



## Next Data

Scientific Committee Meeting  
03-04 June 2014  
CNR, Piazzale Aldo Moro (Rome)



# WP2.7

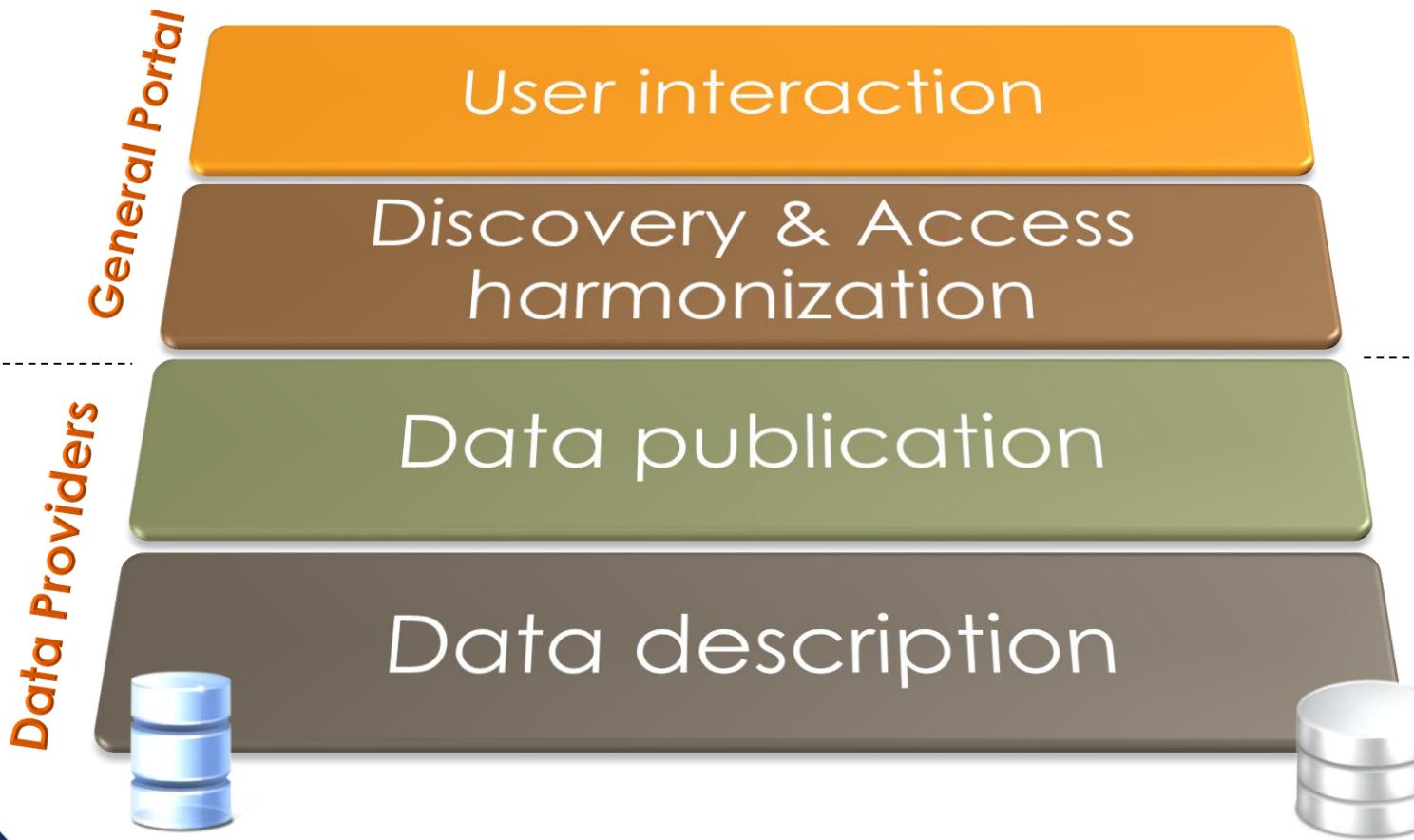
## Il Portale Generale di NextData

Stefano Nativi (CNR-IIA)

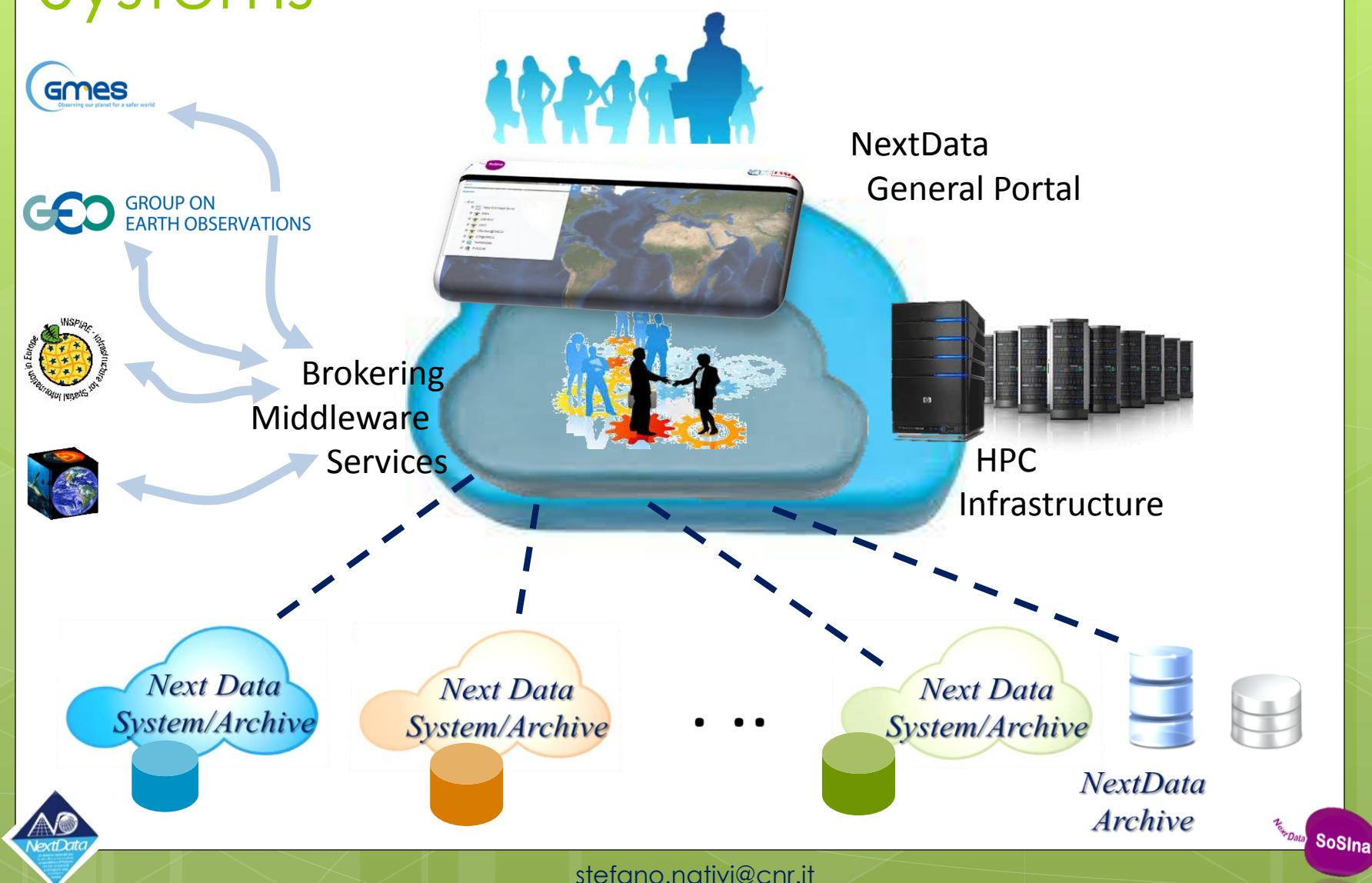
# Objective

- Design and development of the Next Data **General Portal** –and hence of its **Digital Infrastructure**
  - for the **publication and sharing of databases and archives** generated during the project
  - for the **interoperability with international programmes** –e.g. GEOSS, INSPIRE, Copernicus, Earth Cube, ESFRI, etc.

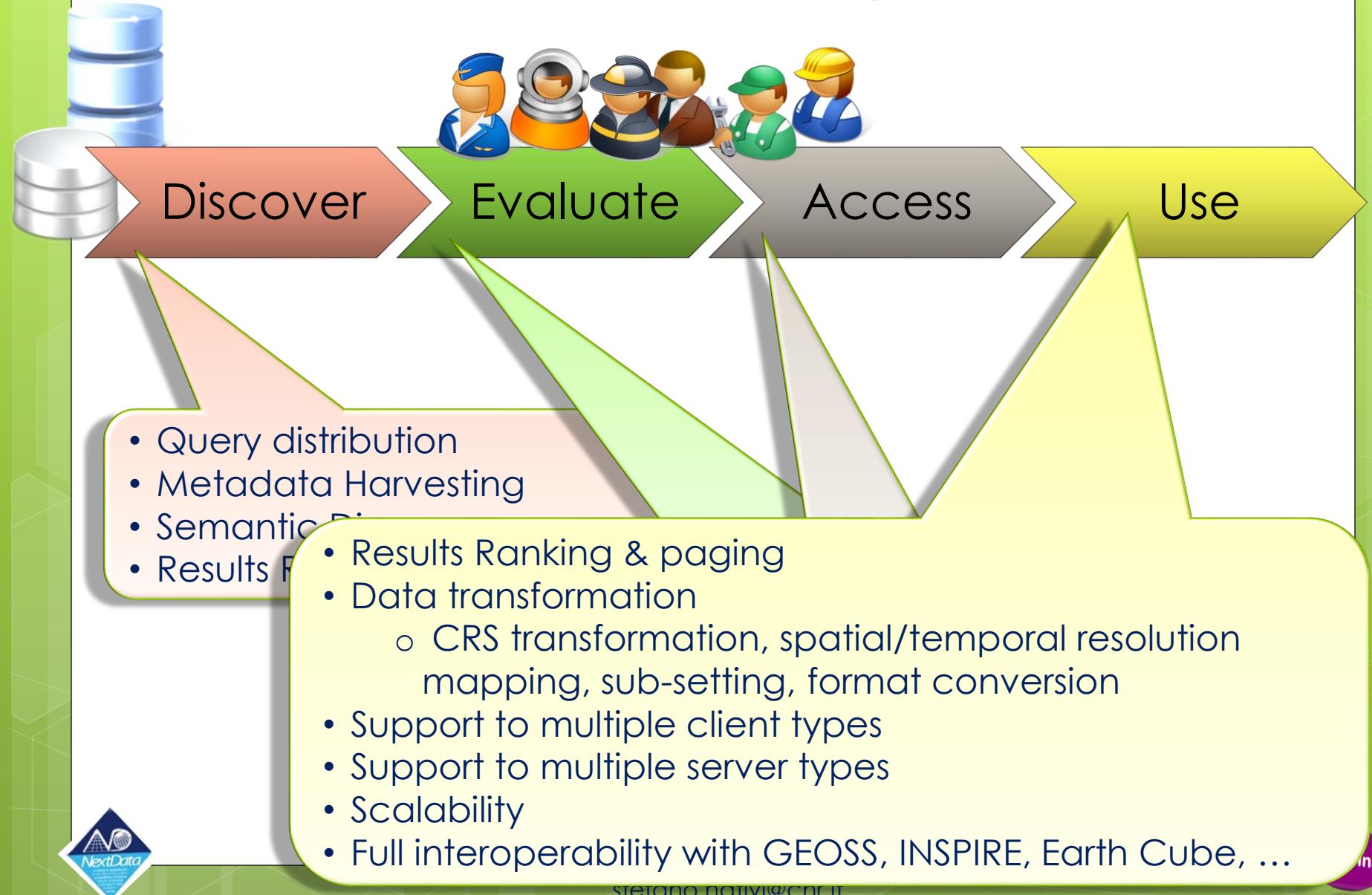
# Services architecture



# Systems Architecture: System of Systems



# Capabilities



# SoSIna Deliverables

- (D1.1) **Detailed Project plan**
- (D1.4) **Project Web site** (<http://essi-lab.eu/nextdata/sosina/>)
- (D2.1 and D2.2)  
**System Requirements and Interoperability Architecture**
- (D2.3 and D4.1)  
**Web Portal General Architecture and Test Infrastructure**

# Current prototype

Starting date: October 2013



# Brokered Systems

- ENEA UTMEA
- CNR-ISAC
- CMCC
- CNR-ISAC @CINECA
- ICTP @CINECA
- TestMetadata
- EVK2CNR
- NASA SVS Imagery

THREDDS Data Server  
WAF  
OGC CSW/GeoNetwork  
OGC WMS

## 13891 dataset



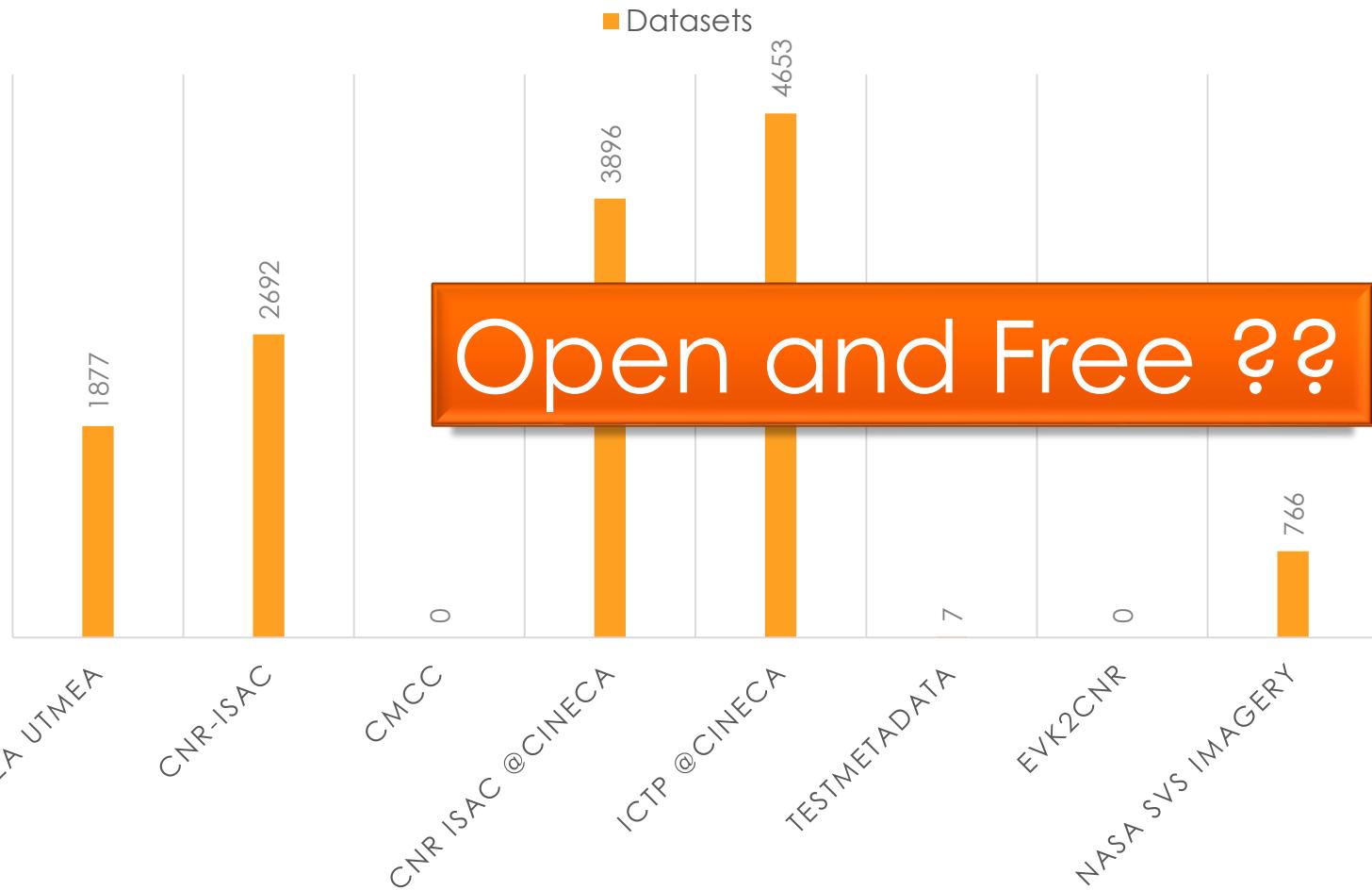


NextData



# Current Assets

## NEXTDATA ASSETS



# Online monitoring report



Date 2014-05-29

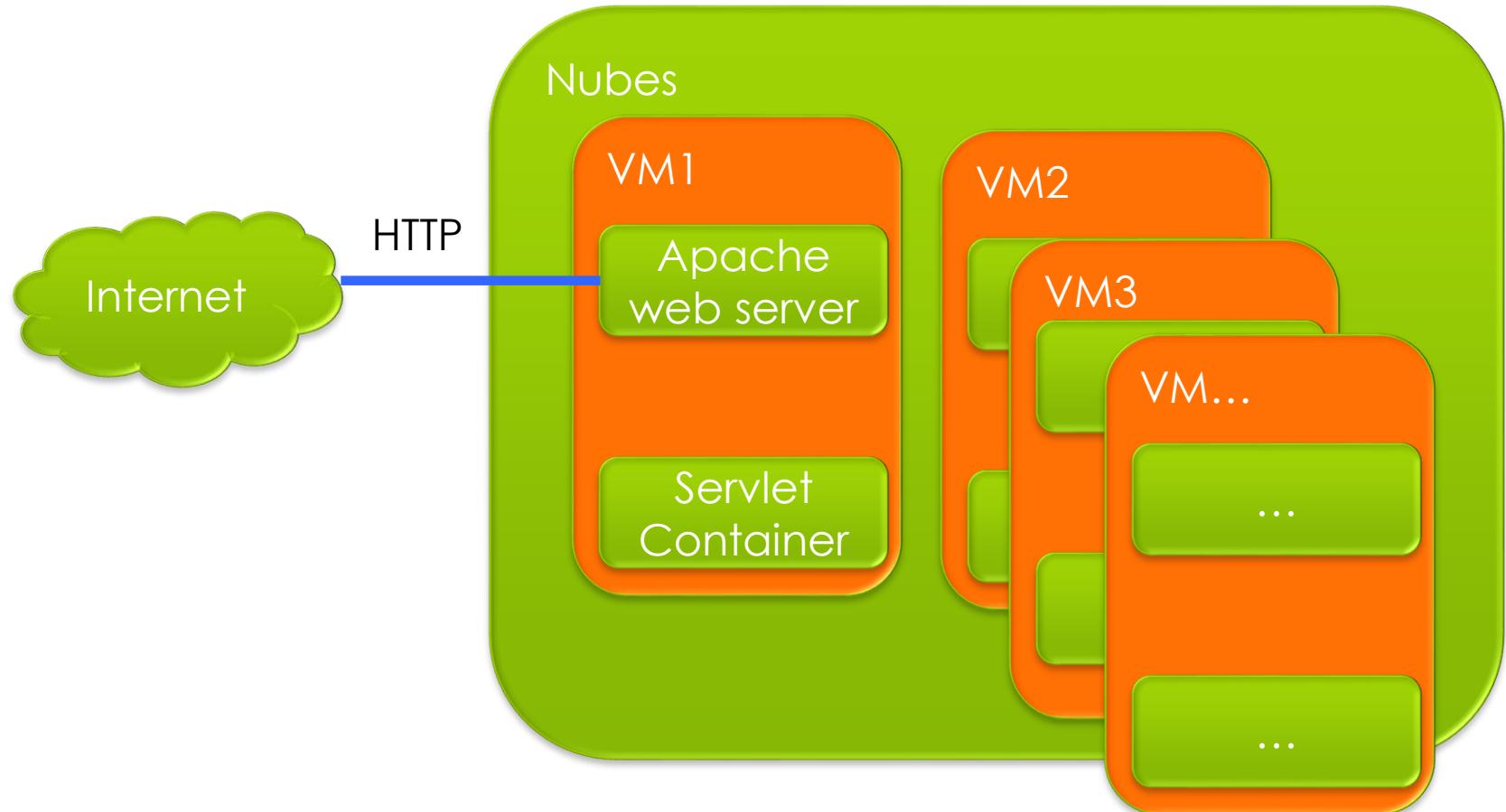


<http://essi-lab.eu/nextdatareport/NEXT- DATA-Report-2014-05-29.htm>

# HPC Infrastructure



## Cloud Test Infrastructure

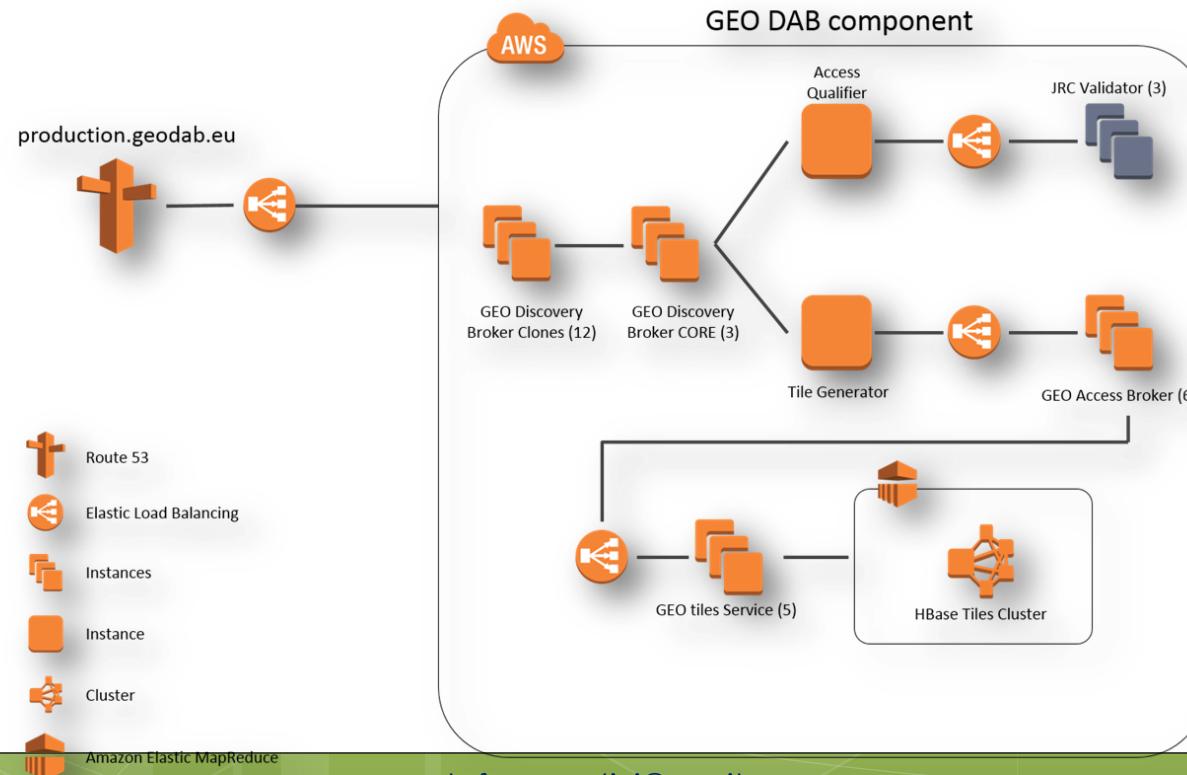


Nubes is a Cloud Computing IaaS (Infrastructure as a Service) based on OpenStack.

# Data discovery & Access Harmonization services



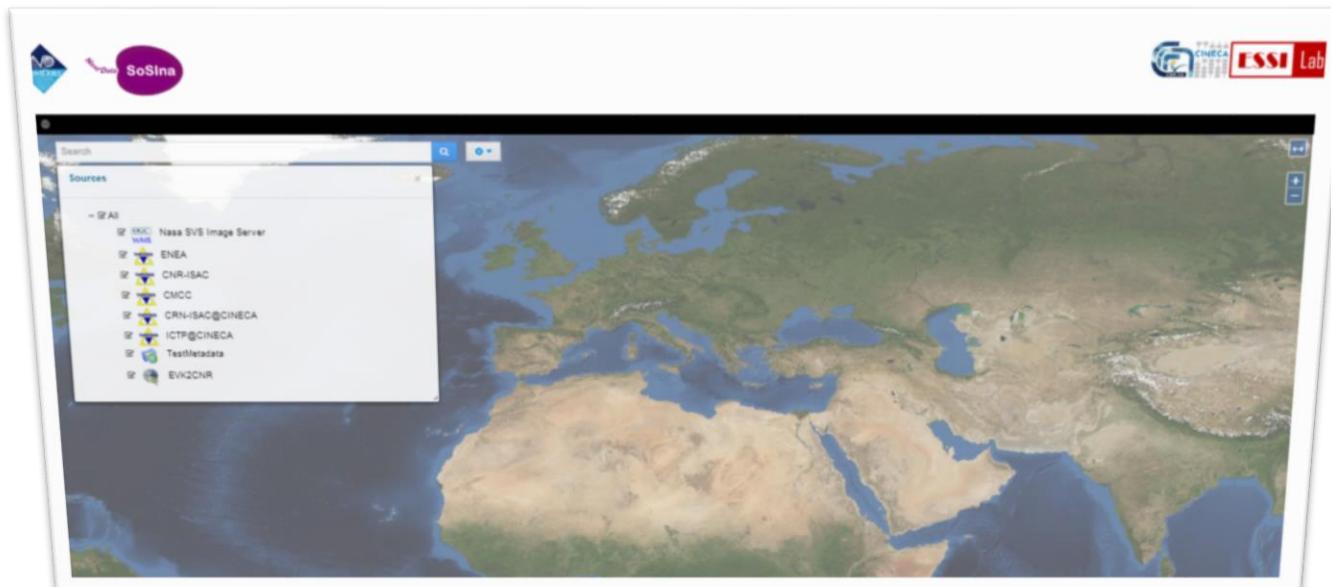
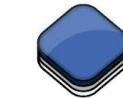
- **Brokering framework** used by GEOSS and Earth Cube.
- empowered by **GI-cat** and **GI-axe** of CNR



# Web Portal



- Based on OpenLayer3
- Liferay
- Makes use of GEO APIs

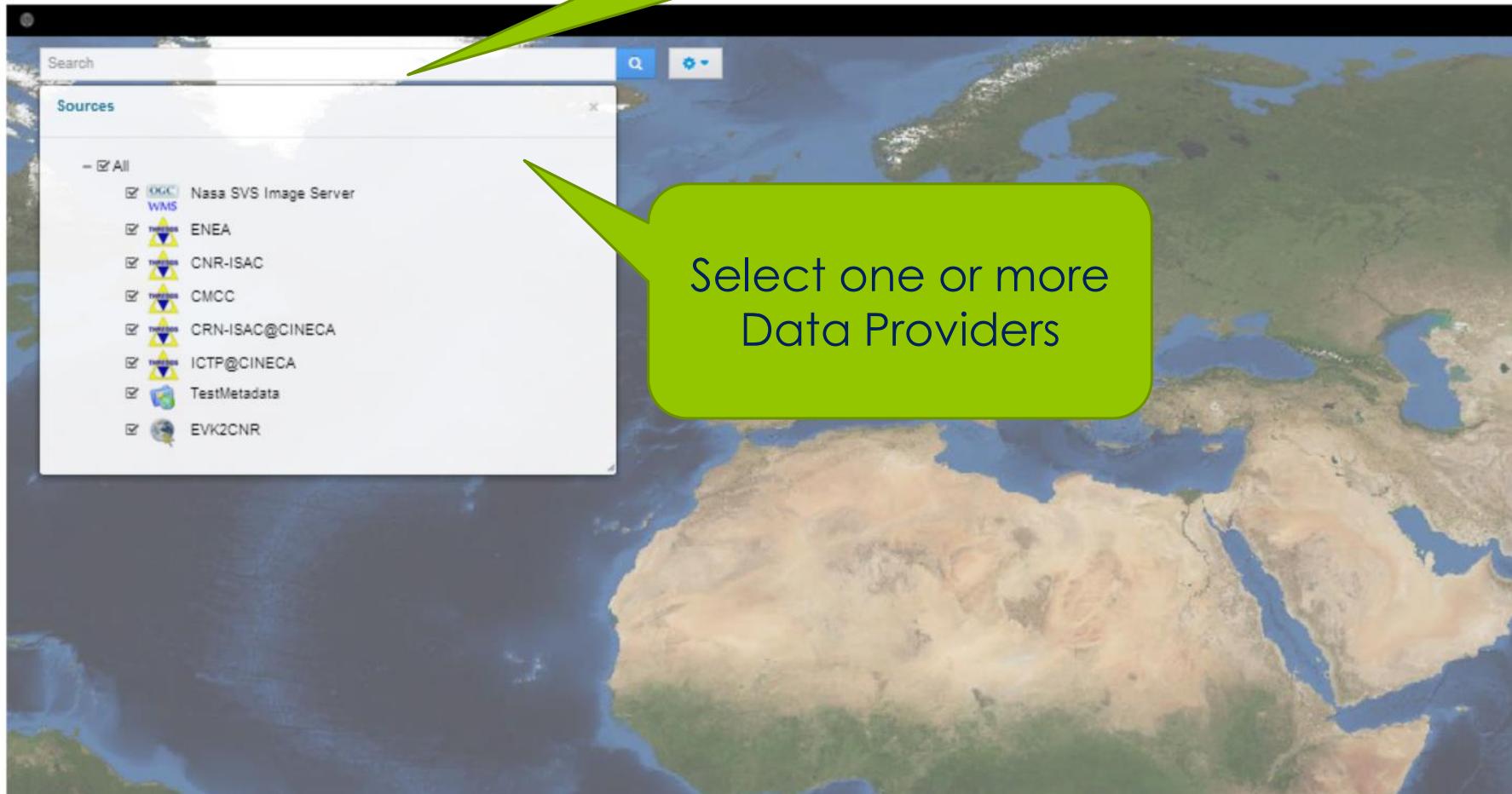


A screenshot of a web-based geospatial portal. The main view shows a satellite map of Europe and North Africa. On the left, there is a sidebar titled "Sources" with a search bar at the top. The list of sources includes:

- All
  - Nasa SVS Image Server
  - ENEA
  - CNR-ISAC
  - CMCC
  - CRN-ISAC@CINECA
  - ICTP@CINECA
  - TestMetadata
  - EVK2CNR



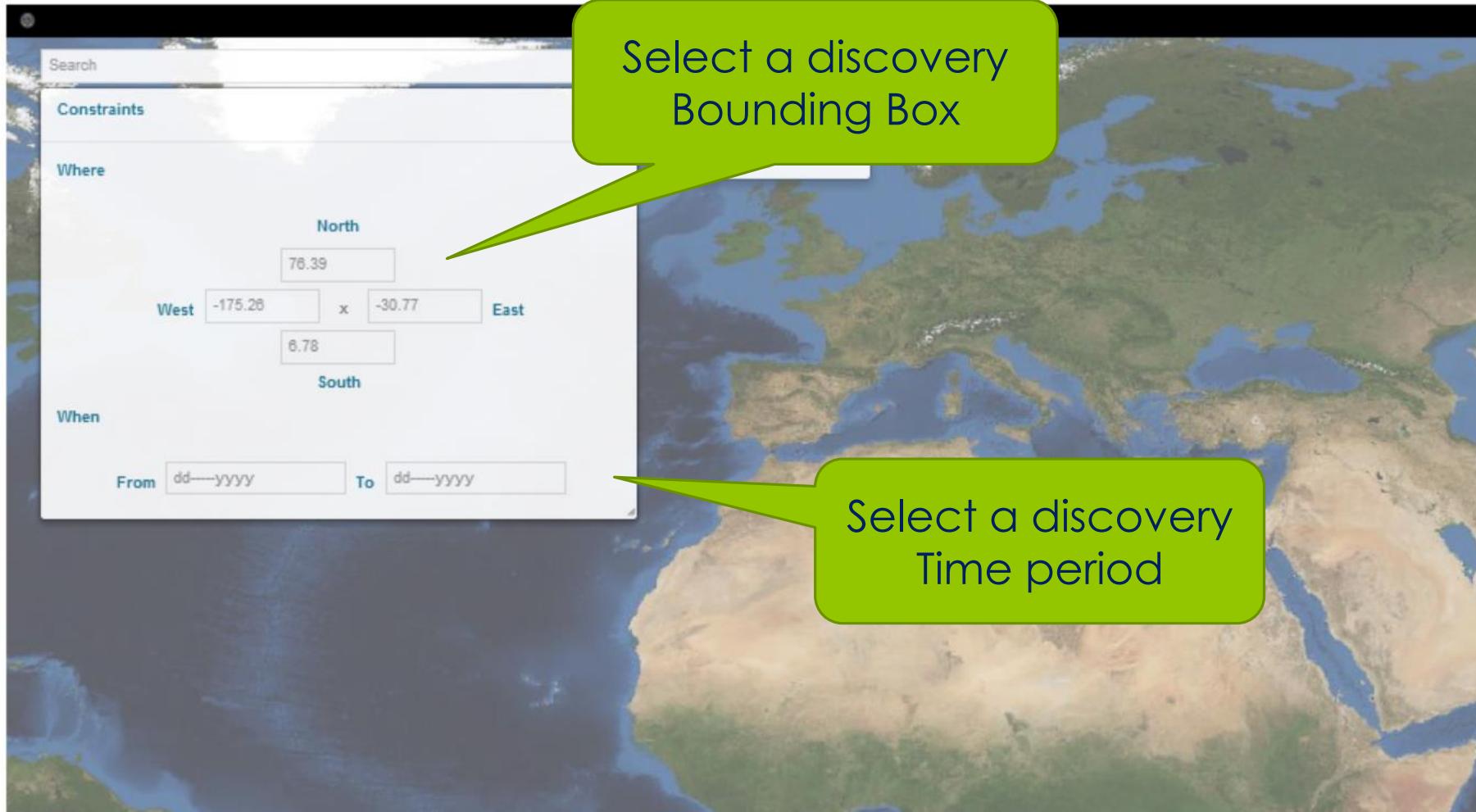
Write one or more discovery Keywords



A screenshot of a map application interface. At the top left is a search bar labeled "Search". To its right are a magnifying glass icon and a gear icon. Below the search bar is a "Sources" button. A dropdown menu titled "Sources" is open, showing a list of data providers with checkboxes next to them. The providers listed are: All, Nasa SVS Image Server WMS, ENEA, CNR-ISAC, CMCC, CRN-ISAC@CINECA, ICTP@CINECA, TestMetadata, and EVK2CNR. The background of the application shows a satellite map of the world, with a focus on Europe and Africa.

Select one or more Data Providers





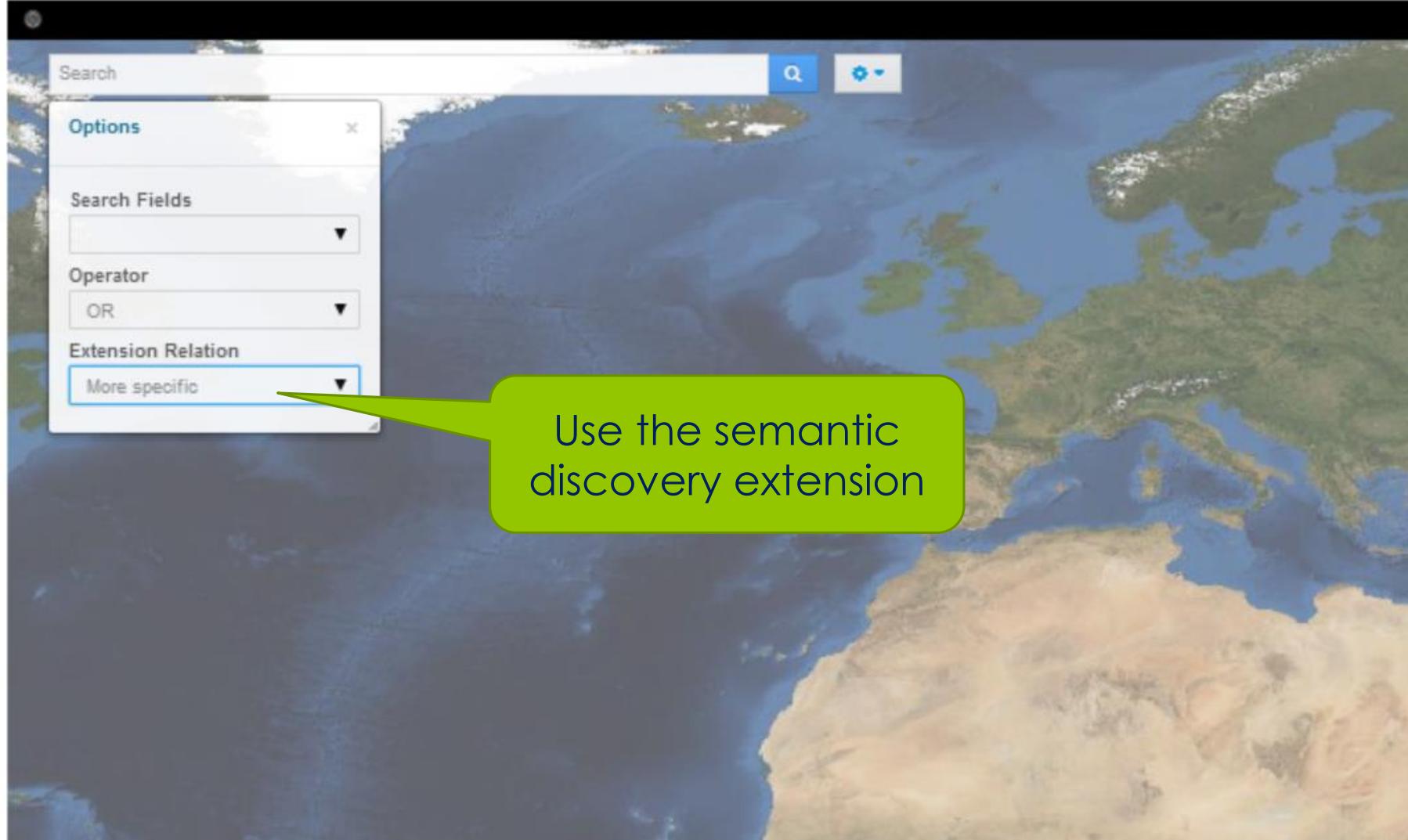
Select a discovery Bounding Box

Select a discovery Time period

The screenshot shows a geospatial search interface. On the left, there is a search panel with the following fields:

- Search:** A text input field.
- Constraints:** A section with "Where" and "When" subsections.
- Where:** Contains a bounding box definition with coordinates:
  - North: 76.39
  - West: -175.26
  - X: -30.77
  - South: 6.78
  - East: (no explicit value shown)
- When:** Contains "From" and "To" date inputs.





Search

Options

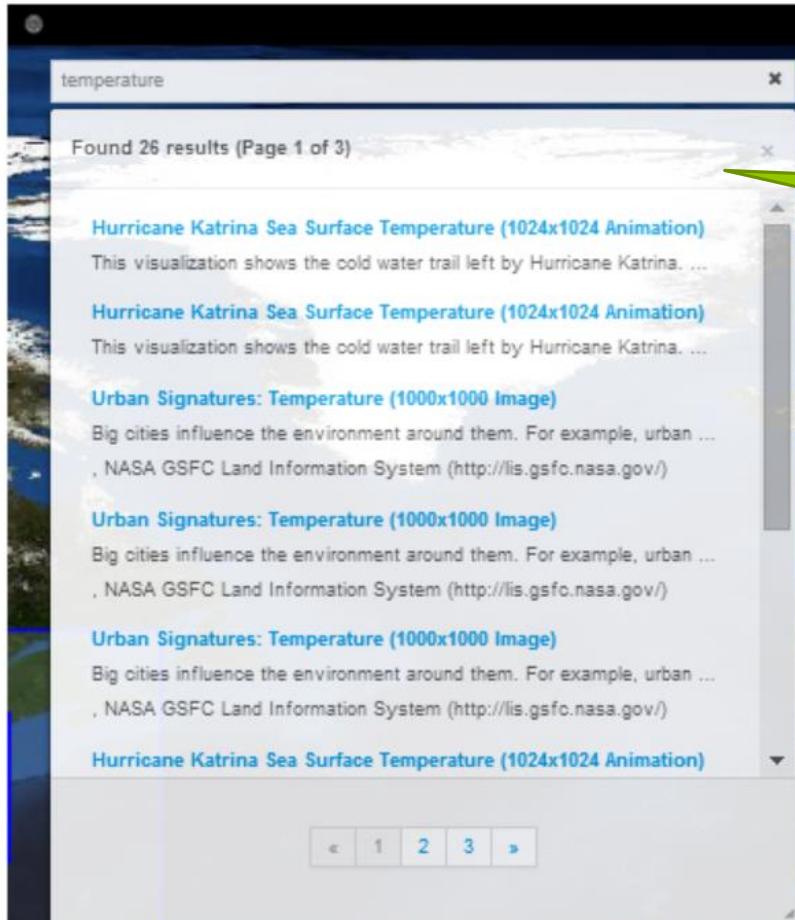
Search Fields

Operator

Extension Relation

More specific

Use the semantic discovery extension



temperature

Found 26 results (Page 1 of 3)

**Hurricane Katrina Sea Surface Temperature (1024x1024 Animation)**  
This visualization shows the cold water trail left by Hurricane Katrina. ...

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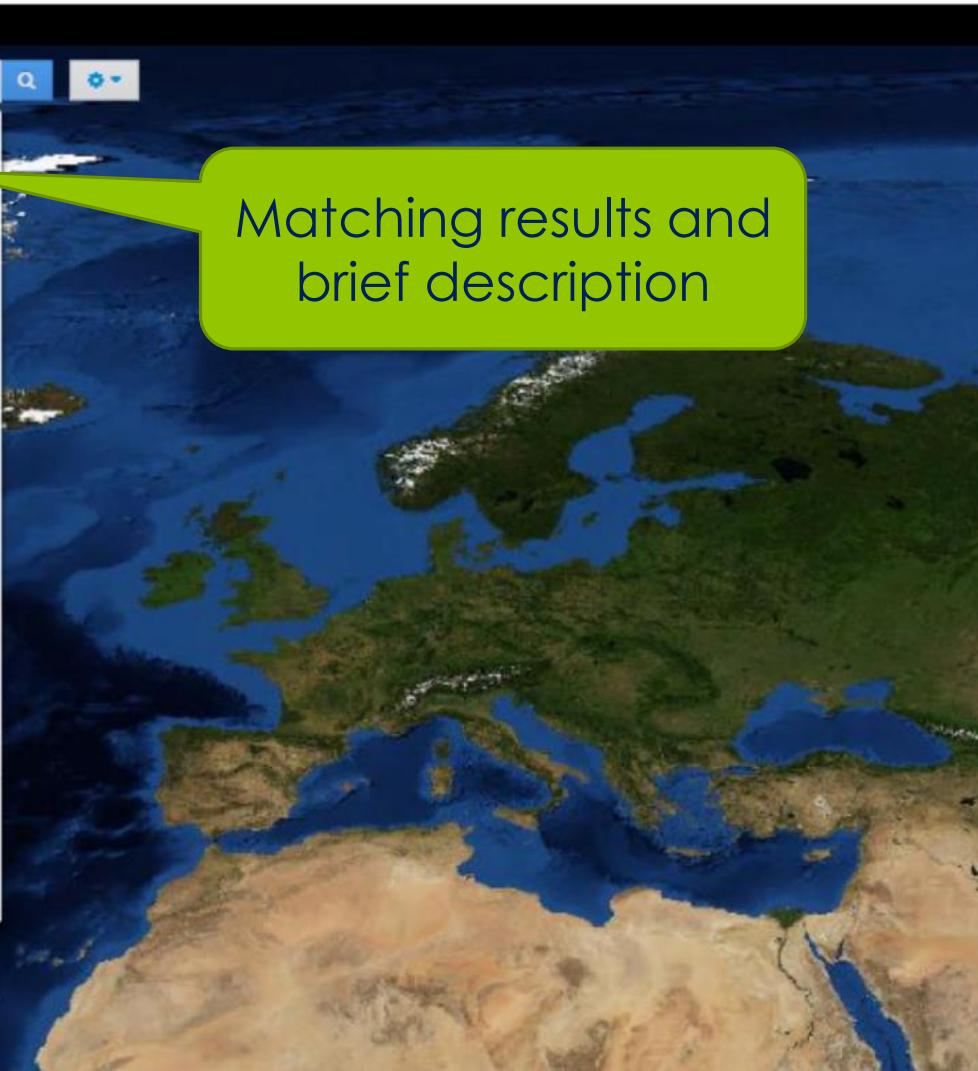
**Urban Signatures: Temperature (1000x1000 Image)**  
Big cities influence the environment around them. For example, urban ...  
, NASA GSFC Land Information System (<http://lis.gsfc.nasa.gov/>)

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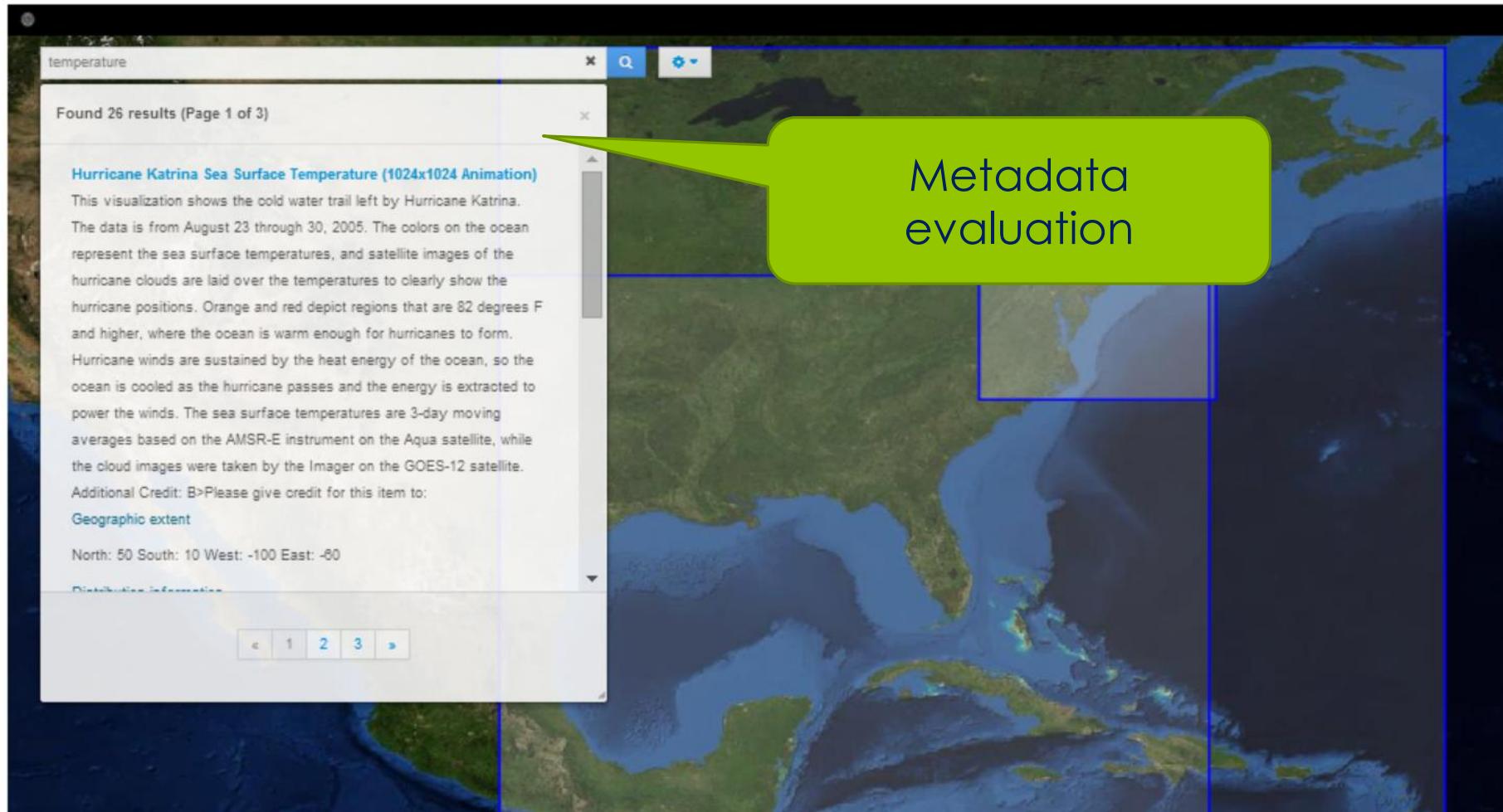
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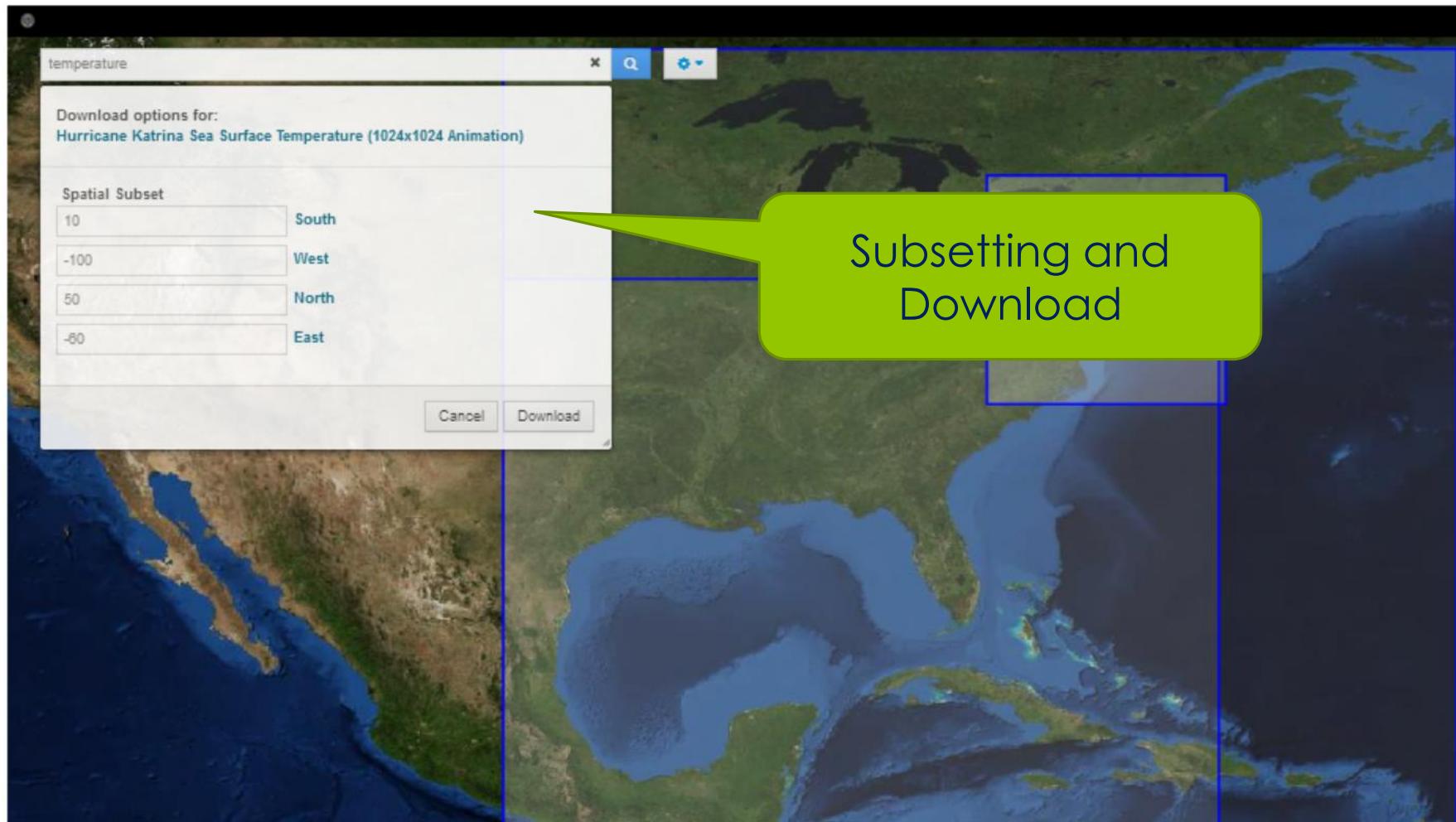
< 1 2 3 >



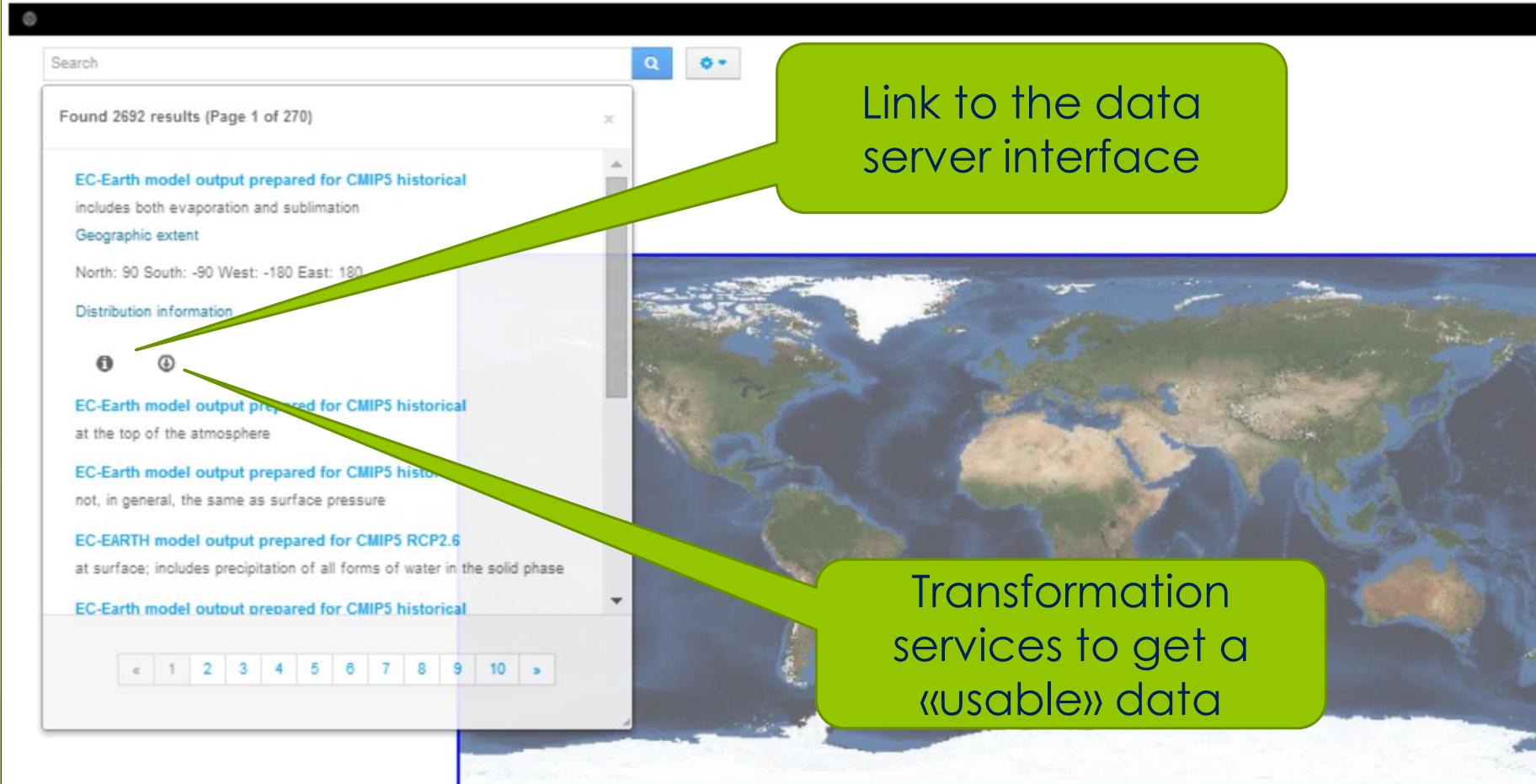
Matching results and brief description



Metadata  
evaluation



# Another Search



Link to the data server interface

Transformation services to get a «usable» data

Search

Found 2692 results (Page 1 of 270)

EC-Earth model output prepared for CMIP5 historical includes both evaporation and sublimation

Geographic extent

North: 90 South: -90 West: -180 East: 180

Distribution information

i ⓘ

EC-Earth model output prepared for CMIP5 historical at the top of the atmosphere

EC-Earth model output prepared for CMIP5 historical not, in general, the same as surface pressure

EC-EARTH model output prepared for CMIP5 RCP2.6 at surface; includes precipitation of all forms of water in the solid phase

EC-Earth model output prepared for CMIP5 historical

< 1 2 3 4 5 6 7 8 9 10 >

A world map showing land and sea areas.



Catalog [http://sansone.to.isac.cnr.it:8080/thredds/catalog/EC-Earth\\_CMIP5/historical/mon/atmos/hfls/r8i1p1/catalog.html](http://sansone.to.isac.cnr.it:8080/thredds/catalog/EC-Earth_CMIP5/historical/mon/atmos/hfls/r8i1p1/catalog.html)

Dataset	Size	Last Modified
 r8i1p1	--	--
<a href="#">hfls_Amon_EC-Earth_historical_r8i1p1_195001-201212.nc</a>	154.8 Mbytes	2011-12-30T21:43:38Z
<a href="#">hfls_Amon_EC-Earth_historical_r8i1p1_190001-194912.nc</a>	122.9 Mbytes	2011-12-29T07:51:23Z
<a href="#">hfls_Amon_EC-Earth_historical_r8i1p1_185001-189912.nc</a>	122.9 Mbytes	2011-12-30T01:38:49Z
<a href="#">agg.ncml</a>	378.0 bytes	2012-10-14T20:37:45Z

ISAC-CNR Test TDS at [ISAC-CNR see Info](#)

THREDDS Data Server [Version 4.3.17 - 20130607.1641] [Documentation](#)



Search



Download options for:  
EC-Earth model output prepared for CMIP5 historical

EPSG:4326

CRS

NetCDF

Raster Format

Spatial Subset

18.606155395507812

South

-24.981914520263672

West

61.448795318803516

North

55.41217803955078

East

Temporal Subset

01-Jan-1960 06:00

From

01-Jan-1961 00:00

To

Resolution

0.5120642838204742

Lat

0.29144653008908644

Lon

## Available transformations:

- CRS
- data format
- subset
- spatial resolution

Download

Cancel Download



# Future Work

- Improve Portal usability and look&feel
- Further Test functionalities and fix possible bugs
- Document
  
- Broker new data servers
- Publish statistics
  
- Test interoperability with GEO GEOSS and NSF Earth Cube

# Thank you !

## Questions?



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