



# ***GENESI-DEC User Tutorial***

## ***GENESI-DEC Training Workshop***

# **GENESI-DEC**

**INFRA-2010-1.2.3 : Virtual Research Communities**

**Duration : May 1, 2010 – April 30, 2012**

**Total EC funding : 2.15 M€**

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EC Grant Agreement no. 261623

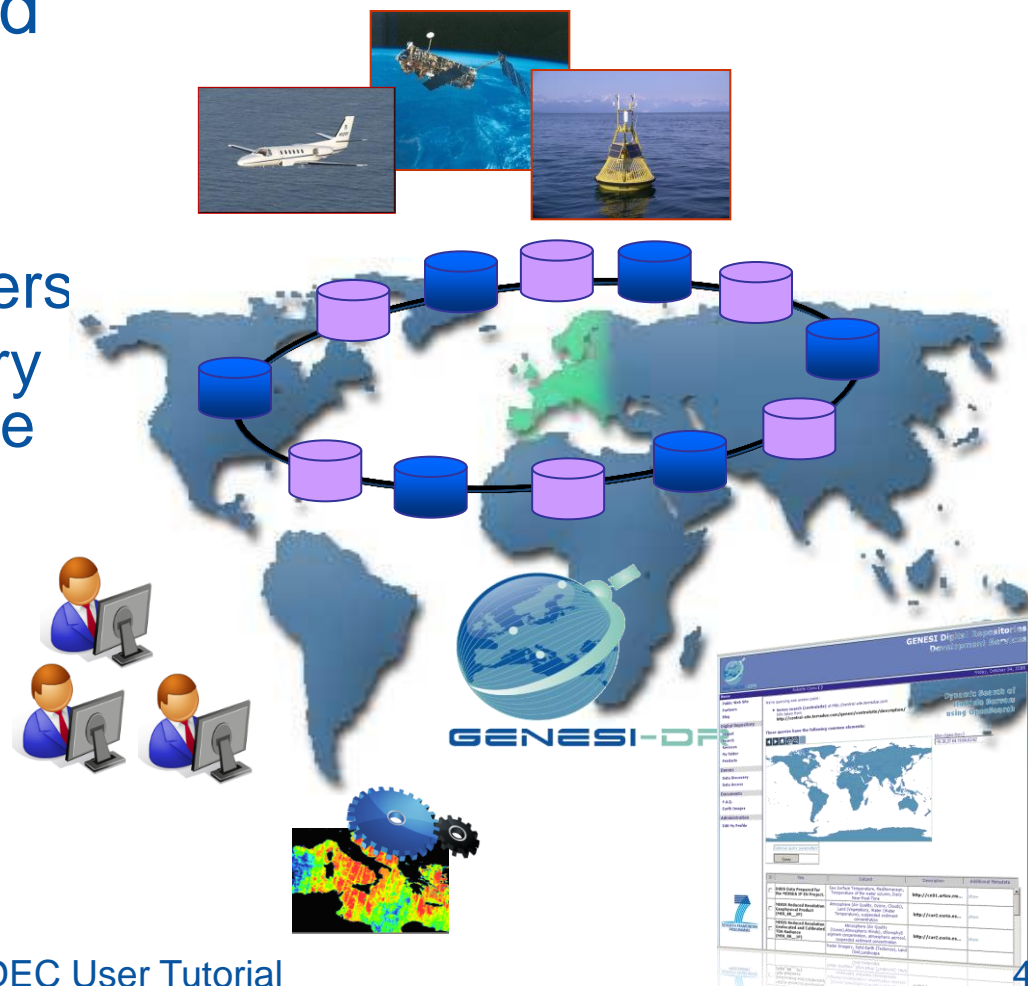


- GENESI-DEC overview
  - The predecessor: GENESI-DR
  - From GENESI-DR to GENESI-DEC
- GENESI-DEC users and data flows
- Data discovery and access
  - the GENESI-DEC Web Portal
  - the external applications
- The GENESI-DEC services

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- An **Earth Science data infrastructure** connecting Digital Repositories spread all over Europe
  - Access to heterogeneous data (airborne, in situ, satellite) to authorized users
  - Data and service discovery through the same interface
  - On demand processing
  - Easy integration of new Digital Repositories
  - Accessibility from client applications via the exposed Web Service interface

Ground European Network for  
Earth Science Interoperations –  
*Digital Repositories*



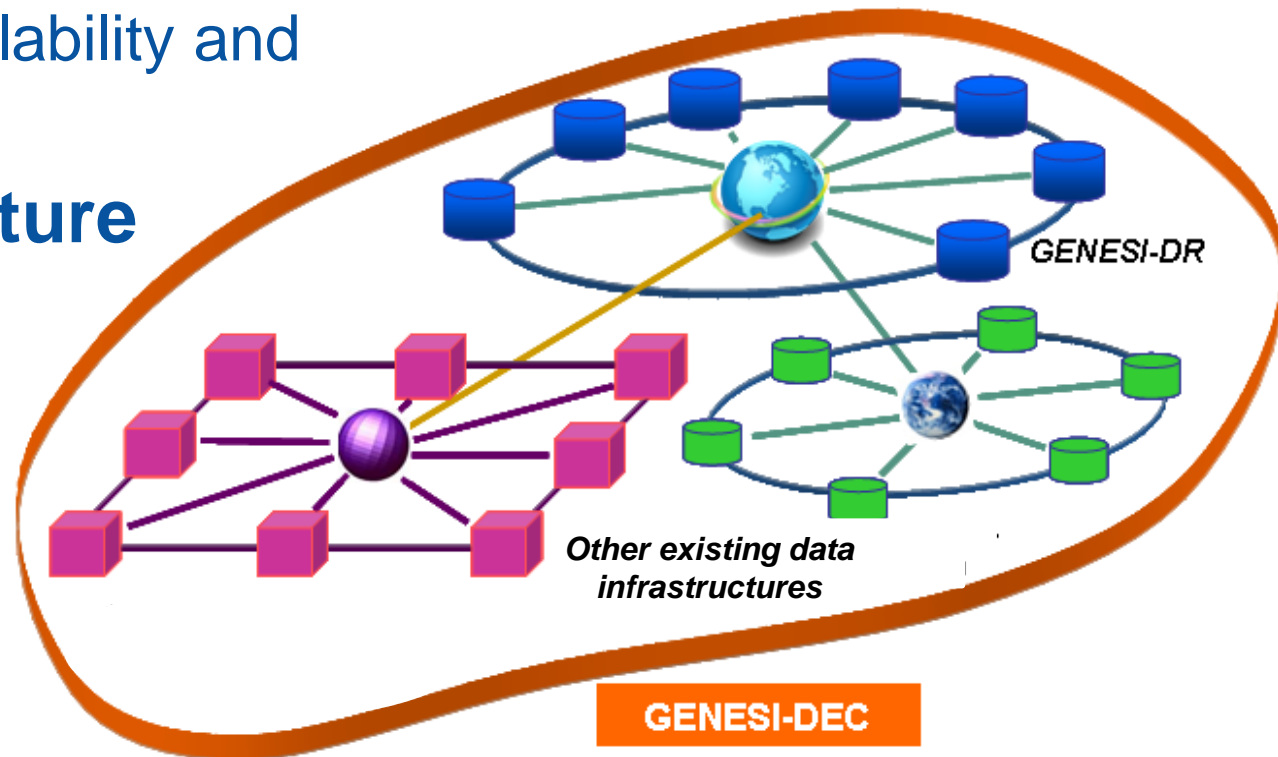
- **Digital Earth Communities engagement**

- larger set of services and applications for the needs of the user communities
- Increased data availability and exploitability

- **Enlarged infrastructure**

- new DRs
- wider geographical extent
- interoperation with existing Research Infrastructures

*Ground European Network for  
Earth Science Interoperations –  
Digital Earth Communities*

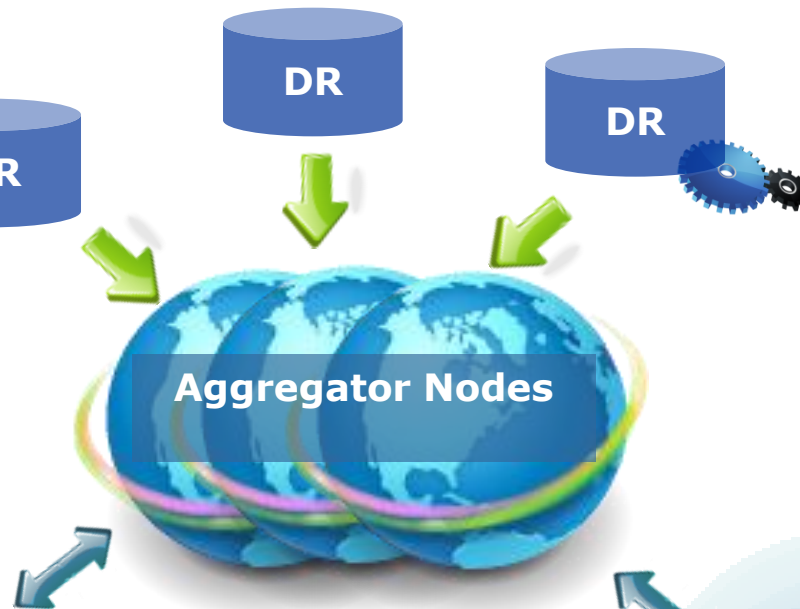


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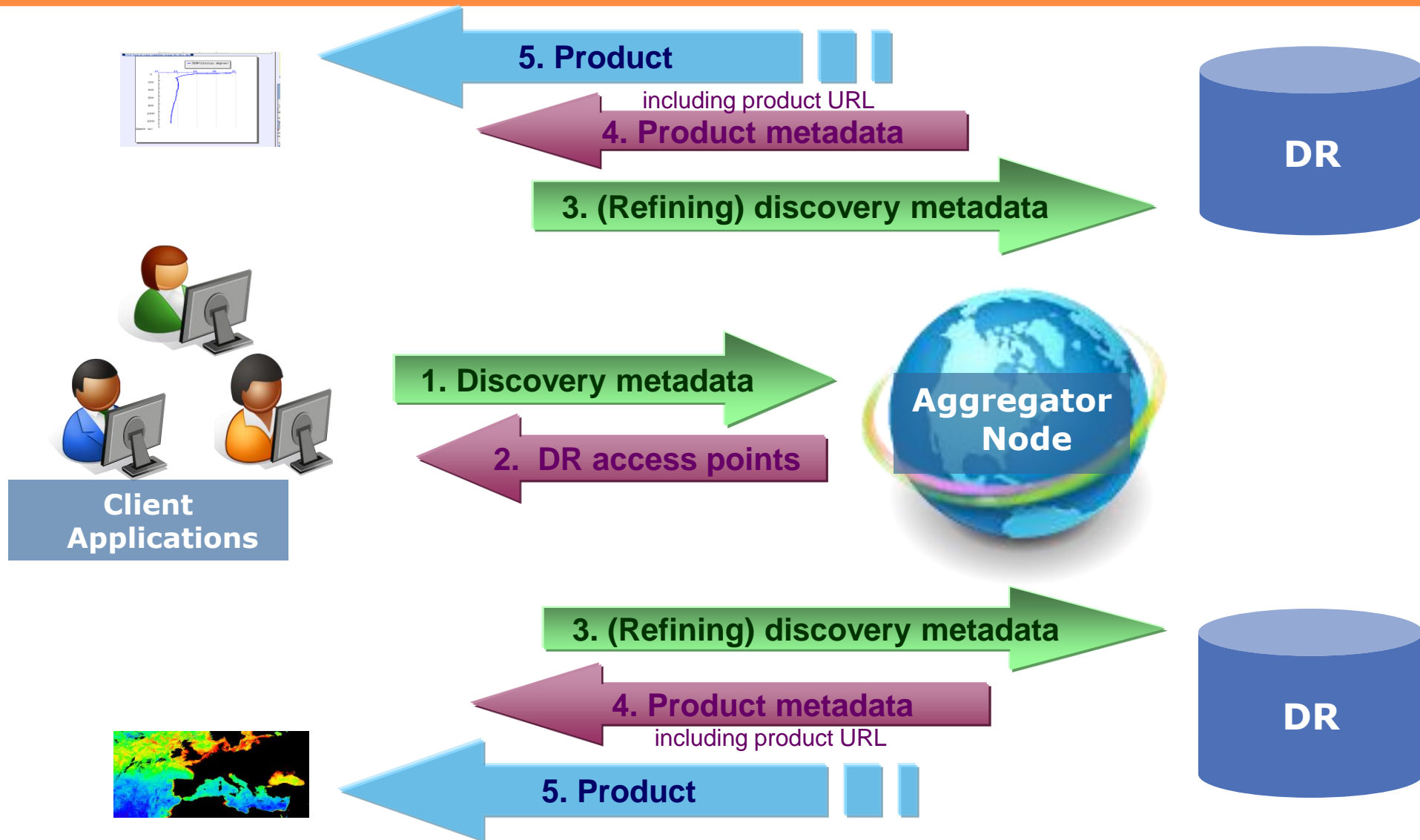
**GENESI-DEC data and services** can be accessed by:

- **human users** through the **GENESI-DEC Web Portal**



- **external applications** through a Web Service interface







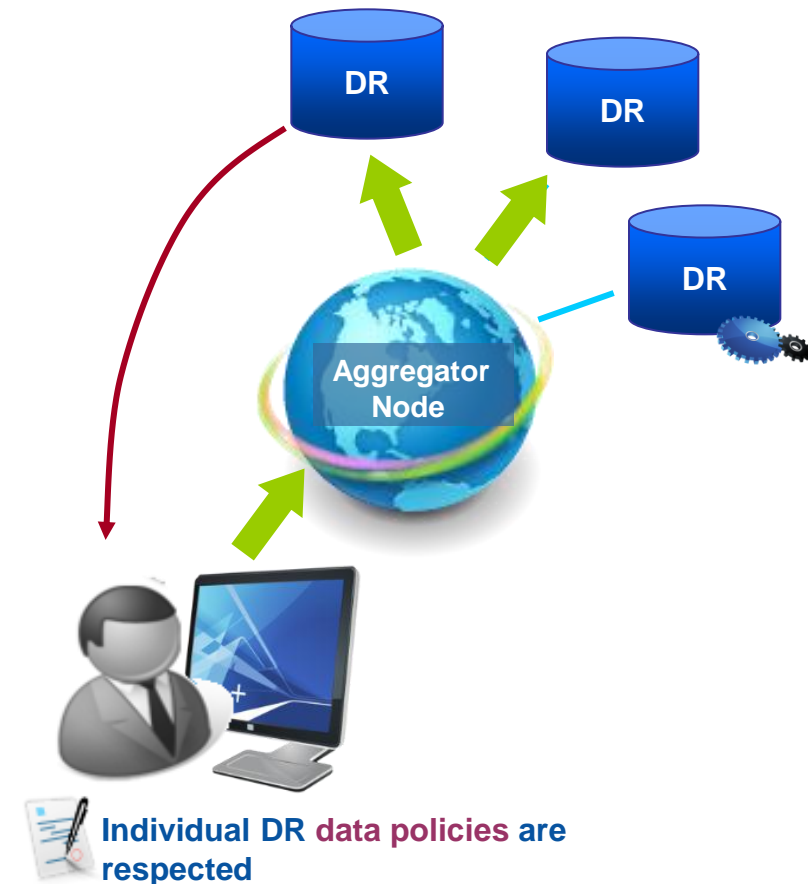


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- To **discover** GENESI-DEC data users do not need to be registered to GENESI-DEC
- To **access** GENESI-DEC data, in case these are not freely available, users shall be authorized (following data provider's policies)

# Data Discovery and Access

- **GENESI-DEC** data are organised in collections or **series** each of which containing **datasets** (products)
  - **Series discovery**: the user submits a query to discover the available series matching the user search criteria
  - **Dataset discovery**: for each series, the datasets available at the DRs are discovered
  - **Dataset access**: for each discovered dataset, a download link is provided (if allowed by the provider)





**Insert free text** to be searched

Click on **Search** to start discovering series

**Set time range** using the slider or clicking on the date fields

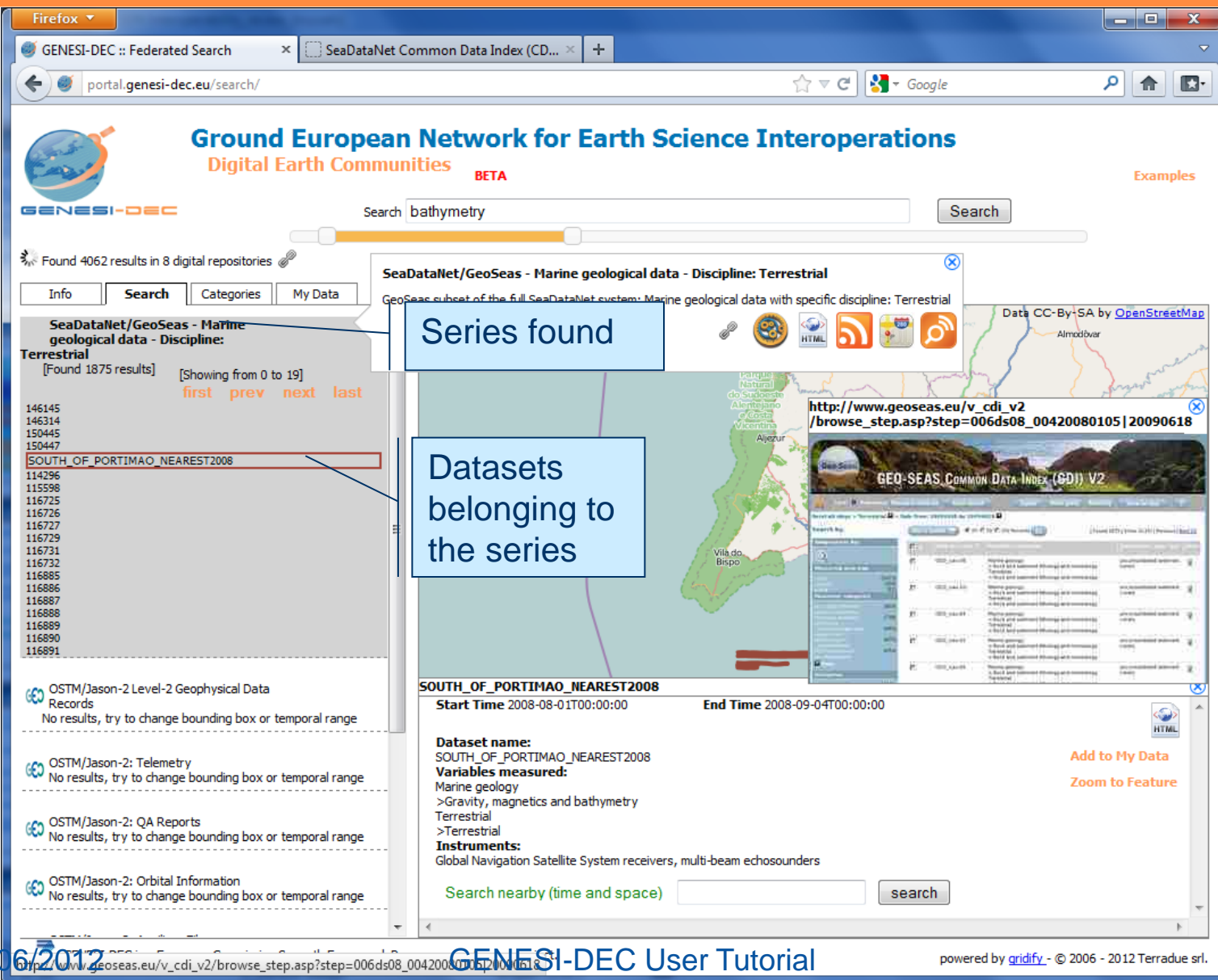
**Select the bounding box:** Click here and drag it on the map

<http://portal.genesi-dec.eu/search/>

The Earth Science Data Discovery and Access services are contributions provided by the GENESI-DR (and the follow on GENESI-DEC project) infrastructure, in anticipation of similar capabilities to be offered by the GEOWOW project for later integration in the GEO Common Infrastructure (GCI). They are intended to demonstrate possible new features and not to replace any of the GCI present services offered through the GEO Portal. GENESI-DR and GENESI-DEC allow the real time discovery, access, and use (visualize, process on demand...) of space, in situ and other data types located in distributed and federated repositories/catalogues. GENESI respects the data providers' data policy: User authorisation is performed only once by data providers while the automatic user identification, for subsequent data access, is performed by GENESI services. The GENESI-DR and GENESI-DEC projects are funded by EC FP7 programme.

1000 mi

-35.88, 9.28



The screenshot shows the GENESI-DEC web portal interface. At the top, the search bar contains the text 'bathymetry'. Below the search bar, a message indicates 'Found 4062 results in 8 digital repositories'. The main content area displays a list of search results under the heading 'SeaDataNet/GeoSeas - Marine geological data - Discipline: Terrestrial'. The first result is 'SOUTH\_OF\_PORTIMAO\_NEAREST2008', which is highlighted. A blue box labeled 'Series found' points to this result. Another blue box labeled 'Datasets belonging to the series' points to the detailed view of this dataset. The detailed view shows the dataset name, start and end times, variables measured (Marine geology, Gravity, magnetics and bathymetry), and instruments (Global Navigation Satellite System receivers, multi-beam echosounders). A map of the Portimao area is also visible. The bottom of the screen shows the URL 'http://www.geoseas.eu/v\_cdi\_v2/browse\_step.asp?step=006ds08\_00420080105|20090618' and the text 'GENESI-DEC User Tutorial'.

Firefox

GENESI-DEC :: Federated Search

SeaDataNet Common Data Index (CDI...)

portal.genesi-dec.eu/search/

Google

**Ground European Network for Earth Science Interoperations**

Digital Earth Communities **BETA**

Search bathymetry

Search

Found 4062 results in 8 digital repositories

Info Search Categories My Data

**SeaDataNet/GeoSeas - Marine geological data - Discipline: Terrestrial**

[Found 1875 results] [Showing from 0 to 19] first prev next last

146145  
146314  
150445  
150447  
**SOUTH\_OF\_PORTIMAO\_NEAREST2008**  
114296  
115598  
116725  
116726  
116727  
116729  
116731  
116732  
116885  
116886  
116887  
116888  
116889  
116890  
116891

OSTM/Jason-2 Level-2 Geophysical Data Records  
No results, try to change bounding box or temporal range

OSTM/Jason-2: Telemetry  
No results, try to change bounding box or temporal range

OSTM/Jason-2: QA Reports  
No results, try to change bounding box or temporal range

OSTM/Jason-2: Orbital Information  
No results, try to change bounding box or temporal range

**SeaDataNet/GeoSeas - Marine geological data - Discipline: Terrestrial**

GeoSeas subset of the full SeaDataNet system: Marine geological data with specific discipline: Terrestrial

Data CC-BY-SA by OpenStreetMap

**Series found**

**Datasets belonging to the series**

**SOUTH\_OF\_PORTIMAO\_NEAREST2008**

Start Time 2008-08-01T00:00:00 End Time 2008-09-04T00:00:00

**Dataset name:**  
SOUTH\_OF\_PORTIMAO\_NEAREST2008

**Variables measured:**  
Marine geology  
>Gravity, magnetics and bathymetry  
Terrestrial  
>Terrestrial

**Instruments:**  
Global Navigation Satellite System receivers, multi-beam echosounders

Search nearby (time and space)

search

http://www.geoseas.eu/v\_cdi\_v2/browse\_step.asp?step=006ds08\_00420080105|20090618

GEQ-SEAS COMMON DATA INDEX (CDI) V2

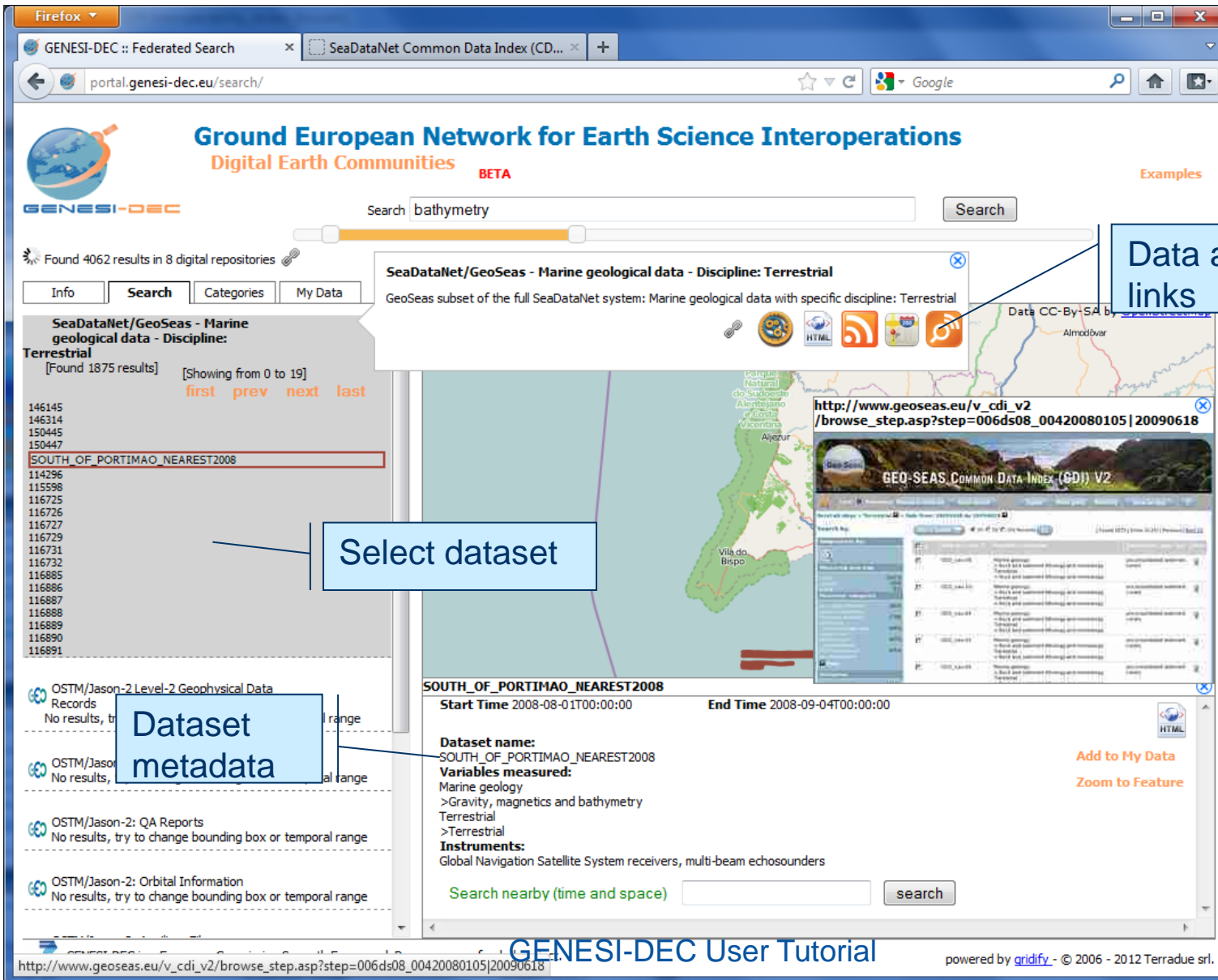
Add to My Data  
Zoom to Feature

20/06/2012

GENESI-DEC User Tutorial

powered by gridfy - © 2006 - 2012 Terradue srl.





The screenshot shows the GENESI-DEC web portal interface. The browser window displays the URL `portal.genesi-dec.eu/search/`. The page header includes the GENESI-DEC logo and the text "Ground European Network for Earth Science Interoperations Digital Earth Communities BETA". A search bar contains the term "bathymetry", and a "Search" button is visible. Below the search bar, a message indicates "Found 4062 results in 8 digital repositories".

On the left side, there is a list of search results. One result, "SOUTH\_OF\_PORTIMAO\_NEAREST2008", is highlighted. A blue callout box labeled "Select dataset" points to this result. Below the list, there is a section for "Dataset metadata" with a blue callout box labeled "Dataset metadata" pointing to it. The metadata section shows details for the selected dataset, including "Start Time", "End Time", "Dataset name", "Variables measured", and "Instruments".

On the right side, there is a map showing the location of the dataset. A blue callout box labeled "Data access links" points to a link that reads: `http://www.geoseas.eu/v_cdi_v2/browse_step.asp?step=006ds08_00420080105|20090618`. Below the map, there is a section for "GEO-SEAS COMMON DATA INDEX (CDI) V2" with a table of data. A blue callout box labeled "Data access links" also points to this section. At the bottom right, there are buttons for "Add to My Data" and "Zoom to Feature".

The footer of the page includes the text "GENESI-DEC User Tutorial" and "powered by aridify - © 2006 - 2012 Terradue srl".



SDS VIS

Surface and Deep Sea Visualization Service

Beta Version

IN THE FRAMEWORK OF



GENESI-DEC

## Filter data

n-e corner 45.12 43.02

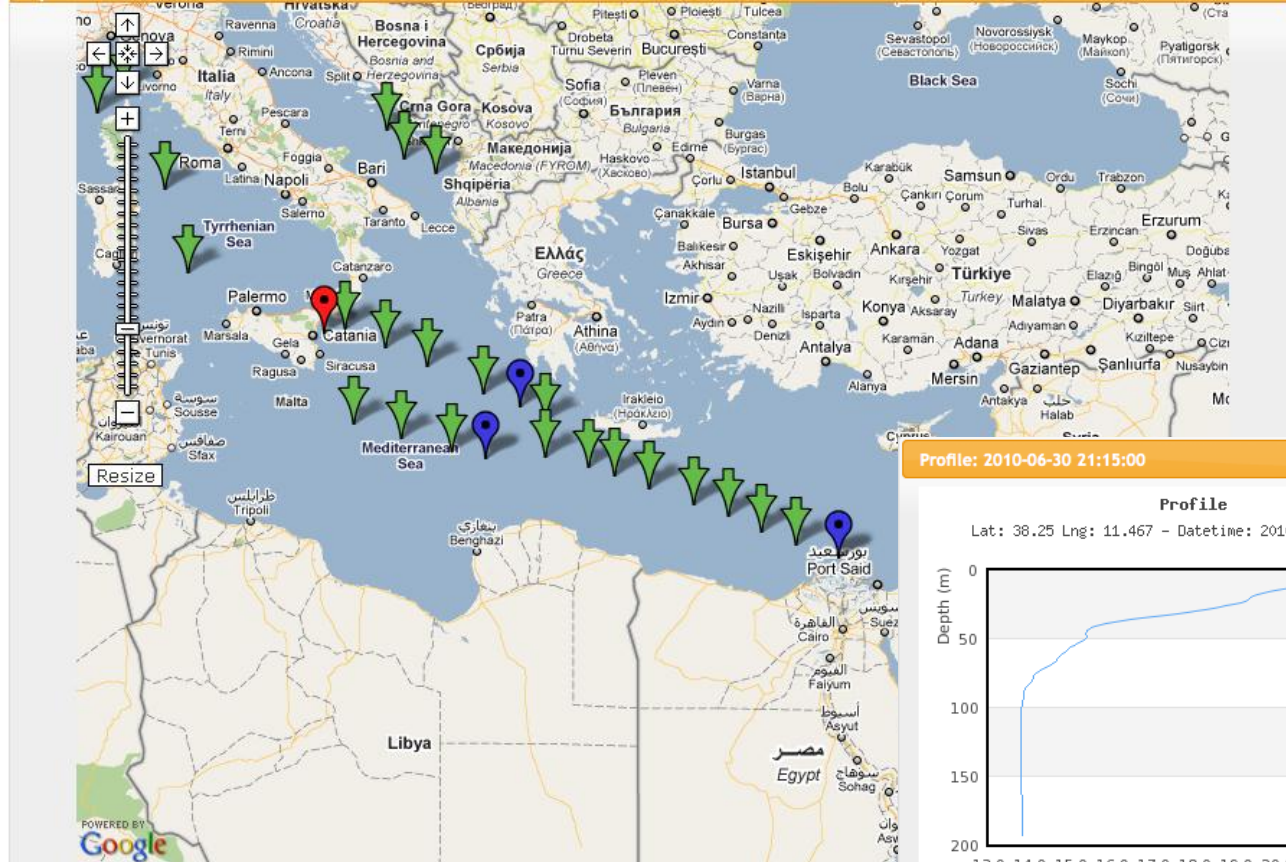
s-w corner 23.60 7.87

From 2002-06-05

To 2011-06-22

- ☒ Enea
- ☒ Emso - Moist

## Map



## In collaboration with



## Ticketing System

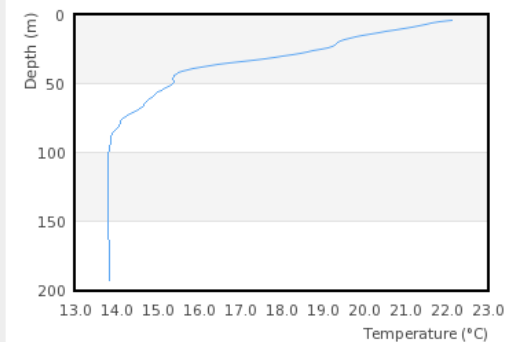
? Help

Surface and Deep  
Sea data  
Visualization  
Service: an  
external  
application  
exploiting the  
GENESI-DEC  
programming  
interface

Profile: 2010-06-30 21:15:00

## Profile

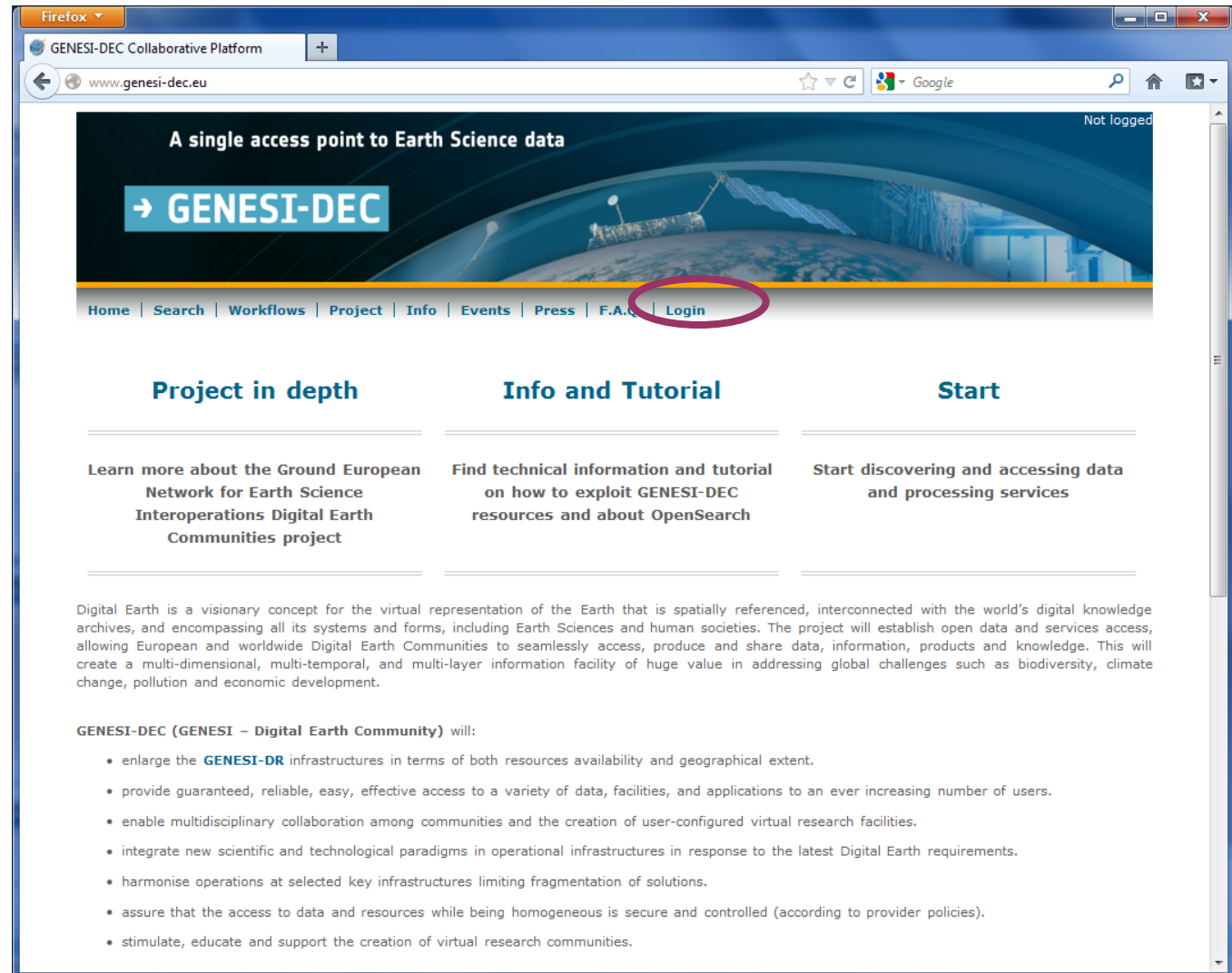
Lat: 38.25 Lng: 11.467 - Datetime: 2010-06-30 21:15:00



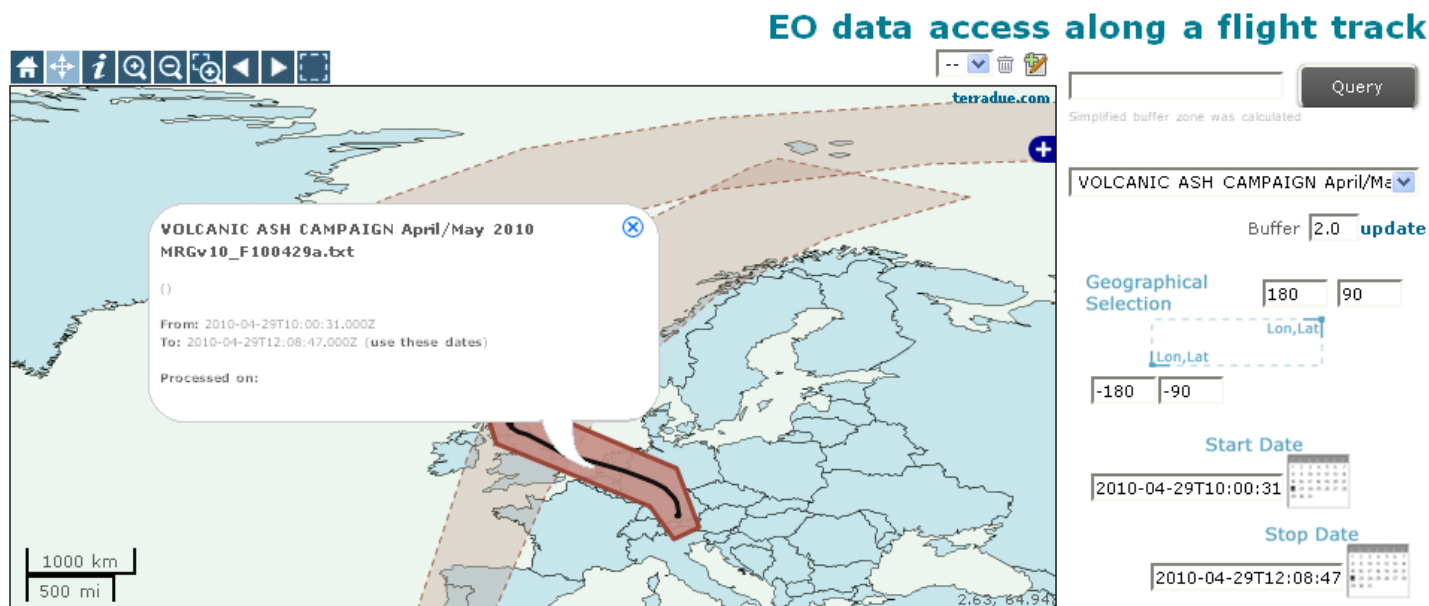
Download

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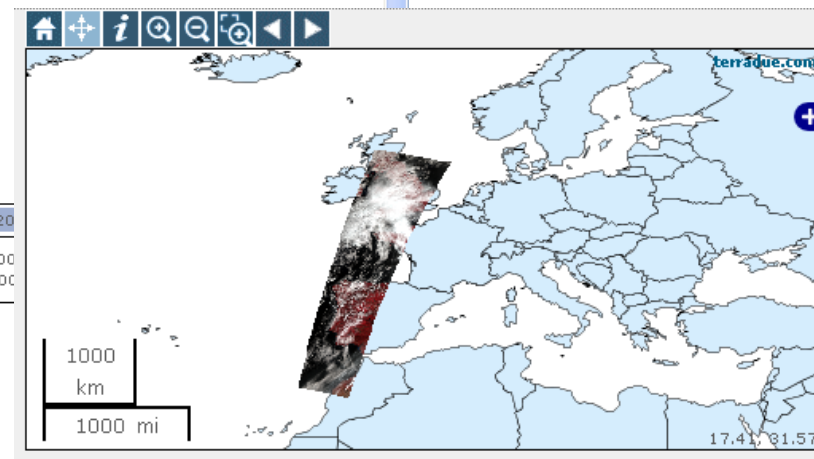
**GENESI-DEC**  
services are  
accessible to  
logged in users  
by clicking on  
*Services*



# The “EO data access along a flight track service”

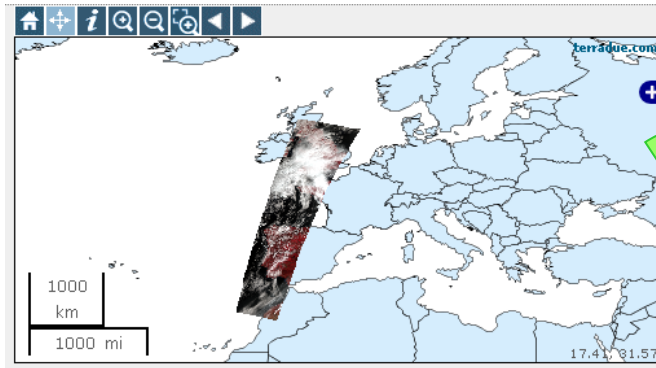


For discovery and visualization of **aircraft data** with **co-located atmospheric satellite products**

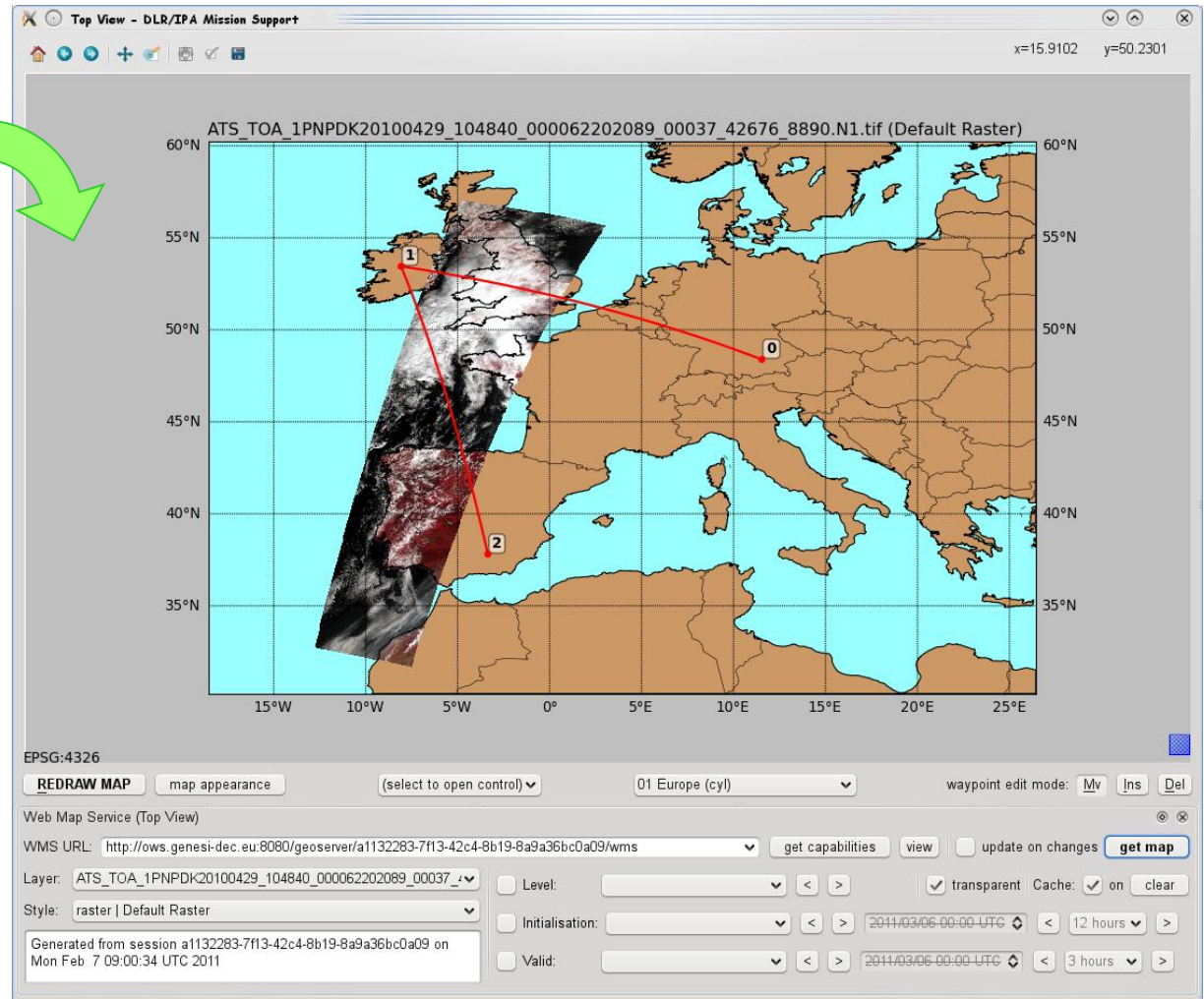




# The "EO data access along a flight track service"



DLR MSS accesses the output of the service for **flight planning and post-campaign data analysis/interpretation**





# Using GENESI-DEC services: step by step procedure

1. After logging in to the GENESI-DEC Portal, **select the service** of interest, in this case “EO data visualization along a flight track”;
2. **Discover the input data** (in this case the flight track) based on user set criteria and select those of interest;
3. (In this case) discover satellite data based on selected flight data;
4. **Select input data** (in this case satellite data to be processed), **set the processing parameters** and **submit the task** to the computing resources;
5. **Visualize and retrieve the results.**



# Step 2. Discover flight data

[Home](#) | [Search](#) | [Project](#) | [Info](#) | [Events](#) | [F.A.Q.](#) | [Consortium](#) | [Services](#) | [Workspace](#) | [Logout](#)

## EO data visualization along a flight track

Geographical Selection

Lon, Lat

Start Date

Stop Date

Dataset Series

File Name

Start Time

End Time

Processing Center

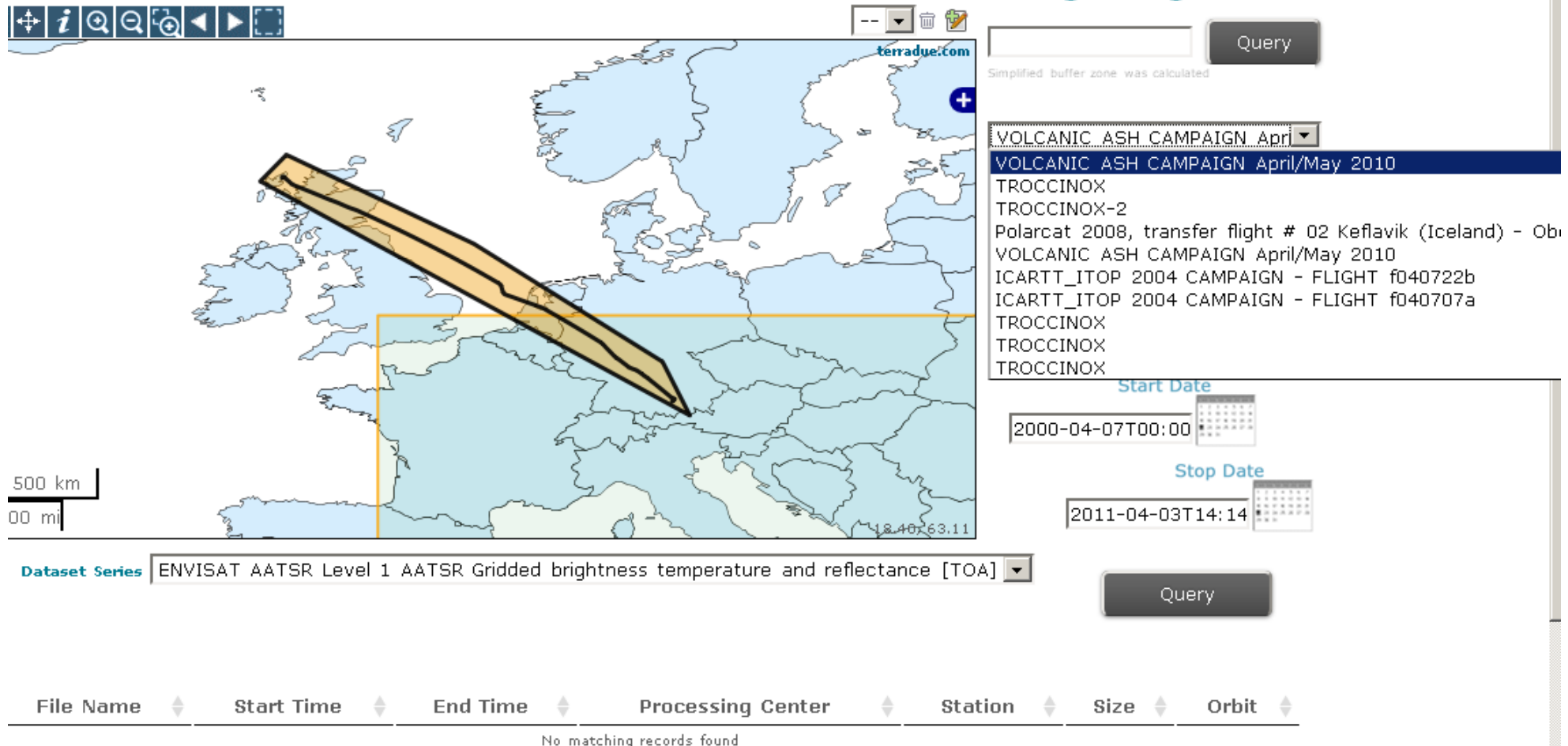
Station

Size

Orbit

No matching records found

# Step 3. Discover satellite data based on selected flight tracks



The screenshot shows the GENESI-DEC web interface. On the left, a map of Europe and the Atlantic Ocean is displayed with a yellow flight track over the Atlantic. A scale bar indicates 500 km and 300 mi. The map is labeled with coordinates 12.40x63.11. On the right, a search interface is shown with a 'Query' button and a list of data series. The list includes 'VOLCANIC ASH CAMPAIGN April', 'VOLCANIC ASH CAMPAIGN April/May 2010', 'TROCCINOX', 'TROCCINOX-2', 'Polarcat 2008, transfer flight # 02 Keflavik (Iceland) - Obi', 'VOLCANIC ASH CAMPAIGN April/May 2010', 'ICARTT\_ITOP 2004 CAMPAIGN - FLIGHT f040722b', 'ICARTT\_ITOP 2004 CAMPAIGN - FLIGHT f040707a', 'TROCCINOX', 'TROCCINOX', and 'TROCCINOX'. Below the list, there are 'Start Date' and 'Stop Date' fields with calendar icons. The 'Start Date' field is set to '2000-04-07T00:00' and the 'Stop Date' field is set to '2011-04-03T14:14'. A 'Query' button is located below these fields. At the bottom, a table header is visible with columns: File Name, Start Time, End Time, Processing Center, Station, Size, and Orbit. Below the header, it says 'No matching records found'.

Dataset Series: ENVISAT AATSR Level 1 AATSR Gridded brightness temperature and reflectance [TOA]

Start Date: 2000-04-07T00:00

Stop Date: 2011-04-03T14:14

Query

File Name	Start Time	End Time	Processing Center	Station	Size	Orbit
No matching records found						



# Step 4. Select input data, set input parameters and submit task

.03_015037_000046073101_00103_47531_0075.N1	2011-04-03T01:50:37.000Z	2011-04-03T03:07:25.000Z	PDHS-E	PDHS-E	583071391	47531
.03_030414_000063743101_00104_47532_0109.N1	2011-04-03T03:04:14.000Z	2011-04-03T04:50:29.000Z	PDHS-E	PDHS-E	806574003	47532
.03_044617_000062973101_00105_47533_0135.N1	2011-04-03T04:46:17.000Z	2011-04-03T06:31:15.000Z	PDHS-E	PDHS-E	796856029	47533
.01_070811_000062203101_00078_47506_4565.N1	2011-04-01T07:08:11.000Z	2011-04-01T08:51:51.000Z	PDHS-K	PDHS-K	787147185	47506
.03_073445_000062973101_00107_47535_5404.N1	2011-04-03T07:34:45.000Z	2011-04-03T09:19:43.000Z	PDHS-K	PDHS-K	796860855	47535
.03_091547_000060673101_00108_47536_5447.N1	2011-04-03T09:15:47.000Z	2011-04-03T10:56:54.000Z	PDHS-K	PDHS-K	767715387	47536
.03_105350_000062203101_00109_47537_5478.N1	2011-04-03T10:53:50.000Z	2011-04-03T12:37:30.000Z	PDHS-K	PDHS-K	787138055	47537
.03_123311_000061433101_00110_47538_5518.N1	2011-04-03T12:33:11.000Z	2011-04-03T14:15:35.000Z	PDHS-K	PDHS-K	777423247	47538
.03_141113_000061433101_00111_47539_5541.N1	2011-04-03T14:11:13.000Z	2011-04-03T15:53:37.000Z	PDHS-K	PDHS-K	777425737	47539

Select All

Delete

## Service Parameters

Task Caption

Flight Visu Task

## Processing Options

Publish Server

GENESI-DEC portal

Save in Workspac

Process it!

Compression

☐ None ☐ Single File ☐ Unique Package

Computing Element

GENESI CE 05

Priority

Normal

[Home](#) | [Search](#) | [Project](#) | [Info](#) | [Events](#) | [F.A.Q.](#) | [Consortium](#) | [Services](#) | [Workspace](#) | [Logout](#)

## Flight Visu Task

Task ID: 55ceadcb-006b-4fb7-8032-bc3b254821c7

Service: EO data visualization along a flight track

Status: Active ( [refresh](#) ) Cost: 1Progress:  0%

Creation Time: 2011-04-05T10:04:47 (UTC)

Submission Time: 2011-04-05T10:05:12 (UTC)

Completion Time:

Processing ID: S\_130199791246866228040689373245

CE: grid-eo-engine05.esrin.esa.int



## Task Operations

Owner

Eliana Li%20Santi

Publish Server

GENESI-DEC portal

Compression

None

Caption

Flight Visu Task

Apply changes

Abort

Upgrade Task

Edit as New

Process Again!

☐ Requrey Input Data

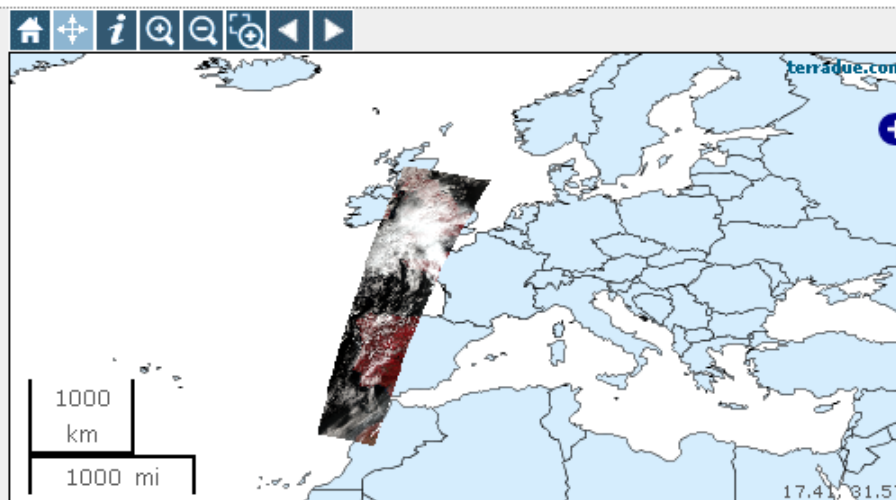
Save as New





Delete

[more information](#)

# Step 5. Visualize and retrieve results

**Task ID:** a556b413-46ae-4a21-adcb-1990e13a7be3  
**Service:** EO data visualization along a flight track  
**Status:** Completed ( [refresh](#) ) **Cost:** 1  
**Progress:**  100%  
**Creation Time:** 2011-02-07T09:05:36 (UTC)  
**Submission Time:** 2011-02-07T08:13:02 (UTC)  
**Completion Time:** 2011-02-07T09:13:21 (UTC)  
**Processing ID:** S\_129706954459645590174501192911  
**CE:** grid-eo-engine05.esrin.esa.int



Quicklook	Result Identifier	Start Time	End Time	Format
	ATS_TOA_1CNPKD20100429_105507_000004142089_00037_22860_8890.N1			application/x-N1-Envisat
<b>Files:</b> <a href="http://portal.genesi-dec.eu/genesioutput/a556b413-46ae-4a21-adcb-1990e13a7be3/ATS_TOA_1CNPKD20100429_105507_000004142089_00037_22860_8890.N1">http://portal.genesi-dec.eu/genesioutput/a556b413-46ae-4a21-adcb-1990e13a7be3/ATS_TOA_1CNPKD20100429_105507_000004142089_00037_22860_8890.N1</a>				
	 ATS_TOA_1PNPKD20100429_104840_000062202089_00037_42676_8890.N1.tif			image/tiff
<b>Files:</b> <a href="http://portal.genesi-dec.eu/genesioutput/a556b413-46ae-4a21-adcb-1990e13a7be3/ATS_TOA_1PNPKD20100429_104840_000062202089_00037_42676_8890.N1.tif">http://portal.genesi-dec.eu/genesioutput/a556b413-46ae-4a21-adcb-1990e13a7be3/ATS_TOA_1PNPKD20100429_104840_000062202089_00037_42676_8890.N1.tif</a>				
	ATS_TOA_1PNPKD20100429_104840_000062202089_00037_42676_8890.N1.tif.wms			image/png
<b>Files:</b> <a href="http://ows.genesi-dec.eu:8080/geoserver/a556b413-46ae-4a21-adcb-1990e13a7be3/wms?service=WMS&amp;version=1.1.0&amp;request=GetMap&amp;layers=a556b413-46ae-4a21-adcb-1990e13a7be3:ATS_TOA_1PNPKD20100429_104840_000062202089_00037_42676_8890.N1.tif&amp;styles=&amp;bbox=-12.7989197,31.6254570,3.0607467,57.0358200&amp;width=1727&amp;height=2767&amp;srs=EPSG:4326&amp;format=image/png">http://ows.genesi-dec.eu:8080/geoserver/a556b413-46ae-4a21-adcb-1990e13a7be3/wms?service=WMS&amp;version=1.1.0&amp;request=GetMap&amp;layers=a556b413-46ae-4a21-adcb-1990e13a7be3:ATS_TOA_1PNPKD20100429_104840_000062202089_00037_42676_8890.N1.tif&amp;styles=&amp;bbox=-12.7989197,31.6254570,3.0607467,57.0358200&amp;width=1727&amp;height=2767&amp;srs=EPSG:4326&amp;format=image/png</a>				



# GENESI-DEC

## *GENESI-DEC User Tutorial*

### *GENESI-DEC Training*

**INFRA-2010-1.2.3 : Virtual Research Communities**

**Duration : May 1, 2010 – April 30, 2012**

**Total EC funding : 2.15 M€**

# *Thank You!*



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