

THE EUMETSAT EARTH OBSERVATION PORTAL
In response to CGMS action/recommendation A35.28/29

This document outlines the current status of and future plans for the EUMETSAT Earth Observation Portal. The purpose of the EUMETSAT Earth Observation Portal is three-fold:

1. To implement a central service point to provide the EUMETSAT User with a single point of online access to all EUMETSAT data and dissemination services. Thus, the EUMETSAT Earth Observation Portal will allow users to discover, search data and to order data or subscribe to dissemination services (in particular to services available on EUMETCast);
2. To expand the above portal to allow EUMETSAT Users to discover, search, order/subscribe earth observation data from partner agencies, in particular CNES Altimetry products, NOAA data, ECMWF data, GMES, etc;
3. To allow partner agencies to discover, search, order and subscribe to EUMETSAT data and dissemination services via a set of programmatic, interoperable services.

EUMETSAT has established a two-year project to realise the above requirements. The aim of the first phase is to implement the EUMETSAT User oriented functionality and the aim of the second phase is to implement catalogue interoperability with partner organisations.

Action/Recommendation proposed:

The EUMETSAT Earth Observation Portal

1 INTRODUCTION

This document outlines the current status of and future plans for the EUMETSAT Earth Observation Portal. The purpose of the EUMETSAT Earth Observation Portal is three-fold:

1. To implement a central service point to provide EUMETSAT users a single point of online access to all EUMETSAT data and dissemination services. Thus, the EUMETSAT Earth Observation Portal will allow users to discover, search data and to order data or subscribe to dissemination services (in particular to services available on EUMETCast);
2. To expand the above portal to allow EUMETSAT Users to discover, search, order/subscribe earth observation data from partner agencies, in particular CNES Altimetry products, NOAA data, ECMWF data, GMES, etc;
3. To allow partner agencies to discover, search, order and subscribe to EUMETSAT data and dissemination services via a set of programmatic, interoperable services.

EUMETSAT has established a two-year project to realise the above requirements. The aim of the first phase of this project is to implement the EUMETSAT user oriented functionality and the aim of the second phase is to implement catalogue interoperability with partner organisations.

2 THE EARTH OBSERVATION PORTAL PROJECT

2.1 Phase 1 – Access to EUMETSAT Data

This phase will deliver objective 1, as described above, whilst allowing activities associated with the prototyping of interoperability standards (discovery, distributed search, ordering and subscription) to be carried out in parallel.

The target of phase 1 is to deploy functionality to replace the existing “EUMETSAT Product Navigator” with a EUMETSAT tailored product to describe all EUMETSAT data resources (including products from the Satellite Application Facilities, SAFs, and some third-party data) by means of ISO 19115/19139 compatible with interoperability. From this application Users will be able to navigate to the dedicated EUMETSAT delivery mechanisms like the EUMETSAT Archive and EUMETCast, etc. The key requirements for data access are:

- To allow users to **discover** data collections¹
- To allow users to **search** for product instances
- To allow users to **register** to EUMETSAT operational services
- To allow users to **order and subscribe** to EUMETSAT data

¹ A collection is a type of data, a product type, for example High Rate SEVERI L1.5

2.1.1 Data Discovery/Search

One particular aspect of the discovery service is the ability to search on purely product type metadata (vs. particular instances) whereby Users shall be able to find, for example, where a specific product is archived, what dissemination methods are available for it, available data formats available, etc. For example, the User shall be able to discover collections based on any combination of the following metadata criteria:

- Name, acronym,
- Originating centre, product provider,
- Text description,
- Satellite(s), instrument(s),
- Resolution, Projection,
- Societal benefit area(s),
- Theme (Land, Marine, Atmosphere),
- Product status (Operational, Pre-operational, etc),
- Time/date range,
- Some predefined Coverage/Footprint (i.e. Full Global, Global Ocean, etc.),
- Real Time dissemination service(s), dissemination format(s),
- Archive centre(s), retrieval format(s),
- GEONETCast System (EUMETCast, FENGYUNCast, GEONETCast-Americas)
- etc.

The following collection's metadata shall be directly accessible by the Users:

- All those used for discovery, plus:
- Thumbnails/Browse/Samples (whenever applicable)
- Full geographical coverage
- Typical dissemination filename(s) (per service and format)
- Typical retrieval filename(s) (per format)
- Average file size(s) (per format)
- Related documentation links
- Location of further resources (preferably links to documents or web pages)

The following Figures illustrate the typical search criteria and information to be provided in the Portal version of the EUMETSAT Product Navigator.

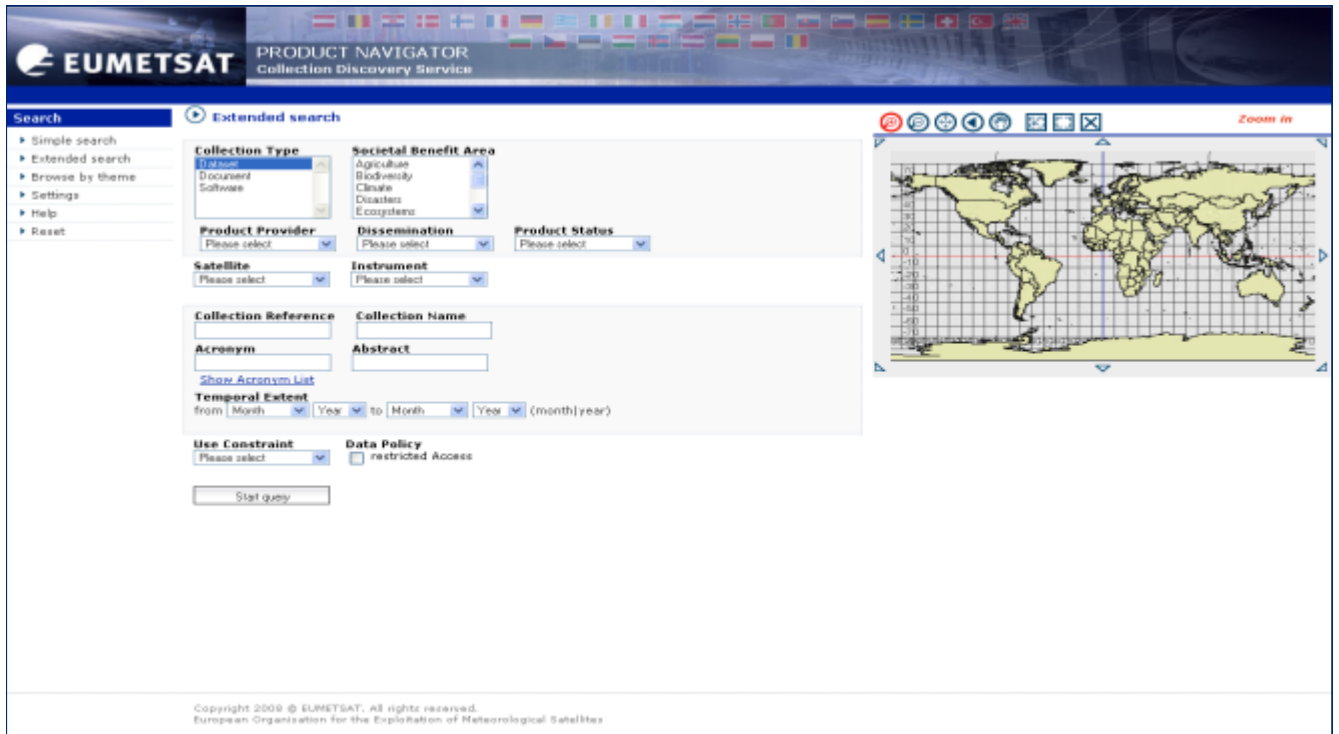


Figure 1 – Product Navigator Extended Search

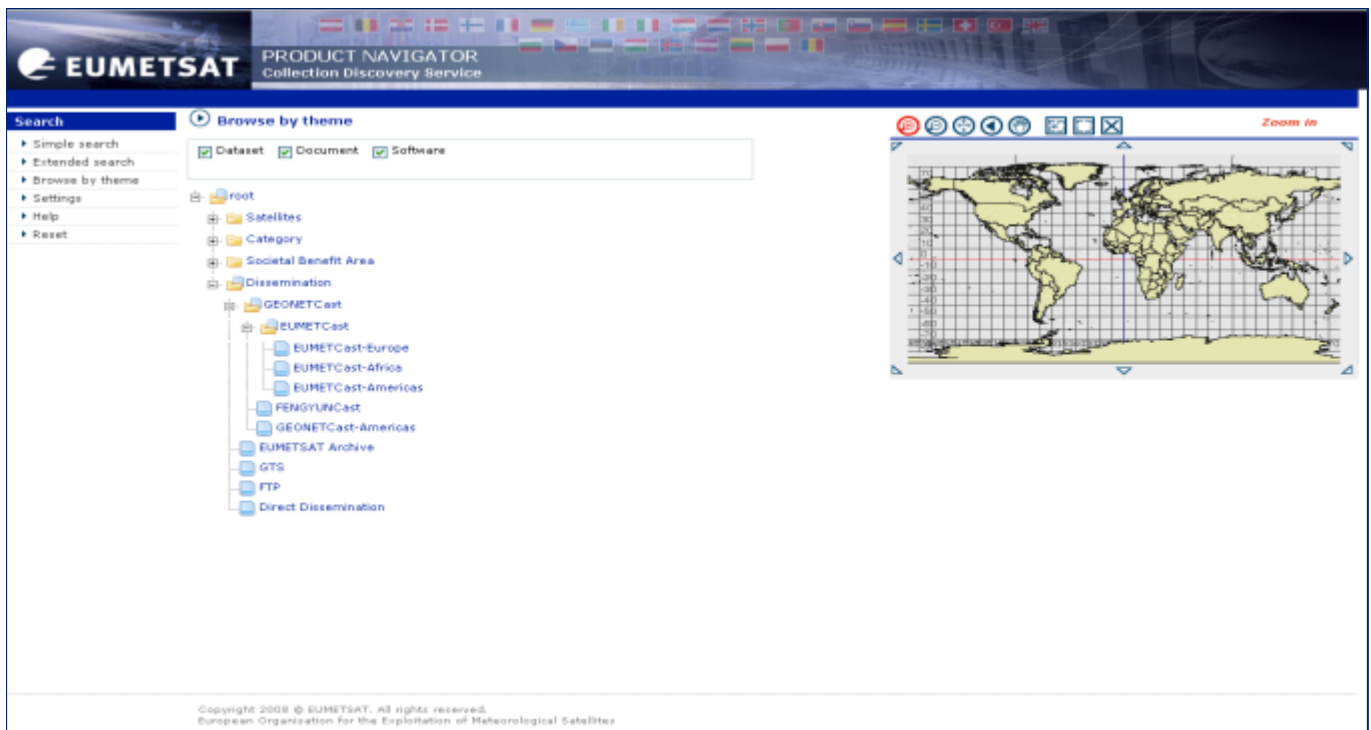


Figure 2 – Product Navigator Browse by Theme



Figure 3 – Product Navigator Typical Search Result

In addition to the online version, an extract of the Product Navigator comprising those datasets available on GEONETCast (EUMETCast, FENGYUNCast and GEONETCast-Americas) will be made available to GEONETCast Network Centres (GNC) for onward dissemination via the individual GEONETCast systems.

2.1.2 User Registration/Service Subscription and Ordering

The multiple EUMETSAT user registration tools (EUMETSAT Online Registration Form, Archive Online Ordering, the registration to the User Notification Service (UNS), etc.) are to be replaced by a single, centralised user management implementation. The existing legacy applications with existing user management functionality will be enhanced by this centralised system. The system shall allow:

- User details to be stored, e.g. address, contact details, registered services, registration status, status of orders, status of UNS registrations, etc).
- Users shall be able to view and update their own user account details, whilst maintaining standards for data protection/privacy.
- Users shall be able to order Archive data based upon the search results.
- It shall be possible to order future data (e.g. standing orders) and to follow-up on orders under process.

2.2 Phase 2 – Access to/from Partners and Clearinghouse Functions

This phase will deliver objectives 2 and 3, therefore expanding the Portal created on phase 1 towards external partners and agencies via a set of programmatic and interoperable services. This is typical clearinghouse functionality.

The objectives of the clearinghouse functionality are two-fold:

1. to provide EUMETSAT Users with a uniform means to access (discover, query and order/subscribe) earth observation data offered by other organizations, either manually from the GUI based interface or via the programmatic, interoperable services;
2. to allow external agencies and external partners to access (discover, query and order/subscribe) the EUMETSAT data via the programmatic, interoperable services.

Development will be based on the expertise in the area of interoperability gained during phase 1, the expected consolidation of the interoperability standards, the GEO initiative for service oriented interoperability, the ESA HMA project development and the WMO V-GISC project development. Figure 4 illustrates how the EUMETSAT Portal will interface with other Earth Observation portals.

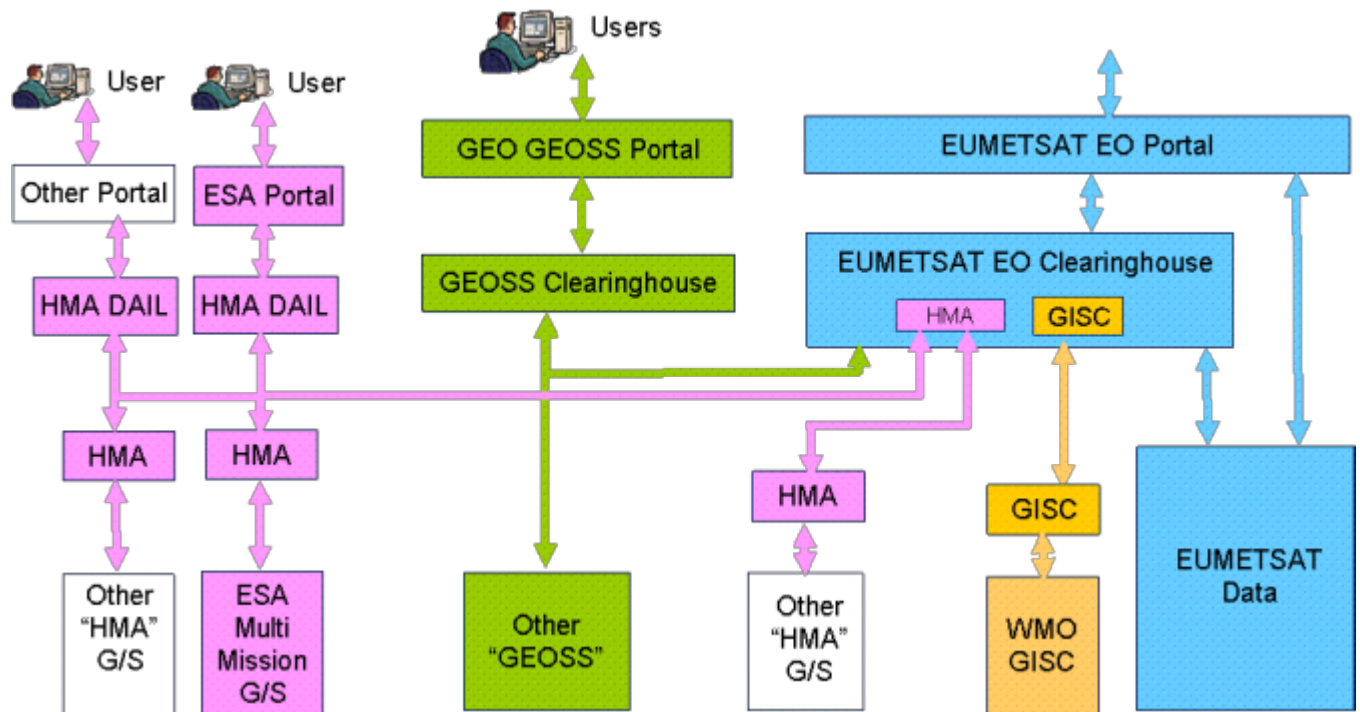


Figure 4 – Portal Clearinghouse

Bilateral data access agreements with the following organisations will be explored:

- CNES and CLS : for altimetry and oceanography products (in particular Jason products)
- NOAA : for all earth observation products
- ECMWF : for all kind of data exchanges
- ESA : for accessing the ESA Envisat, ERS, Proba and Sentinel data
- National Meteorological Services
- Plus other applicable organisations ...

It is noted that different agencies/partners may have different interoperability solutions for specific functionality and where necessary, specific adaptors may have to be implemented on top of the generic services. It is anticipated that User Management (authentication and the necessary security measures) will have to be adapted during this phase.

The system shall support the necessary standards (both for metadata and for services) to accommodate the target interoperability agreements, at present: OGC CSW, ISO Z9350, Dublin core, ISO 19115. The system shall support the addition of future metadata standards as defined by European Commission INPIRE directive. It shall also be designed to accommodate new metadata standards and new service standards to allow for interoperability as new partners arise.

3 OVERVIEW OF PROJECT PLANNING

The following is an indicative timeline for the availability of the Portal functionality:

Discovery Service:	
- New Online Product Navigator:	October 2008
- GEONETCast Product Navigator:	November 2008
User Registration and Dissemination Subscription:	March 2009
Archived Data Search:	August 2009
Archived Data Ordering:	October 2009
Clearinghouse and interoperability	July 2010

4 CONCLUSIONS

CGMS is invited to take note of the current status and the near term evolution of the EUMETSAT Earth Observation Portal.