



Next Data

Scientific Committee Meeting

03-04 June 2014

CNR, Piazzale Aldo Moro (Rome)



Consiglio Nazionale delle Ricerche



WP2.7

Il Portale Generale di NextData

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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



General Portal

User interaction

Discovery & Access
harmonization

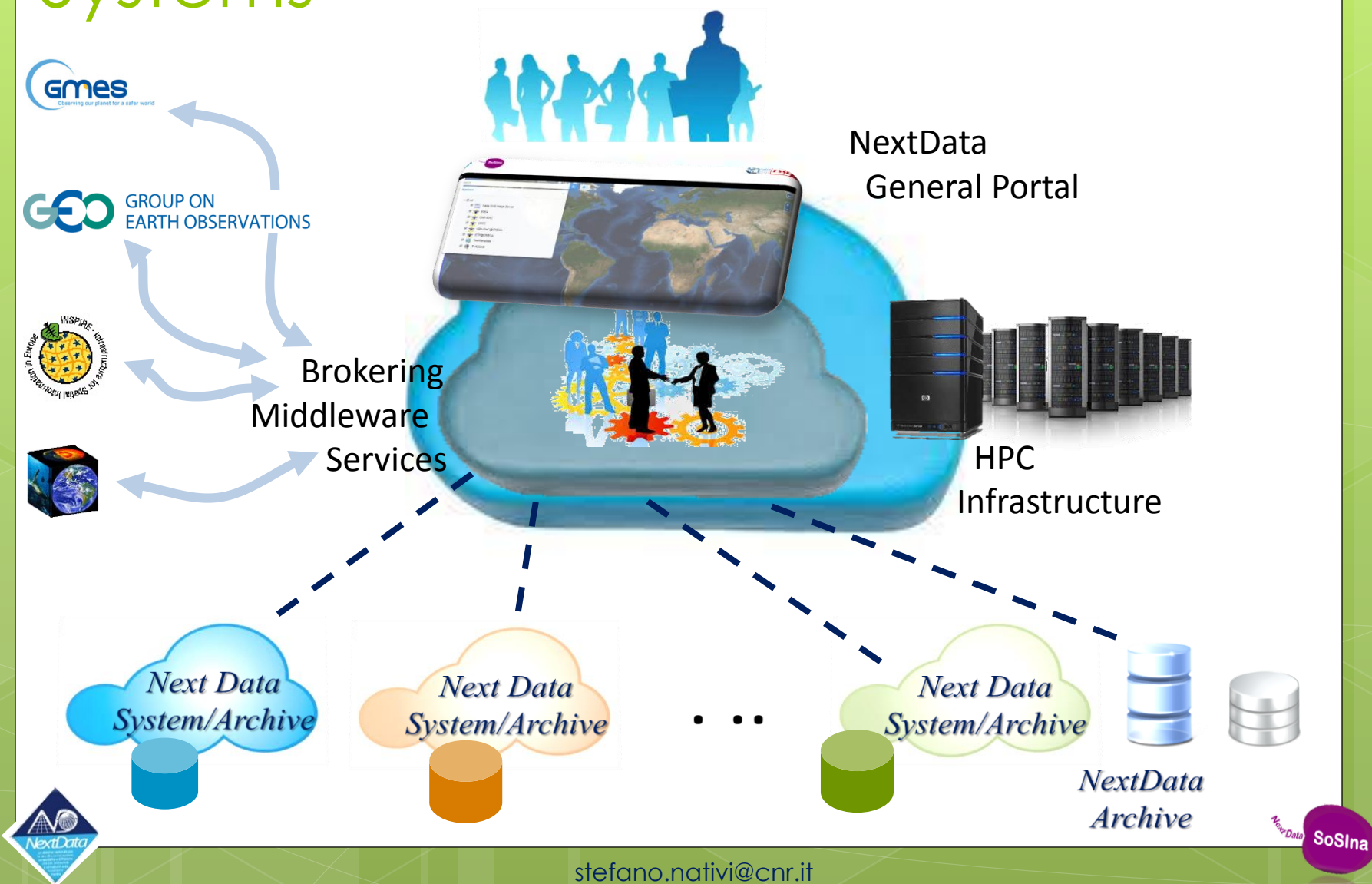
Data Providers

Data publication

Data description



Systems Architecture: System of Systems



Capabilities



- Query distribution
- Metadata Harvesting
- Semantic P...
- Results F...

- Results Ranking & paging
- Data transformation
 - CRS transformation, spatial/temporal resolution mapping, sub-setting, format conversion
- Support to multiple client types
- Support to multiple server types
- Scalability
- Full interoperability with GEOSS, INSPIRE, Earth Cube, ...

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

THREDDS Data Server

THREDDS Data Server

THREDDS Data Server

THREDDS Data Server

WAF

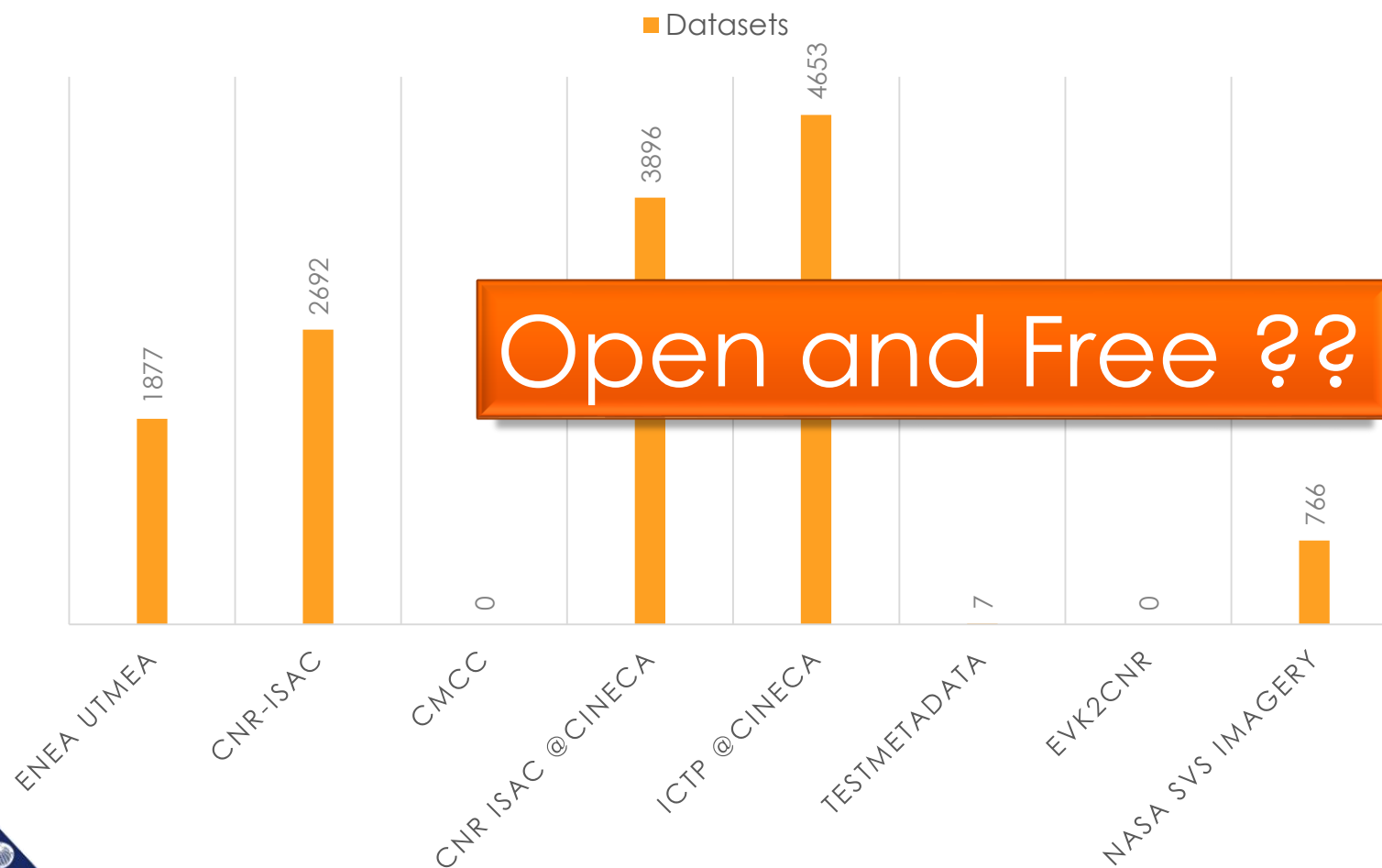
OGC CSW/GeoNetwork

OGC WMS

13891 dataset



NEXTDATA ASSETS



Online monitoring report



Date 2014-05-29

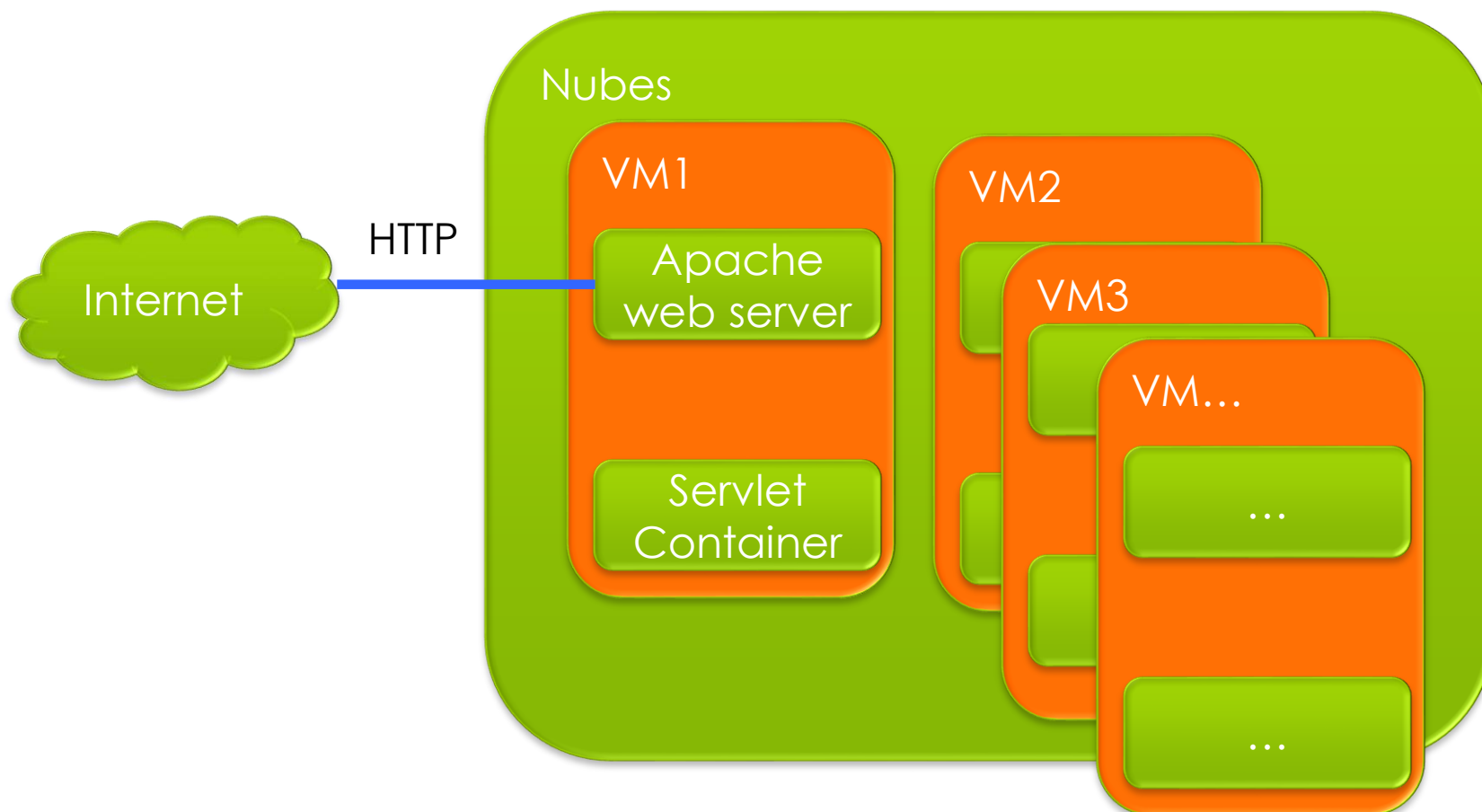


<http://essi-lab.eu/nextdatareport/NEXTDATA-Report-2014-05-29.htm>

HPC Infrastructure



Cloud Test Infrastructure



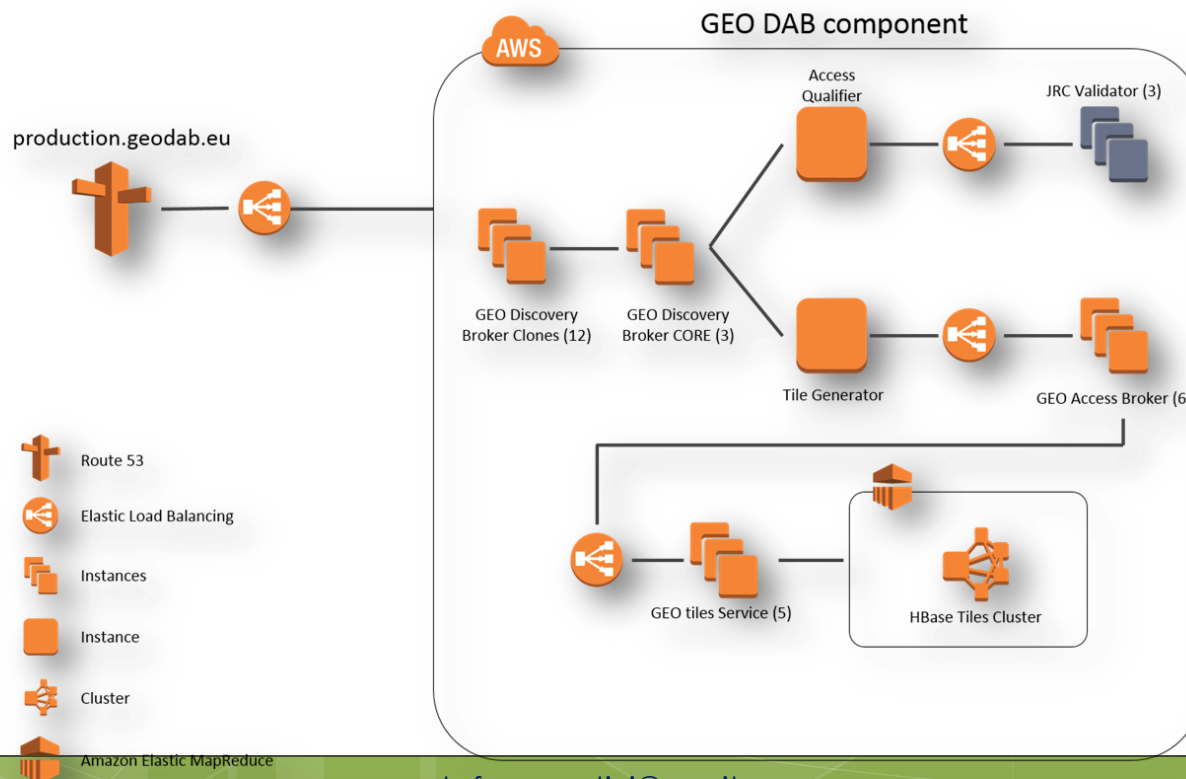
Nubes is a Cloud Computing IaaS (Infrastructure as a Service) based on OpenStack.

Data discovery & Access Harmonization services



- **Brokering framework** used by GEOSS and Earth Cube.

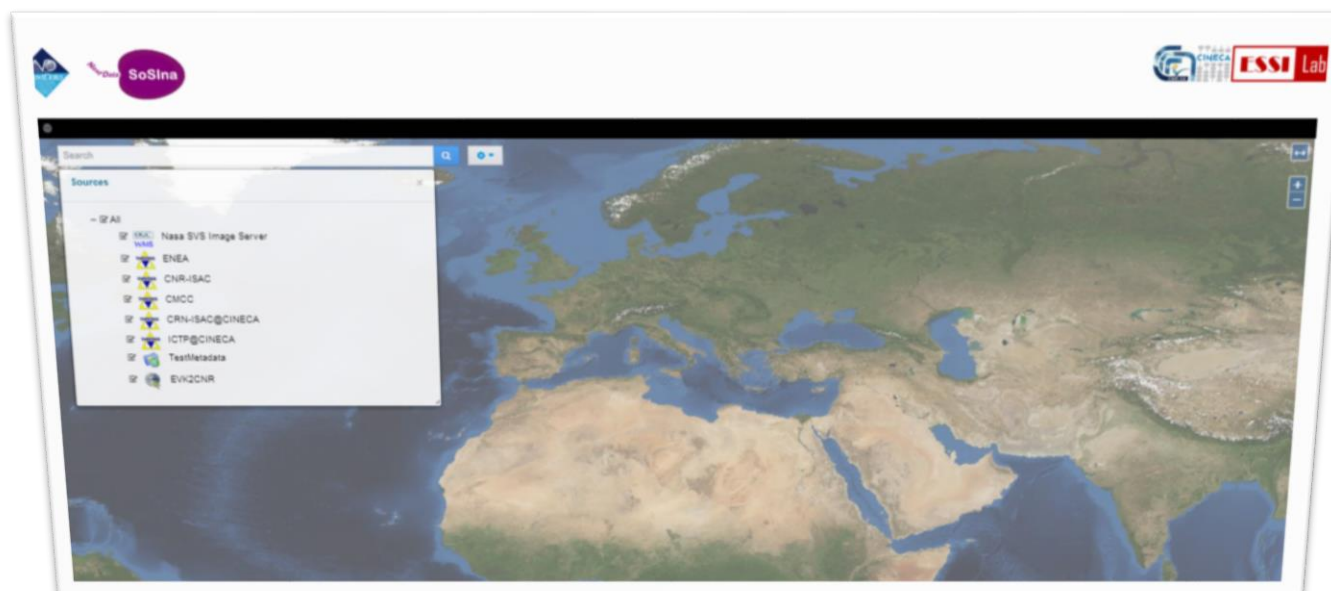
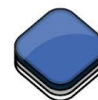
- empowered by **GI-cat** and **GI-axe** of CNR



Web Portal

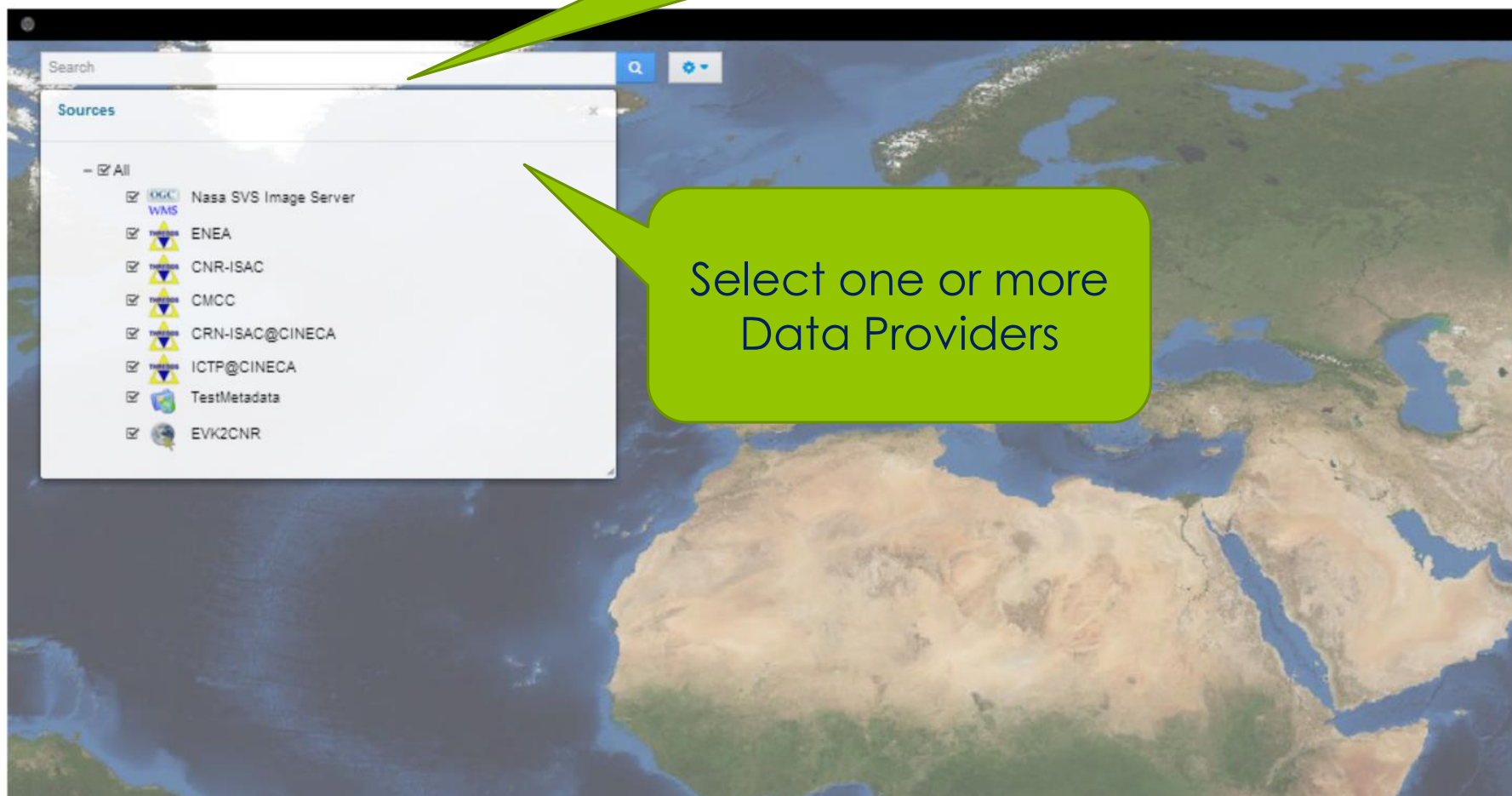


- Based on OpenLayer3
- LifeRay
- Makes use of GEO APIs





Write one or more
discovery Keywords



Select one or more
Data Providers

Search

Constraints

Where

North

76.39

West -175.26 x -30.77 East

6.78

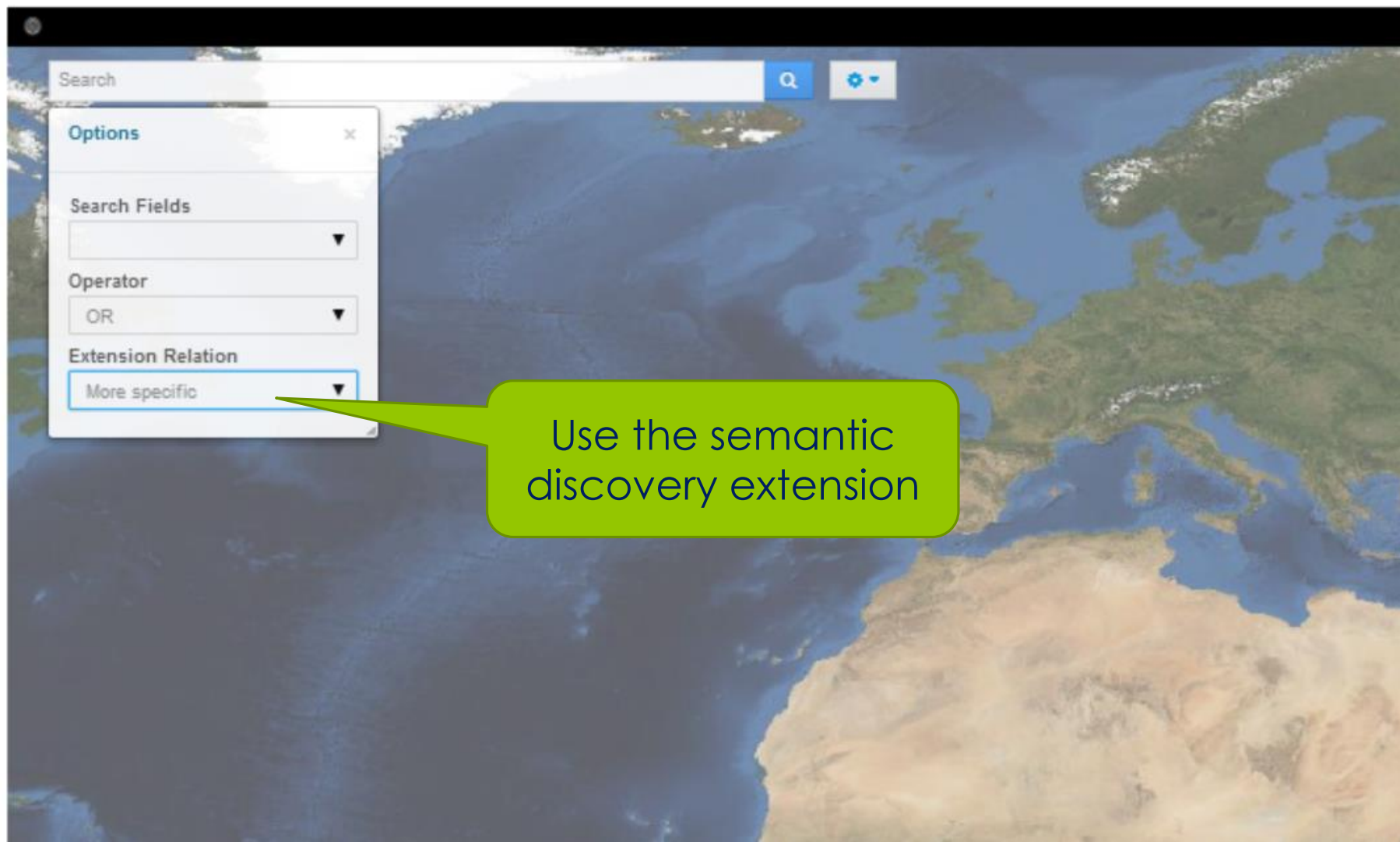
South

When

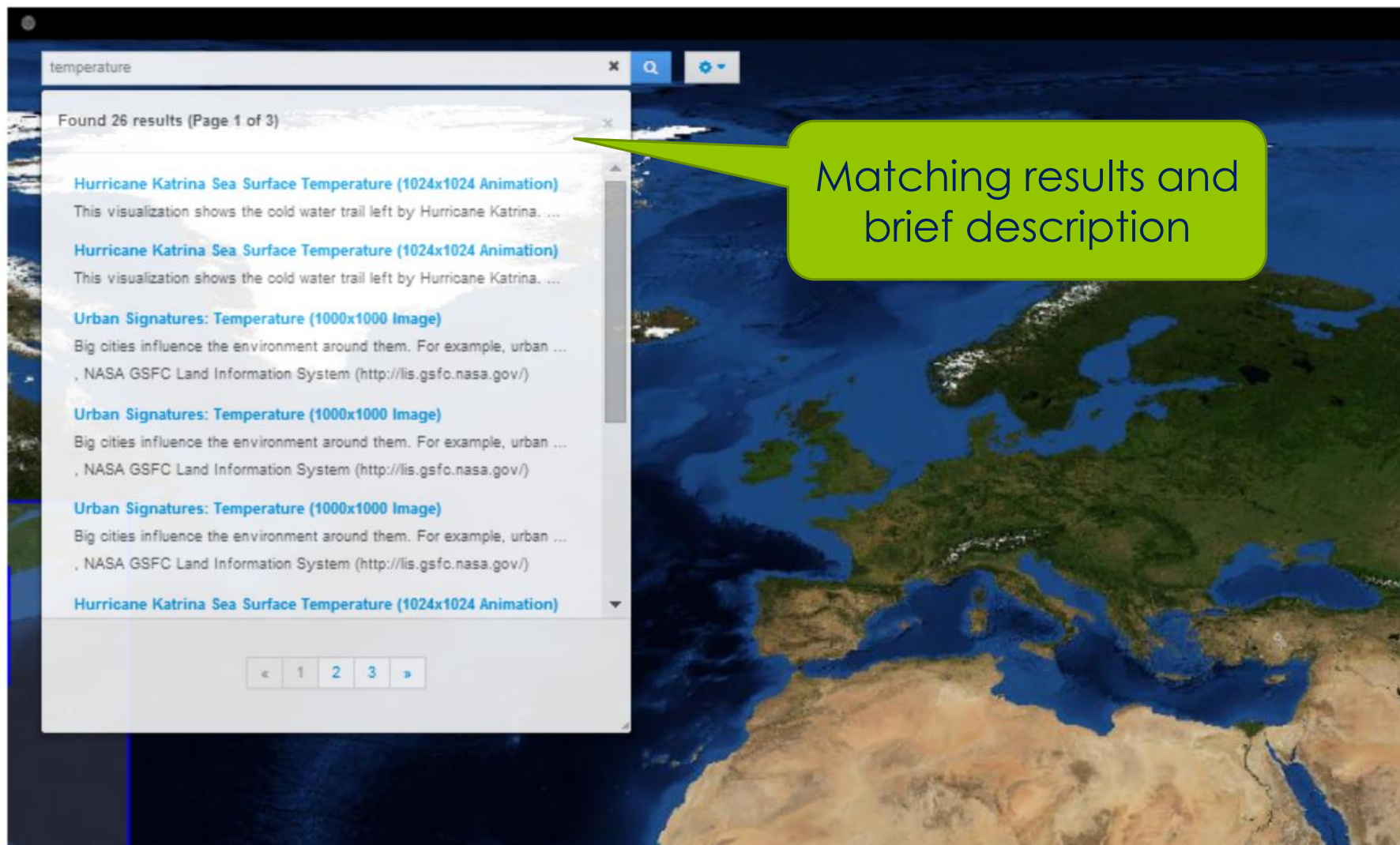
From dd—yyyy To dd—yyyy

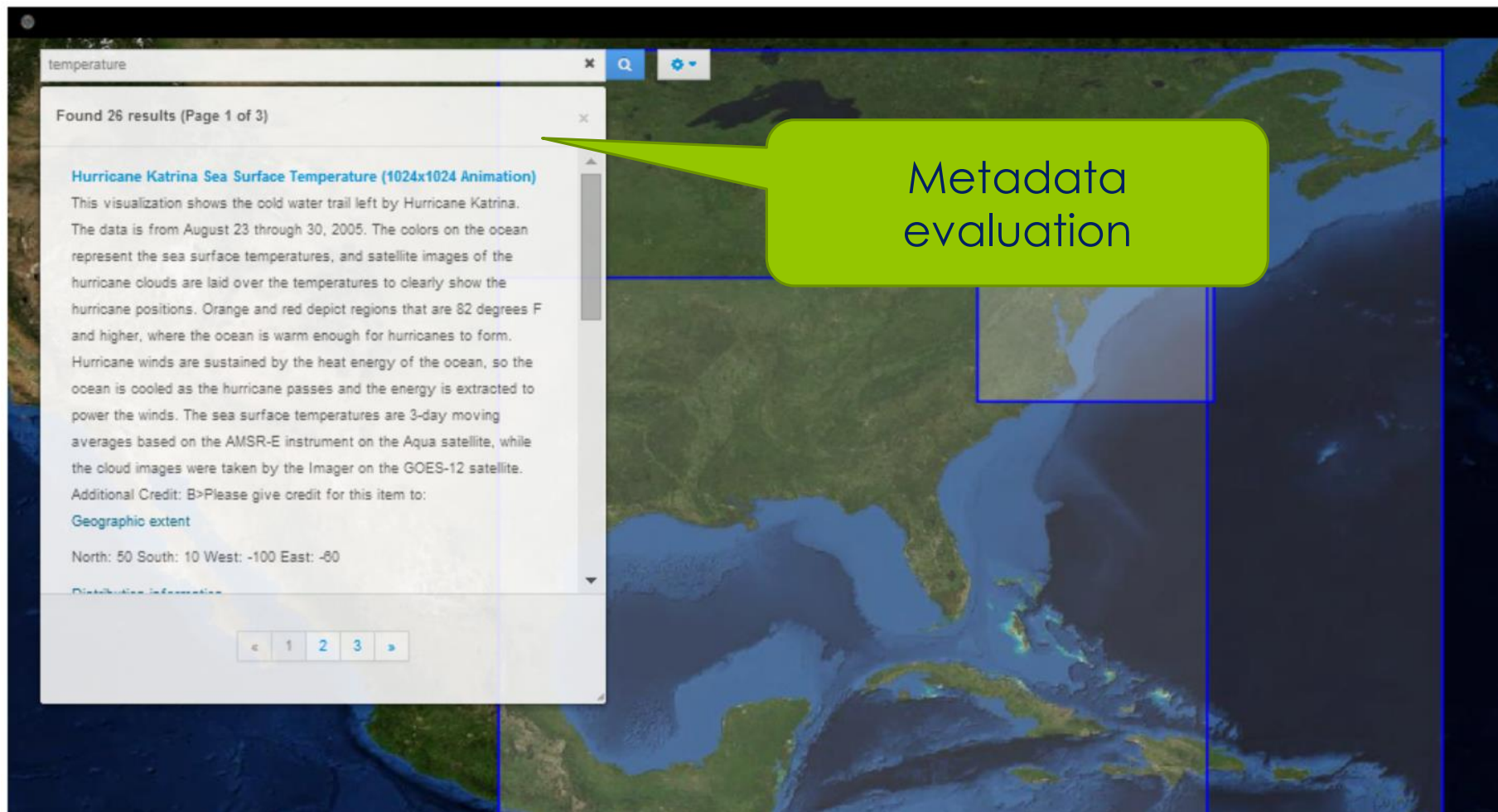
Select a discovery Bounding Box

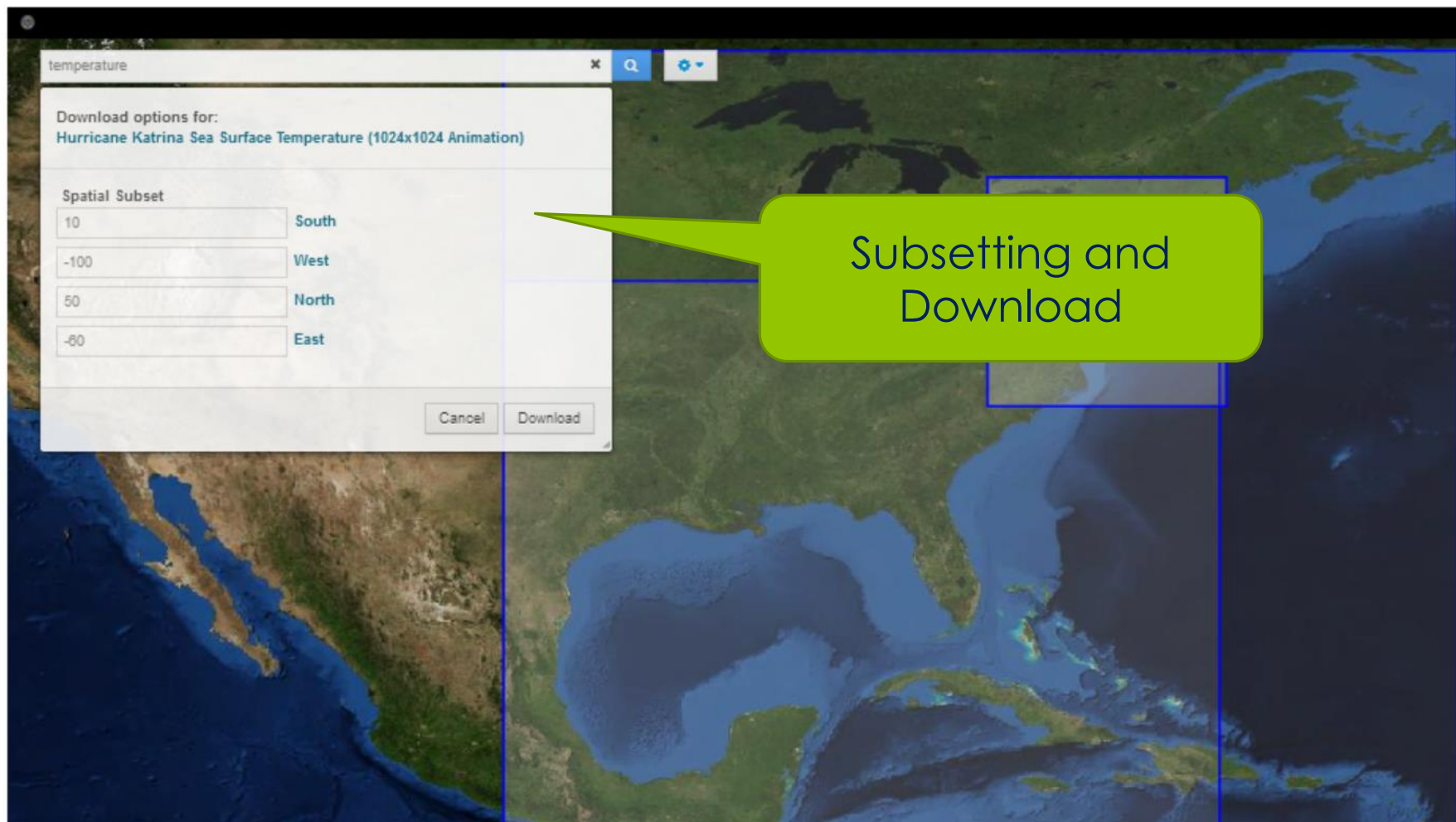
Select a discovery Time period



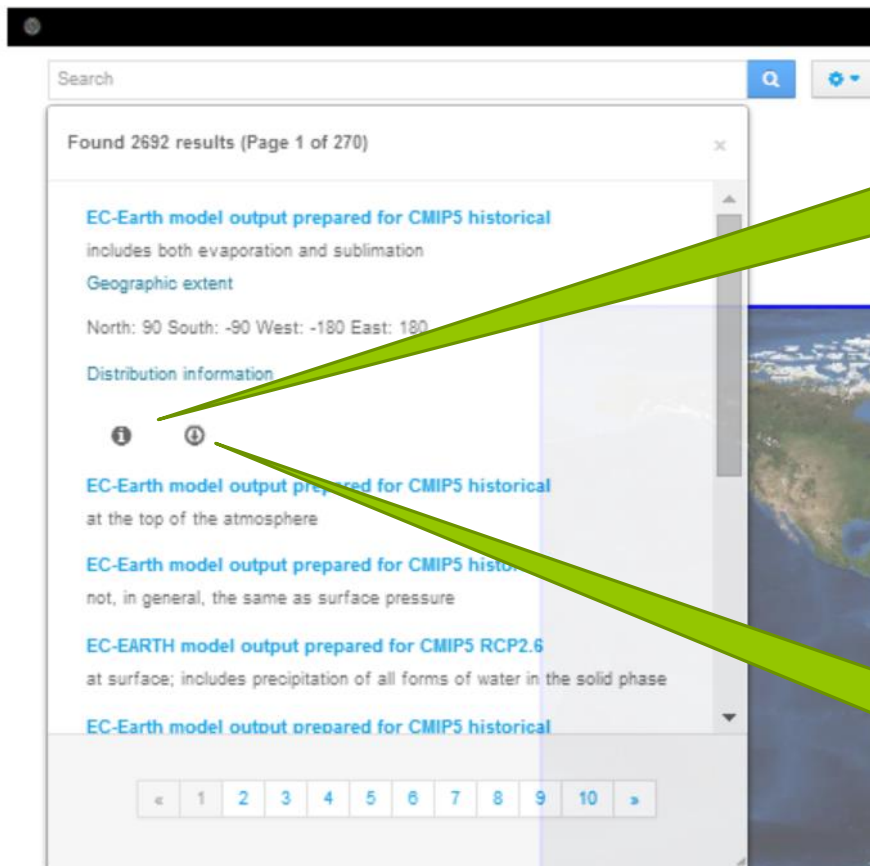
Use the semantic
discovery extension







Another Search



Link to the data
server interface

Transformation
services to get a
«usable» data





Catalog http://sansone.to.isac.cnr.it:8080/thredds/catalog/EC-Earth_CMIP5/historical/mon/atmos/hfls/r8i1p1/catalog.html

Dataset	Size	Last Modified
 r8i1p1		--
hfls_Amon_EC-Earth_historical_r8i1p1_195001-201212.nc	154.8 Mbytes	2011-12-30T21:43:38Z
hfls_Amon_EC-Earth_historical_r8i1p1_190001-194912.nc	122.9 Mbytes	2011-12-29T07:51:23Z
hfls_Amon_EC-Earth_historical_r8i1p1_185001-189912.nc	122.9 Mbytes	2011-12-30T01:38:49Z
agg.ncml	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

-24.981914520283672 West

61.448795318603516 North

55.41217803955078 East

Temporal Subset

01-Jan-1960 06:00 From

01-Jan-1961 00:00 To

Resolution

0.5120642838204742 Lat

0.29144653006906644 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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