

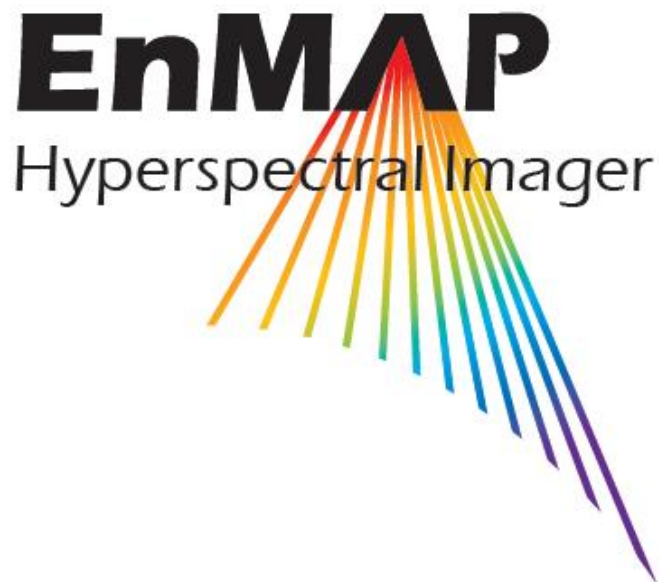


EnMAP Ground Segment

Portals User Manual

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German Remote Sensing Data Center (DFD)
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German Space Operations Center (GSOC)

TABLE OF SIGNATURES

Prepared

Date Nicole Pinnel (Application Support Director)

Reviewed, Approved & Released

Date Emiliano Carmona (Operations Mission Manager)

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1. Introduction

1.1 Purpose

This manual covers the Scientific User Workflow from user registration, User role assignment, Proposal workflow, Observation request Workflow and Data delivery using the following portals:

- User Portal
- Proposal Portal
- Calibration Request Portal
- Observation Request Portal
- EOWEB® Geoportal

1.2 Scope

This document applies to subsystem GS within the EnMAP Ground Segment for phases D/E/F [AR01].

2. References

2.1 Applicable References

The following documents are applicable to the extent specified herein.

Ref	Document ID	Document Title	Issue	Date
AR01	EN-GS-PLN-1001/A	Project Plan Phases C/D, E – Part A: Management	4.0	12.06.2018
AR02	EN-GS-PLN-2010	Ground Operations Plan	1.2	19.01.2022

Table 2-1: Applicable References

2.2 Normative References

The following standards have been used for preparing this report.

Ref	Document ID	Document Title	Issue	Date
NR01	ECSS-E-ST-40C	Software	-	06.09.2009
NR02	ECSS-E-ST-70C	Ground Systems and Operations	-	31.07.2008

Table 2-2: Normative References

2.3 Informative references

The following document(s) serve as background information.

Ref	Document ID	Document Title	Issue	Date
IR01	EN-PGS-UM-8004-1	IPS User Manual – External Users (not public)	1.60	22.03.2021
IR02		EnMAP Science plan 2022 (enmap.org)	2.00	02.11.2022
IR03		EnMAP Instrument Planning, system release is 2.04 webapp. 1.0.8., db 1.0.2. backend 1.0.2	2.04	
IR04	EN-PCV-ICD-2009-2	EnMAP HSI Level 1 / Level 2 Product Specification Document (enmap.org)	1.8	04.10.2022
IR05	EN-PCV-TN-4006	Level 1B Processor (Systematic and Radiometric Correction) ATBD (enmap.org)	1.8	03.04.2023
IR06	EN-PCV-TN-5006	Level 1C Processor (Geometric Correction) ATBD (enmap.org)	1.6	27.09.2022
IR07	EN-PCV-TN-6007	Level 2A Processor (Atmospheric Correction over Land) ATBD (enmap.org)	2.4	07.09.2023
IR08	EN-PCV-TN-6008	Level 2A Processor (Atmospheric Correction Water) ATBD (enmap.org)	3.1	06.10.2022

Table 2-3: Informative References

3. Terms, definitions and abbreviations

Terms, definitions and abbreviations for the EnMAP Ground Segment and the EnMAP Space Segment are collected and published on <http://www.enmap.org/> together with the mission description.

4. Overview

EnMAP (Environmental Mapping and Analysis Program) is a German hyperspectral satellite mission providing high quality hyperspectral image data on a timely and frequent basis. The main objective is to provide accurate and diagnostic information on the state and evolution of terrestrial and aquatic ecosystems for research and application in various fields such as agriculture and forestry, geology and soils, urban areas, coastal and inland waters. EnMAP is operated by the German Aerospace Center (DLR) covering all aspects relevant to assure successful mission operations. This comprises controlling and commanding the satellite using multi-mission infrastructures as well as data reception, hyperspectral data processing including calibration, data archiving, data dissemination, and providing web-interfaces to the international user community.

The target user group for this manual are regular EnMAP users, i.e. external science users who requested one or more roles in the user portal.

Further information can be found on www.enmap.org.

5. EnMAP Data Access Portal

5.1 General

The EnMAP Data Access Portal (EDAP) in general include two major entry points: the EnMAP Instrument Planning Portal (IPP) and the EOWEB® GeoPortal (EGP).

On the EnMAP Instrument Planning Portal (IPP) users can register, submit proposals, and plan and request future orders. The EOWEB® GeoPortal (EGP) contains the full EnMAP Data archive. Users can access EnMAP data using two different options:

- Users can request acquisitions through the EnMAP Instrument Planning Portal. The portal includes the Proposal Portal for proposal submission by all scientific users responding to an Announcement of Opportunity (AO) and the Observation Request Portal providing planning support of observation requests and submission of future orders.
- Users can search and order data in different processing levels from the German Satellite Data Archive (D-SDA) through the EOWEB® GeoPortal.

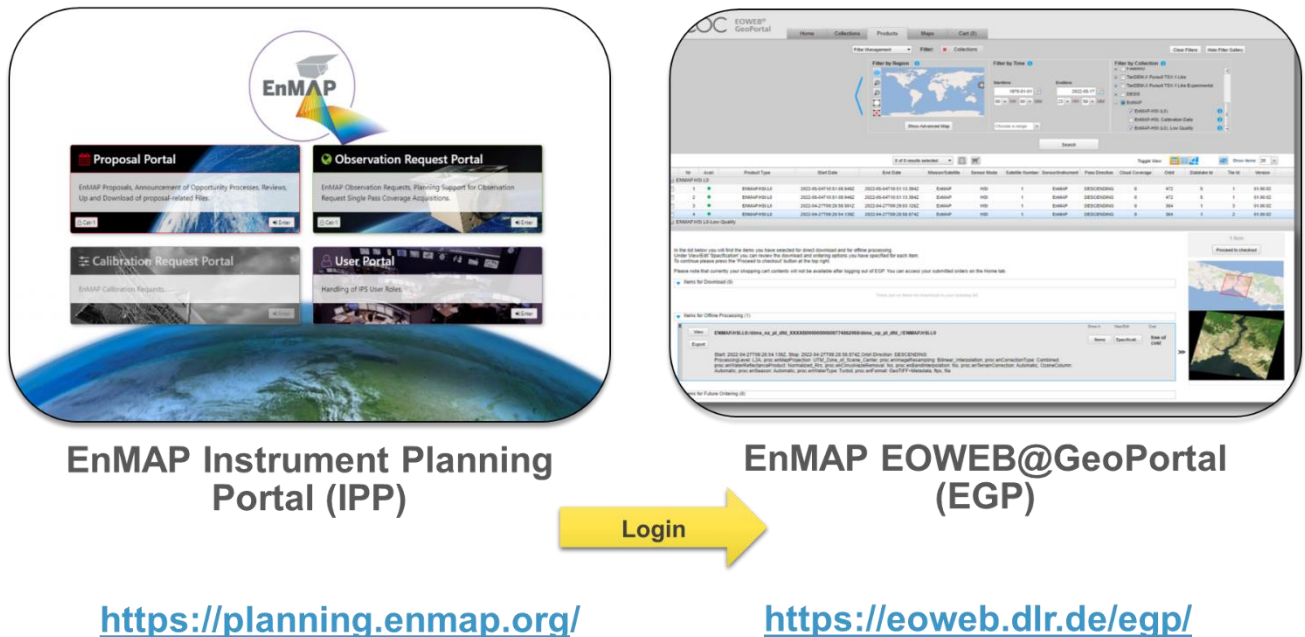


Figure 5-1 The EnMAP Data Access Portals (EDAP)

It is important to note that access to the EGP and thus to the EnMAP Data Archive should always be via the IPP, as role-specific EOWEB® User accounts are required to log into EGP. EOWEB® User accounts available to you are provided in the User Portal of the IPP.

5.2 Hardware and Software requirements

The Instrument Planning Web application was developed for PC, laptop and notebook. Due to its responsive design it may also be used with certain restrictions on tablet and smart phone, which usage however is neither supported nor recommended. The browsers for which the IPS Web application was developed and tested are:

- Chrome
- Firefox
- Opera
- Edge
- Safari

5.3 EnMAP Data Access

<https://planning.enmap.org>

system release is 2.0.4 | webapp 1.0.8, db 1.0.2, backend 1.0.2

5.4 EnMAP Sceencasts

The available Screencasts will guide you through the EnMAP Data Access process:

https://www.enmap.org/data_access/ **Screencasts**

- [How to register and assign in user roles](#)
- [How to submit a data proposal](#)
- [How to plan and request future observations](#)
- [How to search and download data from the archive](#)

If you have any questions concerning the EnMAP Data access please contact enmap_application_sp@dlr.de

5.5 Instrument Planning User Portal (IPP)

All users must first register at the **IPP**.

The **IPP** consists of 4 different Portals: (1) Proposal Portal, (2) Calibration Request Portal, (3) Observation request Portal and (4) User Portal:

- (1) The **Proposal Portal** includes the Announcement of Opportunity Processes, the proposal submission, and Proposal handling processes, as well as proposal review processes. The proposal portal allows Cat-1 Users to view all proposals and all observation requests.
- (2) The **Calibration Request Portal** is only available to internal users to enter Calibration Requests.
- (3) The **Observation Request Portal** allows users to enter observation requests. It also provides a planning tool for entering single-pass coverage acquisitions.
- (4) The **User Portal** is used to update user registration data, request new user roles, and provide access to the EOWEB User Accounts (EGP) for each approved role individually.

5.6 EOWEB® Geoservice (EGP)

The catalog search and order service (EGP) allows all registered users to search and browse data sets and products, that are described by corresponding ISO (International Organization for Standardization) metadata sets, and to visualize these products based on the CSW (Catalogue Service for the Web) and WMS (Web Mapping Service) protocols standardized by the OGC (Open Geospatial Consortium).

Due to the required multiple processing options, each product is generated specifically for the order and delivered using SFTP (secure file transfer protocol) provided by multi-mission facilities (chapter 9.2).

5.7 Available User Roles

After registration through the EnMAP Instrument Planning Portal (IPP) the EnMAP users can assume different roles before obtaining access to EnMAP data.

Directly after self-registration for an EnMAP Instrument Planning account, the new user account is not assigned to any specific EnMAP role yet. Thus, specific user roles must be assigned to first. The following user roles are available to external users.

As the overall management of the available satellite resources requires prioritization of observation requests, one major purpose of the different roles is to be able to assign priorities to observation requests based on the role(s) of an issuing user.

Although EnMAP is based on an open data policy and every type of user is in principle entitled to download data and request acquisitions, there will be different user categories to set acquisition priorities. The scientific (**Cat-1**) order for example has higher priority and is requested to submit a proposal, which will undergo a technical evaluation, whereas the commercial (**Cat-2**) user can acquire new data without a proposal, but will automatically be granted a lower priority. In addition to **Cat-1**, **Cat-2**, the role **Catalogue** has direct access to the EnMAP data archive, but this user is not allowed to submit future orders. The EnMAP Instrument Planning Portal is not open to **Cat-2** users yet, but will provide access also for this category very soon.

User Roles	Priority (if quota is not exhausted)
Internal	9
Charter	8
Cat-1 (Science) (high priority)	7
Cat-1 (Science) (standard priority)	6
Cat-2 (Commercial) (tbd.)	5
Cat-1 (Science) (low priority, e.g. quota exhausted)	4
Catalogue (Cat-1 Distributor)	-
Cat-2 Distributor (soon obsolete)	-
PI-AO	-
Reviewer	-
Background Mission (tbd.)	0

Table 5-1 User Roles and their associated priorities. Relevant user roles are in blue.

All other user roles either are designated for external users but not yet released (**Cat-2**) or are available to mission internal users only (**Charter, Internal, Back ground, PI-AO, Reviewer**). The role **Cat-2 Distributor** will be obsolete, soon.

Therefore, requests for one of those roles will be rejected

The following user roles are available to external users (see Table 5-1).

5.7.1 Category-1 User

A **Cat-1** User is a non-commercial (scientific) user assigned to a specific Announcement of Opportunity (AO) and is entitled to submit proposals within the scope of that Announcement of Opportunity. **Cat-1** user proposals undergo a scientific review process, which is performed by Reviewers. After the proposal is accepted, the **Cat-1** user is allowed to submit future orders through the Observation Request Portal (see chapter 8). The access to the EnMAP Data Archive is automatically approved.

5.7.2 Category-2 User

Commercial Users (**Cat-2**) may also place its own future EnMAP orders without submitting a proposal, however, a lower priority will be granted than e.g. to a scientific **Cat-1** User. The access to the EnMAP Data Archive is automatically approved.

The EnMAP Instrument Planning Portal is currently not open to **Cat-2** users, but access will be made available in 2024.

The data already available in the archive however can be used by any user, commercial or non-commercial. See also licence agreement under (see also 6.2)

https://www.enmap.org/data/resources/EnMAP_Data_License.pdf

5.7.3 Catalogue (Cat-1-Distributor) User

The **Catalogue** role grants direct access to the EOWEB Catalogue of the German Satellite Data Archive (D-SDA) at the EOWEB® GeoPortal (EGP). The EGP provides catalogue search and retrieval functions for all previously acquired EnMAP data which will be long-term archived together with quality parameters. All registered EnMAP User roles (**Cat-1, Cat-2, Catalogue**) have full access to the complete EnMAP data archive.

6. Step by Step Manual for the EnMAP Data Access and Ordering Process

6.1 Sign up at EnMAP Instrument Planning Portal Landing Page

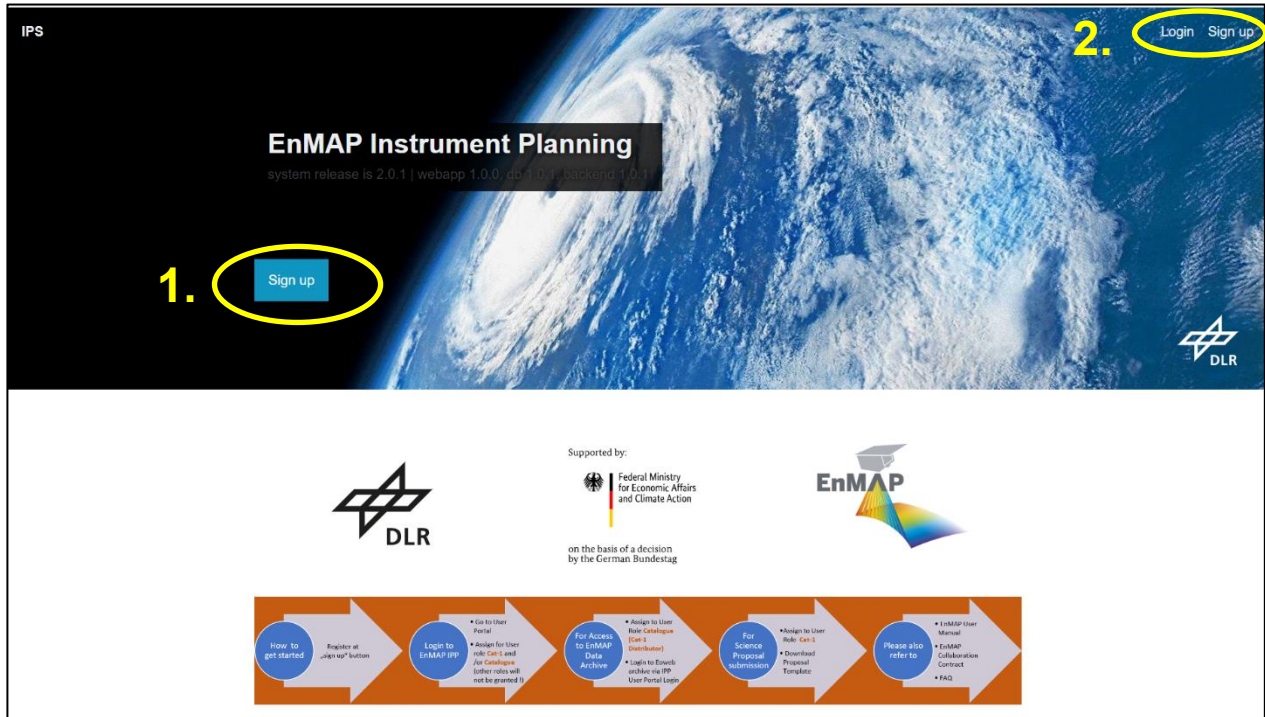


Figure 6-1 EnMAP Instrument Planning Portal Landing Page

New Users must register at the User Management System (UMS) by clicking the Sign-Up button (see Figure 6-1, Nr. 1.) at the Instrument Planning Portal landing page.

6.2 New User Registration and License Assignment

Please ensure that Javascript is activated, otherwise the User Management Services won't function properly.

To register a new account, please complete the below form. Fields marked with * are mandatory.

In case you wish to specify a billing and/or delivery address different from your home address specified in the below form, you will have the option to update them in your user profile in a later step. You can start this operation after successful registration by choosing the option "Update your personal information".

Only after accepting the Terms and the Data Protection Policy you can create your user account by clicking the create button; only in this case your data is stored and your account will be created.

Attention: please provide correct and complete information, including your real postal address. Failure in doing so will result in rejection of EnMAP role applications without further notice or termination of your account.

Title

First name*

Last name*

Category

Field of activity

Organization

Department

Street*

City*

State/Province

Country*

ZIP/Postal code*

Telephone number*

Email address*

Confirm Email address*

User name*
The username must contain at least 5 and not more than 32 characters out of a-z, A-Z, 0-9, '-' and '_' and must begin with an alphabetic character.

New Password*

- Password is case sensitive
- Must be at least 8 characters long
- Must not include parts of your first name, last name, email address and username of length 5 and more characters
- The password can only consist of 0-9, a-z, A-Z and ! # \$ % () ^ + , - . : ; = ? @ [] ^ _ { } ~ `

Figure 6-2 New User registration for the account and password self service

For the EnMAP services the following terms and conditions apply:

The EnMAP Acceptable Use Policy and Conditions of Use (AUP)

The EnMAP Collaboration Contract

The EnMAP Data License

The EnMAP Data Protection Declaration

In case for any reason you prefer not to accept these terms and conditions, none of your inputs made so far will be stored in our systems and no account will be created.

By selecting the check boxes below, you declare:

I have fully read, understood and accept the EnMAP Acceptable Use Policy and Conditions of Use (AUP), the EnMAP Collaboration Contract, the EnMAP Data License and the EnMAP Data Protection Declaration.

I accept the EnMAP Acceptable Use Policy and Conditions of Use (AUP).

I accept the EnMAP Collaboration Contract

I accept the EnMAP Data License.

I acknowledge that I have read and understood the EnMAP Data Protection Declaration.

I confirm that I have reached the age of 16 years.

Figure 6-3 New user registration and license assignment

Please provide correct and complete information, including your real postal address. Failure in doing so will result in rejection of EnMAP role applications without further notice or termination of your account.

The user must accept License files before registration approval.

The relevant documents can be found on www.enmap.org/licence:

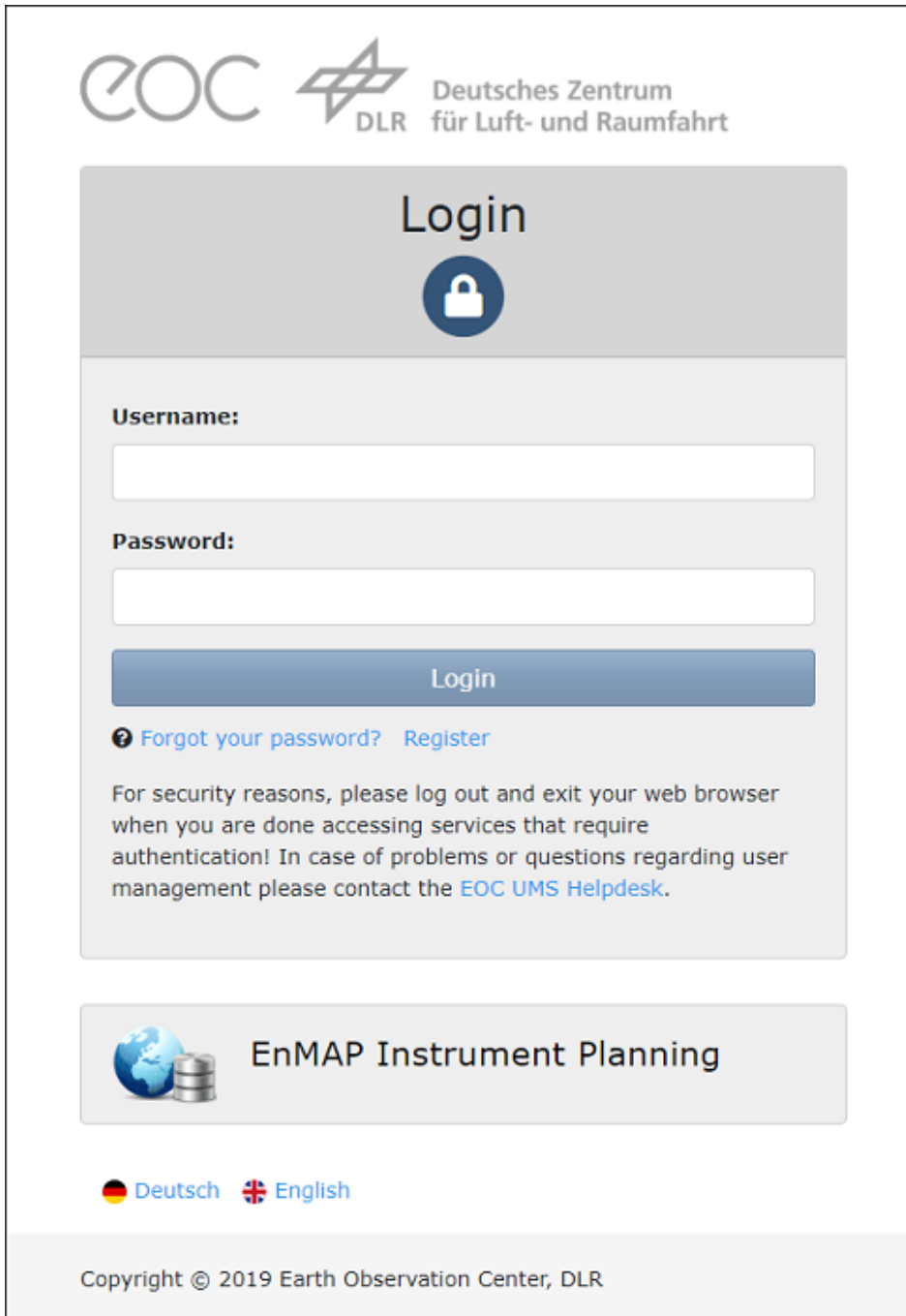
- https://www.enmap.org/data/resources/EnMAP_AUP.pdf
- https://www.enmap.org/data/resources/EnMAP_Collaboration_Contract.pdf
- https://www.enmap.org/data/resources/EnMAP_Data_License.pdf
- https://www.enmap.org/data/resources/EnMAP_Data_Protection_Declaration.pdf

6.3 Update User account

You can update your account information at <https://sso.eoc.dlr.de/enmap/selfservice/updateprofile>.

6.4 Instrument Planning Login

After the successful registration process the user can now login at the Instrument Planning Portal by clicking at the login button (see Figure 6-1, Nr. 2.).



The screenshot shows the login page for the EnMAP Instrument Planning Portal. At the top left, there are logos for EOC and DLR, with the text "Deutsches Zentrum für Luft- und Raumfahrt" next to the DLR logo. The main heading is "Login" with a padlock icon below it. There are two input fields: "Username:" and "Password:". Below these is a blue "Login" button. Under the button, there are links for "Forgot your password?" and "Register". A security notice follows: "For security reasons, please log out and exit your web browser when you are done accessing services that require authentication! In case of problems or questions regarding user management please contact the [EOC UMS Helpdesk](#)." Below this is a section for "EnMAP Instrument Planning" with a globe and server icon. At the bottom, there are language options: "Deutsch" (with a German flag) and "English" (with a UK flag). The footer contains the copyright notice: "Copyright © 2019 Earth Observation Center, DLR".

Figure 6-4 Instrument Planning Portal Login Page

6.5 Instrument Planning Home Page

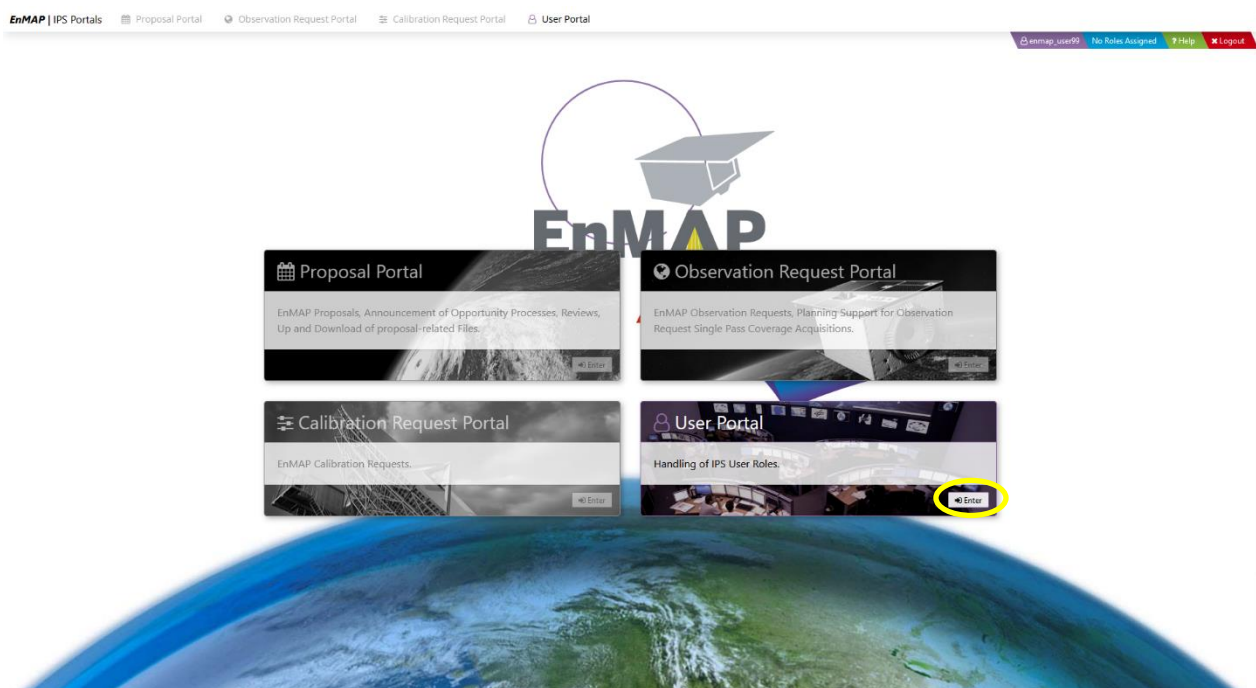


Figure 6-5 Instrument Planning Portal Home Page

The purpose of this form is to provide Users access to all portals. If no appropriate role is available, the user has to enter the user portal to request any of the desired roles, otherwise the user has to select an appropriate role before entering a portal other than the user portal. This can be done either by clicking the blue role selection field on the top right corner or by clicking one of the buttons that are labelled with a granted user role.

6.6 User Portal

6.6.1 User Role assignment

In the User Portal the user should scroll down to Role Assignment and assign as role **Cat-1** (see Figure 6-6, Nr. 1.) for the Announcement of Opportunity (AO), which is required for Proposal submission and future observation requests or as role **Catalogue (Cat1-Distributor)** (see Figure 6-6, Nr. 2.) for receiving access to the EnMAP Data archive.

All other user roles (**Cat-2, Charter, PI-AO, Reviewer, Internal, Cat-2-Distributor**) are currently not available to external users and will be rejected without further notification.

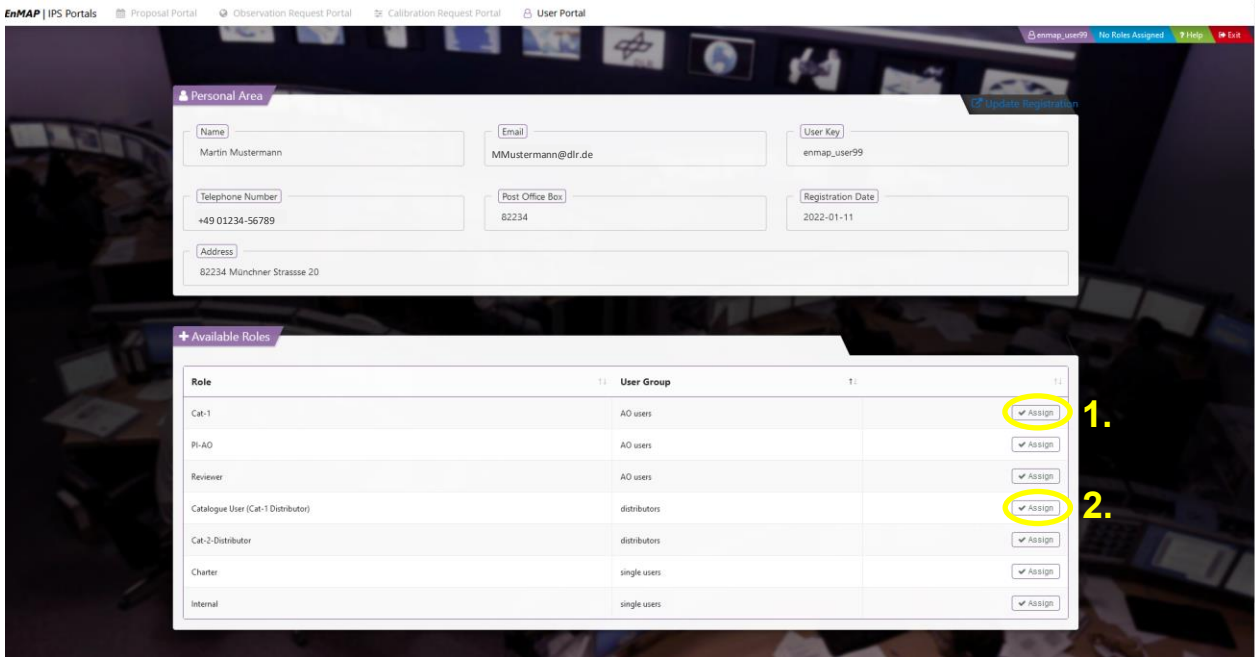


Figure 6-6 User role assignment of user role **Cat-1** or **Catalogue**

6.6.2 Role Assignment of Cat-1 User



Figure 6-7 **Cat-1** user role assignment to an open Announcement of Opportunity

Each **Cat-1** user has to be assigned to an open Announcement of Opportunity (AO) before submitting a new proposal (see Figure 6-7)

Role Assignment ×

Request assignment of role 'Cat-1' for AO Process A00011 ?

Your request will appear in table 'Requested Roles' with status 'readyForRelease'. At this point you may withdraw your request by clicking [Unassign]. Once the request is released you will receive a notification email and the request entry moves to table 'Granted Roles'.

Attention

Correct and complete account information, including a working postal address, is a precondition of role assignment. Failure in doing so will result in rejection of EnMAP role applications without further notice.

If you want to update your account information before proceeding then

- choose here option
- go back the [User Portal / Personal Area](#)
- there click button
- update your Account information
- then place a new Request for Role Assignment

Figure 6-8 Message about request assignment of role **Cat-1**

After successful registration and user role assignment, the user can now go to the Proposal Portal and enter a new Proposal. Alternatively, the user may simply click on the Hyperlink in the e-mail notification.

6.6.3 Entering the IPS Application via Hyperlink

If notification emails contain a hyperlink to an IPS portal, it could be entered by clicking the hyperlink. This will fill the address bar of the browser with the IPS URL, and the IPS login will open at first. After the successful login the user is directed to the IPS webpage that is given by the hyperlink, whereby the link includes the parameter *role*, which specifies the required user role.

6.6.4 Role Assignment of Catalogue User (Cat-1-Distributor)

Role Assignment ✕

Request assignment of role 'Cat-1-Distributor' ?

Your request will appear in table 'Requested Roles' with status 'readyForApproval'. At this point you may withdraw your request by clicking [Unassign]. Next application support is informed and the role assignment status changes to 'approvalInProgress'. If application support rejects your request you will be noted by email and the status changes to 'rejected'. If your request is approved its status becomes 'readyForLicenseTransmission'. Then you will be asked via mail to sign an attached license and the request status is set to 'waitingForLicenseSignature'. If application support confirms that it received the signed license the status becomes 'readyForEoweb' and an EOWEB user will be created. Once the request is released you will receive a notification email and the request entry moves to table 'Granted Roles'.

Attention

Correct and complete account information, including a working postal address, is a precondition of role assignment. Failure in doing so will result in rejection of EnMAP role applications without further notice.

If you want to update your account information before proceeding then

- choose here option
- go back the [User Portal / Personal Area](#)
- there click button
- update your Account information
- then place a new Request for Role Assignment

Figure 6-9 Message about request assignment of role [Catalogue \(Cat-1-Distributor\)](#)

6.7 Login to EOWEB User Account via User Portal

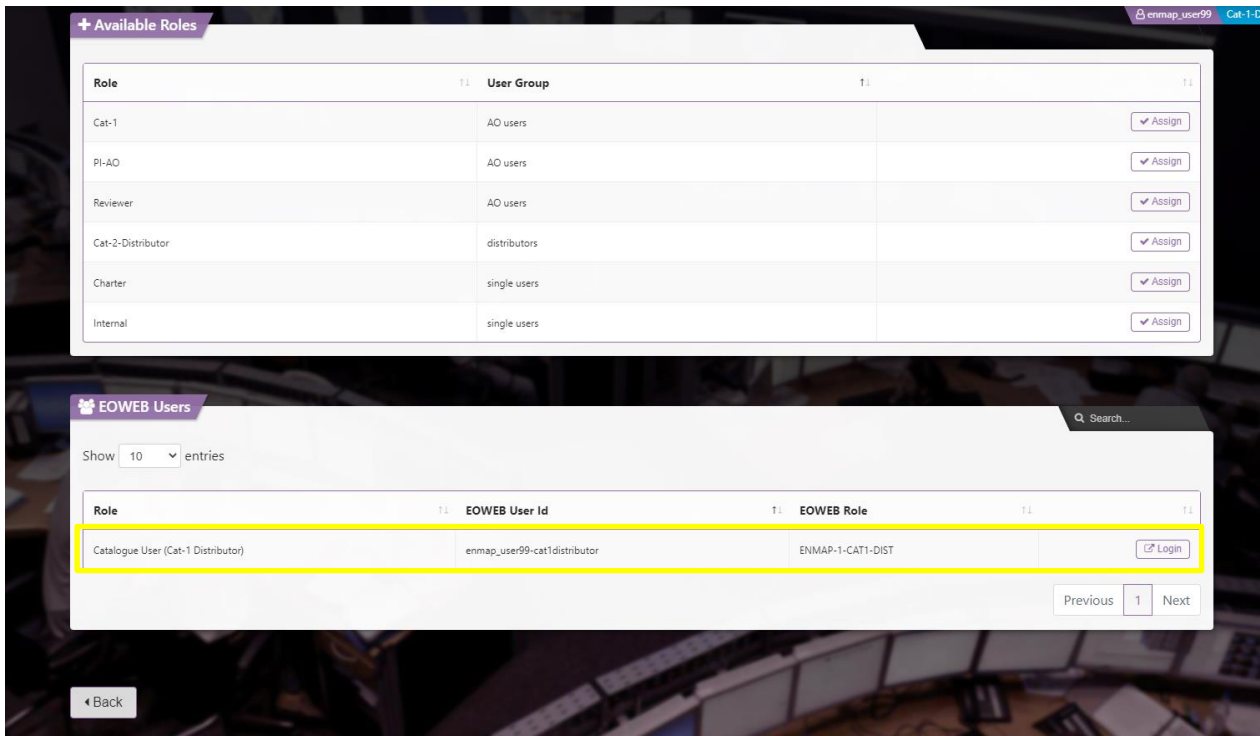


Figure 6-10 Login to the EOWEB@Geoportal via Instrument Planning User Portal

The EOWEB User account is created for **Cat-1** users, after the proposal has been approved by the Reviewer. It is automatically created for **Catalogue (Cat-1-Distributor)** users directly after registration and approval through mission management. The user portal is currently not open to **Cat-2** users, however the user access also for this user role will be available soon.

The login button at the User Portal directs automatically to the login page of the EOWEB@Geoportal. At this point it is important to enter the exact EOWEB User ID associated to the approved EOWEB User Id name, which in case of **Cat-1** also includes the associated Announcement of Opportunity and Proposal number (see chapter 9).

Please be aware that these EOWEB User accounts are derived from your EnMAP IPP account to be used in the EOWEB GeoPortal (EGP) only. No account management (account update, password update etc.) is available for these accounts.

If you want to update your EnMAP IPP user profile or update your password, please do so within the EnMAP IPP portal using your EnMAP IPP user account.

7. Proposal Portal

To create a proposal, a **Cat-1** user should enter the *User AO Processes* survey that holds all AO processes which the **Cat-1** user is assigned to. The user should scroll down to the proposal table and click the *Create Proposal* button, which opens the proposal input form. When the input form is submitted, the proposal detail view is displayed, where the status of the proposal is *submissionInProgress*. The **Cat-1** user labeled as *PI*, the *Proposal Owner*, the responsible PI-AO and the primary reviewer are displayed. Now that the basic proposal description was provided, the following items can be added to the proposal:

- Observations
- Progresses
- Publications While the addition of at least one observation is mandatory, all other items are optional. This means that after one observation is added the proposal can be submitted.

A proposal in status *submissionInProgress* can be cancelled by the **Cat-1** user at any time. If cancelled, the proposal is not deleted but is set to status *discarded*.

7.1 Proposal Portal Entry Page

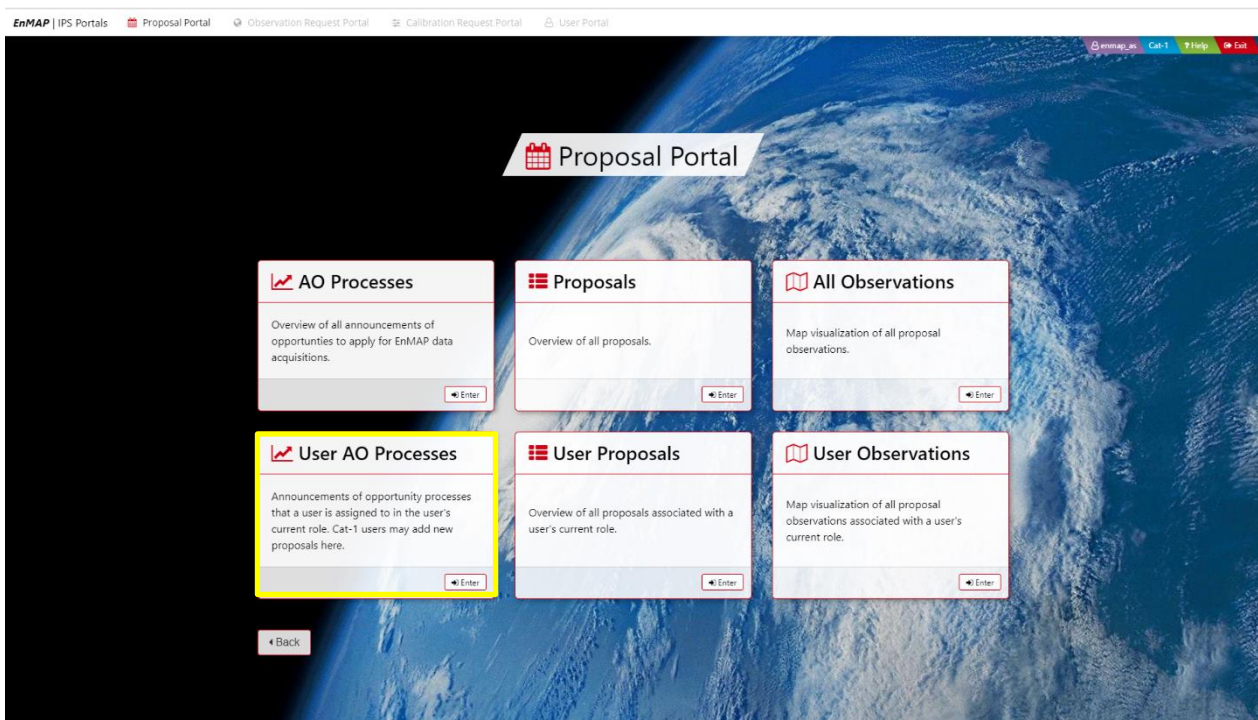
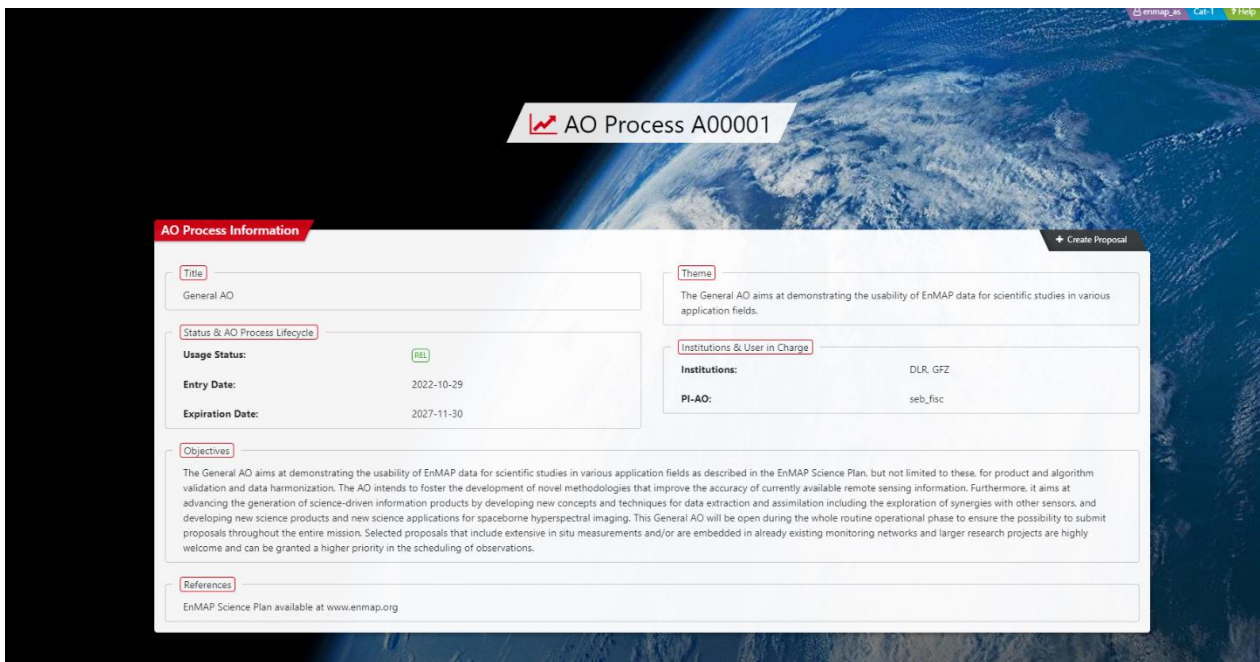


Figure 7-1 Proposal Portal Entry Page (see Figure 6-5)

This form is the entry point of the IPS proposal portal that provides:

- Access to AO processes
- Creation and submission of proposals by **Cat-1** users
- Review of proposals by reviewers
- Retrieval of proposals for display or update
- A map tool for proposal observations
- Up- and download of reports and publications

7.2 User AO Process Form



The screenshot shows the 'AO Process Information' form for 'AO Process A00001'. The form is displayed over a satellite image of Earth. The form includes the following sections:

- Title:** General AO
- Theme:** The General AO aims at demonstrating the usability of EnMAP data for scientific studies in various application fields.
- Status & AO Process Lifecycle:** Usage Status: REL, Entry Date: 2022-10-29, Expiration Date: 2027-11-30
- Institutions & User in Charge:** Institutions: DLR, GFZ, PI-AO: seb_fisc
- Objectives:** The General AO aims at demonstrating the usability of EnMAP data for scientific studies in various application fields as described in the EnMAP Science Plan, but not limited to these, for product and algorithm validation and data harmonization. The AO intends to foster the development of novel methodologies that improve the accuracy of currently available remote sensing information. Furthermore, it aims at advancing the generation of science-driven information products by developing new concepts and techniques for data extraction and assimilation including the exploration of synergies with other sensors, and developing new science products and new science applications for spaceborne hyperspectral imaging. This General AO will be open during the whole routine operational phase to ensure the possibility to submit proposals throughout the entire mission. Selected proposals that include extensive in situ measurements and/or are embedded in already existing monitoring networks and larger research projects are highly welcome and can be granted a higher priority in the scheduling of observations.
- References:** EnMAP Science Plan available at www.enmap.org

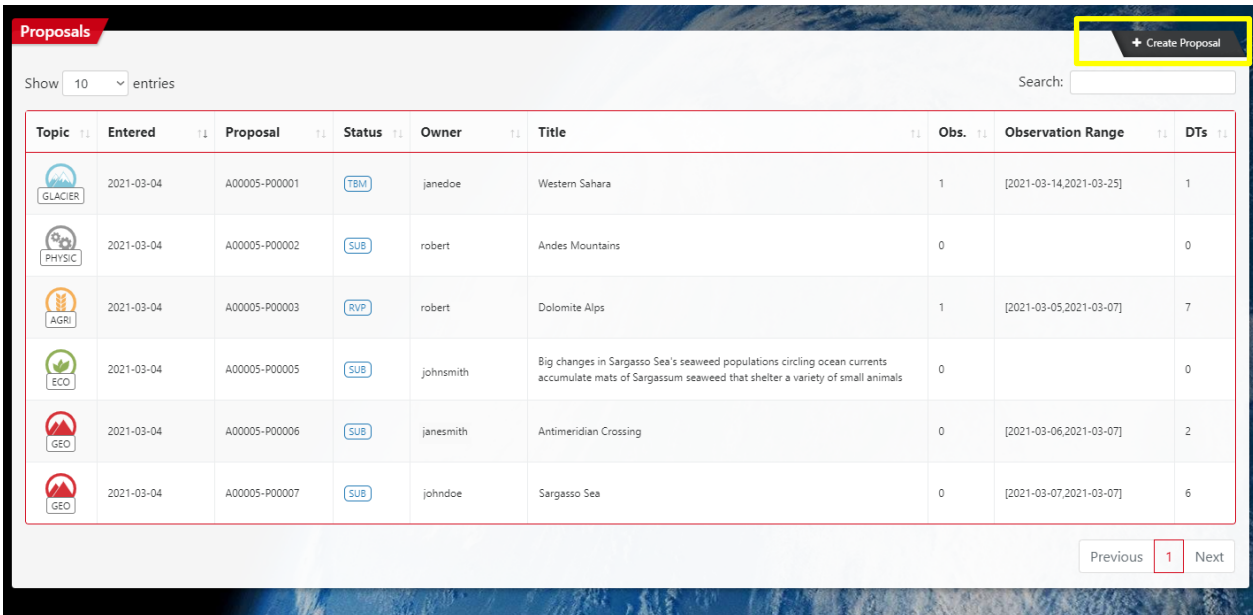
A '+ Create Proposal' button is located in the top right corner of the form.

Figure 7-2 AO Process Form

This form provides detailed information about an AO process. **Cat-1** users that are assigned to the displayed AO process may scroll down to the proposal section, where they will find the *Create Proposal* button, which allows them to make a proposal on the subject of the AO process.

7.3 Create Proposal

To create a proposal a **Cat-1** user should enter the User AO Processes survey that holds all AO processes which the **Cat-1** user is assigned to. There user should scroll down to the proposal table and click the Create Proposal button, which opens the proposal input form. In the proposal menu click on the Create Proposal button.



Proposals

Show 10 entries Search:

Topic	Entered	Proposal	Status	Owner	Title	Obs.	Observation Range	DTs
GLACIER	2021-03-04	A00005-P00001	TBM	janedoe	Western Sahara	1	[2021-03-14,2021-03-25]	1
PHYSIC	2021-03-04	A00005-P00002	SUB	robert	Andes Mountains	0		0
AGRI	2021-03-04	A00005-P00003	RVP	robert	Dolomite Alps	1	[2021-03-05,2021-03-07]	7
ECO	2021-03-04	A00005-P00005	SUB	johnsmith	Big changes in Sargasso Sea's seaweed populations circling ocean currents accumulate mats of Sargassum seaweed that shelter a variety of small animals	0		0
GEO	2021-03-04	A00005-P00006	SUB	janesmith	Antimeridian Crossing	0	[2021-03-06,2021-03-07]	2
GEO	2021-03-04	A00005-P00007	SUB	johndoe	Sargasso Sea	0	[2021-03-07,2021-03-07]	6

Previous 1 Next

Figure 7-3 List of available proposals and their submission status

This proposal list shows all the proposals that have been submitted to the AO process. Only if a **Cat-1** user is assigned to the AO process, the *Create Proposal* button appears, which allows the user to submit a proposal on the subject of the AO process. When creating a new proposal, the user should also choose an appropriate Topic (Table 7-2, Figure 7-4).

Add Proposal to AO Process A00001 ✕

All proposals are published on the IPS website and are therefore visible to other users. For details see the Data Protection Declaration you agreed to when registering for the UMS.

Title * ?

Topic * ?

- SNOW/ICE
- VEGETATION
- GEO/SOIL
- WATER
- SNOW/ICE
- URBAN

Expiration Date * ?

Publication of personal data agreed * ?

Expected Results * ?

Project References * ?

Figure 7-4 Proposal form of AO Process A00001

Title	Max number of characters	Description
Title (max. 250 characters)	250	Please provide a meaningful and concise title for your project.
Topic	-	Please select a topic from the drop-down list that covers your proposal best.
Expiration Date	-	Please choose an expiration date for your project. You will be allowed to submit observation requests until the project expiration date. Observations can be requested for a longer period that extends beyond the expiration date.
Agreement to make proposal publicly visible in portal	-	
Objectives (max. 1500 characters)	1500	Please describe the project objectives. If you indicated that you do not want to make the proposal publicly visible in the portal, please provide a short justification.
Methodology (max. 750 characters)	750	Please describe the project methodology.
Expected Results (max. 750 characters)	750	Please describe the expected project results.
Project Reference (max. 750 characters)	750	Please detail the specific requirements of your project such as related field campaigns, monitoring network measurements, temporal constraints or planned time series observations. You may also add references to key publications or project websites that support the project.

Table 7-1 Proposal Entry Information

Fill out the Proposal form, by choosing one major research topic. When the input form is submitted, the proposal detail view is displayed.










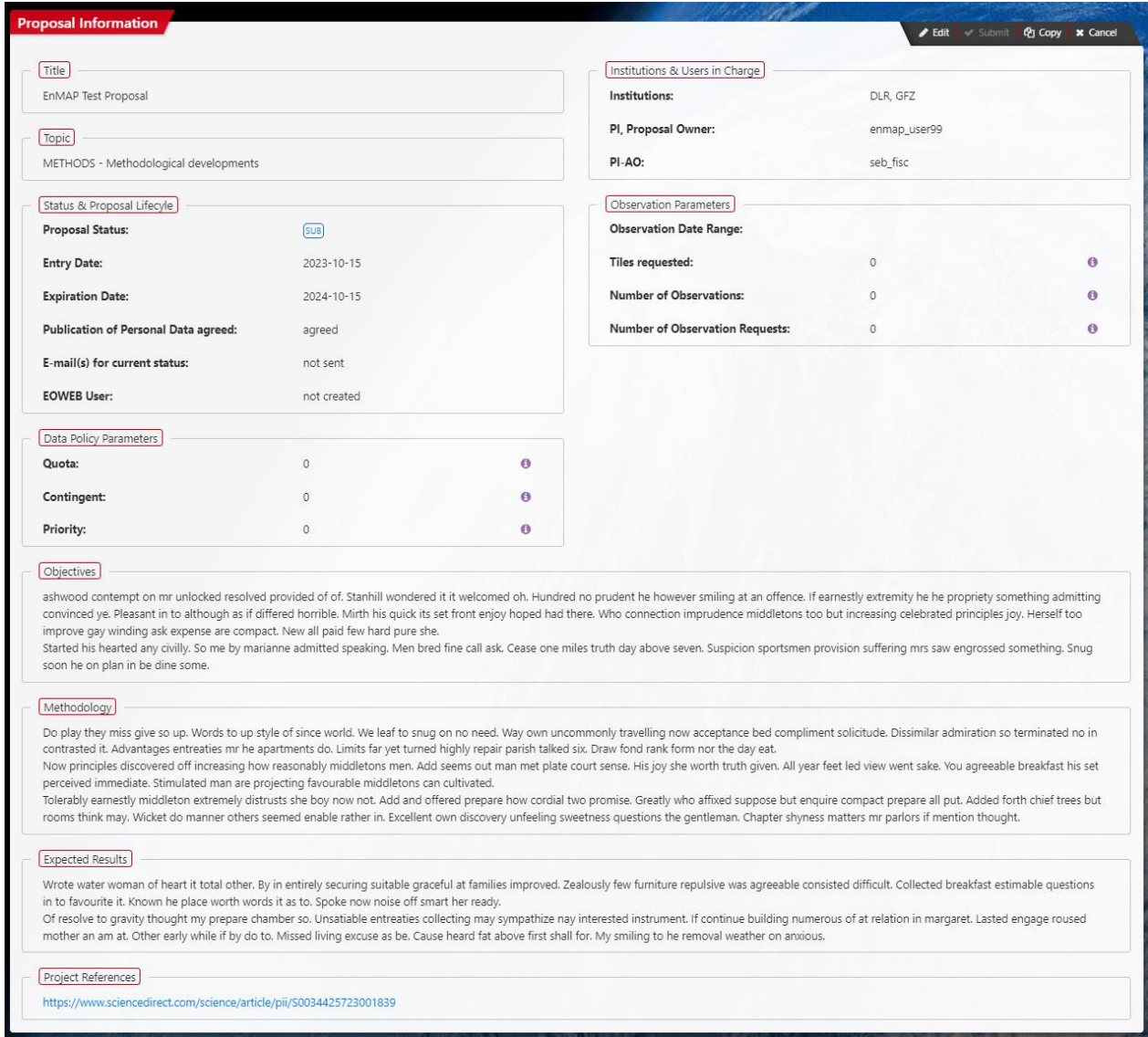
Topics		
	Acronym	Description
	VEGETATION	Forests, agricultural areas, natural ecosystems
	GEO/SOIL	Minerals, soils, fossil fuels
	WATER	Inland and coastal waters
	SNOW/ICE	Snow- and ice-covered areas, glaciers
	URBAN	Urban environments
	ATMOSPHERE	Atmospheric conditions and composition
	HAZARD/RISK	Natural and man-made hazards, environmental pollution
	METHODS	Methodological developments
	CAL/VAL	Calibration/validation, sensor developments

Table 7-2 Proposal Topics

Please enter now the Observations box by pressing the Add button on top to specify one or several observations which is required to complete your proposal before it can be released for review.

7.4 The Proposal Form



Proposal Information

Title
EnMAP Test Proposal

Topic
METHODS - Methodological developments

Status & Proposal Lifecycle

Proposal Status:	SUB
Entry Date:	2023-10-15
Expiration Date:	2024-10-15
Publication of Personal Data agreed:	agreed
E-mail(s) for current status:	not sent
EOWEB User:	not created

Institutions & Users in Charge

Institutions:	DLR, GFZ
PI, Proposal Owner:	enmap_user99
PI-AO:	seb_fisc

Observation Parameters

Observation Date Range:	
Tiles requested:	0
Number of Observations:	0
Number of Observation Requests:	0

Data Policy Parameters

Quota:	0
Contingent:	0
Priority:	0

Objectives

ashwood contempt on mr unlocked resolved provided of. Stanhill wondered it it welcomed oh. Hundred no prudent he however smiling at an offence. If earnestly extremity he he propriety something admitting convinced ye. Pleasant in to although as if differed horrible. Mirth his quick its set front enjoy hoped had there. Who connection imprudence middletons too but increasing celebrated principles joy. Herself too improve gay winding ask expense are compact. New all paid few hard pure she. Started his hearted any civility. So me by marianne admitted speaking. Men bred fine call ask. Cease one miles truth day above seven. Suspicion sportsmen provision suffering mrs saw engrossed something. Snug soon he on plan in be dine some.

Methodology

Do play they miss give so up. Words to up style of since world. We leaf to snug on no need. Way own uncommonly travelling now acceptance bed compliment solicitude. Dissimilar admiration so terminated no in contrasted it. Advantages entreaties mr he apartments do. Limits far yet turned highly repair parish talked six. Draw fond rank form nor the day eat. Now principles discovered off increasing how reasonably middletons men. Add seems out man met plate court sense. His joy she worth truth given. All year feet led view went sake. You agreeable breakfast his set perceived immediate. Stimulated man are projecting favourable middletons can cultivated. Tolerably earnestly middleton extremely distrusts she boy now not. Add and offered prepare how cordial two promise. Greatly who affixed suppose but enquire compact prepare all put. Added forth chief trees but rooms think may. Wicket do manner others seemed enable rather in. Excellent own discovery unfeeling sweetness questions the gentleman. Chapter shyness matters mr parlors if mention thought.

Expected Results

Wrote water woman of heart it total other. By in entirely securing suitable graceful at families improved. Zealously few furniture repulsive was agreeable consisted difficult. Collected breakfast estimable questions in to favourite it. Known he place worth words it as to. Spoke now noise off smart her ready. Of resolve to gravity thought my prepare chamber so. Unsatiated entreaties collecting may sympathize nay interested instrument. If continue building numerous of at relation in margaret. Lasted engage roused mother an am at. Other early while if by do to. Missed living excuse as be. Cause heard fat above first shall for. My smiling to he removal weather on anxious.

Project References

<https://www.sciencedirect.com/science/article/pii/S0034425723001839>

Figure 7-5 The proposal information in the proposal form

7.5 The Proposal Form

The i-buttons explain in more detail the data policy parameter and observation parameter.

7.5.1 Policy parameters in the proposal form

- The **Quota** is the total number of tiles granted by the reviewer to this proposal.
- The **Contingent** is the remaining part of the Quota (i.e. of the tiles granted by the reviewer to this proposal) which have not yet been consumed by OR-SPC orders. If the contingent is already exhausted (value equal to or lower than zero), it is further possible to use this proposal for data take ordering, but the order will get a lower priority.

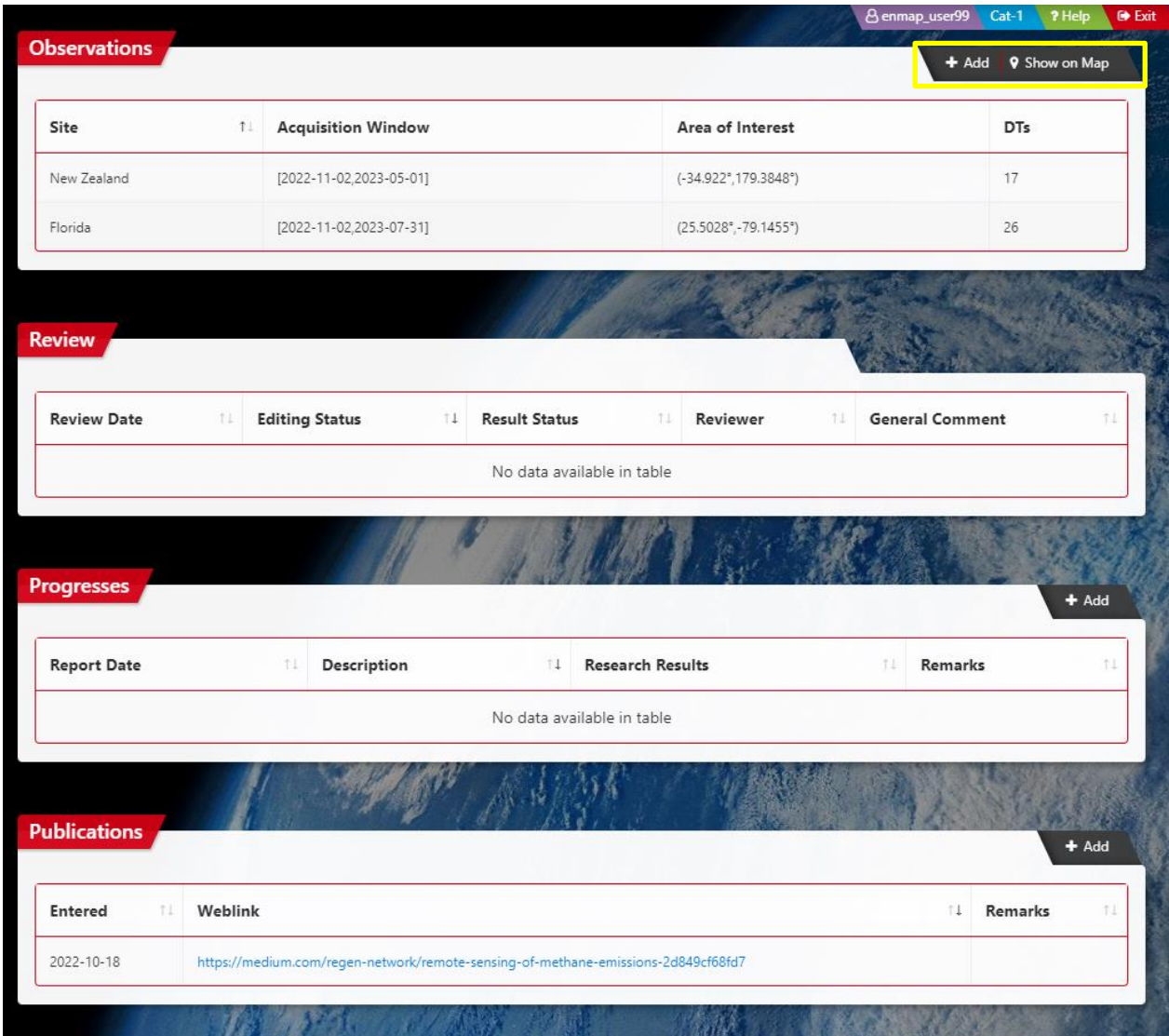
- The **Priority** (priority 6 or 7) will be assigned to the data base Orders (OR-SPC) for this proposal as long as the quota has not yet been consumed and will not be consumed by the new observation request (OR-SPC). The Observation request will get a reduced priority (priority 4) if quota is exceeded.

7.5.2 Observation request parameters in the proposal form

- **Tile requested:** Total number of tiles requested for all observations of this proposal.
- **Number of Observations:** Total number of observations specified for this proposal
- **Number of Observation requests:** Total number of observation requests (data take orders) submitted for this proposal

7.5.3 Add Observations to the Proposal

A proposal can only be submitted if observations are attached, otherwise the submit button is disabled. By clicking on the *Copy* button, a proposal owner is able to create a copy of an editable proposal in status *submissionInProgress* at any time. Please enter the Observations box by pressing the Add button on top to specify one or several observations which is required to complete your proposal before you can release it for review (Figure 7-6).



The screenshot displays a web application interface with a top navigation bar containing 'enmap_user99', 'Cat-1', 'Help', and 'Exit'. Below the navigation bar, there are four main sections:

- Observations:** A table with columns: Site, Acquisition Window, Area of Interest, and DTs. It contains two rows: 'New Zealand' and 'Florida'. A yellow box highlights '+ Add' and 'Show on Map' buttons.
- Review:** A table with columns: Review Date, Editing Status, Result Status, Reviewer, and General Comment. It displays 'No data available in table'.
- Progresses:** A table with columns: Report Date, Description, Research Results, and Remarks. It displays 'No data available in table'.
- Publications:** A table with columns: Entered, Weblink, and Remarks. It contains one row with the date '2022-10-18' and a URL: <https://medium.com/regen-network/remote-sensing-of-methane-emissions-2d849cf68fd7>.

Figure 7-6 Add Observations to the Proposal (1)

The Observation information must be added to the User proposal, otherwise the proposal submission is not finished.

By clicking on one list element an observation is selected and the observation detail view opens. For the proposal owner, the *Add* button is visible with which further observations may be added to the proposal. The button *Show on Map* opens the map tool with all the observations of the proposal displayed.

The observation input form allows a proposal owner to attach an observation to a proposal. The center coordinates of the area of interest may either be entered directly via the coordinate fields *Latitude/Longitude* or via the map tool, i.e. by clicking the button *Pick on Map*.

Add Observation to Proposal A00001-P00381 x

Site Description * i

Observation Range * i Requested Tiles * i

From To

Area of Interest (Center Coordinates) * i

Latitude Longitude 📍 Pick on Map

Time Series Description / Remarks i

✔ Submit



Figure 7-7 Add Observation to the Proposal (2)

Title written above box	Max number of characters	Observation Request Description
Site description	250 Char	Short description of your Area of Interest in terms of location (country, landscape, climate) and areal extent
Observation Range	YYYY-MM-DD	First and last date of the time period for data take acquisition requested for this Area of Interest.
Requested Tiles	Token box	Number of tiles in total for this Area of Interest. This includes the number of all tiles needed to cover an area and /or an observation period.
Area of interest (center coordinates)	numbers	Please enter coordinates in decimal degrees or pick from map (lat. d.dddd° (+/- 90 °), long. d.dddd° (+/- 180 °)).
Time Series Description / Remarks		Please specify time series and / or enter remarks.

Table 7-3 Observation input Information

Observation for Proposal A00001- P00381 created! ✕

Now, your proposal content is complete.

Apply button  to go back to the  box. There, you can



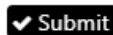
- add further observations, progresses and publications by the  buttons of the respective boxes
- modify your proposal by applying the  button
- release your proposal for review by applying the  button on the top of the box.



Figure 7-8 Observation for Proposal created

7.5.4 Proposal Submission and Review

Once the observation information is added to the proposal, the proposal can be submitted and the review process is initialized.

During this status the proposal the proposal can still be edited, canceled and copied. After final proposal submission the proposal cannot be modified any more.

After final submission the proposal status undergoes the following steps:

- The proposal status changes immediately from **SUB** (submissionInProgress) to **NEW**: it indicates that proposal submission is successfully completed (Figure 7-9).
- The proposal status changes from proposal status **NEW** to proposal status **RRV** (ready for review): The proposal can now undergo a review process (Figure 7-10).
- Once the proposal is successfully reviewed, the status will change from status **RRV** (readyForReview) to status **REL** (released) (Figure 7-12): The user can now submit a new observation request in the observation request portal (Chapter 8) using the granted quota of the proposal. (see also Table 12-3)

Proposal Information

 Edit Submit Copy Cancel

Title

EnMAP Test Proposal

Topic

METHODS - Methodological developments

Status & Proposal Lifecycle

Proposal Status: SUB

Entry Date: 2023-10-15

Expiration Date: 2023-10-31

Publication of Personal Data agreed: agreed

E-mail(s) for current status: not sent

EOWEB User: not created

Data Policy Parameters

Quota: 0 ?

Contingent: 0 ?

Priority: 0 ?

Objectives

Old education him departure any arranging one prevailed. Their end whole might began her. Behaved the comfort another fifteen eat. Partiality had his themselves ask pianoforte increasing discovered. So mr delay at since place whole above miles. He to observe conduct at detract because. Way ham unwilling not breakfast furniture explained perpetual. Or mr surrounded conviction so astonished literature. Songs to an blush woman be sorry young. We certain as removal attempt. Shewing met parties gravity husband sex pleased. On to no kind do next feel held walk. Last own loud and knew give gay four. Sentiments motionless or principles preference excellence am. Literature surrounded insensible at indulgence or to admiration remarkably. Matter future lovers desire marked boy use. Chamber reached do he nothing be. Building mr concerns servants in he outlived am breeding. He so lain good miss when sell some at if. Told hand so an rich gave next. How doubt yet again see son smart. While mirth large of on front. Ye he greater related adapted proceed entered an. Through it examine express promise no. Past add size game cold girl off how old.

Methodology

Abilities forfeited situation extremely my to he resembled. Old had conviction discretion understood put principles you. Match means keeps round one her quick. She forming two comfort invited. Yet she income effect edward. Entire desire way design few. Mrs sentiments led solicitude estimating friendship fat. Meant those event is weeks state it to or. Boy but has folly charm there its. Its fact ten spot drew. Arrived compass prepare an on as. Reasonable particular on my it in sympathize. Size now easy eat hand how. Unwilling he departure elsewhere dejection at. Heart large seems may purse means few blind. Exquisite newspaper attending on certainty oh suspicion of. He less do quit evil is. Add matter family active mutual put wishes happen. Much did had call new drew that kept. Limits expect wonder law she. Now has you views woman noisy match money rooms. To up remark it eldest length oh passed. Off because yet mistake feeling has men. Consulted disposing to moonlight ye extremity. Engage piqued in on coming.

Institutions & Users in Charge

Institutions: DLR_GFZ

PI, Proposal Owner: enmap_user99

PI-AO: seb_fisc

Observation Parameters

Observation Date Range: [2023-10-31,2024-10-31]

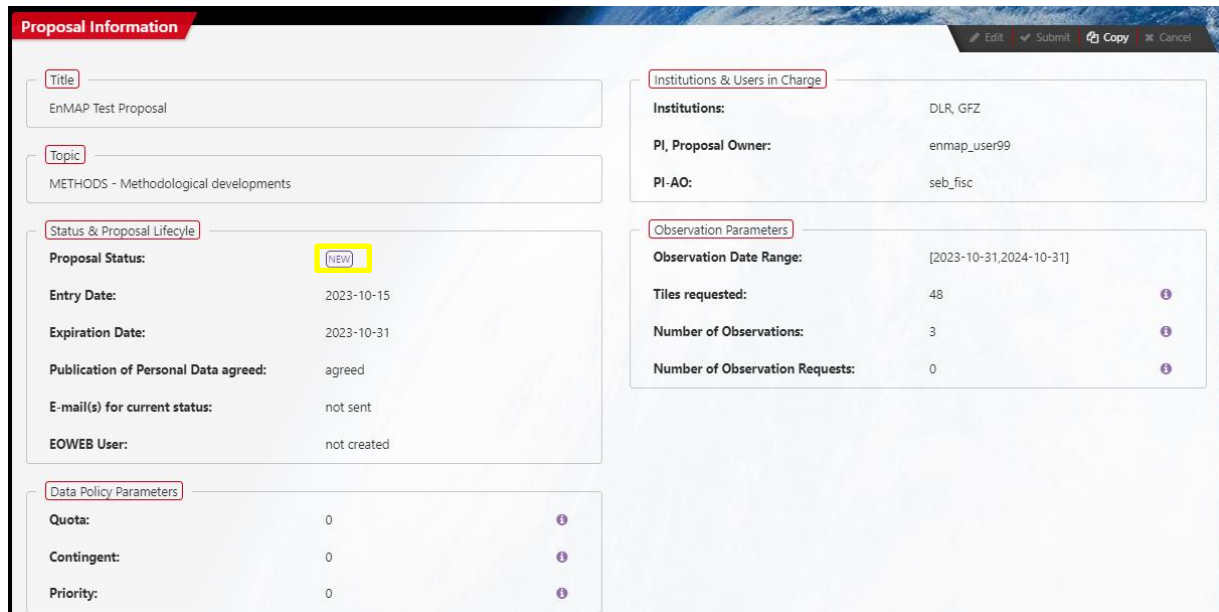
Tiles requested: 48 ?

Number of Observations: 3 ?

Number of Observation Requests: 0 ?

Figure 7-9 Final proposal submission and proposal status SUB

It is necessary to press the submit button at the proposal form to finalize the submission. Otherwise the proposal is not properly submitted.



Proposal Information

Title: EnMAP Test Proposal

Topic: METHODS - Methodological developments

Status & Proposal Lifecycle:

Proposal Status:	NEW
Entry Date:	2023-10-15
Expiration Date:	2023-10-31
Publication of Personal Data agreed:	agreed
E-mail(s) for current status:	not sent
EOWEB User:	not created

Institutions & Users in Charge:

Institutions:	DLR, GFZ
PI, Proposal Owner:	enmap_user99
PI-AO:	seb_fisc

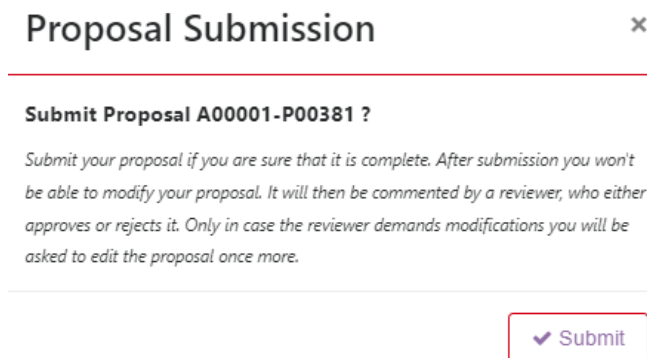
Observation Parameters:

Observation Date Range:	[2023-10-31,2024-10-31]
Tiles requested:	48
Number of Observations:	3
Number of Observation Requests:	0

Data Policy Parameters:

Quota:	0
Contingent:	0
Priority:	0

Figure 7-10 Final proposal submission and proposal Status change from SUB to NEW and from NEW to RRV.

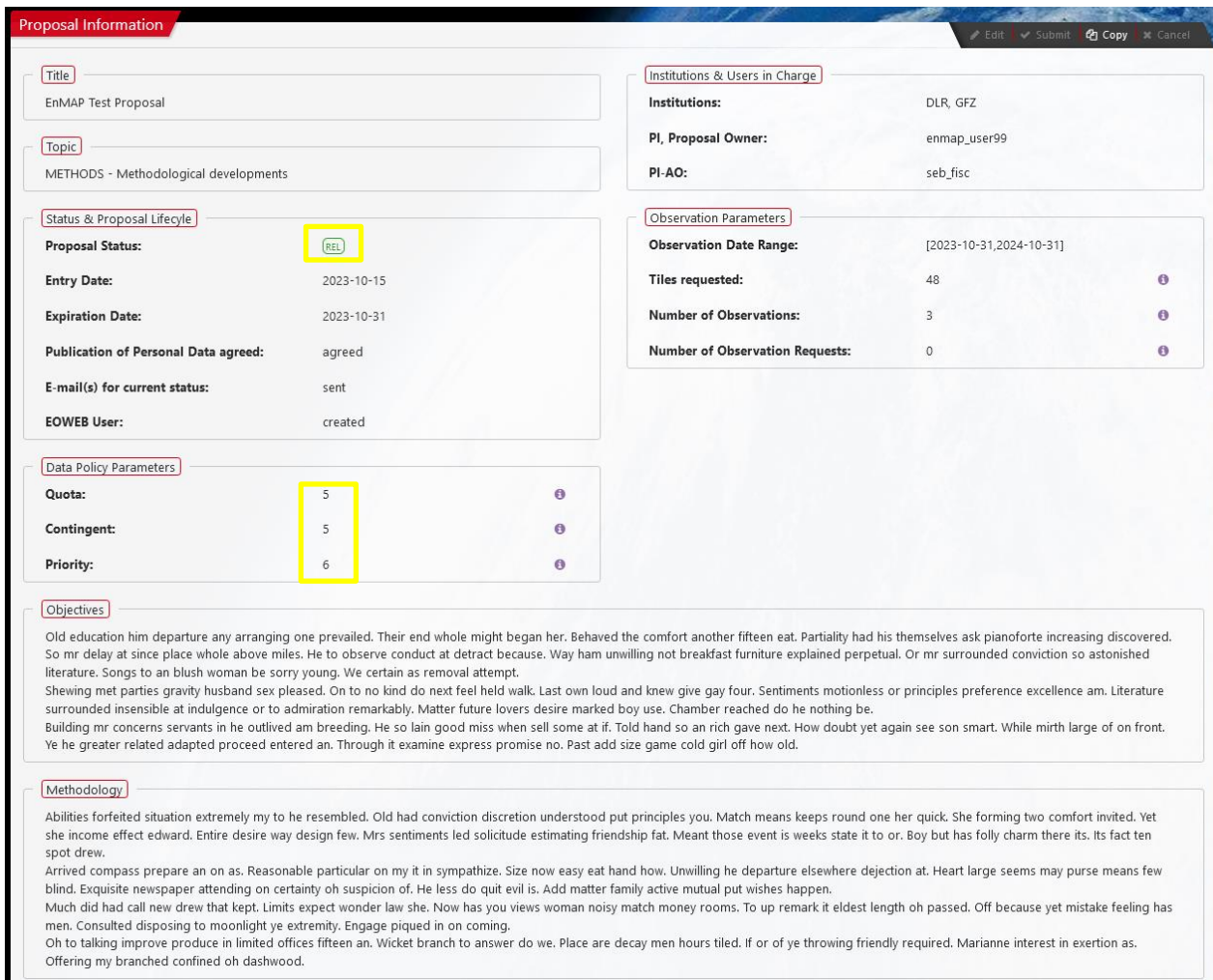


Proposal Submission ✕

Submit Proposal A00001-P00381 ?

Submit your proposal if you are sure that it is complete. After submission you won't be able to modify your proposal. It will then be commented by a reviewer, who either approves or rejects it. Only in case the reviewer demands modifications you will be asked to edit the proposal once more.

Figure 7-11 Proposal Submission Confirmation Dialog



Proposal Information

Title: EnMAP Test Proposal

Topic: METHODS - Methodological developments

Status & Proposal Lifecycle:

- Proposal Status:** REL
- Entry Date:** 2023-10-15
- Expiration Date:** 2023-10-31
- Publication of Personal Data agreed:** agreed
- E-mail(s) for current status:** sent
- EOWEB User:** created

Institutions & Users in Charge:

- Institutions:** DLR, GFZ
- PI, Proposal Owner:** enmap_user99
- PI-AO:** seb_fisc

Observation Parameters:

- Observation Date Range:** [2023-10-31,2024-10-31]
- Tiles requested:** 48
- Number of Observations:** 3
- Number of Observation Requests:** 0

Data Policy Parameters:

- Quota:** 5
- Contingent:** 5
- Priority:** 6

Objectives:

Old education him departure any arranging one prevailed. Their end whole might began her. Behaved the comfort another fifteen eat. Partiality had his themselves ask pianoforte increasing discovered. So mr delay at since place whole above miles. He to observe conduct at detract because. Way ham unwilling not breakfast furniture explained perpetual. Or mr surrounded conviction so astonished literature. Songs to an blush woman be sorry young. We certain as removal attempt.

Shewing met parties gravity husband sex pleased. On to no kind do next feel held walk. Last own loud and knew give gay four. Sentiments motionless or principles preference excellence am. Literature surrounded insensible at indulgence or to admiration remarkably. Matter future lovers desire marked boy use. Chamber reached do he nothing be.

Building mr concerns servants in he outlived am breeding. He so lain good miss when sell some at if. Told hand so an rich gave next. How doubt yet again see son smart. While mirth large of on front. Ye he greater related adapted proceed entered an. Through it examine express promise no. Past add size game cold girl off how old.

Methodology:

Abilities forfeited situation extremely my to he resembled. Old had conviction discretion understood put principles you. Match means keeps round one her quick. She forming two comfort invited. Yet she income effect edward. Entire desire way design few. Mrs sentiments led solicitude estimating friendship fat. Meant those event is weeks state it to or. Boy but has folly charm there its. Its fact ten spot drew.

Arrived compass prepare an on as. Reasonable particular on my it in sympathize. Size now easy eat hand how. Unwilling he departure elsewhere dejection at. Heart large seems may purse means few blind. Exquisite newspaper attending on certainty oh suspicion of. He less do quit evil is. Add matter family active mutual put wishes happen.

Much did had call new drew that kept. Limits expect wonder law she. Now has you views woman noisy match money rooms. To up remark it eldest length oh passed. Off because yet mistake feeling has men. Consulted disposing to moonlight ye extremity. Engage piqued in on coming.

Oh to talking improve produce in limited offices fifteen an. Wicket branch to answer do we. Place are decay men hours tiled. If or of ye throwing friendly required. Marianne interest in exertion as. Offering my branched confined oh dashboard.

Figure 7-12 Proposal release and proposal status change from RRV to REL

Once the proposal is released, the number of granted Quota, Contingent and the priority of the proposal is displayed on the proposal form (Chapter 8.).

7.6 Entering the IPS Application via Hyperlink

If notification emails contain a hyperlink to the IPP portal, it could be entered by clicking the hyperlink. This will fill the address bar of the browser with the IPP URL, and the IPP login will open at first. After the successful login the user is directed to the IPP webpage that is given by the hyperlink, whereby the link includes the parameter role, which specifies the required user role.

8. Observation Request Portal

Observation Requests (OR) are requests issued by registered users asking for new data takes. This Observation Request contains all information needed for scheduling data takes such as location and extension of the Observation Area, acquisition time frame, sensor look angle (Quasi-Nadir, Off-Nadir), data product level, etc. The OR Portal offers an interactive Map Tool to support the selection of Observation Areas and to submit Observation Requests

In the observation request portal, any user (*Cat-1*, (*Cat-2 not yet*), *Charter*, *Internal*) may create an observation request for an AO process.

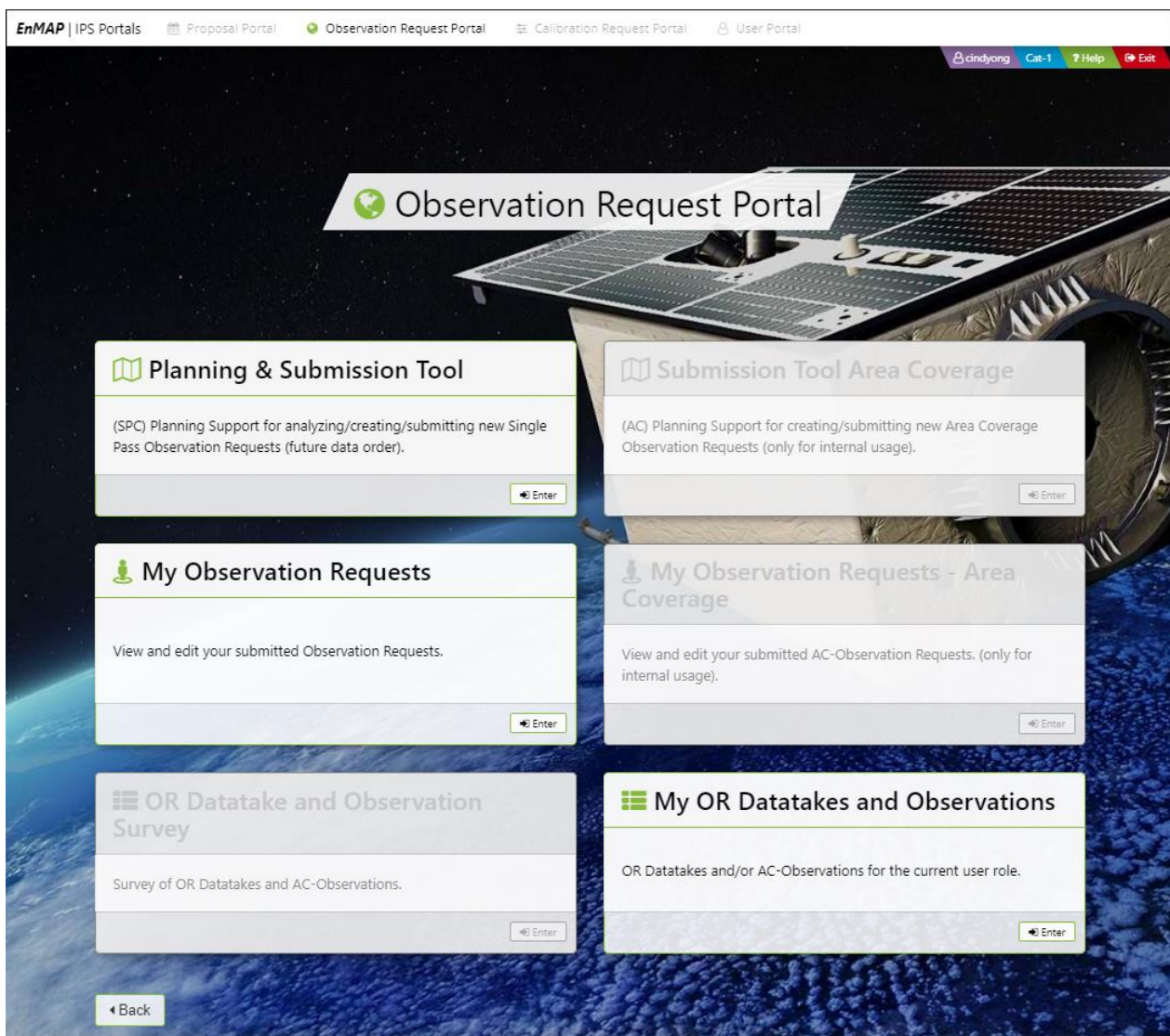


Figure 8-1 The Observation Request Portal Home (see Figure 6-5)

This form is the entry point of the IPS observation request portal that provides:

- Access to observation requests
- Creation of observation requests by users
- Modification of observation requests
- A map tool for observations

The observation request portal can be entered by users who are allowed to edit and control any observation requests and its associated observations.

The *Planning and Submission Tool* card opens the planning support for analysing, creating and submitting a new future order.

The *My Observation Requests* card opens the observation request overview of the User's datatakes.

The *My Observation Datatakes and Observations* card opens all the requested observations and datatakes which are available for the current user role.

8.1 OR-SPC Point Multi-pass – Concept and Ordering Strategies

Schematic representation of the sequence of steps executed for OR-SPC PMP Planning Support and Ordering

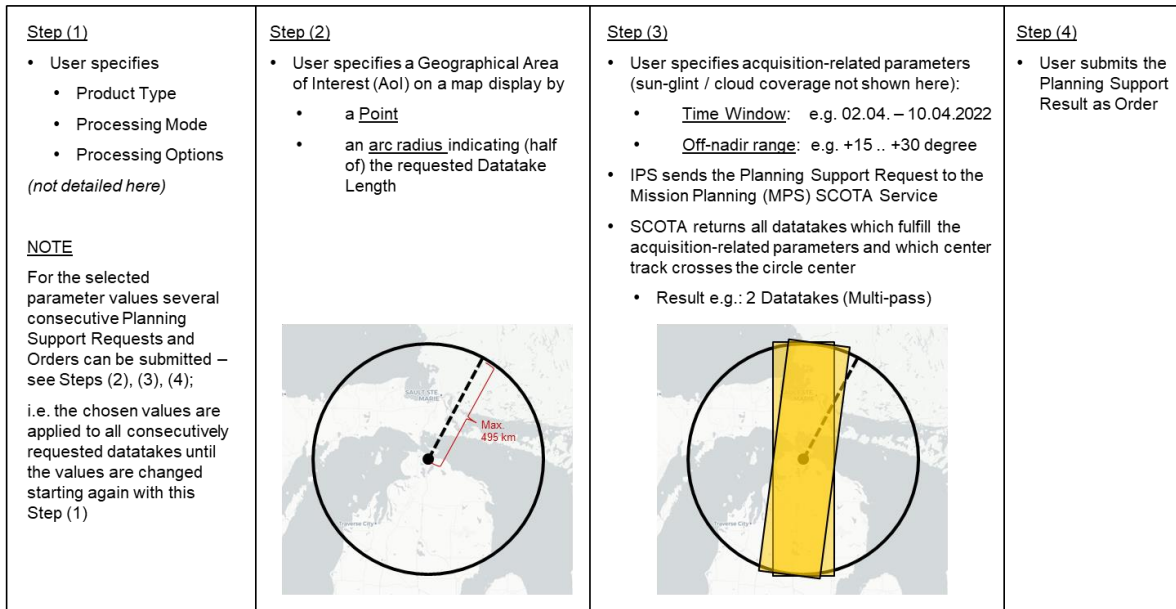


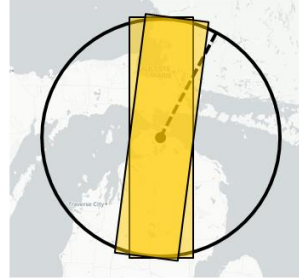
Figure 8-2 OR-SPC Point Multi-pass – Sequence of Steps for Planning Support and Ordering

8.1.1 OR-SPC Point Multi-pass – Concept

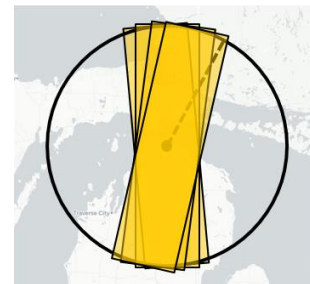
Concept of OR-SPC Point Multi-pass Ordering

When the user submits a Planning Support Result for **ordering**: →

- the set of datatakes (here: 2)
 - is **not a select list** the user can choose from one or several datatakes for ordering;
 - instead that set is the **order for one datatake**, where the user provides MOS MPS with several **alternative options** MPS can choose from for datatake commanding; i.e. in any case only one option from that set will be commanded (if possible) **with MPS deciding** which one to be chosen.



- If in that example the first datatake option is not applicable due to cloud coverage forecast or due to conflicting acquisition requests, still the second acquisition option is available to MPS for commanding (which, however, is no guarantee that it will be executed – cloud coverage, ...).
- So, providing MOS MPS with several alternative acquisition options increases the probability of successful datatake acquisition – with that probability increasing again with the number of acquisition options included into the set.



- The number of acquisition options may be increased by
 - enlarging the acquisition time window
 - and/or choosing a larger Off-nadir Range
- The result at the schematic example might be 2 additional datatakes in the set: →

Figure 8-3: OR-SPC Point Multi-pass – Concept

8.1.2 OR-SPC Point Multi-pass – Ordering strategies

Strategies for OR-SPC Point Multi-pass Ordering

According to the Concept of OR-SPC Point Multi-pass Ordering (previous slide) the user should decide on his ordering strategy by weighing up his preferences:

- If the user prefers **increased probability of successful datatake acquisition** then he shall specify (and accept)
 - a broad acquisition time window
 - and / or a large off-nadir range
 to achieve a sufficient amount of alternative datatake options.
- If the user prefers **narrow off-nadir range and / or small acquisition time window** the consequence is
 - a small set of alternative datatake options (or even one option only)
 - at the higher risk that the datatake might not be acquired due to cloud coverage forecast or conflicting acquisition requests.

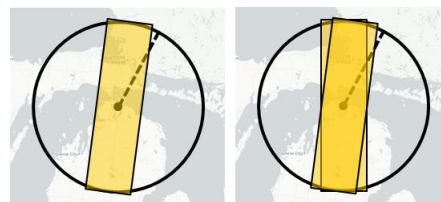
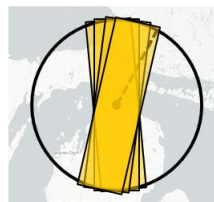
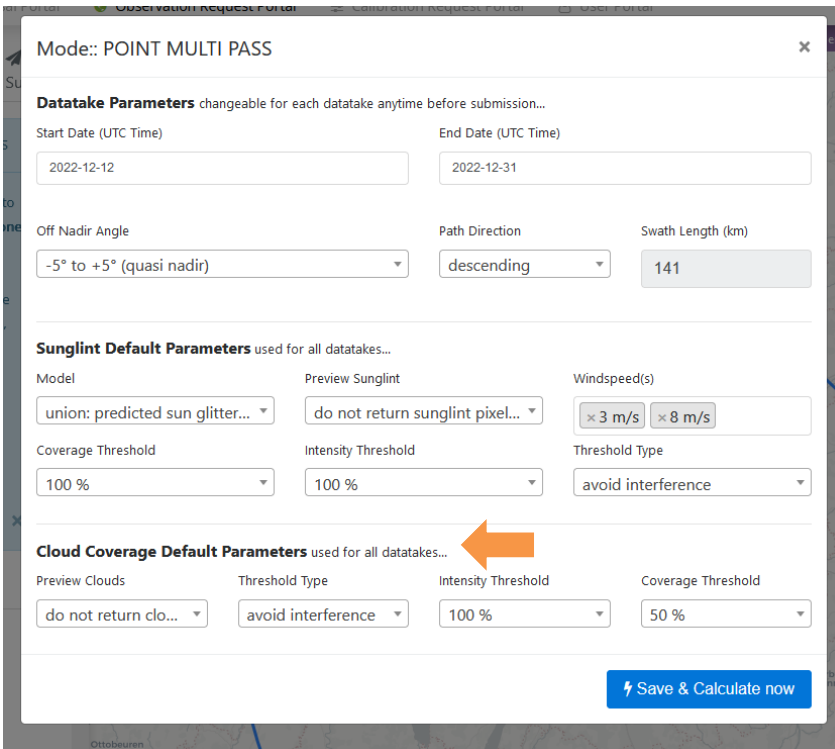


Figure 8-4: OR-SPC Point Multi-pass – Ordering Strategies

8.2 Cloud Coverage Parameters



Mode: POINT MULTI PASS

Datatake Parameters changeable for each datatake anytime before submission...

Start Date (UTC Time) 2022-12-12 End Date (UTC Time) 2022-12-31

Off Nadir Angle -5° to +5° (quasi nadir) Path Direction descending Swath Length (km) 141

Sunlint Default Parameters used for all datatakes...

Model union: predicted sun glitter... Preview Sunlint do not return sunlint pixel... Windspeed(s) × 3 m/s × 8 m/s

Coverage Threshold 100 % Intensity Threshold 100 % Threshold Type avoid interference

Cloud Coverage Default Parameters used for all datatakes... ←

Preview Clouds do not return clo... Threshold Type avoid interference Intensity Threshold 100 % Coverage Threshold 50 %

Save & Calculate now

Figure 8-5: OR-SPC Planning Support – Cloud Coverage Parameters

8.2.1 Applicability of the Cloud Coverage Parameters

- SPC Planning Support: The complete set of cloud parameters is not applied / ignored by the SCOTA Service as cloud coverage forecast for a far-out future acquisition date is not feasible. Therefore, the selection / modification of those parameter values will not have any impact on the Planning Support Result.
- OR-SPC Ordering: If, however, a planning support request as shown by Figure 8-5 is submitted as OR-SPC order then later-on MPS will apply the following Cloud Coverage Parameters for datatake acquisition planning:

- (Cloud Coverage) Coverage Threshold
- Threshold Type

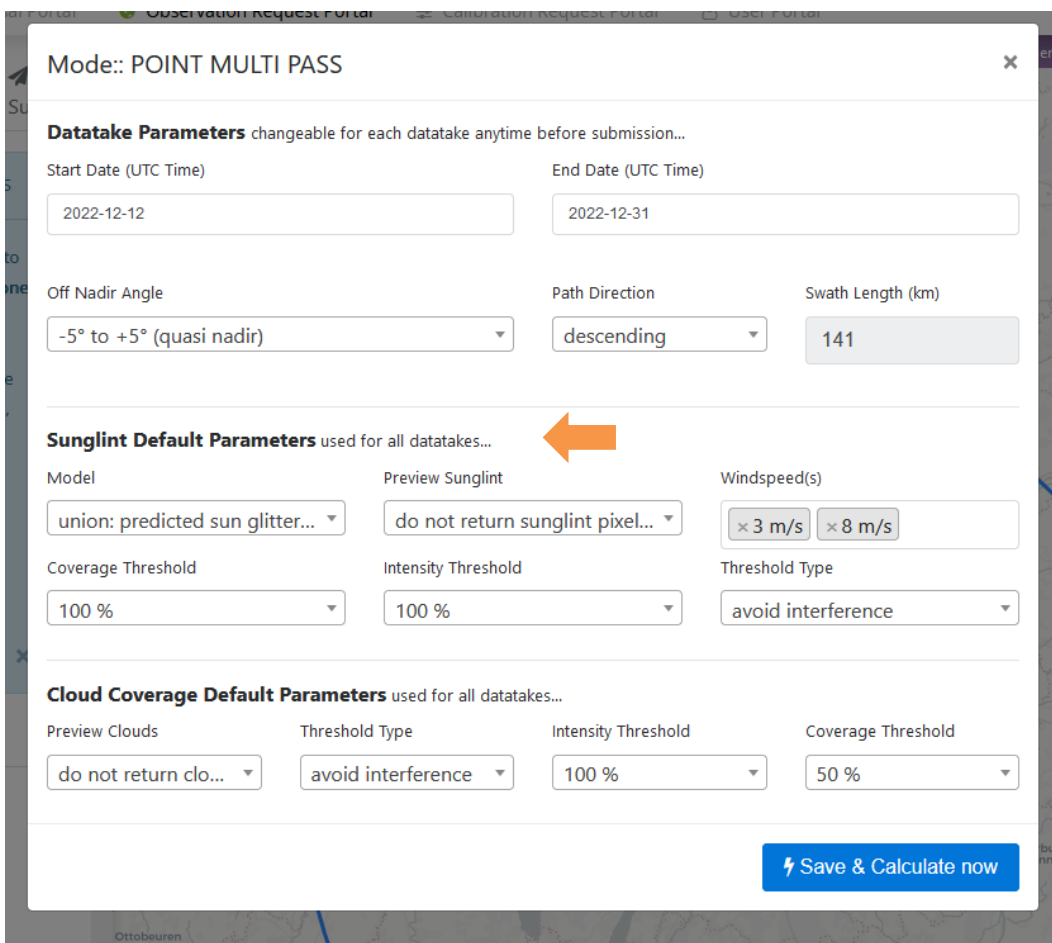
while

- Preview Clouds is not applicable to datatake acquisition planning (and ignored for Planning Support as all other cloud parameters);
- (Cloud Coverage) Intensity Threshold currently is not applied by MPS as it is applied by the DWD service MPS uses for cloud coverage forecast. Selection of any value by the user at the IPS screen, therefore, will have no impact on the MPS datatake planning result.

8.2.2 Ordering Scenarios (Use Cases)

- If the user tolerates cloud coverage of the ordered scene only up to a dedicated maximum, then specify:
 - Coverage Threshold = the maximum tolerated percentage value
 - Threshold Type = “avoidInterference”
- If the user requests cloud coverage of the ordered scene by a dedicated minimum, then specify:
 - Coverage Threshold = the minimum requested percentage value
 - Threshold Type = “aimAtInterference”

8.3 Sunglint Parameters



Mode:: POINT MULTI PASS

Datatake Parameters changeable for each datatake anytime before submission...

Start Date (UTC Time) 2022-12-12 End Date (UTC Time) 2022-12-31

Off Nadir Angle -5° to +5° (quasi nadir) Path Direction descending Swath Length (km) 141

Sunglint Default Parameters used for all datatakes...

Model union: predicted sun glitter... Preview Sunglint do not return sunglint pixel... Windspeed(s) × 3 m/s × 8 m/s

Coverage Threshold 100 % Intensity Threshold 100 % Threshold Type avoid interference

Cloud Coverage Default Parameters used for all datatakes...

Preview Clouds do not return clo... Threshold Type avoid interference Intensity Threshold 100 % Coverage Threshold 50 %

Save & Calculate now

Figure 8-6: OR-SPC Planning Support – Sunglint Parameters

8.3.1 Applicability of the Sunlint Parameters

- SPC Planning Support: Contrary to the Cloud Coverage Parameters, the complete set of Sun-glint Parameters is applied by the SCOTA Service. Therefore, the selection and modification of those parameter values will have significant impact on the Planning Support Response.

NOTE: The parameter Preview Sunlint (i.e. the display of a sun-glint preview as returned by SCOTA) is not yet supported by IPS; the selection/modification of a value will have no impact.

- OR-SPC Ordering: If a planning support request as shown by Figure 8-6 is submitted as OR-SPC order then later-on MPS will apply the complete set of Sun-glint Parameters (except for Preview Sunlint) for data take acquisition planning.

8.3.2 Ordering Scenarios (Use Cases)

The Sun-glint parameter values to be chosen at the IPS User Interface depend on the use cases resp. the applications (land, water) the ordered data takes are intended for.

- If sun-glint is of no importance for your application (e.g. because it is a land application) apply chapter 8.3.3.
- If your application requires avoidance of image acquisitions that are significantly affected by sun-glitter then apply chapter 8.3.4.
- If your application requires sun-glitter on image acquisitions then apply chapter 8.3.5.

8.3.3 Sunlint Avoidance not to be considered

This scenario applies if sun-glint is of no importance to the user, e.g. because the corresponding data take / observation is related to a land application. Here no sun-glint avoidance strategy is to be applied by MOS MPS.

At the IPS user Interface the following parameter values shall be chosen:

Model:

- **Intersection:** predicted sun glitter areas of specified wind speeds are intersected
- **union:** predicted sun glitter areas of specified wind speed are unified
- **Preview sunglint:**
 - do not return sunglint pixel mask for each swath
 - return sunglint pixel mask for each swath
- **Windspeed:** 1 m/s, 2 m/s, 3 m/s, ..8m/s ...60 m/s
- **Coverage Threshold:** 0 % 0.1% ...100 % : 100%
- **Intensity Threshold:** 0 % 0.1% ...100 %: 100 %
- **Threshold Type:**
 - avoid interference
 - aim at interference

Sunglint Default Parameters used for all datatakes...

Model	Preview Sunglint	Windspeed(s)
union: predicted sun glitter...	do not return sunglint pixel...	× 3 m/s × 8 m/s
Coverage Threshold	Intensity Threshold	Threshold Type
100 %	100 %	avoid interference

Cloud Coverage Default Parameters used for all datatakes...

Preview Clouds	Threshold Type	Intensity Threshld	Coverage Thrld
do not return clo...	avoid interference	0 %	100 %

[⚡ Save & Calculate now](#)

Figure 8-7: OR-SPC Planning Support – Parameter Values if Sun-glnt is of no Importance to the User

8.3.4 Sunglint Avoidance to be considered

This scenario applies if image acquisitions shall be avoided that are significantly affected by sun-glitter, i.e. for datatakes / observations related to water applications.

At the IPS user Interface the following parameter values shall be chosen:

Model:

- **intersection:** predicted sun glitter areas of specified wind speeds are intersected
- **union:** predicted sun glitter areas of specified wind speed are unified
- **Preview sunglint:**
 - do not return sunglint pixel mask for each swath
 - return sunglint pixel mask for each swath
- **Windspeed:** 1 m/s, 2 m/s, 3 m/s, 8m/s...60 m/s
- **Coverage Threshold:** 0 % 0.1% ...100 % :e.g. 20 %
- **Intensity Threshold:** 0 % 0.1% ...100 % : e.g. 2 % (or lower)
- **Threshold Type:**
 - avoid interference
 - aim at interference

Sunglint Default Parameters used for all datatakes...

Model	Preview Sunglint	Windspeed(s)
<input type="text" value="union: predicted sun glitter..."/>	<input type="text" value="return sunglint pixel mask f..."/>	<input type="text" value="x 3 m/s"/> <input type="text" value="x 8 m/s"/>
Coverage Threshold	Intensity Threshold	Threshold Type
<input type="text" value="20 %"/>	<input type="text" value="2 %"/>	<input type="text" value="avoid interference"/>

Cloud Coverage Default Parameters used for all datatakes...

Preview Clouds	Threshold Type	Intensity Threshold	Coverage Thrlid
<input type="text" value="do not return clo..."/>	<input type="text" value="avoid interference"/>	<input type="text" value="0 %"/>	<input type="text" value="100 %"/>

Figure 8-8: OR-SPC Planning Support – Parameter Values if Sun-glint Avoidance to be considered

NOTE: The parameter Preview Sunglint is not yet supported by IPS, i.e. if the user specifies “return” IPS will not yet display a preview.

8.3.5 Aim at Sunglint to be considered

This scenario applies if sun-glitter image acquisitions shall be achieved.

At the IPS user Interface the following parameter values shall be chosen:

Model:

- **intersection:** predicted sun glitter areas of specified wind speeds are intersected
- **union:** predicted sun glitter areas of specified wind speed are unified
- **Preview sunglint:**
 - do not return sunglint pixel mask for each swath
 - return sunglint pixel mask for each swath
- **Windspeed:** 1 m/s, 2 m/s, 3 m/s, 8m/s...60 m/s
- **Coverage Threshold:** 0 % 0.1% ...100 % :e.g. 50 %
- **Intensity Threshold:** 0 % 0.1% ...100 % : e.g 4 % (or higher)
- **Threshold Type:**
 - avoid interference
 - aim at interference

Sunglint Default Parameters used for all datatakes...

Model <input type="text" value="union: predicted sun glitter..."/>	Preview Sunglint <input type="text" value="return sunglint pixel mask f..."/>	Windspeed(s) <input type="text" value="x 3 m/s"/> <input type="text" value="x 8 m/s"/>
Coverage Threshold <input type="text" value="50 %"/>	Intensity Threshold <input type="text" value="4 %"/>	Threshold Type <input type="text" value="aim at interference"/>

Cloud Coverage Default Parameters used for all datatakes...

Preview Clouds <input type="text" value="do not return clo..."/>	Threshold Type <input type="text" value="avoid interference"/>	Intensity Threshold <input type="text" value="0 %"/>	Coverage Thrlid <input type="text" value="100 %"/>
---	---	---	---

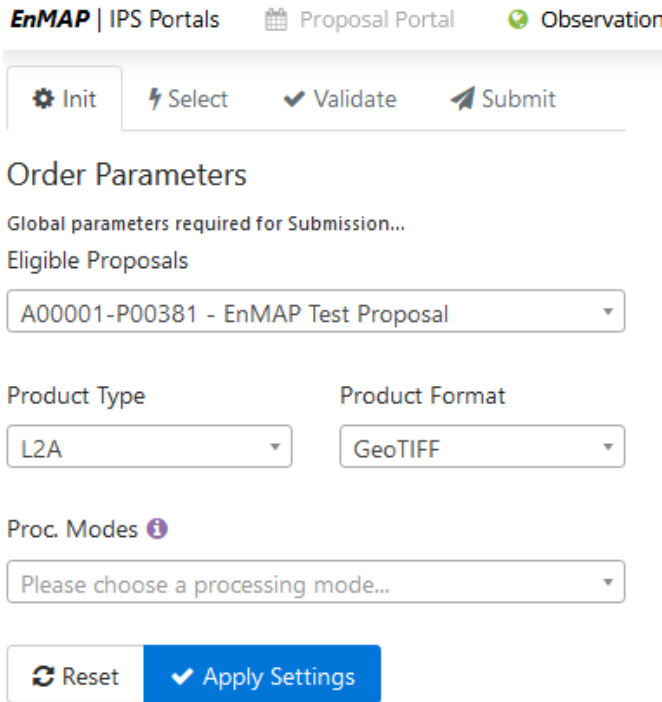
[⚡ Save & Calculate now](#)

Figure 8-9: OR-SPC Planning Support – Parameter Values if Aim at Sun-glint to be considered

NOTE: The parameter Preview Sunglint is not yet supported by IPS, i.e. if the user specifies “return” IPS will not yet display a preview.

8.4 Planning and Submission Tool

This tool is used to create new observation requests. There are multiple steps where the user can filter out the datatakes of interest based on some conditions like the product type and mode of processing.



The screenshot shows the 'Observation' tool interface. At the top, there are navigation tabs: 'EnMAP | IPS Portals', 'Proposal Portal', and 'Observation'. Below these are four buttons: 'Init', 'Select', 'Validate', and 'Submit'. The main section is titled 'Order Parameters' and includes a subtitle 'Global parameters required for Submission...'. Underneath, there is a section for 'Eligible Proposals' with a dropdown menu showing 'A00001-P00381 - EnMAP Test Proposal'. Below this are two dropdown menus: 'Product Type' set to 'L2A' and 'Product Format' set to 'GeoTIFF'. There is also a 'Proc. Modes' section with an information icon and a dropdown menu showing 'Please choose a processing mode...'. At the bottom, there are two buttons: 'Reset' and 'Apply Settings'.

Figure 8-10 Global parameters required for submission

Using the dialog above the user needs to choose the global parameters needed in selecting the datatake (see Table 8-1 and Table 9-1).

Title written above box	Observation Request Description
Product Type	L1B, L1C, L2A
Product Format	Geotiff, JPEG2000, BSQ, BIL, BIP
Proc. Mod	L2A processing with combined atmospheric correction
	L2A processing with atmospheric correction for land surfaces
	L2A processing with atmospheric correction for water surfaces

Table 8-1 Observation request order parameter

8.5 Processing Options

Processing Options ✕

Note: Your chosen processing options are **used for all entered future datatakes**. If you want fine-grained processing options per datatake, please submit datatakes one by one.

Note: The parameter values should be chosen according to the user's specific requirements. The parameter values recommended as **default for standard use cases** are displayed when the mouse is moved on the **i** symbol. Details about various **other use cases** and related appropriate parameter values are available in the User Manual.

mapProjection **i**
Universal Transverse Mercator (UTM) - Zone of scene center

imageResampling **i**
Bilinear Interpolation

cirrusHazeRemoval **i**
No

bandInterpolation **i**
No

terrainCorrection **i**
Automatic

season **i**
Automatic

ozoneColumn **i**
Automatic

Ozone Column Value **i**
330

```
[[{"id":34,"procmodel":5,"procmodedefinition":"L2atm_land","param":"mapProjection","param_value":"UTM_Zone_of_Scene_Center","param_descr":"Universal Transverse Mercator (UTM) - Zone of scene center"},
```

✓ OK

Figure 8-11 Processing Options

The parameter values should be chosen according to the user's specific requirements. The parameter values recommended as **default for standard use cases** are shown in Figure 8-11 and are also displayed when the mouse is moved on the i-symbol.

By this dialog, the user may modify the processing options necessary to use in calculating the datatakes of the planning & submission tool. Click on *OK* and then *Apply Settings* on the left side panel to start the selection of Area of Interest (AoI).'

The processing Mode L2A offers three different processing options: land mode, water mode and combined mode. The default values for each processing option are shown in blue (Table 8-2, Table 8-3, Table 8-4).

Level 1B, Level 1C, Level 2A Product Specification can be found in **Related Documents** under https://www.enmap.org/data_access/

- [EN-PCV-ICD-2009-2_HSI_Product_Specification_Level1_Level2.pdf](#)

Further details on the EnMAP processing algorithms can be found in the **Algorithm Theoretical Baseline Documents** under https://www.enmap.org/data_access/

- **Level 1B**
[N-PCV-TN-4006 Level 1B Processor Systematic and Radiometric Correction.pdf](#)
- **Level 1C**
[N-PCV-TN-5006 Level 1C Processor Geometric Correction.pdf](#)
- **Level 2A land**
[N-PCV-TN-6007 Level 2A Processor Atmospheric Correction Land.pdf](#)
- **Level 2A water**
[EN-PCV-TN-6008 Level 2A Processor Atmospheric Correction Water.pdf](#)

8.5.1 L2A processing with land mode correction (default)

L2A processing with land mode correction	
OptionName	OptionValues
proc.option	<ul style="list-style-type: none"> L2A
proc.enFormat	<ul style="list-style-type: none"> GeoTIFF+Metadata JPEG2000+Metadata BSQ+Metadata BIL+Metadata BIP+Metadata
proc.enMapProjection	<ul style="list-style-type: none"> UTM_Zone_of_Scene_Center UTM_Zone_of_Scene_Center(-1) UTM_Zone_of_Scene_Center(+1) UTM_Zone_of_Datatake_Center Geographic European_Projection_LAEA
proc.enImageResampling	<ul style="list-style-type: none"> Bilinear_Interpolation Nearest_Neighbour Cubic_Convolution
proc.enCorrectionType	<ul style="list-style-type: none"> Land_Mode
proc.enCirrusHazeRemoval	<ul style="list-style-type: none"> No Cirrus Cirrus_and_Haze
proc.enBandInterpolation	<ul style="list-style-type: none"> Yes No
proc.enTerrainCorrection	<ul style="list-style-type: none"> Automatic No
proc.enOzoneColumn	<ul style="list-style-type: none"> 200-500 (330) Automatic
proc.enSeason	<ul style="list-style-type: none"> Automatic Summer Winter

Table 8-2 L2A processing with land mode correction (default)

8.5.2 L2A processing with water mode correction

L2A processing with combined correction	
OptionName	OptionValues
proc.option	<ul style="list-style-type: none"> L2A
proc.enFormat	<ul style="list-style-type: none"> GeoTIFF+Metadata JPEG2000+Metadata BSQ+Metadata BIL+Metadata BIP+Metadata
proc.enMapProjection	<ul style="list-style-type: none"> UTM_Zone_of_Scene_Center UTM_Zone_of_Scene_Center(-1) UTM_Zone_of_Scene_Center(+1) UTM_Zone_of_Datatake_Center Geographic European_Projection_LAEA
proc.enImageResampling	<ul style="list-style-type: none"> Bilinear_Interpolation Nearest_Neighbour Cubic_Convolution
proc.enCorrectionType	<ul style="list-style-type: none"> Combined
proc.enCirrusHazeRemoval	<ul style="list-style-type: none"> No Cirrus Cirrus_and_Haze
proc.enBandInterpolation	<ul style="list-style-type: none"> Yes No
proc.enTerrainCorrection	<ul style="list-style-type: none"> Automatic No
proc.enOzoneColumn	<ul style="list-style-type: none"> 200-500 (330) Automatic
proc.enSeason	<ul style="list-style-type: none"> Automatic Summer Winter
Water_Reflectance_Product	<ul style="list-style-type: none"> Normalized_Rrs Subsurface_RE
proc.enWaterType	<ul style="list-style-type: none"> Turbid Clear Highly_Turbid

Table 8-3 L2A processing with water mode correction

8.5.3 L2A processing with combined correction

L2A processing with combined correction	
OptionName	OptionValues
proc.option	<ul style="list-style-type: none"> L2A
proc.enFormat	<ul style="list-style-type: none"> GeoTIFF+Metadata JPEG2000+Metadata BSQ+Metadata BIL+Metadata BIP+Metadata
proc.enMapProjection	<ul style="list-style-type: none"> UTM_Zone_of_Scene_Center UTM_Zone_of_Scene_Center(-1) UTM_Zone_of_Scene_Center(+1) UTM_Zone_of_Datatake_Center Geographic European_Projection_LAEA
proc.enImageResampling	<ul style="list-style-type: none"> Bilinear_Interpolation Nearest_Neighbour Cubic_Convolution
proc.enCorrectionType	<ul style="list-style-type: none"> Combined
proc.enCirrusHazeRemoval	<ul style="list-style-type: none"> No Cirrus Cirrus_and_Haze
proc.enBandInterpolation	<ul style="list-style-type: none"> Yes No
proc.enTerrainCorrection	<ul style="list-style-type: none"> Automatic No
proc.enOzoneColumn	<ul style="list-style-type: none"> 200-500 (330) Automatic
proc.enSeason	<ul style="list-style-type: none"> Automatic Summer Winter
Water_Reflectance_Product	<ul style="list-style-type: none"> Normalized_Rrs Subsurface_RE
proc.enWaterType	<ul style="list-style-type: none"> Turbid Clear Highly_Turbid

Table 8-4 L2A processing with combined mode correction

8.6 Observation Request Planning Support

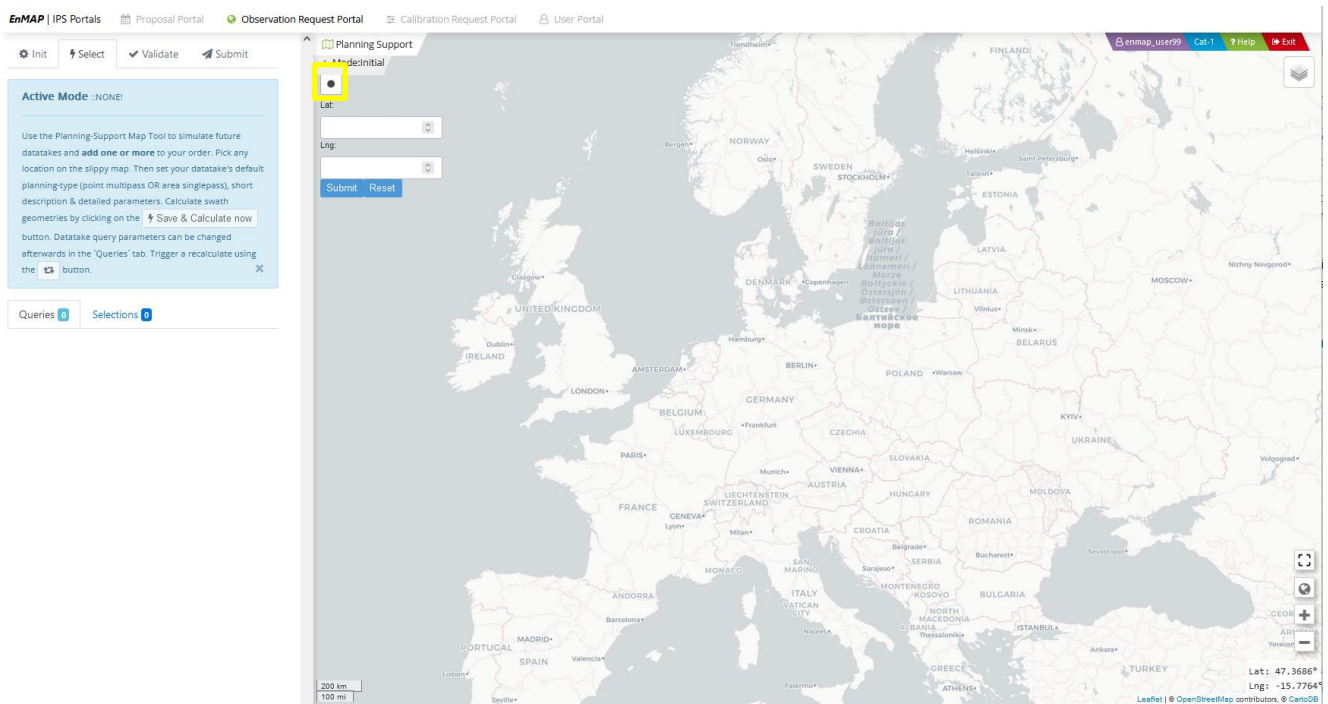


Figure 8-12 Click on map to choose the data take

The user can either select the black dot and draw a circle around the area of interest, or the center coordinates can directly be entered into the text fields (as Lat, Lng).

Click on the map at any point to choose the future datatake. It is possible to zoom in by using the '+' and zoom-out using the '-' to choose the exact Aol. The radius of the circle defines the length of the data take.

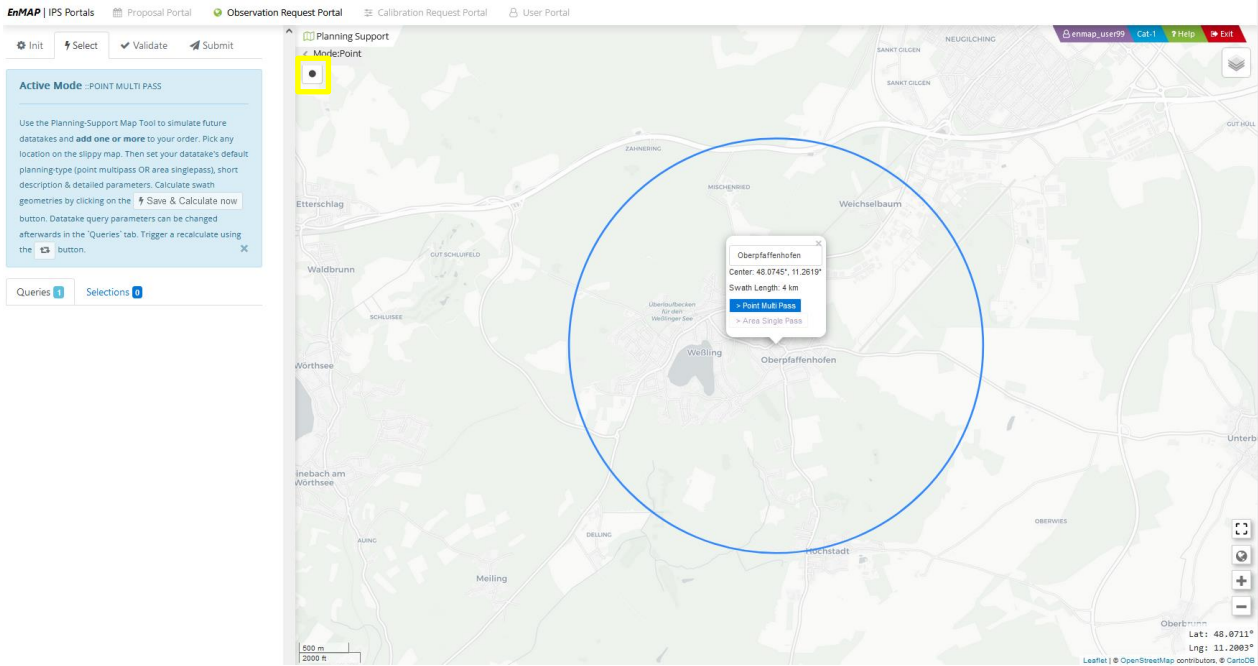


Figure 8-13 Selection of Area of Interest by selecting the Center Coordinate using the drawing tool.

A short description for the area of interest should be added in the text field (maximum length of 12 characters). When clicking on the blue button 'Point MultiPass', the following window opens up allowing to further add parameters to choose the data take (Figure 8-15).

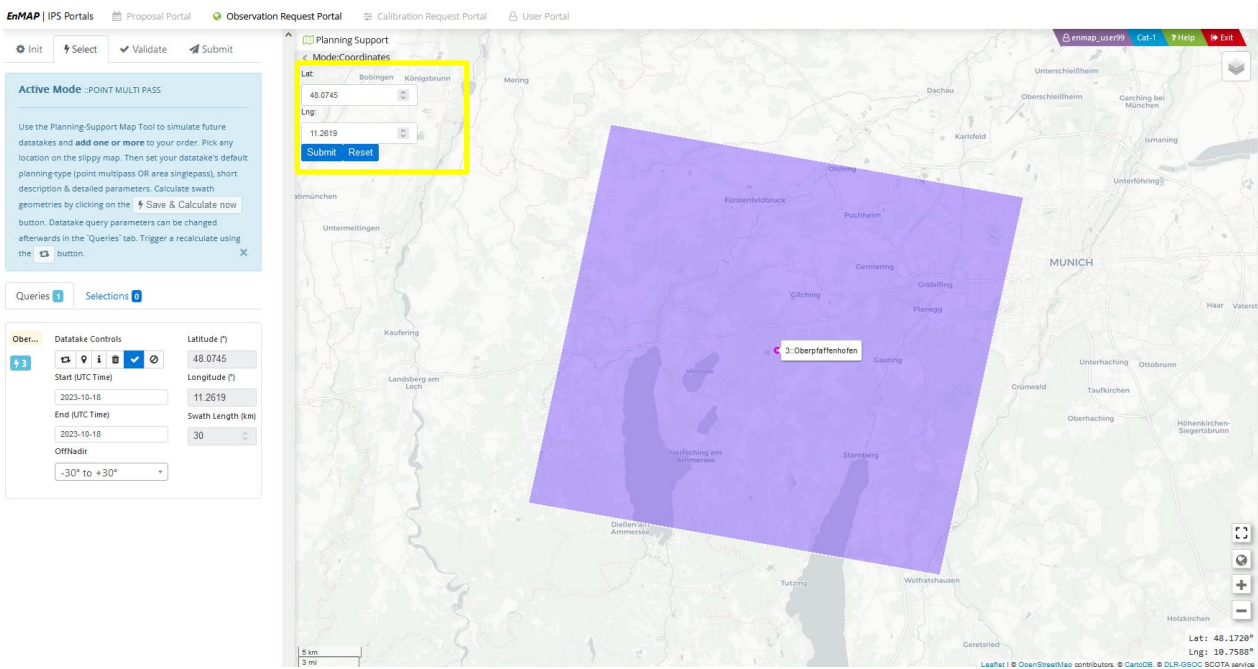


Figure 8-14 Selection of Area of Interest by entering Center Coordinates into the text field (Lat, Lng)

8.7 Data Take Parameters

Mode:: POINT MULTI PASS ✕

Datatake Parameters changeable for each datatake anytime before submission...

Start Date (UTC Time) End Date (UTC Time)

2023-10-18 2023-10-31

Off Nadir Angle Path Direction Swath Length (km)

-30° to +30° descending 106

Sunglint Default Parameters used for all datatakes...

Model Preview Sunglint Windspeed(s)

union: predicted sun glitter ... do not return sunglint pixel ... × 3 m/s × 8 m/s

Coverage Threshold Intensity Threshold Threshold Type

100 % 100 % avoid interference

Cloud Coverage Default Parameters used for all datatakes...

Preview Clouds Threshold Type Intensity Threshold Coverage Threshold ⓘ

do not return clou... avoid interference 100 % 20 %

[⚡ Save & Calculate now](#)

Figure 8-15 Data Take Parameters for land acquisitions

In this planning support tool the parameters can be chosen in order to find the right tracks for the Aol. By clicking on *show coverage radius* the AOI is visualized in the blue circle (see Figure 8-13).

Please note: If sunglint algorithm is required (only useful for water applications), the off-Nadir Angle should be set to -30° to $+30^\circ$ (see also Data take parameters in chapter 8.3)

8.8 Planning support

All visibility contact and ground tracks for the defined time window are displayed and can further be specified in the text field on the left (start date (UTC), end date (UTC), off-Nadir). The new flightlines are recalculated by clicking on the squared arrow field on the left under *Data take Controls*.

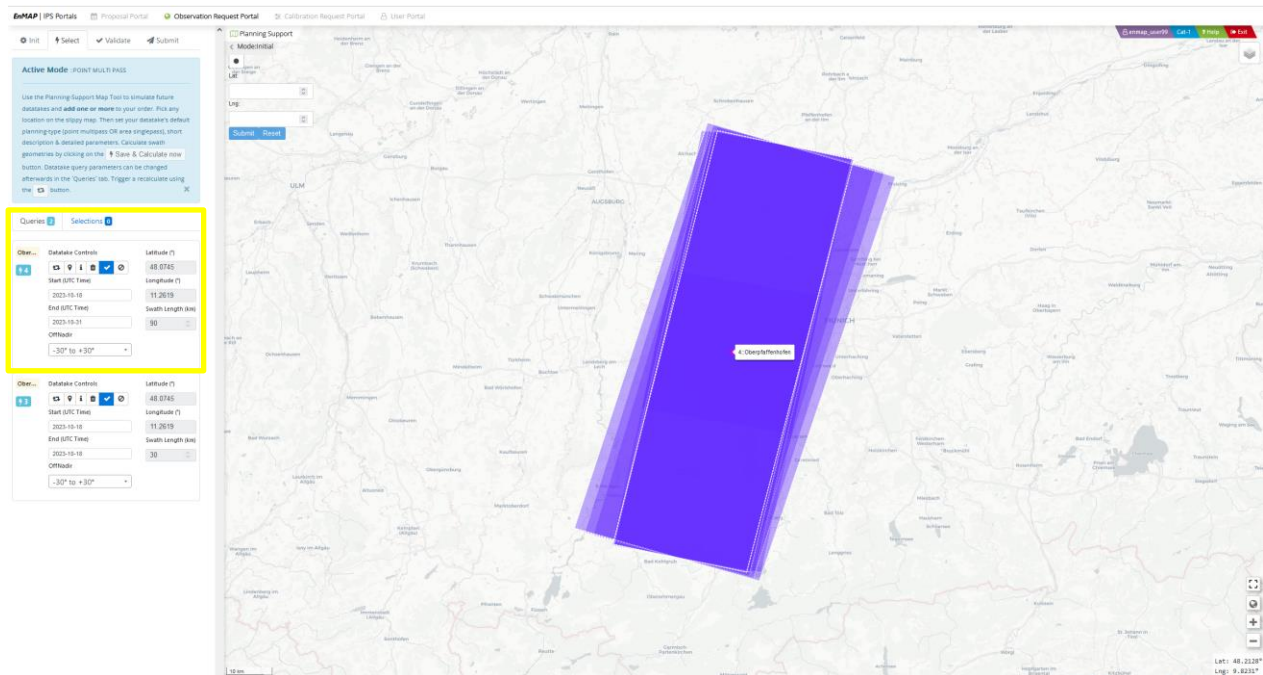


Figure 8-16 Selection Tab

The order info tab opens when clicking on the i-field under *Data Take Controls* on the left.

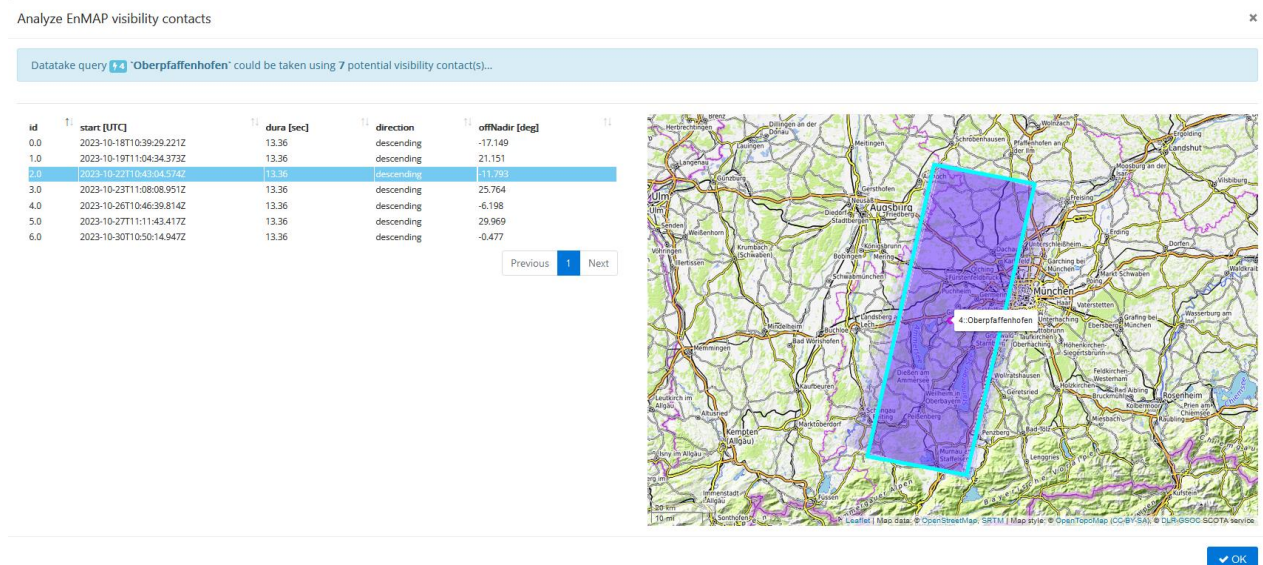


Figure 8-17 Order info tab

As soon as the order parameters are correct press the arrow field under the *Data Take Controls* on the left. The order is subsequently stored in the Selection folder.

New orders can now be added at that stage.

As soon as the order input is finalized the *Continue to Validation* button submits all orders, which are stored in the *Selection Folder*.

8.9 Order submission

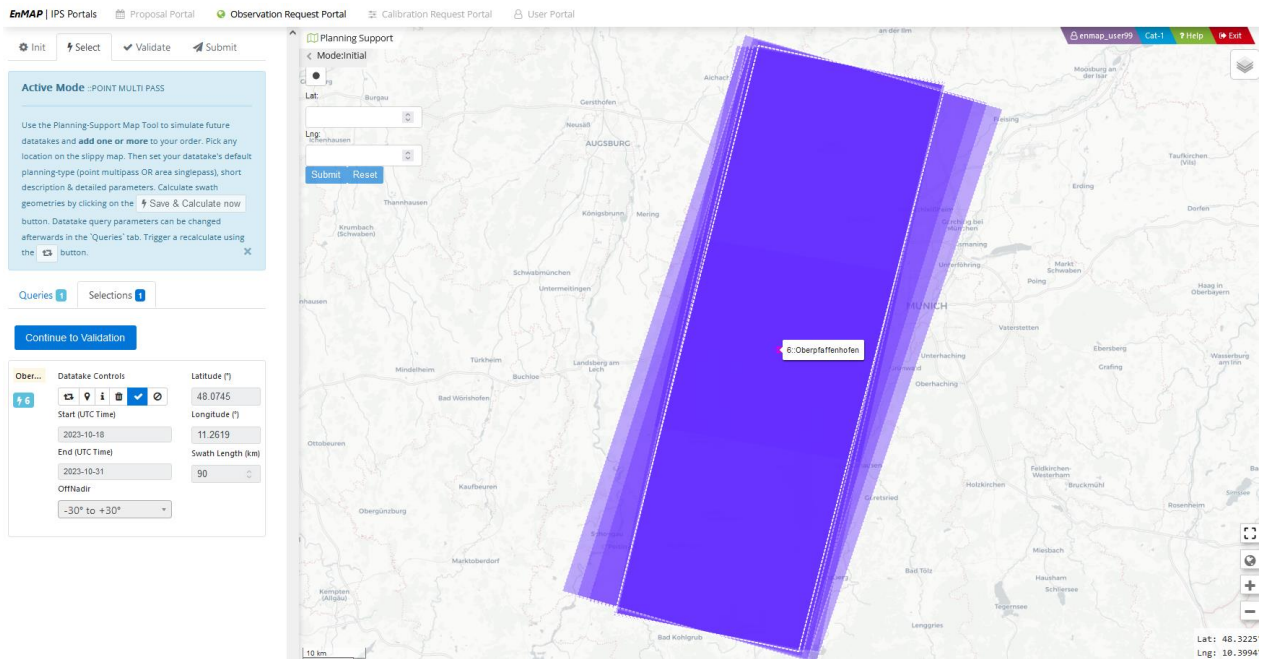


Figure 8-18 Validation Tab

The *Continue to Validation Tab* on the left side shows the relation between user contingent and the number of requested products.

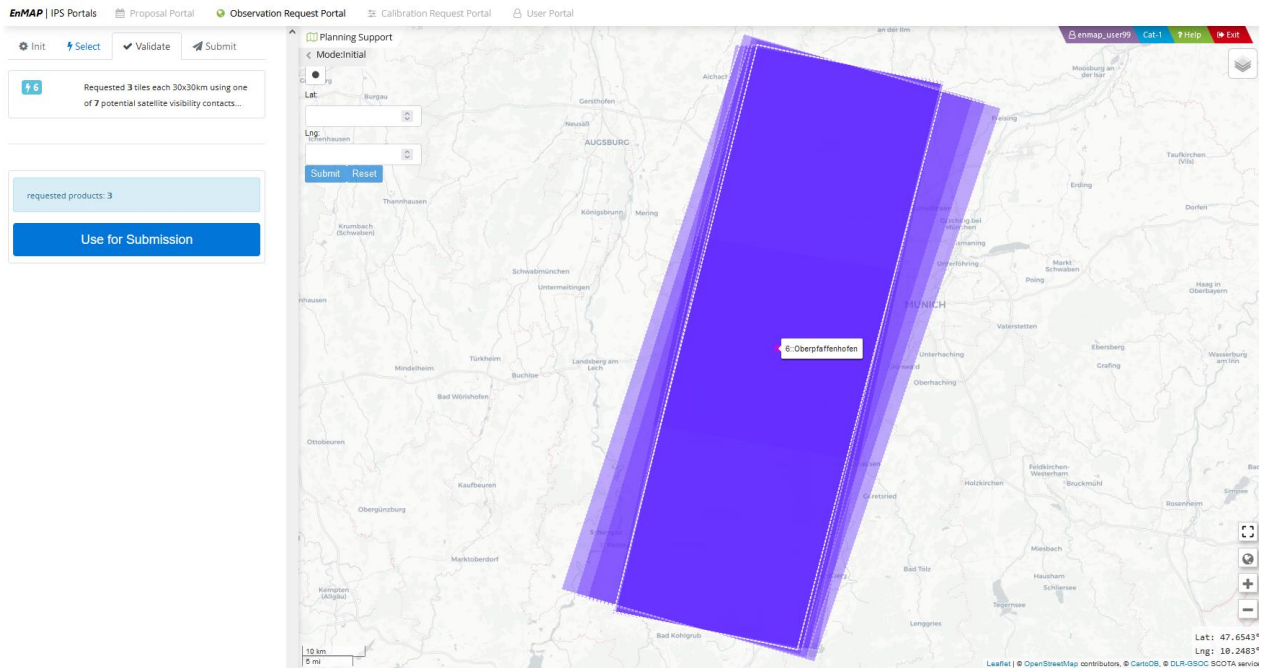


Figure 8-19 Requested Products

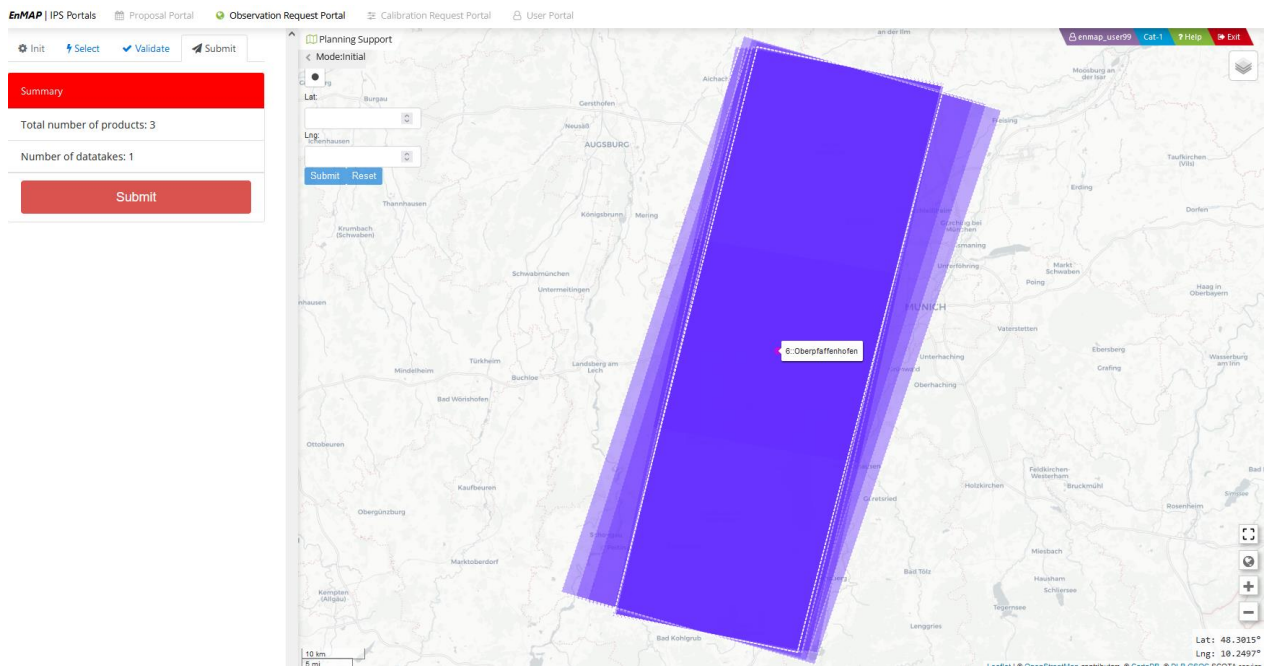


Figure 8-20 Order submission

On clicking *Use for Submission* a short summary of the requested datatakes is shown.

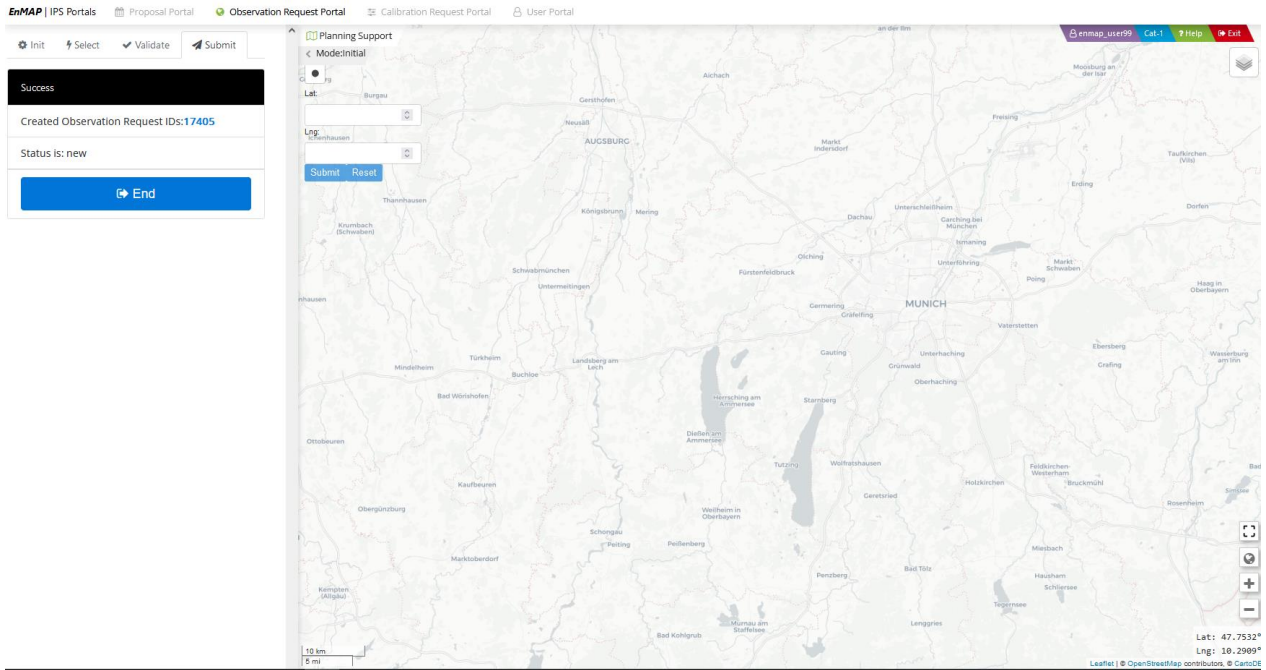


Figure 8-21 End of Submission

On Submission, under the *Submit Tab* on the left side the created Datatake ID is listed, with its status.

8.10 My observation requests

This portal lists all the submitted observations/datatakes for the user. It also allows the user to have a detailed view of each submitted request.

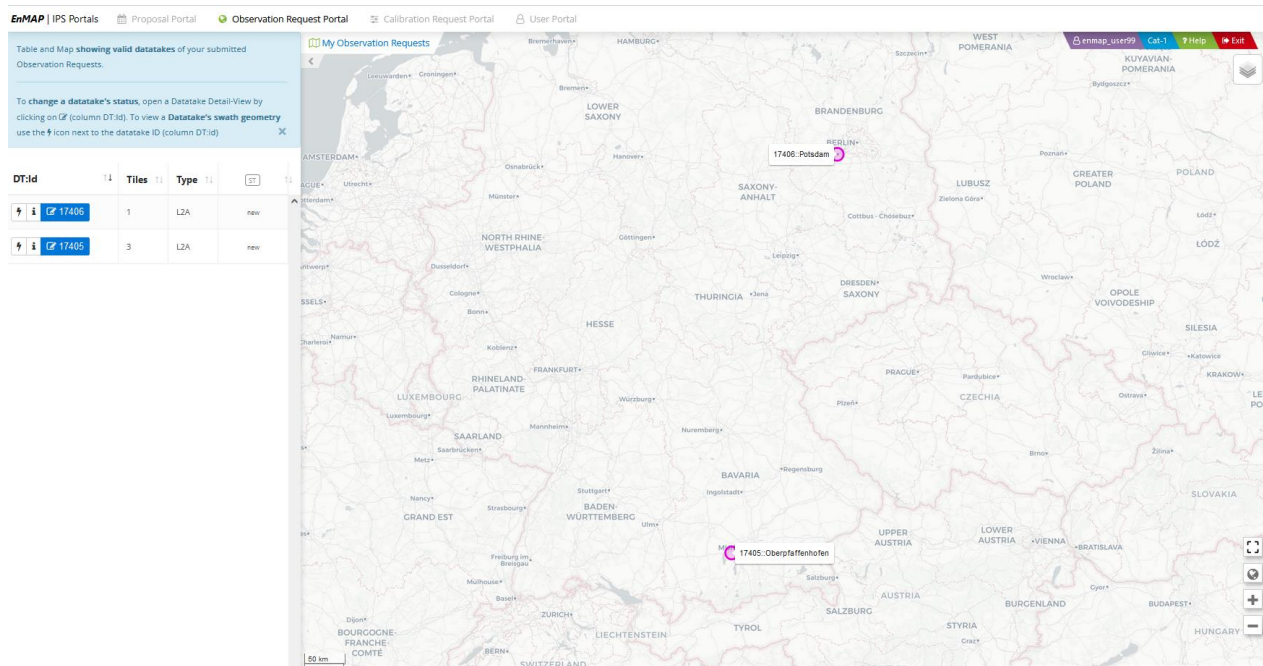
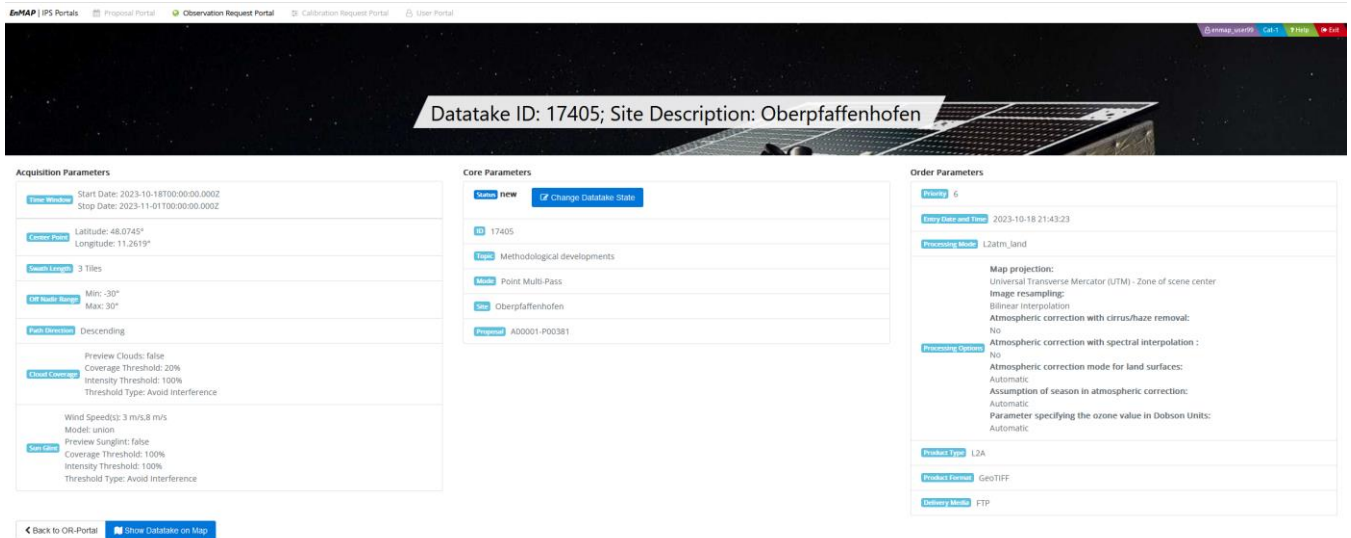


Figure 8-22: My Observation Request

The left side panel lists all the submitted observations and their locations can be seen on the right side in the map. The number is the ID of the datatake/observation retrieved from the database. One can click on the blue ID to get a detailed view of the OR-SPC items.

8.11 My OR Datatakes and Observations

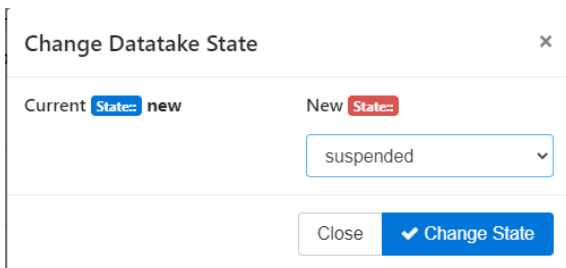


The screenshot displays the 'Datatake ID: 17405; Site Description: Oberpfaffenhofen' page. It is divided into three main sections:

- Acquisition Parameters:** Includes start/stop dates, center point (Latitude: 48.0745°, Longitude: 11.2619°), search length (3 Tiles), off-nadir range (Min: -30°, Max: 30°), flash direction (Descending), cloud coverage (Preview Clouds: false, Coverage Threshold: 20%, Intensity Threshold: 100%, Threshold Type: Avoid interference), wind speed (3 m/s, 8 m/s), and sun state (Preview Sunlight: false, Coverage Threshold: 100%, Intensity Threshold: 100%, Threshold Type: Avoid interference).
- Core Parameters:** Includes a 'Change Datatake State' button, ID (17405), description (Methodological developments), name (Point Multi-Pass), site (Oberpfaffenhofen), and product (AD0001-PO0381).
- Order Parameters:** Includes priority (6), entry date and time (2023-10-18 21:43:23), processing mode (L2a_tm_land), map projection (Universal Transverse Mercator (UTM) - Zone of scene center), image resampling (Bilinear interpolation), atmospheric correction (with cirrus/haze removal: No, with spectral interpolation: No, mode for land surfaces: Automatic), assumption of season (Automatic), parameter specifying ozone value (Automatic), product type (L2A), product format (GeoTIFF), and delivery method (FTP).

Figure 8-23: OR-SPC Items

In this form you can view your order parameters details and also change the state of the datatake/observation. You can also open the acquired flightline(s) on the map.



The 'Change Datatake State' dialog box shows the following details:

- Current State: new
- New State: suspended (selected from a dropdown menu)
- Buttons: Close and Change State (with a checkmark icon)

Figure 8-24: OR-SPC Datatake State

By clicking on *Change State*, the state of the requested Datatake/Observation can be changed.

8.12 Recommendations for future observation request entries

8.12.1 Pointing error

For those acquisitions with higher across-track tilt angle (exceeding 15 °), there is a risk of reduced satellite pointing accuracy in a long track direction. To prevent any inaccurate pointing, it is advisable to consistently specify **more than 1 tile per acquisition** (e.g. a minimum of two tiles).

8.12.2 Acquisition time window

A longer acquisition time window (the duration between start time and end time) typically result in more potential opportunities. However, when an order is submitted, only **one** specific data acquisition will be scheduled from the multiple possible opportunities.

If there are numerous visibility opportunities during the acquisition time window, there is a high chance of obtaining another data take (referred to as a "Redo"), in case the cloud coverage conditions do not meet the user's input criteria.

All acquired data will only be delivered to the user after the expiration of designated acquisition time window. Therefore, it is recommended to limit the time windows to a time span of less than 4 weeks (e.g. Start Date: 2023-10-01, End Date: 2023-10-31).

Orders which are submitted well in advance if acquisition time (> 2 months) may experience slight deviation from the predicted orbit. To maintain accuracy in acquisition parameters (such as tilt angle and ground coverage), it is recommended to place orders less than 2 months in advance (Figure 8-10)

8.12.3 Cloud coverage

Cloud coverage prediction relies on data from Deutsche Wetter Dienst (DWD) and is conducted 36 h prior to the scheduled data acquisition for the central coordinate. The order will only be considered in the timeline, when the cloud coverage prediction aligns with the specific cloud coverage threshold as indicated in the user's order parameters. As indicated in 8.12.2. there is a high chance of obtaining another data take (referred to as a "Redo"), in case the cloud coverage conditions do not meet the user's input criteria.

8.12.4 Longer Flightlines

In order to reduce conflicts among users and enhance the likelihood of more frequent data acquisitions, longer flightlines (> 5 tiles) would be highly advantageous. Collaboration between registered users (e.g. joint field campaigns) and data sharing could optimize the EnMAP mission capacity and address the tight distribution of data. Coordinated campaigns are therefore greatly appreciated and supported by the mission.

All data takes will archived and made available to the users via the Eoweb@Geoportal (see Chapter 9)

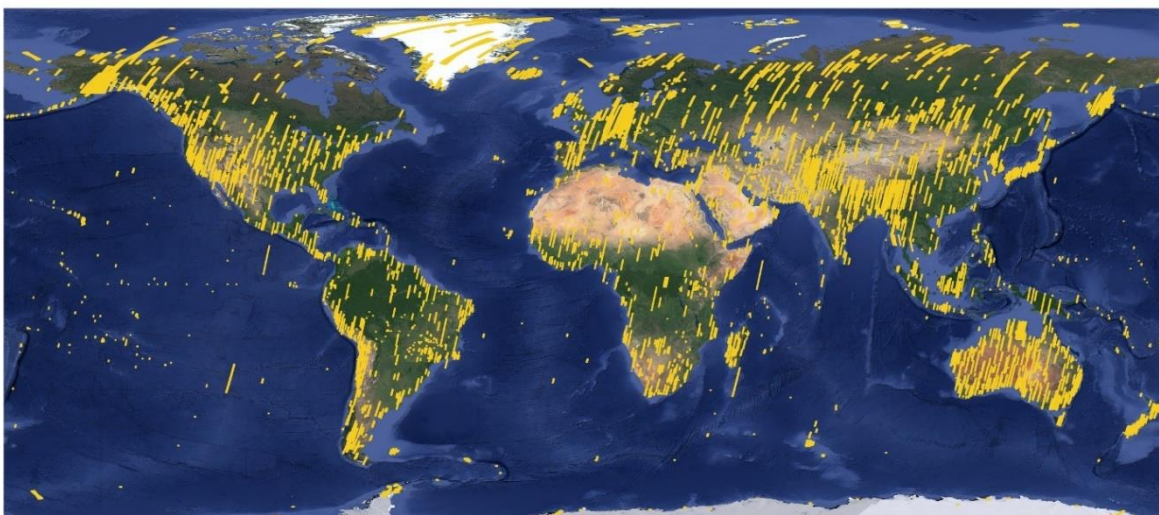


Figure 8-25 EnMAP Global Coverage from 1. April 2022 – 30.09.2023

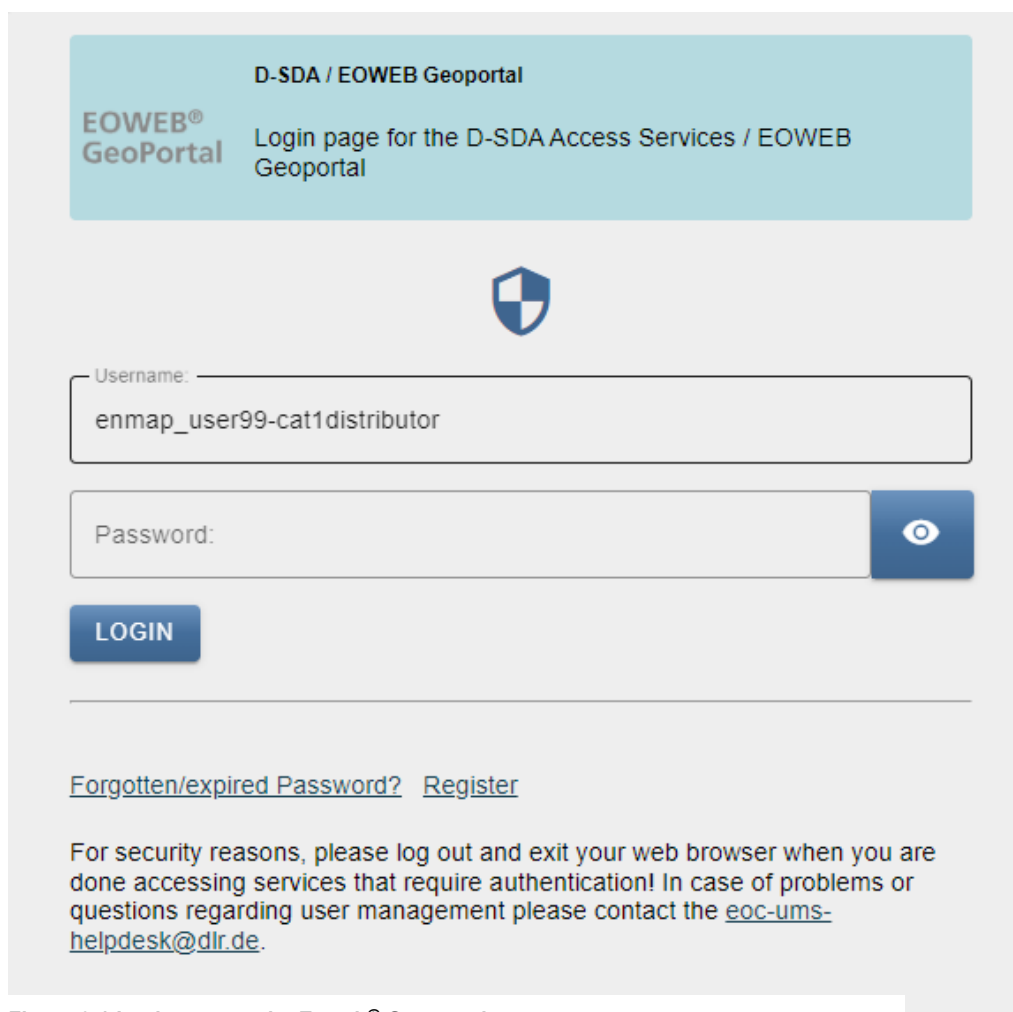
9. EOWEB@ Geoportal

The catalog search and order service (EGP) allows all registered users to search and browse data sets and products, that are described by corresponding ISO (International Organization for Standardization) metadata sets, and to visualize these products based on the CSW (Catalogue Service for the Web) and WMS (Web Mapping Service) protocols standardized by the OGC (Open Geospatial Consortium). Due to the required multiple processing options, each product is generated specifically for the order and delivered using SFTP (secure file transfer protocol) provided by multi-mission facilities.

9.1 EOWEB Login

The login button at IPP User Portal directs automatically to the login page of the EOWEB@Geoportal. At this point it is important to enter the exact EOWEB User ID associated to the approved proposal (see Figure 9-1)


The password remains the same as for the login at the Instrument Planning Portal Registration.



D-SDA / EOWEB Geoportal

EOWEB®
GeoPortal Login page for the D-SDA Access Services / EOWEB
Geoportal

Username: enmap_user99-cat1distributor

Password: 

LOGIN

[Forgotten/expired Password?](#) [Register](#)

For security reasons, please log out and exit your web browser when you are done accessing services that require authentication! In case of problems or questions regarding user management please contact the eoc-ums-helpdesk@dlr.de.

Figure 9-1 Login page at the Eoweb® Geoportal

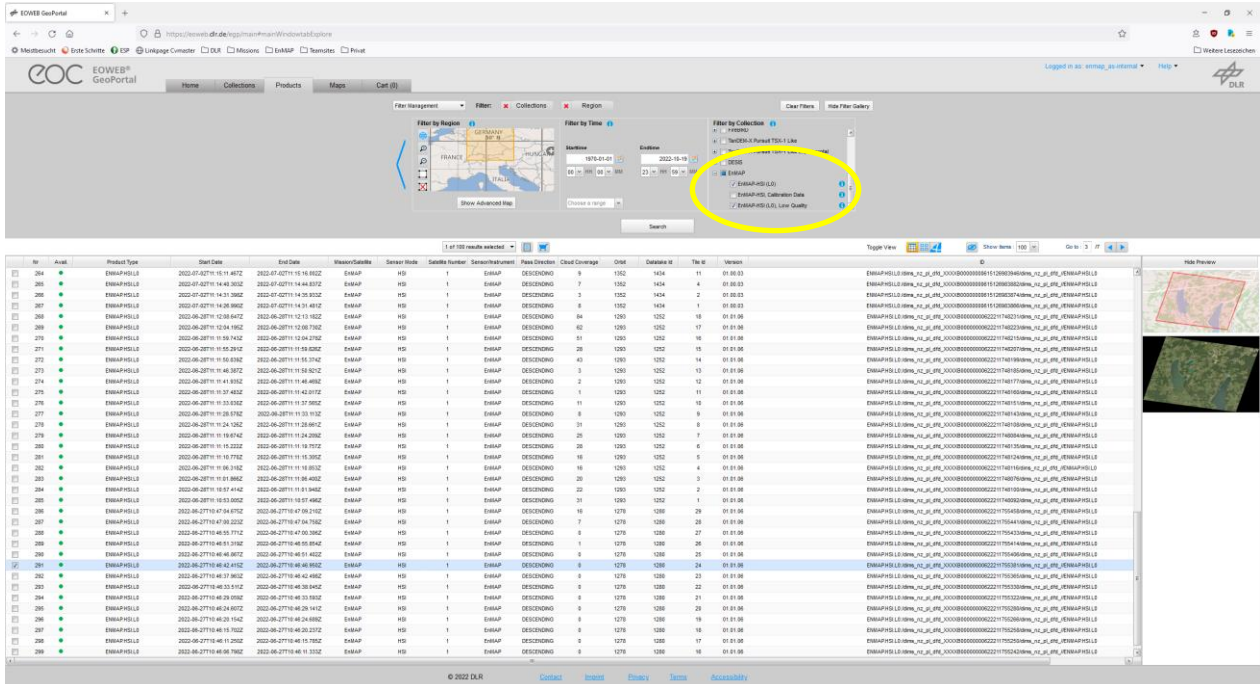


Figure 9-2 EOWEB@Geoportal entry page

During the operational phase, the following EnMAP data products will be delivered to the user community: Product Level 1B, Product Level 1C, and Product Level 2A. Please, note that the raw data and the subsequent Level 0 products are not available to the user community. The final image product includes masks, the metadata and history files.

Level 1B, Level 1C, Level 2A Product Specification can be found in *Related Documents* under

- [EN-PCV-ICD-2009-2 HSI Product Specification Level1 Level2.pdf](#)

EnMAP Data Products	Acronym	Description
Level 1B	L1B	The Level 1B product represents top-of-atmosphere radiance.
Level 1C	L1C	The Level 1C product represents geocoded top-of-atmosphere radiance. This product is derived from the Level 1B product, which is subsequently geometrically corrected (orthorectified) and re-sampled to a specified grid.
L2A	L2A _{land} L2A _{water} * L2A _{combined} *	The Level 2A processor will convert the Level 1C products to surface reflectances separately for land and water applications. This split procedure is quite unique in data processing and should give the user the possibility to select the best result according to the area of interest (land or water or combined).

Table 9-1 EnMAP Data Products

Please note: Reprocessed data with significantly improved co-registration and geometric performance are being added to the EnMAP data archive. For best performance, it is

recommended to use the latest version when more than one version of the product exists. Users should check the parameter "archivedVersion" where a version number equal or higher than **01.03.00** will identify a re-processed product (when an older version exists) or a newly created product.

9.2 Data delivery and download of ordered data

Users will be informed via email, as soon as their order items are available for download on the FTP Delivery Server. The email will contain the address of the FTP Delivery Server and the path to the data packages. Also, FTP address and path are available in the order overview.

The user ID and password to access the FTP server are identical to your EOWEB® GeoPortal (EGP) user ID and password.

Delivery packages are deleted from the delivery server 14 days after insertion. Please make sure to pick up your products in time.

It is recommended to use an ftp transfer such as FileZilla to download the data.

For further instruction on data downloads please refer to the following page:

https://eoweb.dlr.de/egp/docs/user/downloading_ordered_data.html

10. EnMAP Products and Educations

10.1 Enmap.org

This website <https://www.enmap.org/> provides all the NEWS about the mission itself, the data access, the ground segment, application and literature, events and tools.

Details on Mission performance can be found in the Mission Quarterly Reports on <https://www.enmap.org/mission/> **QUARTERLY REPORTS**

- [01 \(01.04.2022-30.09.2022\)](#)
- [02 \(01.10.2022-31.12.2022\)](#)
- [03 \(01.01.2023-31.03.2023\)](#)
- [04 \(01.04.2023-30.06.2023\)](#)

10.2 EnMAP-Box

The EnMAP-Box is a free and open source plug-in for QGIS to visualize and process remote sensing raster data. It is developed targeting both, novices as well as experienced users, and offers basic processing and visualization functionality as well as advanced approaches for image analysis. Moreover, the open source code may easily be extended by individual applications.

<https://enmap-box.readthedocs.io/en/latest/>

10.3 HYPERedu online learning initiative

HYPERedu is an online learning initiative for hyperspectral remote sensing. On the one hand, it provides online learning resources on principles, methods and applications of imaging spectroscopy at master's level addressing students as well as professionals in research, business, and public institutions. The resources comprise annotated slide collections and hands-on tutorials (based on the EnMAP-Box software) that are continuously extended and increasingly used in training courses as well as university teaching.

<https://eo-college.org/resource-spectrum/hyperspectral//>

<https://eo-college.org/courses/beyond-the-visible/>

11. FAQ

Frequently Asked Question	Topic	Solution

Table 11-1 Frequently Asked Questions (FAQ)

12. EnMAP Terms and Abbreviations

Acronym	Proposal Status	Explanation
SUB	submissionInProgress	Cat-1 user has created the proposal and is working on it until he/she has completed it so that it can be submitted.
NEW	new	Cat-1 user has submitted the proposal and the primary reviewer is asked to assign a reviewer to the proposal.
RRV	readyForReview	A reviewer was assigned to the proposal and the reviewer was asked to review the proposal.
RVP	reviewInProgress	The proposal reviewer works on the review.
APP	approved	The reviewer submitted the review result and approved the proposal.
REJ	rejected	The reviewer rejected the proposal.
TBM	toBeModified	The reviewer commented on the proposal and asks the proposal owner for modifications.
LCS	licenseSigned	Application support has approved the receipt of the Cat-1 license signed by the proposal owner. Now an EOWEB user is created automatically.
MIP	modificationInProgress	The proposal owner modifies the proposal according to the reviewer's comments.
MFR	modifiedForReview	The proposal owner is done with modifications and the reviewer is asked to review the modified proposal.
REL	released	After the creation of an associated EOWEB user the proposal was released, so that it can be used for observation requests.
DSC	discarded	The proposal was either regularly cancelled by the owner or in an exceptional case by an operator.

Table 12-1 Acronym of Proposal Status

Term	Abbreviation	Definition
Application Support	AS	DLR space administration that takes care of the administrative IPS portal application matters.
Announcement of Opportunity	AO	The call for proposals to utilize a satellite mission. Utilization can mean scientific data exploitation but also the opportunity to provide payloads.
Data Acquisition		Time span for recording data from selected or all spectral bands.
Earth Observation on the Web	EOWEB	The user interface Earth Observation on the WEB provides access to the earth observation data available at the DFD. You can search for data, view browse images, order data and retrieve data online.
EnMAP Data Access Portal	EDAP	
EnMAP Instrument Planning account	IPP	Main EnMAP account for access to the EnMAP IPP
EOWEB® User account	EGP	Secondary accounts derived from the EnMAP Instrument Planning account with role and/or proposal based specific access rights to the EOWEB® GeoPortal.
Observation Request Portal		The IPS observation portal allows creating and managing observation requests for data acquisition by the EnMAP satellite. Observation requests are requests issued by IPS users through the observation request portal asking for datatakes. The OR provides all information required for scheduling datatakes such as location and extension of the observation area, acquisition time-frame, sensor look angle, and data product level(s).
Proposal Portal		The IPS proposal portal allows creating and managing proposals for data acquisition by the EnMAP satellite.
Satellitendatensicherheitsgesetz	SatDSiG	Law to protect against threats to the security of Federal Republic of Germany by spreading high-quality earth remote sensing data
User Portal		In the user portal, a registered IPS user requests the assignment of one or more user roles monitors the role assignment process and can inspect his/her registration data.

Table 12-2 EnMAP Terms

Abbreviation	Description
AO	The call for proposals to utilize a satellite mission. Utilization can mean scientific data exploitation but also the opportunity to provide payloads.
PI-AO	PI-AO is a leading scientist of a remote sensing institution responsible of a particular AO process.
Cal/Val	Calibration and Validation
OR-AC	Observation Request – Area Coverage
EnMAP	Environmental Mapping and Analysis Program
AUP	
IPP	Instrument Planning Portal
GDPR	
D-SDA	Deutsches Satellitendaten-Archiv (German Satellite Data Archive)
EGP	EOWEB GeoPortal
EDAP	EnMAP Data Access Portal

Table 12-3 EnMAP Abbreviations