Data Store user guide

The following guide is an introduction to EUMETSAT's Data Store and Data Tailor (Customisation tool) aimed at beginners. Here, we include information on the downloading tool Data Store, as well as the customisation tool Data Tailor. Use the **Data Store detailed guide** for advanced guidance.

Exploring the Data Store

The Data Store consolidates all the different data streams that are present in the EUMETSAT's archives, to allow users to access the products through a single unified interface. If you would like to customise the data before download, we also offer a tailoring service called Data Tailor that integrates with our Data Store.

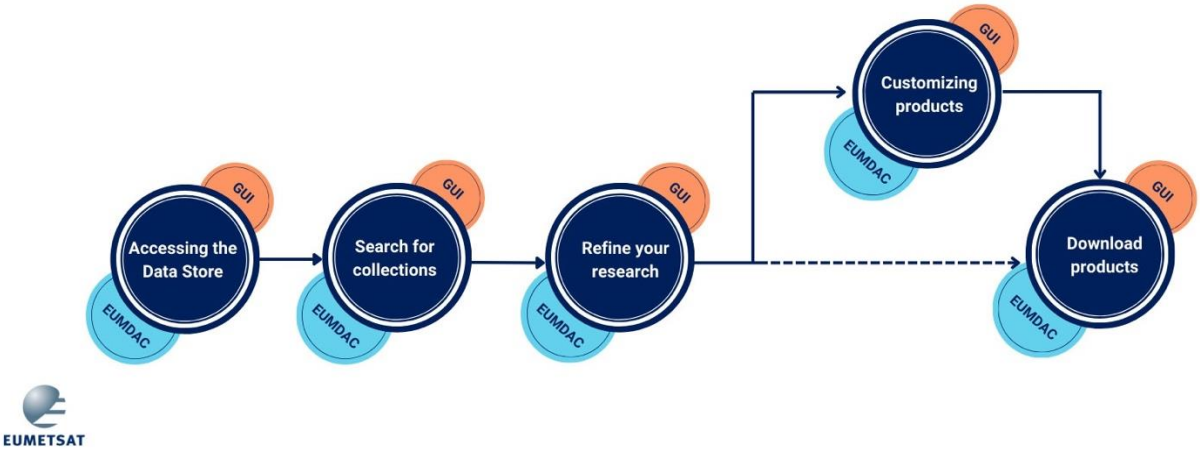


Figure 1: Log into Data Store using the Web User Interface

Authentication and log in

Downloading products from the Data Store is only possible for those users who are registered with us. New users need to **register**. In order to authenticate, you would need to first proceed to the **Data Store** and then click on the 'Log in' button at the top right-hand corner. Insert your username and password and log in.

Accessing the Data Store catalogue

The first step is to decide about the collection you want to download products from through the **Data Store catalogue**. Once that has been done, you may want to filter the products you need through available product properties. Find detailed information on the data available in the Data Store and Data Tailor in our **Data Store detailed guide**.

Here you have a few ways to explore the catalogue:

1. Perform free-text search using the search box
2. Scroll down and explore collections
3. Perform an advanced search.

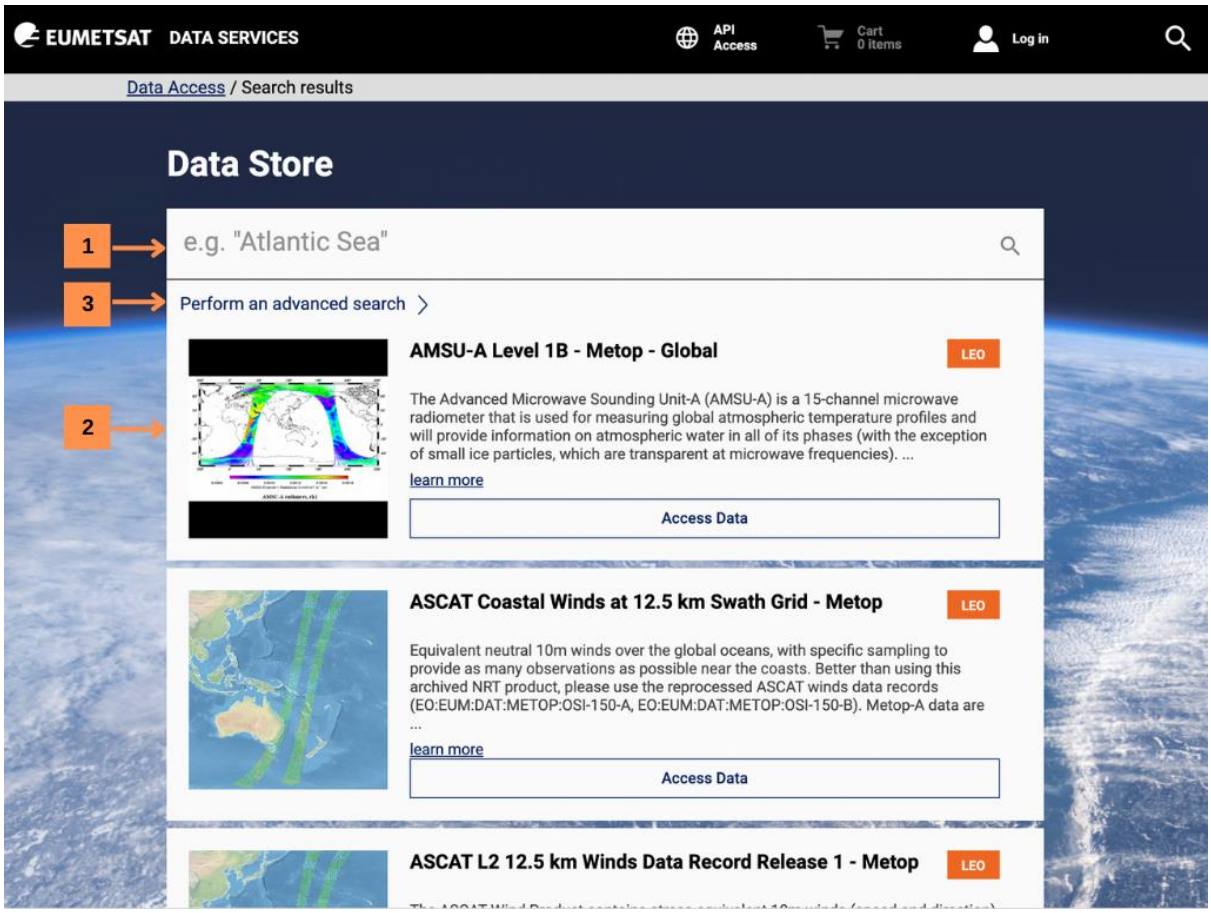


Figure 2: Data Store catalogue

Advanced search offers the possibility to refine the search results using constraints in the panel on the left. Filters such 'Sensor Type', 'Platform', 'Parameter' are present. The catalogue updates automatically on adding filters.

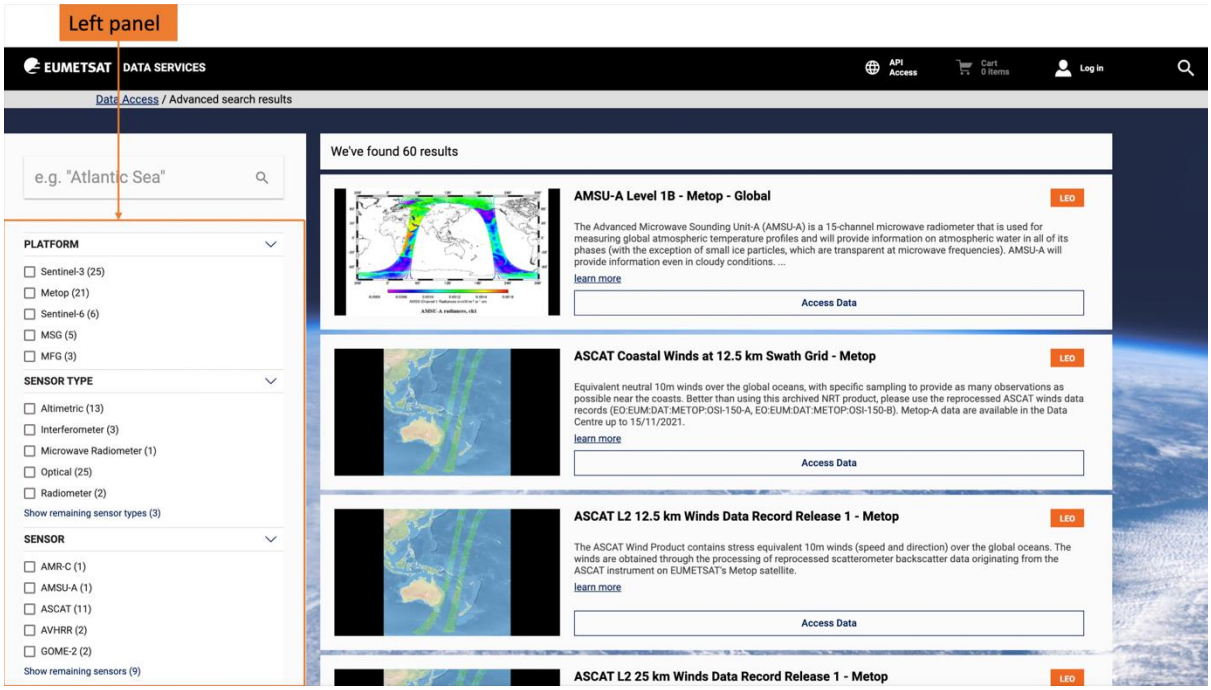
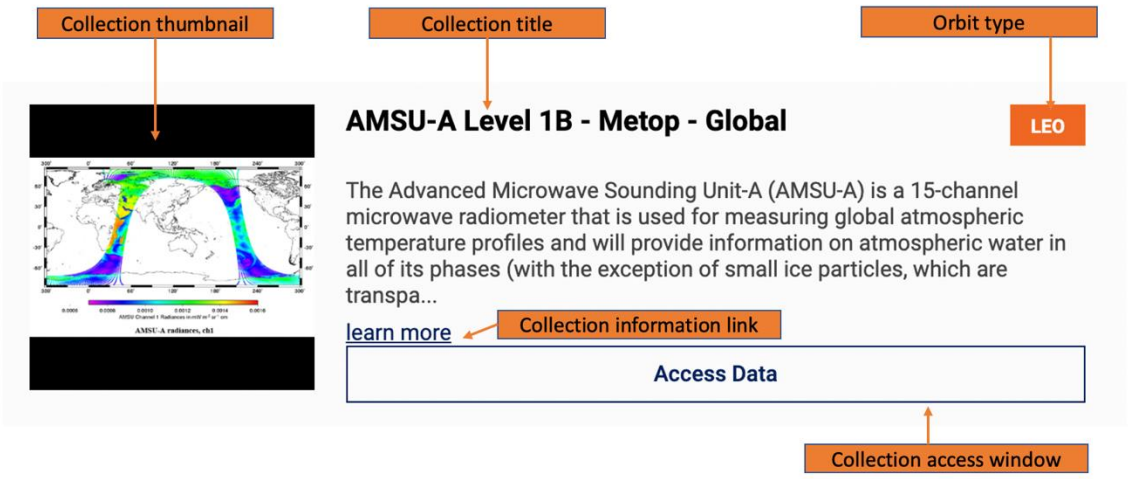


Figure 3: Advanced Search on the Data Store catalogue

Each collection in the catalogue has an information panel, as shown below, with the following details:



The 'learn more' link opens the 'Product details' window and provides more details about a collection, as follows.

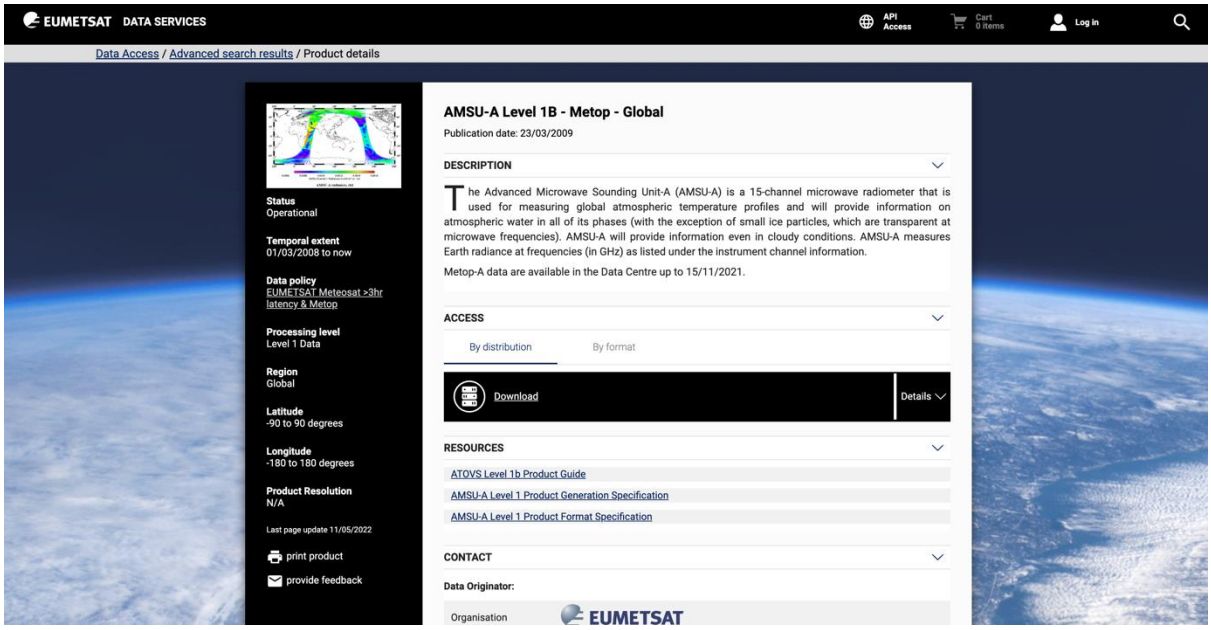


Figure 4: This image shows the product details window for a collection. This window is accessible by clicking the 'Show more' link.

Here you will be able to explore the collection, including information such as temporal and spatial scale, as well as any license conditions attached to the data. The metadata of the collection can be downloaded as an XML file by scrolling down to the bottom of the page and clicking on the 'download metadata' link.

The 'Access' section lists the ways to access the products of the collection. These possibilities are grouped by the distributing service and the file format of the products.

- By distribution: refers to the EUMETSAT services where the collection is available. In this case, you will always see 'Data Store'.
- By format: refers to the data format of the products.

In both cases, additional information can be seen by clicking on 'Details'.

Detailed information on formats can be found in the **Formats guide**.

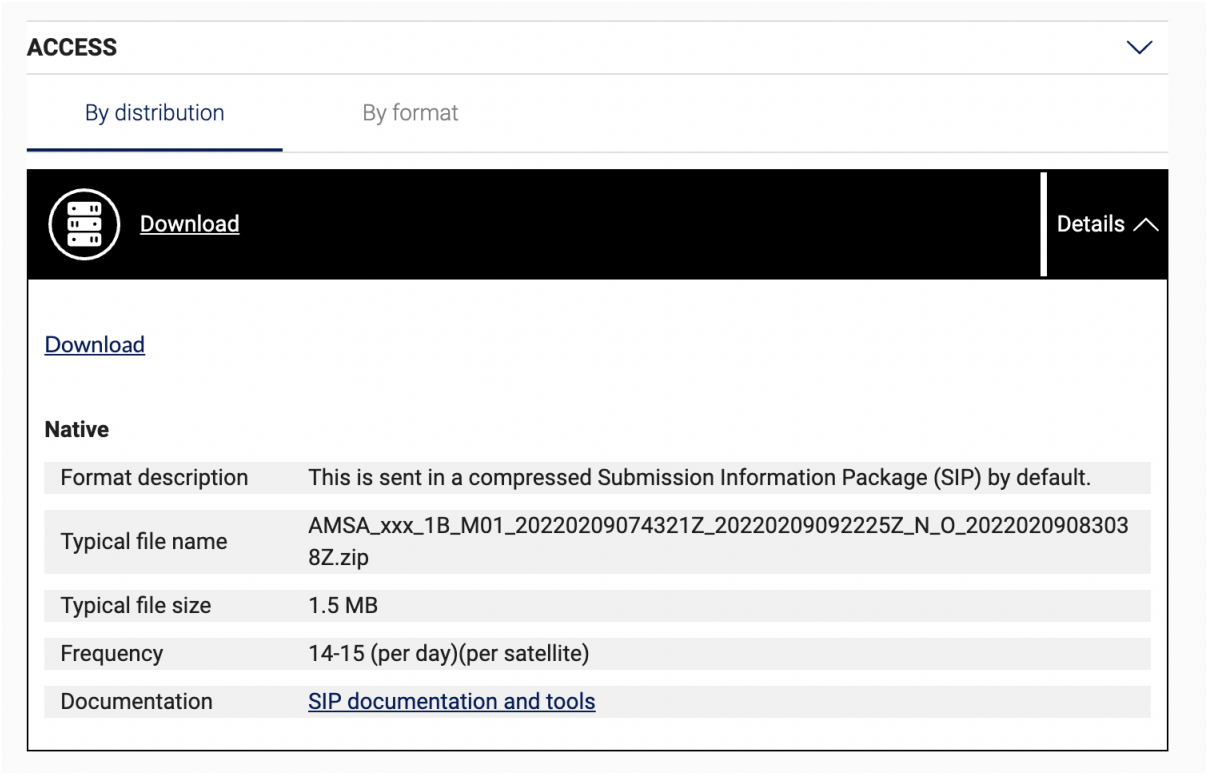


Figure 5: List of ways to access a product grouped by distribution

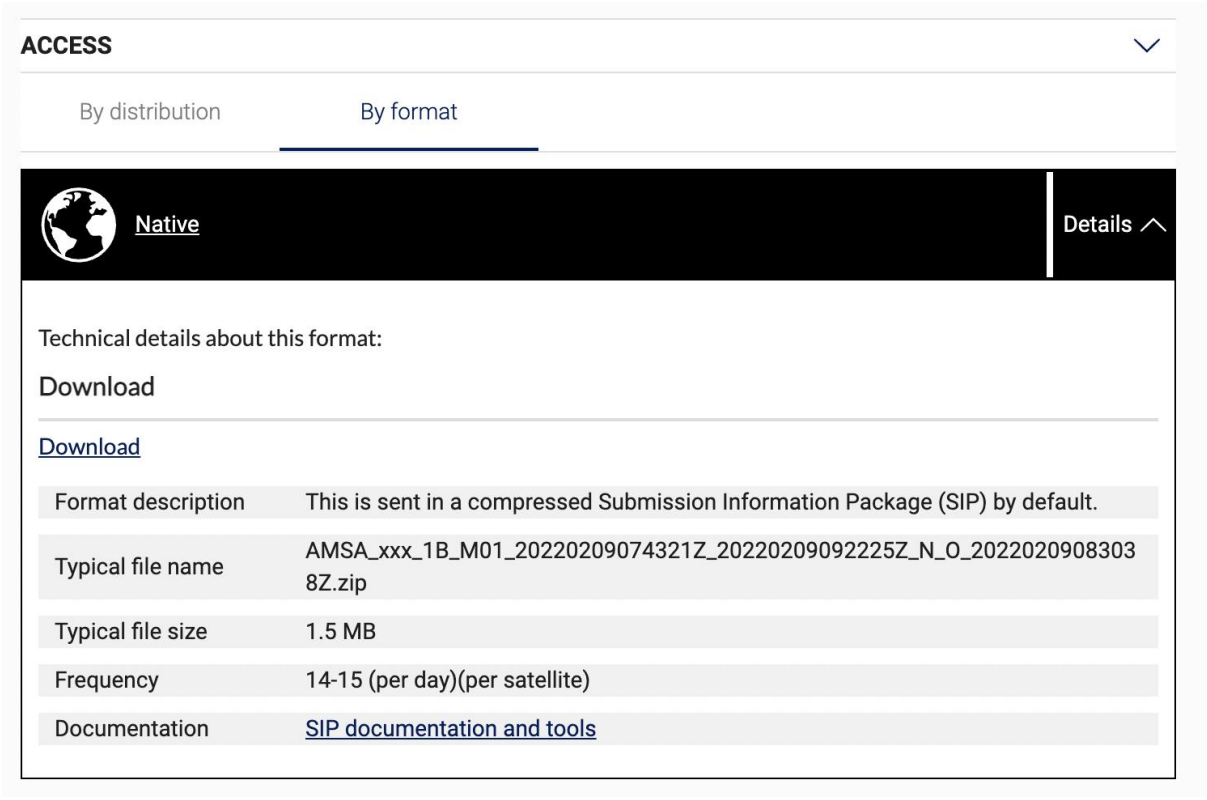


Figure 6: List of ways to access a product grouped by format

Refining your search

Once you have identified your collection, you will be able to refine your search by either pressing the 'Access data' button in the initial panel, or clicking the 'download' button in the 'Access' section of the extensive product information panel. Both options will open a new window as the one shown below.

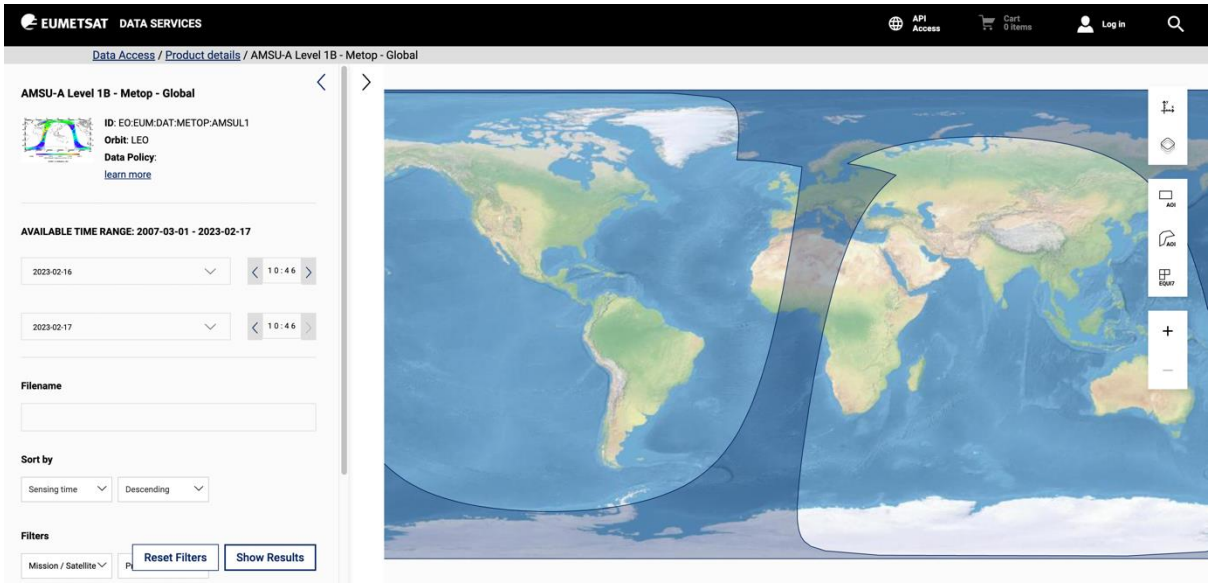


Figure 7: Product selection page for a chosen collection

The options and filters available depends on the type of the chosen collection–for some collections there are different filters then for others.

For GEO collections

The available filters in the left panel are:

- **Available time range** (this differs from the 'Temporal extent' shown in the collection information window that describes the length of the collection in general, irrespective of the service).
- **Filename** of the product as stored in the Data Store.
- **The mission/satellite** the product is sensed by.
- The **type of the product**.

The results can also be sorted based on the following attributes:

- **Type of orbit** ('Ascending' or 'Descending', where 'Ascending' refers to the phase of a satellite's orbit where it moves from the South to the North pole and 'Descending' refers to the phase of a satellite's orbit where it moves from the North to the South pole.).
- **Time** ('Sensing time' or 'Ingestion time', where 'Sensing time' is the time the satellite recorded the information and 'Ingestion time' is the time when EUMETSAT published the data).

Once you have selected the search criteria, clicking on the 'Show Results' button opens a panel showing the matching results as illustrated below.

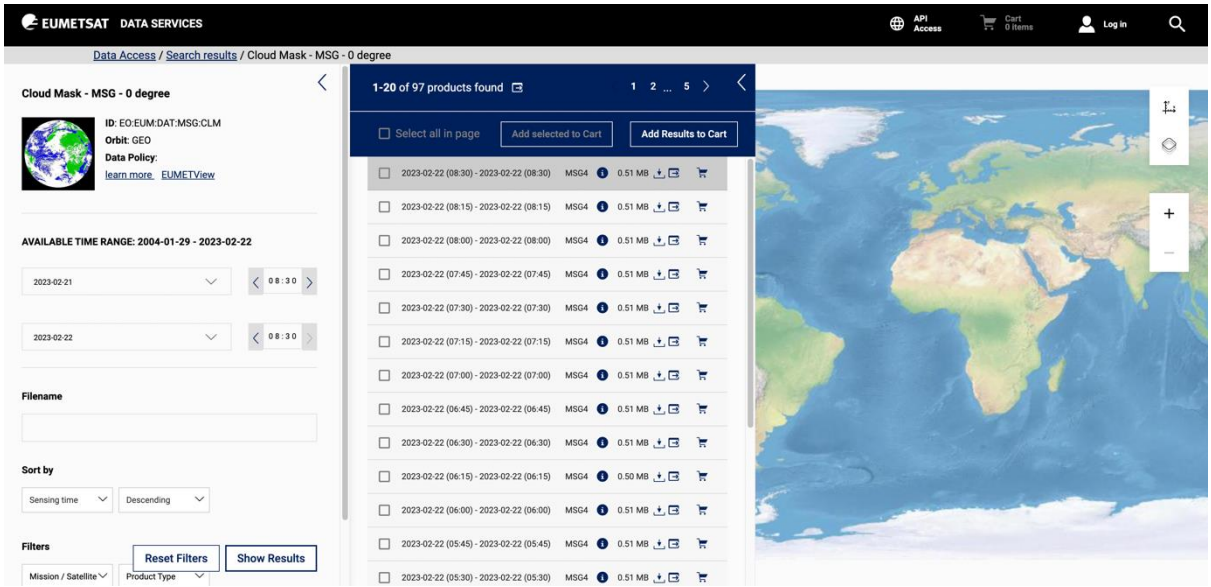


Figure 8:Filtering products for a collection with a geostationery orbit (GEO)

Here you will have the possibility to explore all the available products that match your search criteria. At the top of the panel you will see the number of products that are being shown and the total number of products that match the search criteria (**1-20** of 29 products found). Clicking on the icon at the top, shows a code snippet to perform an identical search on the EUMDAC CLI.

In the same panel, for each of the products, it is possible to:

- download the product directly by clicking on the icon.
- access the EUMDAC command to download the product by clicking on the icon
- add the product to the cart by clicking on the icon

It is also possible to select and download multiple products simultaneously by clicking on the tick boxes beside each of the required products, and then clicking on the 'Add selected to Cart' button.

All products matching the search criteria can be added to the cart using the ‘Add Results to Cart’ button.

For LEO collections

The window is very similar to that of the GEO orbit, with two notable differences.

- As GEO platforms have a pre-defined coverage, this is shown as soon as the **collection** is accessed. For LEO products, the footprint is dependent on the specific product and, therefore, footprint is shown by default.
- As LEO products change coverage, the **map controls** offer additional functionality. The AOI toolbox allows to define a region of interest as a:
    - regular rectangle 

    - irregular polygon 

    - EQUI7 region 

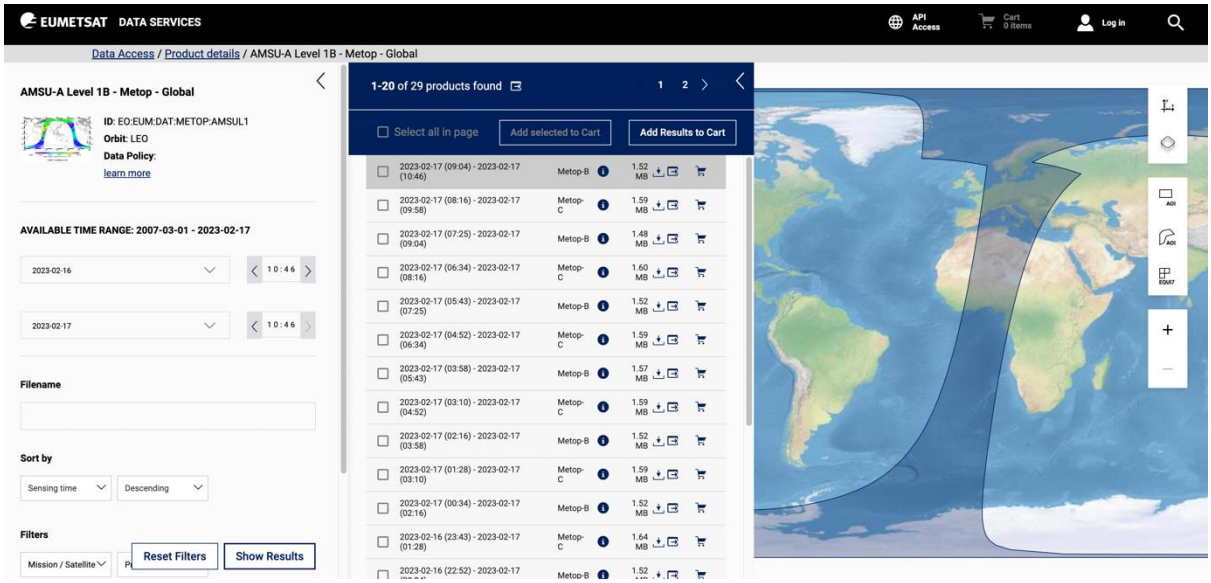


Figure 9: Filtering products for a collection with a Low Earth Orbit (LEO)

Downloading your products

Downloading specific products

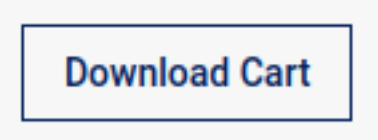
If you would like to download specific products from the cart, click on the download button beside that product to download it as a zip file.

Figure 10: Download specific product from cart

Downloading products in bulk

While the strategy described above works best for downloading products one-by-one, it is a cumbersome process to download all the products in the cart this way. In order to download the entire cart, first download the XML manifest file for the cart using the 'Download Cart' button at the top of the list.

***Note:** the Data Store cart is set with a limit of 500000Mb or 100 items, whichever is lower.*



Clicking this button downloads an XML metadata file that contains the name of each of the products and the URL to access it.

Data Tailor: Customising your products

As we saw in the previous section, in the Data Store you could choose a collection from our catalogue, filter the products by setting different criteria and choose the products you are interested in by adding them to a cart. Once products have been added to the cart, the cart would look similar to the figure below. By default, when no specific products have been selected, you can either download the entire cart using the 'Download Cart' button, customise the selected products to meet your specific needs by clicking on the 'Customize Cart' button or empty the cart using 'Clear Cart' button. After specific products have been selected, you can also remove those specific products from the cart.

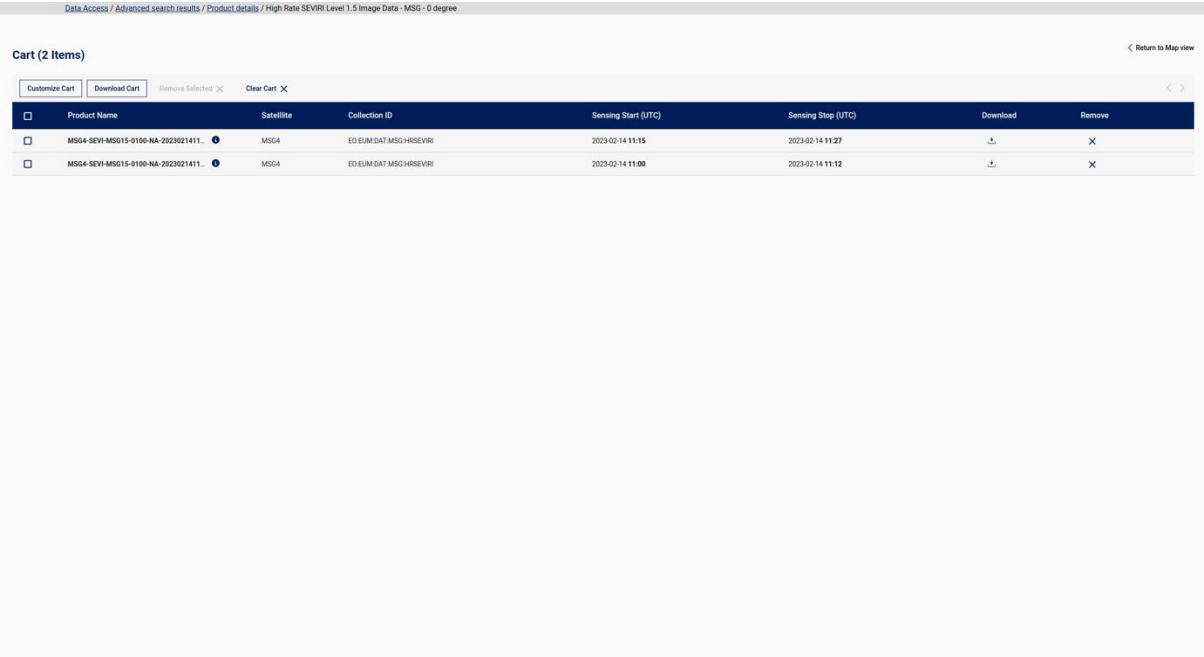


Figure 11: Cart after adding products to it

In this section, we will focus on customising the products in the cart according to your requirements.

The products in the Data Store are stored in the native data format. EUMETSAT's users come from different backgrounds and each user has their own preferences for the data format, extent, channels and so on. Furthermore, the exact specifications of the data needed by the user depends heavily on the specific use case as well as considerations on feasibility–for instance, the user's internet bandwidth and available storage space. Therefore, EUMETSAT offers its users the provision of customising the data to meet these requirements so that the data could be tailor-made and downloaded directly from us. The Data Tailor service embedded within the Data Store offers this possibility.

The following sub-sections describes the Data Tailor workflow and guides the user from selecting the required products to downloading the customised versions of them.

Customising the cart

After products have been added to the cart, you need to to click on the 'Customize Cart' button at the top-left of the list of products. At this moment, the Data Tailor Web UI supports customisation of a maximum of three products at the time.

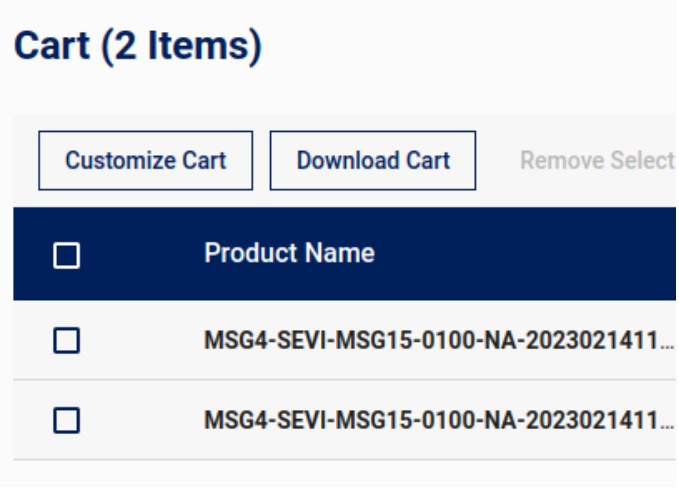


Figure 12: Select products in the cart and customise them

Clicking this button opens the Data Tailor Web UI in a new tab. The Data Tailor Web UI is arranged in the form of consecutive panels that contain collections of related options for you to choose. You need to make the choices available in any panel to move on to the subsequent ones. The options are updated dynamically. In other words, the options available in each panel depends on the choices made in the previous ones. We shall now go through each of the panels briefly.

Launchpad

This is the starting point for all customisations in Data Tailor and is one of the most crucial ones. Once you have added the products, the field 'Product type' usually is chosen automatically. However, in some cases (as SEVIRI products), you have to make the choice manually from a drop-down menu. The second option is to choose the output format the customised data is to be downloaded in. The dropdown offers several popular formats for you to choose from. The third option is this panel is 'Configuration' that contains preset templates for commonly used settings.

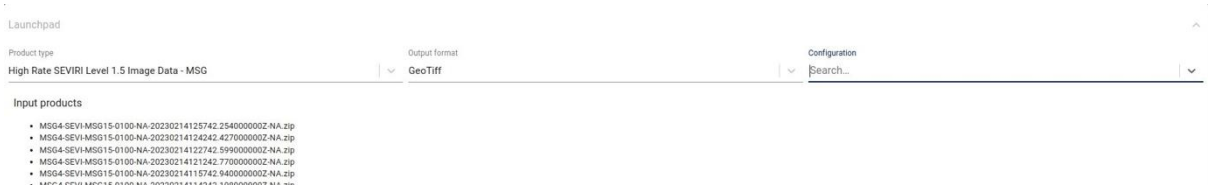


Figure 13: Data Tailor launchpad

Aggregation

In many cases, instead of having multiple individual datasets, it is useful to work with fewer products with aggregated values. Depending on the context, the aggregation can be done over different dimensions such as over time, orbits etc. using commonly used aggregation functions such as mean, median, sum and so on. This panel

allows you to aggregate certain products over chosen dimensions. For example, in the figure shown below, aggregation is being performed over time for Global L3C AVHRR Sea Surface Temperature (GHRSST) - Metop products.

Figure 14: Data Tailor aggregation panel

Layer Filter

Earth Observation data products often contain data in the form of layers that are identically georeferenced. For optical data products these layers usually correspond to bands or measurement values in different ranges of the electromagnetic spectrum. The layer filter allows you to select layers that are of interest. The 'Configured Filters' section often has pre-configured templates for various common use cases. On the right hand side, layers of interest can be selected manually. Clicking on the checkmark on the left of the layer names in the 'Available Layers' selection box and then sending them to the 'Selected Layers' box by clicking on the Send to the Right button ('>') adds that layer to the customised product. If required, the selected layer(s) can be removed again by clicking on the Send to the Left ('<') button. The set of layers selected in this step can be saved as a layer filter template in the your profile for use in subsequent sessions.

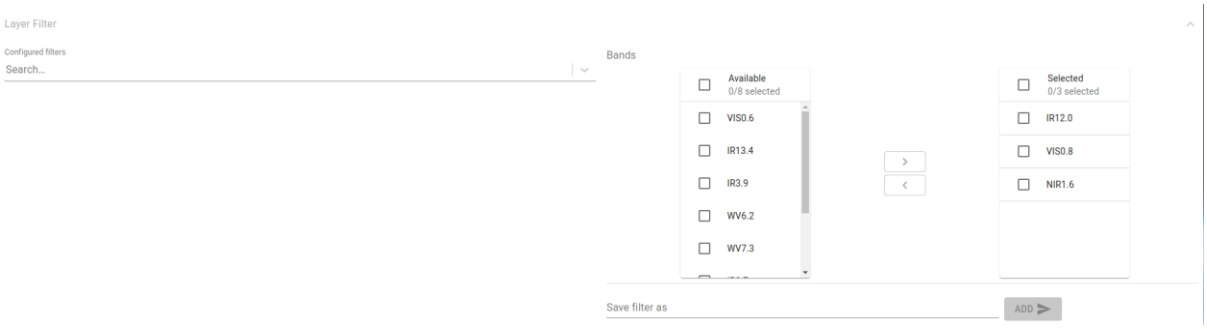


Figure 15: Data Tailor layer filter panel

Reprojection

The reprojection panel allows you to reproject the data to another coordinate reference system. Commonly used coordinate reference systems are available on the left hand side as a drop-down menu entitled 'Target Projection'. This panel also offers resampling the data to a desired resolution and you may provide the target x

and y resolution values in units of the reference system. The method to be used for resampling can also be chosen from the drop-down menu 'Resampling algorithm'.

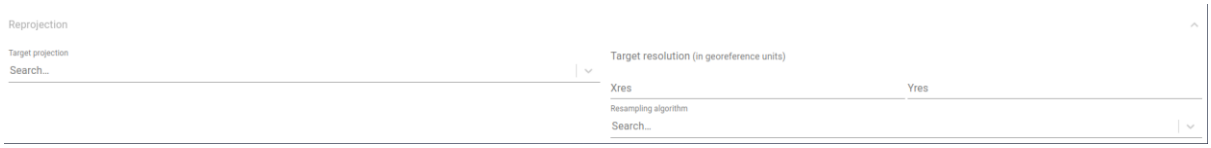


Figure 16: Data Tailor reprojection panel

ROI

The ROI (Region of Interest) panel enables you to spatially subset the product. The ROI may be chosen from the drop-down menu on the left with a list of many country names and regions. Alternatively, you may also provide latitude and longitude (in decimal degrees) values for custom bounding boxes or upload a shapefile from their local machine. The filter may also be saved in your profile for subsequent use.

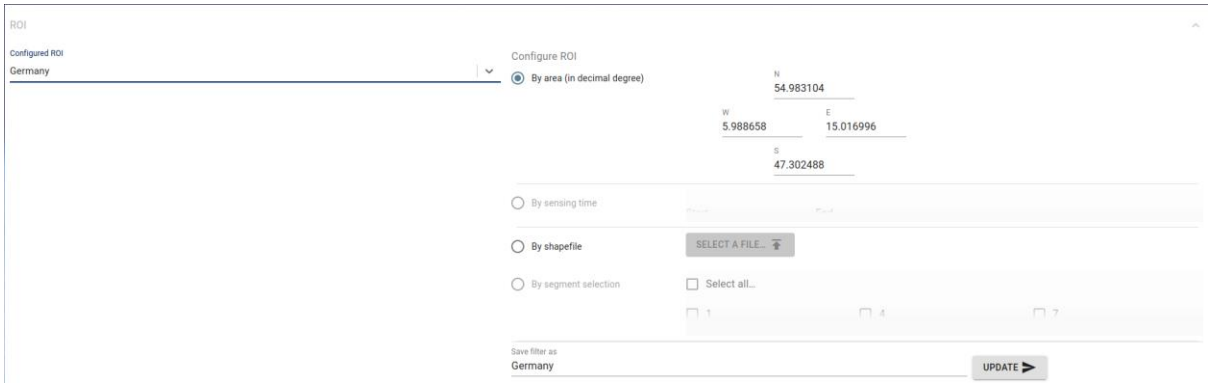


Figure 17: Data Tailor ROI panel

Quick Look

The quick look panel helps you to download RGB images of, at most, three layers from the product in JPG or PNG file formats that are adjusted for increased contrast. These quick look images can also be resampled and 'No Data' values encoded to a colour of your choice. The settings in this panel can also be saved in the your profile for subsequent use.

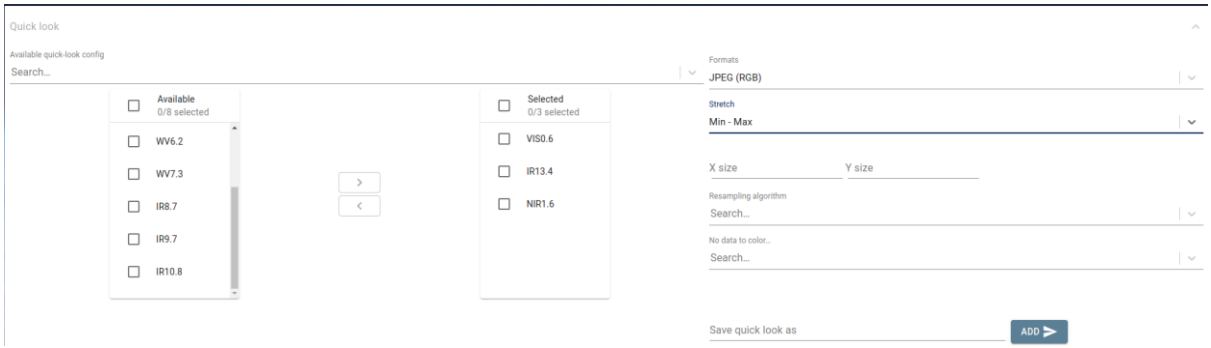


Figure 18: Data Tailor quick look panel

Output options

This panel allows you to choose from common compression types such as zip, tar and BZip2 from a drop-down menu. The customised data is compressed to this format before making it available for download.

Figure 19: Data Tailor output options panel

Find details on the capabilities of the Data Tailor in the **Data Store detailed guide**.

Running the customisation

You can execute the customisation process by clicking on the green button on the bottom right hand corner of the page.

Clicking this button starts the execution of the tailoring process. You can see the progress for each of the selected products in a window as shown below.

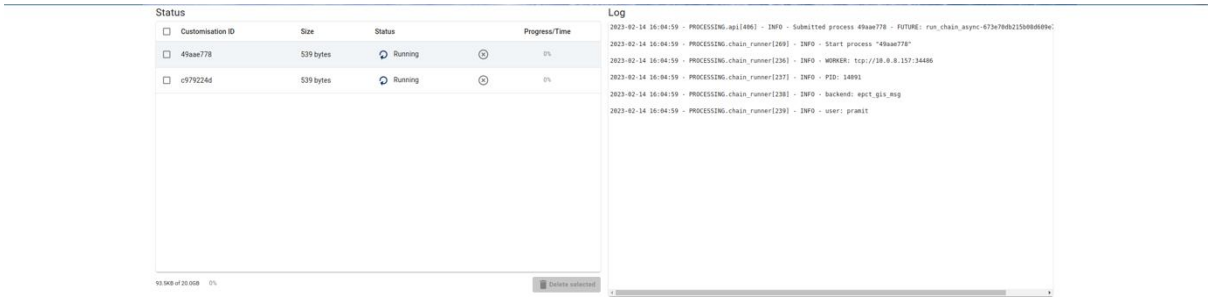


Figure 20: Data Tailor execution window

Downloading tailored products

Once the customisation processes have finished and the status field for a product shows 'Completed', a download button appears for each product. Click on that button to download the specific product customised to your needs. After the customised product has been downloaded, you can delete the customisation job by clicking on the checkbox beside the product and then clicking on the 'Delete Selected' button at the bottom of the Status window. This frees up space in the your Data Tailor profile.

Information on the amount of storage space being used as well as your available quota is displayed in absolute as well as percentage terms on the bottom-left of the Status window.

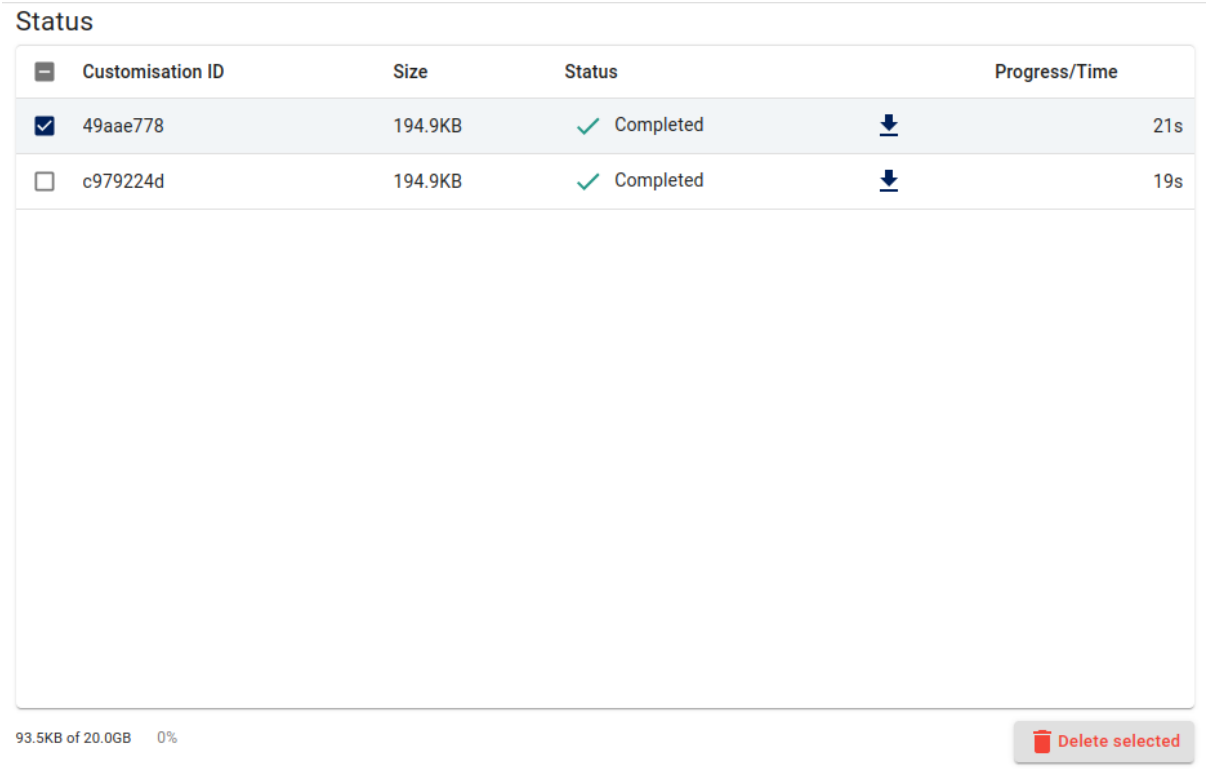


Figure 21:Data Tailor status window

You can view the log for a specific customisation job in the window on the right hand side by clicking on the customisation ID in the Status window on the left.

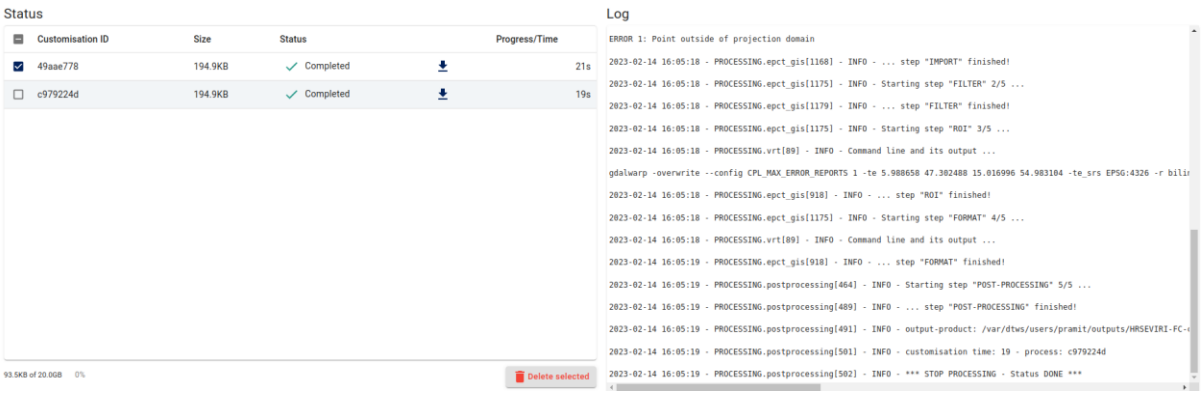


Figure 22: Data Tailor log window