GROUP ON EARTH OBSERVATIONS

GEO-Water activities and DRIHM/DRIHM2US projects

24 February 2015
DRIHM and DRIHM2US project
Final conference

Dominique Berod
GEO Secretariat

GROUP ON EARTH OBSERVATIONS

Conclusions

DRIHM
DISTRIBUTED RESEARCH INFRASTRUCTURE FOR HYDRO-METEOROLOGY

- **Distributed** Research Infrastructure for HydroMeteorology
- **Dialogue** between scientific communities
- Provides end-to-end HMR **services** at the European level
- promote the **cooperation** between Europe the USA to develop a joint/common e-Infrastructure

GROUP ON EARTH OBSERVATIONS

- **Coordinating** efforts to build a Global Earth Observation **System of systems**
- **Dialogue** between scientific community and policy makers
- **Data sharing** and common projects

- promote the **cooperation** between stakeholders

SCIENCE ➡ COOPERATION ➡ COMMON INFRASTRUCTURE ➡ SOCIETY

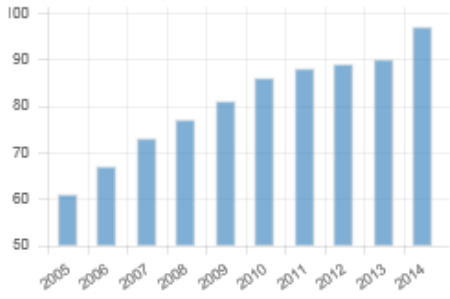
GROUP ON
EARTH OBSERVATIONS

GEO Member Map for the year 2014

Number of Members (2014)

Total:	97
Africa:	24
Americas:	15
Asia/Oceania:	17
C.I.S.:	7
Europe:	34

Number of Members by year



GROUP ON EARTH OBSERVATIONS

88 Participating Organizations

GROUP ON EARTH OBSERVATIONS

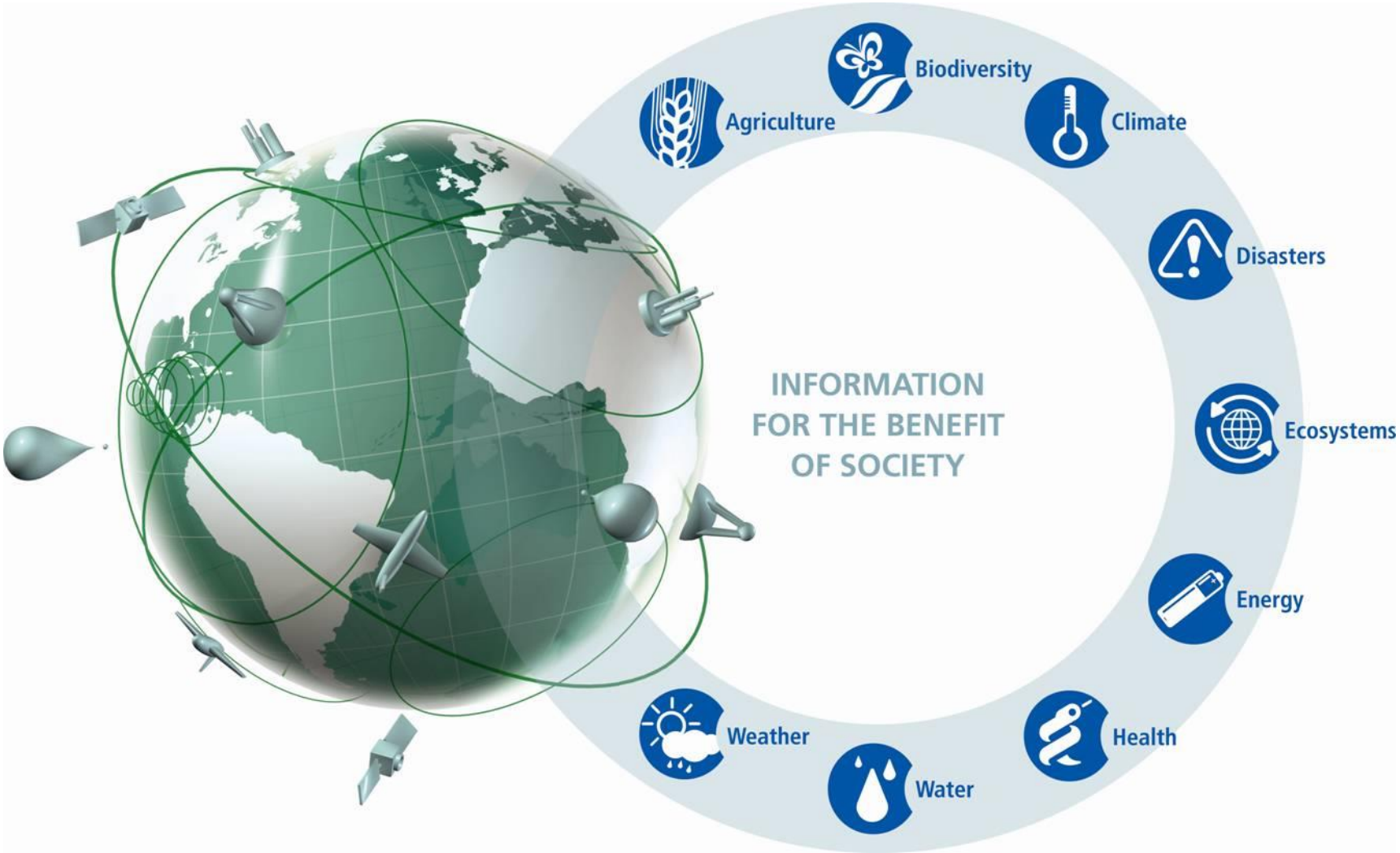
GEO Vision

To realize a future wherein decisions and actions, for the benefit of humankind, are informed by coordinated, comprehensive and sustained Earth observations and information.

⇒ Urgent, global, complex and growing challenges

GROUP ON EARTH OBSERVATIONS

GEOSS: A Global, Coordinated, Comprehensive and Sustained System of Observing Systems



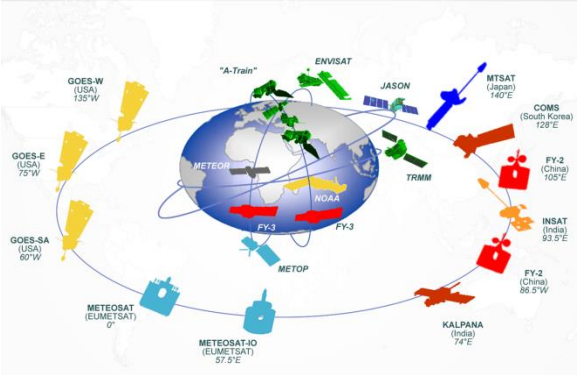
GROUP ON EARTH OBSERVATIONS

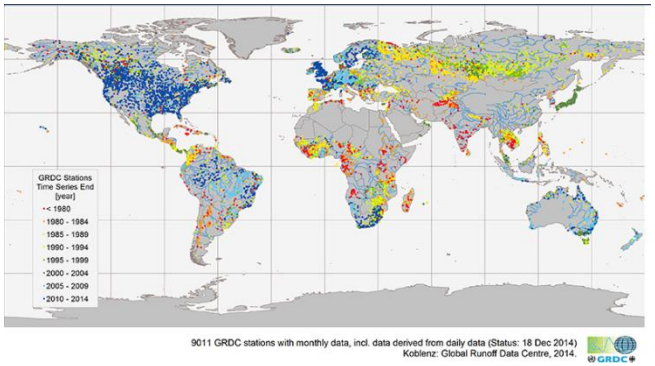
Global Risks Landscape 2015 from the World Economic Forum:

Geospatial data required, at global and local scale!

GROUP ON EARTH OBSERVATIONS

The Tower of Babel problem…





Need for:

- **Earth observation Coordination**
- **Interoperable Architecture and Formats**
- **Data Sharing**

… to benefit fully from Earth Observation Systems

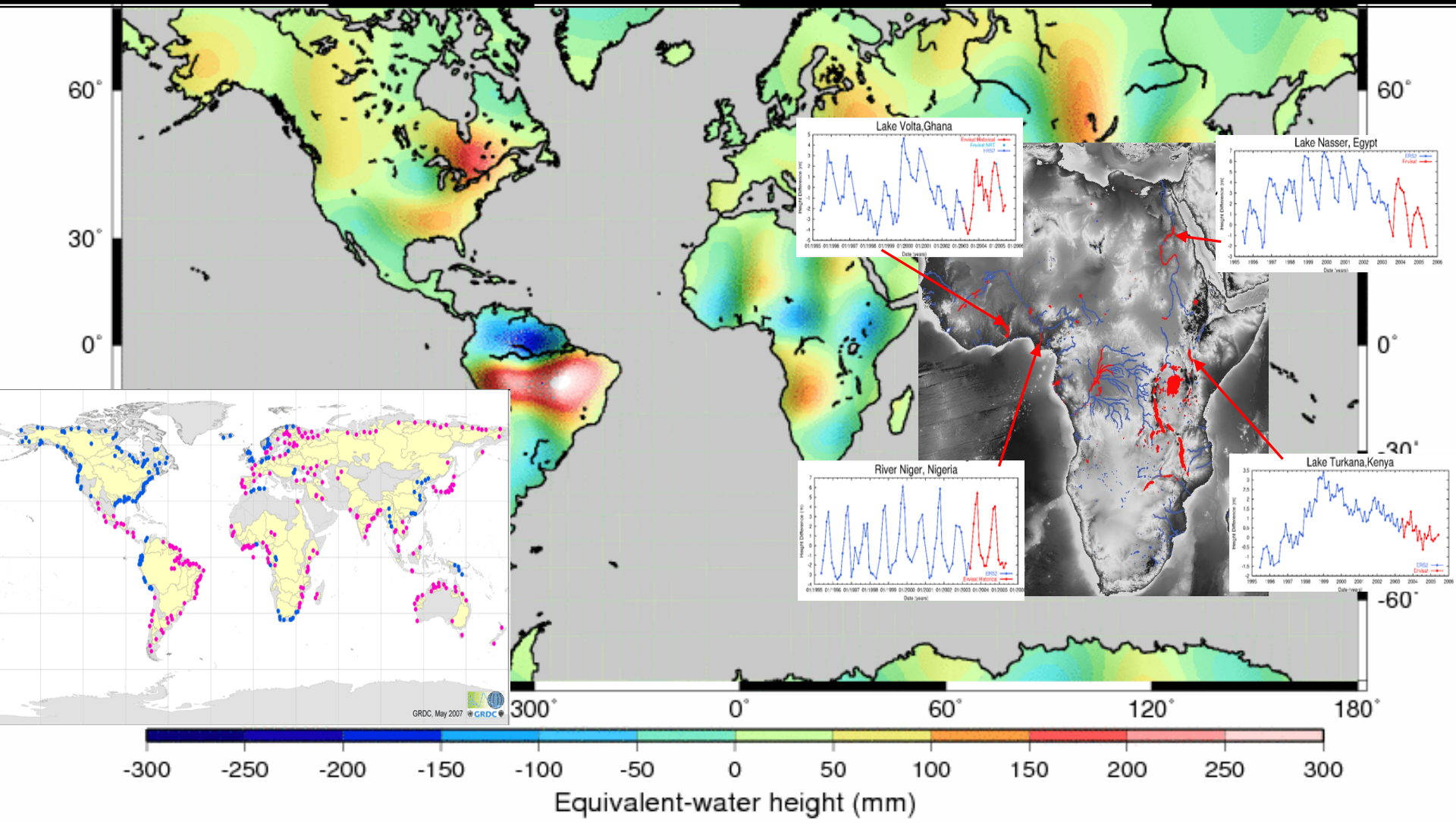
GROUP ON EARTH OBSERVATIONS

WA-01 Integrated Water Information (incl. Floods and Droughts)

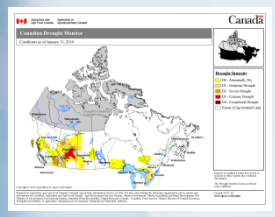
Components:

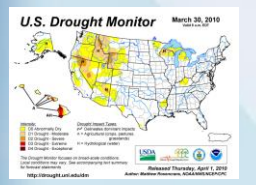
- **C1 Integrated Water-cycle Products and Services**
- **C2 Information Systems for Hydro-meteorological Extremes (incl. Floods and Droughts)**
- **C3 Information Service for Cold Regions**
- **C4 Global Water-Quality Products and Services**
- **C5 Information System Development and Capacity Building**

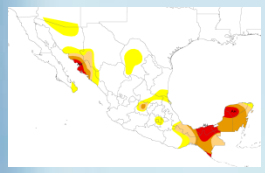
Example C1:combination of observations from various disciplines, nations and agencies: gravity field changes measured by the GRACE (NASA/DLR) satellite reflecting the redistribution of subsurface water masses stored on continents; level of lakes and rivers measured by altimetry satellites Jason (CNES/NASA/EUMETSAT/NOAA) and Envisat (ESA); and observations from networks of in-situ water discharge/run-off stations.

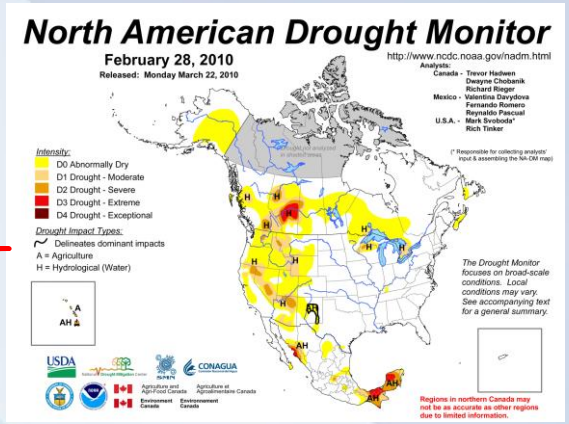


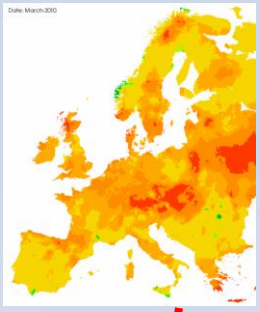
Example C2: GEO Global Drought Monitor – An Integration of Continental / Regional Drought Monitors

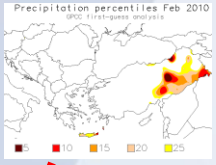


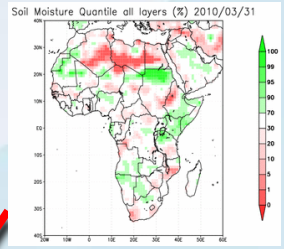


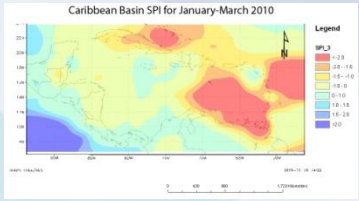


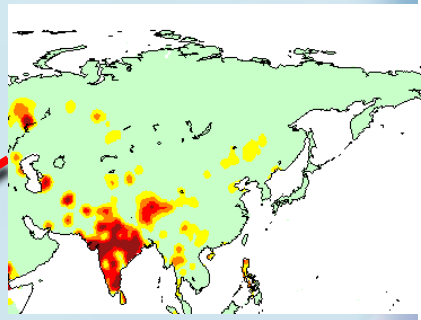


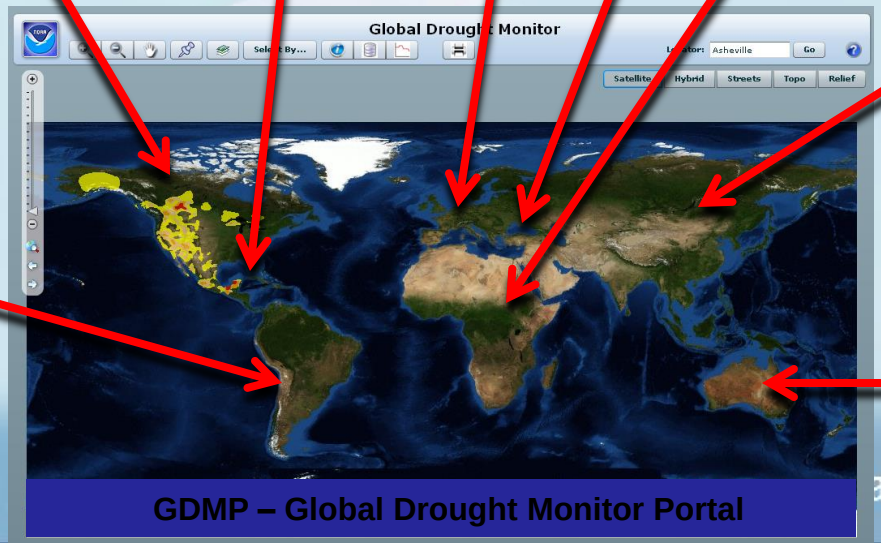


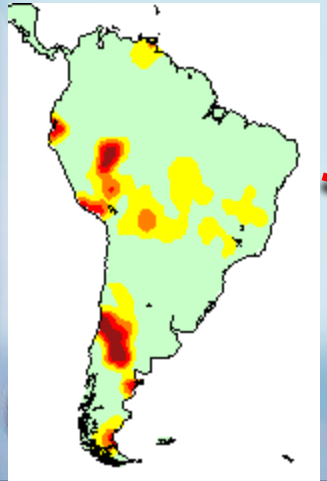


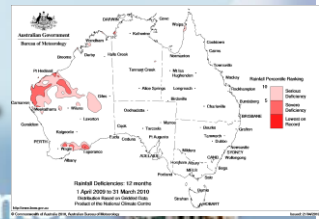






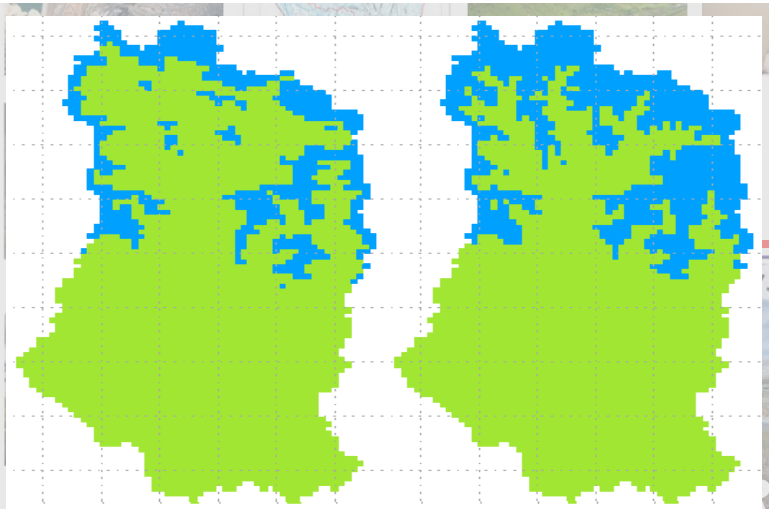






Data Integration and Analysis

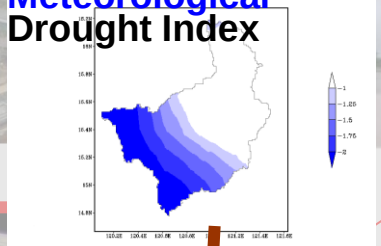
Snowfall-melt-runoff prediction and Climate Change Assessment System in Nepal



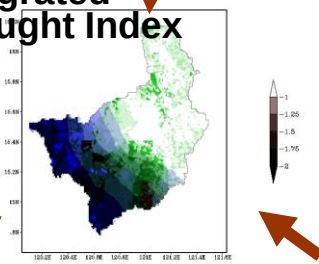
from satellite from model

May 25, 2003

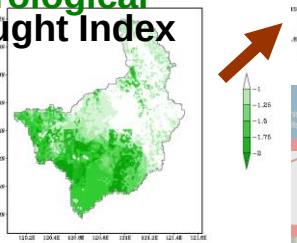
Meteorological Drought Index



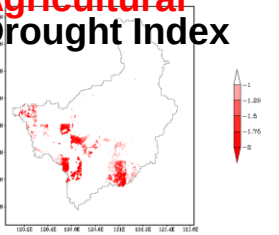
Integrated Drought Index



Hydrological Drought Index

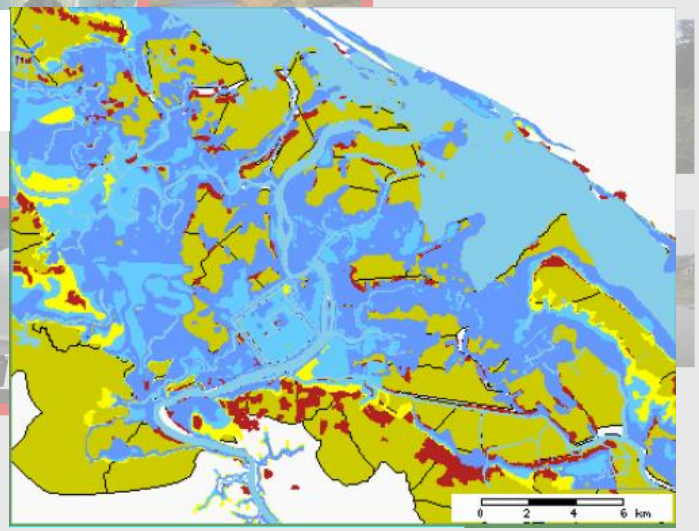


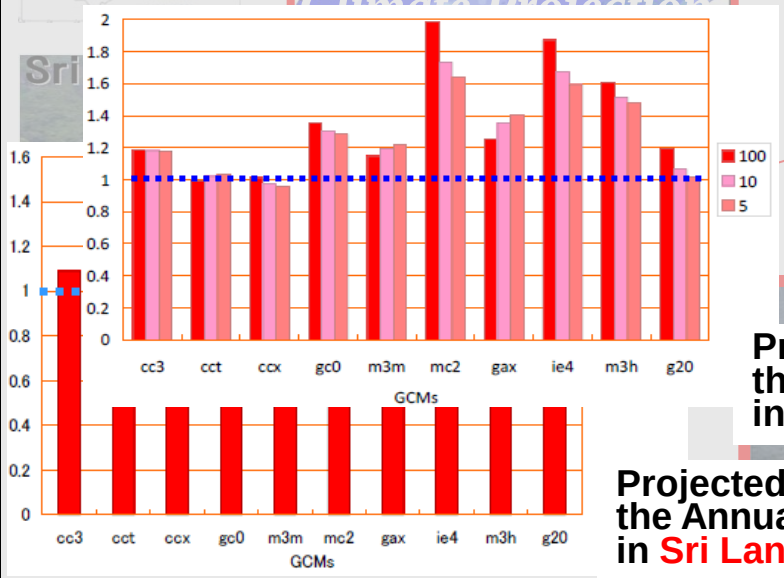
Agricultural Drought Index



Integrated Drought Monitoring and Climate Change Assessment System in Philippine

Inundation Prediction System in Hue, Vietnam





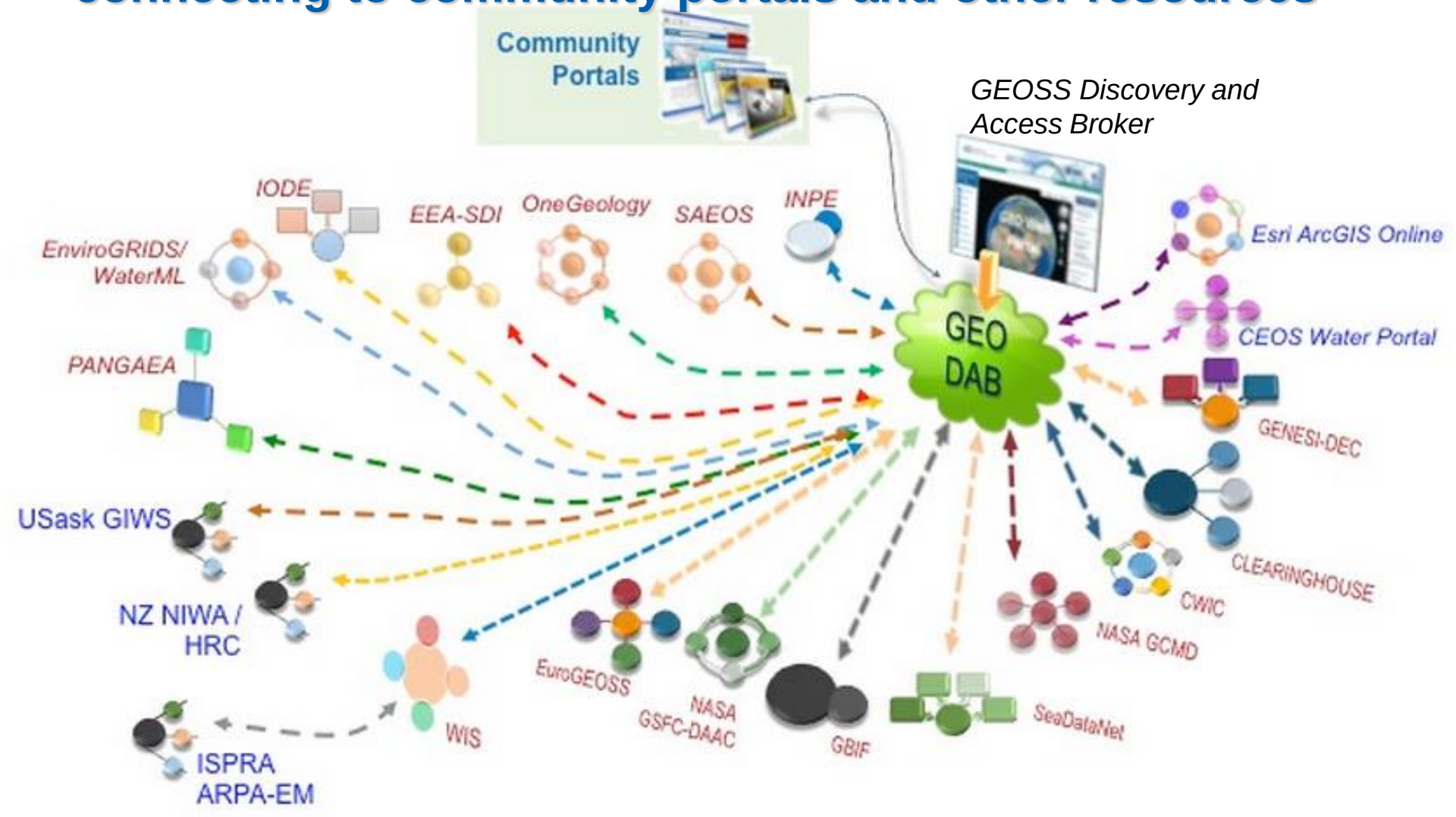
Projected Change in the Probable Rainfall in Sri Lanka

Projected Change in the Annual Average Rainfall in Sri Lanka

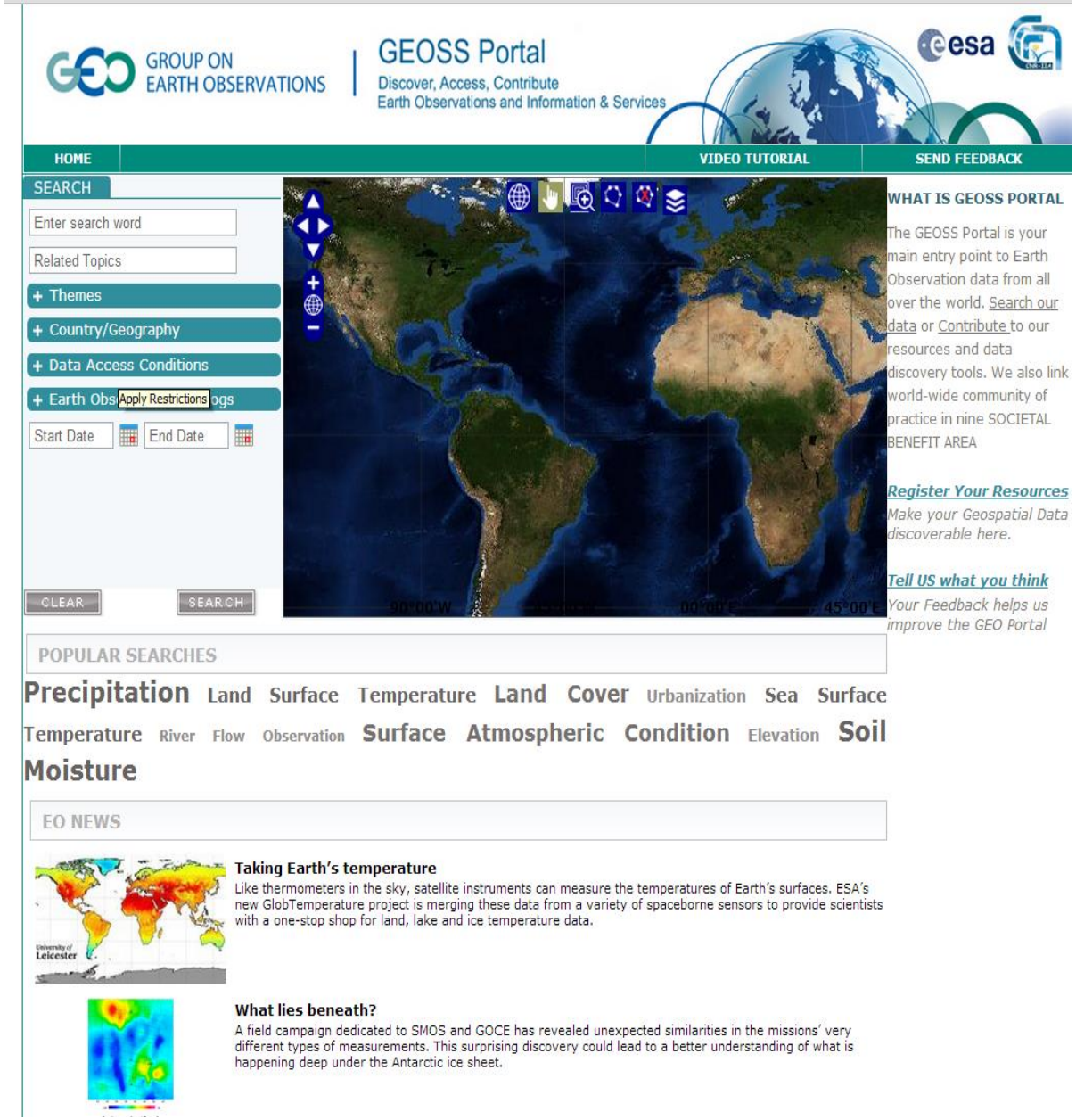
GROUP ON EARTH OBSERVATIONS

GEOSS Portal:

connecting to community portals and other resources



GROUP ON EARTH OBSERVATIONS



Users:

- Scientists
- Policy-makers
- End users

GROUP ON EARTH OBSERVATIONS

Added-value of GEO

- Access to EO data/information/services/products
- Data sharing and interoperability
- Networking and coordination
  - Regional/national coordination GEO
- Governance structure
  - Voluntary, best efforts
- Political dimension

- ***for informed decision-making***
- ***to address urgent global challenges***
- ***to support sustainable development***

Conclusions (final one)

- **Distributed** Research Infrastructure for HydroMeteorology
- **Dialogue** between scientific communities
- Provides end-to-end HMR **services** at the European level
- promote the **cooperation** between Europe the USA to develop a joint/common e-Infrastructure

- **Coordinating** efforts to build a Global Earth Observation **System of systems**
- **Dialogue** between scientific community and policy makers
- **Data sharing** and common projects

- promote the **cooperation** between stakeholders

SCIENCE ➡ COOPERATION ➡ COMMON INFRASTRUCTRURE ➡ SOCIETY

GROUP ON EARTH OBSERVATIONS

Conclusions (final one)

DRIHM
DISTRIBUTED RESEARCH INFRASTRUCTURE FOR HYDRO-METEOROLOGY

GROUP ON EARTH OBSERVATIONS










SCIENCE ➡ COOPERATION ➡ COMMON INFRASTRUCTURE ➡ SOCIETY

GROUP ON
EARTH OBSERVATIONS

Thank you!

earthobservations.org

dberod@geosec.org