

Data Preservation and Access WG

M.Albani, D.Guerrucci

EOP-G, Mission Management & Ground Segments Department

Data Coordination Body
6 June 2018, ESA/ESRIN

LTDP WG was set-up in 2009 under the auspices of GSCB with the objective to:

- Raise awareness on Long Term Data Preservation and enable cooperation in Europe
- Share GSCB agencies investigations, developments, experiences and lessons learned relating to EO data preservation
- Draft best practices and guidelines and conduct Joint Activities and/or Pilot Projects on specific data preservation topics

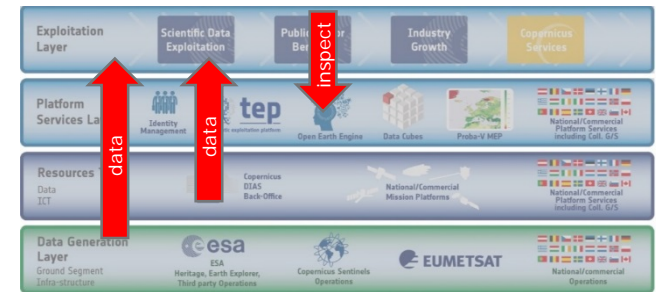
Chaired by ESA with representatives from ASI, CNES, CSA/CCRS, DLR, EUMETSAT, UKSA

40 Meetings held so far, hosted at GSCB members premises

1. **Raised awareness on LTDP** need/benefits in respective agencies and in the international context
2. **Sharing and exchange of experiences, lessons learned and knowledge** → Open, constructive and problem solving oriented
3. **Information sessions** on specific topics (e.g. Metadata & data formats, archiving systems, technologies)
4. Defined **LTDP international cooperation framework** and carried out several **joint projects and studies** of interest for GSCB members (e.g. LTDP User Requirements - FIRST, Archive Technology - LAST, LTDP/QA4EO, SAFE Consolidation, AVHRR Data Curation)
5. Eight **LTDP Core Best Practices** issued in Europe and **endorsed by CEOS** (e.g. LTDP Guidelines, Preserved Data Set Content, Preservation Workflow) → **Currently applied** at different agencies
6. **Active interaction and contribution** to Standardization Bodies (e.g. **CCSDS, ECSS**) and international committees (**CEOS, GEO**) activities
7. **Outreach and Promotion:** PV conferences organization, sessions at other conferences

Data Preservation & Access WG - Background

- In 2016, **Long Term Data Preservation WG** members expressed the need to improve cooperation & coordination on all aspects of the Open Archival Information System (OAIS) standard to better respond to the evolving user needs for EO data *Discovery*, *Access*, *Usability* and *Curation* (in addition to *Preservation*) through EO Mission Core Ground Segments evolution. Starting from 2017 LTDP WG activities were reoriented and enlarged in scope.
- Due to emerging needs of addressing more demanding and differentiated access to data, a **Data Access WG** was proposed including additional aspects of standardized access interfaces and use of federated identity management.



Data Preservation and Access WG

- Exchange experiences and lessons learned related to the *Long Term Preservation, Discovery, Access and Valorization* of EO space data between the DPA WG members and in liaison with scientific and technical expertise in member states.
- Monitor stewardship standards and technologies, and evolving user requirements.
- Define common approaches to data & knowledge management; draft best practices and/or guidelines for possible adoption.
- Within the evolving scenario of user community, define best practices for user management, guidelines for applying user behavior analysis and profiling.

Data Preservation & Access WG - Objectives



- Share technical solutions, procedures, tools and acquired know-how to favor technical cooperation; explore possibility to share infrastructure and interfaces and to cooperate in development activities.
- Promote joint studies and/or pilot projects on specific data stewardship activities.
- Contribute to standardization activities in close link with international bodies.
- Produce the European contribution, for the relevant and common topics, to CEOS and GEO, or other relevant bodies.
- Outreach and promotion.



Data Preservation and Access WG International Context



Living Planet 16

PV 2015 CONFERENCE

CCI Collocation

SciDataCon 2016
Advancing the Frontiers of Earth Research
11-13 September, Denver, Colorado, USA

iPRES 2016
13th International Conference on Digital Preservation //
iPRES 2016 Bern // October 3-6, 2016

IGARSS



GEO GROUP ON EARTH OBSERVATIONS

GEO-XII – 11-12 November 2015

Document 10

Data Management Principles Implementation Guidelines

This Document is submitted to the GEO-XII Plenary for information. Feedback from the GEO community, and in particular, from those who have responsibility for data management is being sought. Principles will be further elaborated and updated next year.

HOME ABOUT CEOS OUR WORK MEETINGS DATA & TOOLS RESOURCES CONTACT

CEOS Committee on Earth Observation Satellites

Our Work

- Working Groups
 - WGCapD
 - WGCV
 - WGClimat
 - WGDisasters
 - WGSS
- Access
- Use
- Preservation
 - Data Purge Alert
- Technology Exploration
- Connected Data Assets
- Infrastructure Services

CEOS / Our Work / Working Groups / WGSS / Preservation

Preservation

Earth Observation data are unique snapshots of the condition of the Earth's surface, which needs to be preserved, i.e. safeguarded against loss and degradation. As the amount of data increases, the task becomes more important in the view of over 40 years' worth of data. Increasing demand for monitoring long-term variations environmental ozone distributions, which require long time series of data. Moreover, new Earth observation missions and programs, data volumes are expected to grow significantly.

Background

WGSS accomplishes its Data Preservation and Curation efforts through the WGSS Archive Task Team. The DSIG was formed due to renewed interest in addition to data archiving, also data and associated knowledge conservation.

Purpose



Data Preservation and Access WG - Topics

- ✓ Definition of data and information preservation processes, approaches, best practices and guidelines;
- ✓ Preservation metadata definition and generation;
- ✓ Data Archiving technologies and systems;
- ✓ Definition and implementation of joint inter-organization EO heritage missions data recovery and preservation actions.



- ✓ Monitoring of standards and technologies;
- ✓ Drafting or contribution to standards and best practices;
- ✓ Outreach and promotion.

- ✓ Long Time Data Series Curation (e.g. harmonization, alignment, reprocessing);
- ✓ Use Data intensive projects;
- ✓ Data analytics techniques for data valorization;
- ✓ Data Engineering to improve accessibility and usability.

- ✓ Explore new technologies, architectures and methodology for discovery and access systems;
- ✓ Interoperability of data access interfaces;
- ✓ Identity management use and user metrics;
- ✓ Bulk data extraction and delivery approaches;
- ✓ Data Persistent Identification (e.g. DOI);
- ✓ Metadata harmonization and improvement.

Data Preservation and Access WG - Members



- The DPA WG will be chaired by ESA (Mirko Albani and Damiano Guerrucci); Secretariat and logistics support provided by ESA.
- DPA WG Members shall consist of European and Canadian Earth Observation space data and associated assets owners and holders nominated by MS.
 - WG Members representatives consisting of individuals having expertise on EO data preservation, discovery, access and valorization, and on EO missions ground segment operations and services, and EO operational users needs.
 - Current members : ASI, CNES, CSA/CCRS, DLR, ESA, EUMETSAT, UKSA
 - Additional members can be nominated by MSs



Data Preservation and Access WG - Meetings



- The Data Preservation and Access WG is expected to meet regularly 3-4 times per year.
- When necessary, ad-hoc technical working groups or workshops may be set-up to discuss, review and provide recommendations regarding specific topics.
- **First meeting: 17-18 July 2018 at EUMETSAT (Darmstadt)**
- It is not expected to fix an end date for the WG activities at this stage. Milestones will be defined during WG activities.





Contacts:

Mirko.Albani@esa.int

Damiano.Guerrucci@esa.int