## Presentation Overview

1. Data Policy (ESA Ers, Envisat, EarthExplorers and Copernicus Sentinels)

2. ESA Data access (*ENVISAT and ERS archives and Earth Explorers*)

    1. EO-SSO registration

    2. My Online data access (Free dataset)

    3. Project proposal and access to Restrained dataset

3. Sentinel Data access (*Sentinel-1*)

    1. Use typologies (focusing on scientific users)

    2. Sentinel data hub (registration, search and download)

4. Important Websites (PI Community,Sentinel online,SEOM)
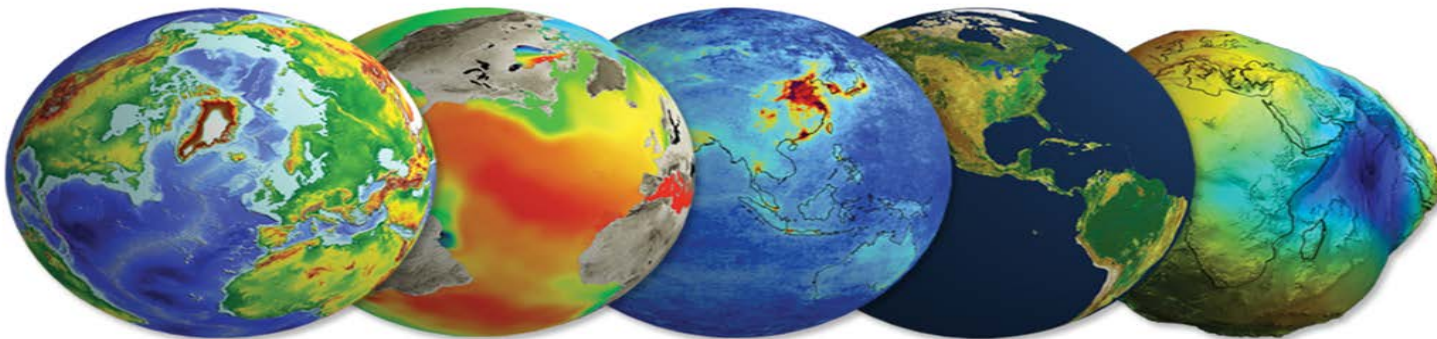
Data Policy

ERS and Envisat

Earth Explorers

Revised ESA Earth Observation Data Policy
ESA/PB-EO(2010)54

- **Free datasets (for all data available on Internet)**

- **Restrained datasets (in case of technical constraints)**

Sentinels

Copernicus (GMES) Data Policy,
Joint Principles for Sentinel Data Policy
[ESA/PB-EO(2013)30, rev.1]
• Free, full and open data policy

ESA Earth Observation Data Policy

ESA Data Policy **for ERS, Envisat and ESA Earth Explorers Missions**

- ❑ **to stimulate a <u>balanced development</u> of Science, Public Utility and Commercial Applications, consistent with the mission objectives**

- ❑ **to maximize the beneficial use of data from ESA EO satellites**
- ❑ **<u>Data free of charge</u> (for both dataset types below)**

<div align="center">

Definition of Dataset Types

</div>

Free data

Comprises majority of data available, for on-line data collections (i.e. dataset without technical or budget limitations)

- Open access and free of charge

- User registration done electronically including user acceptance of **ESA Terms & Conditions** (on-line)

- Immediate on-line access to the dataset

Restrained data

For all other dataset (mainly framed dat...   ...archive, e.g. ASAR IM or ASAR AP)

- Free of charge – Project (Full) Propos...   ...unity webpage, data distributed, upon the user acceptance of the **ESA Terms & C**...   ...th assigned quota after evaluation and acceptance (typically 2/4 weeks)

Expected to change in July 2016 (ASAR, SAR)

ESA Earth Observation data access (Ers ,Envisat ,Earth Explorers - overview)

Free Dataset

- **Envisat/ERS Missions (Atmospheric, Chemistry, Altimetry, Scatterometer)**
- **MERIS Reduce Resolution**
- **(A)ATSR**
- **ESA Earth Explorers (GOCE, SMOS and CRYOSAT)**

⬇

User Registration
(Log in to My Earthnet)

⬇

Add needed products in
***My Online Data* section**

⬇

Online acceptance of
Terms & Conditions to use ESA
and/or TPM data

⬇

Get access info for selected
products (FTP, EOLI-SA, MERCI)

Restrained Dataset

- **Envisat/ERS Missions (e.g. ASAR HR and SAR)**
- **ESA TPM Missions (ALOS, SPOT, etc.)**
- **MERIS Full Resolution**

⬇

User Registration
(Log in to My Earthnet)

⬇

Write a Project Proposal

⬇

...ceptance of
...ions to use ESA
...r TPM data

⬇

...r the acceptance of the
...ject by ESA, submission of
the orders via EOLI-SA

Expected to change in July 2016 (ASAR, SAR)

EO-SSO account Registration & Log in (1/3)

The EO-SSO account allows the PI to access to *My Earthnet* functionality.

If you **do not** have an EO-SSO account, follow the registration procedure starting from:
https://earth.esa.int/web/guest/home or https://earth.esa.int/web/guest/pi-community

Step 1 – Click *'Register'* button at the top of the page

Step 2 - Fill in the registration form with your prospective account details
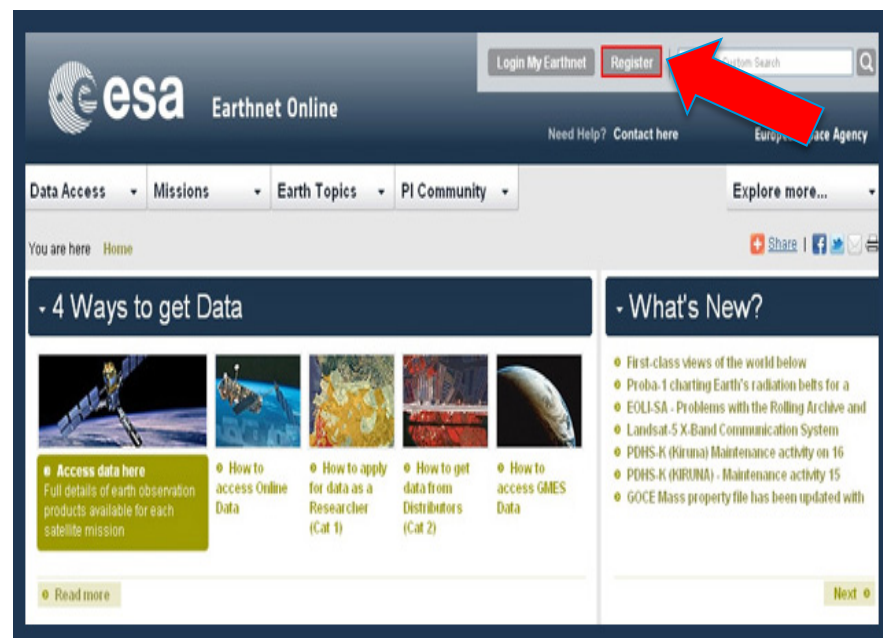
Step 3 – Click the *'Registration'* button once the form is completed

Your new account will be generated, and you will shortly receive an automated email asking you to activate this account. Simply click on the link provided in the email, and your registration will be complete.

My Online Data (Free Dataset) Access

The access to the selected Online data, is provided by ESA EO Help & Order Desk. They will address you to the appropriate system providing direct access to EO data for download via internet

Geographical interface for MERIS RR / (A)ATSR archived products

e.g. download for Proba archived products

Project (Full) Proposal Submission (1/2)

Expected to change in July 2016 (ASAR, SAR)

Once you are in your personal area of *My Earthnet* you can:

- **Start the submission of a Project (Full) Proposal clicking on *'New Project'* button on the right panel**

- **Respond to an ESA Call to access data from new specific Missions (e.g. SWARM) or International cooperation (e.g. Dragon-3)**

List of the Open Calls available at:
https://earth.esa.int/web/guest/pi-community/apply-for-data/ao-s
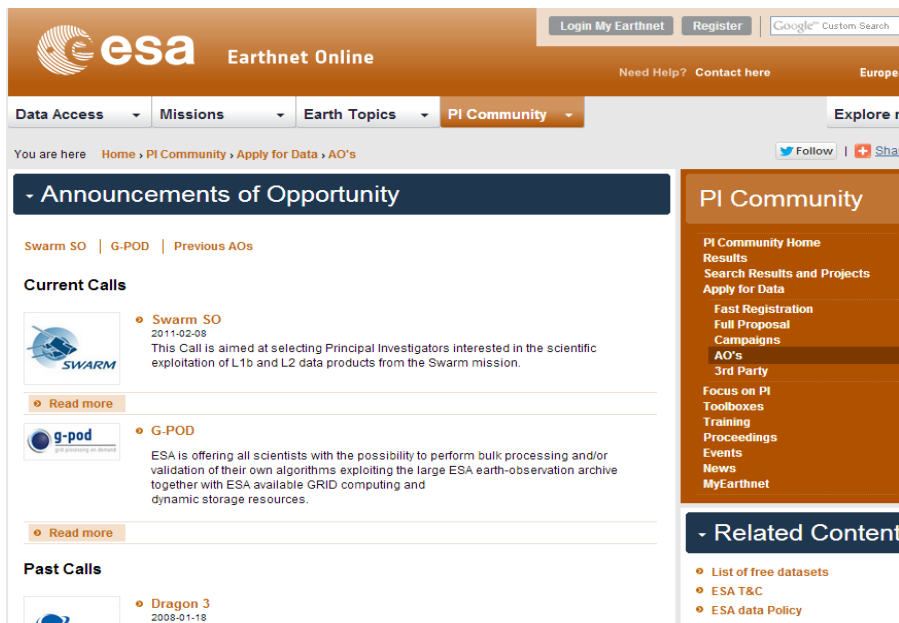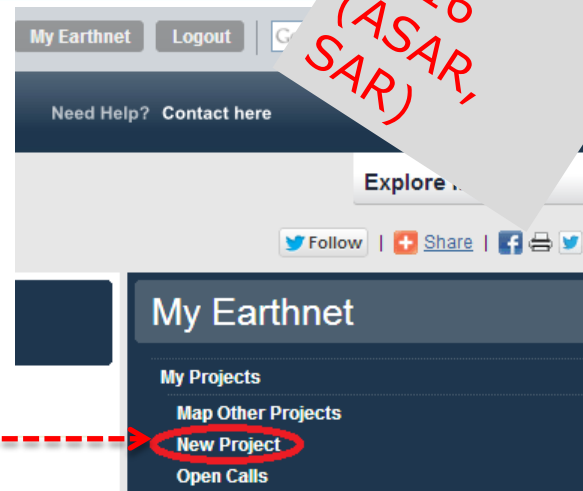
Project (Full) Proposal Submission (2/2)
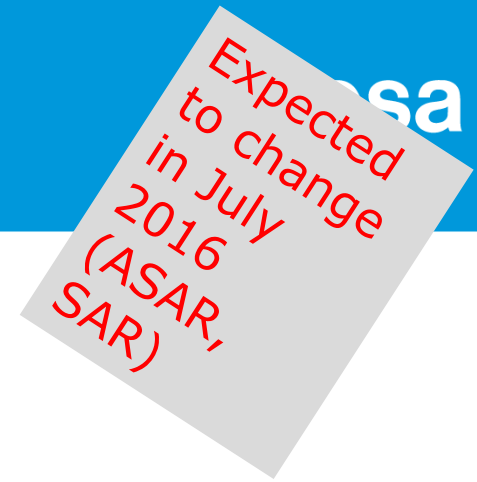
The submission forms are tailored to several different aspects of the Project (Full) Proposal:

- The Cover page: general information about the PI and an overview of the project
- The Team Composition, Innovation and Contribution sections
- The Detailed Description and Schedule of the Project
- The Data Description pages
- Acceptance of ESA & TPM Terms and Conditions

Detailed Description and Schedule of the Project Proposal

is the most important part of the Project Proposal and the main basis for its evaluation. It should include as a minimum the following information:

- Technical and scientific approach and methods proposed to meet the proposal's objectives, and the success criteria of the project.
- Anticipated results and deliverables of the investigation, and schedule for availability of such results and deliverables.
- Work Plan of the investigation, including a description of the key milestones and associated deliverables, the planned use of data, software/tools, models and facilities.
- Justification for the amount and type of requested data products.

Data Requirements: Instruments and Products

In order to better complete this section, providing the necessary information about the requested products, before submitting a proposal, it is strongly recommended to consult the ESA Catalogues as far as the ESA Earth Observation data coverage is concerned.
The EOLI catalogue can be freely used for search and browsing as an anonymous user. No user registration is required for this.

Further details available in the Guidelines for the submission of Project Proposals at: https://earth.esa.int/files/guidelines

Access to the Restrained Dataset

- **The Proposal, once submitted, will be reviewed and a quota will be assigned** h...

- **The PI will receive the notification via email (Final Acceptance email)**

- **ESA EO Help & Order Desk will send to the PI the instructions how to access to the requested products (Restrained Dataset). Usually an <u>EOLI-SA</u> account will be created to place the orders.**

The **EOLI – Stand Alone (SA)** Client provides access to the online ESA catalogues of EO products, allowing the visualisation of quick-looks and online ordering. **Latest version 9.4.3, available on http://earth.esa.int/EOLi/EOLi.html**

File   App   Result Set   Map   View   Help

esa   EOLI
Disconnect   EOu are logged on as a default user
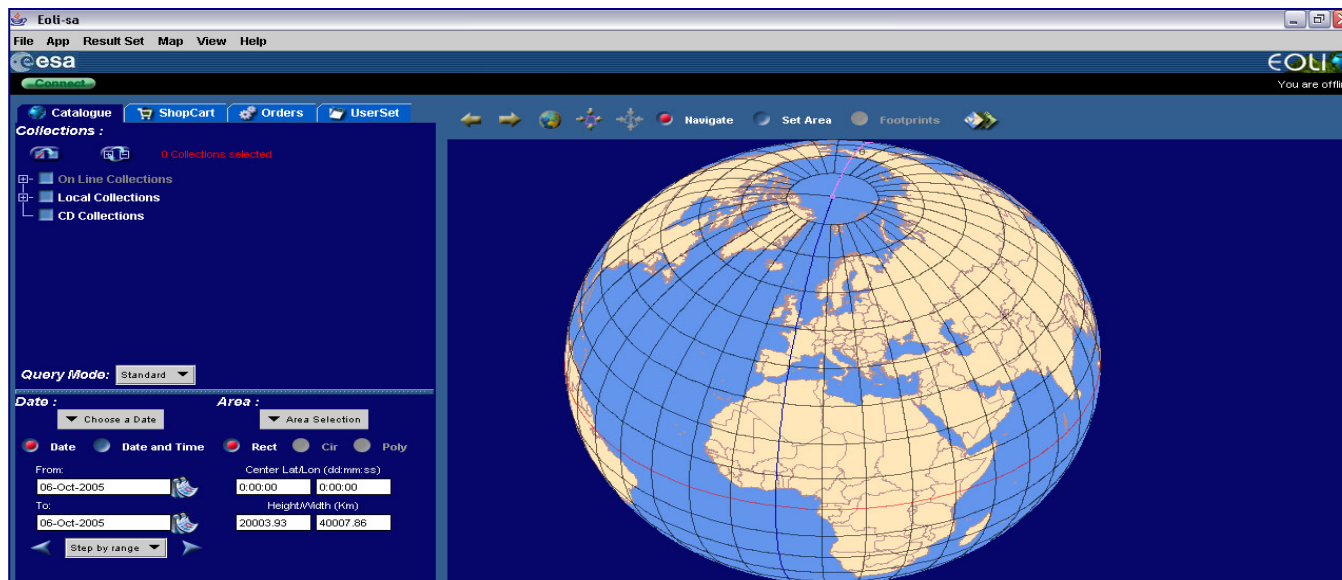
Catalogue   ShopCart   Orders   UserSet   Navigate   Set Area   Footpri

Product Details
MERIS Reduced Resolution Product
(2004-03-07 09:41:47.12 | 2004-03-07 09:51:09.98)

Collections :

2 Collections selected

Product Type Code	MERIS Reduced Resolution Product
Mission	Envisat
Sensor/Instrument	Medium Resolution Imaging Spectrometer
Acquisition Station	Envisat Kiruna Payload Data Handling Station
Scene Centre	
SceneCentre.Latitude	36.33
Pass Type	D
Orbit	10554
Last Orbit	10554
Track Number	480
Product Status	Acquisition Archived
Archiving Centre	LRAC
Processing Information	
Processing Algorithm & Version	PFHS/5.25

On Line Collections
  ENVISAT Striplines   **2. Sensors**
    ENVISAT ASAR
    ENVISAT MERIS
        L1+2 Full Resolution Striplines: MER_FR__1P, N
        L1+2 Reduced Resolution Striplines: MER_RR_
    ENVISAT AATSR
    ENVISAT MIPAS
    ENVISAT SCIAMACHY

Query Mode: Standard

Date :   **Area :**

Choose a Date   Choose an Area

Date   Date and Time   Rectangle   Circle

From: Center Lat/Lon (dd:mm:ss)
01-Mar-2004   32:14:58   14:09:29

To: Height/Width (dd:mm:ss)
10-Mar-2004   40:17:60   7:27:53

Step by range

3. Date

1. Area of Interest

Close   Print   Direct Order

1 record selected

Id	Product	Mission	Sensor	Start				
1	MER_RR	Envisat	MERIS	2004-03-01 09:30:24.54	2004			
2	MER_RR	Envisat	MERIS	2004-03-02 08:59:20.90	2004-03-02 09:10:29.98	D	10482	408
3	MER_RR	Envisat	MERIS	2004-03-03 08:37:42.96	2004-03-03 08:38:51.35	D	10496	422	✔
4	MER_RR	Envisat	MERIS	2004-03-03 10:07:15.52	2004-03-03 10:11:24.65	D	10497	423	✔
5	MER_RR	Envisat	MERIS	2004-03-04 09:36:06.02	2004-03-04 09:46:58.69	D	10511	437	✔
6	MER_RR	Envisat	MERIS	2004-03-05 09:04:48.51	2004-03-05 09:16:04.68	D	10525	451	✔
7	MER_RR	Envisat	MERIS	2004-03-06 08:41:30.23	2004-03-06 08:44:36.88	D	10539	465	✔
8	MER_RR	Envisat	MERIS	2004-03-06 10:13:00.63	2004-03-06 10:16:12.51	D	10540	466	✔
9	MER_RR	Envisat	MERIS	2004-03-07 09:41:47.12	2004-03-07 09:51:09.98	D	10554	480	✔
10	MER_RR	Envisat	MERIS	2004-03-08 09:10:31.08	2004-03-08 09:21:45.26	D	10568	494	✔
11	MER_RR	Envisat	MERIS	2004-03-09 08:45:19.01	2004-03-09 08:50:22.33	D	10582	7	✔
12	MER_RR	Envisat	MERIS	2004-03-09 10:18:46.08	2004-03-09 10:21:06.01	D	10583	8	✔
13	MER_RR	Envisat	MERIS	2004-03-10 09:47:27.90	2004-03-10 09:55:28.38	D	10597	22	✔

Submit Query

Results   Display

From July 2016: Envisat-ERS (A)SAR On-the-Fly (OTF) Data Processing and Data Download service

See: https://earth.esa.int/web/guest/content/-/article/new-service-to-go-live-envisat-ers-asar-on-the-fly-data-processing-and-data-download-service

Starting from July 2016, users will get **direct access** to ESA complete **(A)SAR archive**. This will allow users to both generate an (A)SAR Level 1 product directly from ESA's Level 0 data archive and download the generated product through the EOLI-SA interface.

The service will be implemented gradually first for **Envisat ASAR data from July 2016**, then for **ERS-1 and ERS-2 SAR data during autumn 2016**.

The <u>standard service</u> will allow users to obtain the following **Level 1 products**:
Envisat ASAR: IMS, IMP, APS, APP and WSS
ERS-1/2 SAR: IMS and IMP
This service will be regulated via a daily download quota.

The <u>advanced version</u> will allow some users to generate a larger amount of L1 products and/or download limited amount of L0 data segments. The promotion in the advanced user category will require a justification (and ESA authorisation).

The medium resolution Envisat WSM, IMM, APM and GM Level 1 products will be available via direct download from a separate ESA data access service.

In case of specific requests, please contact <u>EOHelp</u>

Copernicus Data Policy for Sentinels Missions

- ❑ **The Copernicus data policy is adopted via a Delegated Regulation**

- ❑ **This policy promotes the access, use and sharing of Copernicus information and data on a full, free and open basis**

- ❑ **One of the main objectives is to support downstream segment and research, technology and innovation communities**

- ❑ **The European research institutes will be able to make the best use of these data to create innovative applications and services**

Sentinel Data Policy = full and open access to Sentinel data to all users

In practical terms
- • **Anybody can (has the right to) access acquired Sentinel data**
- • **Licenses for the Sentinel data are free of charge**
- • **Online access with users registration including acceptation of T&C***

***TERMS AND CONDITIONS FOR THE USE AND DISTRIBUTION OF SENTINEL DATA** available online on the Sentinel website (https://sentinel.esa.int/documents/247904/690755/TC_Sentinel_Data_31072014.pdf)*

Sentinel data access for Scientific users-
(Sentinel Data Hub)

The free, full and open data policy adopted for the Copernicus programme foresees access available to all users for the Sentinel data products, via a simple registration.

Users can register and download Sentinel-1 data from the online Sentinel Data Hub (https://scihub.esa.int/)

Anyone can register online via self-registration. The self-registration process is automatic and immediate. Registration grants access rights for searching and downloading Sentinel-1 products. Sentinel-1 products are available at no cost for anybody. The data available through the Data Hub is governed by the Terms and Conditions of the use and distribution of Sentinel data, which the User is deemed to have accepted by using the Sentinel data.

The S-1 Scientific data Hub Rolling Archive maintains the latest 2 months of products for download via HTTP.

More technical https://scihub.esa.int/userguide/

From October 2014 first Copernicus satellite Sentinel-1A is operational (data available to all users via Sentinel data hub). Sentinel-2A data are available to users from December 2015.

Sentinel-1B data expected to be released to users from October 2016 and Sentinel-3 data from summer 2016.

…Click on "Enter data HUB"

Sentinel Data Hub overview and registration (2/4)

1) If you are already registered log in to start using the Sentinel Hub geographic interface to browse and download Sentinel data**, if you are a new user** click on the **circled red** link "Are you interested entering Sentinel Data Hub system?" to complete registration

2) fill this form to start registration procedure (username and e-mail address should be provided in lower case only) then you will receive a mail with a link to validate your mail address. Finally an administrator will be able to let you access to the Sentinel Data Hub.
Please note that by registering in this website you are deemed to have accepted the T&C for Sentinel data use.

European Space Agency

Sentinel Data Hub (3/4)
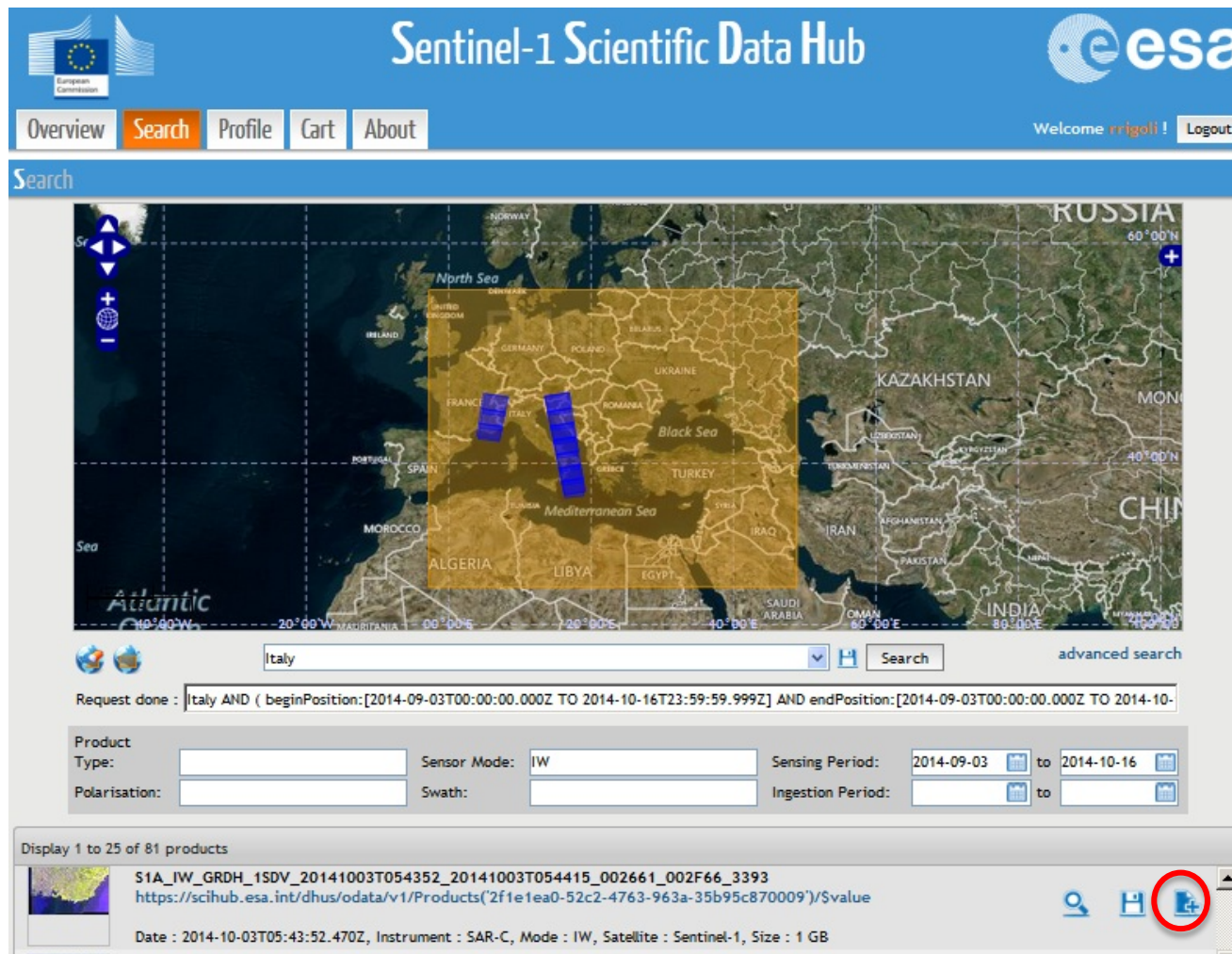
Once completed registration you can log in , click on `Search` **and start use Sentinel hub interface to search and download sentinels data .**

Search criteria available:

- **Draw region of interest**
- **Full text search**
- **Advanced search (prod, type,acqu.dates..)**

Select product of you interest and move it in the 'Cart' by clicking The circled red icon

Online inspection of the searched products by browsing and pre-viewing the product metadata and measurements without downloading it. A preview panel displays information on the product contents and structure.

Once moved the product(s) of your interest, click on **Cart** to start product download.

Select product of you interest and start download by clicking the circled red icon
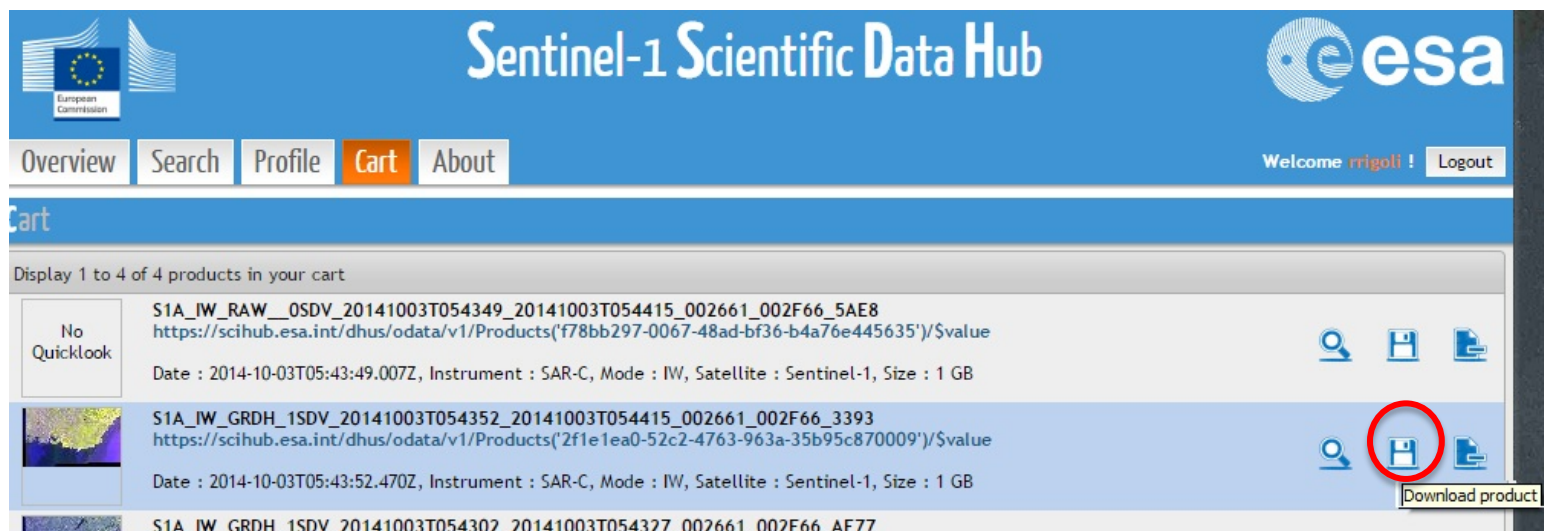
Sentinel-1 products are provided for download via HTTP in the .ZIP archive file format. Compression is not applied. Click and download, shopping cart, batch download. <u>A maximum of 2 concurrent downloads per user is allowed in order to ensure a download capacity for all users.</u>

Next features:
Batch scripting
Email notification (on user defined search criteria)

Advised Websites (1/3)
- ESA Principal Investigators

- **<u>ESA Principal Investigators (PIs):</u>** Scientific community worldwide with on-going research projects requiring ESA and / or Third Party Mission (TPM) instruments' data

- The PI Community Webpage is the main access point for ESA and ESA TPM data
  https://earth.esa.int/web/guest/pi-community

Adviced Websites (2/3)
-Sentinel online website

- **<u>Sentinel online website:</u>** technical guidelines for all sentinels, news and events related ,data access info and policy,last scientific resulst and more… https://sentinel.esa.int/web/sentinel/home

Adviced Websites (3/3)
- SEOM

- **ESA SEOM website:** Scientific Exploitation Operational (including Sentinels toolboxes)
https://http://seom.esa.int

Thank you

for your attention