



MALÅ Vision

User Manual

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Sign up

Visit malavision.guidelinegeo.com for both Sign Up and Log In.

For Sign up You need to enter a valid e-mail address and your choice of password.

When you have signed up, you will receive a verification e-mail. Click on "Confirm my account" and your account will immediately be active.

You are re-directed to a page for personal settings and confirmation of Terms and Policy. When this is done, MALÅ Vision is up and running.



Continue

Already have an account? [Log in](#)

Welcome to MALÅ Vision!

Thank you for signing up. Please verify your email address by clicking the following link:

[Confirm my account](#)

If you are having any issues with your account, please don't hesitate to contact us by replying to this mail.

Thanks!
MALÅ Vision

Personal Information

First Name *

Last Name *

Company *

Title

Country

Terms and Policy

Logout

Continue

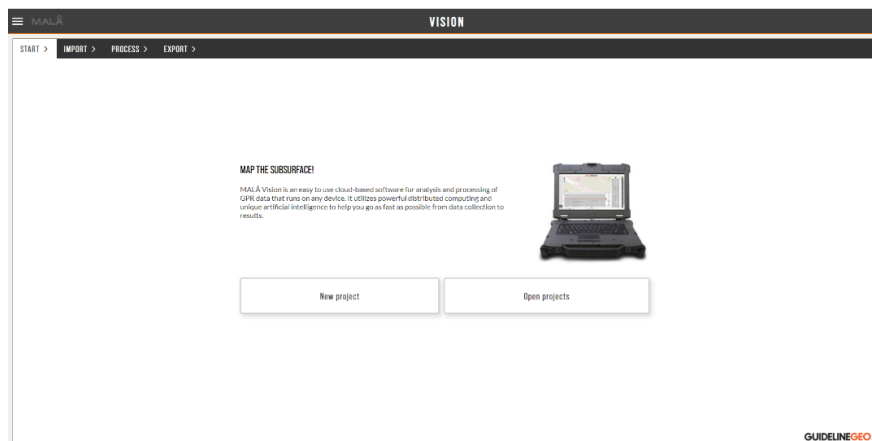
Note! You can upgrade your MALÅ Vision license in the main menu option  **Subscription**

Getting started

When you have logged in you can create a new project or open an existing project.

User settings, account settings and subscription details are located in the main menu, which is accessed by clicking the hamburger menu  at the top left corner.

The main menu also includes direct access to Guideline Geo Support if needed.

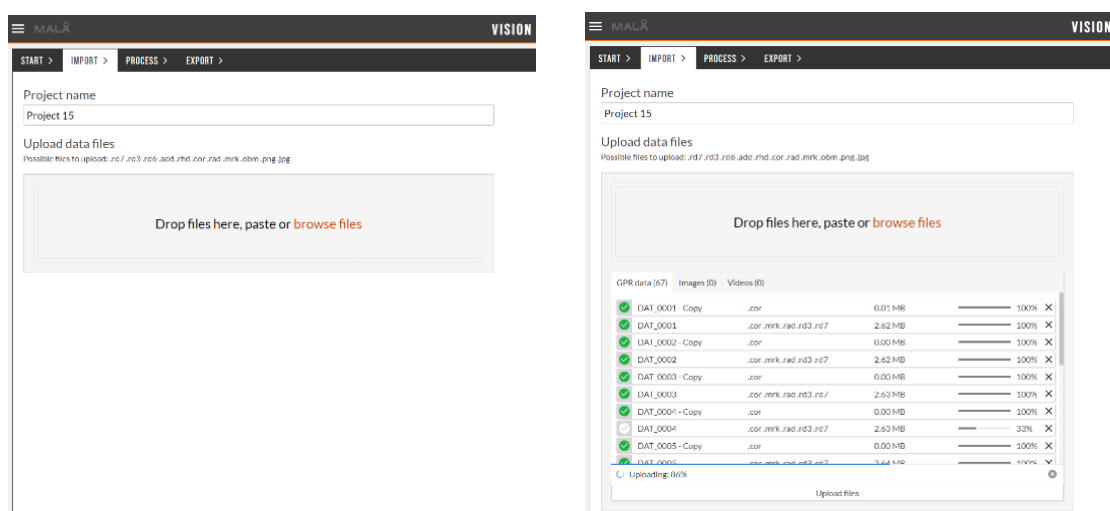


To create a new project, press **New project**. Start by naming your project. Drag and drop your files, or complete data folders, onto the drop zone or use the browse function to upload files.

Note! If you drag and drop a complete project folder, MALÅ Vision will import all recognizable data and meta data formats.

Press the **Upload Files** button to start the process. The upload progress of each file can be viewed in the Import tab. During upload, the progress is clearly seen and when upload is ready the files get a green tick mark.

Note! You can also upload images and videos connected to your GPR project.



When uploading an Object Mapper Project, you will get the option to decide if X or Y should increase to the north.

To open an existing project, choose **Open Projects** in the start menu. All available projects are listed with name and size. The amount of available disk space is also displayed at the top of the window.

MALÅ

VISION

START > IMPORT > PROCESS > EXPORT >

PROJECTS

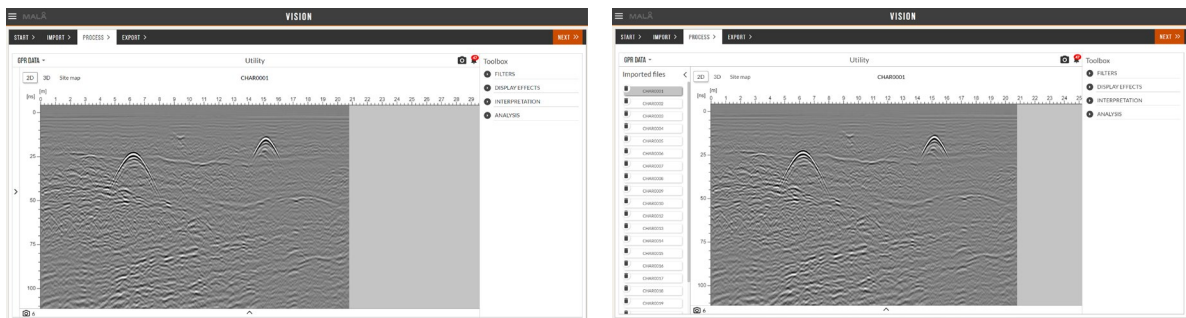
Used space 2178/5000 MB


<div></div> <div>Sumpon_rhd</div> <div>2020-10-12 Standard mode 9 files / 1 MB</div> <div>...</div>	<div></div> <div>OBM_usalgps_ingenobm_men mark</div> <div>2020-10-12 Standard mode 20 files / 12 MB</div> <div>...</div>	<div></div> <div>Utility</div> <div>2020-10-12 Standard mode 115 files / 48 MB</div> <div>...</div>	<div></div> <div>4pipes_450</div> <div>2020-10-12 Standard mode 241 files / 84 MB</div> <div>...</div>	<div></div> <div>GeoDrone</div> <div>2020-10-23 Standard mode 25 files / 158 MB</div> <div>...</div>
<div></div> <div>Proj3D 23okt</div> <div>2020-10-23 Standard mode 18 files / 2 MB</div> <div>...</div>	<div></div> <div>Florida</div> <div>2020-11-10 Standard mode 2 files / 1 MB</div> <div>...</div>	<div></div> <div>Proj2D-0027</div> <div>2020-11-13 Standard mode 8 files / 1 MB</div> <div>...</div>	<div></div> <div>Baseline</div> <div>2020-11-16 Standard mode 34 files / 6 MB</div> <div>...</div>	<div></div> <div>WR</div> <div>2020-11-16 Standard mode 45 files / 64 MB</div> <div>...</div>
<div></div> <div>Supp Gregory</div> <div>2020-11-24 Standard mode 137 files / 23 MB</div> <div>...</div>	<div></div> <div>27nov</div> <div>2020-11-27 Standard mode 12 files / 8 MB</div> <div>...</div>	<div></div> <div>27nov3d</div> <div>2020-11-27 Standard mode 15 files / 2 MB</div> <div>...</div>	<div></div> <div>27nov2</div> <div>2020-11-27 Standard mode 8 files / 23 MB</div> <div>...</div>	<div></div> <div>afterfactory</div> <div>2020-11-27 Standard mode 8 files / 3 MB</div> <div>...</div>
<div></div> <div>lang</div> <div>2020-11-30 Standard mode 36 files / 16 MB</div> <div>...</div>	<div></div> <div>27nov2(1)</div> <div>2020-11-30 Standard mode 8 files / 23 MB</div> <div>...</div>	<div></div> <div>rd3d7</div> <div>2020-12-01 Standard mode 71 files / 152 MB</div> <div>...</div>	<div></div> <div>4pipesGXGPS</div> <div>2020-12-01 Standard mode 287 files / 84 MB</div> <div>...</div>	<div></div> <div>4pipes OBM</div> <div>2020-12-01 Standard mode 288 files / 84 MB</div> <div>...</div>
<div></div> <div>reinst 2 dec</div> <div>2020-12-02 Standard mode 20 files / 3 MB</div> <div>...</div>	<div></div> <div>27nov3d(1)</div> <div>2020-12-02 Standard mode 15 files / 1 MB</div> <div>...</div>	<div></div> <div>Proj3D-0001</div> <div>2020-12-02 Standard mode 6 files / 1 MB</div> <div>...</div>	<div></div> <div>Proj2D-0003</div> <div>2020-12-02 Standard mode 12 files / 12 MB</div> <div>...</div>	<div></div> <div>27nov(1)</div> <div>2020-12-03 Standard mode 12 files / 18 MB</div> <div>...</div>
<div></div> <div>27nov2(2)</div> <div>2020-12-03 Standard mode 12 files / 18 MB</div> <div>...</div>	<div></div> <div>9dec</div> <div>2020-12-03 Standard mode 12 files / 18 MB</div> <div>...</div>	<div></div> <div>9dec(1)</div> <div>2020-12-03 Standard mode 12 files / 18 MB</div> <div>...</div>	<div></div> <div>Project 29</div> <div>2020-12-03 Standard mode 12 files / 18 MB</div> <div>...</div>	<div></div> <div>15jan</div> <div>2020-12-03 Standard mode 12 files / 18 MB</div> <div>...</div>

2D view

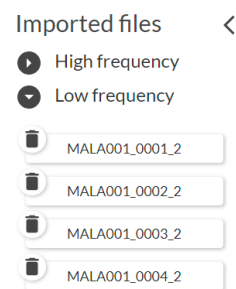
When the project is uploaded, the first GPR data file will be displayed in 2D. The list of all imported GPR profiles is found under the pane to the left of the window. Press the arrow **>** on the left-hand side to view and navigate between imported profiles.

In the 2D viewer you can easily switch between profiles using PgUp and PgDn on your keyboard. While viewing a profile, you can filter, add display effects or interpret your data by using the different Toolboxes on the right-hand side.




Note! Notifications from the software  give information on upload status, interpolations, error messages etc.

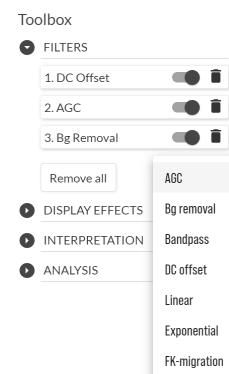
If you have Easy Locator Pro WideRange HDR data, the low and high frequency profiles are displayed separately at the left-hand side.

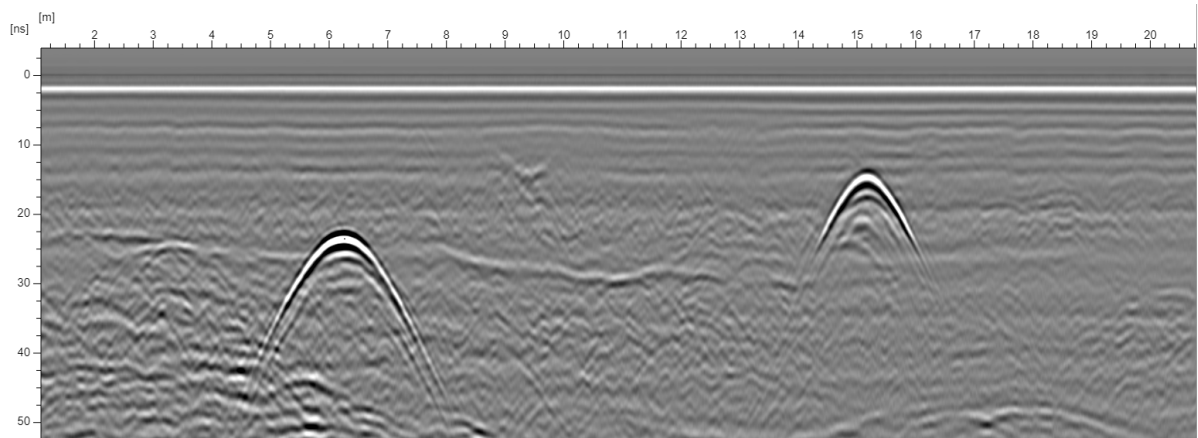


Filters

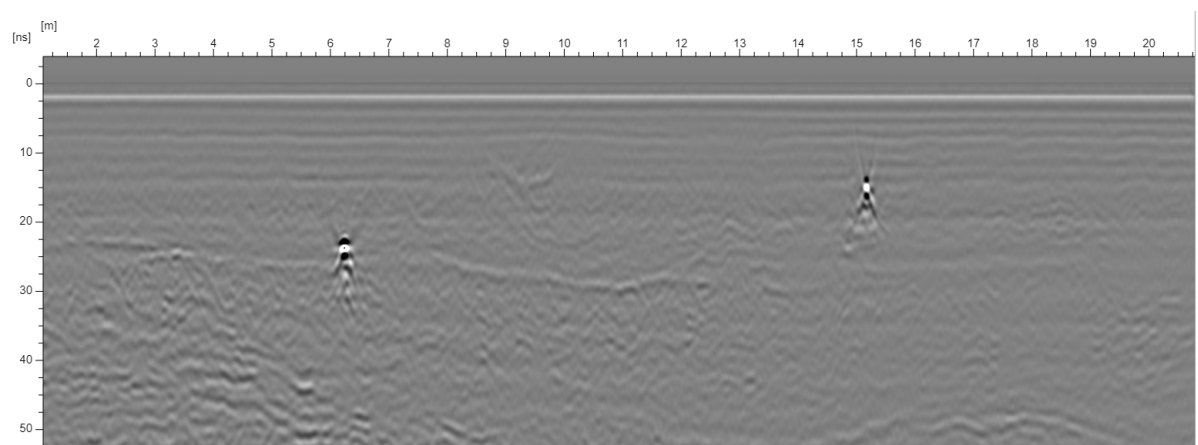
In order to add a filter to your data, simply press the  button and select a desired filter. If you wish to remove a filter, simply press the trash can icon next to the filter.

Some filters have additional controls; for example, the velocity for the Fk-migration is adjusted by using a slide-bar. The correct velocity is determined by adjusting the slide-bar until the legs of the hyperbola are minimized and only a point response remains in the data. See examples below.

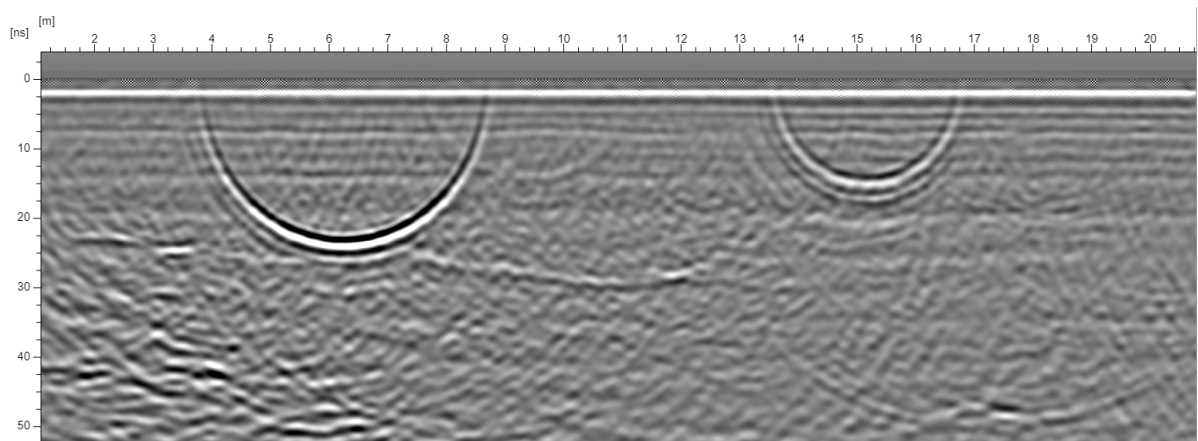




Too low velocity



Correct velocity



Too high velocity

Display effects

In the Display Effects menu, changes to contrast, gray balance and brightness can be made.

Toolbox

- 1 FILTERS
- 2 DISPLAY EFFECTS

Contrast: 500

Gray balance: 0

Brightness: 0

Clear filters

- 3 INTERPRETATION
- 4 ANALYSIS

Interpretation

To add interpretations simply click the Interpretation tab and select the size, type and color of your marker.

Left click in the displayed profile to add a marker. To move or delete a marker, right-click the marker in the profile and select the appropriate action.

When right-clicking on a marker you can also set the depth of the same. The velocity of the radargram will change accordingly.

There is also an option to hide all markers (both interpreted or added during import as .mrk files) in the Interpretation tab, by un-ticking ☐ Markers .

Use the Auto switch option to automatically jump to the next 2D radargram in your list (left-hand pane) when setting markers.

Toolbox

- 1 FILTERS
- 2 DISPLAY EFFECTS
- 3 INTERPRETATION

Color selection: 12 color swatches

Marker size: 30

Auto switch ☐

Markers ☐

Clear markers

- 4 ANALYSIS

Analysis

In the Analysis tab you can flip profiles, toggle between time and depth for the vertical unit, set the velocity (manually or using pre-defined values), adjust the time zero and use hyperbola fitting to check the velocity of your radar data.

- 5 ANALYSIS

Flip profile

Toggle vertical unit: Time

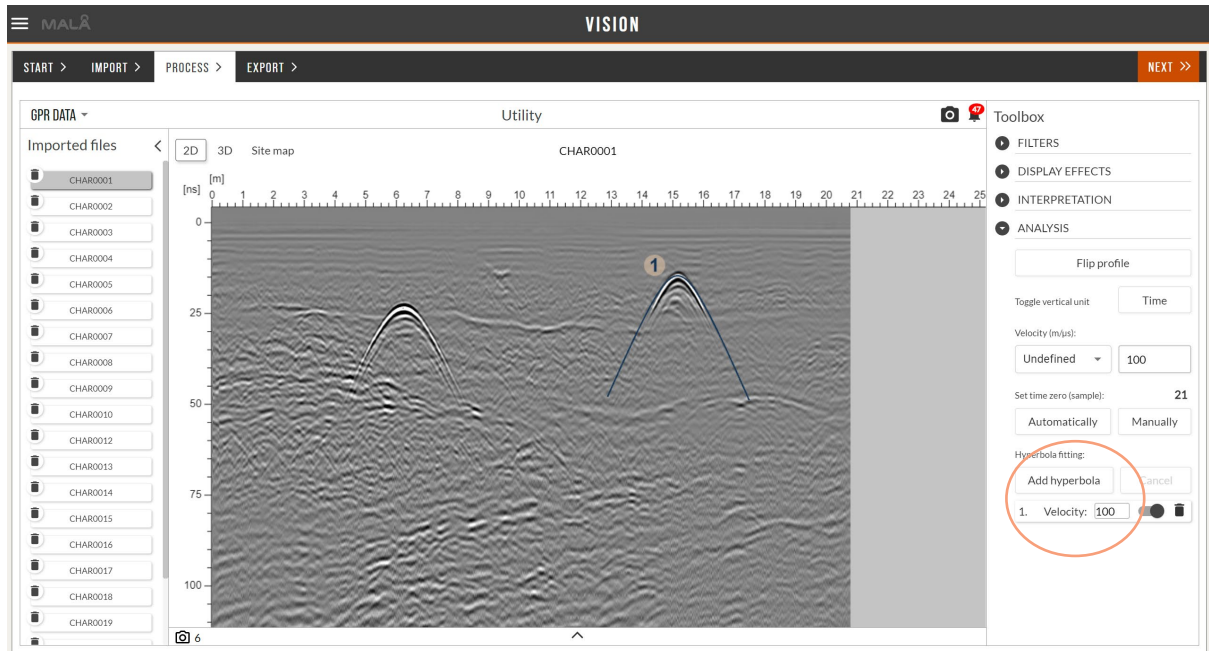
Velocity (m/us): Undefined 100

Set time zero (sample): 21

Automatically Manually

Hyperbola fitting: Add hyperbola Cancel

Hyperbolas can be used and added to displayed data for an easy verification of the velocity. Press Add hyperbola and place the hyperbola in the radargram with a left click. Change the velocity in the Analysis toolbox to change the shape of the hyperbola. Right-clicking on the top of the hyperbola gives you the option to delete or move the same.



3D View

In the 3D tab you can interpolate your data, change the threshold and connect interpreted markers to form polylines.

To create a 3D volume, select your preferred interpolation method and press the play button to start the process. You can continue working as the interpolation is carried out.


The interpolation settings  allow the user to customize the process. See more on interpolation below.


When the interpolation is finished, use the drop-down menu to view the interpolated data as either a 3D Cube, Time slice or as an Iso surface. Alternatively, the interpolated volume can be switched off. Both the 3D cube and the Iso surface can be cropped in three orientations: (t) time, x and y.

If markers are set in the 2D view, polylines are created for these.

Note! When making changes to markers in the 2D view, press Reset for the Polylines to update.


Toolbox


Interpolate 


Inverse distance weighting 


☒ Coordinates


☒ Markers ☒ Imported





3D Cube 





t x y 





Crop: 41-100 





Profile threshold: 0 


Polylines: 

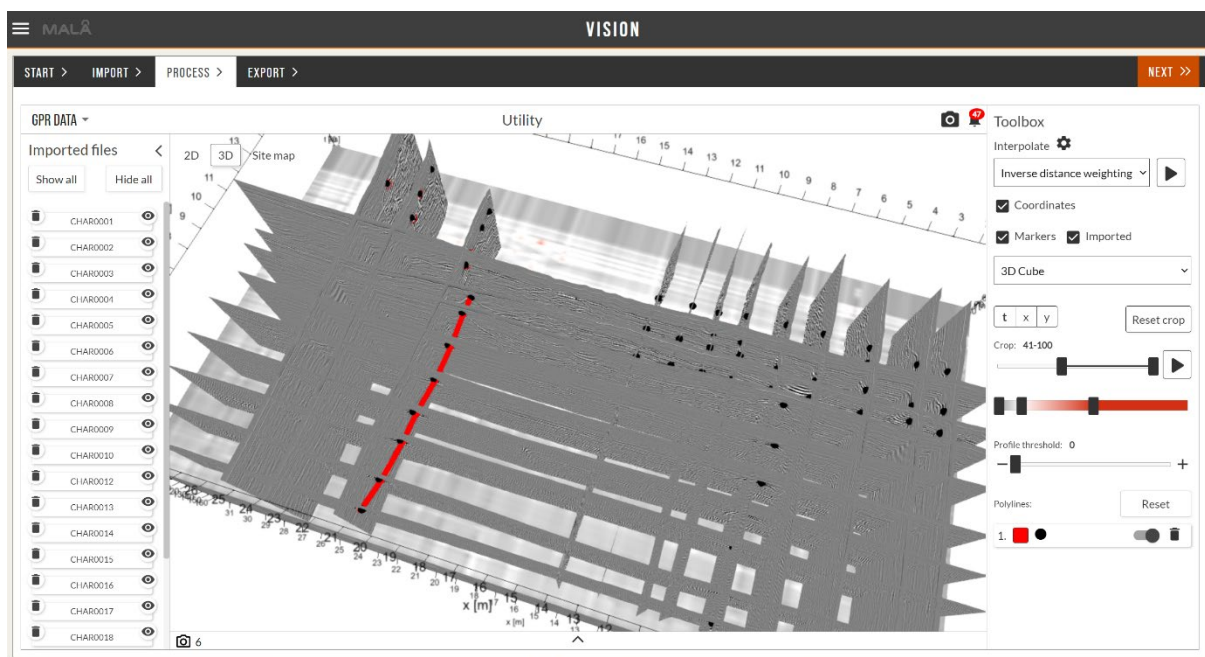
1.    

2.    

3.    

4.    

Note! The left-hand pane  can be used to view all 2D profiles included in the 3D volume. Individual profiles can be hidden from the 3D view by clicking on the eye icon next to the specific profile.




Interpolation

In MALÅ Vision interpolation of the data volume can be done with the following techniques.

Inverse distance weighting

Inverse distance weighting is primarily suitable for irregularly spaced profiles. The method functions as a heat map and will keep the values of the original data points. It calculates the distance to each point in the vicinity and takes this distance between the points into account. This means that points in closer proximity to each other will affect one another more than points that are separated by a longer distance.

Linear

Linear interpolation is mostly suitable for parallel profiles with an equal spacing. In other words, the linear interpolation works best when utilities or other linear structures are in line with the chosen direction of interpolation. Specify the direction of interpolation and the resolution in the settings . As you most likely have a denser inline data point distance than profile spacing it is recommended to increase the resolution (number of datapoints) between the profiles and decrease the inline resolution. The interpolation method takes the average value of two points in adjacent profiles.

Bilinear

Bilinear interpolation is best for data collected in two directions (such as a 3D grid project collected by one of the MALÅ GPR equipment's). Bilinear interpolation should be avoided if having profiles in an irregular pattern. It performs a linear interpolation in both directions and averages the two results to yield the final result. When using bilinear interpolation for a grid project it is recommended to try to use the trace number of the profiles as the resolution value in both x and y direction, thus matching the profile data points 1:1 with the interpolation data points. You could possibly also lower the z value for a better result.

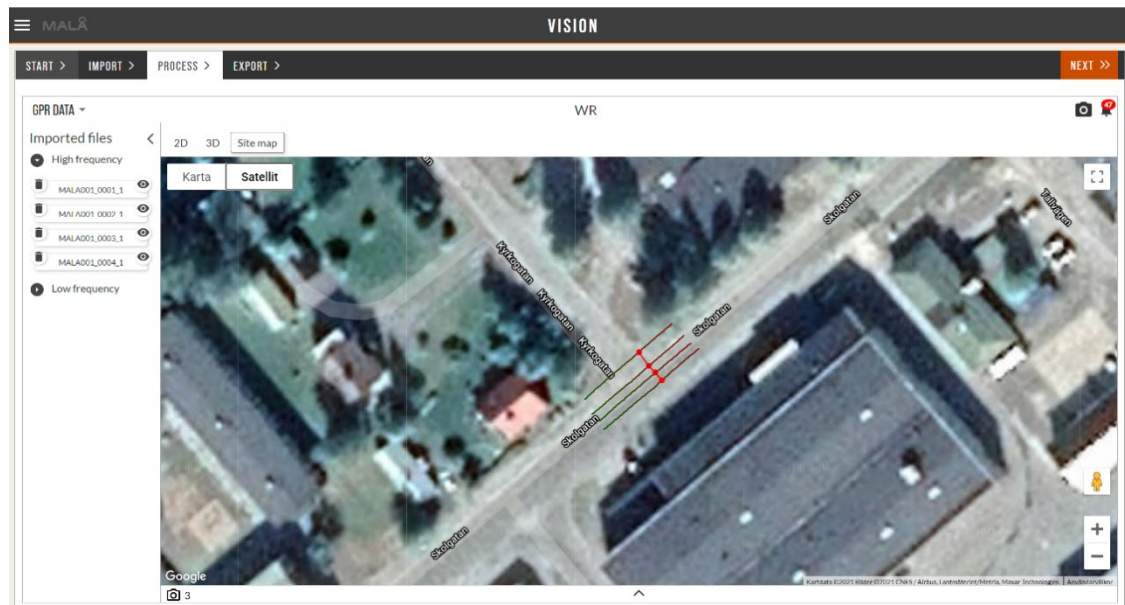
FK Pocs 3D

FK Pocs 3D is the only method to take all three dimensions into account and it creates new points with new values in a more coherent pattern. The FK Pocs 3D method is useful when features are dipping between profiles as it takes the z value into account but can potentially create artifacts in your data if the data is collected in a too irregular fashion. The larger the distance between profiles the longer the interpolation needs to run in order to create a good result.


Site map view

If your imported data contains positioning information (*.cor files) the Site map will display all GPR profiles onto a map or satellite image. The Site map will also display all interpretations, including polylines.

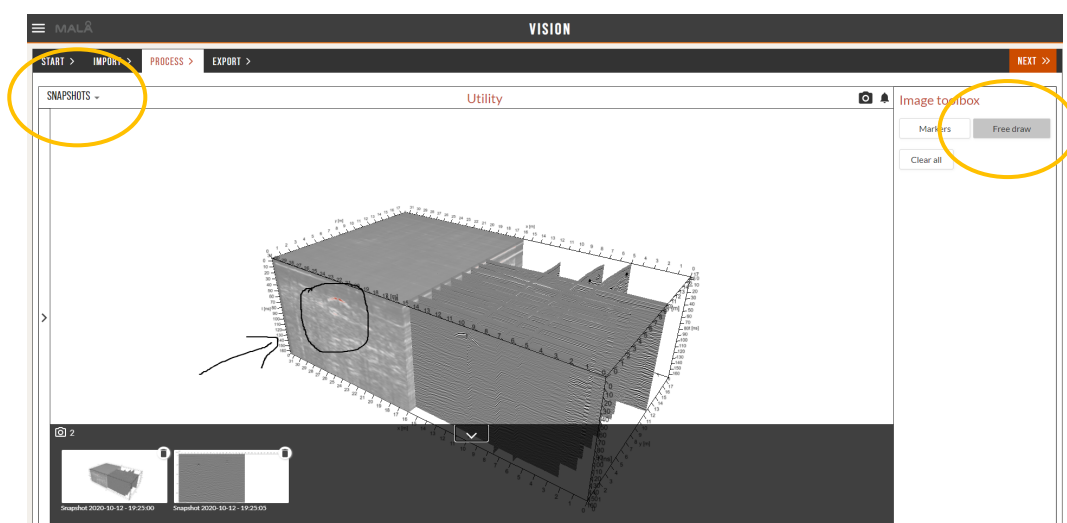
The color of the GPR profile indicates the direction the data was collected. Green color indicates the start and red the end of the profile.



Screenshots and additional features

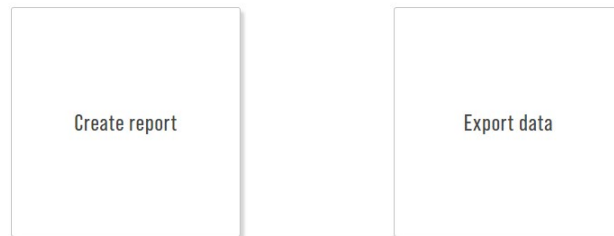
For both 2D, 3D and Site map a snapshot tool is available . When using this tool, the current workspace screen is saved as an image for easy use in a report or for export. All snapshots are viewed and retrieved in the lower part of the screen or in the Export/Report tab.

When changing to Snapshots or Images (in the drop-down menu in the upper-left corner) more markers can be set, and a “Free draw” option is available, which can be used to enhance and mark features in the data.



Report and Export

When you are ready with your interpolation and snapshots of the data, proceed to the Export tab. From this tab you can choose to either create a report, or to export data, interpretations and images



With the Create report tool you can add both snapshots and text to a standardized report template, which are compiled to a document for easy sharing with a contractor or customer. The report can be exported to PDF or Microsoft Word format.

Note! When choosing snapshots for the report, these are included at the bottom of the text.

The Export data option includes export of GPR files, Markers, Polylines, Snapshots and Images. The markers can be exported as .txt, .csv, .dxf or as .kmz-files (Google Maps).

Use the + button to add additional exports.

When exporting to dxf the different marker types will be exported into different layers.

The screenshot shows the MALÅ VISION software interface. At the top, there is a dark header bar with the MALÅ logo on the left and the word 'VISION' in the center. Below the header, a navigation bar contains the following tabs: 'START >', 'IMPORT >', 'PROCESS >', 'EXPORT >', and 'DATA >'. The 'EXPORT >' tab is currently selected. The main content area displays a list of export options, each with a label 'I want to export...' followed by three dropdown menus and a minus sign. The options are: 1. 'GPR data' (selected), 'All GPR files', 'Original format'. 2. 'Interpretation' (selected), 'Markers', 'as txt'. 3. 'Interpretation' (selected), 'Polylines', 'as dxf'. 4. 'Images and snapshots' (selected), 'All imported images', 'Original format'. Below these options is a plus sign icon in a circle. At the bottom right of the main content area is an 'Export' button. At the very bottom, there is a small text block that reads: 'Is there other types of data export you would you like? Use the [support](#) form to send request on new data exports/formats.'