
Long Term Preservation of Earth Observation Space Data

Glossary of Acronyms and Terms

**CEOS - WGISS
Data Stewardship Interest Group**

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Authors

| Role | Name |
|-------------|--------------------------------|
| Authors | K. Molch, I. Maggio, M. Albani |
| Editors | I. Maggio, M. Albani, R. Cosac |

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1. INTRODUCTION

1.1. Intended Audience

This document is intended for anyone interested in or involved in Earth observation satellite data stewardship. It will be of particular benefit to Earth observation data managers, archive operators, and mission managers.

1.2. Background

Earth observation data are unique snapshots of the condition of the Earth or atmosphere at a specific point in time. As such they constitute a humankind asset which needs to be preserved, i.e. safeguarded against loss and kept accessible and useable for current and future generations.

With a view to the technological and organizational complexity as well as to cost reductions, sustainable Earth observation data stewardship is best addressed in a coordinated approach among data holders worldwide. Within CEOS¹, CCSDS², GEO³, and other coordinating bodies, data managers, archive operators, and Earth observation mission managers exchange views, approaches, and technologies, jointly develop guidelines and best practices, and pursue the standardization of procedures and technologies. A common understanding of the meaning of frequently used terms and abbreviations facilitates coordination and cooperation.

1.3. Scope of Document

This document provides a list of definitions for frequently used acronyms and terms in the field of Earth observation data stewardship. The main goal is to align the Glossary and terms between various sources and Agencies.

1.4. Related Documents

Some of the terminology in this glossary has been adapted from general digital curation terminology. A list of valuable resources can be found in Annex A – Resources.

¹ Committee on Earth Observation Satellites

² Consultative Committee for Space Data Systems

³ Group on Earth Observations

2. DEFINITION OF ACRONYMS

| Term | Definition |
|---------|---|
| AIP | Archival Information Package |
| AISP | Annotated Instrument Source Packet |
| AIV | Assembly, Integration and Validation |
| AUX | Auxiliary |
| BER | Bit Error Rate |
| Cal/Val | Calibration and Validation |
| CCSDS | (ISO) Consultative Committee for Space Data Systems |
| CDS | Coordinated Data System |
| CEOS | Committee on Earth Observation Satellites |
| COTS | Commercial Off The Shelf |
| CSC | Copernicus Space Component |
| CSW | Catalogue Service for the Web |
| DAP | Data Access Protocol |
| DAP | Data Access Portfolio |
| DEM | Digital Elevation Model |
| DSN | Deep Space Network |
| DSM | Digital Surface Model |
| DIP | Dissemination Information Package |
| EO | Earth Observation |
| FOS | Flight Operations Segment |
| GCOS | Global Climate Observing System |
| GCP | Ground Control Point |
| GDS | Ground Data System |
| GEC | Geographic Corrected (Image) |
| GEO | Group on Earth Observations |
| GEOSS | Global Earth Observation System of Systems |
| GML | Geography Markup Language |
| GOOS | Global Ocean Observing System |
| GS | Ground Segment |
| GSD | Ground Segment Development |
| GSIOF | Ground Segment Initial Operations Plan |
| GSOP | Ground Segment Operations Plan |
| GSOV | Ground Segment Operational Validation |
| GSP | Ground Segment Planning |
| GTOS | Global Terrestrial Observing System |
| HDF | Hierarchical Data Format |
| HLOP | High Level Operations Plan |
| HMA | Heterogeneous Mission Accessibility |
| IAT | Interactive Analysis Tool |
| IIM | Image Information Mining |
| IPF | Instrument Processing Facility |
| ISO | International Organization for Standardization |
| KIP | Knowledge Information Package |
| LEO | Low Earth Orbit |
| LEOP | Launch & Early Orbit Phase |
| LTA | Long Term Archive |
| LTDP | Long Term Data Preservation |
| M&C | Monitoring and Control |
| MMGS | Multi-Mission Ground Segment |
| MOM | Mission Operations Manager |
| MOM | Mission Operations & Maintenance |
| MOP | Mission Operation Plan |

| Term | Definition |
|-------------|--|
| MTA | Medium Term Archive |
| NEN | Near Earth Network |
| NetCDF | Network Common Data Form |
| NRTxh | Near Real Time x hour |
| OAIS | Open Archival Information System (ISO:14721:2003) |
| OPeNDAP | Open-source Project for a Network Data Access Protocol |
| PAIMAS | Producer Archive Interface Methodology Abstract Standard |
| PDGS | Payload Data Ground Segment |
| PDS | Payload Data System/Segment |
| PEP | Payload Exploitation Plan |
| PGE | Program Generation Executable |
| PGS | Payload Ground Segment |
| POD | Precise Orbit Determination |
| QC | Quality Control |
| QI | Quality Indicator |
| QOS | Quality of Service |
| QWG | Quality Working Group |
| RDA | Research Data Alliance |
| RF | Radio Frequency |
| RSS | Research and Service Support |
| RTD | Research and Technology Development |
| RX | Reception/Receiver |
| S/C | Spacecraft |
| SAFE | Standard Archive Format for Europe |
| SAR | Synthetic Aperture Radar |
| SIP | Submission Information Package |
| SP | Service Provider |
| STC | Standard Time Critical |
| SW | Software |
| TBC | To Be Confirmed |
| TBD | To Be Defined |
| TBS | To Be Specified |
| TPM | Third-Party Mission |
| TPS | Third Party Software |
| TRL | Technical Readiness Level |
| TX | Transmission/Transmitter |

3. DEFINITION OF TERMS

| Term | Definition | OAIS Equivalent |
|---|---|--|
| Access <i>(noun)</i> | Services and functions which make the stored information holdings accessible to users by providing data search, discovery, retrieval, and dissemination functions. Access can refer to either the functionality, the services providing the functionality, or the entity providing the corresponding services. <ul style="list-style-type: none"> • Off-Line - Access to information by mail, telephone, facsimile, or other non- direct interface. • Near-line - On-line access to information or data with system related time delays, e.g. resulting from data retrieval from tape library and / or CPU-intensive 'on-the-fly' product generation. • On-Line - Access to information by direct interface to an information data base via electronic networking. Access includes data search, discovery, and retrieval | The OAIS functional entity that contains the services and functions which make the archival information holdings and related services visible to Consumers. |
| Acquisition <i>(noun)</i> | Acquisition describes the complete process from optional on-board recording, downlink and reception, up to the reconstruction of instrument source packets on ground. See also acquisition planning. | |
| Acquisition Planning <i>(noun)</i> | Computation of a non-conflicting timeline of activities for the space segments and for corresponding reception activities of the stations. The planned activities comprise recording, downlink and reception. Planning has to take into account constraints like budgets, capacities and receiving station availabilities. Part of this function is cross-mission reception conflict resolution, e.g. in case of interference between downlinks of different satellites. | |
| Algorithm <i>(noun)</i> | Series of steps needed to generate a product. | |
| Algorithm Theoretical Basis Document <i>(noun)</i> | A document that provides in detail, the theoretical basis of an algorithm. Such documents should accompany the products and be updated when changes occur in the algorithm resulting in new versions of products. | |
| Ancillary Data <i>(noun)</i> | Data which are not obtained from the sensor itself (usually provided in the science telemetry) and have the primary purpose to serve the processing of instrument data. This can be divided into data referred to as spacecraft 'engineering', 'core housekeeping' or 'subsystem' data obtained from other parts of the platform and includes parameters such as orbit position and velocity, attitude and its range of change, time, temperatures, pressures, jet firings, water dumps, internally produced magnet fields, and other environmental measurements. Ancillary refers to | Ancillary data can be considered as a Digital Data Object (object composed of a set of bit sequences) part of a Content Information, related to other digital objects (i.e. Primary Data) through Context Information (the information that documents the relationships of the Content Information to its environment; this includes |

| Term | Definition | OAIS Equivalent |
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| | data that exist purely to serve the data processing; auxiliary data, while helping the process, are also data sets in their own right. | why the Content Information was created and how it relates to other Content Information objects) or as a compound digital object which contains a mixture of Provenance, Context and Representation Information related to a Primary Digital Data Object |
| Appraisal (noun) | Here: a procedure whereby the value and suitability of an EO space data set for long-term preservation is being assessed. | |
| Archival Information Package (AIP) (noun) | Information package, made of the content information (instrument data) and the associated preservation description information, which is preserved within an OAIS. | An Information Package, consisting of the Content Information and the associated Preservation Description Information (PDI), which is preserved within an OAIS. |
| Archive (noun) | The archive stores data products, guaranteeing their preservation for future use. This function includes all operations to identify, store and retrieve the data and ensure their integrity. | Archive: an organization that intends to preserve information for access and use by a Designated Community. |
| Archive Operations (noun) | The functional entity that provides the services and functions required to run and monitor the archive system on a day-to-day basis. Archive operations encompasses both hardware and software and includes the execution and control of the applications, system monitoring, anomaly reporting, error recovery, regular maintenance and upgrades of hardware and archiving software, activity reporting and the generation of statistics. | Administration Functional Entity: The OAIS functional entity that contains the services and functions needed to control the operation of the other OAIS functional entities on a day-to-day basis. |
| Archive Organization (noun) | The organizational structure of an <i>archive</i> based on a sufficient number of qualified staff with clear roles and responsibilities. | Open Archival Information System: an archive, consisting of an organization of people and systems that has accepted the responsibility to preserve information and make it available for a Designated Community. It meets a set of responsibilities that allows it to be distinguished from other uses of the term 'archive'. |
| Archive Holder (noun) | See 'Data Provider' | |
| Associated Knowledge (noun) | As a component of a data set, the associated knowledge encompasses all <i>information</i> and <i>tools</i> relevant to the instrument data. Preserving the associated knowledge ensures that the instrument data remain useable, i.e. legible and understandable. | |
| Attitude Data (noun) | Data that represent spacecraft orientation and onboard pointing information. Attitude data includes: Attitude sensor data used to determine the pointing of the spacecraft axes, calibration and alignment data, Euler angles or quaternions, rates and biases, and associated parameters. | |

| Term | Definition | OAIS Equivalent |
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| | Attitude generated onboard in quaternion or Euler angle form. Refined and routine production data related to the accuracy or knowledge of the attitude. | |
| Auxiliary Data (noun) | Data which enhance processing and utilization of remote sensing instrument data. The auxiliary data are not captured by the same data collection process as the instrument data. Auxiliary data include data collected by any other platform or process, preferably in georeferenced digital format. Examples are e.g. meteorological data received from ECWMF or NCEP. Auxiliary data help in data processing, but are also data sets in their own right; ancillary refers to data that exist purely to serve the data processing (e.g. orbit position and velocity). | |
| Baseline (interferometric) (noun) | The accurate determination of orbital distances (or baselines) between satellites with compatible orbits. Baseline calibration is a needed step in all applications of SAR interferometry and differential interferometry. | |
| Big Data (noun) | Big data is a broad term for data sets so large or complex that traditional data processing applications are inadequate. Challenges include analysis, capture, data curation, search, sharing, storage, transfer, visualization, querying and information privacy. | |
| Browse (verb) | Process of viewing browse data or browse images to assess them quickly before ordering or accessing them in their more complete form (e.g., full resolution or broader spatio-temporal coverage). | |
| Browse Data (noun) | (1) Subsets of data set other than the directory and metadata that facilitates user selection of specific data having the required characteristics. For example, for image data, browse data could be a single channel of multi-channel data, and with degraded 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 related science discipline. (2) Data produced primarily to provide other investigators with an understanding of the type and quality of data available. Typically, browse data sets are limited in size or resolution. The specific form of browse data depends on the type of instrument or discipline with which the browse data is related. Browse data is sometimes considered to be a sample of available data. (3) Browse data facilitates access to real-time or priority playback data which receive minimal processing and are forwarded to the user for his review/use. The user may provide additional processing to suit his requirements. | |
| Browse Image (noun) | Visual representation of a <i>product</i> (as an image) to help and support product selection in the frame | |

| Term | Definition | OAIS Equivalent |
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| | of the user service facility. Synonyms are: Browse, Quick-look, and Preview. | |
| Building Block (noun) | Set of functions with a well-defined external interface allowing reuse for different missions | |
| Bulk Dissemination (noun) | Bulk Dissemination is a special service provided in case of high volumes of data to be disseminated to User (Research on-demand or Operational). Typically this implies dissemination on media or allocation of dedicated FTP resources for this user. | |
| CAL/VAL Data (noun) | See ' <i>Calibration Data</i> ' | |
| Calibration (noun) | The process of quantitatively defining the system responses to known, controlled signal inputs. | |
| Calibration Data (noun) | The collection of data required to perform <i>calibration</i> of the instrument science data, instrument engineering data, and the spacecraft or platform engineering data. It includes pre-flight and in-flight calibration measurements, calibration equation coefficients derived from calibration software routines, and ground truth data that is to be used in the data calibration processing routine. | CAL/VAL data can be considered as a digital data object (object composed of a set of bit sequences) part of a content information, related to other digital objects (i.e. primary data) through context information (the information that documents the relationships of the content information to its environment; this includes why the content Information was created and how it relates to other content information objects) or as a specialized type of provenance and representation information related to a primary digital data object. |
| Catalogue (noun) | The Catalogue provides the discovery of information to the user on which EO data products can be obtained, i.e. a "Product Catalogue". Products can be organized in collections with restricted access depending on product and user type. | |
| Catalogue Service (noun) | A functionality to expose or publish a collection or product level <i>catalogue</i> using specific protocols, such as the Catalog Service WEB (CSW) defined by the Open Geospatial Consortium (OGC). | |
| Circulation (noun) | PDGS function implementing the distribution of products between facilities in the same or different geographic locations. | |
| Climate Data Record (noun) | A time series of measurements of sufficient length, consistency, and continuity to determine climate variability and change. | |
| Collection (noun) | The ensemble of some <i>products</i> or <i>auxiliary data</i> having a common focus or theme or purpose (e.g. collection of land photos) | |
| Collection Group (noun) | Set of collections sharing a specific characteristic, e.g. same terms of conditions for access authorization | |

| Term | Definition | OAIS Equivalent |
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| Consolidation (noun) | Consolidation is the process to provide a set of products for long-term archiving and further processing. Consolidation is one of the tasks of data preservation and leads the generation of the Master Data Records. | |
| Consumer (noun) | The role played by those persons or client systems, who interact with OAIS services to find preserved information of interest and to access that information in detail. This can include other OAISs, as well as internal OAIS persons or systems. | The role played by those persons or client systems, who interact with OAIS services to find preserved information of interest and to access that information in detail. This can include other OAISs, as well as internal OAIS persons or systems. |
| Content Information (noun) | <p>The set of information that is the primary target for preservation. It is an Information Object comprised of its Content Data Object and its <i>Representation Information</i>. An example of Content Information could be a single table of numbers representing, and understandable as, temperatures, but excluding the documentation that would explain its history and origin, how it relates to other observations, etc. (<i>Context Information</i>).</p> <p>The term is not used much in the Earth observation community.</p> | <p>The set of information that is the primary target for preservation. It is an Information Object comprised of its <i>Content Data Object</i> and its <i>Representation Information</i>. An example of Content Information could be a single table of numbers representing, and understandable as, temperatures, but excluding the documentation that would explain its history and origin, how it relates to other observations, etc.</p> |
| Context Information (noun) | <p>The information that documents the relationships of the <i>Content Information</i> to its environment. It includes the reason for which the Content Information was created and how it relates to other Content Information objects.</p> <p>The term is not used much in the Earth observation community.</p> | <p>The information that documents the relationships of the Content Information to its environment. This includes why the Content Information was created and how it relates to other Content Information objects.</p> |
| Coordinate Reference System (noun) | A coordinate-based local, regional or global framework used to define and locate geographical entities. | |
| Curation (noun) | Value adding, organization, presentation and preservation activities, aimed at establishing and increasing the value of "EO Missions/Sensors Preserved datasets" over their life cycle, at favoring their exploitation, possibly through the combination with other data records, and at extending the user communities. | |
| Data (noun) | Scientific or technical measurements, values calculated therefrom, observations, or facts that can be represented by numbers, tables, graphs, models, text, or symbols which are used as a basis for reasoning and further calculation. | |
| Data and Mission Owners (noun) | See 'Data Provider' | |
| Data Base | (1) A collection of data sets associated with a | |

| Term | Definition | OAIS Equivalent |
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| <i>(noun)</i> | system, project, or facility. (2) A collection of interrelated or independent data items stored together in a structured way to serve one or more applications. | |
| Data Center <i>(noun)</i> | A facility storing, maintaining, and making available data sets for expected use in ongoing and/or future activities. Data centers provide selection and replication of data and needed documentation and, often, the generation of user tailored data products. | |
| Data Management <i>(noun)</i> | As defined for an OAIS entity that contains the services and functions for populating, maintaining, and accessing a wide variety of information. Some examples of this information are catalogs and inventories on what may be retrieved from Archival Storage, processing algorithms that may be run on retrieved data, Consumer access statistics, Consumer billing, Event Based Orders, security controls, and OAIS schedules, policies, and procedures. | The OAIS entity that contains the services and functions for populating, maintaining, and accessing a wide variety of information. Some examples of this information are catalogs and inventories on what may be retrieved from Archival Storage, processing algorithms that may be run on retrieved data, Consumer access statistics, Consumer billing, Event Based Orders, security controls, and OAIS schedules, policies, and procedures. |
| Data Object <i>(noun)</i> | An entity that, together with associated Representation Information, is the original target of preservation. | The Data Object, that together with associated Representation Information, is the original target of preservation. |
| Data Producer <i>(noun)</i> | An entity or organization that develops novel data products or improved algorithms. | |
| Data Provider <i>(noun)</i> | An entity that archives and distributes data. The data provider may or may not be the entity that also produced the data. | |
| Data Record <i>(noun)</i> | Data or information in a fixed form treated as a unit. A record has fixed content, structure, and context. A physical record may contain one or several logical records or a part of a logical record. In the context of EO data preservation a data record is the collection of all data takes for a specific product type of an EO mission instrument and consists of the following components: instrument data, browse data, ancillary data, auxiliary data, calibration and validation data, and metadata. The data record, along with the <i>associated knowledge</i> , is a component of the <i>data set</i> . | |
| data set <i>(noun)</i> | A logically meaningful grouping or collection of similar or related data. Data having all of the same characteristics (source or class of source, processing level, resolution, etc.) but different independent variable ranges and/or responding to a specific need are normally considered part of a single data set. A data set is typically composed | |

| Term | Definition | OAIS Equivalent |
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| | <p>by products from several missions, gathered together to respond to the overall coverage or revisit requirements from a specific group of users.</p> <p>In the context of EO data preservation a data set consists of the <i>data records</i> and their <i>associated knowledge (information, tools)</i>. See <i>collection</i>.</p> | |
| <p>Data System (noun)</p> | <p>(1) A collection of hardware and software to perform one or more specific data processing, analysis, storage, retrieval or distribution functions. (2) An integrated system ideally containing online data catalogue(s) and inventories as well as data storage, access, manipulation, retrieval, and display capabilities.</p> | |
| <p>Data Time series (noun)</p> | <p>A data sequence that is designed to be consistent over a defined time interval. Data points represent the same variable, processed in the same way, at evenly spaced points in time.</p> | |
| <p>Data User Guide (noun)</p> | <p>A document, either on-line or hardcopy, containing the necessary information for the correct usage of the data.</p> | |
| <p>Data set Series (noun)</p> | <p>Collection of data sets sharing the same product specification. They are synonym of EO collections. They are named data set series as they may be mapped to 'data set series' according to the terminology defined in ISO 19113, ISO 19114 and ISO 19115.</p> | |
| <p>Description Information (noun)</p> | <p>A data set description consists of a set of information identifying an archived data set from a long term preservation perspective. It includes a description of the spatial mission and payload, the composition of the data set itself and its availability, the data set time span, volume, storage media and archiving format. The data set description is fundamental for data set <i>appraisals</i> and to support the purposes of data preservation and archiving.</p> <p>See also <i>Preservation Description Information</i></p> | <p>Description Information: the set of information, consisting primarily of Package Descriptions, which is provided to Data Management to support the finding, ordering, and retrieving of OAIS information holdings by Consumers.</p> |
| <p>Designated Community (noun)</p> | <p>The designated community in this context is the scientific or other user group - usually working in the same or related <i>disciplines</i> - which will benefit from the long-term availability and usability of a preserved data set and thus has a vested interest in its preservation.</p> | |
| <p>Directory (noun)</p> | <p>"Discovery" service for what services are available in the PDGS, i.e. intending by default a "Service Directory". Typical usage is the directory of different "Product Catalogue" services for EO product collections</p> | |
| <p>Directory Service (noun)</p> | <p>Descriptions of metadata or data set catalogues accessed as a component of the Catalogue Service containing high level information suitable for making an initial determination of the potential usefulness of a data set for some application. Information on the location of metadata or data set catalogues will be found in this directory.</p> | |

| Term | Definition | OAIS Equivalent |
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| Discipline <i>(noun)</i> | A field of study such as oceanography, meteorology, geology, or marine biology | |
| Discovery <i>(noun)</i> | Any service that helps the user to identify and locate EO resource starting from his needs. See also <i>search and discovery</i> . | Finding Aid: a type of Access Aid that allows a user to search for and identify Archival Information Packages of interest. |
| Dissemination <i>(noun)</i> | The dissemination function delivers the final product to the user, by means of physical media, electronic distribution (e.g. ftp-push) or electronic server access (e.g. ftp-pull). Therefore, dissemination is concerned with the preparation of the delivery media in case of offline delivery and the management of online access. | |
| Dissemination Information Package (DIP) <i>(noun)</i> | [OAIS]Information Package - derived from one or more AIPs (Archival Information Package) - supplied to the Consumer in response to a request to the OAIS. | Dissemination Information Package (DIP): the Information Package, derived from one or more AIPs, received by the Consumer in response to a request to the OAIS. |
| Dissemination Request <i>(noun)</i> | A dissemination request is a request for dissemination of certain products. It usually is related to an bulk dissemination request that shall be fulfilled. Dissemination requests are parameterized with delivery parameters like delivery method, medium and address, and parameters to determine the products to be delivered. | |
| Documentation <i>(noun)</i> | The information component of a data set's associated knowledge may include mission, instrument, calibration, and other information in the form of text documents. | |
| Downlink <i>(noun)</i> | Data stream from the satellite to a receiving station during visibility of the satellite from the station. The data stream transmits the payload data and optionally telemetry and housekeeping data. | |
| Engineering Data <i>(noun)</i> | Data which describe the physical condition and operation of the platform and instruments on the platform. Parameters might include temperatures at specific points, filter(s) in use, switch settings, memory data, etc. | |
| EO Space Data <i>(noun)</i> | Earth Observations Data generated by spaceborne missions or instruments owned by public or private organisations. | Content Data Object: the Digital Data Object that together with associated Representation Information is the original target of preservation. |
| EO Space Data Holders and Archive Owners <i>(noun)</i> | This category is intended to include all entities dealing with the archiving of EO space data and responsible for their preservation in the long term. It includes data providers, data and mission owners, archive holders, etc... | Management: the role played by those who set overall OAIS policy as one component in a broader policy domain. |
| EO Space Data Producers <i>(noun)</i> | Producers of Earth Observation data derived products. This category includes private and public institutes which are responsible for space | Producer: the role played by those persons, or client systems, who provides the |

| Term | Definition | OAIS Equivalent |
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| | missions and the companies/institutes participating to the programs which produce the different levels of data to be preserved. | information to be preserved; this can include other OAISs or internal OAIS persons or systems. |
| EO Space Data Users (noun) | User communities interested in various application areas heavily benefiting from the availability of Earth Observation space data and products. | Consumer: the role played by those persons, or client systems, who interact with OAIS services to find preserved information of interest and to access that information in detail. This can include other OAISs, as well as internal OAIS persons or systems. |
| Earth System Data Record (noun) | A unified and coherent set of observations of a given parameter of the Earth system, which is optimized to meet specific requirements in addressing science questions. | |
| Essential Climate Variables (noun) | An ECV is a physical, chemical, or biological variable or a group of linked variables that critically contributes to the characterization of Earth's climate. ECV data sets provide the empirical evidence needed to understand and predict the evolution of climate, to guide mitigation and adaptation measures, to assess risks and enable attribution of climatic events to underlying causes, and to underpin climate services. | |
| Exploitation Platform (noun) | Collaborative Big Data hosted processing environment allowing a community which shares interest in a certain topic (mission or application theme) to collaborate and share their resources (algorithms, data, experience, etc.). <ul style="list-style-type: none"> • Mission Exploitation Platform: limited to the data of a single satellite mission • Thematic exploitation platform: covering multi-mission data including potentially also non-space data needed to undertake research or service provisioning for a specific application area (e.g. ocean, agriculture, polar, urban, hydrology, geohazard, forestry) | |
| Facility (noun) | Grouping of functionality that is supposed to be operated together. Can refer to the relevant functional block or to its instantiation (i.e. also including the hardware) in an "Operations Center". E.g. Dissemination and archiving facilities are some components of the EO Ground Segment. | |
| Flight Operations Segment (noun) | The personnel and elements performing all the activities related to planning, execution and evaluation of control of the space segment or subsets thereof when in orbit | |
| Footprint (noun) | Geographic area covered by a product derived from an instrument observation.. | |
| Frame (noun) | Fixed size (in time extension) product generated from a longer data segment. Typically the length was defined such that the product covers a square | |

| Term | Definition | OAIS Equivalent |
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| | area, but with the evolution to provide dissemination systematically via on-line services, the resulting download size has become an important parameter to consider. <ul style="list-style-type: none"> • “Fixed Frames” have a predefined geographical footprint in accordance with a reference system. • “Floating Frames” start at an arbitrary position chosen by the user. See also <i>granule</i> and <i>scene</i> . | |
| Granule <i>(noun)</i> | The smallest aggregation of data which is independently managed (i. e. described, inventoried, retrievable). Granules may be managed as logical granules and/or physical granules. See also <i>frame</i> and <i>scene</i> . | |
| Ground Truth <i>(noun)</i> | Geophysical parameter data, measured or collected by other means than by the instrument itself, used as correlative or calibration/validation data for that instrument data. It includes data taken on the ground, on the ocean or in the atmosphere. Ground truth data is another measurement of the phenomenon of interest; it is not necessarily more "true" or more accurate than the instrument data. | |
| Guide <i>(noun)</i> | The guide function is part of the user information function to provide information about satellites, sensors, product types and services. | |
| Guide Service <i>(noun)</i> | Part of a Catalogue Service that provides detailed information concerning specific data sets which enable the user to make a detailed analysis of whether a data set or a specific granule within the data set will be of value for some application. May also contain information necessary for analysis of the data (e.g calibration coefficients). | |
| Housekeeping Telemetry <i>(noun)</i> | Housekeeping telemetry (HKTM) is all the telemetry necessary to monitor the health and status of the satellite and transmitted through the telemetry link. | |
| Information <i>(noun)</i> | Any type of knowledge that can be exchanged. In an exchange, it is represented by data. An example is a string of bits (the data) accompanied by a description of how to interpret a string of bits as numbers representing temperature observations measured in degrees Celsius (the representation information). Here also understood as part of the <i>associated knowledge</i> as component of the <i>data set</i> . It includes mission descriptions, instrument description and characteristics, products specifications, algorithm description, Cal/Val procedures, mission and instrument performances reports, quality related information. <i>Representation Information, Packaging Information</i> and <i>Preservation Description Information</i> are also part of the information as understood in this | Any type of knowledge that can be exchanged. In an exchange, it is represented by data. An example is a string of bits (the data) accompanied by a description of how to interpret a string of bits as numbers representing temperature observations measured in degrees Celsius (the representation information). |

| Term | Definition | OAIS Equivalent |
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| Information Package (noun) | <p>context.</p> <p>The Information Package contains the <i>Content Information</i> and associated <i>Preservation Description Information</i> which is needed to aid in the preservation of the Content Information. It has associated Packaging Information used to delimit and identify the Content Information and Preservation Description Information. It may have been packaged for a specific purpose such as the <i>Submission Information Package</i>, the <i>Archival Information Package</i> and the <i>Dissemination Information Package</i>.</p> | <p>The Content Information and associated Preservation Description Information which is needed to aid in the preservation of the Content Information. The Information Package has associated Packaging Information used to delimit and identify the Content Information and Preservation Description Information.</p> |
| Ingestion (noun) | <p>The ingestion function accepts data from different sources: ground segment reception, processing or data migration elements. The received data is quality checked and metadata including browse images are obtained from the data. The data and meta-data form a data product. The product is consistently submitted to archiving and cataloguing.</p> | |
| Instance (noun) | <p>One operational incarnation of an element with its configuration.</p> <p>Note: Generic software may be instantiated several times optionally with different configurations. Other examples are mission-specific elements that will occur in a separate instance for each mission in the PDGS.</p> | |
| Instantaneous Field of View (noun) | <p>A measure of the spatial resolution of a remote sensing imaging system. Defined as the angle subtended by a single detector element on the axis of the optical system.</p> | |
| Instrument (noun) | <p>(1) A hardware system that collects scientific or operational data.</p> <p>(2) Hardware-integrated collection of one or more sensors contributing data of one type to an investigation. See also <i>sensor</i>.</p> | |
| Instrument Calibration (noun) | <p>The instrument calibration function is the determination of parameters describing instrument characteristics. They are to be used by the instruments and ground processing to generate calibrated and comparable physical values. These parameters vary for different instruments and modes. And they may vary over time in the long run (degradation).</p> | |
| Instrument Data (noun) | <p>(1) Data specifically associated with the instrument, either because it was generated by the instrument or included in data packets identified with that instrument. These data consist of instrument science and engineering data, and possibly ancillary data. Instrument engineering data is produced by engineering sensor(s) of an instrument, used either for operating the instrument or for processing the science data generated by the instrument. Instrument science data is produced by the science sensor(s) of an instrument, usually constituting the basis reason</p> | |

| Term | Definition | OAIS Equivalent |
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| | <p>for existence of an instrument.</p> <p>(2) Data created by an instrument including scientific measurements and any engineering or ancillary data which may be included in the data packets.</p> <p>(3) Data produced and transmitted by the science and engineering sensors of an instrument, and, in the spacecraft environment, any additional data packaged with the instrument's sensor data by virtue of services provided by the spacecraft carrying the instrument.</p> | |
| Instrument Source Packet (noun) | An individual packet of data formatted by the instrument and reconstituted from within the descrambled VCDUs. | |
| Interoperability (noun) | The ability of different information technology systems and software applications to communicate, exchange data, and use the information that has been exchanged. In Earth observation it includes e.g. interoperable discovery and access, i.e. the capability of the user interface and administrative software of one instance of a catalogue service to interact with other instances of catalogue services. E.g. the capability of accessing granules in one data format with APIs or services of another API. | |
| Inventory (noun) | <p>The inventory function provides organization capabilities for archiving management. Data products can be grouped, searched and identified for retrieval, statistics and reorganization.</p> <p>Inventory is also referred to the list of available items stored and/or controlled in a storage warehouse system. In this latter case it is necessary to specify the kind of inventory, e.g. ICT Inventory for infrastructure inventory list.</p> | |
| Inventory Service (noun) | Part of a <i>Catalogue Service</i> that contains information needed to identify and retrieve the individual granule(s) of the data set, given the specification of the independent variable range(s); may contain information extracted from the data set granules (e.g., % cloud cover) as well as information to enable ordering (e.g., Volume ID, file names, etc). | |
| Inventory System (noun) | A specific implementation of an inventory service. | |
| Knowledge Information Package (KIP) (noun) | An information package containing the (consolidated) data records for a specific <i>product type (collection)</i> of an EO mission instrument plus the <i>associated knowledge</i> . The KIP can be tailored to the designated community. | |
| Latency (noun) | Time delay introduced by automated data processing or network transmission between the occurrence of an event and the use of the processed data. Typically – for meteorological purposes – this is within 3 hours from sensing. | |
| Logical Granule (noun) | See <i>granule</i> | |

| Term | Definition | OAIS Equivalent |
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| Logical Record (noun) | A record independent of its physical environment, that exists from the standpoint of its content, function, and use rather than its physical attributes. It is defined in terms of the information it contains. Portions of the same logical record may be located in different physical records, or several logical records may be located in one logical record. See also <i>data record</i> . | |
| Logical Volume (noun) | That portion of a volume which is viewed by a computer operating system as a volume. For instance, with today's WORM optical disk drives, each side of a two-sided disk is a physical volume. | |
| Long Term Preservation (noun) | The act of maintaining information in a correct and independently understandable form over the long term, i.e. a period of time long enough to be concerned with the impact which changing technologies, including support for media and data formats, and changing user communities will have on the information being held in a repository. See also <i>preservation</i> . | |
| Maintenance (noun) | Those activities undertaken to allow equipment and software to continue operations in its current configuration | |
| Master Data Record (noun) | In the context of EO data stewardship – the consolidated and quality checked data record, which represents the result of applying the <i>consolidation</i> procedure. It is this master data record which should be used for preservation, dissemination, and any further processing / reprocessing. | |
| Metadata (noun) | Data about data, which provides an understanding of the content and utility of the data set. Metadata may be used to select on data for a particular scientific investigation. Metadata is intended as information describing significant aspects of a resource (Earth Observation space data in this context). They are created for the purposes of data search, discovery and access management and may exist at various levels, typically from data collection through to the individual variables of each data file in a collection. | Description Information: the set of information, consisting primarily of Package Descriptions, which is provided to Data Management to support the finding, ordering, and retrieving of OAIS information holdings by Consumers. |
| Migration (noun) | In the context of data stewardship - the transfer of digital information to a new hardware (e.g. media) or software environment with the intent to preserve it. Migration is a means to overcome technological obsolescence and to exploit new technologies. The migration may or may not include a reorganization of the AIPs. A data format conversion is considered a reformatting, done as a reprocessing, and does not fall into the category of migration. | The transfer of digital information, while intending to preserve it, within the OAIS. It is distinguished from transfers in general by three attributes: <ul style="list-style-type: none"> • a focus on the preservation of the full information content; • a perspective that the new archival implementation of the information is a replacement |

| Term | Definition | OAIS Equivalent |
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| | | for the old; and an understanding that full control and responsibility over all aspects of the transfer resides with the OAIS. |
| Mission Phase (noun) | Mission Specific period characterized by a set of parameters (e.g. Repeat Cycle, instrument configuration, etc...) | |
| Mission Planning (noun) | Computation of a non-conflicting timeline of activities for the space segment payload and for corresponding reception activities of the stations. The planned activities comprise sensing, recording, downlink and reception. Planning has to take into account constraints like budgets, capacities and receiving station availabilities. Part of this function is cross-mission reception conflict resolution, e.g. in case of interference between downlinks of different satellites. | |
| Monitoring and Control (verb) | The monitoring & control function ensures verification that all resources (hardware, software, and network) of the ground segment are operating nominally. The monitoring & control function makes visible and traceable activities of the ground segment. It influences these activities by operator interaction, e.g. for failure handling. | |
| Multiple Selection / Multiple Download (noun) | Represents the act of downloading a set of products through a specific selection. To be used for a limited number of items this can be “selected” by an end-user, possibly as a result of a query. | |
| Near Real Time Data (noun) | NRT Data are those that are available for use with a specified (small and application dependent) latency, which is typically 3 hours for meteorological applications. | |
| Notification (noun) | The notification function informs about events in the payload data ground segment that has been registered for. The recipient may either be elements of the ground segment (internal notification) or users (external notification). | |
| On-demand data set (noun) | Collection of products that are generated in response to a user’s request. Such products could either be pre-defined or not. | |
| Online Access (noun) | The online access function makes available products online for download by users. This function provides direct access to the data. | |
| On-the-fly Processing (verb) | Fully automated generation of the product requested for download by the user (via the <i>online access</i> function) in very short time such that the user perceives the elapsed waiting time as “download preparation”, i.e. typically not exceeding 10 minutes. Also known as <i>on demand</i> processing. | |
| Operational Scenario (noun) | Pre-defined end-to-end flow of operation characterized with respect to the implemented overall data flow and interaction between the external entities and the PDGS system components. | |

| Term | Definition | OAIS Equivalent |
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| | Typically an operational scenario is triggered by an external event (data provisioning, e.g. satellite downlink, user request) | |
| Operations Center (noun) | Physical location where “Facilities” are operated and/or coordinated, comprising infrastructure, human resources, operational procedures, etc. | |
| Operator (noun) | Part of the PDGS being in charge of the management of the PDGS systems and operational procedures in order to provide the PDGS services to the users. | |
| Orbit (noun) | The path in space described by a satellite revolving around the Earth where the motion of the orbiting satellite is dominated by their mutual gravitational attraction. Orbits can be different and the most common are polar and equatorial. Orbit is nominal when the path is according to the flight plan (e.g. nominal mission). | |
| Orbit Prediction and Determination (noun) | The orbit prediction and determination function is the generation of attitude and state vectors that describe the projection of the spacecraft for certain time intervals. They are computed either beforehand (predicted orbit) or afterwards with different accuracies (restituted orbit, precise orbit). | |
| Packaging Information (noun) | A description of the package, which allows the user to understand the structure of the information package. In the <i>data set</i> it is part of the <i>documentation</i> . | Packaging Information: the information that is used to bind and identify the components of an Information Package. |
| Parameter (noun) | A measurable or derived variable occurring in the physical or digital world. | |
| Payload Data (noun) | All the data transmitted via the payload telemetry link. After decryption and extraction of the packets from the frames the payload data is presented as: <ul style="list-style-type: none"> • instrument data, • Platform ancillary data, • a copy of the housekeeping telemetry. <p>Note: Extraction of the packets from the transfer frames includes any necessary re-ordering and consolidation.</p> | |
| Payload Data Ground Segment (noun) | The personnel and elements performing mission operations related to payload data. | |
| Physical Medium (noun) | Any physical material capable of holding data (e.g., pages, film, magnetic tape, optical disk, wire, silicon). | |
| Platform (noun) | Support which carries the instrument(s)/sensor(s). A platform can be a spacecraft, an aircraft, or a ground based support. | |
| Precise Orbit (noun) | Precise orbit products result from a computation using all available satellite tracking data and its correction with dynamical models. They achieve the most accurate model of representing the real orbit motion. | |
| Predicted Orbit | These state vectors are calculated (e.g. at ESOC) | |

| Term | Definition | OAIS Equivalent |
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| <i>(noun)</i> | using S-band tracking and relevant payloads received from previous orbits (e.g. altimeter, DORIS, GPS). | |
| Preliminary Orbit <i>(noun)</i> | Preliminary orbits are based on the fast delivery tracking data. They provide an improvement of the initial knowledge of the orbit but not the optimal fit. | |
| Preservation <i>(noun)</i> | Actions on individual or multi-mission data sets with the goal to ensure the "EO Missions/Sensors Preserved dataset" integrity over time, its discoverability and accessibility, and to facilitate its (re)-use in the long term. Examples are data record improvement and <i>consolidation</i> . Preservation is one of the tasks of data <i>curation</i> . | |
| Preservation Description Information <i>(noun)</i> | Reference, context, provenance, and fixity information, which is required for adequate preservation of the content information. Access rights information may be included. Preservation Description information is part of the <i>data set's information</i> component, and as such part of the <i>associated knowledge</i> . | Preservation Description Information (PDI): the information which is necessary for adequate preservation of the Content Information and which can be categorized as Provenance, Reference, Fixity, Context information and Access rights. |
| Preservation Workflow <i>(noun)</i> | A set of actions recommended for the preservation of an "EO Missions/Sensors dataset" (i.e. EO space data records and associated information) with the goal to ensure and optimize its (re-)use in the long term. | |
| Preserved data set <i>(noun)</i> | See <i>data set</i> . | |
| Preserved data set Content (PDSC) <i>(noun)</i> | The individual items making up a complete Earth observation <i>data set</i> to be preserved, including <i>data records</i> , and the <i>associated knowledge</i> , i.e. <i>information</i> , and <i>tools</i> . Preserving the complete PDSC ensures <i>long term</i> data usability and understandability. The composition of required items varies by data category (SAR, optical, atmospheric) and should be tailored to satisfy the designated community and preservation objective. | |
| Primary Data <i>(noun)</i> | A set of results from a scientific observation, i.e. the instrument data, delivered in the form of electromagnetic signals, photographic film, magnetic tape, or any other means. | |
| Processing <i>(verb)</i> | The processing function generates higher-level <i>products</i> from lower level products and <i>auxiliary</i> products. The processing is performed by core algorithms supplemented by administrative functions (e.g. formatting). The algorithms are version controlled. Processing is capable to produce the desired products systematically or on request. | |
| Processing Baseline <i>(noun)</i> | A combination of processor versions, auxiliary data and other needed enablers that allows the generation of a coherent set of EO products | |
| Processing Levels <i>(noun)</i> | Raw Data The physical telemetry payload data as received | |

| Term | Definition | OAIS Equivalent |
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| | <p>from the satellite, i.e. a serial data stream without de-multiplexing.</p> <p>Level 0 Reconstructed unprocessed data at full space-time resolution with all available supplemental information to be used in subsequent processing (e.g. ephemeris, health and safety) appended.</p> <p>Level 1A Reconstructed unprocessed data at full resolution, time-referenced, and annotated with ancillary information, including radiometric and geometric calibration coefficients and geo-referencing parameters (e.g. ephemeris) computed and appended but not applied to the Level 0 data.</p> <p>Level 1B Radiometrically corrected and calibrated data in physical units at full instrument resolution as acquired.</p> <p>Level 1C 1B data orthorectified, re-sampled to a specified grid</p> <p>Level 2 Derived geophysical parameters (e.g. sea surface temperature, leaf area index) at the same resolution and location as Level 1B source data.</p> <p>Level 3 Data or retrieved geophysical parameters which have been spatially and/or temporally re-sampled (i.e. derived from Level 1 or 2 products), usually with some completeness and consistency. Such re-sampling may include averaging and compositing.</p> <p>Level 4 Model output or results from analyses of lower level data (i.e., variables that are not directly measured by the instruments, but are derived from these measurements; could be derived from multiple instrument measurements).</p> | |
| <p>Producer <i>(noun)</i></p> | <p>The role played by those persons or client systems who provide the information to be preserved. This can include other OAISs or internal OAIS persons or systems</p> | <p>The role played by those persons or client systems who provide the information to be preserved. This can include other OAISs or internal OAIS persons or systems</p> |
| <p>Product <i>(noun)</i></p> | <p>The term is used in various Earth observation contexts – and with different meanings.</p> <p>Electronic data package distributable to users; content is derived from instrument data via processing involving ancillary and auxiliary data.</p> | <p>Dissemination Information Package (DIP): the Information Package, derived from one or more AIPs, received by the Consumer in response to a request to the</p> |

| Term | Definition | OAIS Equivalent |
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| | <p>Products may comprise metadata and browse images.</p> <p>A product may be part of a collection – a distinction useful for archiving and cataloging purposes.</p> <p>The term product may be used to denote a product type, such as e.g. ENVISAT_ASAR_LIB_PRI data.</p> <p>End users may distinguish between (input, "raw") data and products, i.e. the derived geophysical parameters.</p> | OAIS. |
| Product Quality Control <i>(noun)</i> | The product quality control function is the determination of parameters of single products describing product quality. This may include automated as well as manual activities, e.g. visualization of quick looks. | |
| Product Team <i>(noun)</i> | Scientifically knowledgeable team responsible to ensure that the products are generated, are of high quality and are well documented and delivered to the archive for preservation. | |
| Product Type Collection <i>(noun)</i> | The ensemble of all available products of a specific product type. | |
| Production Request <i>(noun)</i> | Request for production of one or more products, typically related to an order received from a user. Production requests are parameterized with processing parameters and parameters to determine inputs and optionally outputs. | |
| Provenance Information <i>(noun)</i> | The information that documents the history of the content information. This information tells the origin or source of the content information, any changes that may have taken place since it was originated, the inputs responsible for a product, what versions of algorithms used, who has had custody of it since it was originated etc. Examples of provenance information could be the principal investigator who recorded the data, and the information concerning its storage, handling, and migration. | |
| Purge <i>(verb)</i> | To permanently and irrecoverably remove all copies of an Earth observation <i>data set</i> held in an organization. | |
| Quality Indicator <i>(noun)</i> | A quality indicator shall provide sufficient information to allow all users to readily evaluate the “fitness for purpose” of the data or derived product. A Quality Indicator may be a number, set of numbers, graph, uncertainty budget, or a simple “flag”. | |
| Quality Information <i>(noun)</i> | Secondary data required to assess the primary data set’s fitness for purpose, e.g. <i>calibration</i> and <i>validation</i> data and quality control results. | |
| Quarantine <i>(verb)</i> | Withheld from distribution. An Earth observation product can be quarantined if it has severe technical or quality issues, e.g. blank or corrupted | |

| Term | Definition | OAIS Equivalent |
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| | information and thus is not useful to the user community. Level 0 products flagged accordingly should not be processed to higher level products; quarantined higher level products should not be distributed to users. | |
| Raw Data (noun) | See <i>processing levels</i> . | |
| Reconciliation (noun) | A confirmation process, following a re-processing, in which the processed output data, and the relevant input data are matched to detect e.g. any unexplained data losses. If successful, the output data will be considered the 'master' data set which will be archived, disseminated, and used for further processing or value-adding. | |
| Record (noun) | See <i>data record</i> . | |
| Reference Model (noun) | <p>A framework for understanding significant relationships among the entities of some environment, and for the development of consistent standards or specifications supporting that environment. A reference model is based on a small number of unifying concepts and may be used as a basis for education and explaining standards to a non-specialist.</p> <p>In this context the reference model is a conceptual framework for an archival system dedicated to preserving and maintaining access to digital information. It addresses the full range of archival preservation functions including ingest, archival storage, data management, access and dissemination.</p> | <p>Reference Model: a framework for understanding significant relationships among the entities of some environment, and for the development of consistent standards or specifications supporting that environment. A reference model is based on a small number of unifying concepts and may be used as a basis for education and explaining standards to a non-specialist.</p> |
| Reformatting (verb) | A transformation process to convert data holdings from one format into another. During the process certain fields can be relocated from a positional standpoint and/or dropped or the data can be reorganized within fields. An example is a file format conversion from e.g. CDED to GeoTIFF. Other steps can be incorporated in the reformatting, such as insertion of data from a second input file. Reformatting shall use well-described transformation rules to avoid any deterioration of the information content. Reformatting could be considered or conducted as part of a <i>processing</i> exercise. | Transformation: a Digital Migration in which there is an alteration to the Content Information or PDI of an Archival Information Package. For example, changing ASCII codes to UNICODE in a text document being preserved is a Transformation. |
| Refreshment (noun) | A digital migration where the effect is to replace a media instance with a copy that is sufficiently exact so that all archival storage hardware and software continues to run as before. | A digital migration where the effect is to replace a media instance with a copy that is sufficiently exact so that all archival storage hardware and software continues to run as before. |
| Repackaging (verb) | Repackaging is a digital migration which alters the packaging information of the AIP. | Repackaging: a Digital Migration in which there is an alteration in the Packaging Information of the AIP. |
| Representation | The information that makes digital data legible | Representation Information: |

| Term | Definition | OAIS Equivalent |
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| Information (noun) | and useable. It consists of structural, semantic, and other information and includes e.g. descriptions of data formats, file structures, or pixel value representations. Representation information can be provided either in a formalized way, such as an XML formatted data unit (xfdu), or less formalized as text documents. | the information that maps a Data Object into more meaningful concepts. An example is the ASCII definition that describes how a sequence of bits (i.e., a Data Object) is mapped into a symbol. |
| Reprocessing (verb) | Reprocessing is a specialization of <i>processing</i> where a complete product collection is systematically generated to obtain a new revision using archived lower level products. Re-processing is normally initiated after an improved processing algorithm is released. Reformatting could be considered or conducted as part of a re- <i>processing</i> exercise. | |
| Request (noun) | A request is the generic means to use a function of an element that provides the function as its service. Requests are usually exchanged between elements such that one element uses the functions of the other. | |
| Restituted (or operational) Orbit (noun) | Restituted (or operational) orbits are produced (e.g. at ESOC) using the same information and processing as with the Predicted Orbits. In this case, the central day of the three days moving window provides the final orbit. As a result, the operational orbit is available with a delay of one day after the pass of the satellite. Typically its information is specified every 60 seconds with less precision compared to precise orbits. Precise orbit products result from a computation using all available satellite tracking data and its correction with dynamical models. They achieve the most accurate model of representing the real orbit motion. | |
| Retrieval (noun) | The physical transfer of data from the repository to the user. Retrieval as well as data <i>search and discovery</i> are part of data access. | |
| Satellite Data (noun) | Satellite data are composed of: <ul style="list-style-type: none"> • Housekeeping telemetry • Payload data transmitted via the payload telemetry link. | |
| Scene (noun) | Subset of an instrument acquisition data segment, cut by time i.e. across-swath. | |
| Search and Discovery (noun) | The procedure to search an archive based on specific search criteria (search) and to obtain information on available products (discovery). Data search and discovery are enabled by generating and maintaining searchable metadata and browse image catalogues, as well as providing a <i>catalogue service</i> for making the catalogue accessible (e.g. OGC CSW) and mechanisms to retrieve and present the information contained in the catalogue, e.g. via the graphic user interface of a data portal. During the discovery following a data search the | Finding Aid: a type of Access Aid that allows a user to search for and identify Archival Information Packages of interest. |

| Term | Definition | OAIS Equivalent |
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| | <p>user finds data based on his search criteria and evaluates if the data found are suitable for his application ('fit for purpose') by e.g. viewing the <i>browse image</i>, evaluating metadata such as coverage, <i>quality information</i>, or cost and licensing conditions. He may then decide to <i>retrieve</i> the data.</p> <p>Search and discovery as well as <i>retrieval</i> are components of data <i>access</i>.</p> | |
| Secondary Data <i>(noun)</i> | Any data used for processing or interpreting the primary data | |
| Segregation <i>(noun)</i> | Earth observation products can be segregated if their quality is degraded with respect to nominal quality data, e.g. products acquired during manoeuvres, special campaigns, etc., but which still may be useful to the user community. If made available to users their status as segregated products should clearly be indicated and information on the reason for segregation should be provided. | |
| Sensor <i>(noun)</i> | Device which transmits an output signal in response to a physical input stimulus as voltage. In Earth observation a distinction between passives sensors, such as radiometers, and active sensors, such as radars, is common. Earth observation sensors – or <i>instruments</i> – are operated from different ground-/water-based, airborne, or spaceborne <i>platforms</i> . | |
| Sensor Data <i>(noun)</i> | See <i>instrument data</i> | |
| Sensor Performance Monitoring <i>(noun)</i> | The sensor performance monitoring function is the long-term recording and trend analysis of parameters that describe the quality of sensors and their outputs (level 0 products). | |
| Spatial Reference <i>(noun)</i> | Method by which location or coverage is designated (e.g., latitude and longitude). See <i>Coordinate Reference System</i> | |
| Standard Product <i>(noun)</i> | Standard products are agency-certified key products resulting from missions or projects. They are typically acquired systematically and generated by spatially and temporally extensive systematic processing. | |
| Standing Order <i>(noun)</i> | User-defined systematic request to automatically receive products identified by a set of product metadata; where supported, the user may also supply the processing options to be applied. | |
| Statistics and Reporting <i>(noun)</i> | The statistics and reporting function provides information about usage, progress, load, quality of service of the payload data ground segment. | |
| Stewardship <i>(noun)</i> | The responsibility for planning, management and certification of digital EO data sets throughout the mission phases and to ensure adequate funding. It includes <i>curation</i> and <i>preservation</i> activities. | |
| Submission Agreement | The agreement reached between an OAIS and the producer that specifies a data model for the data | The agreement reached between an OAIS and the |

| Term | Definition | OAIS Equivalent |
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| (noun) | submission session. This data model identifies format/contents and the logical constructs used by the producer and how they are represented on each media delivery or in a telecommunication session. | producer that specifies a data model for the data submission session. This data model identifies format/contents and the logical constructs used by the producer and how they are represented on each media delivery or in a telecommunication session. |
| Submission Information Package (SIP) (noun) | <i>Information Package</i> delivered by the Producer to the <i>OAIS</i> for use in the construction of one or more AIPs. | Submission Information Package (SIP): an Information Package that is delivered by the producer to the OAIS for use in the construction of one or more AIPs. |
| Subscription (noun) | Service allowing the user to receive a provider-defined set of products made available regularly. In the past this set was mastered on media of which each user received copy. Currently it is typically made available online. Users can request to join the advertised available subscriptions (via Subscription Requests) and get access to it with no additional ordering. | |
| Swath (noun) | A swath is defined as the area covered by the spatial samples collected during a scan of a spaceborne instrument defined by an incidence angle. | |
| Telemetry (noun) | An automated communications process through which payload data collected by the platform are transmitted, to receiving equipment for monitoring, via the telemetry link. | |
| Telemetry Data (noun) | Data stream of measured values (instrument science, instrument engineering, and spacecraft or platform engineering data), not including command, tracking, computer memory transfer, audio or video signals. | |
| Thumbnail (noun) | Small, very low resolution browse image which may be made available for users as part of the <i>catalogue service</i> . | |
| Tools (noun) | In the <i>preservation</i> context understood as a component of the <i>associated knowledge</i> of a <i>data set</i> and includes tools (e.g. software, libraries, scripts, uncompiled code) for product generation, quality control, product visualization, and may include value adding tools. | |
| Traceability (noun) | Property of a measurement result whereby the result can be related to a reference through a documented unbroken chain of calibrations each contributing to the measurement uncertainty | |
| Transcription (noun) | Migration of data from one storage medium to another (from old to new technologies) in order to preserve the data and for efficiency purposes. | |
| Transformation (noun) | A digital migration in which there is an alteration to the content information or preservation Description information of an archival information package. For example, changing ASCII codes to UNICODE in a text document | |

| Term | Definition | OAIS Equivalent |
|---------------------------|--|-----------------|
| | being preserved is a transformation. See also <i>reformatting</i> . | |
| Uncertainty (noun) | Non-negative parameter characterizing the dispersion of the quantity values that are being attributed to a measure based on the information used. Where possible, this should be derived from an experimental evaluation but can also be an estimate based on other information, e.g. experience. | |
| User (noun) | External person, institution or system that consumes user services (Data Access or Science and Service Exploitation Platform) provided by the payload data ground segment. | |
| User Category (noun) | Classification of users in order to provide PDGS services with different access rights and service levels | |
| User Management (noun) | The user management function maintains information about registered users and supports registration, authentication and information needed for authorization. | |
| User Support (noun) | User support is a function inside the payload data ground segment to support external users to interact with the segment, to handle user registration, inquiries, complaints. This function is usually provided by a help desk. | |
| Validation (noun) | The process of assessing, by independent means, the quality of the data products derived from the system outputs. | |
| Volume (noun) | A unit of physical storage medium which contains data. Usually physically interchangeable with other volumes of a similar type, and requiring a specific device for reading or writing. | |

ANNEX A – RESOURCES & RELEVANT EXTERNAL GLOSSARIES

This list provides selected resources related to terminology used in digital preservation.

Resources:

- Generic PDGS Glossary, PGSI-GSEG-EOPG-LI-13-0033 - 5 December 2014 Version 2.0

Relevant External Glossary:

- CCSDS <http://public.ccsds.org/publications/archive/650x0m2.pdf>
- Digital Curation Resource Guide <http://digital-scholarship.org/dcrg/dcrg.htm>
- Digital Curation Centre <http://www.dcc.ac.uk/digital-curation/glossary>
- Society of American Archivists <http://www2.archivists.org/glossary>
- Archives New Zealand <http://archives.govt.nz/advice/continuum-resource-kit/glossary>
- Archaeology Data Service <http://www.ahds.ac.uk/preservation/preservation-glossary.pdf>
- M-Library University of Michigan
<http://www.lib.umich.edu/preservation-and-conservation/digital-preservation/digital-preservation-glossary>
- Digital Preservation Coalition
<http://www.dpconline.org/advice/preservationhandbook/introduction/definitions-and-concepts>
- National Climatic Data Center <https://www.ncdc.noaa.gov/cdr>
- NASA
http://science.nasa.gov/media/medialibrary/2012/02/06/MEaSURES_2006_Solicitation.pdf
- Global Climate Observing System
http://www.wmo.int/pages/prog/gcos/documents/bams_ECV_article.pdf
- Earth Science Data System <https://earthdata.nasa.gov/user-resources/glossary>
- Library of Congress <http://id.loc.gov/vocabulary/preservation.html>
- California Digital Library <http://www.cdlib.org/gateways/technology/glossary.html>