

OBJECTIVES

1. Provision of innovative tools to enhance the current infrastructure capability. GeoViQua's major technical innovation is search and visualization tools for the community which communicate and exploit data quality information from GEOSS catalogues.

2. Development of the GEOLabel. GEOLabel requirements are identified (Work Package WP2), integrated with components (WP6), validated and applied into pilot cases (WP7), and disseminated to the community (WP8). It will be completed in collaboration with the GEO task ST-09-02.

3. Harmonization, exploitation and dissemination of project outputs. A careful validation process is conducted in collaboration with a number of communities of practice and standards committees to ensure that the project contributes effectively to the GCI architecture. Collaboration to AIP will be continuous.



PILOT CASE STUDIES

GeoViQua relies on needs and requirements coming from GEO Communities of Practice (CoPs), including those already identified by the established GEO committees. GeoViQua proposes solutions, including protocols, involving end-users and stakeholders. To this purpose, 7 pilot case studies are developed including scenarios on:

- *transversal satellite data producers and massive satellite data processors* (RS_PC: ESA and UAB),
- *Global Carbon Project* (CarbonPC: LSCE),
- *meteorological reanalysis* (ClimPC: University of Reading in collaboration with the UK Met Office and UAB),
- *agricultural products* (AgriPC: UAB in collaboration with JRC),
- *air quality in-situ sensors* (AirQuaPC: 52North),
- *marine fisheries* (FisheryPC: ESA), and
- *land cover changes* (LandPC: CREAM).

This broad range of applications enables to access the much-needed contextual expertise on real-world challenges, and promotes constant dissemination of GeoViQua research and development activities.

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QUALity aware Visualisation for the Global Earth
Observation system of systems

01/02/2011 – 31/01/2014



SEVENTH FRAMEWORK PROGRAMME (n° 265178)

THEME [ENV.2010.4.1.2-2]

Integrating new data visualisation approaches
of earth Systems into GEOSS development

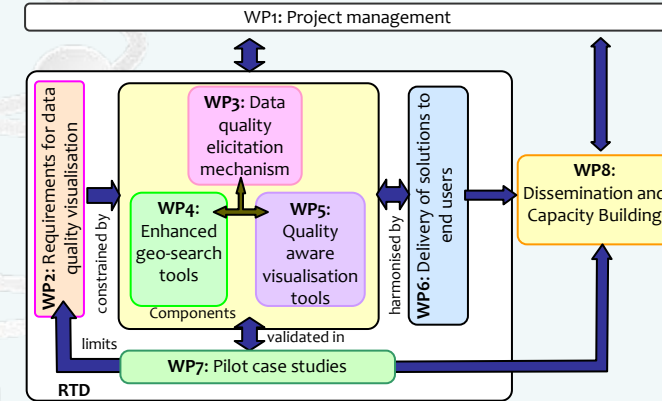


INTRODUCTION

GeoViQua scientifically explores methodologies for extending the Global Earth Observation System of Systems (**GEOSS**) Common Infrastructure (**GCI**) adding rigorous data quality in search and visualisation **GEOPortal**. **GeoViQua** provides innovative components for augmenting the **GEOSS** and its adoption by the communities, contributing to catalyze research and development (R&D) activities on **GEO** (GEO task ST-09-01) and contributing to the **GeoLabel** development (GEO task ST-09-02). Methodologies for extending the current **GCI** will be explored and the new components validated through Architecture Implementation Pilots (**AIP**) to come (GEO 2009-2011 WORK PLAN).

- Consortium Management and assessment of progress and results (WP1).
- Collection of User Requirements and translation into Technical Requirements (output: Preliminary design, WP2).
- Research and Development (output: Developed components ready for integration, WP3, WP4, WP5).
- Components integration and validation (output: Integrated system, WP6).
- Validation through pilot use cases studies (output: Validated system, WP7).
- Outreach, sustainability, exploitation and contribution to standards (WP8).

STRUCTURE & WORK PLAN



TOPICS COVERED

Information sharing:

- 2D and 3D data visualisation
- Data quality, trust and low-bandwidth access
- Web 2.0 and Volunteered Geographic

Quality assessment and quality metadata:

- Relating data, metadata and quality
- Data quality indicators; quality elicitation methods

Standards:

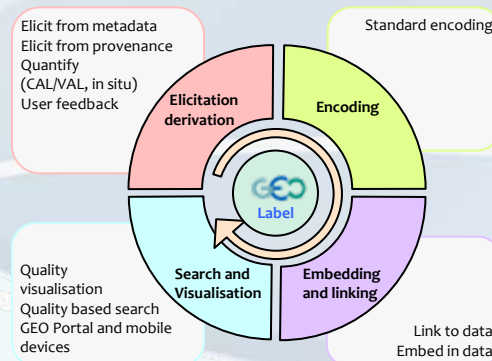
- Standards for metadata and quality
- Inclusion of data quality information into standards for data visualisation

Enhancing the GEOSS environment:

- Data quality aware geo-search components
- Advancing in the use of GEOSS visualisation tools

| | 2011 | | | | | 2012 | | | | | 2013 | | | | | 2014 | | | | | | | | | | | | | | | | | | | | |
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| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 |
| Quality elicitation | | | | | | | | | | Metadata extraction: ○ | | | | | | | | | | Best practices quality encoding: ○ | | | | | | | | | | | | | | | | |
| Search & Visualisation | | | | | | | | | | Start ○ | | | | | | | | | | Prototypes ○ | | | | | | | | | | | | | | | | |
| Pilot cases | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Workshops | | | | | | | | | | User & technical requirements to CoP ○ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GeoLabel | | | | | | | | | | Proposals evaluation ○ | | | | | | | | | | | | | | | | | | | | | | | | | | |
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THE ROLE OF QUALITY



- Quality information based on provenance information describing the processing and quality control applied to data: development of the **GeoLabel**.
- Quality information also based on quantitative assessment of the uncertainty associated to data (QA4EO documentation).
- Quality information based on user feedback related to user view of data utility in the form of subjective qualitative statements and reviewing mechanisms.