CReATIVE-B

Final Event

Palais des Académies - Brussels
26th September 2014

The final event will take place in the «Salle du Trône» of the «Palais des Académies» of Brussels.

Places are limited: Register here.

A roadmap for Biodiversity Research Infrastructures Worldwide will be presented.

You can find a resume of the roadmap in this document.

You can find all informations about the CReATIVE-B Project on CReATIVE-B Website.

Related Initiatives

A Roadmap for data infrastructures for biodiversity and ecosystem research

The European *LifeWatch* infrastructure for biodiversity and ecosystem research initiated an international project to explore synergistic cooperation with the *Atlas of Living Australia*, *DATA-One (USA)*, *NEON (USA)*, *CRIA (Brazil)*, *SANBI (South Africa)*, *Chinese Academy of Sciences*, *GBIF (Global)*, *World Federation of Culture Collections (WFCC)* and *GEOBON (Global)*.

The *European Commission* supported the *CRéATIVE-B project*: Coordination of Research e-infrastructures Activities Toward an International Virtual Environment for Biodiversity. The project resulted in a roadmap for interoperability on 3 levels:

1. Community Engagement, related to inclusion and serving the demands of the scientific community;
2. Technology, related to data, ICT, e-science services;
3. Legal and Governance, related to property and access rights to data, global policy coordination.

Sustain the role of biodiversity & ecosystem research infrastructures

The grand challenge for biodiversity and ecosystem scientists is unravelling complex patterns and processes by analyzing very large and diverse data sets. Tackling the grand challenge requires considering our planet as the laboratory of environmental scientists. Interlinked and interoperable research infrastructures are providing the required powerful support services to advance knowledge on larger scales, which is especially crucial for research on biodiversity and ecosystem complexity. The production and free accessibility of long-term and broad-spatial data and analysis tools requires sufficiently sustained biodiversity and ecosystem research infrastructures. Since the research infrastructures are increasingly mutually dependent, a common view on funding principles, preferably adopted by both funding agencies and research infrastructures is recommended.

The cooperating research infrastructures will establish a High Level Stakeholders Group (HLSG), bringing together their leaders for consultation, advice and collaboration.

User interaction and value delivery

Sustaining research infrastructures requires demonstrated demand and use of their services, implying the active involvement of their scientific communities. A common gateway of cooperating research infrastructures will support the interests of scientific communities with access to the array of available cutting-edge technologies. In this respect it is also recommended to empower citizen scientists so they can better benefit from the research infrastructures.

Support for the development and testing of biodiversity indicators is a considered joint action plan to deliver new services and to demonstrate user involvement and the benefits of interoperability. The concept of Essential Biodiversity Variables (EBVs) as propagated by GEOSS-GEOBON may serve as demonstrator.

Cooperation for infrastructure interoperability

The cooperating research infrastructures exhibit a satisfactory level of potential interoperability; in particular, in the way they offer access to biodiversity data, available applications and related resources. There are however barriers to global interoperability, implying recommended actions on the following priorities.

• Emphasize and increase the importance of standards: learn lessons from other domains and proceed case-by-case.

• Solve technical challenges for biodiversity and ecosystem infrastructures: enable global and federated Authentication, Authorization and Accounting (AAA) facilities so that infrastructure users can enact services and access data within another infrastructure seamlessly.

• Encourage the use of consistent quality control, semantics: promote the semantic integration of data.

• Promote the development, sharing and use of workflows of services: expose analytical tools, data and other resources of the cooperating research infrastructures as standard Web services with their interoperation.

• Create a scientific market place for biodiversity services: allow users to benefit from workflows of services to be composed and executed cross-enterprise and cross-infrastructure with globally accessible catalogues of data, services and associated semantics.

• Managing the provenance of resources: assign unique and global identifiers for all resources of the involved research infrastructures.

Legal interoperability

Sharing data and tools with varying provenance of authorship and ownership requires careful and efficient arrangements among cooperating research infrastructures. Legal interoperability is significant with the increasing automatic processing of data supported by "machine-machine" interactions. Below are some the recommendations addresses by the cooperating research infrastructures.

• Follow and contribute the Research Data Alliance (and its RDA-CODATA legal interoperability Working Group).

• Consider a common policy on the adoption of new technical standards, protocols and knowledge sharing.

• Continue to operate under open source principles to provide access to each other without licensing.

• Follow the global developments for attribution mechanisms and policies.

• Share clauses that will ensure open source policies when the research infrastructures rely on middle/software deployed under corporate licensing.

Education and training

Research infrastructures have a mission to seek for and support excellence in science. Training and capacity building directed to new researchers will enable better use of the research infrastructures. In addition, communication efforts will show how biodiversity data and models can become relevant for environmental policies.