

CEOS WGISS-42 Meeting Report
Frascati, Italy, 19-22 September 2016
by Gabor Remetey, GSDI Association representative

Background



Realising the potential synergy provided by facilitated EO and geospatial data access and use for applications in societal benefit areas, chairs of CEOS WGISS and the Executive Director of GSDI in 2006 decided to establish a liaison between the two organisations. Since that time WGISS meetings are informed of relevant developments in the GSDI Association in the form of liaison reports from Dr Gabor Remetey with the aim to share information between the Earth Observation and Spatial Data Infrastructure communities.

The Event



GSDI as a CEOS WGISS liaison partner took part in the 42nd Meeting of the Committee on Earth Observation Satellites (CEOS) Working Group on Information Systems and Services (WGISS) hosted by the European Space Agency, ESRIN, in Frascati, Italy, between 19 and 22 September 2016.

The meeting participants were welcomed by Henry Laur of the EO Mission Operations & Ground Segment Department at ESA.

The Attendees



On the Agenda

The Meeting was chaired by Andrew Mitchell of NASA Goddard Space Flight Center. The event had four major topics, discussed in plenary sessions as follows:

- Data Preservation and Stewardship,
- Data Access,
- Data Use and
- Technology Exploration.

Three of the topics are closely related to the GEO Data Management Principles. The agenda included the WGISS Chair report, the general progress reports of the agencies (ESA, NASA, USGS, NOAA, ISRO, JAXA, CEOS, CNES, Geoscience Australia, INPE, RADI) and liaison reports (including GSDI) as well as a summary and conclusions. Osamu Ochiama of GEO Secretariat and Brian Killough of CEOS SEO gave reports by remote links.



Topics Discussed

- The **Data Use Session** was devoted to the Future Data Architecture and the Data Cube activities in Europe (at ESA) and South America (at INPE, Brazil), but many of the agency reports dealt with the sophisticated data cube approach including GA, USGS, NOAA and CEOS.

- The **Technology Exploration Workshop** was devoted to cloud computing. Chaired by Satoko Miura of the Japanese Space Agency JAXA, ten different agency presentations introduced achievements and lessons learned on how to use this novel service and the first experiences. Mirko Albani of ESA introduced the Evolution of the Ground Segment and the Earth Observation Innovation Europe program. Sveinung Loekken talked about Thematic Exploitation Platforms and Cloud Computing Activities, while Julien Airaud of CNES dealt with the security issues of cloud computing, followed by three agency presentations on Virtualization and Cloud Computing at JAXA, EO data processing in the cloud at ISRO SAC by Nitant Dube (emphasizing the requirements and some research issues) as well as the experiences of Geospatial Australia, a talk given by Simon Oliver the acknowledged Data Cube expert. The Applications of Cloud Computing were introduced by NOAA, USGS and NASA's Earth Observing System Data and Information System (EOSDIS). The CEOS Data Cube (approach used in Colombia) is also supported by the use of cloud computing as introduced in a separate presentation. Shinichi Sekioka of RESTEC proposed a future Webinar discussion on this subject and invited WGISS Chair Andrew Mitchell as keynote speaker, who accepted the invitation.



- There is common interest of all CEOS agencies to improve their data assets discoverability and accessibility through IDN, CWIC and FedEO. In the **Data Access Session** Michael Morahan presented an overview of the IDN’s new website. The OpenSearch practice of CNES was introduced by Yves Coen. Olivier Barois of ESRIN (who is also a NASA World Wind developer) spoke about Open Search as the standard for EO. The FedEO was also addressed. The CEOS WGISS Information (CWIC) report was followed by data access reports of EUMETSAT, ISRO, INPE and NOAA. Yonsook Enloe of NASA spoke about the WGISS connected data assets.
- The **Data Preservation Session** chaired by Mirko Albani gave an update on the Data Stewardship Interest Group and called attention to the preservation of associated knowledge, mentioning best practices. The Maturity Matrix and Model for Harmonisation was introduced and a report was delivered on ESA’s stewardship activities, highlighting the Heritage Data and Knowledge Preservation Program.



Social Evening

Arranged by WGISS Deputy Chair Mirko Albani of ESA ESRIN, the participants had a short walk through the city in amazing sunset light, connected with a social evening in the historical core of Rome.

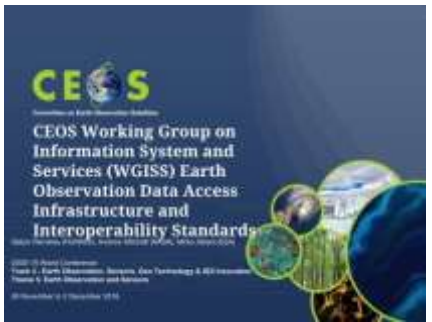
Technical Tours



Two ESRIN facilities were visited: Henri Laur, head of the ESA Department of EO Mission Operations and Ground Segments gave an audiovisual introduction on their activities next to the operation control room of the ESA Ground Receiving Stations. Here, on rotational basis, the UN Disaster Charta is served. The other ESRIN facility visited was the Virtual Room where the highly successful Vega rocket was introduced in a 3D visualisation environment. This launcher put four Google imaging satellites into orbit just two days before this visit.

Actions which could affect the GSDI Community

1. CEOS WGISS will deliver a presentation at the GSDI 15 World Conference in Taipei entitled: 'CEOS WGISS Earth Observation Data Access Infrastructure and Interoperability Standards'.

2. The GSDI representative was asked by the WGISS Chair to coordinate between WGISS and GSDI Association to see who from GSDI could contribute to the future WGISS geospatial applications workshop on the use of CEOS data at one of the next WGISS meetings. If this offer is accepted and agreed by the GSDI Executive Committee, the next venue in Annapolis would provide an excellent opportunity to introduce such SDI-based applications by government, academic, industry and NGO representatives from that region e.g. FGDC, CIESIN/Colombia University, Esri, Boundless and the Open Geospatial Consortium).
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3. Improve data discoverability, accessibility and usability GEOSS resources and data preservation are areas where the EO and the SDI communities could cooperate and exchange experiences by exploiting technologies and taking into account GSDI's expertise in knowledge sharing and capacity building related to implementation of SDIs from local to national.
 4. Open data and open source software (e.g. COVE for EO analysis and Visualization) become ever more important. Efforts are made to find an approach for automated discovery, processing, downloading and ingesting of data to support users with Data Cubes – future targets include Sentinel-2 and CBERS-4 data.
 5. WGISS Chair Andy Mitchell summarized the Cloud Computing Workshop by these trends: *“Move User activities to the Data (ESA) - move more analysis closer to the data (NASA), while ISRO addressed the issue of Cloud interoperability and NOAA pointed out that Big Data Project success requires expertise (algorithms, workflow, interpretive skill) and viable Use Cases.”* The discussion-based Workshop report will be provided soon. Future topics for Technology Exploration include, besides Geospatial Applications: Metadata interoperability and Discovering and Accessing data in Future Architectures. The first webinar will be in December 2016.

Recommended link: All the presentations can be reached on the CEOS website:
<http://ceos.org/meetings/wgiss-42/>

Further information:

- 1st Virtual Workshop GEO Discovery and Access Broker (DAB) APIs, 28-29 September, 2017
- 10th Coastal Altimetry Workshop. Florence, Italy, 21-24 February 2017 – <http://www.coastalaltimetry.org>
- FRINGE 2017 Workshop Advances in the Science, Sentinel-1 InSAR Workshop. Helsinki, Finland, 5-9 June, 2017 - [http:// fringe.esa.int/index.php](http://fringe.esa.int/index.php)

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