EGIDA, Coordinating Earth and Environmental cross-disciplinary projects to promote GEOSS
FP7 Project nr 265124

EGIDA FP7 Project

National Use Cases Workshop

Venue: ISPRA, Rome - Via Curtatone, 3

(Teleconference participation is welcome)

April, 18-19, 2011

Objectives

1) To review the initial set of examples already collected by ST-09-02 (those already listed in the S&T web page - http://www.geo-tasks.org/st0902 => Status Activities => Sub-Activity 3.3 => read more => invited proposals) and Presentation of the four EGIDA showcases.

2) To identify gaps by topics and regions.

3) To identify steps and criteria to improve national initiatives (Design of EGIDA Methodology)

Draft Programme

Introductions by (9:00 – 9:30):

- ISPRA President: Prof. Bernardo de Bernardinis
- EGIDA Coodinator: Stefano Nativi / Paolo Mazzetti
- Hosting EGIDA Partner: Maria Dalla Costa / Nico Bonora

Session 1a (Obj. 1) (9:30 – 11:00 UTC) (10-15 min. per presentation)

1. Geo-wiki.org: Crowdsourcing to improve Landcover Validation (Steffen Fritz/Ian McCallum). Geo-wiki.org: Crowdsourcing to improve Landcover Validation (Steffen Fritz/Ian McCallum). The Geo-Wiki Project is a global Geo-wiki.org: Crowdsourcing to improve Landcover Validation (Steffen Fritz/Ian McCallum). The Geo-Wiki Project is a global network of volunteers who wish to help improve the quality of global land cover maps via available web mapping tools. Inputs are recorded in a database, along with uploaded photos, to be used in the future for the creation of a new and improved global land cover map.

2. An Italian S&T infrastructure for contributing to the GEOSS (Paolo Mazzetti & Nico Bonora). The proposed example builds on the results of a (re-)engineering process applied to some existing Italian national-level infrastructures, in order to build a system of systems (SoS) conceived for a coordinated and sustainable contribution to the GEOSS. Indeed, ISPRA and CNR-DTA, as part of a coordination effort, underwent a re-engineering of their GIIDA and SINAnet systems in order to build a common infrastructure based on the GEOSS principles (SoS approach, interoperability through standardization) and GCI provisions (best practices, standards, components) supporting multi-disciplinary use-scenarios for both research and government applications requiring access to EO resources. The infrastructure is also conceived as an effective and sustainable contribution to the GEOSS.

3. OneGeology Project

a) Harmonization of geological data across Europe (Marco Pantaloni). The OneGeology-Europe project delivered a web accessible, semantically and technically interoperable geological dataset, with “progress towards harmonisation”, for the whole of Europe at 1:1 million scale. This project has been based on the individual geological datasets, held by each of the European geological surveys, which considerably differ with respect to their contents, description and geometry. The interoperability of these data was a considerable task and OneGeo-Europe WP3 group delivered the essential basis for that endeavour: the “OneGeology-Europe Data Specification”. This document presents in detail the classifications, definitions, terms and Uniform Resource Names (URN); it is based, as far as possible, on existing standards and explains their use and encoding in GeoSciML. This specification has been the basis for each geological survey participating in OneGeo-Europe to describe the geology of their country. It has been possible to achieve semantic interoperability and harmonization of the data by using this common vocabulary. This specification also form one of the foundations and inputs for the future INSPIRE Geology Data Specification.

b) An interoperable and harmonized architecture to deliver the geological dataset (Carlo Cipolloni). To obtain a web-accessible, interoperable geological spatial dataset for the whole of Europe at 1:1 million scale based on existing data held by the pan-European Geological Surveys, was necessary to insure interoperability among geological data providers across Europe. To deliver geological maps and data to the users, the OneGeology-Europe (1GE) project has to address two main issues:
- to provide a standard access to geological data, regardless of how each provider manages these data,
- to define a common language to exchange geological data. This language has two complementary facets: the structure (the data model like GeoSciML), and the semantics (related to the content, mainly addressed by defining common vocabularies). At the end to insure the usability of the dataset an harmonized architecture has been build and a Geoportal for displaying the 1:1 million geological dataset collated by the project, but also other dataset, has been developed.

c) Harmonizing data policies: experiences from the OneGeology-Europe project (Katleen Janssen). One of the elements of the eContentPlus project OneGeology-Europe was the development of a Code of Practice on access and licensing for the participating geological surveys. This Code of Practice provided guidelines for implementing an access policy that is adaptable to the circumstances and national requirements of the geological surveys, and at the same time user-friendly for interested data users. The access policy contained practical and organizational measures and model licences.

Coffee brak – (11:00 – 11:30)

4 Interoperability of water and soil data quality. Ideas by the Italian approach (Gianni Tartari). Interoperability between data quality of the soil and waters represents a level of complexity much higher than other sectors of the environment because increasing in complexity when considering environmental components together with social and economic aspects. In this contribute will be presented some ideas and suggestions developed in the GIIDA's case study with the aim to evidentiate the interoperative approach to build an appropriate and integrated database in these issues.The management of interoperability aspects among available water and soil database was achieved by integrated methodology distributed databases, metadating activities and application of Data Mining and Text Data Mining technologies especially related to Open Source software and management services (WMS, WFS, WCS).

5 Lessons learned in the IDE-UNIVERS project (Joan Masò Pau). IDE-UNIVERS was a research project aiming at creating a thematic Spatial Data Infrastructure (SDI) to encourage access, exchange and interoperability of the huge quantity of information with a geographic reference produced by Universities and Research Centers within their projects and activities. The Project, coordinated by the Secretaria de Telecomunicacions i Societat de la Informaciò (STSI) of the Catalan Regional Government (Generalitat de Catalunya) in Spain was funded with the contribution of the European Commission - Interreg III B MEDOCC Program. IDE-Univers started from September 2006 and ended in 2008.

6 Italy and the GEO carbon tasks (Antonio Bombelli). Italy (particularly University of Tuscia and the Euro-Mediterranean Centre for Climate Change) is actively contributing to the carbon tasks of the GEO Work Plan, mainly through the participation as coordinator or partner, in European projects. Some highlights will be presented.

7 The Earthquake Environmental Effects catalogue: "in situ" validation of seismic hazard assessment (Luca Guerrieri). The Geological Survey of Italy - ISPRA is coordinating a global initiative in the frame of INQUA (International Union for Quaternay Research) aimed at building a global catalogue of Earthquake Environmental Effects, integrating the observations from recent events with descriptions from historical earthquakes and from paleoseismic investigations. Environmental effects frequently enhance the dimension of the disaster at local level and therefore significantly contribute to seismic hazard in addition to seismic shaking. Collected data have been used as "in situ" validations and integrations of seismic risk assessment from remote sensing (SBA Disasters, Task. DI-09.1a). First tests have been focused on the 1908 Messina and 2009 L'Aquila earthquakes.

8 EGIDA Methodology (Paolo Mazzetti). The EGIDA Methodology is a general methodological approach, structured as a set of good practices, which can be adopted by national/regional S&T communities, for a sustainable contribution to the GEOSS through the mobilization of resources made available from the participation in national, European and international initiatives and projects. It combines the top-down approach from the GEO (in particular the STC Roadmap), with the bottom-up approach from on-going project and initiatives at national/regional and international level that contribute, or might contribute to the GEOSS. The EGIDA Methodology consolidates the achievements of the EGIDA project activities for exploitation beyond the duration of the project. It will be transferred to four use cases characterized by different geographical extent and thematic scope, for evaluation and assessment.

Lunch (13:00 -14:00)

Session 1b (Obj 2-3) (14:00 – 17:00 UTC)

9 UK-EOF: a collaborative UK partnership for coordinating sustained efforts on measuring the environment. What, why, achievements so far and what's next (Beth Greenaway). The UK-Environmental Observation Framework (UK-EOF) strives to change the way the UK perceives, values, archives and uses information from observation activities by working across public departments and agencies, the voluntary sector, industry and academia. The UK-EOF will be a self contained 5 year programme of Living With

Environmental Change (LWEC), funded by the major sponsors of environmental observations in the UK and delivered via a series of workstreams.

10 UKGEO (Beth Greenaway). A collaborative partnership for assessing UK GEO activities, strengths, weaknesses and priorities; using this to develop a UK GEO strategy; coordinating existing and new UK GEO inputs; building a UK GEO community; and pursuing opportunities for this community to contribute to and benefit from GEO in the future.

11 GEO Italy (Maria Dalla Costa). The GEO Italy is coordinated by the Italian Ministry of Environment to improve the national coordination between various types of GEO stakeholders (EO providers, users) and R&D institutions (ASI, CNR, DigitPA, ISPRA, ENEA). GEO Italy also acts to improve communication among different scale stakeholders (Central and Regional Administrations) and to links national experiences accrued in European initiatives with GEOSS. GEO Italy contributes to GEOSS GCI by sharing its own EO achievements and federating its environmental information systems developed by national institutions (CNR-GIDA, ISPRA-SINAnet) in line with SEIS Principles and INSPIRE implementation.

12 The Global Mercury Observation System (GMOS) contribute to the Health SBA of GEOSS (Nicola Pirrone). GMOS is aimed to establish a Global Observation System for Mercury able to provide ambient concentrations and deposition fluxes of mercury species around the world, by combining observations from permanent ground-based stations, and from oceanographic and tropospheric measurement campaigns. Data will be used to validate regional and global scale atmospheric mercury modelling systems able to predict the temporal variations and spatial distributions of ambient concentrations of atmospheric mercury, and Hg fluxes to and from terrestrial and aquatic receptors. Source-receptor relationships at country scale and their temporal trends for current and projected scenarios of mercury emissions from anthropogenic and natural sources will be evaluated and identified. The developed interoperable tools will allow to share datasets and models output data produced by GMOS, for the purposes of research and policy development and implementation as well as at enabling societal benefits of Earth observations, including advances in scientific understanding in the nine Societal Benefit Areas (SBA) established in GEOSS.

Coffee break (15:00 – 15:30)

13 Role of Eionet in the global processes of Earth Observation (Inese Podgaiska). Eionet plays a crucial role in providing its expertise, technical know-how and support to the European Environment Agency in its coordination role of the in-situ component and new coordination role of the GIO Land service in the framework of the GMES programme. Together with EIONET, EEA involves stakeholders, users and service providers in the process of assessment of policy demands to build up operational framework for in-situ data access needed for the GMES services. By providing an input into the progress of the GMES programme, Eionet and EEA also contribute to the main priorities of the GEOSS.

14 GIIDA (Paolo Mazzetti). GIIDA is a interdepartmental project of the National Research Council of Italy which targets the definition and development of a shared multidisciplinary infrastructure for the management, processing and analysis of environmental data. It is composed of work groups related to air quality, seas and marine resources, natural and anthropic risk, climate change, water and soil quality, biodiversity and combined infrastructures between Research Institutes and Public Administrations.

15 Sinanet (Nico Bonora). Sinanet is the Environmental Information and Monitoring System and represents the EIOnet National Focal Point (NFP) the EEA in Italy. NFP is in charge of cooperation with the EEA and the NRCs (National Reference Centers) and organises national coordination of activities related to the EEA strategy. Data and information of European relevance are managed to support the business processes of the European Environmental Information System and building on a shared information infrastructure to create national repositories (REPORTNET). Through SINAnet, ISPRA act as Coordination Structure for INSPIRE implementation to support the National Contact Point (Ministry for Environment, Land and Sea).

Session 2 (Obj. 2 & 3) (April 19; 9:00 – 13:00 UTC)

Round Table Discussion on commonalities, replication elements, gaps and how to address them (in terms of SBA topics covered, catalyzing resources, building awareness and of relevant CoPs, enhancing data sets registrations) RT Participants: ST 09-02 task leads, EGIDA Coordinator, EGIDA WP Leaders and, GEO Secretariat.

The round table will start with a presentation given by Hans-Peter Plag to address the submission of the presented proposals to ST-09-02, as compelling examples, for the GEOSS Portfolio for Science and Technology.

Outcomes

Contribution to document to be delivered in terms of success elements of existing examples (learning by doing approaches, effective communication tools, effective practices to involve stakeholders/end-users involvement, how to address criticalities/gaps)