



An European framework for the long term preservation of EO data

E. Forcada, M. Albani, V. Beruti, and the LTDP Working Group and Ground Segment Coordination Body Team
European Space Agency, ESA/ESRIN, Frascati (Italy). Email: Eugenia.Forcada@esa.int, Mirko.Albani@esa.int,
Vincenzo.Beruti@esa.int

Mirko Albani(1), Vincenzo Beruti(1), Eugenia Forcada(1), Gunther Kohlhammer(1), Cristina Ananasso(2),
Massimo Calabrese(2), Marco Serra(2), Catherine Casgrain(3), Christine Giguere(3), Brigitte Behal(4), Michel
Duplaa(4), Jean Pierre Gleyzes(4), Eberhard Mikusch(5), Gunter Schreier(5), Graeme Mason(6)

1 European Space Agency (ESA), ESRIN

Email: Mirko.Albani@esa.int, Vincenzo.Beruti@esa.int, Eugenia.Forcada@esa.int, Gun-
ther.Kohlhammer@esa.int

2 Italian Space Agency (ASI)

Email: cristina.ananasso@asi.it, massimo.calabrese@asi.it, marco.serra@asi.it

3 Canadian Space Agency (CSA)

Email: Catherine.Casgrain@asc-csa.gc.ca, Christine.Giguere@asc-csa.gc.ca

4 Centre National d'Etudes Spatiales (CNES)

Email: Brigitte.Behal@cnes.fr, Michel.Duplaa@cnes.fr, jean-pierre.gleyzes@cnes.fr

5 German Space Agency (DLR)

Email: Eberhard.Mikusch@dlr.de, Gunter.Schreier@dlr.de

6 EUMETSAT

Email: Graeme.Mason@eumetsat.int

ABSTRACT

The need for accessing historical Earth Observation (EO) data series strongly increased in the last ten years, mainly for long term science and environmental monitoring applications. This trend is likely to increase even more in the future in particular for the growing interest on global change monitoring that requires data time-series spanning 20 years and more, and for the need to support the United Nations Framework Convention on Climate Change (UNFCCC). Content of EO data archives is extending from a few years to decades and their scientific value is continuously increasing hence is well recognized the need to preserve them without time limitation and to keep the archived EO data well accessible and exploitable as they constitute a humankind asset.

The large amount of new Earth Observation missions upcoming in the next years will moreover lead to a major increase of EO data volumes. This fact, together with the increased demands from the scientific user community, marks a challenge for Earth Observation satellite operators, Space Agencies and EO data providers regarding coherent data preservation and optimum availability and accessibility of the different data products.

Traditionally in Europe, there has been poor cooperation in this field with no common approach for long term preservation and access to EO space data even if cooperation and sharing are key aspects to be pursued for the benefit of the user community. Single organizations have difficulties to afford data preservation in the long term that calls for the need of optimising costs and efforts, identifying commonalities.

In 2006, the European Space Agency (ESA) initiated a coordination action to share among all the European (and Canadian) stakeholders a common approach to the long term preservation of Earth Observation data. During 2007, the Agency started consultations with its Member States presenting an EO Long Term Data Preservation (LTDP) strategy targeting the preservation of all European (including Canada) EO data for an unlimited time-span ensuring and facilitating their accessibility and usability through the implementation of a cooperative and harmonized collective approach among the EO data owners. Such European Long Term Data Preservation Framework

should be implemented through the application of European LTDP Common Guidelines and sustained through cooperative (multi-source) long term funding schemes.

The Long Term Data Preservation Working Group with representatives from ASI, CNES, CSA, DLR and ESA was formed at the end of 2007 within the Ground Segment Coordination Body (GSCB, <http://earth.esa.int/gscb/>) with the goal to define and promote, with the involvement of all the European EO data and archive owners, the LTDP Common Guidelines.

During the 1st Earth Observation Long Term Data Preservation workshop in May 2008, the guidelines and the framework were presented and debated by all European and Canadian EO data owners, data providers and archive holders. The participants discussed and developed a joint strategy to move ahead technically and programmatically concerning the Long Term Data Preservation of EO Data and recognized the need and benefits of a common approach. Furthermore all the participants identified and agreed the LTDP Guidelines presented at the workshop as a first concrete and fundamental step to move ahead in creating the Long Term Data Preservation Framework.

ESA is already planning to apply the Long Term Data Preservation Common Guidelines to its own missions and the consolidated LTDP guidelines will be promoted within CEOS and GEO.