



The GEO and the GEOSS: achievements, prospects and challenges of direct relevance to EU policies

International Conference

“Adaptation Strategies to Global Environment Change in the Mediterranean City
and the role of Global Earth Observations”

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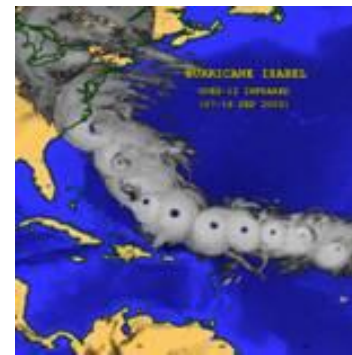
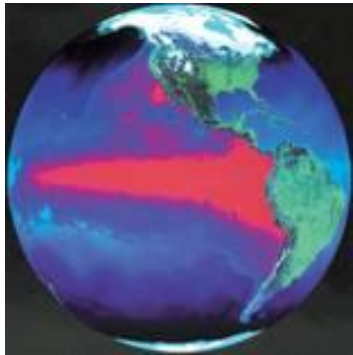
The GEO and the GEOSS

- **Background**
- **Achievements**
- **Timeliness for a debate**
- **Challenges through 2025**
 - For the EU and the whole GEO community
 - Specific to the EU

GEO-GEOSS - Why?

- *Addressing the full Earth system's dynamics exceeds the capability of anyone country, or anyone scientific community*
- *Earth observation data: too often collected for a single purpose, use(r) hardly shared or made discoverable*
- *Global landscape for Earth system monitoring: fragmented*
- *Scientific understanding and on-going knowledge of the Earth system is fundamental for well-informed economic decision-making*
- *To sustained Earth observations is a critical issue*

Hence, a global approach to Earth observations is required





The Group on Earth Observations (GEO)

Renewed commitments by Ministers
via a series of Earth Observation Summits since 2003





GEO and the Commission involvement

- **GEO is a voluntary intergovernmental partnership:**
 - For Earth observation coordination
 - To foster increased use of EO data and information
 - To trigger Earth sciences and innovation activities
 - To promote broad open data practices
 - For user engagement and capacity building
- **Summit declarations adopted on EC side by:**
 - Commissioner Busquin in 2005
 - Commissioner Potocnik in 2007
 - the vice President Commissioner Tajani in 2010
 - Commissioner Potocnik on 17 January 2014
- **These Declarations are consistent with and covered by policies and programmes agreed at EU level**

Background and achievements

- 2005: 1st GEO mandate (2005-2015) to develop a coordinated and sustained Global Earth Observation System of Systems (GEOSS)
- 2014: decision to renew the mandate for the period 2016-2025 (endorsed in Geneva on 17 January 2014)



Achievement!

GEO today:

- 89 Nations, plus the EC
- 77 Participating Organisations





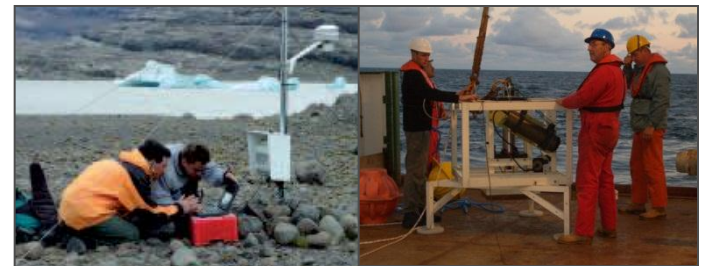
Achievements!

GEO-GEOSS - What?

Global Earth observation initiatives in the 9 GEO societal challenges (GFOI, Supersites, Blue Planet, GEOGLAM, ...)



✓ A platform for Earth observation coordination, user engagement, capacity building, Earth science and innovation activities

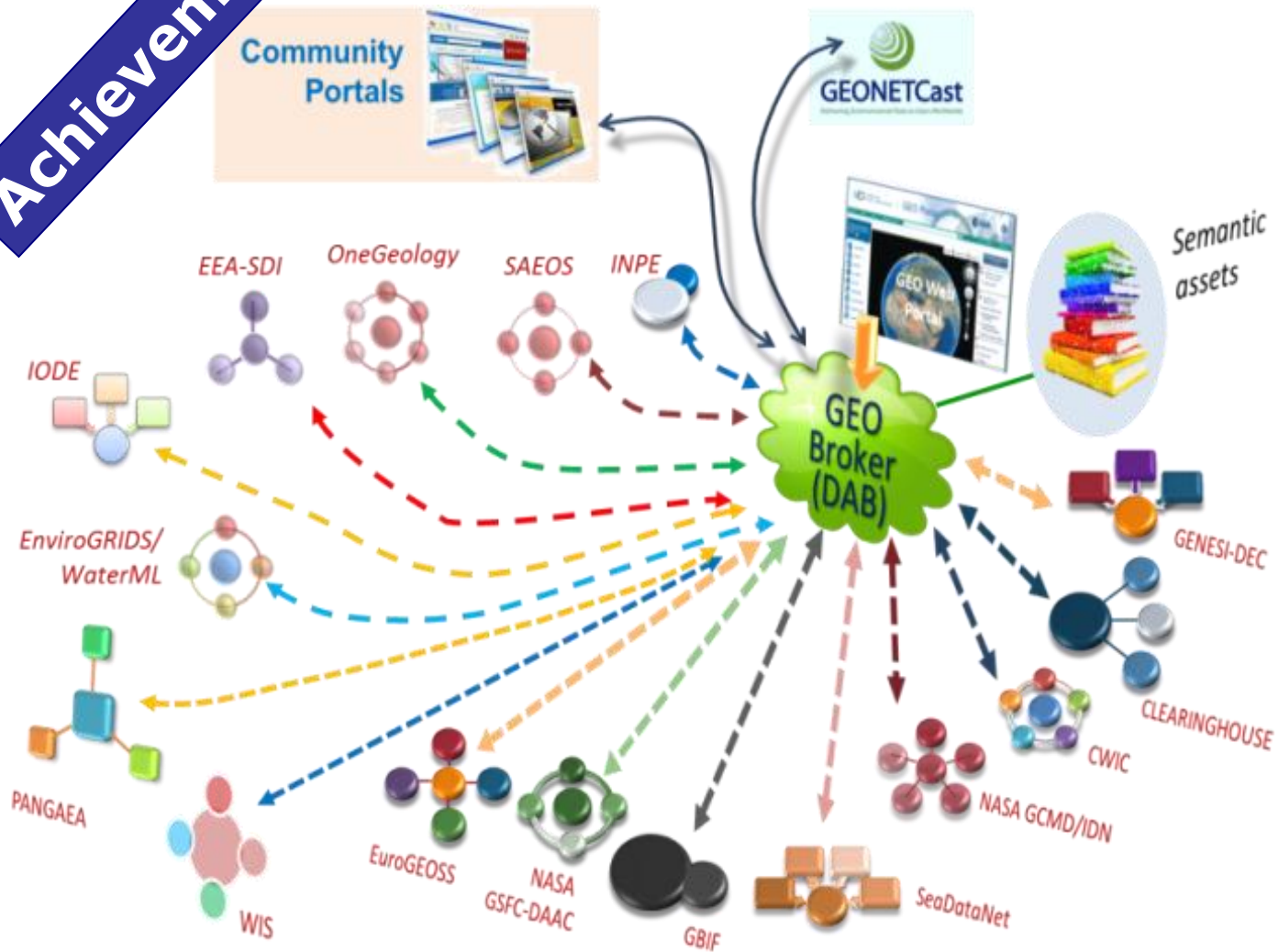


✓ An information system providing full & open access to global and regional Earth observation datasets



The GEOSS 'system of systems'

Achievement!



Three main GEOSS components:

GEO Web Portal:
"one-stop" discovery and access function to all GEOSS resources

GEO Broker (DAB):
a Discovery and Access Broker (DAB) to discover and access registered resources

GEOSS registries:
Components, services, standards, interoperability arrangements, best practices

(Source: CNR & ESA)



GEOSS resources

Achievement!

About **20** brokered data providers – capacities, systems, Communities



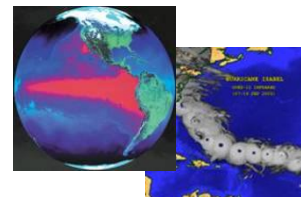
Publish

More than **7 Million** (**1.2 Million** GEOSS Data Core) Discoverable and potentially Accessible aggregated resources (mix of data collections, datasets and individual images)



Contain [source: data providers]

More than **65 Million** (**50 Million** GEOSS Data Core) discoverable and potentially accessible individual resources (e.g. satellite scenes, rain gauge records)



GEOSS Search

- Searches on *content, location, and time* in EO datasets
- Provides access to data in EO databases



The period 2014-2015 represents a unique window of opportunity for the GEO (including its European GEO Members and participating organisations)

- Approaching term (in 2015) of the current 10-Year mandate
 - Lessons learnt after almost 9 years of implementation
- Geneva Ministerial Declaration of 17 January 2014
 - Political momentum
 - Decision taken to renew the mandate for the period 2016-2025
 - Request for a new 10-Year Implementation Plan by end of 2015
 - Ongoing process by the Implementation Plan Working Group (IPWG)



Challenges (EU & the whole GEO)

New element 1: “Sustaining the GEOSS information system that provides access to the data and products of the GEO Member governments and Participating Organisations”

Related questions:

- How to sustain GEOSS operation, maintenance and evolution?
- How to make the GEOSS more user-friendly?
- How do we want to use the GEOSS?
- What impact on the evolution of system specifications?
- Other questions?

New element 2: “Fostering global initiatives that address identified gaps in Earth observation information including, where appropriate, facilitating the development of partnerships to identify relevant stakeholders (end-users), as well as development of associated services and arranging for their subsequent uptake by relevant entities”

Related questions:

- How to make the GEOSS more used?
- For what target users?
- Through what partnerships?
- How to better ‘brand’ the GEO added value on the international scene?
- Other questions?



Challenges (EU & the whole GEO)

New element 3: “Mobilising appropriate resources for Earth observation capacity building with a specific emphasis on developing countries”

Related question:

- How shall GEO strengthen engagement with developing countries?
- Do we need new governance models to foster regional cooperation in developing countries?
- How shall GEO reorganise its capacity building efforts in order to maximise impact?



Challenges (EU & the whole GEO)

New element 4: “Allowing for the possibility of modifications to GEO’s current Societal Benefit Area structure, exploring linkages to sustainable development themes”

Related question:

- What revised concept for future GEO societal challenges
- What implications on future GEO strategic targets?
- Other questions?

New element 5: “Making a renewed effort, where possible, to collaborate with the private sector while remaining an intergovernmental partnership”

Related questions:

- What role for the private sector with respect to the GEOSS?
- What general framework for engagement?
- What could be the role (if any) for the private sector in the GEO governance structure?
- How far shall GEOSS expand accessibility beyond Earth observation data?
- What about giving access to processing tools for big data, interfaces for computing on the cloud, Earth system models, new data streams such as crowdsourcing data?



Challenges (EU & the whole GEO)

New element 6: “Developing a specific and strengthened framework or mechanism for steady resource commitments to GEOSS, from both public and non-public sources, while relying on the principle of voluntary contributions”

Related questions:

- How to balance / increase expectations and commitments?
- What revised resourcing mechanisms for GEO?
- What prioritisation strategy?

Tentative questions

1. What about a strengthened coordination in Europe?
 - Stronger **EU regional node** (building upon the current HLWG)?
 - Creation and consolidation of **national GEO 'offices'** by the EU Member States?
 - What reinforced **synergies with major European institutions** of relevance to GEOSS?

To address strategic coordination over the long term and build consensus on shorter term actions (such as the input by the European GEO Caucus in view of the next implementation plan, the revision of future GEO Work Plans, etc.)



Tentative questions (continued)

2. How to ensure best mutual benefits with EU programmes that do specifically target the GEO and the GEOSS?
 - **Horizon 2020** : Community research and innovation
 - Federated, complementary EO activities across Horizon 2020?
 - Stronger European Research Area in Earth observation?
 - GEOSS as a source of datasets for Horizon 2020 RDI
 - GEOSS as a system for sharing Horizon 2020 foreground
 - **Copernicus programme**
 - Accessibility to Copernicus data/products through the GEOSS?
 - Interconnection between Copernicus services and the GEO societal challenges, global initiatives and communities of practice?
 - Reinforcement of the in-situ component of the GEOSS and Copernicus for the delivery of EO products of global reference?

Tentative questions (continued)

3. How to mobilise the European business sector and develop a European strategy to transform GEO into a lever to support the EU industry in developing new services, creating jobs and generating economic wealth?



Thank you

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