

## WGISS - Interoperability and Use

CEOS agencies have spent billions acquiring Earth Observation (EO) data and developing ground segment architectures to make these data available to users. To realize the full benefits of these investments however, users must be able to access and utilize EO data with maximum efficiency.

Data Interoperability and Use activities address the ability of CEOS Earth Observation missions, ground systems, and services that create, exchange and consume data to have clear, shared expectations for the contents, context, and meaning of that data. Activities aim also to ensure interoperability among different systems and services, and to facilitate data exploitation and immediate analysis with minimum effort from the user.



FUTURE DATA ARCHITECTURES



CARBON PORTAL



OPEN SOURCE SOFTWARE AND TOOLS



RECOVERY OBSERVATORY



The main components of the Interoperability and Use activities and related interest group are:

### **FUTURE DATA ARCHITECTURES**

The Future Data Architectures activity aim to assess the potential impact of new technologies and approaches in order to bridge the gap between the huge volumes of Earth Observation data currently made available by the increasing number of satellite missions, and the users developing applications to tackle key environmental, economic, and social challenges. The goal is to strengthen the international community's capacity to efficiently and easily produce relevant, timely, and accurate information, in order to better tackle 'big issues' at regional and global scales.

### **OPEN SOURCE SOFTWARE AND TOOLS**

Each CEOS agency will continue to develop its data and computational infrastructures consistent with its capacity and user service mandates. CEOS has a role in identifying tools to support complementarity and interoperability across CEOS agencies in support of its objectives.

The OSS activity aims at developing and maintaining a tracking tool to Open Source Software from CEOS members used for EO data exploitation and use (e.g., EO data visualization, analysis, processing, readers/writers, etc.), and at implementing a mechanism for their discovery and access.

### **CARBON PORTAL**

The Carbon Portal activity aims to implement a prototype data portal to facilitate the discoverability and accessibility of Essential Climate Variable (ECV) products and space-borne Climate Data Records (CDRs) relevant for the CEOS Carbon Action. The portal provides access to CEOS agencies' data through the WGISS Connected Data Asset components (i.e. IDN, CWIC and FedEO) in order to provide necessary data and tools to the carbon science community of both CEOS and GEOSS. The Carbon Portal follows on the previous activity related to the development of a Water Portal.

### **RECOVERY OBSERVATORY**

Space agencies already organize the emergency response after disasters (International Charter), but have little or no coordination for the post-crisis part of the disaster management cycle. The Recovery Observatory is a CEOS initiative to handle this post-crisis phase, based on Lessons Learned by CNES from Kal-Haiti project after 2010's earthquake in Haiti. The Recovery Observatory aims at demonstrating the value of using satellite Earth Observations to support recovery from a major disaster. In support of the Working Group Disasters, WGISS have developed a tool allowing supporting the Recovery Observatory's activities. The system is tracking recovery of buildings, transportation network, agricultural activities and environmental rehabilitation.