The GEOSS Portal, its broker architecture, and how it is helping spread standard practices for water resource data publishing

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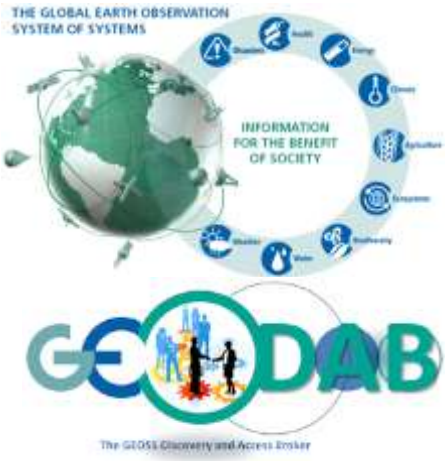
GEOSS

GEOSS
The **Global Earth Observation System of Systems** is a global and flexible network of content providers allowing decision makers to access an extraordinary range of information at their desk.
GEODAB (Discovery and Access Broker) is a fundamental component in the GEOSS architecture.



Health Biodiversity Water Weather Ecosystems Disasters Energy Agriculture Climate

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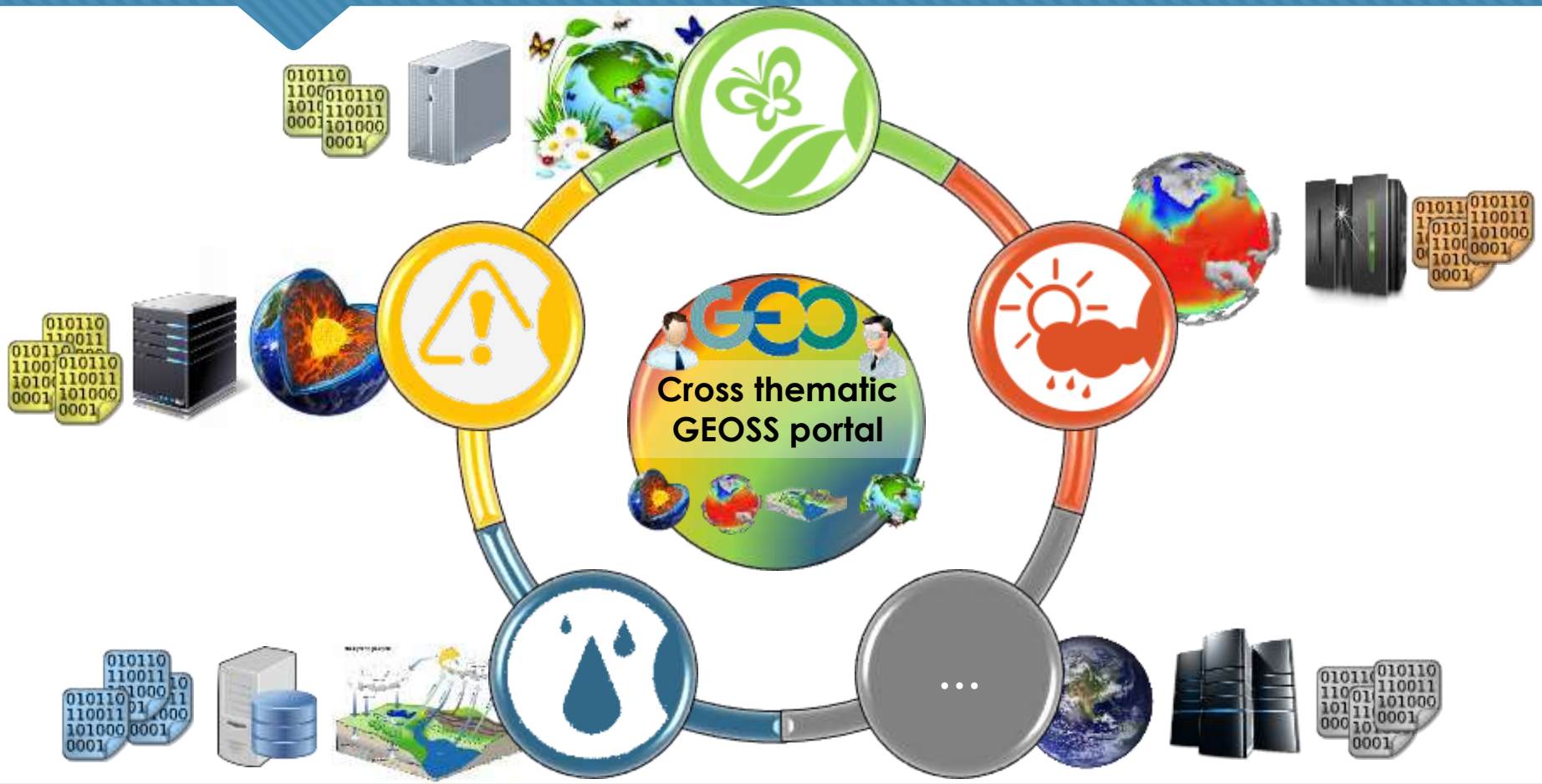
Cross thematic interoperability challenge in GEOSS



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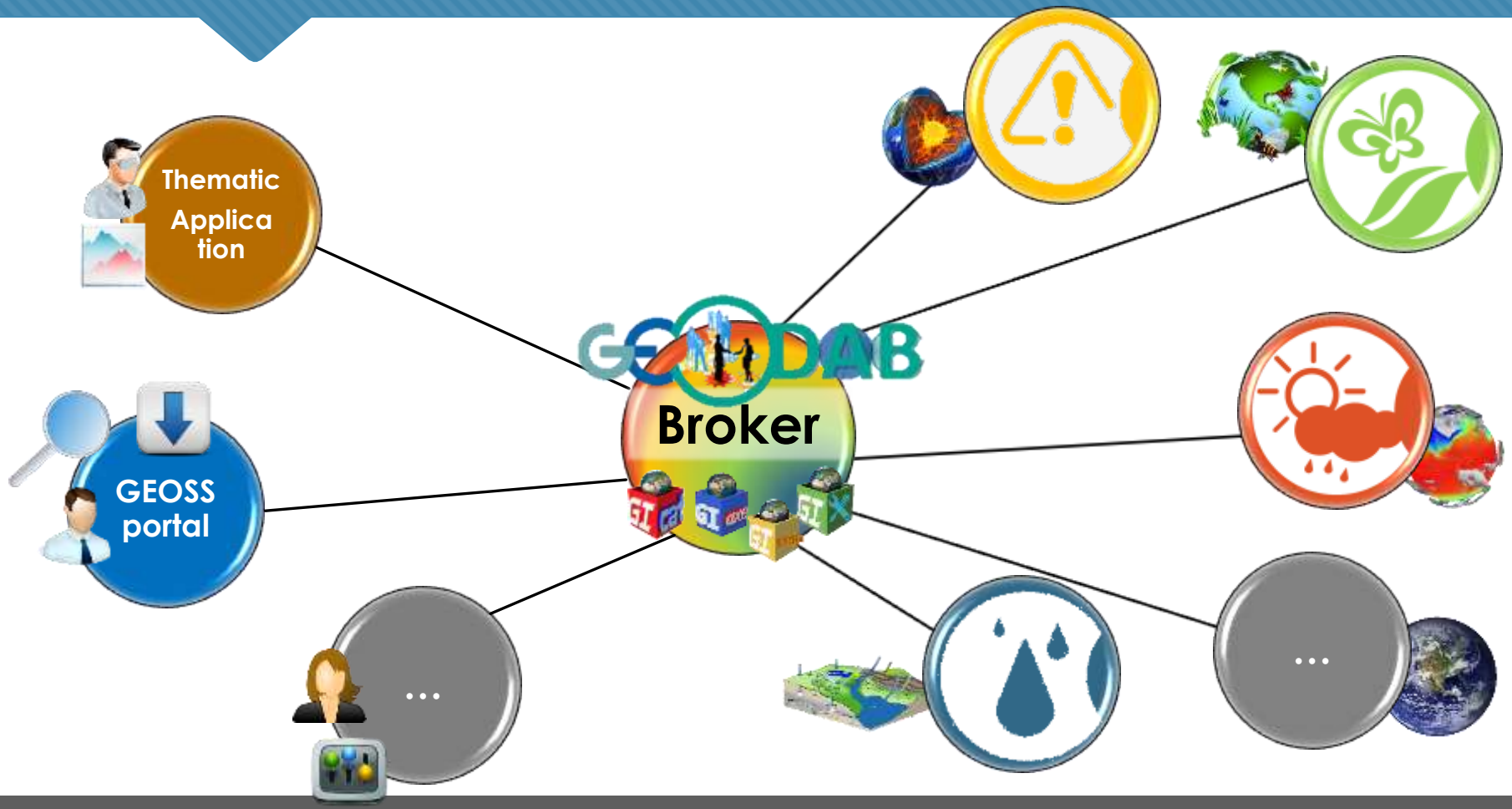
Brokering approach and technologies



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GEOSS Portal http://www.geoportal.org

Query constraints:

- **Text**
- **Theme**
- **Area**
- **Time**
- **Source**
- **Data access conditions**

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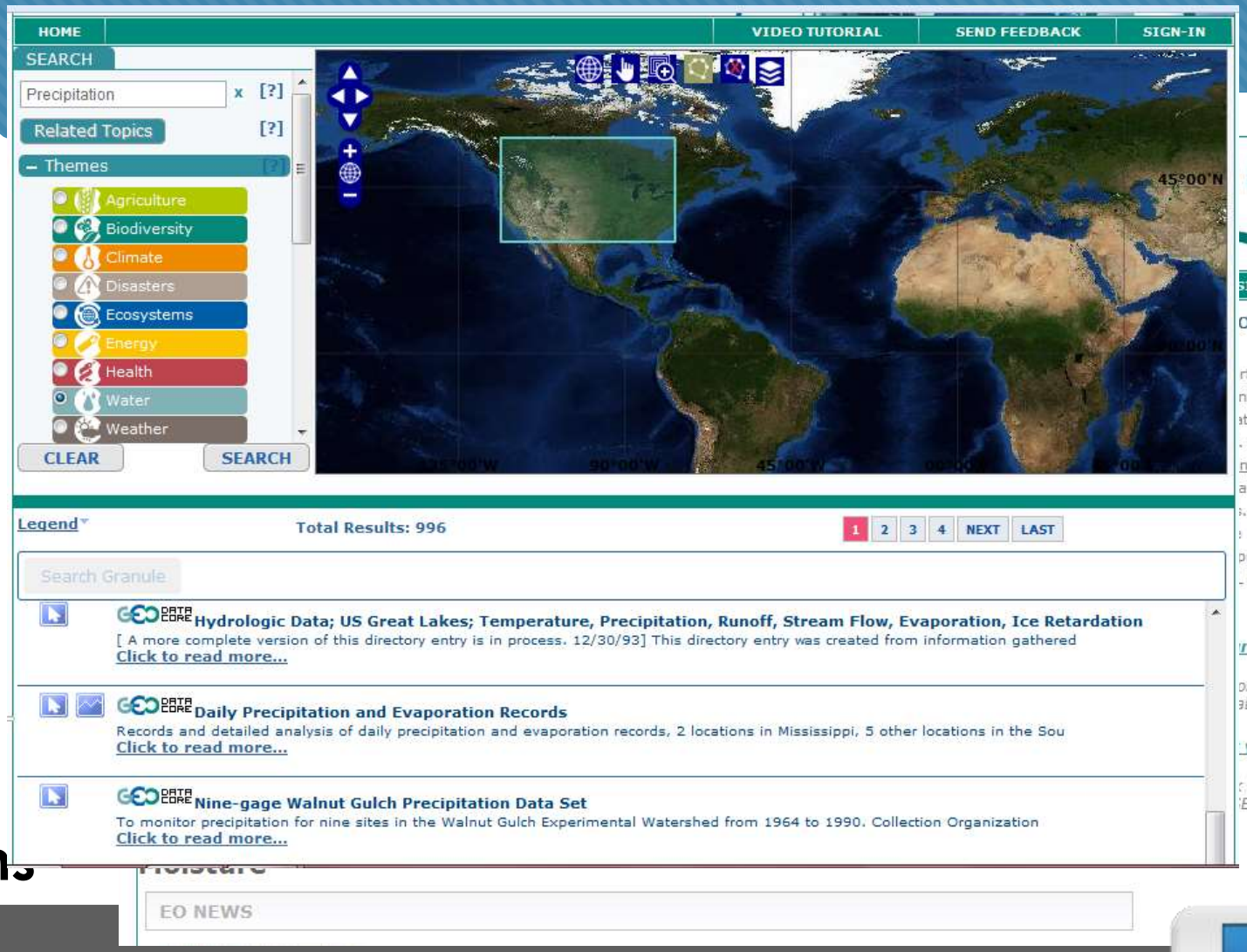

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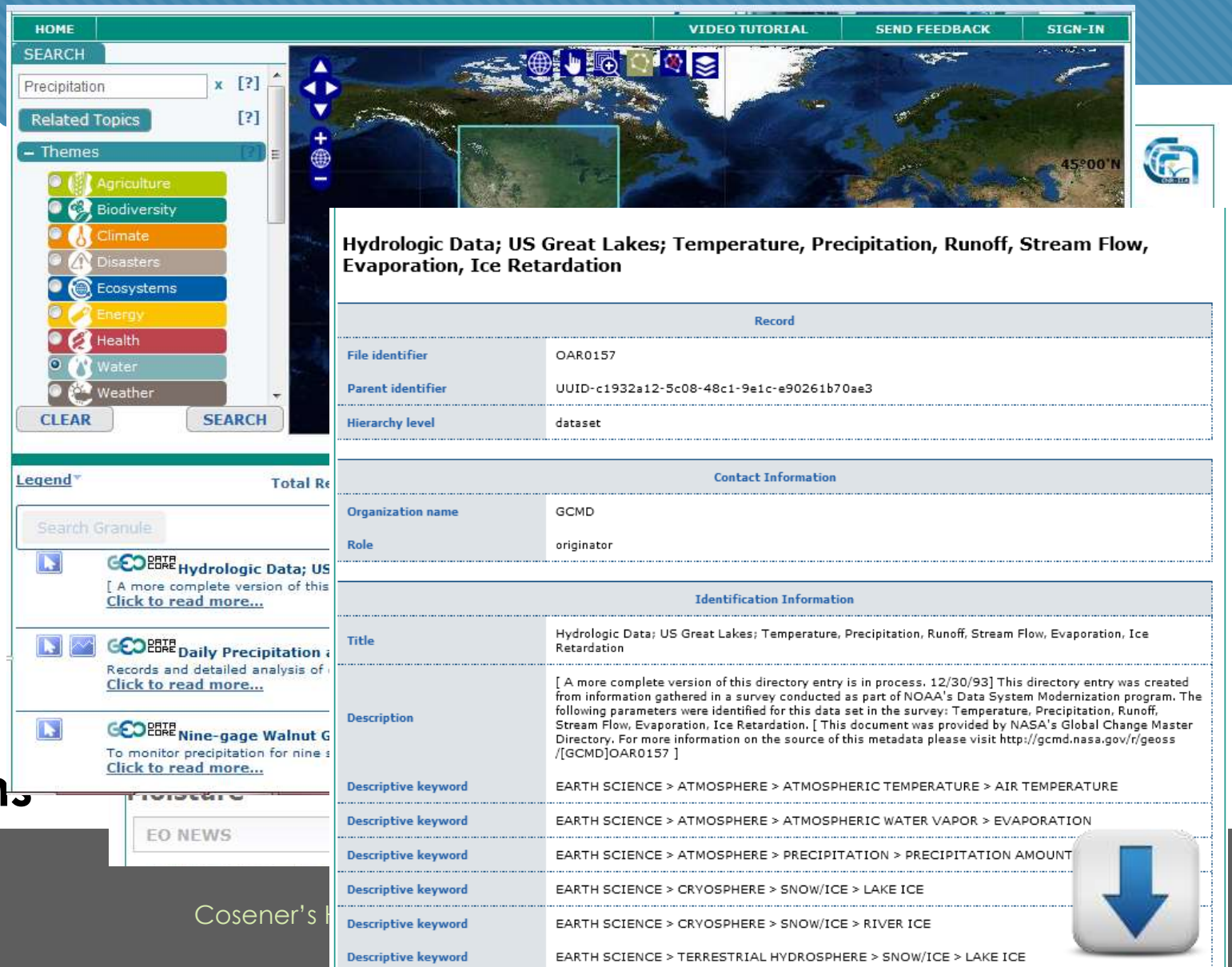

GEOSS statistics

- 36 Earth Science related Services (Catalogs, inventories, access services). E.g. NASA, SeaDataNet, Pangaea, National agencies, …
- Over 14 million datasets for search (and download where available)
- About 85 million granule datasets (e.g. Individual time series)
- Query statistics (e.g. Number of accesses

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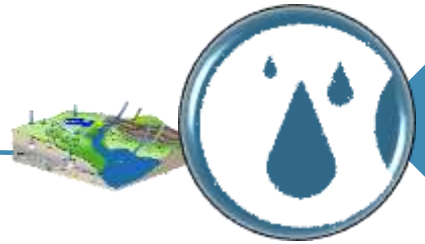
AIPs

Architecture Implementation Pilot (AIP)
AIP develops and pilots new process and infrastructure components for the GCI and the broader GEOSS architecture.



AIP-6/7 Water Services

"GEO intends by 2015 to produce comprehensive sets of data and information products to support decision making for efficient management of the world's water resources, based on coordinated, sustained observations of thewater cycle on multiple scales."

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AIP-7 GEOSS Water Services Team

BYU
BRIGHAM YOUNG UNIVERSITY

Dartmouth Flood Observatory

NASA
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Hydrological Sciences
Science Research Portal

CNR-IIA

THE UNIVERSITY OF TEXAS AT AUSTIN

Geoscience for a sustainable Earth
brgm

esri

GIS.FCU
GIS RESEARCH CENTER, FCU

ECMWF

horizons
regional council

NIWA
Taihoro Nukurangi

WATERINFO.be
Portal of the Flemish Water managers

CUAHSI
universities allied for water research

GloFAS
Global Flood Awareness System

European Commission
Joint Research Centre
Institute for Environment and Sustainability

KISTERS
Pioneering Technologies.

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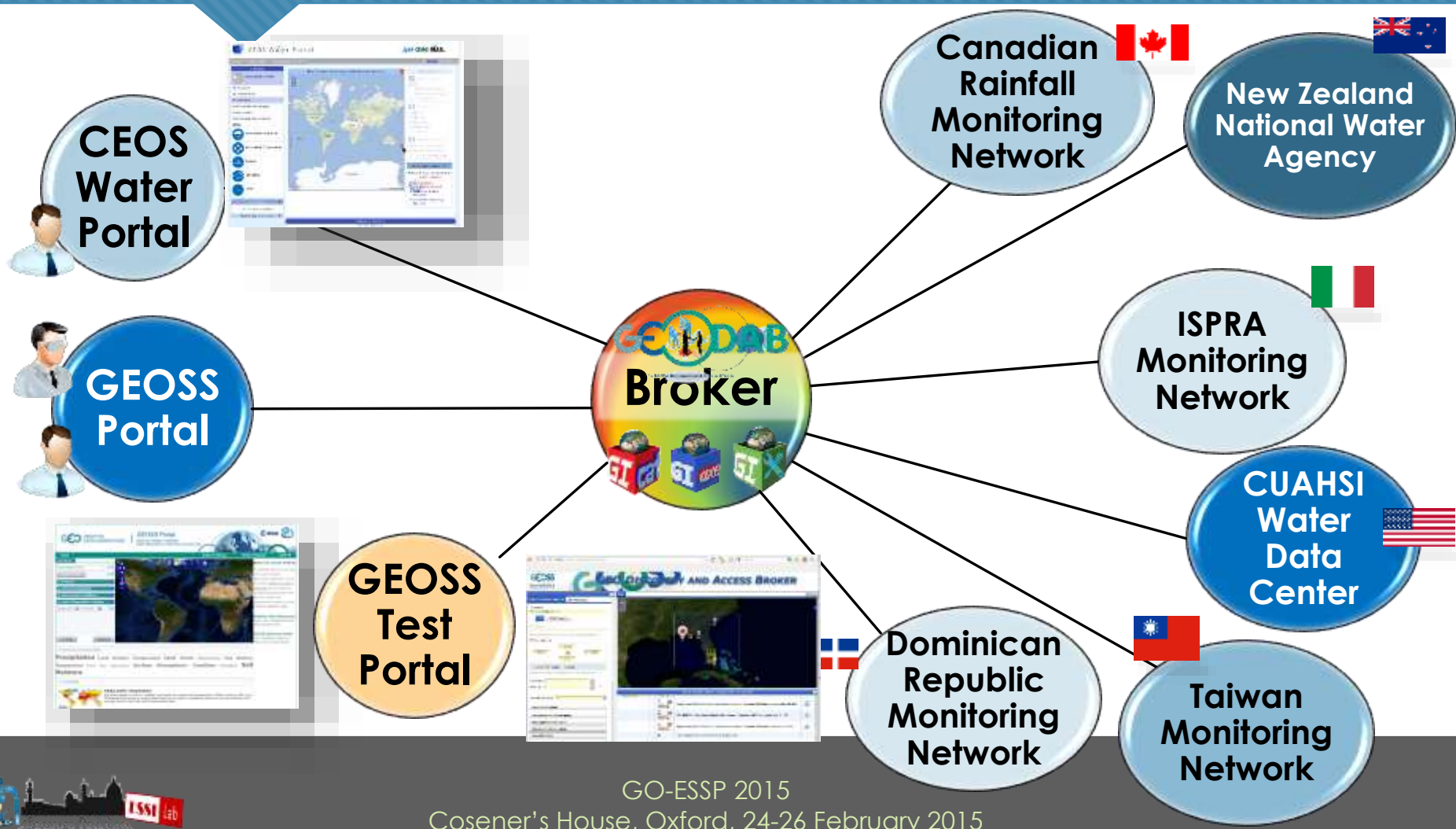
AIP-6/7 Water services



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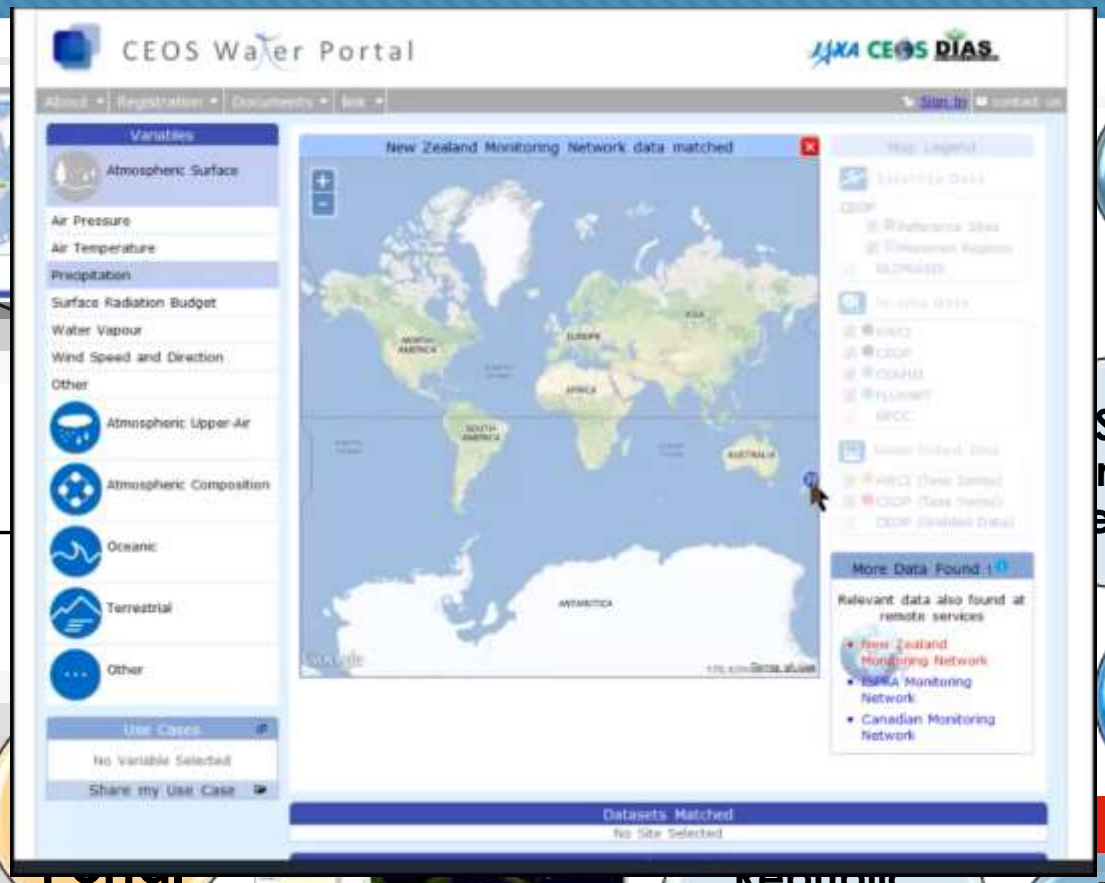
AIP-6/7 Water services

CEOS Water Portal

GEOSS Portal



New Zealand National Water Agency

SPRA
nitoring
etwork

CUAHSI Water Data Center

Republic Monitoring Network

Taiwan Monitoring Network

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AIP-6/7 Water services

CEOS Water Portal

GEOSS Portal

New Zealand National Water Agency

RA oring vork

CUAHSI Water Data Center

iwan nitoring Network

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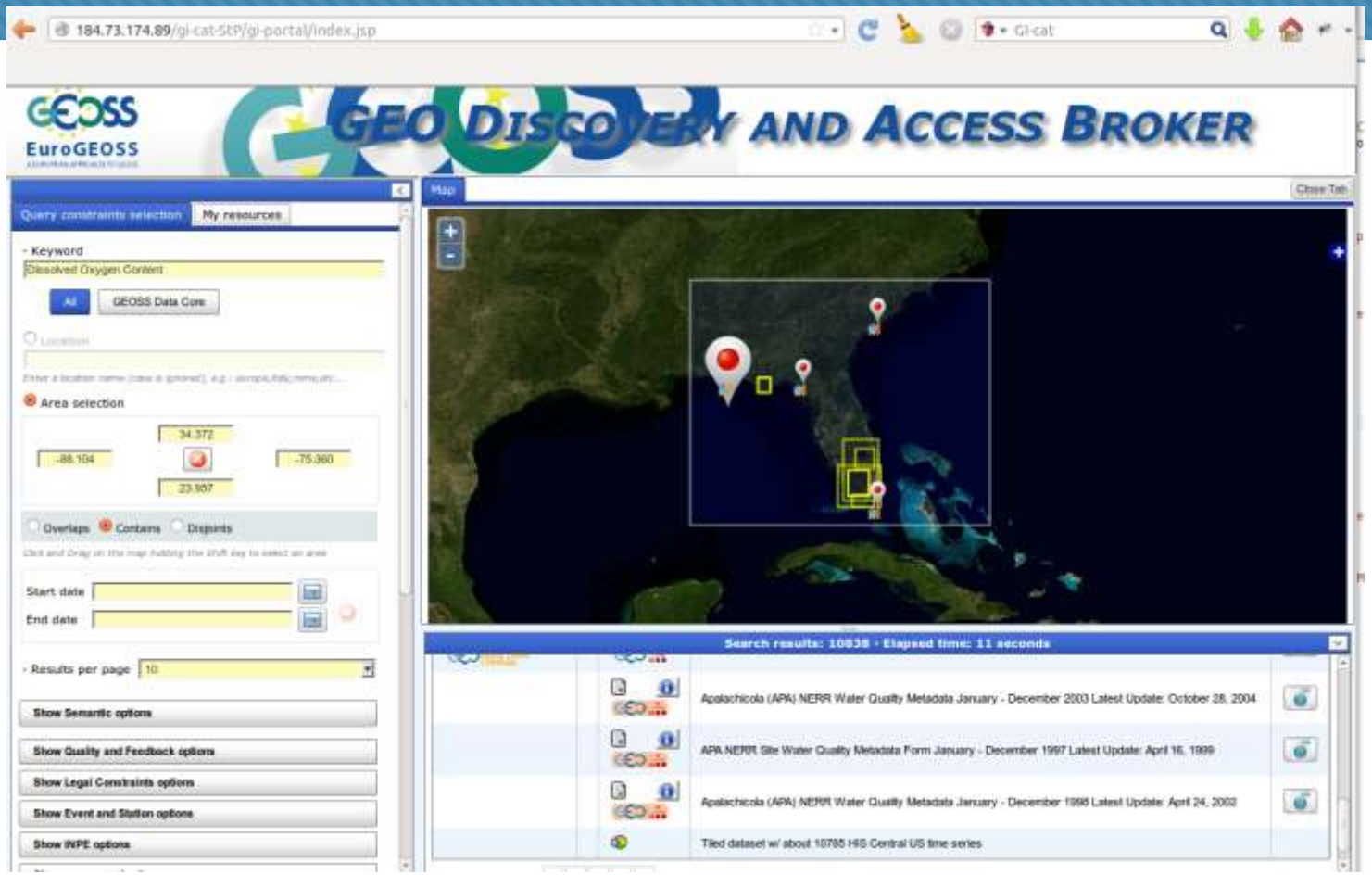
GEOSS test portal



CUAHSI Water Data Center

WaterML2.0

CUAHSI HIS
Sharing hydrologic data

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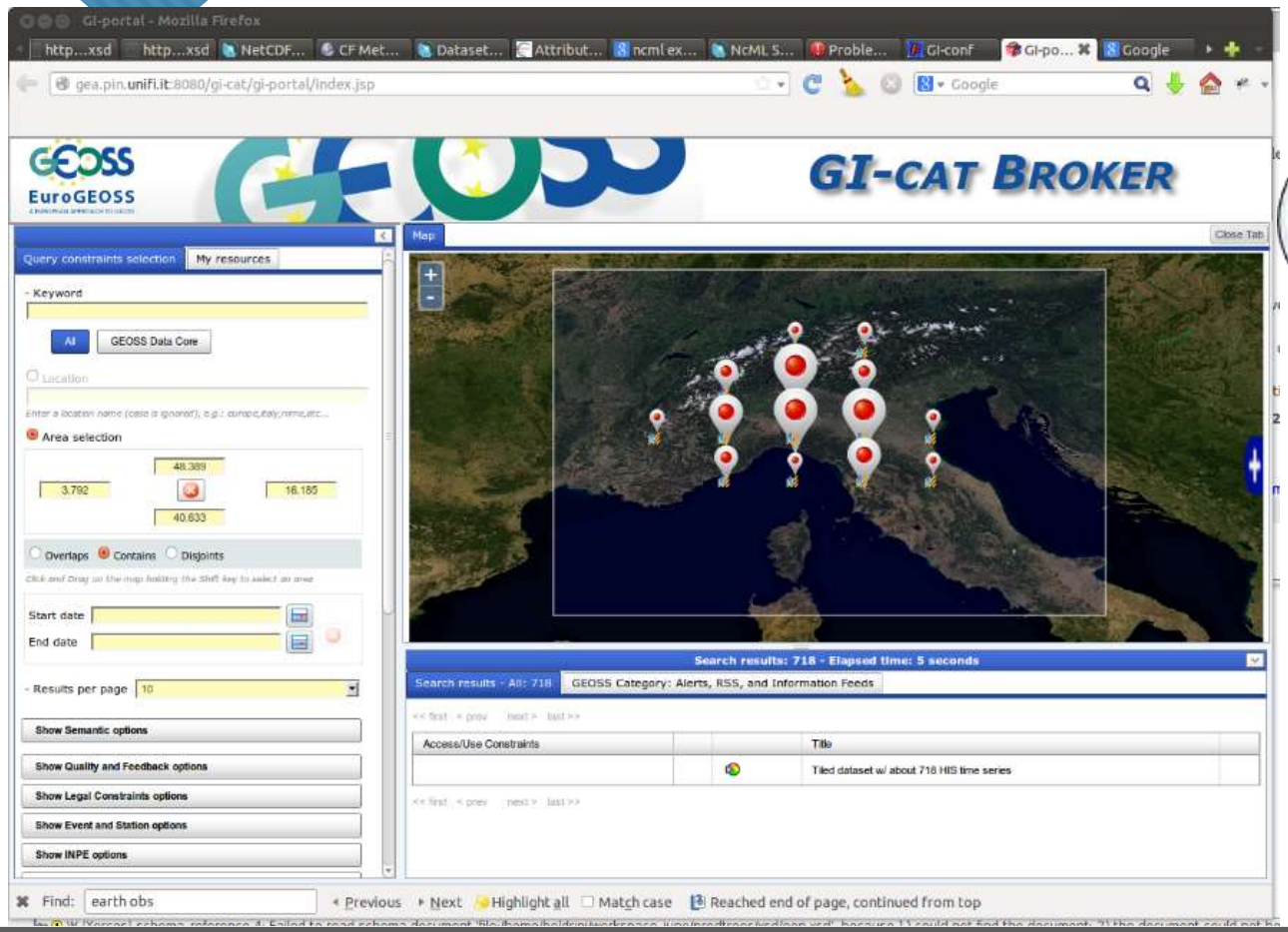
GEOSS test portal



ISPRA Monitoring Network

WaterML2.0

Based on:

CUAHSI HIS
Sharing hydrologic data

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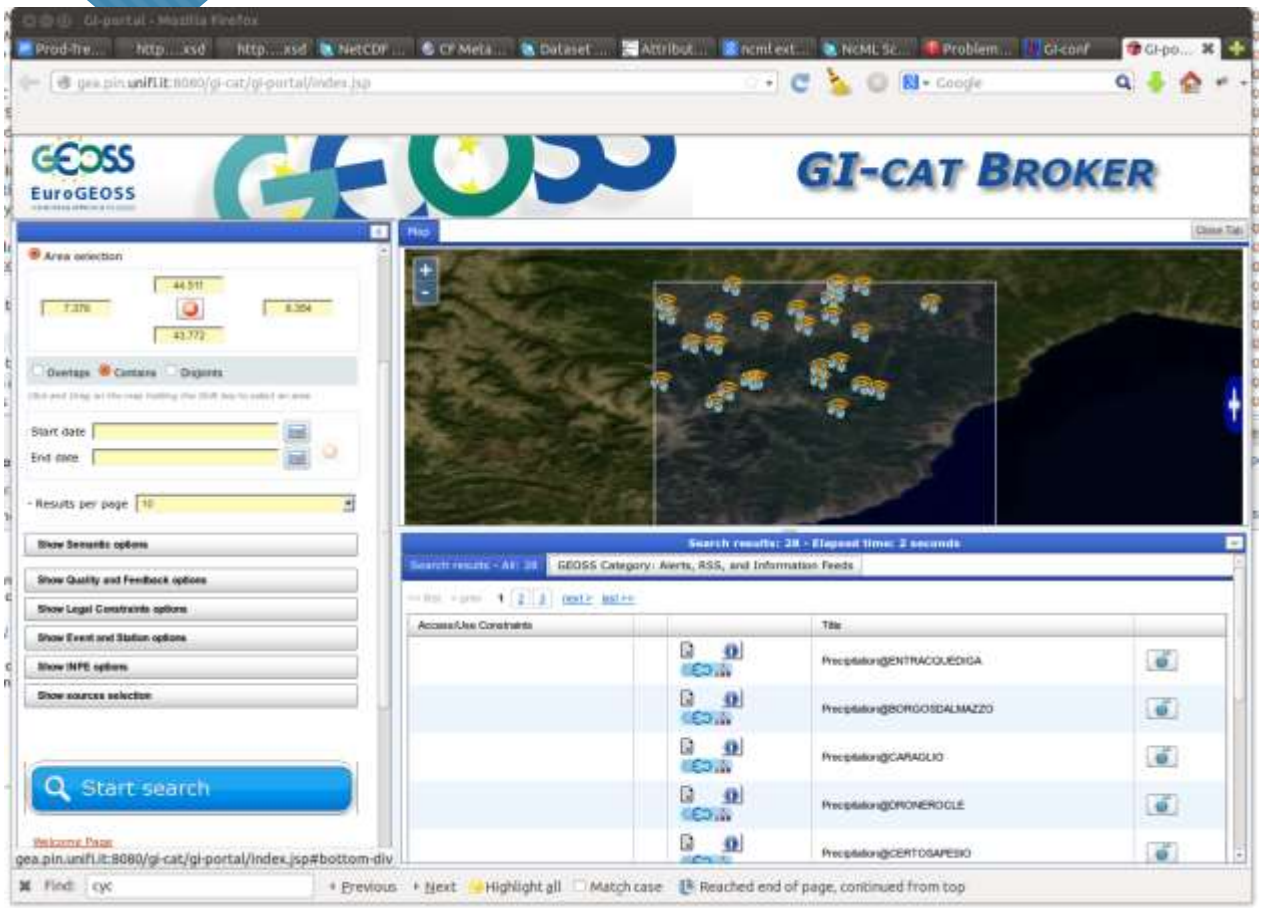
GEOSS test portal



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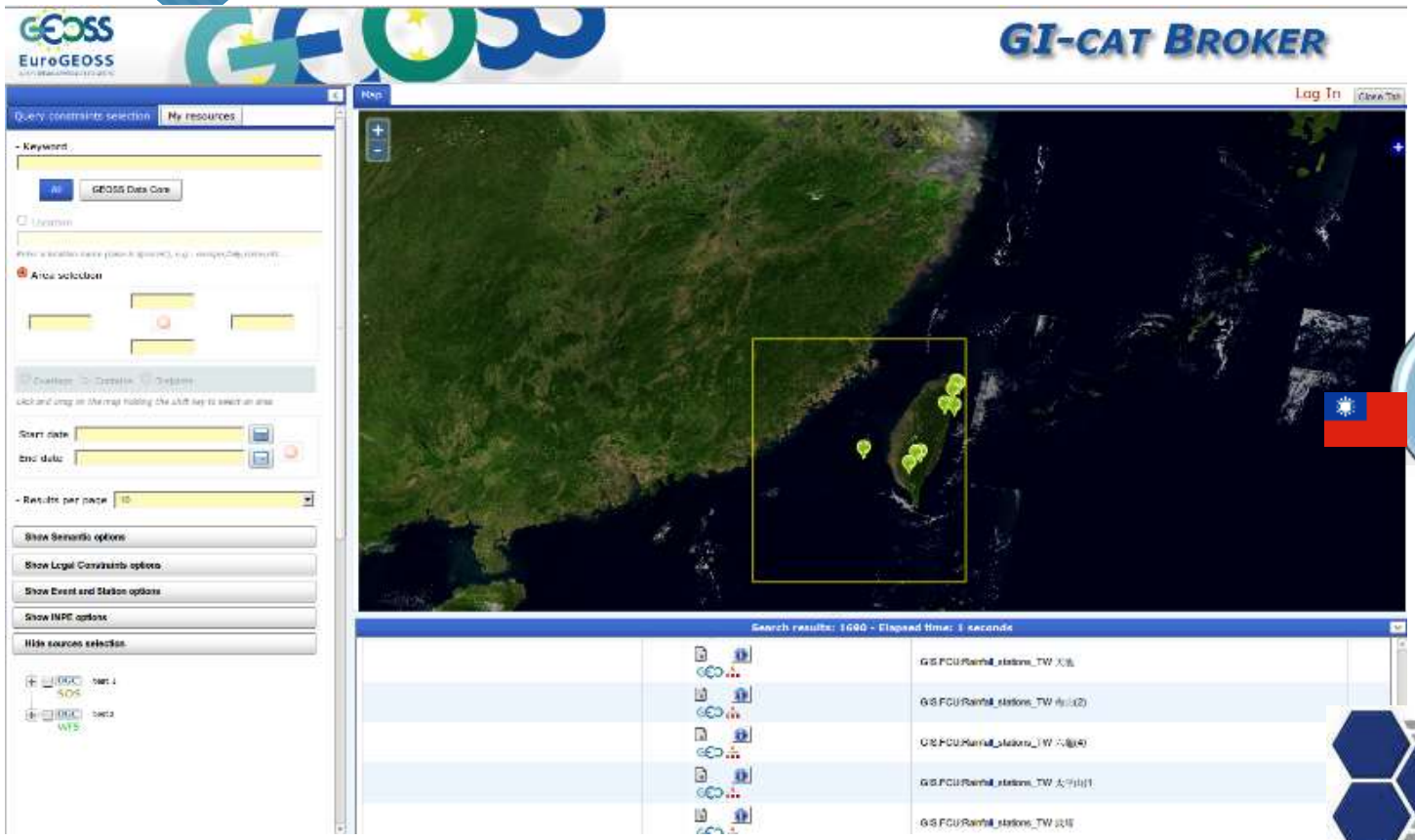

Taiwan Monitoring Network

OGC®
Making location count.

WFS

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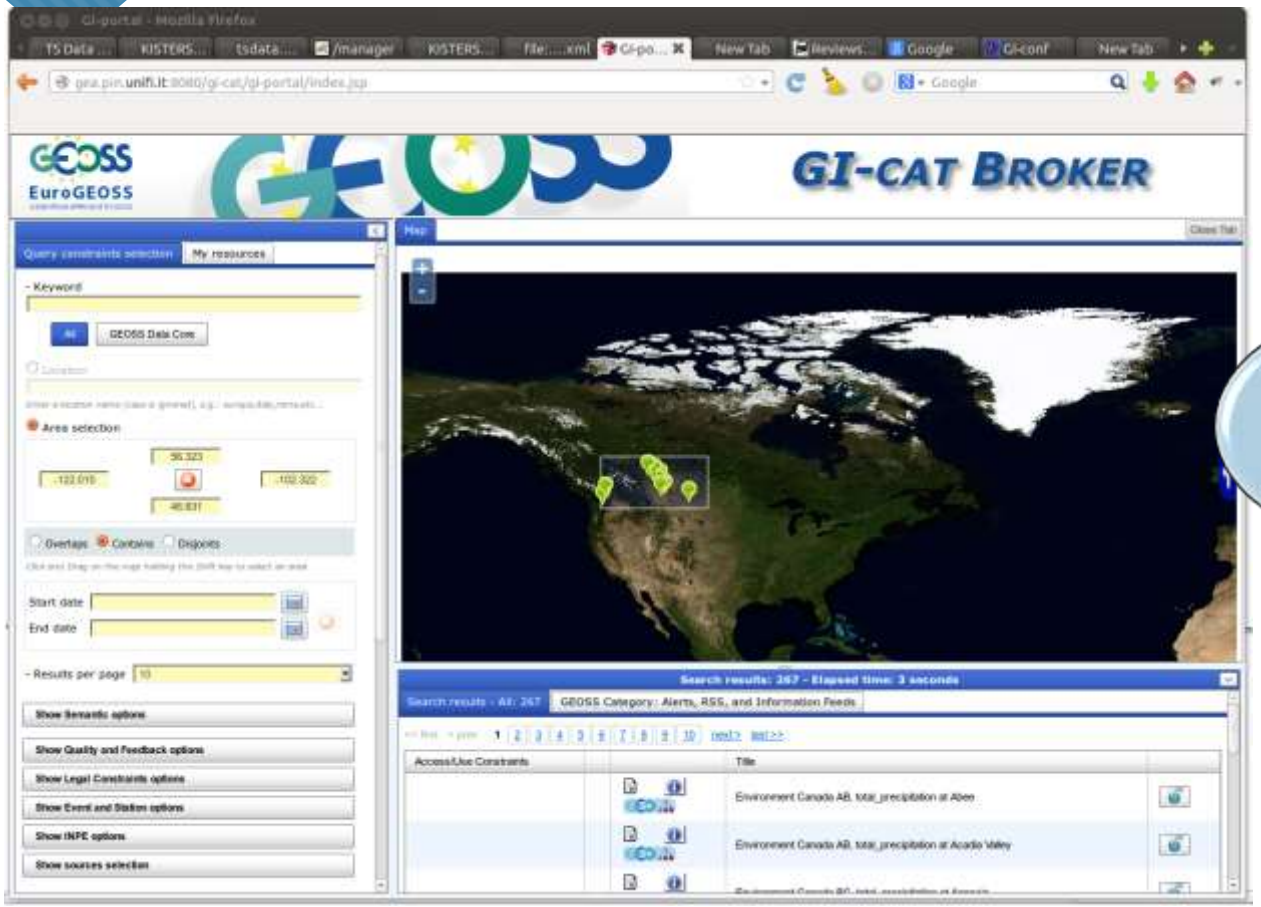
GEOSS test portal



Canadian Rainfall Monitoring Network

KISTERS
Pioneering Technologies.

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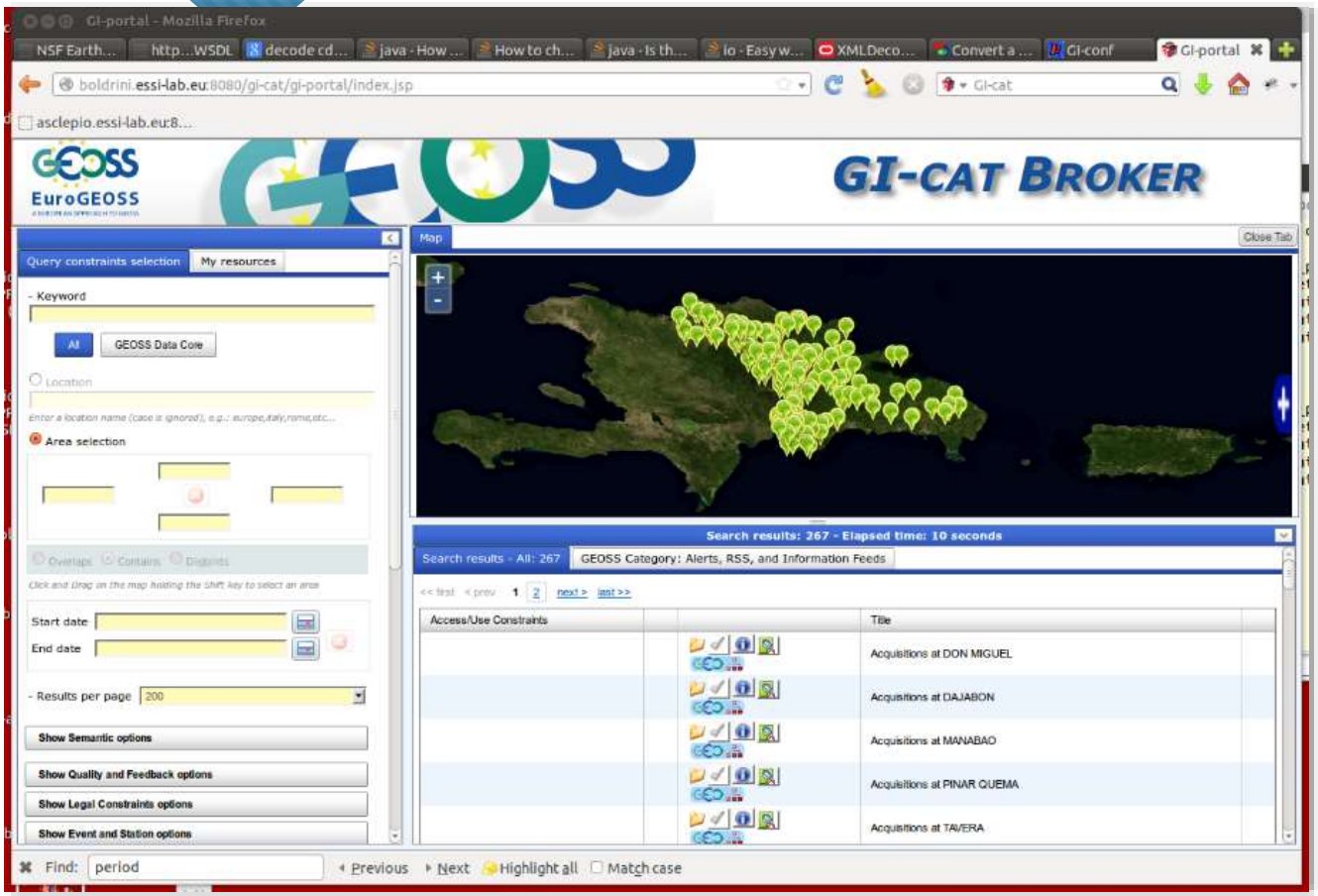
GEOSS test portal



Dominican Republic Monitoring Network

WaterML2.0

CUAHSI HIS
Sharing hydrologic data

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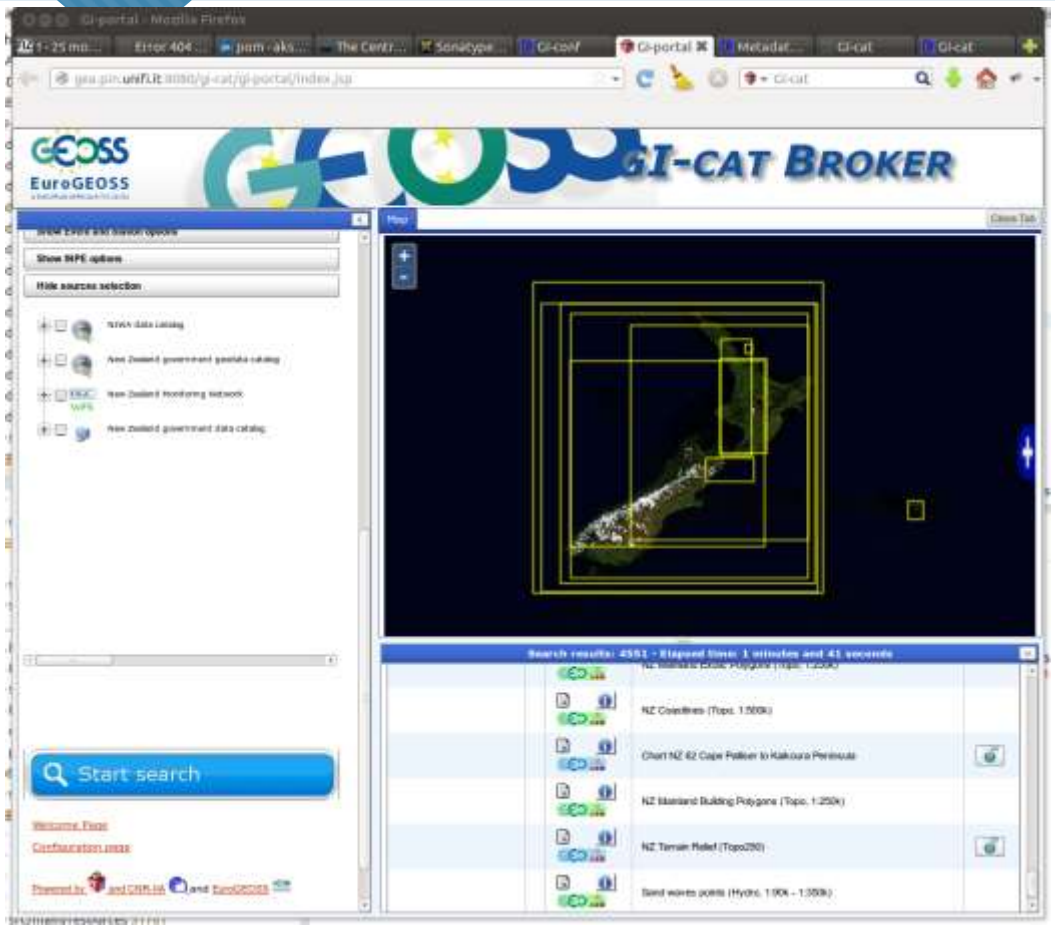
GEOSS test portal



New Zealand National Water Agency

GeoNetwork Opensource

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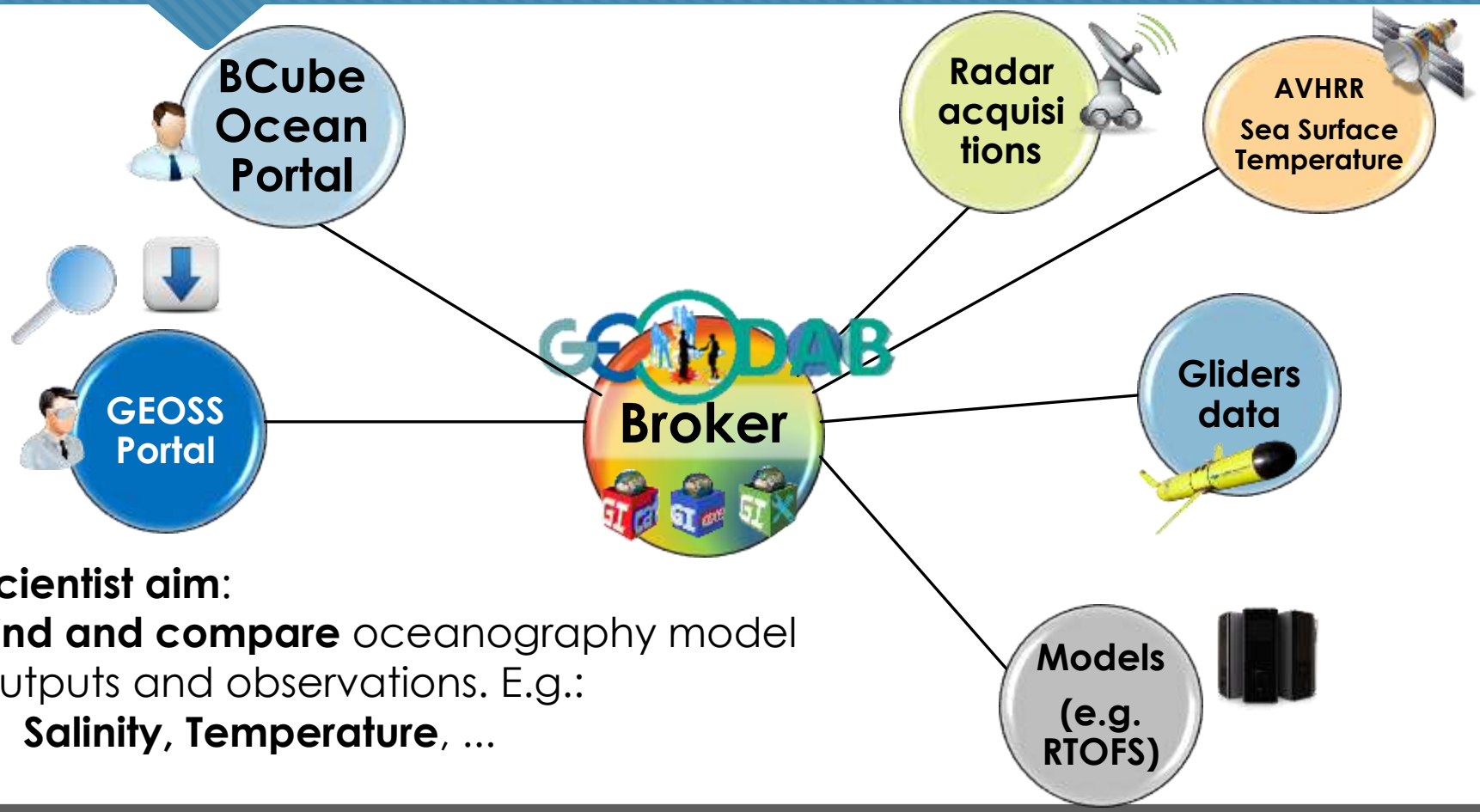
Oceanography use case



Scientist aim:
Find and compare oceanography model outputs and observations. E.g.:
- **Salinity, Temperature**, ...

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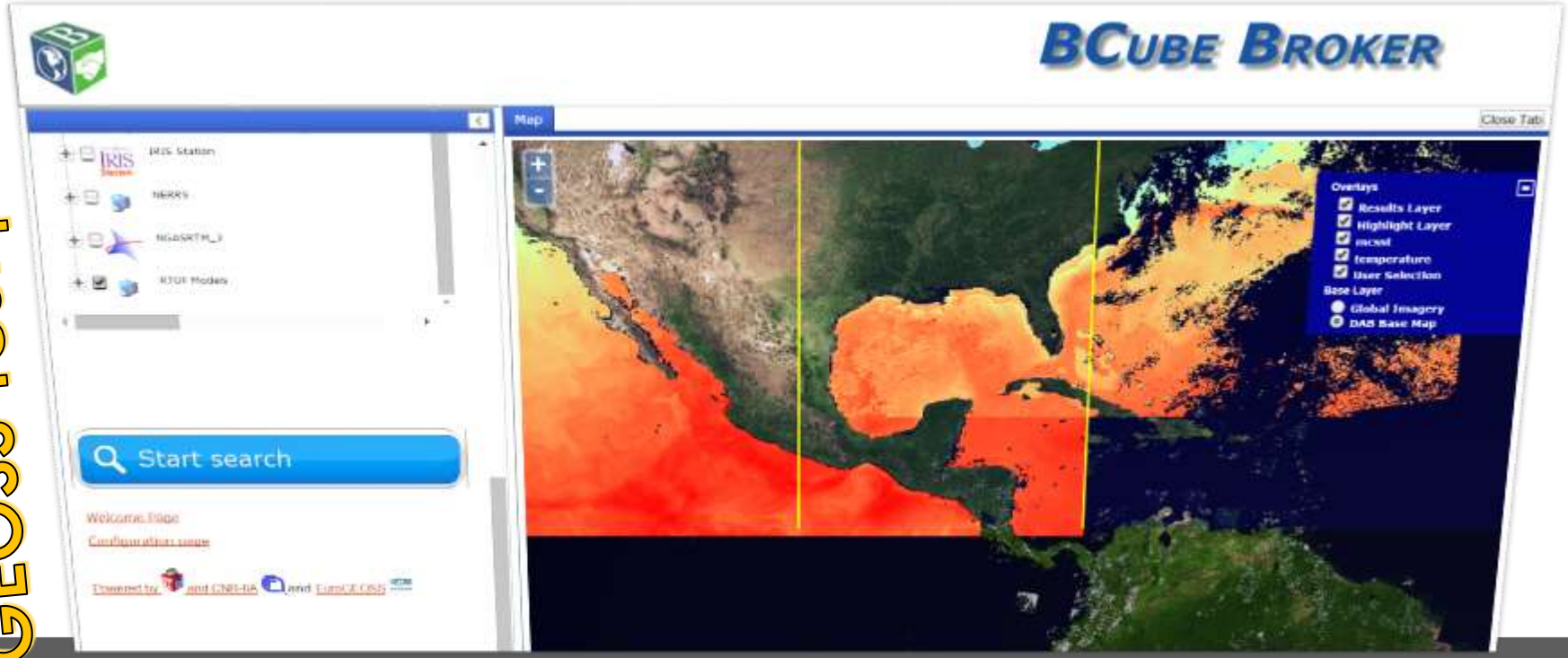
Oceanography use case

Searching and Comparing Sea Water Temperature data:

- Model output
- Observations

GEOSS Test portal



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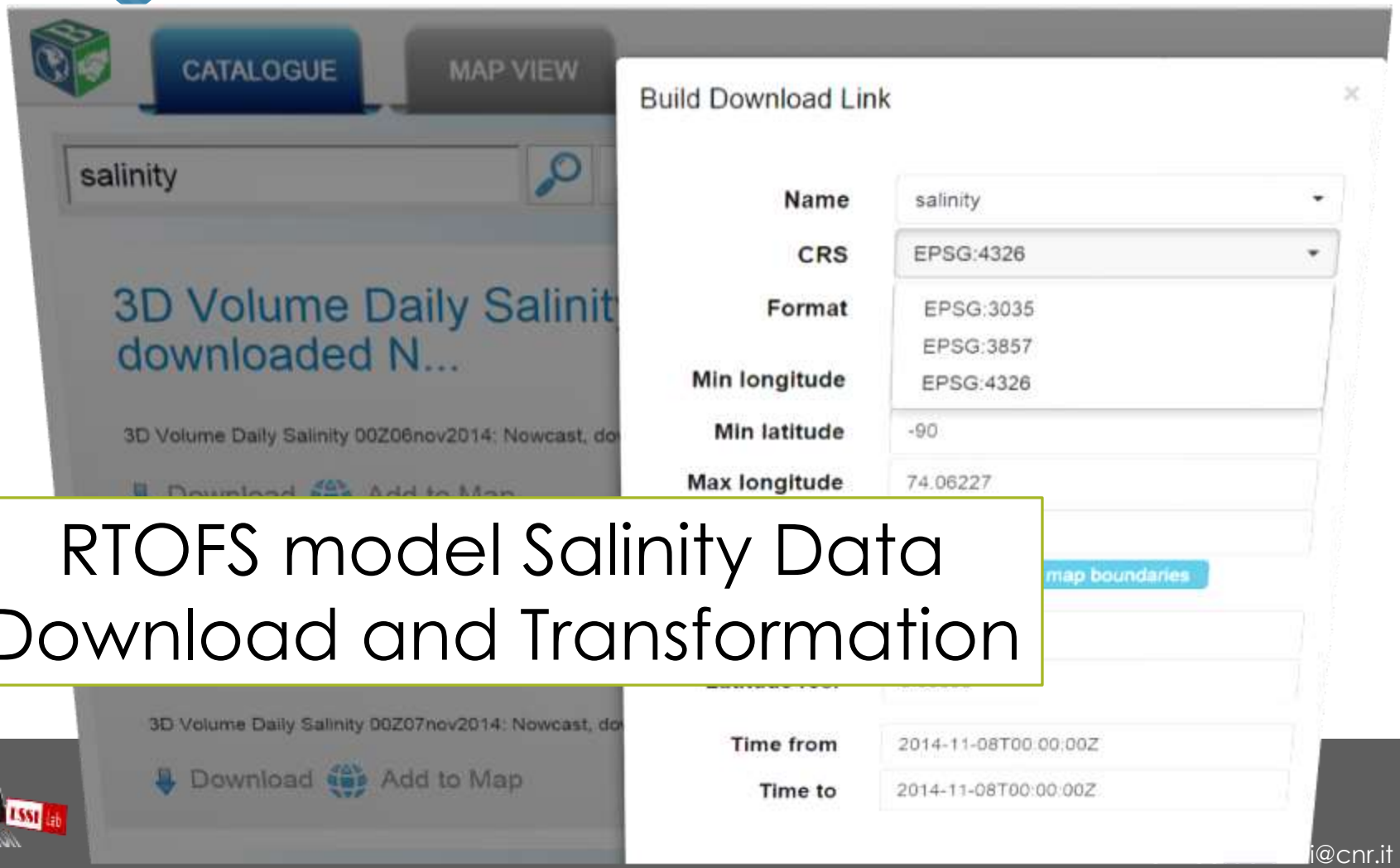
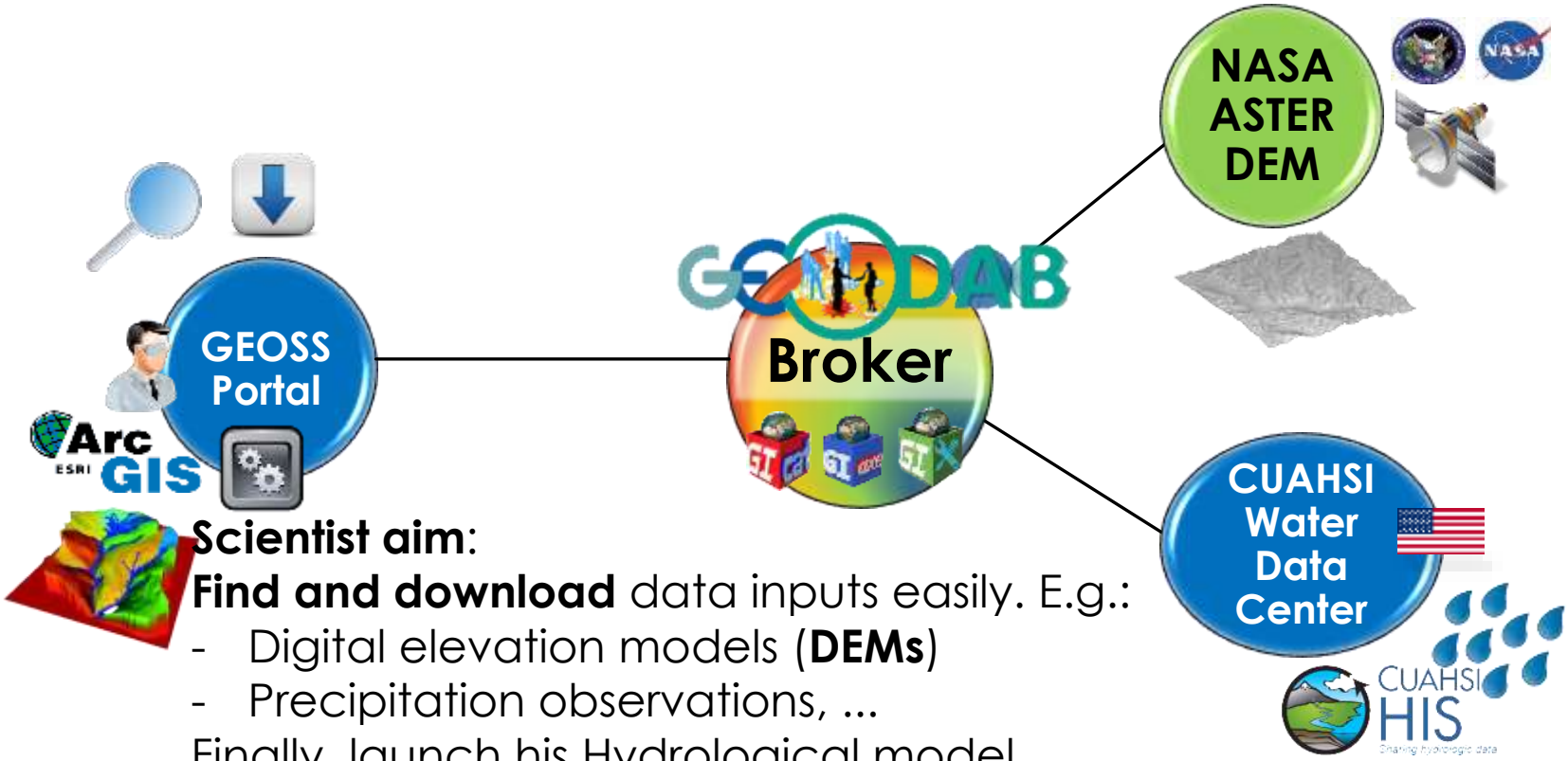
Oceanography use case

BCube Ocean Portal



RTOFS model Salinity Data Download and Transformation

Hydrology use case



Scientist aim:

Find and download data inputs easily. E.g.:

- Digital elevation models (**DEMs**)
- Precipitation observations, ...

Finally, launch his Hydrological model.

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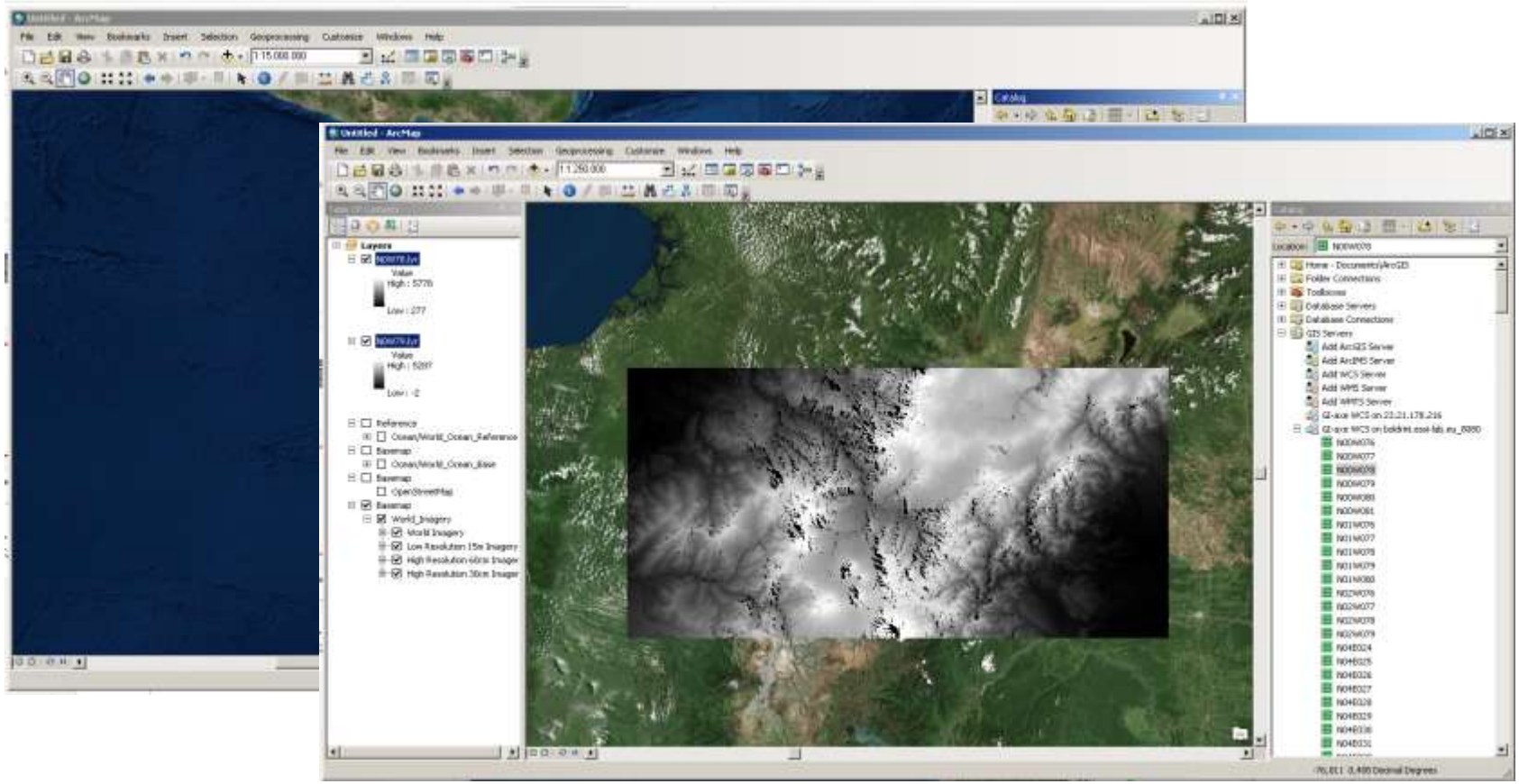
Brokered datasets imported in ArcGIS



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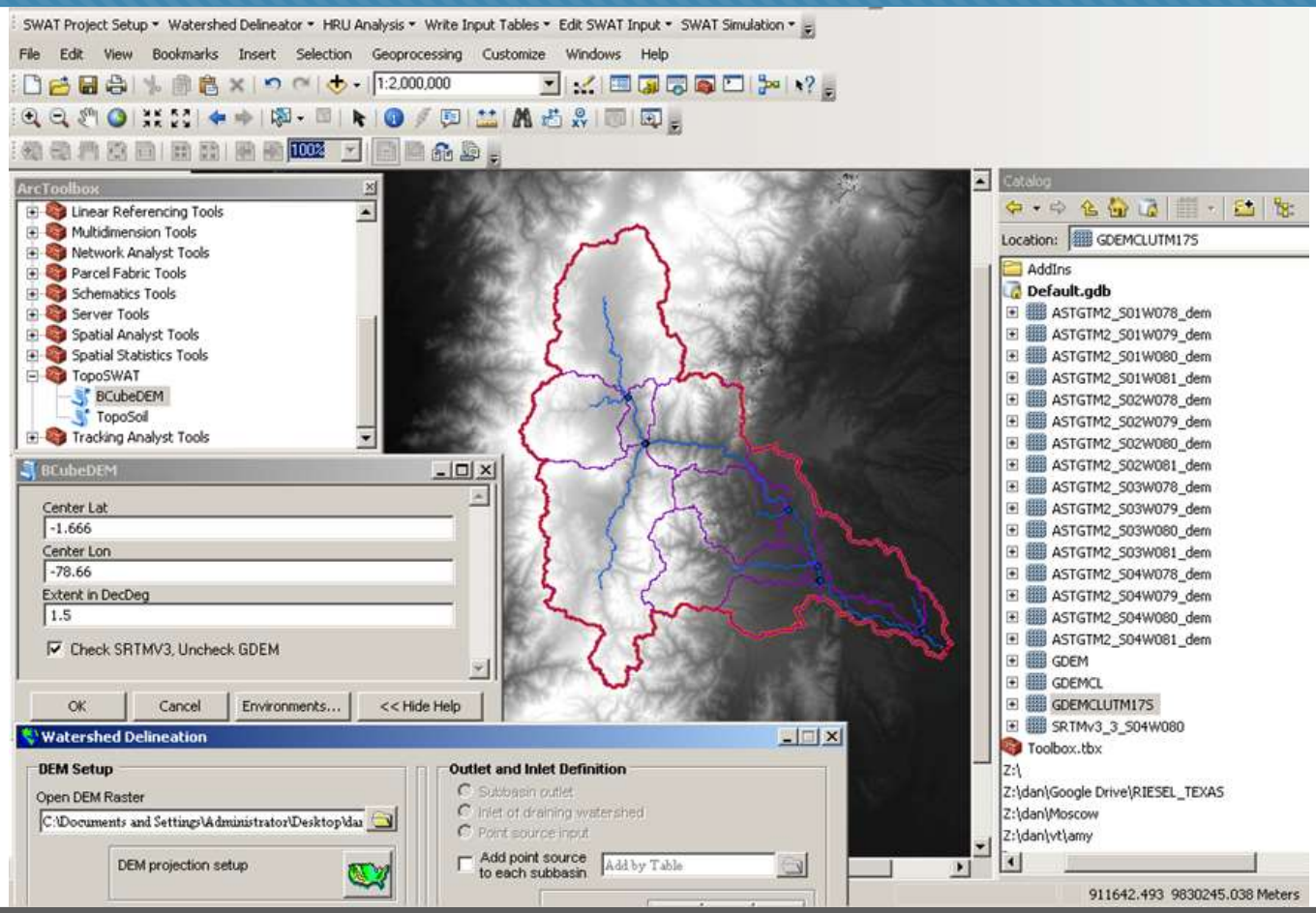
Hydrological model output



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Thank you!

Questions?

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