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Open Access to research data – final perspectives from the RECODE project

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Many networks, initiatives, and communities are addressing the key barriers to Open Access to data in scientific research. These organizations are typically heterogeneous and fragmented by discipline, location, sector (publishers, academics, data centers, etc.), as well as by other features. Besides, they often work in isolation, or with limited contacts with one another.

The Policy RECommendations for Open Access to Research Data in Europe (RECODE) project, which will conclude in the first half of 2015, has scoped and addressed the challenges related to Open Access, dissemination and preservation of scientific data, leveraging the existing networks, initiatives, and communities. The overall objective of RECODE was to identify a series of targeted and over-arching policy recommendations for Open Access to European research data based on existing good practice.

RECODE has undertaken a review of the existing state of the art and examined five case studies in different scientific disciplines: particle physics and astrophysics, clinical research, medicine and technical physiology (bioengineering), humanities (archaeology), and environmental sciences (Earth Observation).

In particular for the latter discipline, GEOSS has been an optimal test bed for investigating the importance of technical and multidisciplinary interoperability, and what the challenges are in sharing and providing Open Access to research data from a variety of sources, and in a variety of formats.

RECODE has identified five main technological and infrastructural challenges:
• Heterogeneity - relates to interoperability, usability, accessibility, discoverability;
• Sustainability - relates to obsolescence, curation, updates/upgrades, persistence, preservation;
• Volume - also related to Big Data, which is somehow implied by Open Data; in our context, it relates to discoverability, accessibility (indexing), bandwidth, storage, scalability, energy footprint;
• Quality - relates to completeness, description (metadata), usability, data (peer) review;
• Security - relates to the technical aspects of policy enforcement, such the AAA-protocol for authentication, authorization and auditing/accounting, privacy issues, etc.

RECODE has also focused on the identification of stakeholder values relevant to Open Access to research data, as well as on policy, legal, and institutional aspects. All these issues are of immediate relevance for the whole scientific ecosystem, including researchers, as data producers/users, as well as publishers and libraries, as means for data dissemination and management.