budget, hardware, software, supplies, personnel, and other resources needed to complete the ECS project.
resource planning workbench	The tool used by the Planning Subsystem of the ECS project to schedule resources for creating or updating a production plan or updating a resource list.
result set	The data retrieved, collected, and returned from multiple Data Servers and performed as a result of the execution of a Service Request.
resume request	A Service Request to direct a LIM, DIM, or Data Server to resume a suspended session.
retrieval request	A request to retrieve science data (including metadata), guide, or product history information from the Data Server.
reusable software	The software developed in response to the requirements for one application, which can be used, in whole or in part, to satisfy the requirements of another application.
risk	An event, or action, with: 1) an associated potential loss 2) an uncertainty or chance involved, 3) some choice involved. The probability of an undesirable event occurring and the significance of the consequence or occurrence of the event.

risk analysis	The application of a standard methodology to determine threats, risk factors, vulnerability exposures, and potential losses to a system or project. Risk analysis protects a project's assets, identifies the potential performance problems, and the affects the problems could present to the organization in meeting its obligations. Finally, risk analysis is a way management can address the problems according to priority based on financial analysis.
risk management	The process of identifying, measuring, tracking, and controlling risk factors associated with a program development and/or support activity.
runs reliably	The software and hardware runs to normal completion repeatedly over the normal range of data inputs and run-time conditions.
runs safely	The software and hardware executes without interfering with or interrupting other software, hardware, or DAAC operations.

S

safeguards	The countermeasures, specifications, and controls designed to decrease an organization's vulnerability to a given threat probability. Safeguards are used to reduce an organization's losses and resulting mission impact. ECS safeguards improve deterrence, prevention, mitigation, detection, and recovery. Safeguards are generally grouped in the following categories: • Administrative: The policies, procedures, guidelines, auditing checks, and tabulations defined by management • Physical: A device or mechanism to protect assets including door locks, terminal shielding, vaults, walls, fire suppression systems, and guards • Technical: Usually associated with protecting information inside of a computer system, this category includes data encryption, access controls, system and file passwords, recovery software, and auditing software
SATAN	Examines network services to investigate potential security problems..
SCC-stored commands and tables	Commands and tables which are stored in the memory of the central on-board computer on the spacecraft. The execution of these commands or the result of loading these operational tables occurs sometime following their storage. The term “core-stored” applies only to the location where the items are stored on the spacecraft and within the instruments; core-stored commands or tables could be associated with the spacecraft or any of the instruments.
scenario	A description of the operation of the system in the end user’s terminology including a description of the results for a given set of input stimuli. Scenarios are used to define operational concepts.
schedules	The current sequence of tasks to be executed along with approximate execution times as generated by the PGS scheduler. Copies of these schedules are updated frequently, made available to the IMS, the System Management Center (SMC), and the DADS.
schedule variance	The arithmetic difference between earned value and planned value representing schedule status in terms of dollars.

scheduling	A listing of tasks by priority and time allocation. Incremental scheduling is interactive scheduling of selected events. For example, the initial generation of a schedule uses batch scheduling, while the addition of a single event while avoiding changes to previously scheduled events would use incremental scheduling.
scheduling directive	A message sent by the SMC specifying the scheduling of testing and simulation activities for the system, site, or a subsystem.
scheduling management data	Information about the schedules for the start up, shutdown, restart, or reservation of SDPS resources.
schema information	A formal description of the data offered by an ECS data management service (DIM, LIM, Data Servers) and accessible via that service's query language and query interface. The schema information includes a definition of the structure of the data types supported by the data management service, the attributes and operations supported by the data type, and the valid values (or range of values) for each attribute, as applicable.
Science Computing Facility (SCF)	A facility supplied by the EOS program to an EOS team leader, team member, or principal investigator (instrument or interdisciplinary) for the following purposes: • developing and maintaining the algorithms and software used to generate standard data products • quality control of standard data products • in-flight instrument calibration and data set validation • scientific analysis, modeling, and research generation of special data products and use as an interface to the investigator's institutional facility
Science Data Processing Segment (SDPS)	A segment of the ECS that provides the capabilities for science data processing, and data product or data searching, ordering, archiving and distribution.
science software	The software developed by the Science Computing Facilities to generate science data.
science software archive package	The information generated and recorded during Algorithm Integration and Test and includes the Science Software Delivery Package.

science software delivery	The files delivered by the SCF to the DAAC associated with a particular set of science software including source code, include files, shell scripts, make files, documentation, test procedures, test inputs and outputs.
science software delivery package	The source code, scripts, make files, documentation, test plan, test inputs and outputs, calibration coefficients, and control files. The package is delivered for formal Algorithm Integration and Test.
science software documentation	The documentation associated with a particular set of science software, in electronic form.
Science Software Integration and Test (SSIT or SSI&T)	A process to integrate new science algorithms, new versions of existing science algorithms, and user methods into the SDPS environment. The algorithm or method is acquired via an ingest process reflecting local site policies for acceptance of software for integration into the ECS environment.
science software script	A shell script included as part of the science software and must run to produce output products (as opposed to scripts supplied to help in the integration and test process.)
science software source code	Any source code included as part of the science software and must run to generate output products (as opposed to code supplied to help in the integration and test process.)
science user	A user of the ECS SDPS from the science community or other user community who uses ECS data and services for scientific research.
scientist	An individual with direct usage or support of the data collected and generated by, or the instruments contained within the EOSDIS. Included are principal investigators, co-investigators, research facility team leaders and team members, interdisciplinary investigators, instrument investigators, non-EOS affiliated science users, and other users of a diverse nature. See “Investigator.”
screen capture	A way to take a “snapshot” of a screen or a specified portion of a screen being displayed on a workstation or PC, and saving the snapshot to a file for later displaying, printing, or including in a document.

SDP Toolkit	A set of software libraries providing integrated science software in the ECS environment by promoting the POSIX standard to support the generation of data products in a heterogeneous (mixed) computer hardware environment.
search criteria	Specifies data categories and are used to identify a required subset of available data.
search request	A Service Request for information that describes data. The service request contains search criteria. The execution of the Search Request produces a list of one or more members to describe the data belonging to the categories given by the search criteria. The resulting members can be used to formulate subsequent Search Requests or Data Requests.
search result	The output of information from a Search Request.
Secure Socket Link (SSL)	A protocol designed by Netscpae Communications Corporation to provide secure communications on the internet. SSL is a program layer for managing the security of message transmission in a network. SSL is layered beneath applicatio protocols such as HTTP, SMTP, Telnet, FTP, gohers and NNTP and is layered above the connection protocol TCP/IP. It is use dby the HTTPS access method. The “sockets” part of the term refers to the sockets method of passing data back and forth between a client and a server program in a network or between program layers in the same computer. Netscape’s SSL uses the public-and-private key encription system from RSA, which also includes the use of a digital certificate.
security management data	Information collected by SDPS and provided to MSS (in the CSMS) for the purpose of managing the security of the SDPS services and data. The information includes records of user logon and log-off attempts, and unauthorized attempts to access SDPS services and data.
Segment	A logical and functional set of related capabilities implemented with COTS hardware and COTS and custom developed software to satisfy a defined set of system level requirements. The ECS consists of the following segments: CSMS -- Communications and Systems Management Segment SDPS -- Science Data Processing Segment

Segment Operational Readiness Review (SORR)	The reviews of the readiness of site operations to receive ECS software for an ECS release delivery. The SORR can be held coincident with CSR. Responsibility for the review is site management. The review focuses on functional capabilities, performance and operational characteristics of each segment. The SORR concentrates on operational procedures, human interfaces, and operational readiness.
sensitive information	Information including plain text or machine-encoded data with a relative sensitivity requiring some mandatory protection because of statutory or regulatory restrictions, or requiring some degree of discretionary protection.
sensitivity levels and/or criticality levels	The four NASA hierarchical groupings of sensitivity levels and/or critically levels (labeled 0 through 3) used to determine computer security controls.
sensor	A device that transmits an output signal in response to a physical input stimulus (such as radiance, sound, etc.) Science and engineering sensors are distinguished according to the stimuli to which they respond. Sensor name: The name of the satellite sensor used to obtain the spacecraft data.
sequence	A subdivision of a scenario to show the process of performing a task to request ECS data or services.
server	A hardware device with associated software that receives and executes Service Requests (e.g., the LIM, the DIM, the Data Server, and the MSS backup server.)
service	A request to obtain or perform a task with the ECS such as a data search, data retrieval, data insert, start an application, stop an application, start a session, terminate a session, send a notification, or make a subscription.
service class	A group of ECS services and its associated data.
service description	A description of the functions and interfaces provided by an SDPS service, intended for inclusion in an Advertisement.

service request	A message requesting data, a service, or both. The message is generated by an ECS user and sent to an ECS server. The server executes the Service Request and generates Service Request Status information and/or results. A Service Request contains the following data: a. User Identifier b. Request Identifier c. Priority Information d. Request State e. If rejection, then the reason for the rejection
service request cost	The aggregate measure (cost) of the resources required by a service request.
server request framework	The infrastructure of the Server Request Framework (SRF) providing the capability of synchronous and asynchronous communications between the ECS applications. SRF provides an enhanced Object Oriented Distributed Computing Environment (OODCE), Remote Procedure Calls (RPCs), message passing and persistent storage as a CSS support capability with the described features available by subsystem request or library call.
service request status	The information describing either the current progress of an ongoing Service Request or the outcome of a completed Service Request.
service request threshold	The number of Service Requests permitted to queue for ECS processing before some action, warning or error occurs.

session

A logical context assigned to a user or a client application for performing Service Requests. Sessions associate and manage the resources and Results Sets allocated and generated as a result of the Service Request processing. A session retains information associated with Service Request execution and makes it available to subsequent Service Requests. Service Requests use resources and Results Sets allocated and produced by other Service Requests belonging to the same session. Service Requests issued in the context of one session cannot use the resources managed by another session. There are two kinds of sessions, client and user.

- A client session supports interactions between a user's client application and a server. Client sessions associate and manage the resources and results sets allocated and generated by the server.
- A user session supports interactions between the user and ECS that enables the user to interact with ECS as a single entity. User sessions manage resources and results sets directly or indirectly controlled by the user interface client. The user interface client executes requests by issuing concurrent service requests between the user interface client application and one or more servers. These service requests are supported by one or more client sessions.

Sessions have the following states:

- Active: An established session enabling service requests to allocate and access session resources.
- Suspended: An established session not accepting service requests. Session resources are saved but are not accessible.
- Terminated: Processing of service requests in the session's context is no longer possible and session resources have been returned to the system.

session log

A record of the service requests issued by a user in the context of a session along with any error messages or invalid request attempts.

session profile

The information associated with a user session to supply default parameters in Service Requests. The contents of the session profile are derived from the user profile and from information supplied directly by the user during the user session.

session status information	The information about the resources allocated to the session, resources consumed by the transaction, the status of the service requests associated with the session, and the session state (e.g., active, dormant, suspended.)
session validation	The MOJO Gateway validates the sessions initiated by the users between the ECS and the ASTER GDS by ensuring the user is still sending commands and requests during a predetermined period of time. (Note: This session is separate and unique from the client and user sessions.)
signal file	A signal file is a file sent to the ECS from the EDOS Data Provider to notify ECS of the completion of an FTP data transfer. The signal file has no contents but hte file name contains a 36 character name with a designated extension of .XFR.
signature	A service with specific/unique parameters put into the Advertising Service by the data server and retrieved and interpreted by the Client Subsystem. For example: Acquire (media Type, media Format) or a subscription request (data type, action to be performed.)
simulated data	The data generated or specially selected to represent real data situations to aid in the algorithm integration and test process. See “Test Data.”
site query plan	An organized set of Search Requests formulated by the Local Information Manager for the purpose of executing a Search Request involving multiple Data Servers at one site. Each Search Request, within the Site Query Plan, is sent intending to be processed by a single Data Server.

site resource request	A request for site resources containing: • request originator • the resource(s) required for the ground event (including computers, disks, storage devices, networks) • ground event name • the start time of the ground event • the end time of the ground event • frequency of the ground event, if applicable • ground event description or comment • requested ground event priority
site resource request report	A report listing all site resource requests for a specified period of time including: • resource request ID • ground event name • requested resource • requested event start time • requested event duration • requestor name • requested event description • validation status • approval status
site search request	A search request to be processed at a single ECS site by a LIM.
Sniffers	Monitors network traffic for collisions and troubleshooting.
software	A combination of associated computer instructions and computer data definitions required by the computer hardware to perform computations, data manipulations, and control functions with parameters.

software development file	A repository for material pertinent to the design, development, and support of software. Contents can include (either directly or by reference) design considerations and constraints, design documentation and data, schedule and status information, requirements, unit test cases, test procedures, and test results.
software development library (SDL)	A controlled collection of software, documentation, and associated tools and procedures used to simplify the development and subsequent support of software. A software development library (SDL) provides storage of and controlled access to software in both human readable and machine-readable form. The SDL can also contain management data pertinent to the software development project.
Software Requirements Specification (SRS)	A contractual document describing the design of a system by showing the decomposition of the system into parts and allocation, clarification and definition of system requirements for the entire system. This document is usually developed jointly by the development and test organization and used by the test organization to develop test cases for the system.
Source Lines of Code (SLOC)	A line count of the number of instructions or statements used in a programming language to build a part or piece of the system to meet the system requirements.
spacecraft engineering data	See “Engineering Data.”
spacecraft recorder data	The data stored on-board the spacecraft (generally on a tape recorder) for delayed transmission to the ground.
spacecraft subsystems activity list	A spacecraft subsystem's list of activities covering seven days used by the EOC for developing the detailed activity schedule.
spacecraft subsystems resource profile	Anticipated resource needs for a spacecraft subsystem over a Target week, used by the EOC for establishing TDRSS contact times and building the preliminary resource schedule.
Spatial Query Server (SQS)	Used by the Science Data Server (SDSRV CSCI), this special server manages spatial data types of an earth science catalog of metadata for the ECS (including specialized spatial searches.)
special data products	Data products considered part of a research investigation for a limited region or time period, or data products not accepted as standard products.

specification	A document for describing the essential technical requirements for items, material or services, including the procedures for determining whether or not the requirements have been met.
SQL Report Writer	Generates reports for SQL-based relational databases.
SQL Server	A SQL Server is a set of cooperating processed that manage multiple Sybase databases and multiple users.
SSI&T Manager	Allows check in and verification of science software delivered by the instrumentteam at the SCFs. Provides access to all COTS tools and custom applications that are part of the SSI&T environment.
staging instructions	The information describing how data is staged and the required data format for the staged area.
staging request	A Data Request for SDPS to place specified data in a user-accessible staging area. The data can be permanently stored or generated on-demand. See “Data Request” for the format of a Staging Request.
standard data products	Data products generated as part of a research investigation, of wide research utility, accepted by the IWG and the EOS Program Office, routinely produced, and in general spatially and/or temporally extensive. Standard Level 1 products are generated for all EOS instruments; standard Level 2 products are generated for most EOS instruments. All data products accepted for production at a PGS, including the product described above as well as prototype products. This can include browse data products generated as part of the product production process.
standards checking	The process of checking whether or not source code and shell scripts follow prescribed coding standards.
statement of work	A description of the scope, end objectives, and constraints of the unique and separately identifiable work activities required for the satisfaction of contract requirements.
static data sets	The data sets containing parameters whose values can change, but do not change routinely or change at set time intervals.
static parameter	The parameter state indicating a telemetry parameter is not currently being updated.

status	The information regarding schedules, hardware and software configuration, exception conditions, or processing performance (or progress) exchanged with the DADS and provided to the System Management Center (SMC.)
Status Message Files (SMF)	A collection of utilities and library routines used for generating status message files (SMF) and manipulating SMF-defined status values and messages.
status request	A Service Request for status of one or more active Service Requests. A Status Request contains: a. The User Identifier b. The Request Identifier(s) for the Service Request(s) status.
Subinterval (Landsat 7)	A segment of raw wide-band data received during part of a Landsat 7 contact period. Subintervals are caused by breaks in the wide-band data stream due to communication dropouts and/or the inability of the spacecraft to transmit a complete observation (interval) within a single Landsat 7 contact period.
submap	A submap is an X-Windows display that contains symbols that represent portions of the ECS network that are managed by HP Open View.
Sub-sampling	The extraction of a multi-dimensional rectangular array of pixels from a single data granule, where regularly spaced, non-consecutive pixels are extracted from each array dimension. For each dimension, the size of the pixel array is characterized by the starting pixel location, the number of pixels to extract, and the pixel spacing between extracted pixels.

Subscription	A registration of users' interest in changes to (and other events associated with) data and services using a common SDPS service function called the Subscription Service. Specifically, a specification for an action to be performed upon the occurrence of one or more user-specified events. The action to be performed can be (1) the execution of another Service Request or (2) the issuance of a notification. The Service Request executed can deliver data, either via FTP or 8mm distribution. The specified event(s) correspond to data availability. Subscriptions are stored by the Subscription Service and activated by the Data Server subsystem. Once a subscription is activated, the subscription service detects the events specified in the subscription as they occur. ECS services describe in their advertisements, whether they support subscriptions. Subscriptions can be qualified using metadata attribute values, so only future data arrivals possessing actual metadata values that match will activate those subscriptions.
Subscription editor	Allows the operator to manually enter Subscription to the Subscription Server.
subscription event	The event (or set of events) identified in a subscription. The event is a future data arrival. When an event occurs, it activates subscriptions for the event.
subscription identifier	The information uniquely identifying an active or expired subscription.
subscription request	A Service Request for the acceptance and activation of a subscription by the Subscription Service. A Subscription Request contains a subscription.
Subscription server	Allows users to register their events related to a certain type of data.
subscription update request	A request by a client application (on behalf of a user) to change information recorded in an existing subscription.
sub-setting	The extraction of a multi-dimensional rectangular array of pixels from a single data granule, where consecutive pixels are extracted from each array dimension. For each dimension, the size of the pixel array is characterized by the starting pixel location and the number of pixels to extract.
subsystem	A combination of sets, groups, and similar features to perform an operational function within a system and is a major division of the system.

summary statistics	The set of statistical representations of individual data products, summarizing values over a set of granule instances of the product, such as in/ax values, means, and standard deviations.
supply support	The management actions, procedures and techniques required to determine requirements to: acquire, catalog, receive, store, transfer, issue and dispose of secondary items. This includes provisioning for initial support and replenishment supply support.
support equipment	The equipment to support the operation and maintenance of a material system. This includes associated multi-use end items, ground handling and maintenance equipment, tools, calibration equipment, communications resources, test equipment and automatic test equipment with diagnostics software for both on-and-off equipment maintenance. It also includes the acquisition of logistics support for the support and test equipment itself.
supportability	The design characteristics and logistic resources to maintain and sustain system elements in a ready and usable status.
suspend request	A Service Request to the LIM, DIM, or the Data Server to suspend an active session. Service Requests can not reference data and services previously created or defined within the context of a suspended session.
Sybase Replication Server	Maintains warm standby copies of application data and replicates changes amongs databases at different sites.
synchronous	A format used in digital communication between computers with a common timing signal established to dictate when individual bits can be transmitted and characters not individually delimited allowing high data rate transfers.
system	A stand-alone composite of hardware, facilities, material, software, services, and personnel required for operation based upon a defined set of system level requirements.
system administration	The detailed procedures and instructions describing how to perform system backups, system restores, DCE cell configuration, installing and upgrading hardware, installing custom software, installing and upgrading COTS software, license management, system startup and shutdown, and log maintenance.

System Design Review (SDR)	The review addressing the top-level or preliminary ECS system design. The SDR includes the definition and high-level design of ECS segments and elements, the interfaces between these and the interfaces between these and external systems, facilities, users, and operators.
system facilities	The real property assets required for development and operation of system elements.
system files	The files prepared for execution to make the ECS operational. These files are also known as configuration files.
system hierarchy	The terms used to decompose the system into smaller "building blocks." The ECS statement of work identifies system, segments, elements, and subsystems. The SDPS further decomposes subsystems into HWCIs, CSCIs, CSCs, and CSUs.
System Management Center (SMC)	A center to provide: • a system-wide view of the ECS operations • a system-wide coordination of activities • a source of administrative, security, and accounting management on a system-wide basis
System Management Subsystem (MSS)	The ECS subsystem providing a complement of tools and services for managing areas of fault, configuration, accountability, performance, and security. MSS consists of the Management Agent, Management Logistics, and Management Software CSCIs, and the Management Hardware HWCI.
system monitoring	The use of a software tool or set of procedures to track resource usage and optionally present the statistics of the resource usage collected graphically on a screen.
System Requirements Review (SRR)	The complete review of ECS system level requirements provided from the EOS/EOSDIS requirements (Level 2) and derived from system analysis. The System Requirements Review (SRR) provides a forum for the Government project office and the Contractor to come to an agreement on the capabilities the ECS must provide as an operational system based upon the system level requirements presented.

T

TCP Wrappers	Monitors and controls access to network services on a host.

tailored telemetry	The telemetry software residing on user workstations to provide selective parameter processing and limit settings controlled by the individual user.
Tape Archive (TAR)	Information stored on a tape, cataloged, and stored away and not meant for immediate access.
Target of Opportunity (TOO)	A science event or phenomenon not fully predicted in advance and thus requiring timely system response or high-priority processing.
Team Member Computing Facility (TMCF)	Project-provided facilities at research instrument team member locations used to develop and test algorithms and assess data quality.
technical data	All recorded, engineering and technical information defining form, fit, function and integrated logistics support for the system.
temporary file	A file, which can exist for the duration of a single PGE, or can exist for some indeterminate time beyond the termination of the PGE, which created it.
test	A procedure or action taken to determine under real or simulated conditions the capabilities, limitations, characteristics, effectiveness, reliability and suitability of a material, device, system or method. A written description to set-up and verify a subset of system requirements by validating a subset of functionality of a system which includes: • inputs • expected results or outcomes • evaluation criteria for the requirement(s)
test case	A test subset using input data chosen to stimulate the system to produce an expected outcome.
test data	Any data set designed or specially selected to aid in the development, integration and test of algorithms or other procedures within the system by exercising their functionality with realistic input.

testing	The process of executing written procedures to initiate test cases to verify hardware/software interfaces (including calling sequences), functionality, error handling, performance, and security. Testing is performed to verify the system requirements and to ensure the system performs as expected and to document cases when the system does not perform as expected.
test products	The science products generated by new or updated algorithms during the integration and test period. Test products are delivered to scientists at a science computing facility.
Test Readiness Review (TRR)	A review conducted by the project for each release of the segment to review the status of the software system to determine the readiness for integration and verification activities planned at a site or facility.
thread	An execution path through a series of components and steps which together execute a scenario, portion of a scenario, or multiple scenarios. Also, an execution path within software processes.
Tivoli	An integrated desktop that provides the capability to perform systems administration (Tivoli ADMIN), system monitoring (Tivoli Enterprise Console), and performance and fault monitoring (Tivoli Sentry).
toolkits	A set of related software tools developed by the ECS contractor. The toolkits are packaged, documented, and delivered independently as an aid to science data processing software development and other development activities occurring in parallel with the ECS.
Tracking and Data Relay Satellite System (TDRSS)	A satellite system used by government or commercial satellites as a communications relay to get satellite engineering, science, or service data transmitted to a designated ground station.
training	The processes, procedures, documents, exercises, and deliverable equivalent equipment required to effectively teach personnel to operate, understand, and support ECS software and hardware subsystems.
Tripwire	An intrusion detection tool that monitors files for changes.

Trouble Ticket (TT)	An electronic form located on the Remedy Action Request System (ARS) COTS product or a web-based interface using the Remedy API to allow administrators and users to identify and track ECS system hardware and software problems until the problems are reolved. Trouble tickets can be received from users, other DAACs, or external systems (e.g., ASTER GDS, Landsat 7, or the NSI.) The delivered configuration of Remedy includes trouble escalation policies, operator notifications, and status reports to aid in the problem resolution process. The user and appropriate administrator are notified upon creation or closure of a trouble ticket.
Tuple	Data reflecting unique strings of information associated with and descriptive of an event (e.g., names, identifier numbers, data types)

U

unit	An assembly of any combination of parts, subassemblies and assemblies mounted together and normally capable of independent operation in a variety of situations.
universal reference	A uniform referencing model of objects understood and supported throughout the SDPS for ECS data and services and provides a mechanism for a resource to be uniquely identified in the ECS.
update metadata request	A Service Request to direct the Data Server Subsystem to modify specified metadata associated with ECS data or products.
user	Any person accessing the EOSDIS. • Authorized users have viable EOSDIS accounts, and can therefore make EOSDIS data requests. These users can be affiliated or unaffiliated. Affiliated users are sponsored by one of the parties in the Earth Observations-International Coordination Working Group (EO-ICWG) data policy. Each party is responsible for ensuring its affiliated users comply with the EO-ICWG data policy. Use of data by affiliated users is classified in one of three categories, defined in the EO-ICWG data policy: • Research Use: A study or an investigation the user affirms (1) the aim is to establish facts or principles; (2) the data is not to be sold or reproduced or provided to anyone not covered by this or another valid affirmation; (3) the results of the research are submitted for publication in the scientific literature; and (4) detailed results of the research are provided

to the sponsoring spacecraft operator as agreed between the researcher and the sponsoring spacecraft operator. In the context of EOSDIS (this means NASA-affiliated users) must make available to the research community their detailed results, including data, algorithms, and models at the time their research is accepted for publication. The data can be copied and shared among other researchers provided either they are covered by a research agreement or the researcher who obtained the data from EOSDIS is to take responsibility for their compliance with the agreement. Data for affiliated users and for research and applications use is made available at no more than the marginal cost of production and distribution.

- Environmental Monitoring and Operational Use: Includes data use by government agencies affiliated with the parties who conduct environmental monitoring and/or operational observations for the public good, and can include larger agencies the parties belong (i.e., the World Meteorological Organization); or national agencies, or their designates, involved in other operational forecasting activities conducted for the public good (i.e., weather, sea state, sea ice, agriculture, hydrology, etc.) Environmental Monitoring and Operational Use of data constitutes any use of data to carry out a mandate of environmental observation and prediction as part of an agency's responsibilities to provide for the general welfare. Such use can include the routine down-link or direct broadcast of enhanced and un-enhanced data in near-real time within the operational community. Data for Environmental Monitoring and Operational use is provided in real or near-real time without fee, and is available through international EOS archives for non-real time users for no more than the marginal cost of reproduction and distribution consistent with the access terms for each instrument category.

- Other users: Those persons requesting data for scientific, operational, applications, or commercial use, not directly represented by an EO-ICWG member, and agrees to the stipulations on data access and use as set by the EO-ICWG and the EOS program.

A person originating Service Requests to be processed by the SDPS. Also includes scientists and operations staff.

user accounting information

An account recording the ECS resource usage attributed to a specific user.

User account manager	Tool used by DAAC operators to process new accounts and manage existing ones.
User audit tool	Used to browse for user acitivity such as logins, hose names, and login status.
user authorized	An ECS user with authorization from the system to access certain restricted files or other parts of the system.
user comments	User feedback information containing the following minimum data. • Quality assessment of the product data • Performance assessment of the schedule • Quality evaluation of the ECS service
User comments tool	HTML page that allows ECS users to give feedback on an ECS application via survey.
UserDIS	An expanded version of Global Change Data and Information System (GCDIS) open to general earth science data providers and users.
user identifier	The information uniquely identifying an authorized user of SDPS services to the ECS.
user interface client application	The user software tool to interact directly with and submit Service Requests to the ECS servers.
user profile	The information associated with a user to control the user interface and supply default parameters in Service Requests. The contents of the User Profile is derived from system default parameters and information supplied directly by the user. The User Profile contains the following information at a minimum: • User electronic address • Media Specification (for distribution media) • Data distribution address • User expertise level • Default search parameters • Terminal characteristics • Technical specialty

user profile request	Requests to retrieve user profile information to view or update the profile information.
user profile update request	A request to insert modified user profile information into an ECS database.
User registration tool	HTML page that contains an ECS registration form.
user requests	Requests for ECS data or services by authorized users.
user pull area	The network-accessible data storage mechanism to provide users the capability to retrieve data immediately, or at a convenient time for the user.
user registration request	A request sent to the CSMS for the creation of a new user account to become an authorized ECS user.
user session	See “Session.”
user session log	A user log to record the following information and activities associated with a single user session: • Service Requests initiated by the user • Service Requests Status • Notifications (informational or error messages)
user validation status	A message sent by the CSMS, in response to a Logon Authorization Request, to indicate whether or not a user is authorized to logon as an ECS user.

V

V0 Advertising Information	A message, in Version 0 (V0) format, to describe data and services provided by the Version 0 Information Management System.
V0 Browse Request	A message (in V0 format) to retrieve browse data from the ECS.
V0 Browse Results	The information returned from ECS for a V0 Browse Request.
V0 Gateway Metadata Import	Extracts ESDT data into an export file, maps the valids to the V) domain and stores it in the V0 gateway database.
V0 Inventory Search Request	A message (in V0 format) for the recipient to retrieve inventory data from ECS.
V0 Inventory Search Results	The information returned from ECS based upon a V0 Inventory Search Request.
V0 Migration Data	The V0 data holdings ingested into the ECS Data Server.
V0 Product Request	A message (in V0 format) to retrieve an ECS data product.
validation	The process of evaluating a system's or a component's functionality during or at the end of the development process to determine whether it satisfies specified requirements.
valid values	The parameter values describing the acceptable value or range of values for a given parameter.
variance analysis	The identification of variation from a planned baseline and analysis to determine its scope, cause, impact, and corrective action.
Vdata	Frameworks for storing custom tables in hierarchical data format files. Vdata is accessed via a Vdata interface and can be organized into Vdata classes.
verification	The process of evaluating test results with the pass/fail criteria for all system level requirements to determine customer acceptance. The act of analyzing, inspecting, demonstrating, testing, or otherwise establishing and documenting whether or not items, processes, services, or documents conform to specified requirements.
version	The culmination of a series of ECS releases, with new or changed science data processing software and unique site capabilities.
Vgroup	An aggregate of Vdata classes.

virtual terminal	A virtual terminal provides the capability for the Operations staff on an ECS platform to remotely log onto another ECS machine.

W

waiver, *configuration management specific*	The written authorization to accept a configuration item departing from specific requirements and considered suitable for use "as is" or after rework by an approved method.
waiver, engineering	A written authorization to accept an item, during manufacture or after having been submitted for inspection, found to depart from specified requirements, and nevertheless considered suitable for use “as is” or after repair by an approved method.
work authorization	The document assigning responsibility and authority to a person for a defined task within a specified schedule, budget, and statement of work.
work breakdown structure	A product or service oriented logical list of hardware, software, services, and related tasks describing the planned execution of work and management tasks required from start-to-finish on a contracted job.
working storage allocation request	A request for allocation of temporary storage on a device.
work packages	A subdivision of activities within a cost account based on a project task.
World Wide Reference System (WRS)	A set of predefined grids related to instrument types aboard a satellite in orbit. The standard WRS scene as defined for Landsats 4 and 5 were preserved to be ordered as products for Landsat 7. The WRS indexes orbits (paths) and scene centers (rows) into a global grid system comprising 233 paths by 248 rows. This path/row notation was originally employed to provide a standard designator for every nominal scene center and allow straightforward referencing without using longitude and latitude coordinates. For more information, See Landsat 7 System Zero-R Distribution Product Data Format Control Book Volume 5, Book 1, Revision 2 # 430-11-06-007-2 (CSC 10040833.)
World Wide Web (WWW) browser	Internet software designed to allow easier navigation of the network through the use of graphical user interfaces and hypertext links between different machine addresses. A browser is a computer program providing access to sites (home pages) on the WWW.

X

XAR query	A request to retrieve data via the ASTER instrument or from the ASTER database. The request to obtain data from the ASTER instrument is a Data Acquisition Request (DAR.) The request to obtain other data or information from the ASTER Ground Data System (GDS) is a XAR or generic acquisition request.
XRP II	Baseline Manager used to maintain records of baselined operational system configurations.