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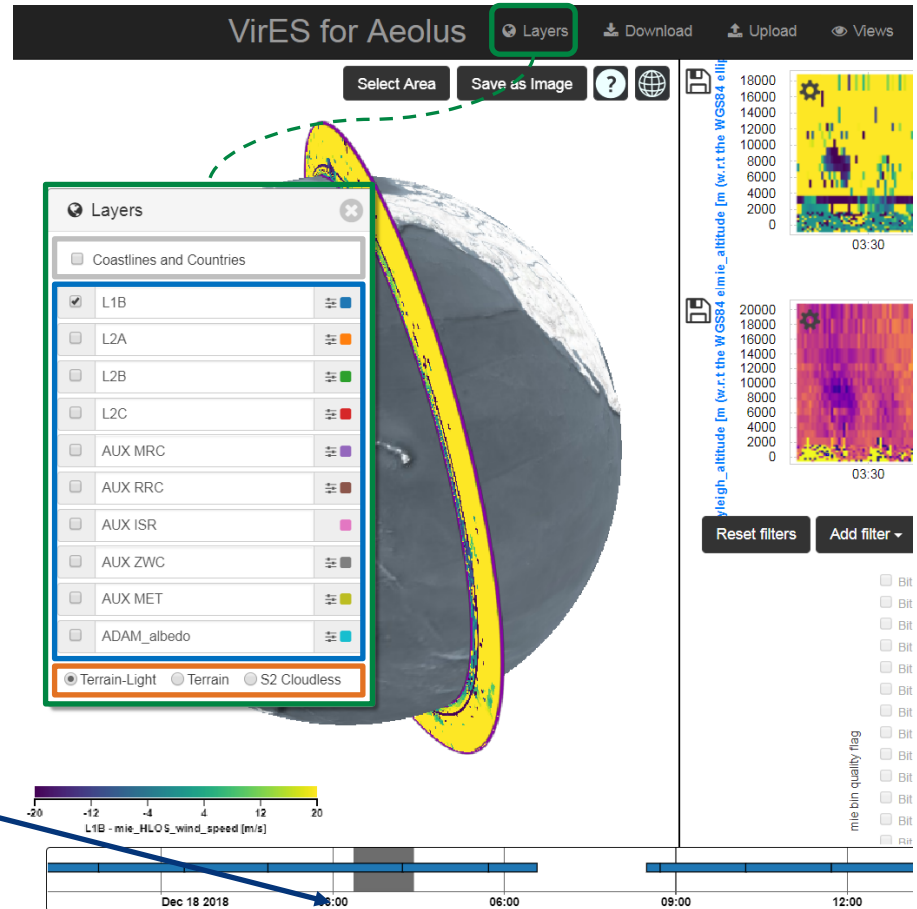
# Layers

Layers widget provides the possibility to select the specific data to be visualized. It can be activated by clicking on the “Layers” button on the dashboard and a panel is opened for selection

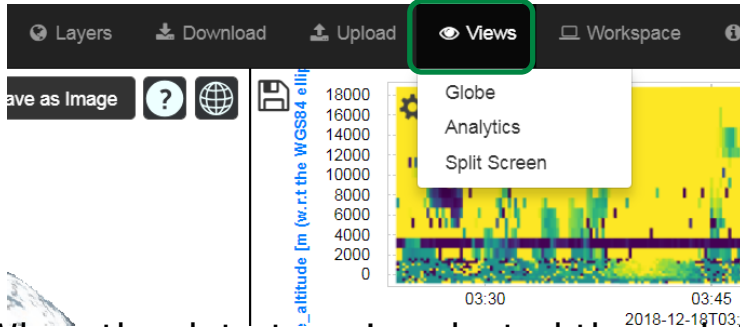
## Available layers:

- Cartographic layers: Coastlines and Countries
- Aeolus products L1B, L2A, L2B, L2C, Auxiliary products, ADAM albedo
- Raster textures

Once the layer is activated, the data availability is shown in the time bar.



# Views

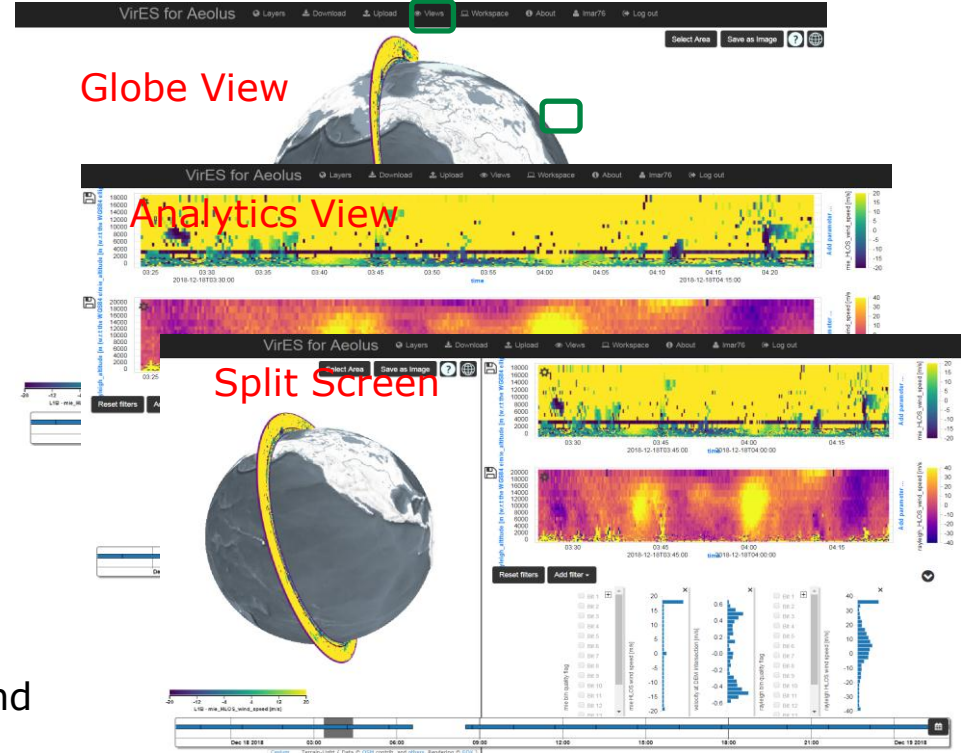


When the data type is selected through the "Layers" widget the "Views" on VirES are updated accordingly

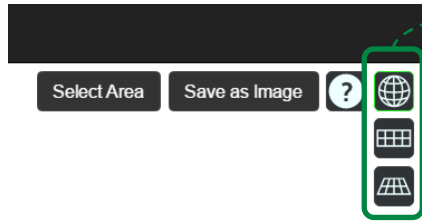
The available views are:

- Globe View: world map
- Analytics View: plots and histograms
- Split Screen: combination of world map and analytic plots (default).

It is possible to change the active view by clicking on the "Views" button on the dashboard.



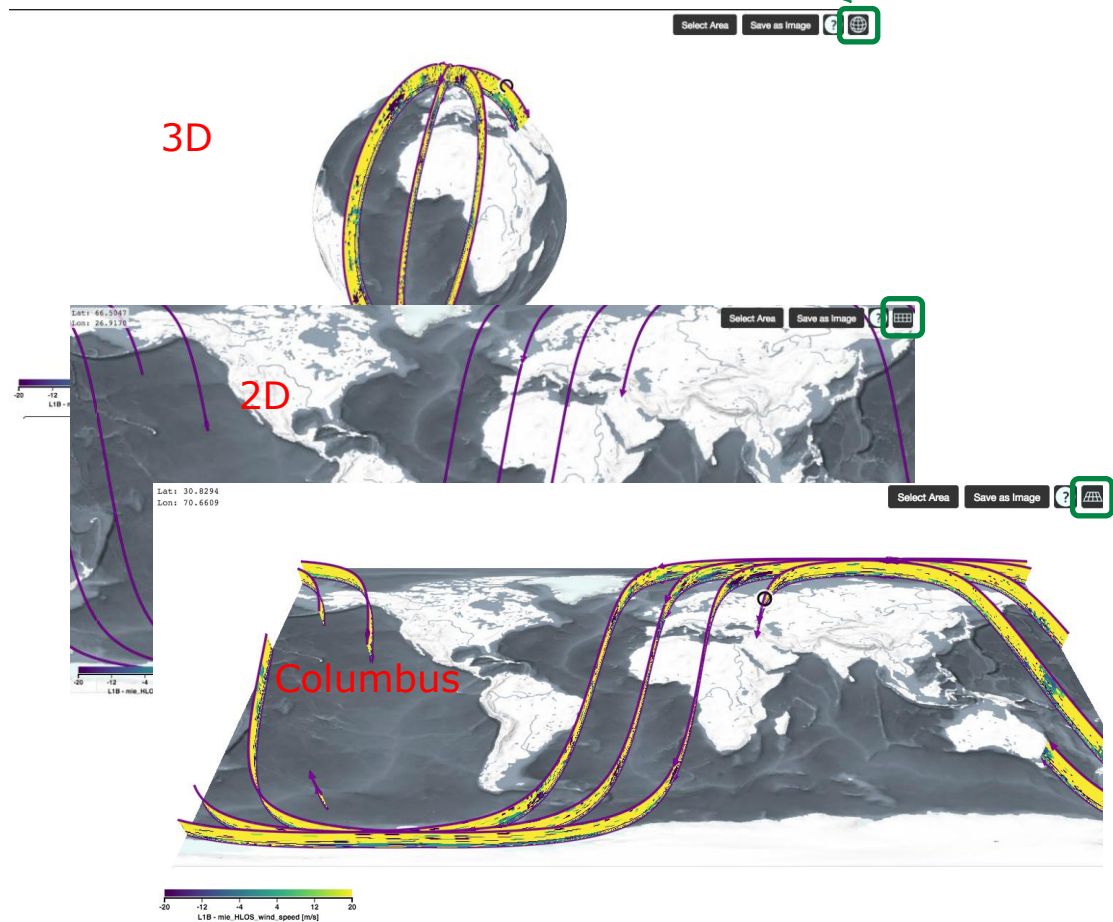
# View Projections



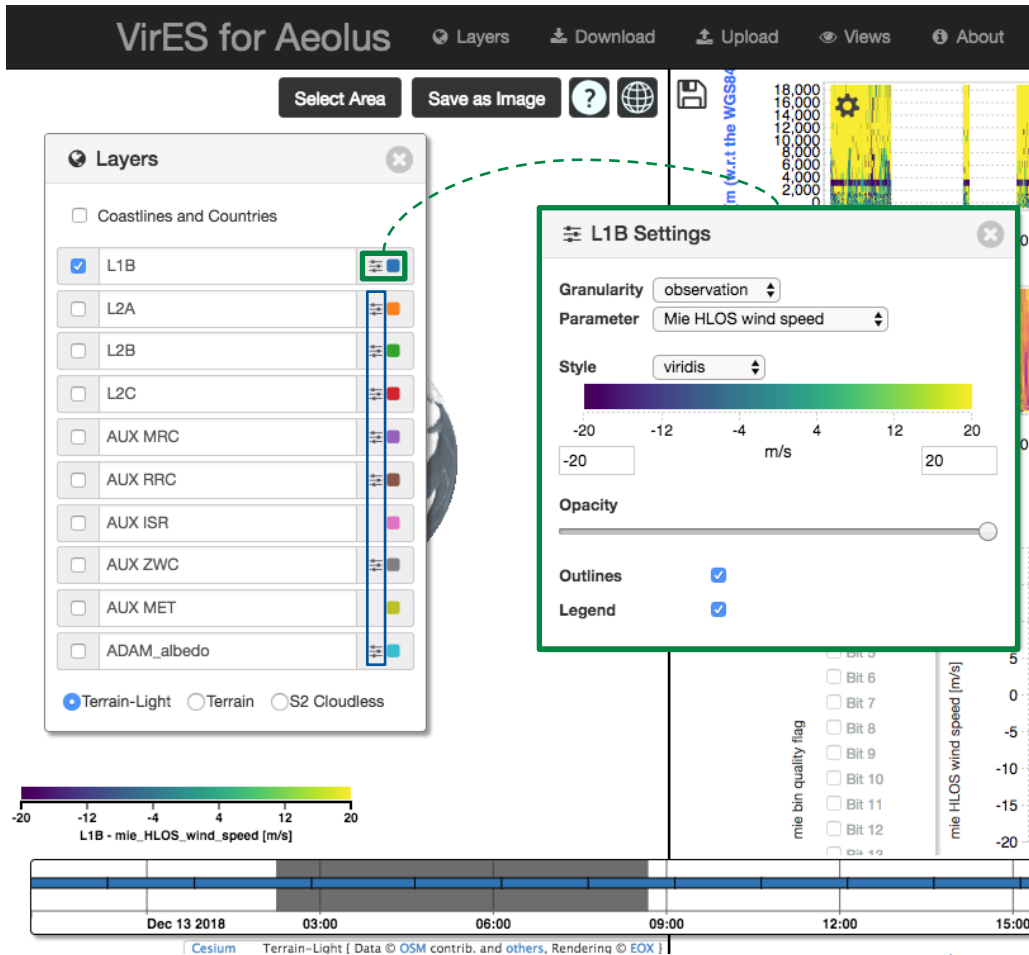
In the **Globe View**, the map projection can be changed between:

- Globe View (3D)
- Cartesian Grid (2D)
- Columbus View

The “Save as Image” button allows to save the map into a file.



# Product parameters and settings

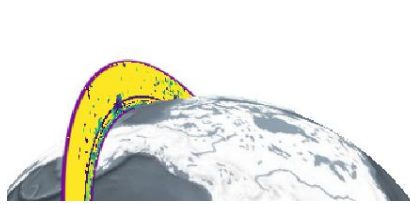
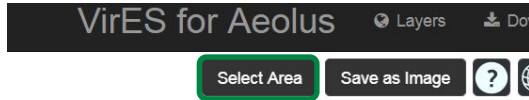


Settings widget can be activated clicking on the button near the product's name.

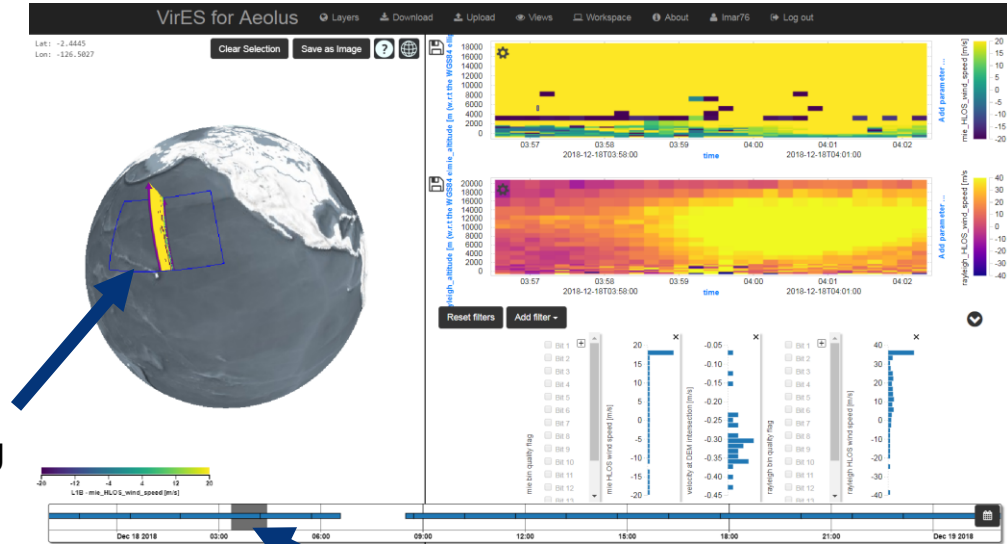
Available settings:

- **Granularity:** it depends on the product type e.g. Measurement/Observation for L1B.
- **Parameter:** to be visualized on the map. A list of parameters is available for any product product type (e.g. Mie "HLOS wind speed" for L1B products).
- **Style:** colour palette and scale range of the parameter visualized on the map.
- **Opacity:** opacity of the plot over the map
- **Outlines:** activate/deactivate outlines.
- **Legend:** activate/deactivate legend.

# Spatial and Temporal Data Selection



It is possible to select a specific area of interest by clicking on the **"Select Area"** button and drawing a rectangle on the map.



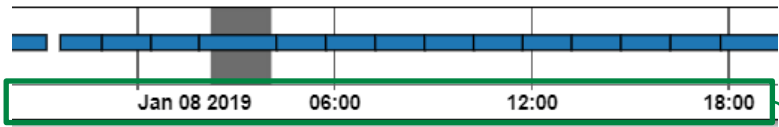
The area can be de-selected with the **"Clear Selection"** button.

It is possible to select the desired time-span by clicking and dragging an area on the time slider.

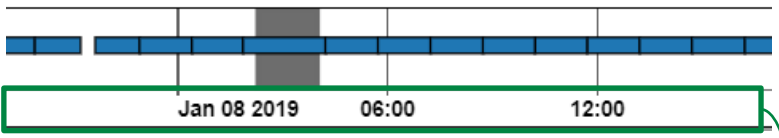
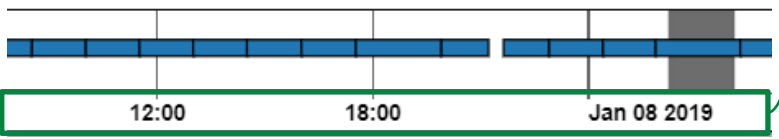
The line visualized over the time slider represents the data availability and depends on the selected layer.

Plot and histograms are automatically updated according to the spatial and temporal selections.

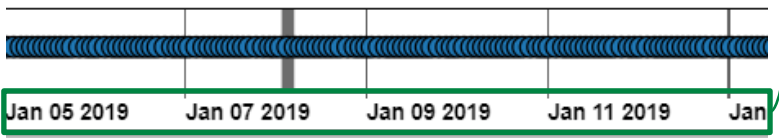
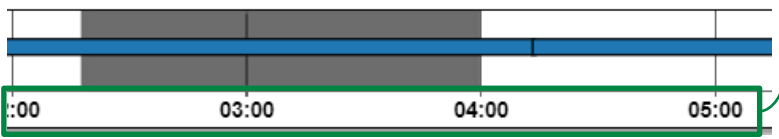
# Time Slider: date selection



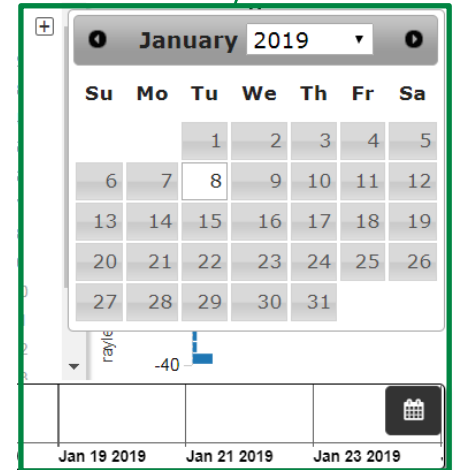
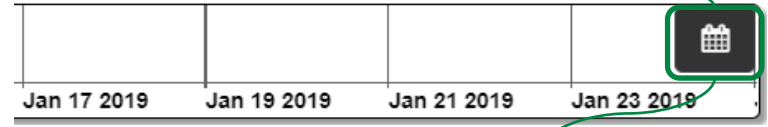
Left button + drag  
left/right: change  
date



Wheel mouse: zoom  
in/out time scale

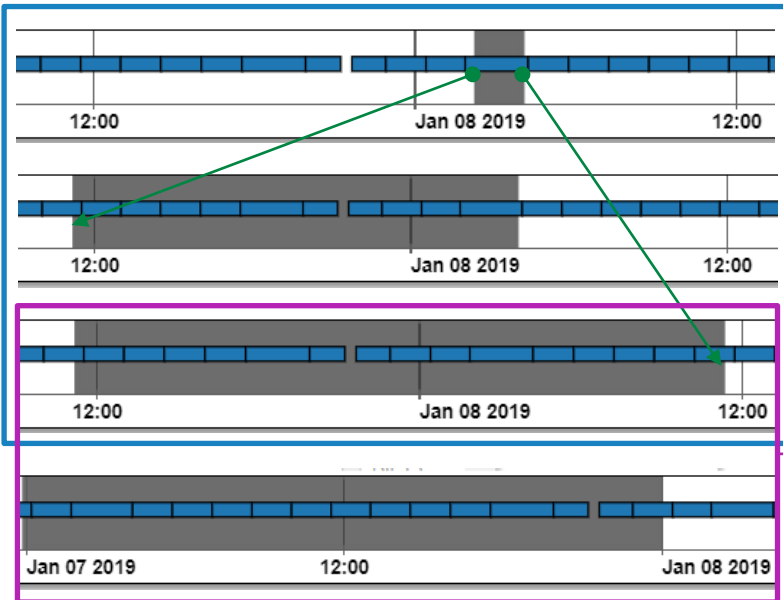


Jump to date: click the  
button on the top right  
corner of the time slider to  
easily select the date





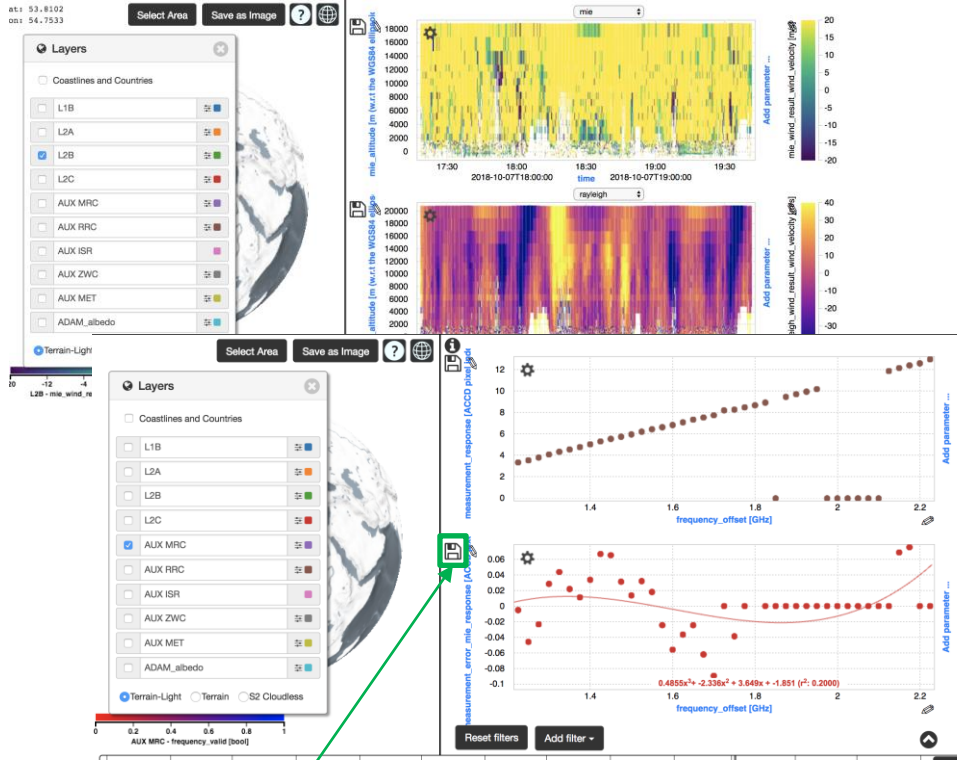
# Time window update



Click and drag the time selection borders to increase/decrease size

Click and drag the time window to move it leaving its size unchanged

# Analytics View: data visualization



For each product type available for selection from the Layer widget a default visualization is available on the Analytic View

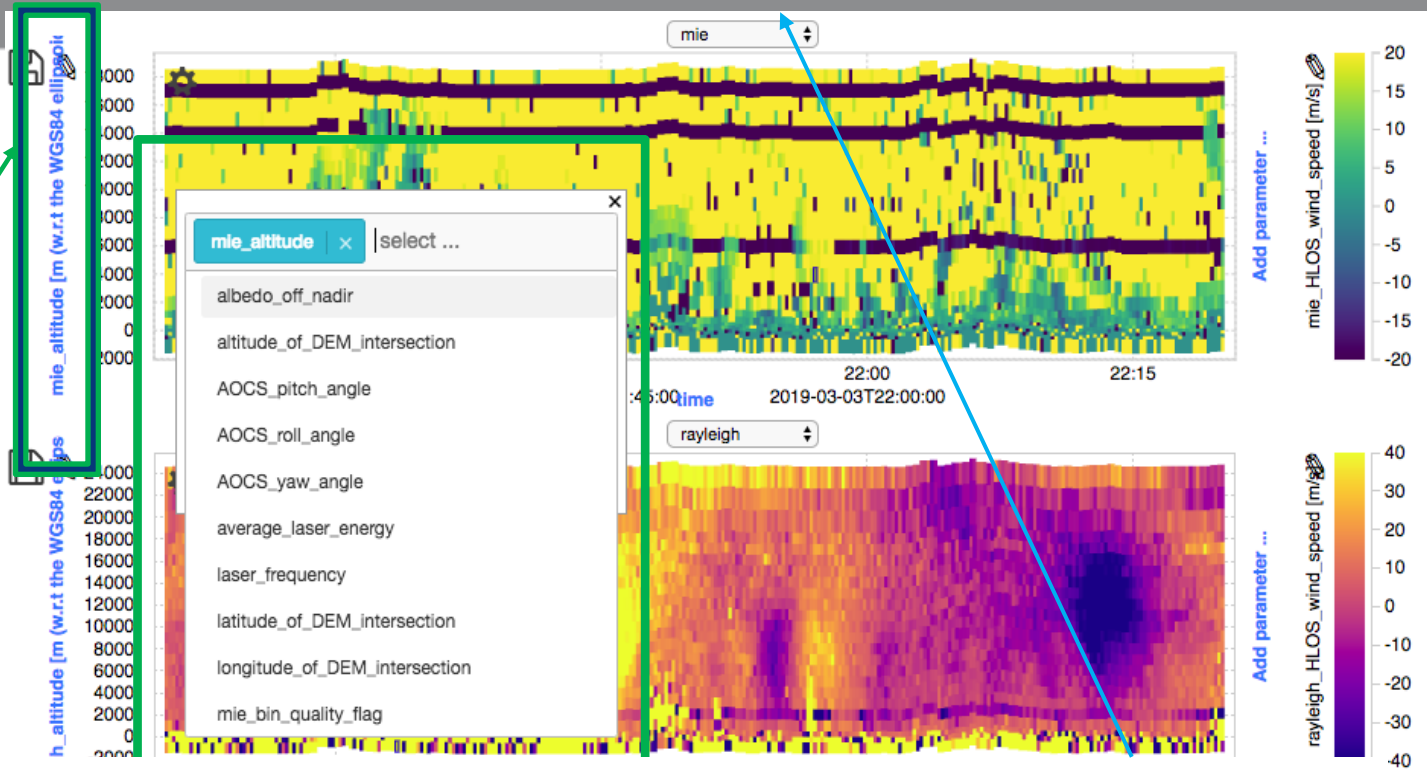
Data are rendered in scatter plots/2D colour plot depending on the parameter's dimension.

The parameters in the X-axis/Y-axis as well as the third parameter (if applicable) can be customized

The "Save as Image" button can be used to save the plot into a file.

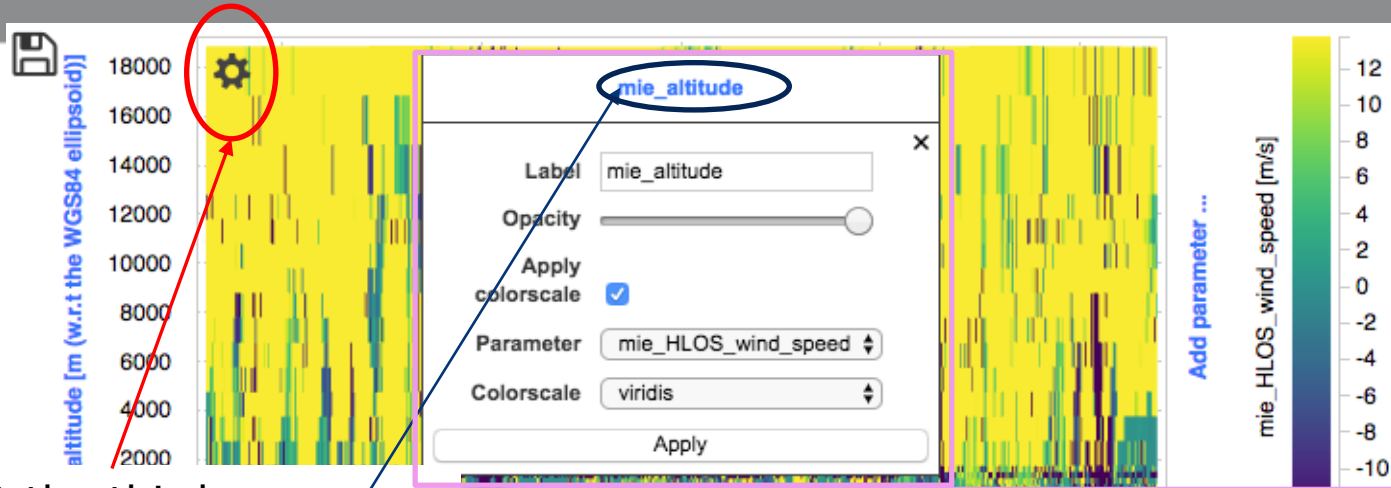
# Analytics View: parameters selection

Clicking on the X-axis/Y-axis current label a panel is open for selecting the parameter to be displayed on the axis



For L1B, L2B and L2A products two plots are available in the View panel  
For each plot is possible to select alternatively Mie/Rayleigh related parameters

# Analytics View: parameters selection



To set the third parameter in the 2D visualization it is necessary to select the cog symbol on the top left. The label of the y-Axis parameter is displayed.

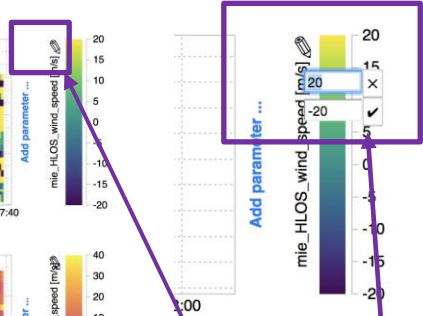
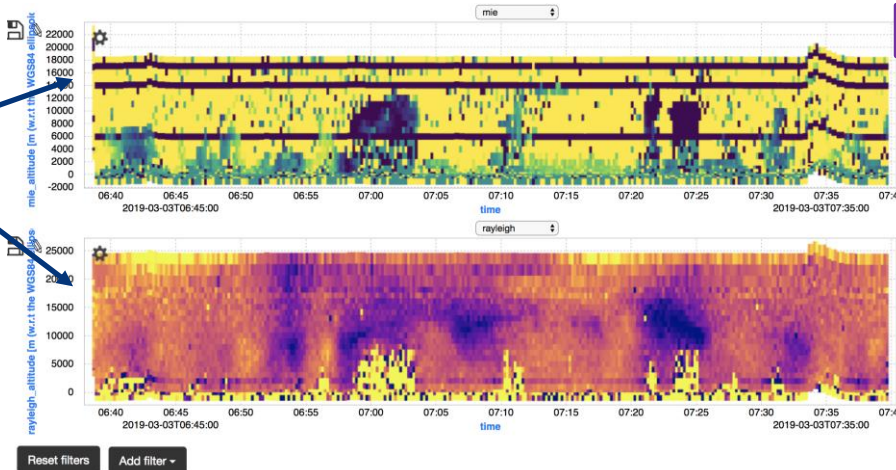
Clicking on the label a list of options is opened.

- **Label:** string to be visualized on the plot can be set
- **Opacity:** plot opacity can be adjusted
- **Apply colorscale:** when selected the field **Parameter** is activated below
- **Parameter:** provides list of parameter to be visualized by color scale
- **Colorscale:** provides a list of predefined color scale to be set

# Analytics View: zoom and range settings

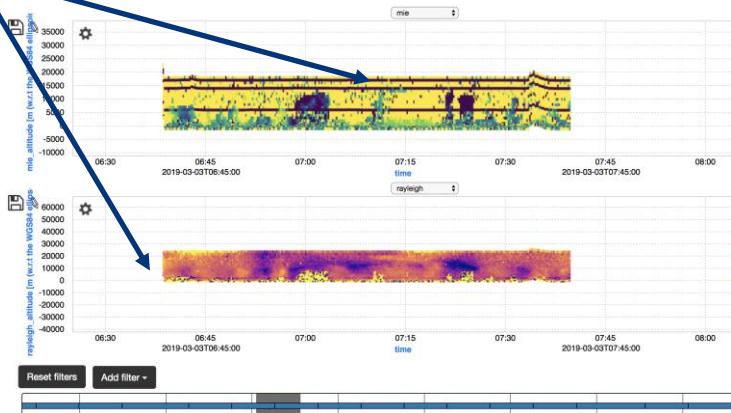
## Changing the zoom level:

- Mouse pointer over one axes + mouse wheel: change zoom level on a single axes
- Mouse pointer on the plot + mouse wheel: change zoom level on both axis

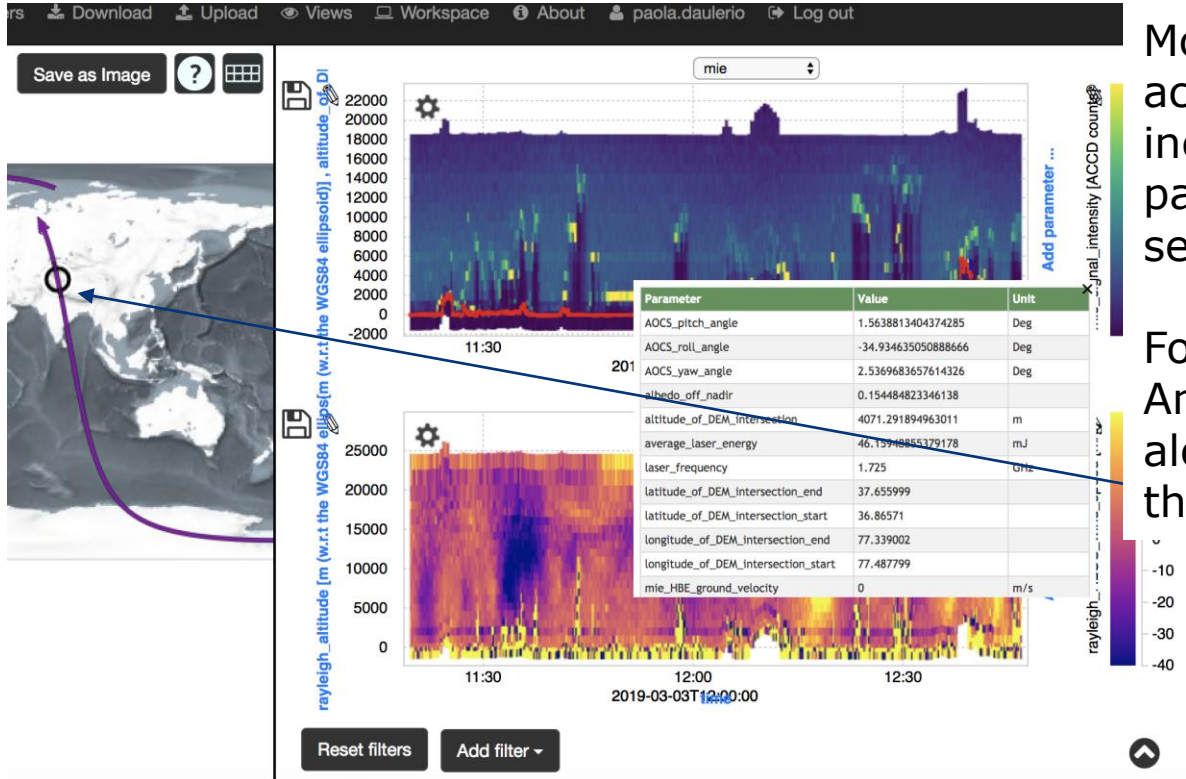


Changing axis or color scale scale range is possible alternatively by:

- Mouse pointer over the current range + mouse drag
- Selecting the pencil symbol. This opens edit buttons for typing min and max of the desired range



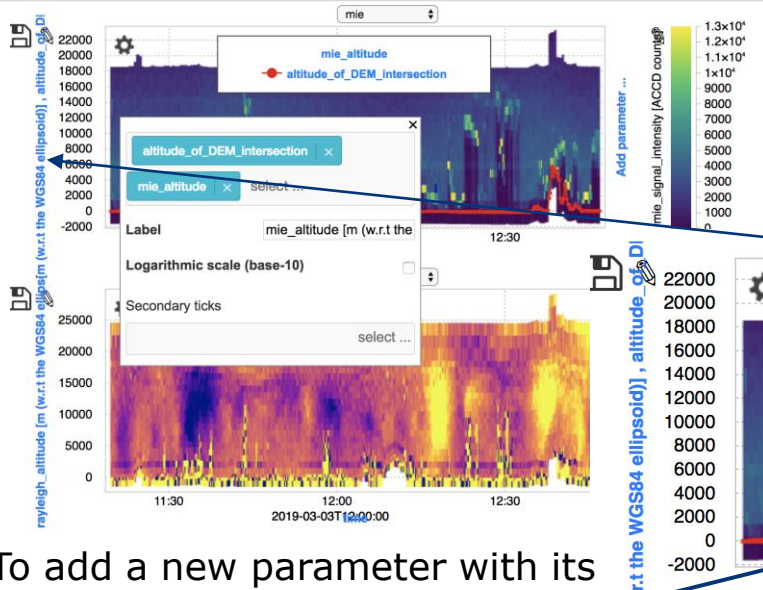
# Analytics View: get data information



Mouse click on the plot area activates an information window including the values of all the parameters available for the selected pixel

For each selected point in the Analytics View the position along the track is highlighted in the Globe view

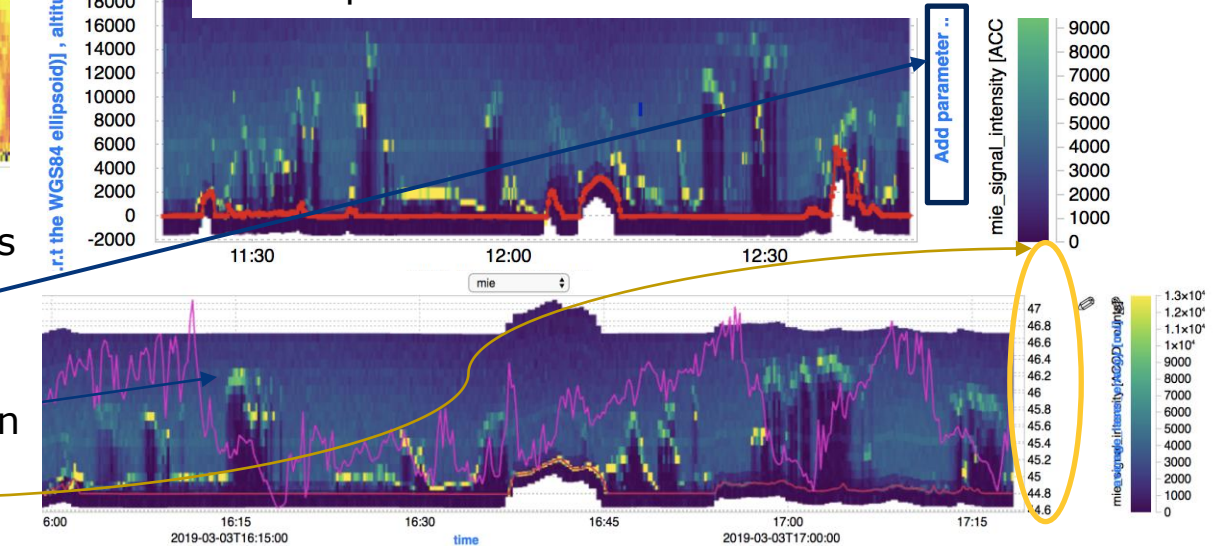
# Data over-plotting & data combination

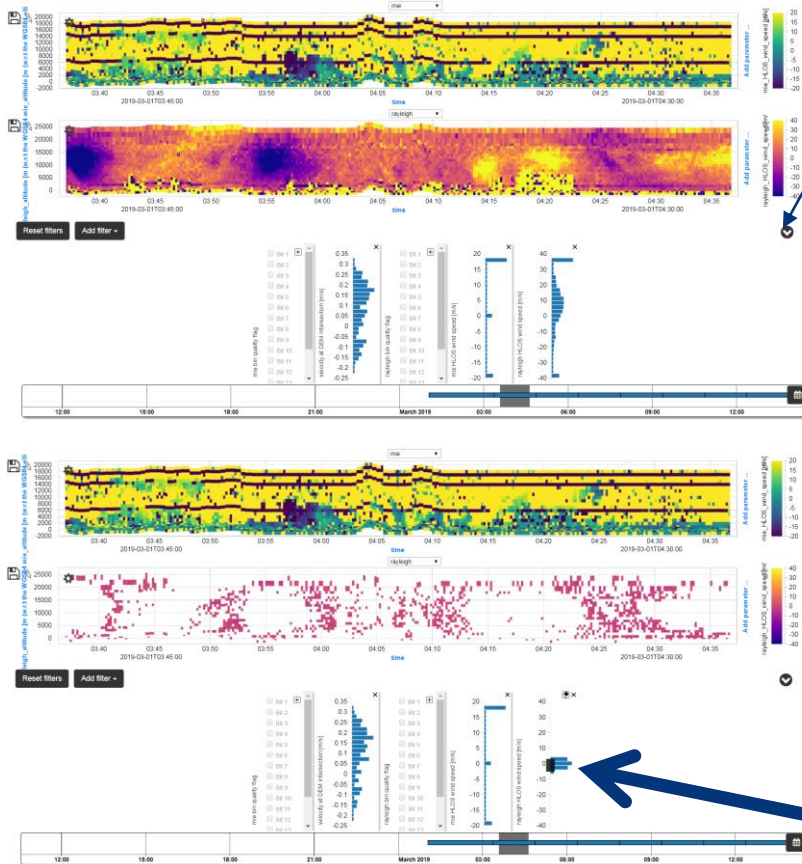


It is possible to select different combinations of layers to visualize more parameters in the same plot.

In the example “altitude of DEM intersection” (red line) is overlaid to the Mie Signal intensity. This is obtained adding the parameter on the Y-axis clicking on the parameter label

To add a new parameter with its own scale select «Add parameter...» and provide parameter selection (e.g. Laser Energy cyan line in the plot ). In this case the corresponding scale is visualized in the right axis





At the bottom of the Analytics View it is possible to show/hide a Filter panel

The system provides a set of predefined parameters to be used to filter data depending on the active product

It is possible to filter data according to a specific parameter by clicking and dragging with the mouse over the desired histogram or selecting/deselecting quality flags (if available)

If the parameter is not present in the histograms list, it can be added clicking on the **"Add filter"** button.

Reset filters Add filter ▾

- AOCS\_pitch\_angle [Deg]: Pit
- AOCS\_roll\_angle [Deg]: Roll
- AOCS\_yaw\_angle [Deg]: Yaw
- albedo\_off\_nadir: Albedo off
- altitude\_of\_DEM\_intersecti

Original data visualization can be resumed clicking on the **"Reset filters"** button.

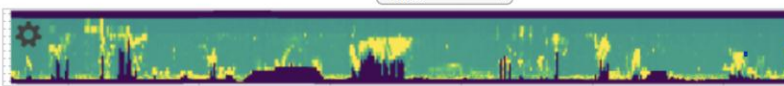
E.g.:  $-4.4 \text{ m/s} \leq \text{rayleigh HLOS wind speed} \leq 3.9 \text{ m/s}$



Lat: 64.1462  
Lon: 26.1390

Select Area

Save as Image



MCA

Add parameter

SCA\_extinction [10^-6 MCA\_extinction]



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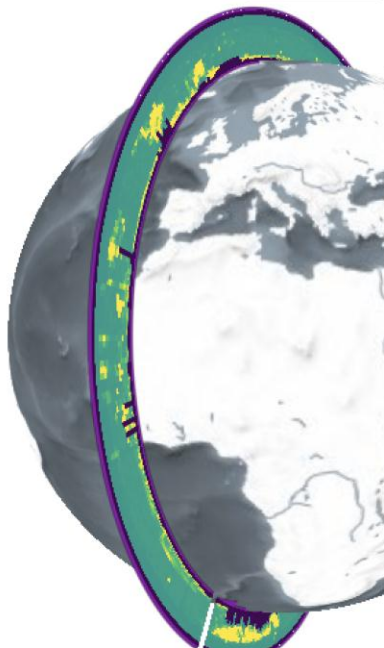
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### Download Manager

Download links (Process runs in background, panel can be closed and reopened at any time)

Process started	Status	Process details	Download
2019-03-21T11:14:17	Ready	Process details	Download
2019-03-21T09:52:54	42%	Process details	Download

### Filters

Date (specify time) 07.10.2018

Time (hh:mm:ss.fff) 17:37:53.081

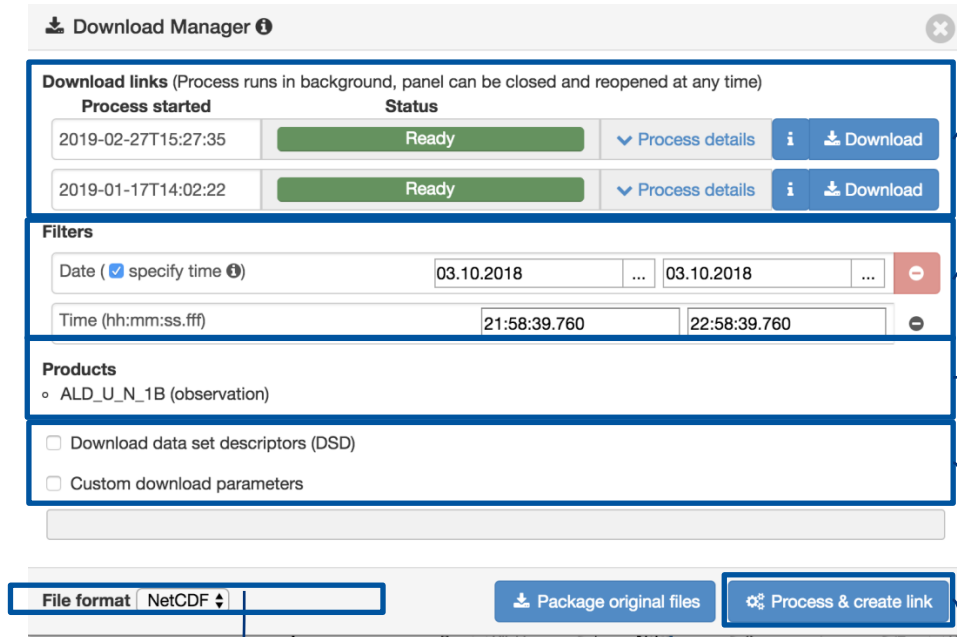
### Products

- ALD\_U\_N\_2A (observation)
- Download data set descriptors (DSD)
- Custom download parameters

The Download Manager allows the user to download the selected product. It can be activated by clicking on the "Download" button.

File format NetCDF

# Download Manager: settings



**Download Manager**

**Download links** (Process runs in background, panel can be closed and reopened at any time)

Process started	Status			
2019-02-27T15:27:35	Ready	Process details	i	Download
2019-01-17T14:02:22	Ready	Process details	i	Download

**Filters**

Date (specify time) 03.10.2018 ... 03.10.2018 ...

Time (hh:mm:ss.fff) 21:58:39.760 22:58:39.760

**Products**

- ALD\_U\_N\_1B (observation)

Download data set descriptors (DSD)

Custom download parameters

**File format** NetCDF

**Package original files** **Process & create link**

**Download links** section reports the links to the products already prepared and their details.

**Filters** section reports, by default, the currently selected start and stop dates (it can be modified), the selected area of interest (if any) and any selected filter on the histograms.

**Products** section reports the currently selected products and models.

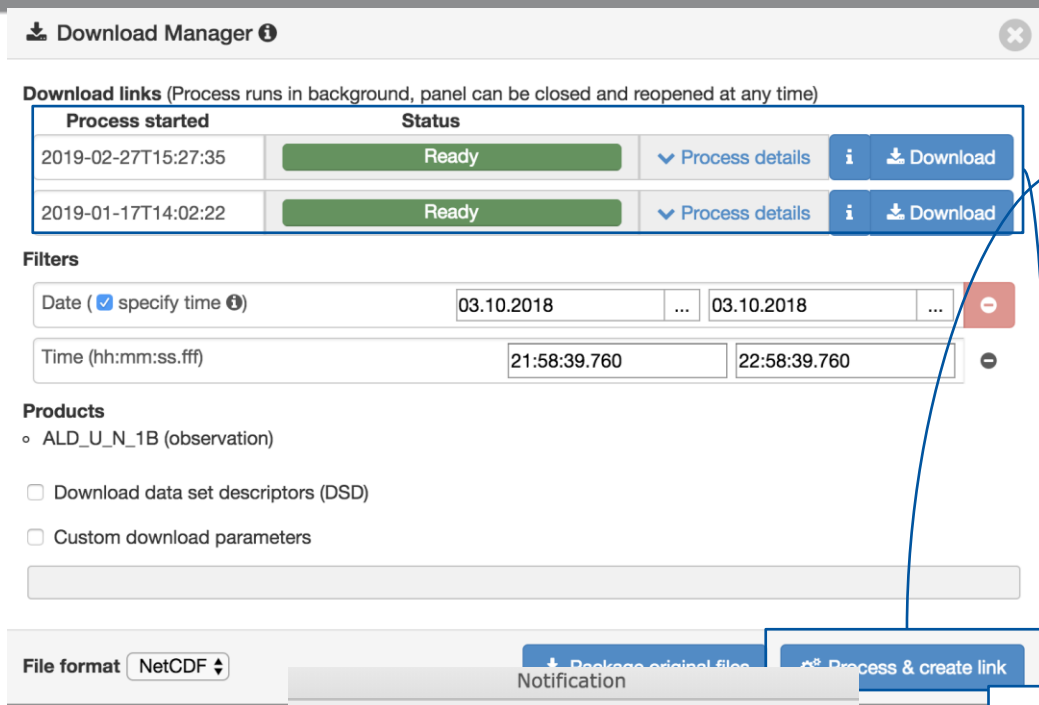
**Custom download parameters** section allows the user to select a specific subset of the parameters to be included in the output product. Download data set descriptors (DSD) if selected the relevant section from the original Aeolus product is added to the netCDF

**File format** allows the user to download the output in NetCDF format.

**Package original files** allows the user to select products in the original format

**Process & create link** button allows the user to start the creation of the selected product file. Once the file is ready to be download, a download button appears.

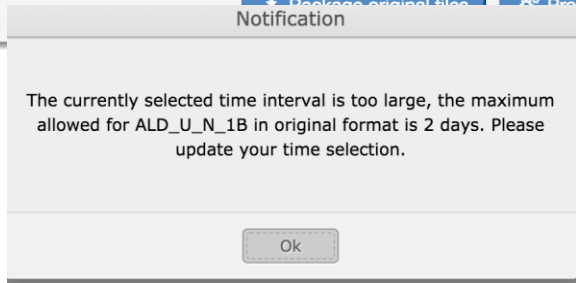
# Download Manager: product preparation and download



The screenshot shows the 'Download Manager' window. At the top, there's a title bar with a close button. Below it, a section titled 'Download links' contains a table with two rows of data. The first row shows a process started on 2019-02-27T15:27:35 with a status of 'Ready'. The second row shows a process started on 2019-01-17T14:02:22, also with a status of 'Ready'. Each row has buttons for 'Process details', 'i' (info), and 'Download'. Below the table is a 'Filters' section with date and time input fields. The date is set to 03.10.2018 and the time to 21:58:39.760. Under 'Products', there are radio buttons for 'ALD\_U\_N\_1B (observation)', 'Download data set descriptors (DSD)', and 'Custom download parameters'. At the bottom, there's a 'File format' dropdown set to 'NetCDF' and two buttons: 'Package original files' and 'Process & create link'.

After the customization by the Download Manager the product can be processed by clicking on the "Process & create link" button.

The download link appears with a progress indicator. Once the product is ready, it can be downloaded by clicking on the "Download" button.



The notification dialog box has a title bar that says 'Notification'. The main text reads: 'The currently selected time interval is too large, the maximum allowed for ALD\_U\_N\_1B in original format is 2 days. Please update your time selection.' There is an 'Ok' button at the bottom.

Note that for each product type there is a limit on the data size to be downloaded at time. If the request exceeds the limit an alert is provided

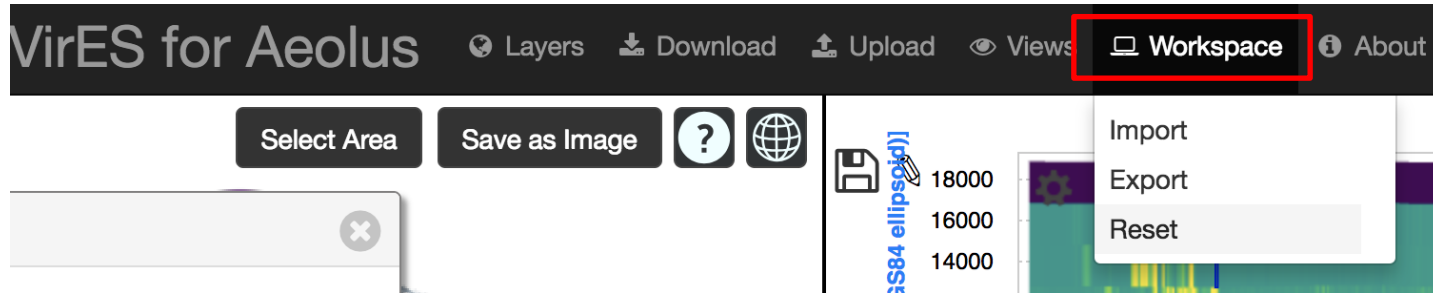
VirES for Aeolus Layers Download Upload Views Workspace About daulerios Log out

Select Area Save as Image ? ?

Drag & Drop your files or [Browse](#).  
Use uncompressed product file (DBL, EEF)  
Additional information in the [FAQ](#)

Click on Upload in the Top bar Menu gives possibility to upload Self-generated file with same format then Aeolus files by  
- Drag and drop file or browsing the file system

The upload file will be available on the time slider. If the selected time includes both the uploaded and the original files, user generated parameters and (for some predefined) differences will be available for plotting. These can be selected from the parameters list



Selecting Workspace from the top bar menu 3 options are available:

- Import: import graphical settings previously saved by the user
- Export: save the current graphical settings as «.json» file to be resumed by the user using the Import function
- Reset: reset the current view to the VirES default configuration