

NAVIEDIT

MANUAL

Last update: 26/04/2021
Version: 8.6

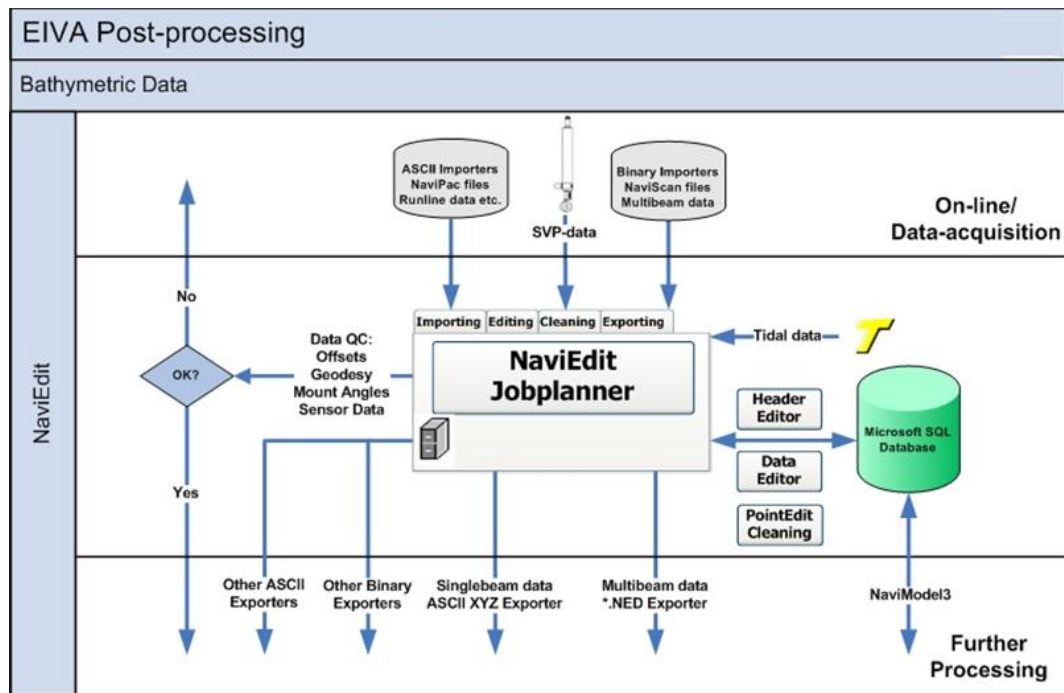
Contents

| | |
|-----------------------------------|----------|
| 1 Overview | 4 |
| 1.1 File..... | 6 |
| 1.1.1 Database context menu..... | 7 |
| 1.2 Import | 10 |
| 1.2.1 NaviScan Files | 11 |
| 1.2.2 Kongsberg EM Files | 17 |
| 1.2.3 Elac XSE Files | 18 |
| 1.2.4 GSF Files | 18 |
| 1.2.5 UKOOA P6/11 Files | 19 |
| 1.2.6 Imagenex Files | 20 |
| 1.2.7 NaviPac Files | 22 |
| 1.2.8 ASCII Files | 27 |
| 1.2.9 Runline Files | 35 |
| 1.3 Edit Menu | 36 |
| 1.3.1 Data Editor | 36 |
| 1.3.2 Header Editor | 64 |
| 1.3.3 User Offsets | 78 |
| 1.3.4 Global Properties | 78 |
| 1.3.5 Pipe Lock Root Folder | 79 |
| 1.3.6 Block Start Time | 80 |
| 1.3.7 Rename | 80 |
| 1.3.8 Goto KP | 81 |
| 1.4 Export | 81 |
| 1.4.1 Ascii | 81 |
| 1.4.2 Binary..... | 84 |
| 1.5 View Menu..... | 88 |
| 1.5.1 Fields | 88 |
| 1.6 Tools..... | 91 |

| | | |
|----------|---|------------|
| 1.6.1 | Batch Job | 91 |
| 1.6.2 | Interpolate SV Profile | 94 |
| 1.6.3 | New Sound Velocity Correction | 96 |
| 1.6.4 | New Tide Block | 96 |
| 1.6.5 | Calculate Tide | 97 |
| 1.6.6 | Generate Pipetracker | 97 |
| 1.6.7 | Pipetracker Correction | 97 |
| 1.6.8 | Recalculate Remote Navigation | 98 |
| 1.6.9 | Recalculate Remote Navigation Fill Missing Points | 100 |
| 1.6.10 | Merge Data Files | 101 |
| 1.6.11 | Recover Data | 105 |
| 1.6.12 | Special | 108 |
| 2 | PlanView Editor | 111 |
| 3 | EIVA Point Editor Cleaning tool | 113 |
| 3.1 | Help | 115 |
| 4 | Other functions | 116 |
| 4.1.1 | Pipetracker example | 121 |

1 Overview

The NaviEdit Dataflow



The common tools

NaviEdit is organised in different panels, toolbars, menus, and views that together make the user interface as visualised here

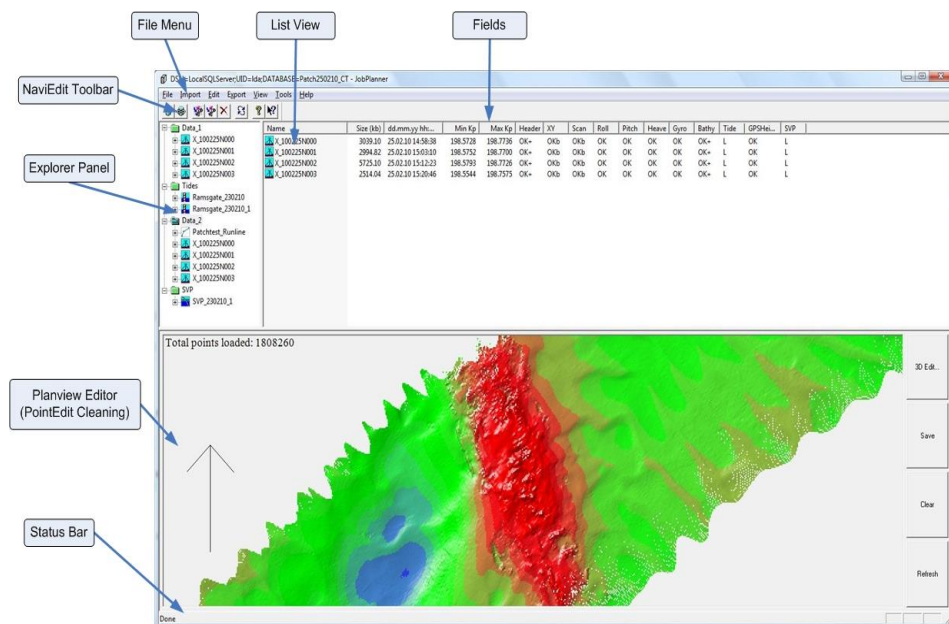
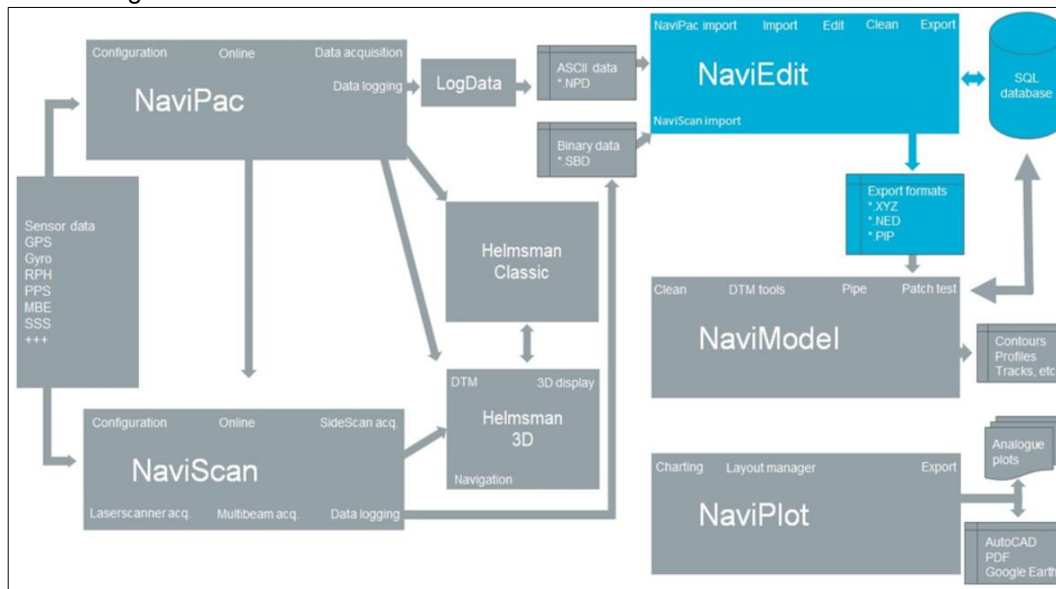


Figure 1 UI elements and terminology in NaviEdit

The Software Installer can be downloaded from the EIVA Download site.

Here a diagram of the work area:



1.1 File

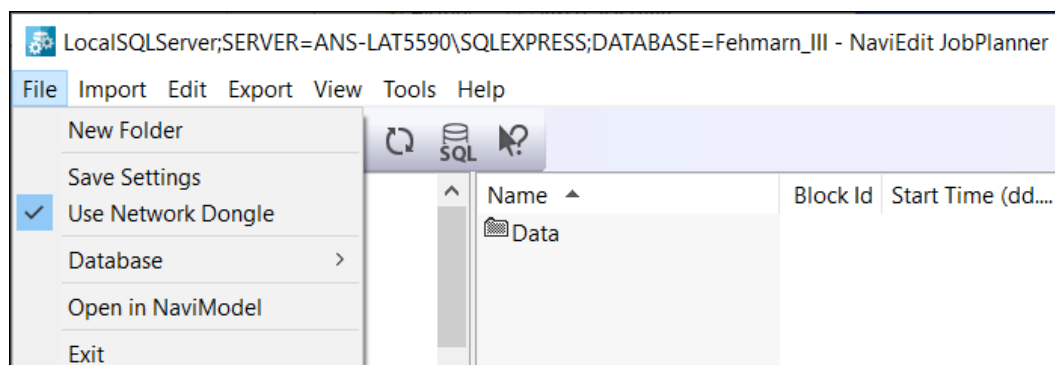


Figure 2 Menu bar **File** context menu

- **New Folder**
This action will generate a new folder in the Explorer Panel. The folder will be a subfolder of the folder highlighted, if applicable
- **Save Settings**
This will save the current window position and size
- **Use Network Dongle**
This functionality toggles the use of a network dongle on and off. A network dongle will enable several simultaneous users, that are able to access the dongle from several workstations on the network.

A network dongle is pre-configured to support a number of licences. This is a run-time number meaning that the software can be installed on an un-limited number of workstations, however only a certain amount can be executing simultaneously.

- **Database**
- **Open in NaviModel**
- **Exit**

1.1.1 Database context menu

The following describes the additional options of the Database context menu:

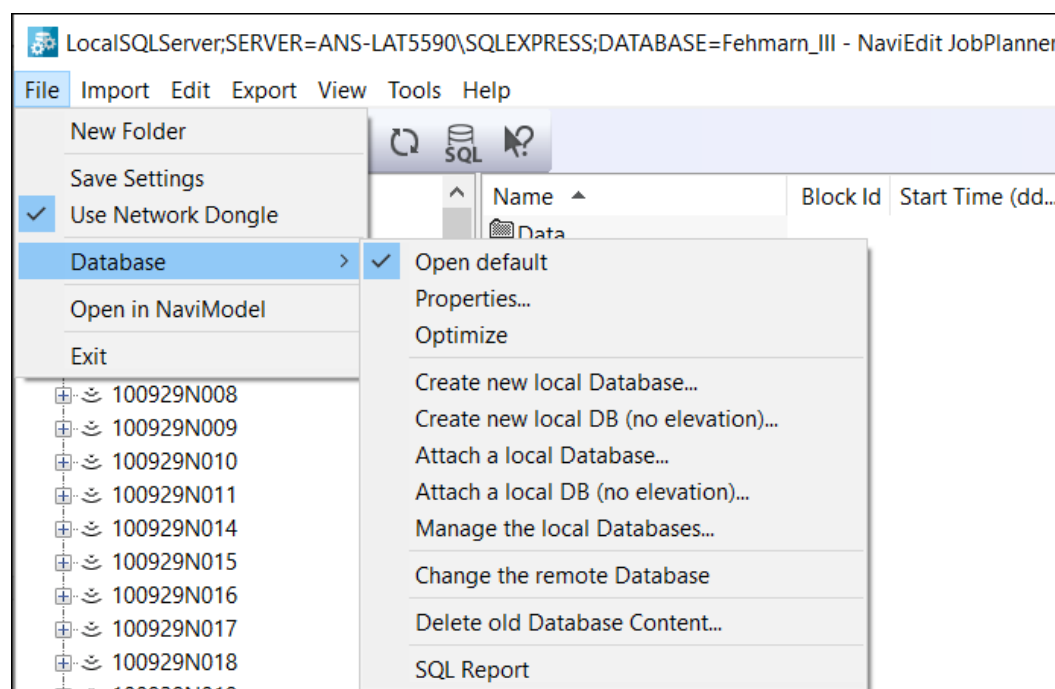
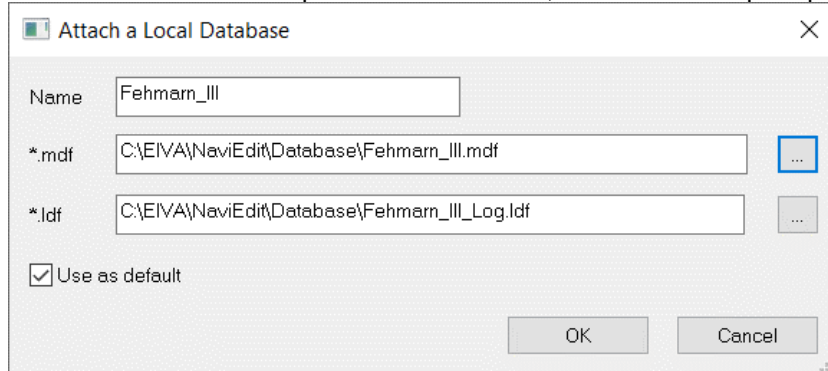


Figure 3 Context menu of the option **Database**

- **Open default**
Enabling this option will open the default SQL database when starting the JobPlanner. If disabled, a dialog regarding ODBC connections to choose from, will pop up
- **Properties**
This will facilitate alteration of the timeout settings for the database connection
- **Optimize**
The optimisation functionality will clear unused space in the current database and decrease the database file size.
- **Create new local Database**
This action will create a new empty database. The functionality can also be accessed from the toolbar.

- **Create new local DB (no elevation)**
Create a new database without asking for elevated access rights
- **Attach a local Database**
This action will open a dialogue to attach an already existing database. The functionality can also be accessed from the toolbar. Note that if the database is not of the version that corresponds to JobPlanner, the user will be prompted to update.



- **Attach a local DB (no elevation)**
Attach a local database without asking for elevated access rights
- **Manage the local Databases**
This action will open the database manage dialogue shown below. Here it is possible to perform a series of actions associated with the NE SQL-databases, such as: define current database, create new database, attach and detach database as well as deletion of a NE database

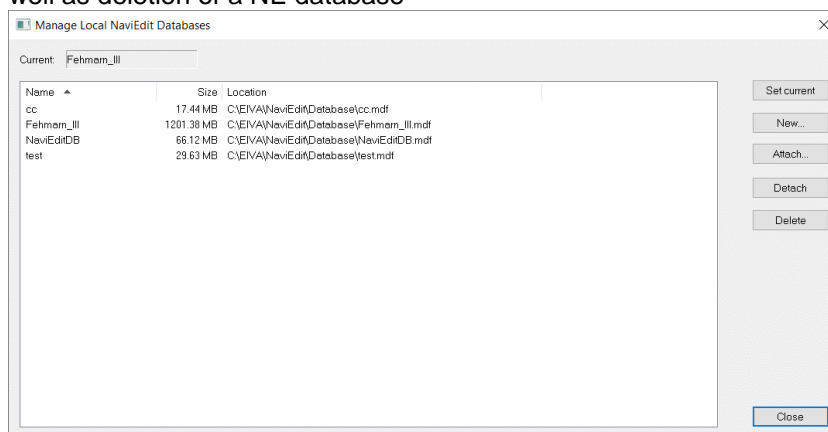


Figure 4 Manage Local NaviEdit Databases

- **Change the remote Database**
Allows the user to change database on a client/server setup
- **Delete old Database Content**
This functionality is associated with the use of the SQL databases in a NaviPac environment, in connection with online QC functionalities implemented here. In the present context, it should be handled with extreme care, since the database files/blocks that exceed a certain age will be erased from the SQL database

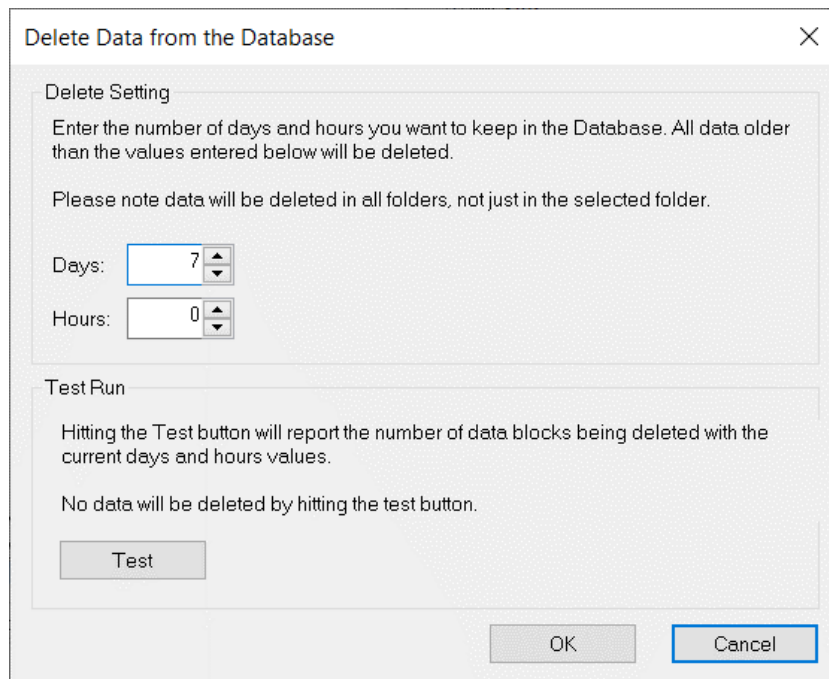
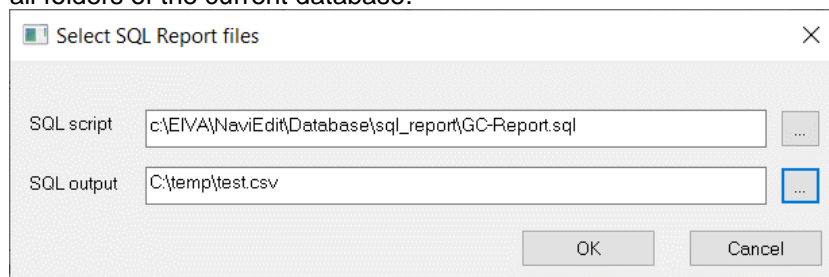


Figure 5 Delete Data from Database

- **SQL Report**

This function performs an SQL-query on the database. A dialogue will open, through which the user is prompted to enter a script defining the query. The output of the query will be a comma-separated SQL report (*.csv). The default script, installed with NaviEdit will perform a listing of all settings of relevance for the files in all folders of the current database.



| | A | B | C | D | E | F | G | H | I |
|----|------------|-----------|---------------------|-----------|----------|--------------|--------------|--------------|----------|
| 1 | Filename | Directory | Date/Time | KP start | KP end | ES1_offset_X | ES1_offset_Y | ES1_offset_Z | ES1_roll |
| 2 | 100929N072 | Data | 2010-09-29 22:48:30 | -0.040500 | 0.233200 | -0.010000 | 0.044000 | 0.434000 | 0.060000 |
| 3 | 100929N071 | Data | 2010-09-29 22:44:37 | -0.028100 | 0.221200 | -0.010000 | 0.044000 | 0.434000 | 0.060000 |
| 4 | 100929N070 | Data | 2010-09-29 22:39:02 | -0.057900 | 0.329300 | -0.010000 | 0.044000 | 0.434000 | 0.060000 |
| 5 | 100929N069 | Data | 2010-09-29 22:34:19 | -0.072600 | 0.345200 | -0.010000 | 0.044000 | 0.434000 | 0.060000 |
| 6 | 100929N068 | Data | 2010-09-29 22:27:12 | -0.049100 | 0.316200 | -0.010000 | 0.044000 | 0.434000 | 0.060000 |
| 7 | 100929N067 | Data | 2010-09-29 22:22:49 | -0.045100 | 0.320700 | -0.010000 | 0.044000 | 0.434000 | 0.060000 |
| 8 | 100929N066 | Data | 2010-09-29 22:16:19 | -0.046100 | 0.232400 | -0.010000 | 0.044000 | 0.434000 | 0.060000 |
| 9 | 100929N065 | Data | 2010-09-29 22:11:17 | -0.037600 | 0.335100 | -0.010000 | 0.044000 | 0.434000 | 0.060000 |
| 10 | 100929N064 | Data | 2010-09-29 22:08:10 | -0.056500 | 0.222200 | -0.010000 | 0.044000 | 0.434000 | 0.060000 |
| 11 | 100929N063 | Data | 2010-09-29 22:03:23 | -0.022400 | 0.244300 | -0.010000 | 0.044000 | 0.434000 | 0.060000 |

Figure 6 SQL report

1.2 Import

NaviEdit supports the import of several data format. The most important once are described in the following.

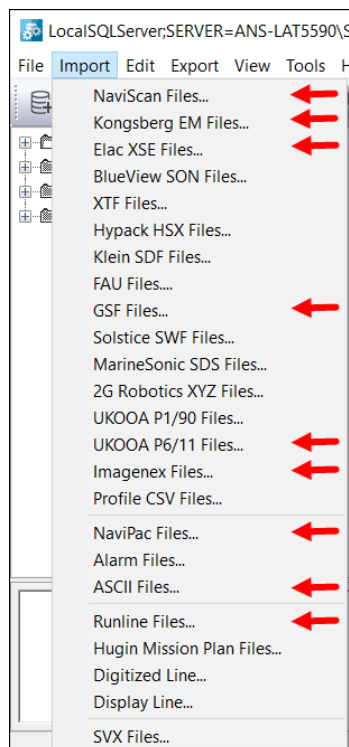


Figure 7 Importer types

1.2.1 NaviScan Files

- Import **NaviScan Files** starts the NaviScan Interpreter wizard.
- The first step is to select the files to load. Press the **Add** button and select a file or a selection of files.

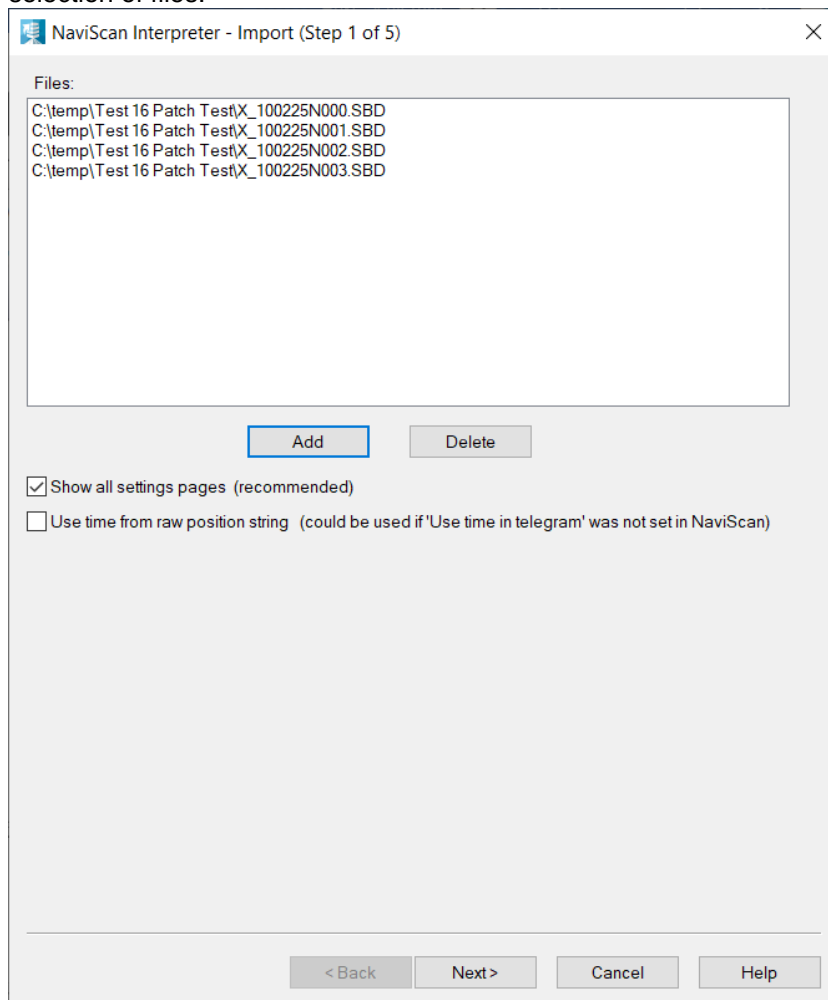
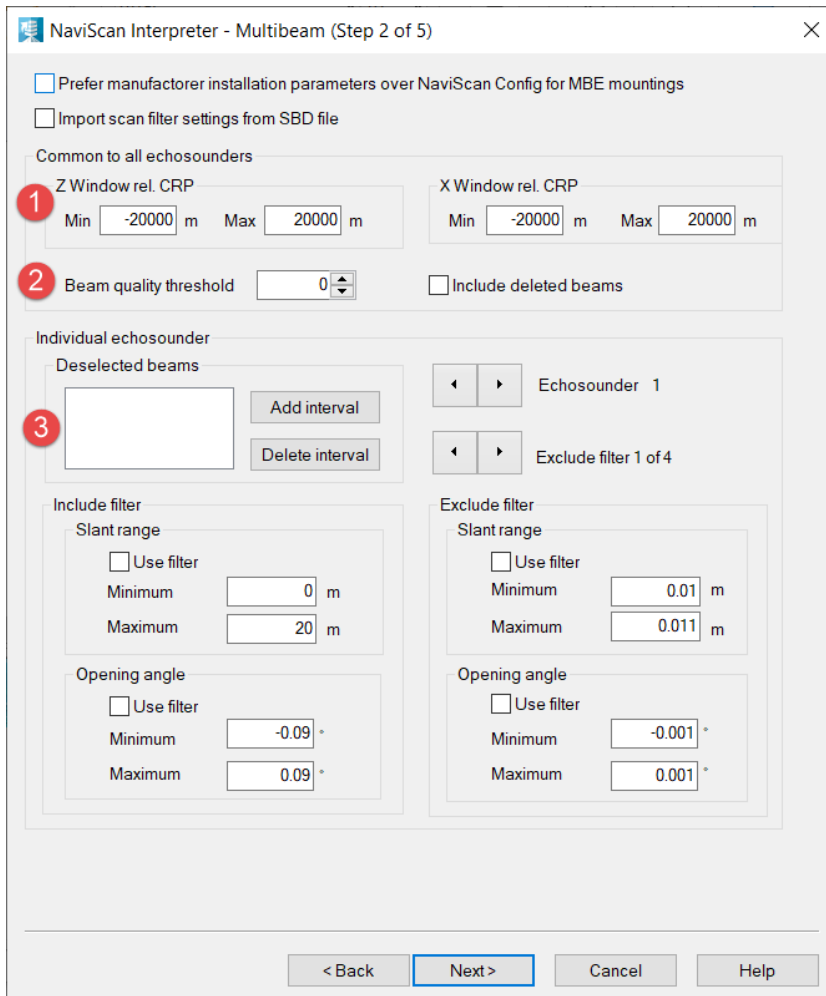


Figure 8 NaviScan Interpreter – Import (Step 1 of 5)



NaviScan Interpreter - Multibeam (Step 2 of 5)

☐ Prefer manufacturer installation parameters over NaviScan Config for MBE mountings

☐ Import scan filter settings from SBD file

Common to all echosounders

1 Z Window rel. CRP Min m Max m X Window rel. CRP Min m Max m

2 Beam quality threshold ☐ Include deleted beams

Individual echosounder

Deselected beams

3

Echosounder 1

Exclude filter 1 of 4

Include filter

Slant range

☐ Use filter

Minimum m

Maximum m

Opening angle

☐ Use filter

Minimum °

Maximum °

Exclude filter

Slant range

☐ Use filter

Minimum m

Maximum m

Opening angle

☐ Use filter

Minimum °

Maximum °

< Back Next > Cancel Help

Figure 9 NaviScan Interpreter - Multibeam (Step 2 of 5)

- Define (filter) settings for the import. In general terms these can be defined in the Header Editor. It is therefore recommended to maintain default settings (=no filtering) at this stage
- (1) By adjusting values in the Z and X window, large spikes can be removed.
- (2) The beam quality threshold refers to the quality reported by the multi-beam echosounder. Values are ranging from 0 (do not use) to 15 (highest quality)
- (3) Filter out noisy beams by setting an interval of beams
- The Exclude filter allows to avoid noisy beams by adjusting opening angle and deselecting beams

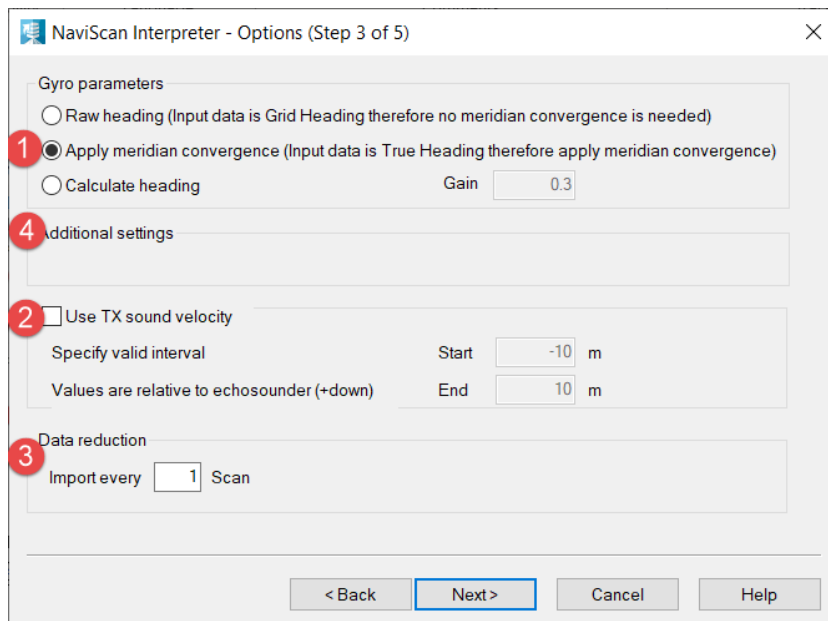
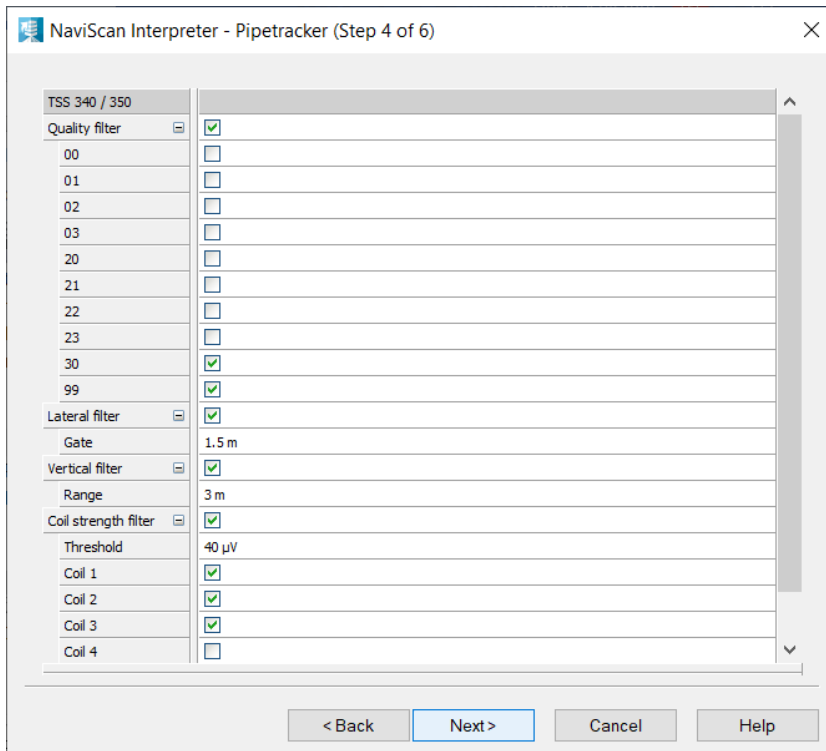


Figure 10 NaviScan Interpreter - Options (Step 3 of 5)

- (1) Readings from a gyro must have meridian convergence applied
- (2) It is possible to use the transmitted (online) speed of sound, observed at the sonar head, in an interval around the sonar-head. Use with caution.
- To define (filter) settings for the import. In general terms these can be defined in the Header Editor. It is therefore recommended to maintain default settings (=no filtering) at this stage.
- (3) Use the **Data reduction** option to reduce the data (scans as well as motion-data)
- (4) Under **Additional settings**, it is possible to:
 - Invert the RDI doppler observations
 - Disable bathy if present in the observation material.
 - Save intensity for Reson MBEs.
- If pipetracker data is available the user will have the option to set quality filters here



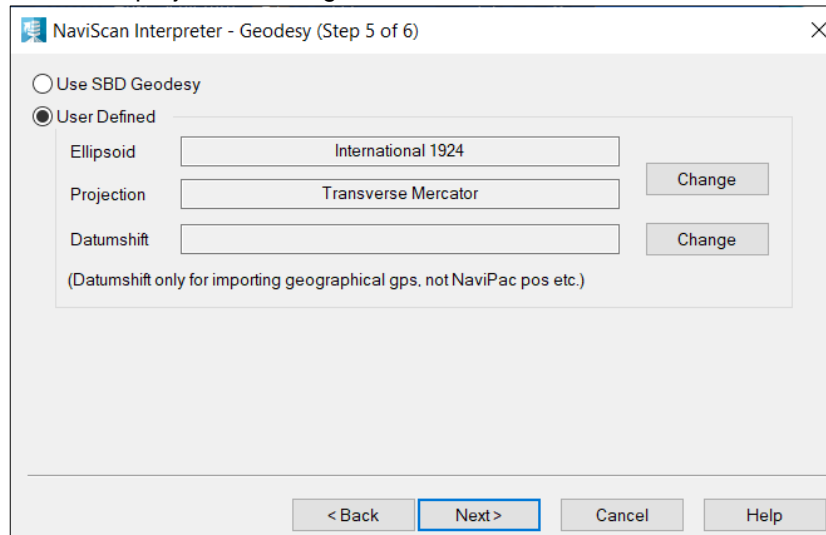
NaviScan Interpreter - Pipetracker (Step 4 of 6)

| TSS 340 / 350 | |
|----------------------|-------------------------------------|
| Quality filter | <input checked="" type="checkbox"/> |
| 00 | <input type="checkbox"/> |
| 01 | <input type="checkbox"/> |
| 02 | <input type="checkbox"/> |
| 03 | <input type="checkbox"/> |
| 20 | <input type="checkbox"/> |
| 21 | <input type="checkbox"/> |
| 22 | <input type="checkbox"/> |
| 23 | <input type="checkbox"/> |
| 30 | <input checked="" type="checkbox"/> |
| 99 | <input checked="" type="checkbox"/> |
| Lateral filter | <input checked="" type="checkbox"/> |
| Gate | 1.5 m |
| Vertical filter | <input checked="" type="checkbox"/> |
| Range | 3 m |
| Coil strength filter | <input checked="" type="checkbox"/> |
| Threshold | 40 μ V |
| Coil 1 | <input checked="" type="checkbox"/> |
| Coil 2 | <input checked="" type="checkbox"/> |
| Coil 3 | <input checked="" type="checkbox"/> |
| Coil 4 | <input type="checkbox"/> |

< Back Next > Cancel Help

Figure 11 NaviScan Interpreter - Pipetracker (Step 4 of 6)

- Define the projection settings



NaviScan Interpreter - Geodesy (Step 5 of 6)

☐ Use SBD Geodesy
☒ User Defined

| | | |
|------------|---------------------|--------|
| Ellipsoid | International 1924 | Change |
| Projection | Transverse Mercator | Change |
| Datumshift | | Change |

(Datumshift only for importing geographical gps, not NaviPac pos etc.)

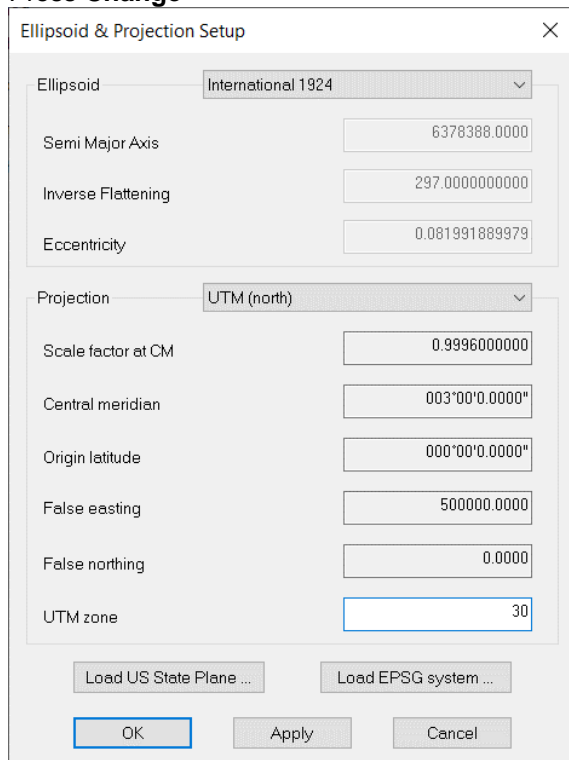
< Back Next > Cancel Help

Figure 12 NaviScan Interpreter - Geodesy (Step 5 of 6)

- This setting is used to determine the geodesy settings. Normally the option **Use SBD Geodesy** should be used.

Using the **User Defined** option will facilitate the alteration of projection (on ellipsoid). Note that a total change of geodesy settings is facilitated in the Header Editor.

- Press **Change**



The dialog box titled "Ellipsoid & Projection Setup" contains the following fields and controls:

- Ellipsoid:** A dropdown menu currently showing "International 1924".
- Semi Major Axis:** A text input field with the value "6378388.0000".
- Inverse Flattening:** A text input field with the value "297.0000000000".
- Eccentricity:** A text input field with the value "0.081991889979".
- Projection:** A dropdown menu currently showing "UTM (north)".
- Scale factor at CM:** A text input field with the value "0.9996000000".
- Central meridian:** A text input field with the value "003°00'0.0000\"".
- Origin latitude:** A text input field with the value "000°00'0.0000\"".
- False easting:** A text input field with the value "500000.0000".
- False northing:** A text input field with the value "0.0000".
- UTM zone:** A text input field with the value "30".
- Buttons:** "Load US State Plane ...", "Load EPSG system ...", "OK", "Apply", and "Cancel".

Figure 13 Ellipsoid and Projection Setup

- **Note option**

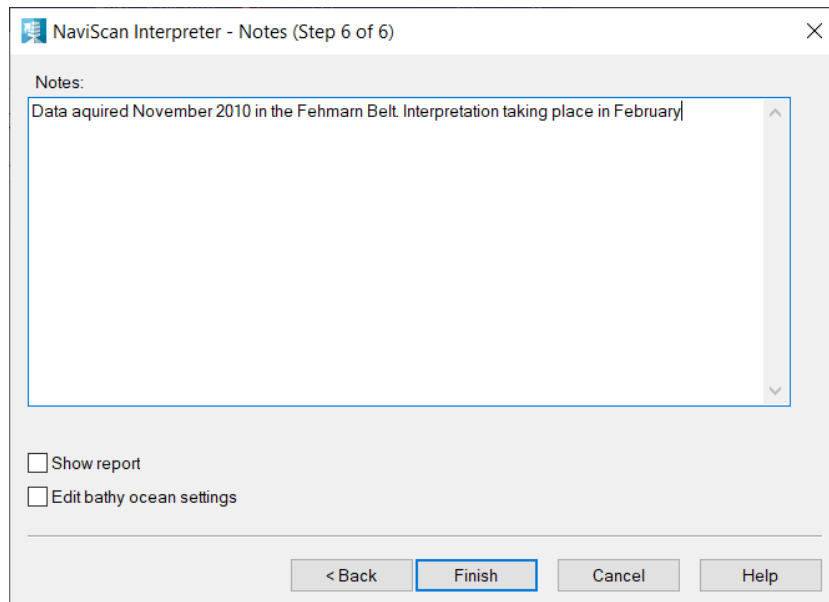


Figure 14 NaviScan Interpreter - Notes (Step 6 of 6)

- Two options can be set for each individual file:
 - NaviEdit is to show the report after creation and
 - Editing bathy ocean settings
- The user is now prompted to select a folder to store the data

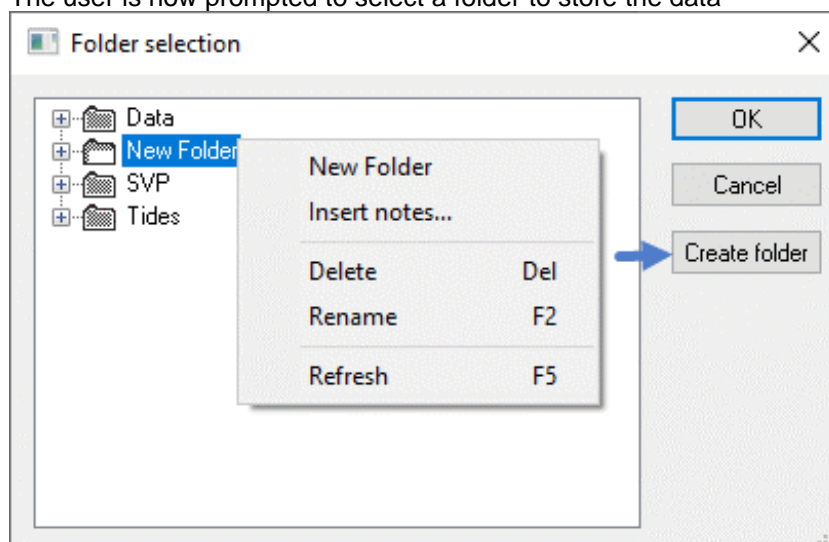


Figure 15 Folder selection

- Highlight an already existing folder or create a new for the storage

The imported multi beam data-files will now appear in the database.

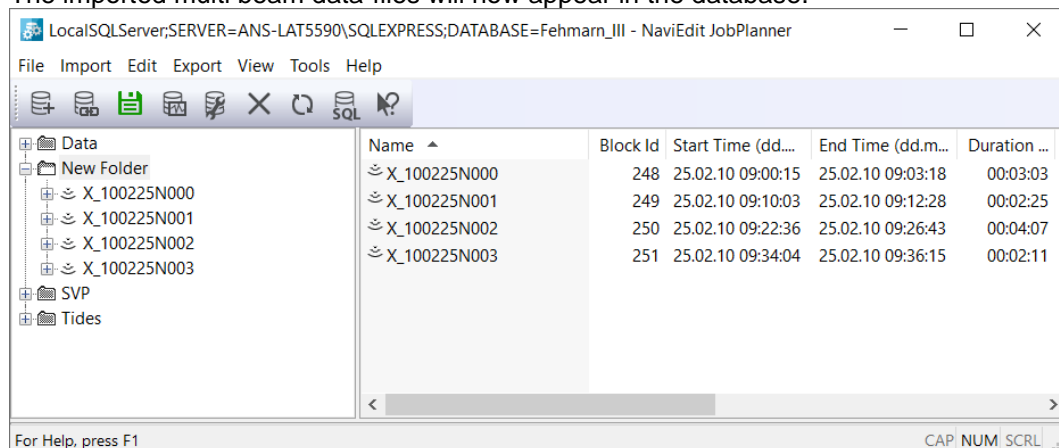


Figure 16 NaviEdit Project tree view and List view

Use this option to import CathX pcg-files with Intensity. The intensity can be viewed in NaviModel.

1.2.2 Kongsberg EM Files

- The option **Import Kongsberg EM Files** starts the Kongsberg Interpreter wizard. Most steps are identical to what was described in connection with the NaviScan Interpreter.
- Press the **Add** button and select a file or a selection of files. The file format can be (*.em*)(*.all*)(*.kmall).

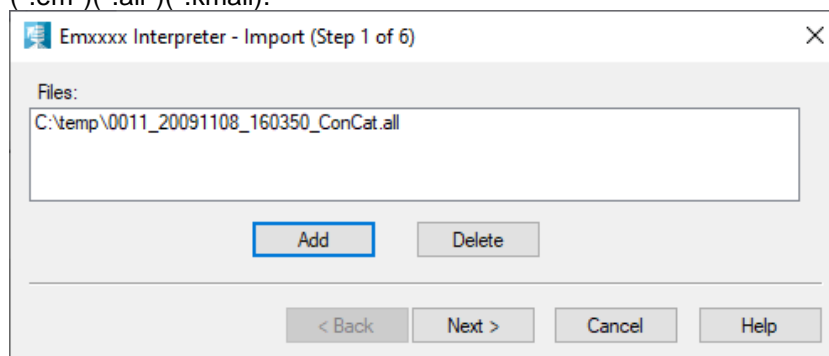


Figure 17 Emxxxx Interpreter – Import (Step 1 of 6)

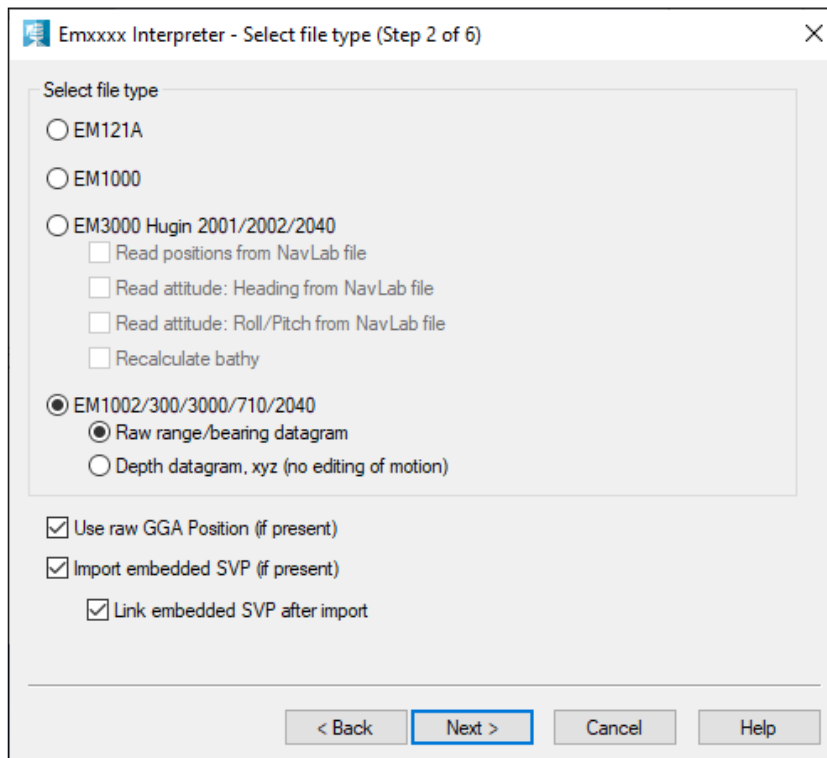


Figure 18 Emxxxx Interpreter - Select file type (Step 2 - 6)

Note that for the current data it is possible to load the files as **raw range/bearing datagrams** (traditional way of storing multibeam data) or as depth datagram, where no editing of the raw instrument data is possible. The latter also includes the multi-beam data, so that changing the SV-profiles within NaviEdit will have no influence on these

- The remaining 3 steps of the interpreter are identical to the last 3 steps of the NaviScan Interpreter

1.2.3 Elac XSE Files

Most steps are identical to what was described in connection with the NaviScan Interpreter.

- **Import an Elac XSE File** starts the Elac Interpreter wizard.

1.2.4 GSF Files

Most steps are identical to the steps described in the NaviScan Interpreter import and for these no screenshots are added here, eg the **Import** step, **Geodesy** step, **Notes** step.

- Import **GSF Files** starts the GSF Interpreter (Generic Sensor format *.gsf).
- Geodesy step
- Notes step
- Folder selection step
- Data is imported

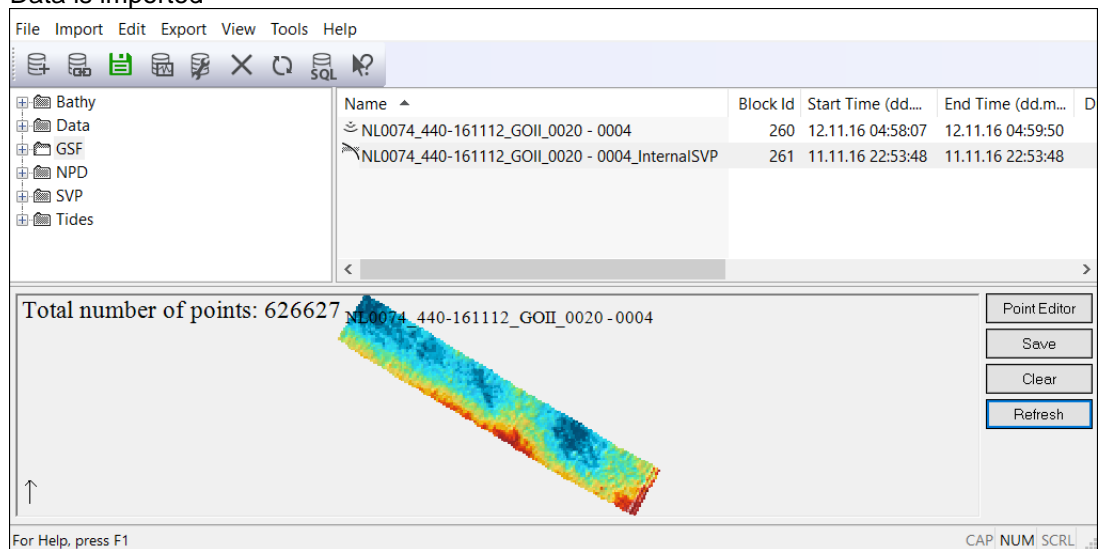


Figure 19 NaviEdit with imported GSF file

1.2.5 UKOOA P6/11 Files

- Import IOGP/**UKOOA P6/11** seismic bin grid files. It supports the file format (*.p611)

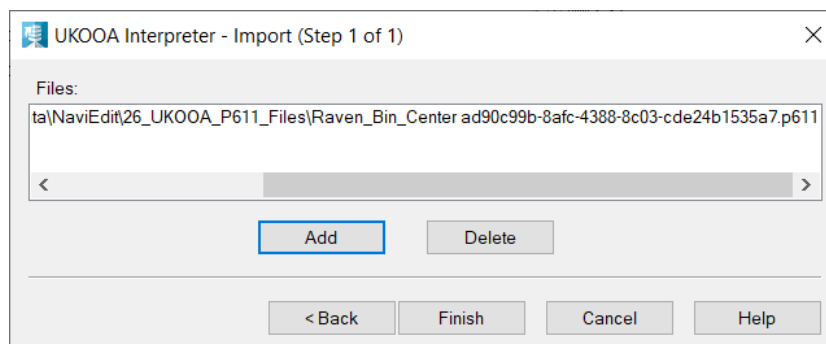


Figure 20 UKOOA Interpreter - Import (Step 1 of 1)

- Select the folder

- Report file with Errors

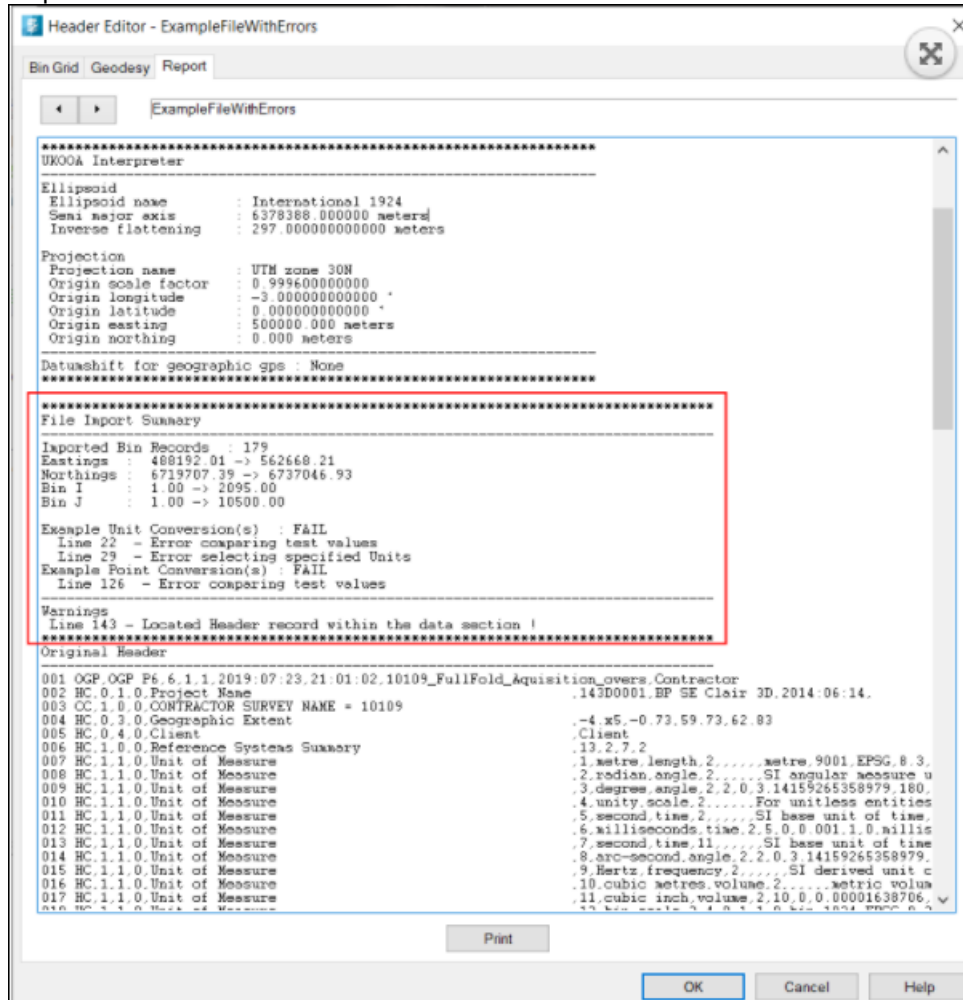


Figure 21 UKOOA importer report with Errors

1.2.6 Imagenex Files

Most steps are identical to the steps described in the NaviScan Interpreter import.

- Import **Imagenex Files** starts the Imagenex Interpreter. The supported formats are Imagenex Delta T (*.83P), Imagenex DT 360 (*.P96)

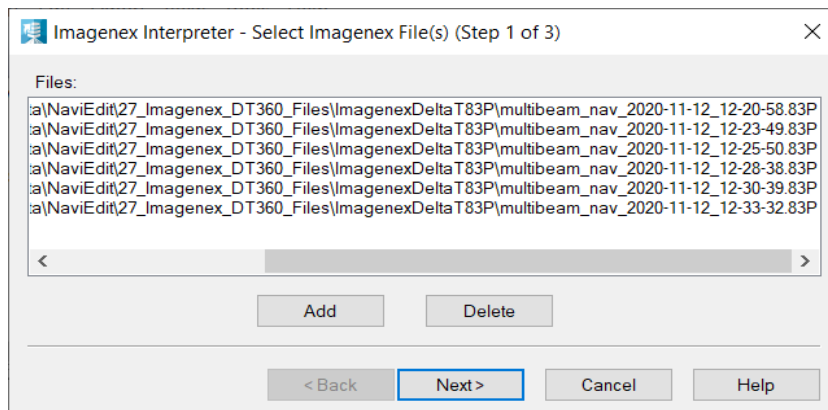


Figure 22 Imagenex Interpreter - Select Imagenex File(s) (Step 1 - 3)

- Geodesy definition

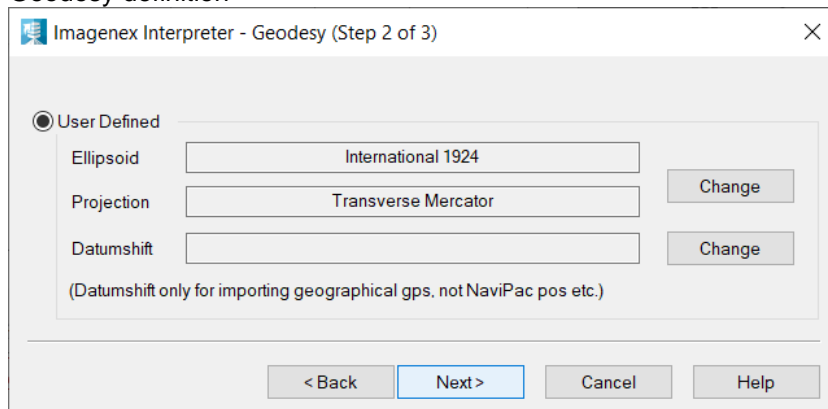


Figure 23 Imagenex Interpreter - Geodesy (Step 2 - 3)

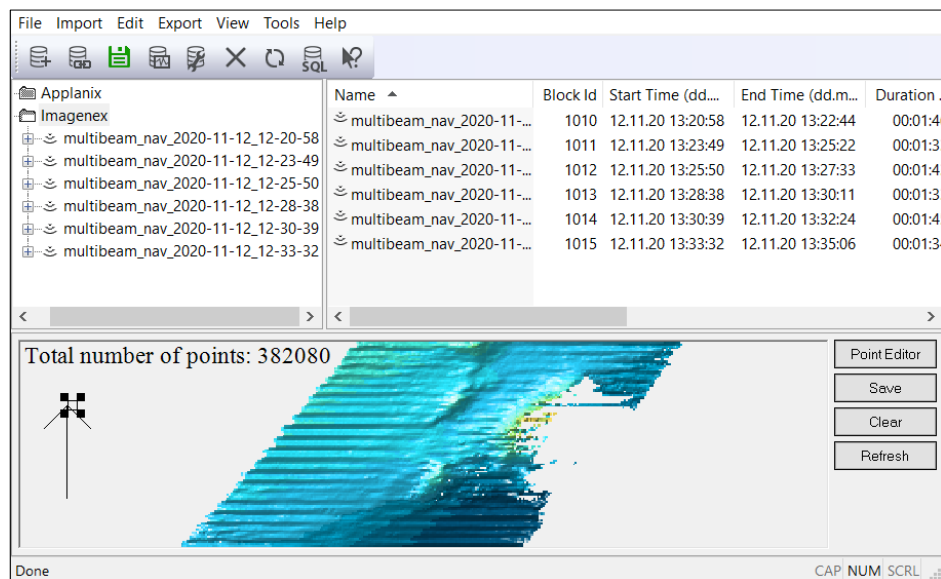


Figure 24 Imported Imagenex data

1.2.7 NaviPac Files

- Import **NaviPac Files** starts the NaviPac Interpreter wizard and is used to import *.S*.npd files so-called **Survey** files logged in NaviPac.

On this page you select the NaviPac files you want to import to the V6 database.

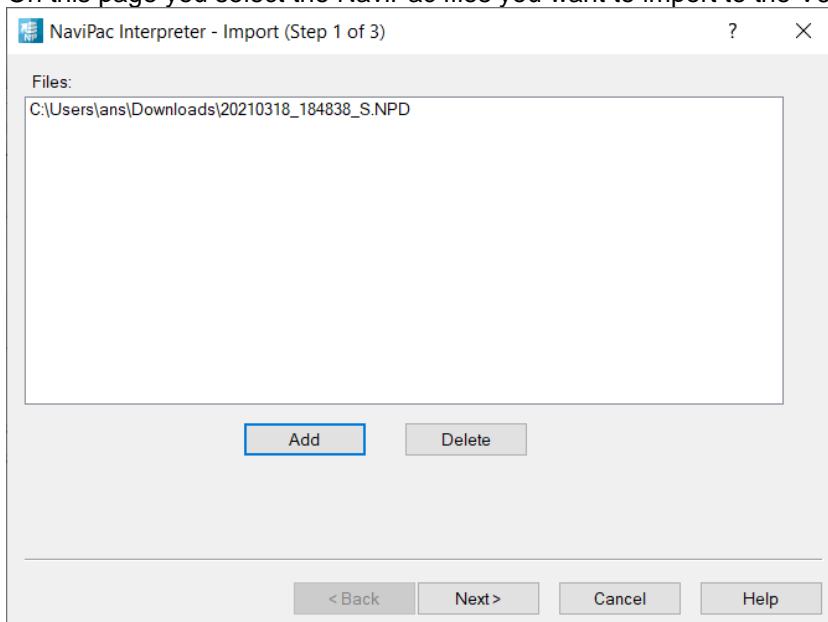


Figure 25 NaviPac Interpreter - Import (Step 1 of 3)

Add opens a standard file open dialog where one or more NaviPac files can be selected.

Delete Removes the selected files from the file list.

When you are done selecting files, click **Next** to proceed to the notes page.

- On this page free text can be entered, the text will be attached to the block(s) generated.

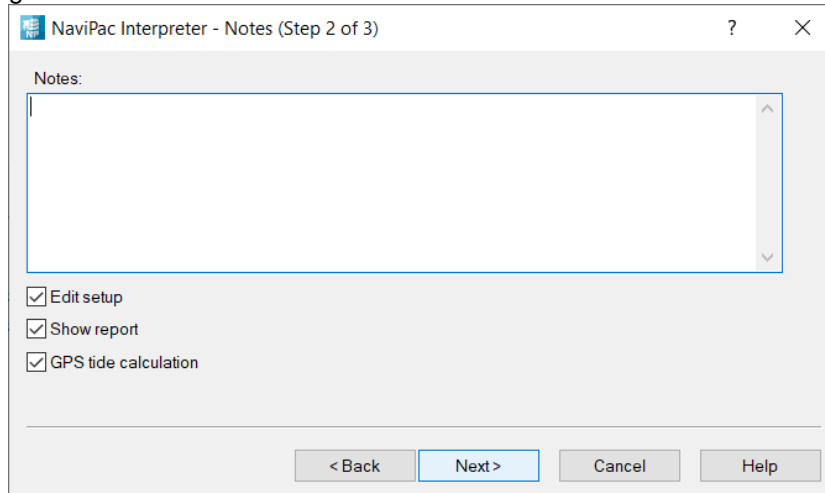


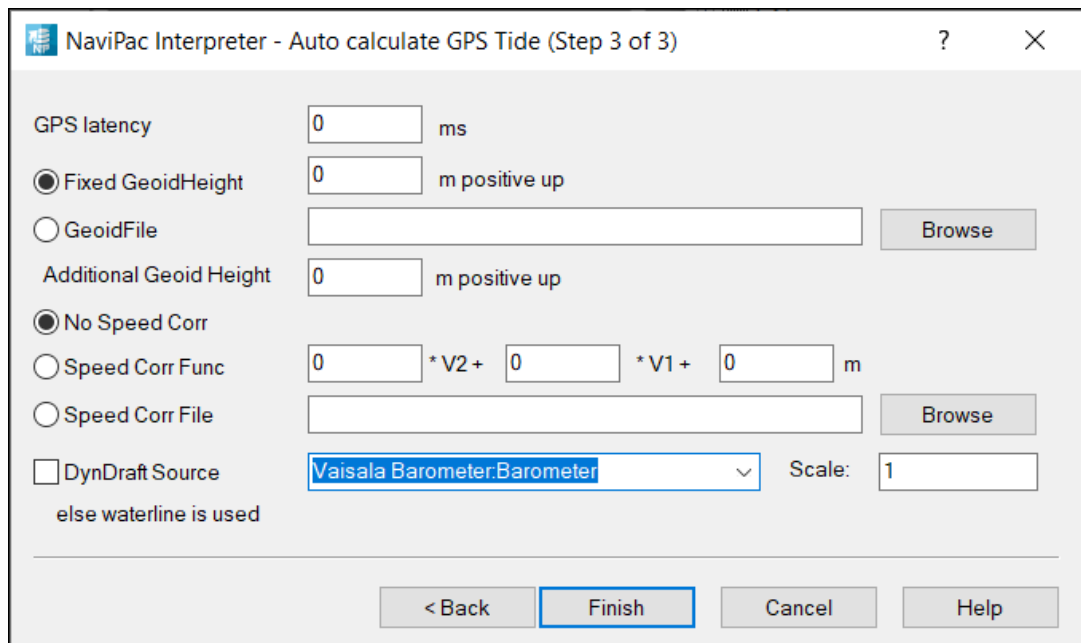
Figure 26 NaviPac Interpreter - Import (Step 2 of 3)

At the bottom there are three check boxes:

Edit setup Displays a dialog with all the header information from the file, Edit setup.

Show report Displays the report generated by the interpreter after interpretation.

GPS tide calculation



The dialog box is titled "NaviPac Interpreter - Auto calculate GPS Tide (Step 3 of 3)". It contains the following fields and options:

- GPS latency: 0 ms
- Fixed GeoidHeight: 0 m positive up (selected with a radio button)
- GeoidFile: [empty text box] with a "Browse" button
- Additional Geoid Height: 0 m positive up
- No Speed Corr: (selected with a radio button)
- Speed Corr Func: 0 * V2 + 0 * V1 + 0 m
- Speed Corr File: [empty text box] with a "Browse" button
- DynDraft Source: Vaisala Barometer.Barometer (selected in a dropdown menu) with a "Scale" of 1. Below this, it says "else waterline is used".

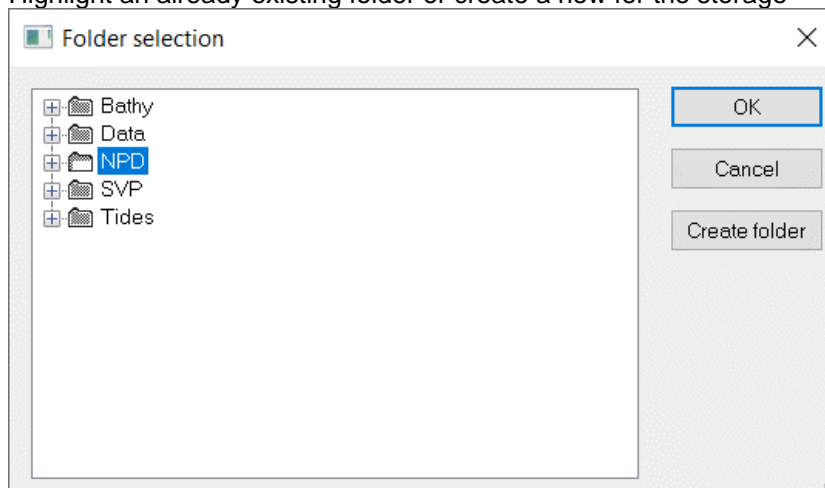
At the bottom, there are four buttons: "< Back", "Finish" (highlighted with a blue border), "Cancel", and "Help".

Figure 27 NaviPac Interpreter - Auto calculate GPS Tide (Step 3 - 3)

Step 3 is the **GPS tide calculation** option

- When you are done, press **Finish**.
- Select a folder and press **Ok**.

Highlight an already existing folder or create a new for the storage



The "Folder selection" dialog box shows a list of folders on the left: Bathy, Data, NPD (highlighted with a blue selection box), SVP, and Tides. On the right, there are three buttons: "OK" (highlighted with a blue border), "Cancel", and "Create folder".

- If selected, the setup will now appear, one tab for each dynamic object defined in NaviPac. Note that for the primary object (the vessel object in NaviPac) as well as for other objects, the user is given a series of options regarding instrumentation,

inclusion, etc.

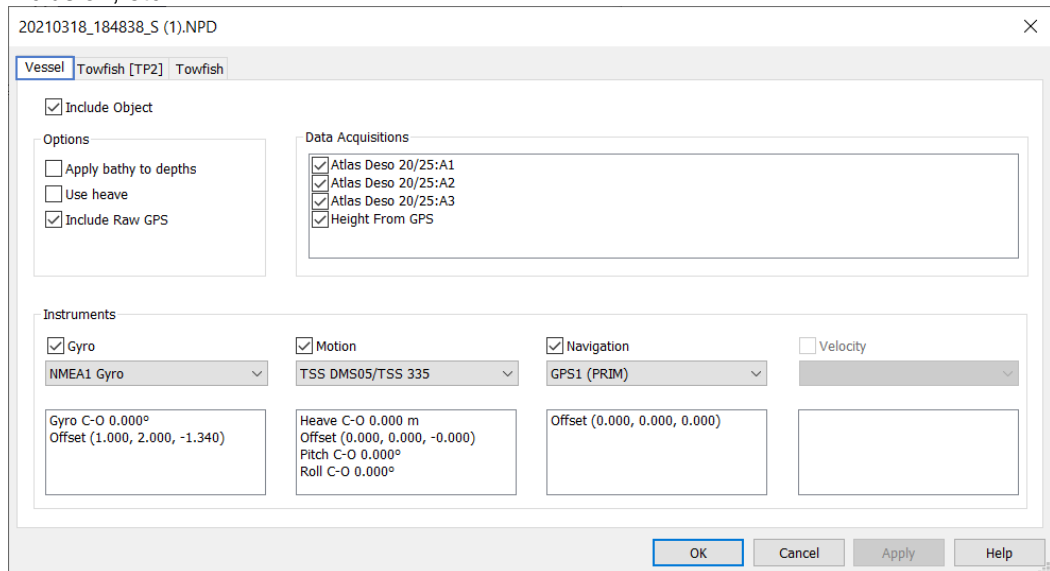


Figure 28 Primary object settings

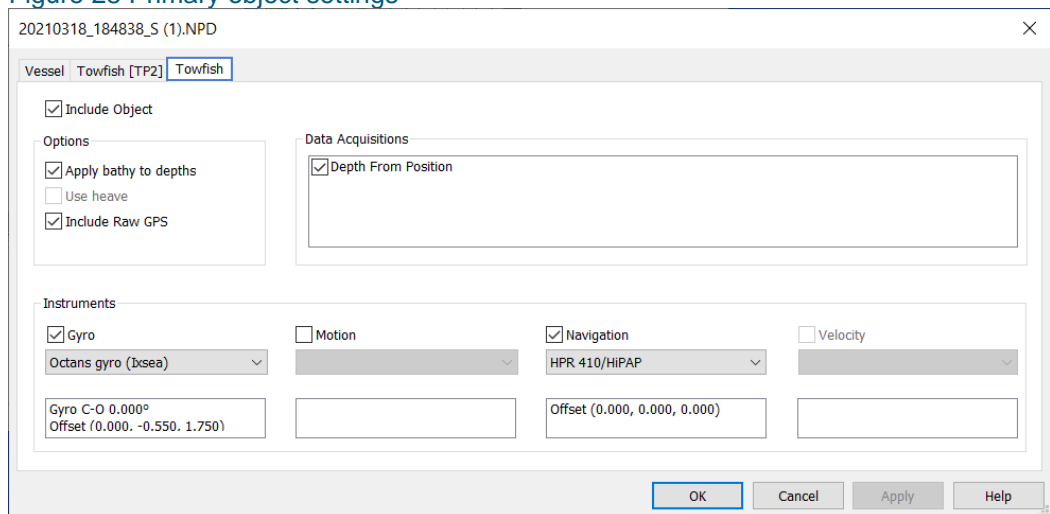


Figure 29 Dynamically positioned object

| Option | Information |
|-----------------|---|
| Tab | Each tab represents a vessel or object. |
| Include Object | If enabled, a block of data is generated for the current object. |
| Include Raw GPS | If enabled, the positions of the object will be dependent on the positions of the primary object. This means that when you edit the position of the primary object the position of the current object is also modified. |

| | |
|-----------------------|--|
| Apply bathy to depths | If enabled (default), the depths will be corrected with bathy depths, when available. Should be disabled if the data acquisition is magnetometer or other non-echosounder types. |
| Use heave | Apply the heave to the depth calculation. Use this option if the heave was not fed into the echosounder. |
| Data acquisitions | Lists the echo-sounders mounted on the current object. Echo-sounders selected in the list are included in the interpretation. |
| Gyro | If more than one gyro was used during the survey, you can specify which gyro you want to interpret. |
| Motion | If more than one motion sensor was used during the survey, you can specify which motion sensor you want to interpret. |
| Navigation | If more than one navigation group was used during the survey, you can specify which navigation group you want to interpret. |

- If selected, several reports, one for each dynamic object selected in the previous step, will now be visualised. These reports will follow the datafile in question throughout its lifespan and be updated in accordance with any subsequent editing related action within NaviEdit.

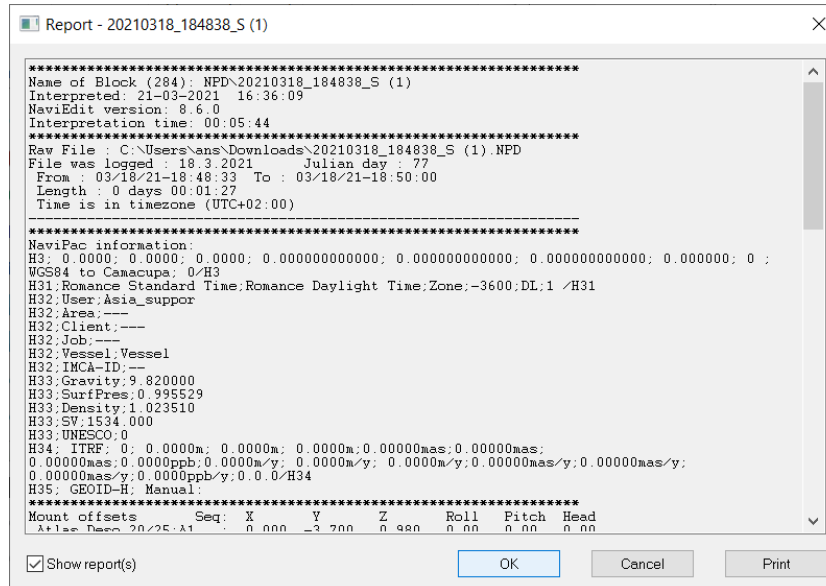
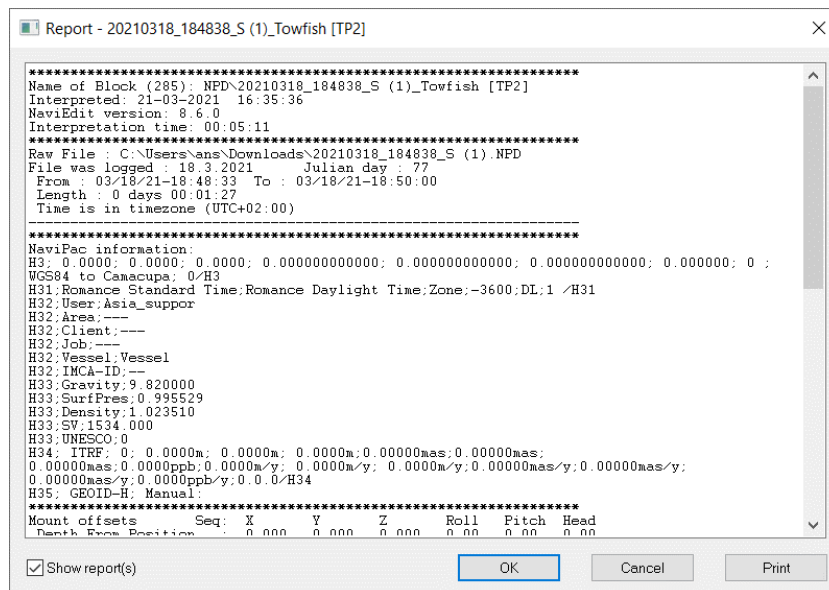


Figure 30 Report



- The NaviPac blocks/data files will now appear in the database, one entry for each object selected in each file.

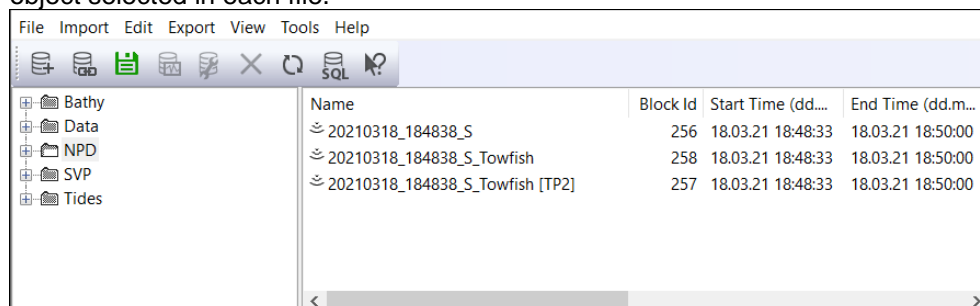
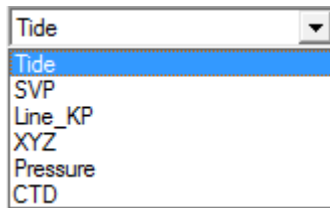


Figure 31 Imported NPD file

1.2.8 ASCII Files

The ASCII Interpreter can be used to load:

- Tidal data
- Sound Velocity data
- Line-KP data (E/N/KP (or lat/lon/KP))
- XYZ data
- Surface pressure information (Time/Pressure)
- CTD data (Depth/Soundvelocity/Pressure etc.)



- The option **ASCII Files** starts the ASCII Interpreter wizard.
- Load the data by clicking on the **Add** button and select a file or a selection of files. The file loaded here contains tidal information, however, also speed of sound data and well as position data can be loaded using the ASCII Interpreter.

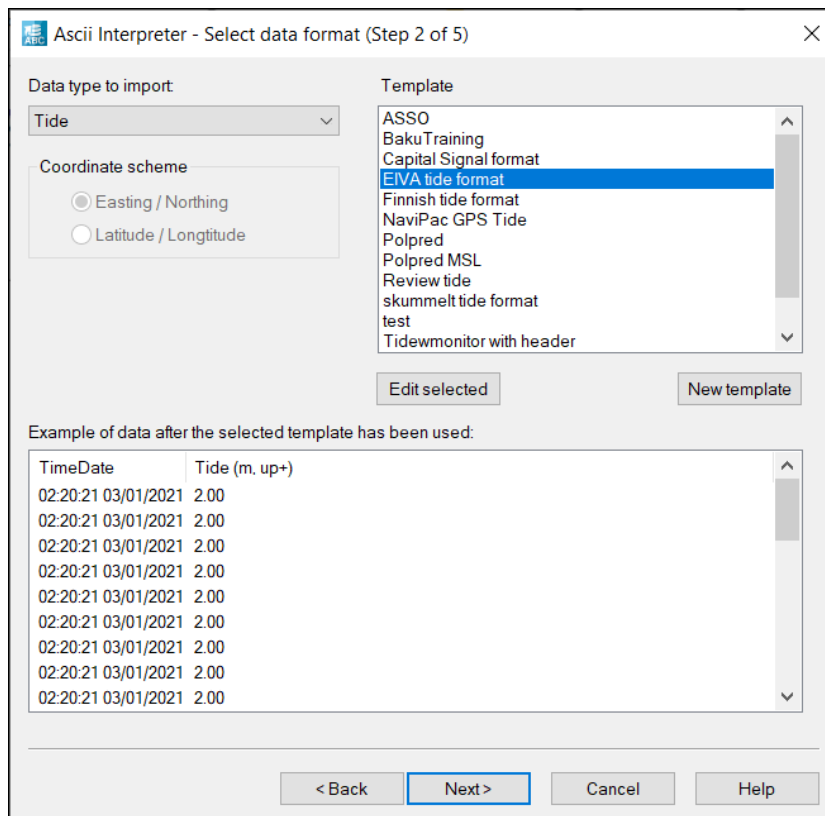


Figure 32 Ascii Interpreter – Select data format (Step 2 - 5) Tide

- Step 2 of the ASCII Interpreter wizard involves selection of data format Tidal data. The user selects the datatype and the associated template. For each datatype, a few templates have been predefined. If none of these templates match the data at hand, the user must generate his own template (or edit an already existing one). The preview panel below can be used to assess whether or not the presently selected template is acceptable.

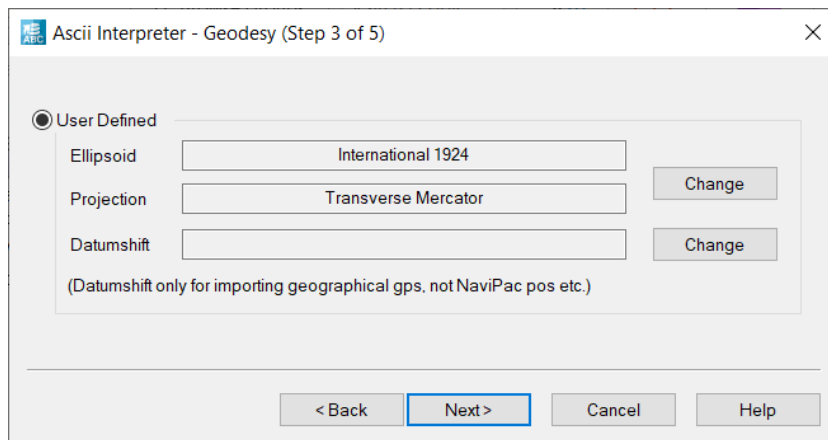
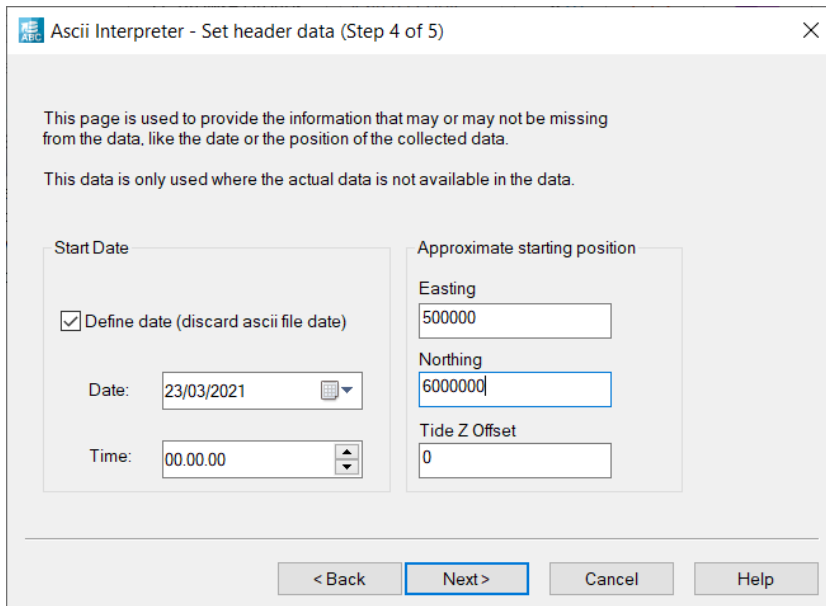


Figure 33 Ascii Interpreter - Geodesy (Step 3 - 5)

- Step 3 of the ASCII Interpreter wizard is associated with the definition of the projection settings.
The ASCII Interpreter can also be used to import positions in Latitude, Longitude. Therefore a projection and ellipsoid must be specified, for the correct conversion to grid coordinates. In the present context, with tidal data, the settings can be ignored
- Step 4 of the ASCII Interpreter wizard is associated with the definition of the time and position.
The time and position information are typically used when more than one SVP-file and/or tidal-file is available. In that case, the position and time information can be used to define a selection-policy. Note that the information can be changed at a later stage, in the Header Editor.



Ascii Interpreter - Set header data (Step 4 of 5)

This page is used to provide the information that may or may not be missing from the data, like the date or the position of the collected data.

This data is only used where the actual data is not available in the data.

Start Date

☒ Define date (discard ascii file date)

Date: 23/03/2021

Time: 00.00.00

Approximate starting position

Easting: 500000

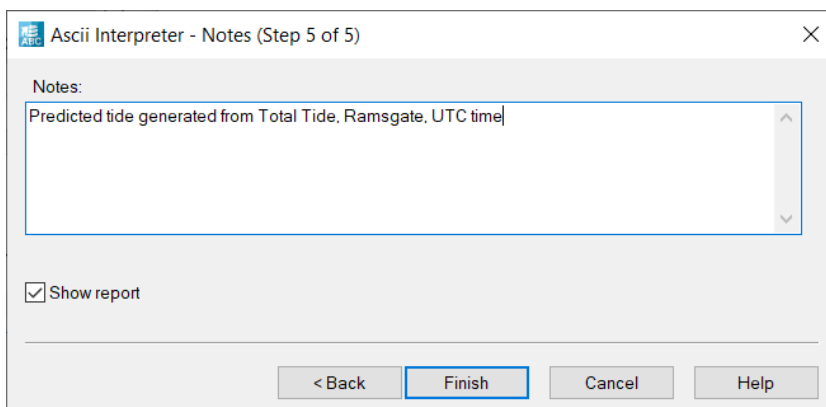
Northing: 6000000

Tide Z Offset: 0

< Back Next > Cancel Help

Figure 34 Ascii Interpreter - Set header data (Step 4 - 5)

- Step 5 of the ASCII Interpreter wizard allows to add a note
The **Show Report** option defines whether or not the report is opened for each individual file.



Ascii Interpreter - Notes (Step 5 of 5)

Notes:

Predicted tide generated from Total Tide, Ramsgate, UTC time

☒ Show report

< Back Finish Cancel Help

Figure 35 Ascii Interpreter - Notes

- The user is now prompted to select a folder to store the data.
Highlight an already existing folder or create a new for the storage

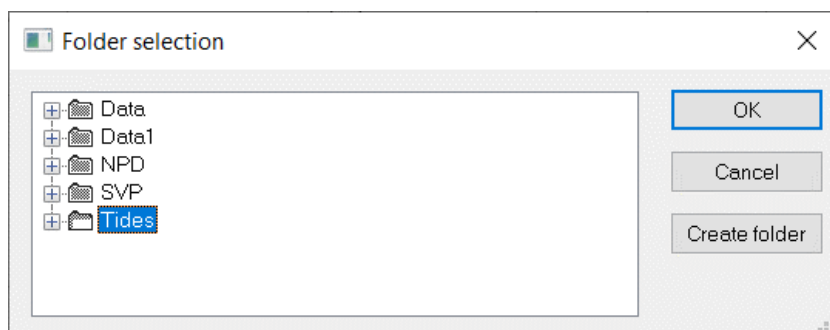


Figure 36 Folder selection

- If selected, the report, that will follow the block/datafile in question throughout its lifespan, and be updated in accordance with any subsequent editing related action within NaviEdit, will now be visualised

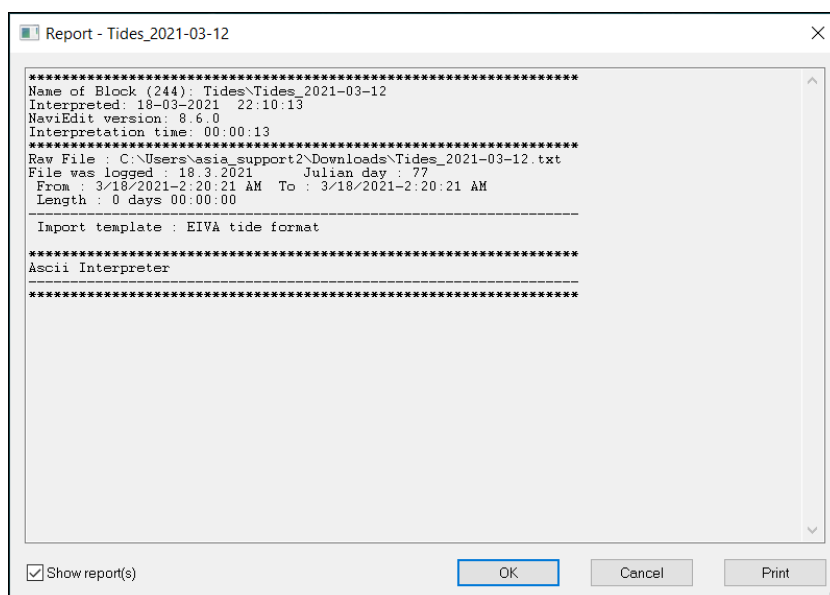


Figure 37 Report - Tides

- The ASCII blocks/data-files will now appear in the database, one entry for each file

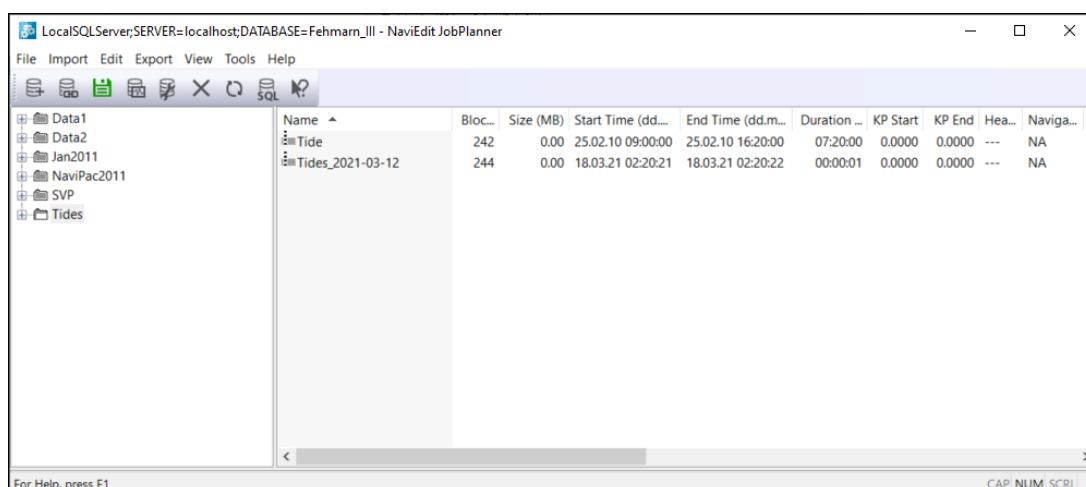


Figure 38 NaviEdit with imported tide files

1.2.8.1 Sound Velocity data (SVP Files)

This entry is used to load sound velocity files acquired with the use of the EIVA Scanfish towed undulating vehicle. During multibeam acquisition the Flight software, that is used to control the Scanfish, collects profiles and makes them available for the **SVMon** from the EIVA NaviScan software. Here the profiles are read and applied for online visualization in the NaviScan software. Each received profile is furthermore appended to .svp files to be used in the post-processing phase.

- Import **Ascii Files**, type Sound velocity profile

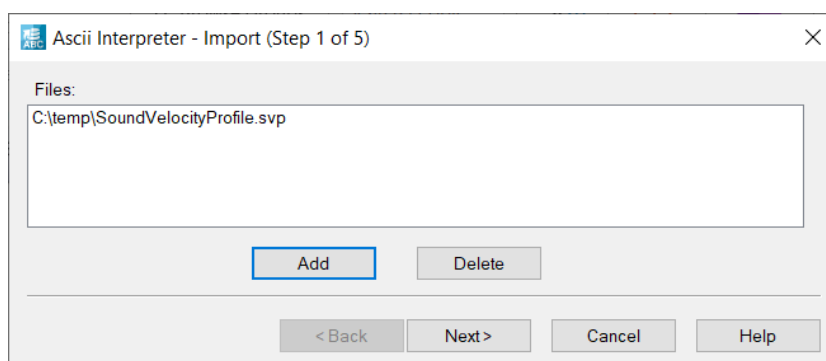


Figure 39 Ascii Interpreter - Import (Step 1 of 5)

- Press the **Add** button and browse to the file or a selection of files that you want to import. File formats is an Ascii file, eg SoundVelocityProfile.svp.

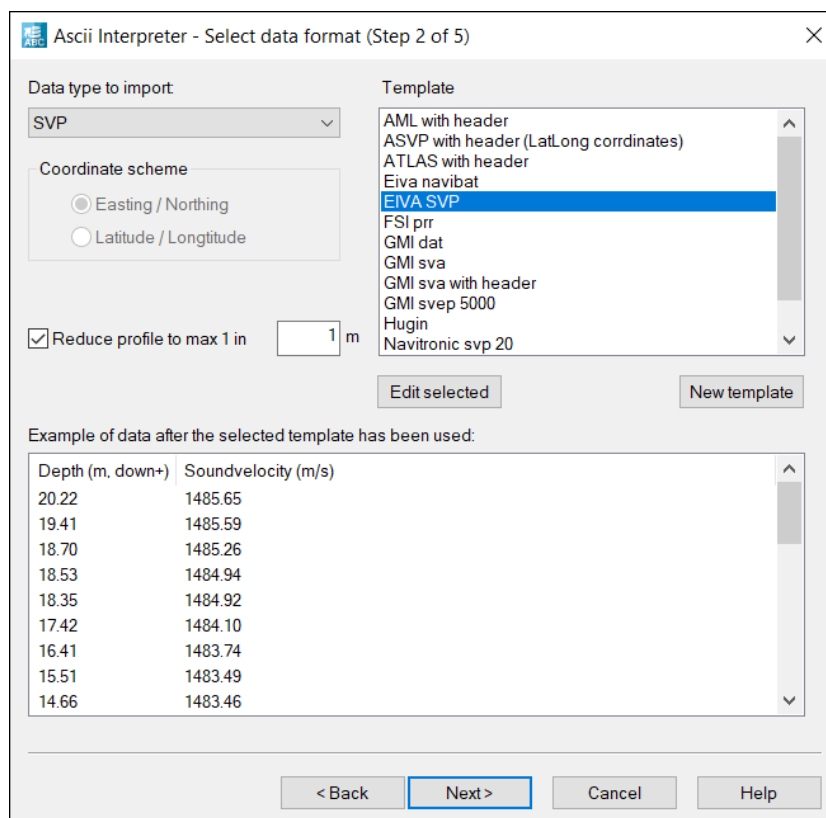


Figure 40 Ascii Interpreter – Select data format (Step 2 – 5)

- Step 2 opens the **Select data format** menu.
- Step 3 in the SVP Interpreter wizard involves definition of the geodesy. This is not relevant in the present context.

Ascii Interpreter - Set header data (Step 4 of 5)

This page is used to provide the information that may or may not be missing from the data, like the date or the position of the collected data.

This data is only used where the actual data is not available in the data.

Start Date

☒ Define date (discard ascii file date)

Date: 23/03/2021

Time: 00.00.00

Approximate starting position

Easting: 500000

Northing: 6000000

Tide Z Offset: 0

< Back Next > Cancel Help

Figure 41 Ascii Interpreter – Set header data (Step 4 - 5)

- Step 4 opens the **Set header data** window.

Folder selection

Data
Data1
NPD
SVP
Tides

OK
Cancel
Create folder

Figure 42 Folder selection

Report - SoundVelocityProfile

Name of Block (252): SVP-SoundVelocityProfile
Interpreted: 19-03-2021 08:48:35
NaviEdit version: 8.6.0
Interpretation time: 00:00:00

Raw File : G:\NE tests\Test 16 Patch Test\SoundVelocityProfile.svp
File was logged : 1.3.2018 Julian day - 60
From : 3/1/2018-9:09:36 AM To : 3/1/2018-9:09:36 AM
Length : 0 days 00:00:00

Import template : EIVA SVP

Ascii Interpreter

Figure 43 Sound velocity report

- Step 5 opens the **Notes** option. Defines whether the report should be shown after creation. Press **Finish**.

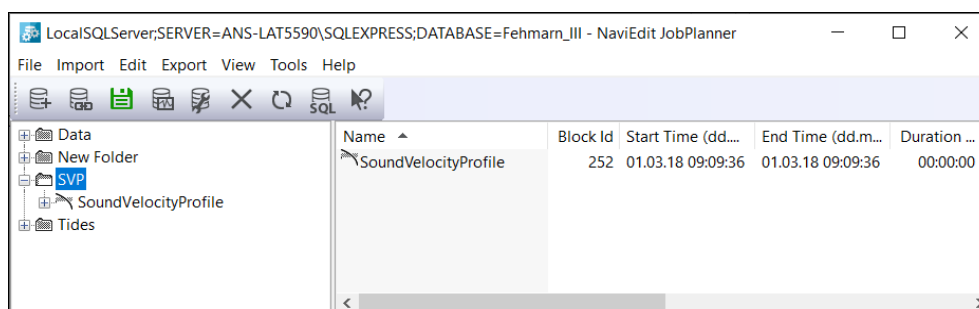


Figure 44 NaviEdit with imported SVP file

1.2.9 Runline Files

- Import **Runline Files** to load the runline. Note the various runline types supported by the importer

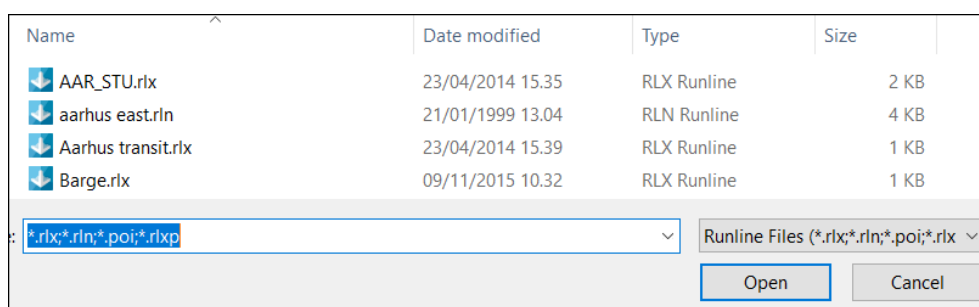


Figure 45 Runline Importer

- If a runline was already present in the folder selected, the user will be prompted whether it should be replaced
- Answer **Yes** to replace and **No** to restart the import onto another folder

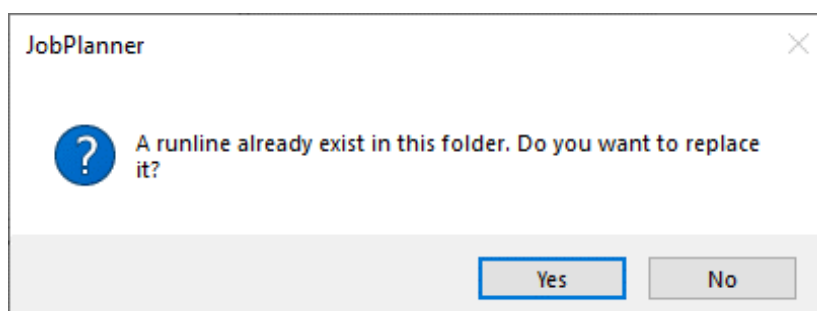


Figure 46 JobPlanner adding a second runline

- Once the runline is loaded, it will appear in the explorer panel. Furthermore, the folder icon has now got a darker color to indicate that a runline file is residing here

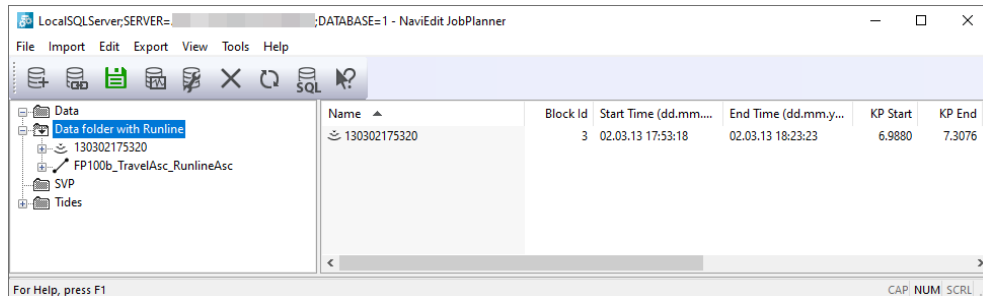


Figure 47 NaviEdit block with imported runline

1.3 Edit Menu

1.3.1 Data Editor

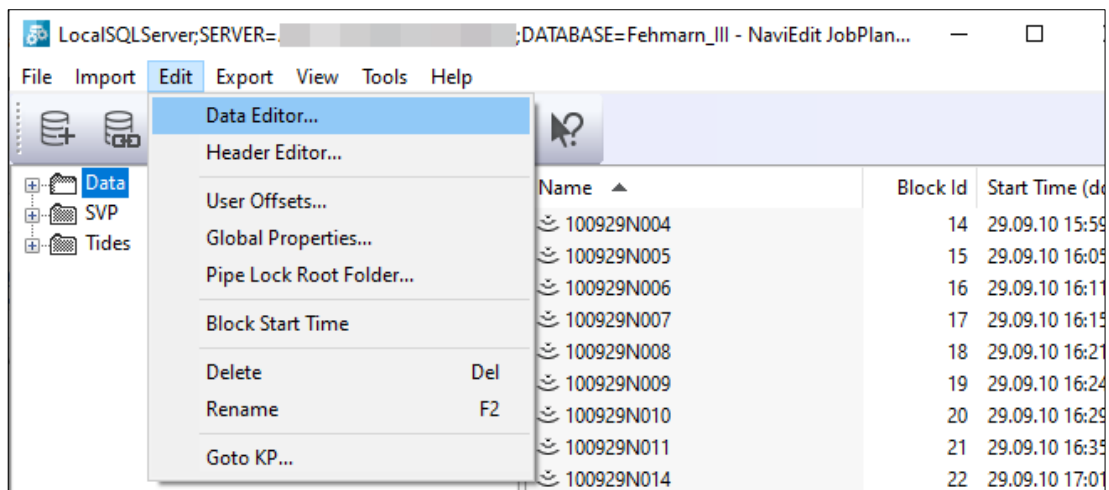


Figure 48 Data Editor

This menu entry will open the Data Editor with the files selected, either as a series of files or as an entire folder. The action can also be activated by right-clicking on a file, on a series of files or on a folder as shown below

The window below will pop up and the user selects the sensor data to load.

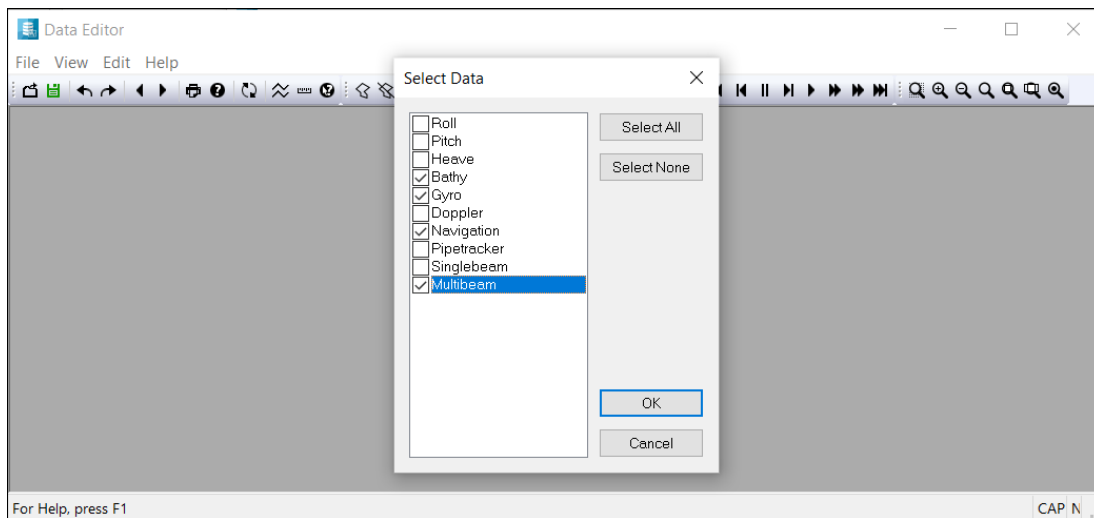


Figure 49 Data Editor with Select Data option



Figure 50 Data Editor tool bar

The Data Editor facilitates a series of tools for editing the various sensor data. These tools are valid for multi-beam, single-beam data and other data read into the NaviEdit environment, such as tidal data and sound-velocity data.

Once the data has been read and loaded into the **Data Editor**, a graphical representation of the sensor data is shown, per sensor one window. If the windows are overlapping, they can be arranged by using the menu-item **Window->Tile**.

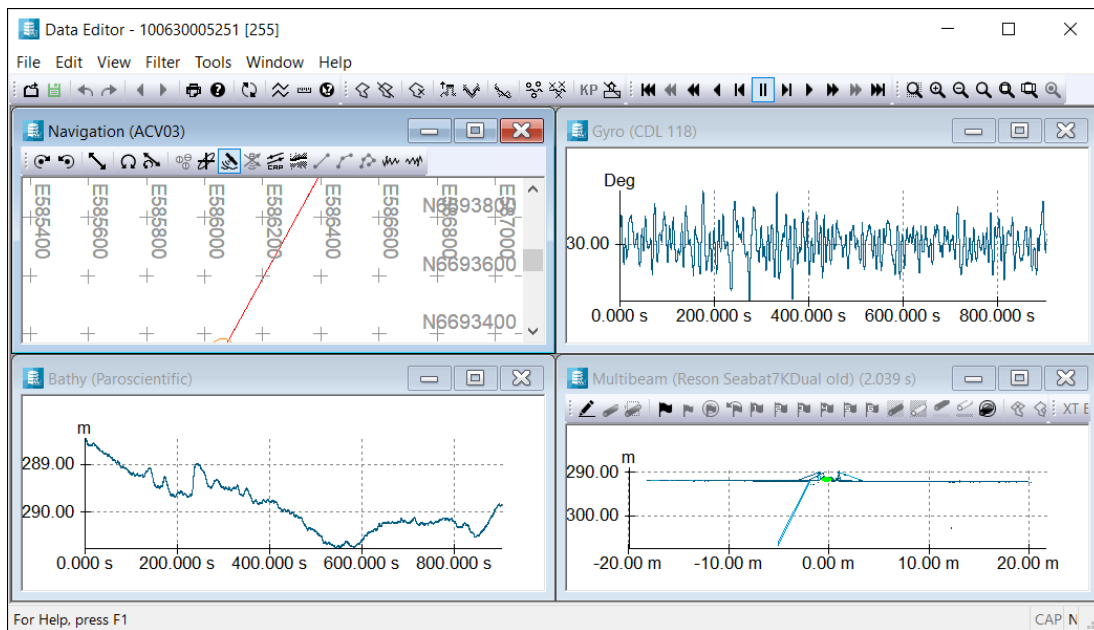


Figure 51 Data Editor with instrument views

Each sensor windows has a context menu (right-click on the window).

A **time-series** instrument (heave, pitch, roll etc) has the tabs **Axis**, **Colors**, **Data**, **Time format**, **Translate**, **Scale**, **Smooth**, **Spike detection** and **Median filter**.

A **MBE-based** block whereas the settings dialogue associated with a navigation instrument has different tabs **Scan**, **XT Mode**, **Pipe edit**.

Note, that the **Settings** dialogue is for viewing and setting the parameters only. To apply them, the user needs to use the option from here:

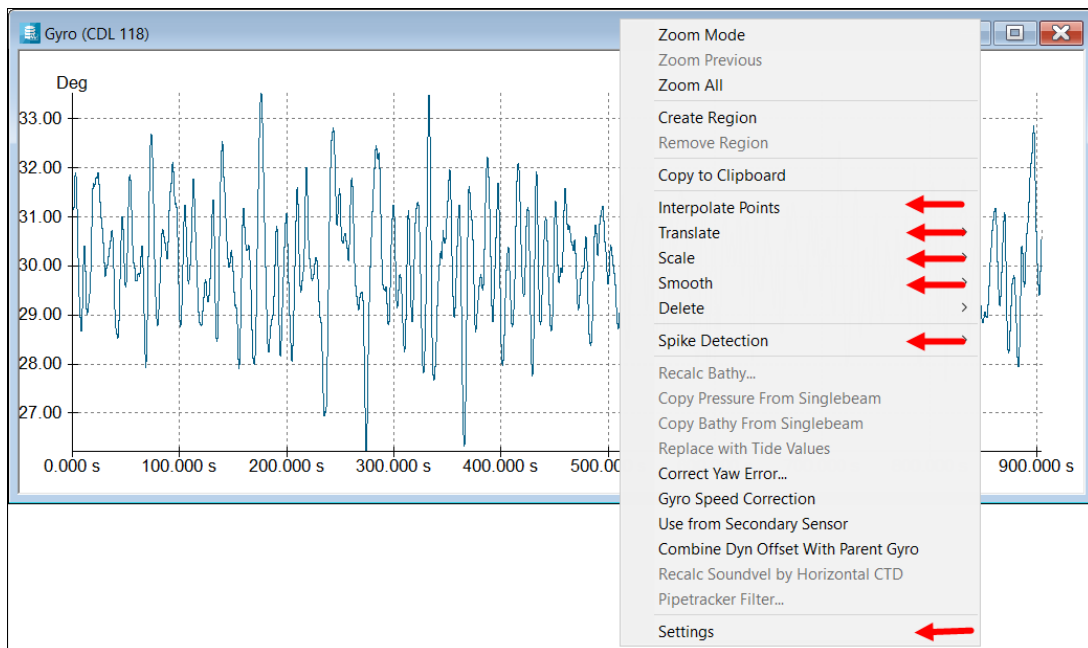


Figure 52 Settings dialogue and executing a tool

1.3.1.1 Axis

This tab contains the settings for the axis.

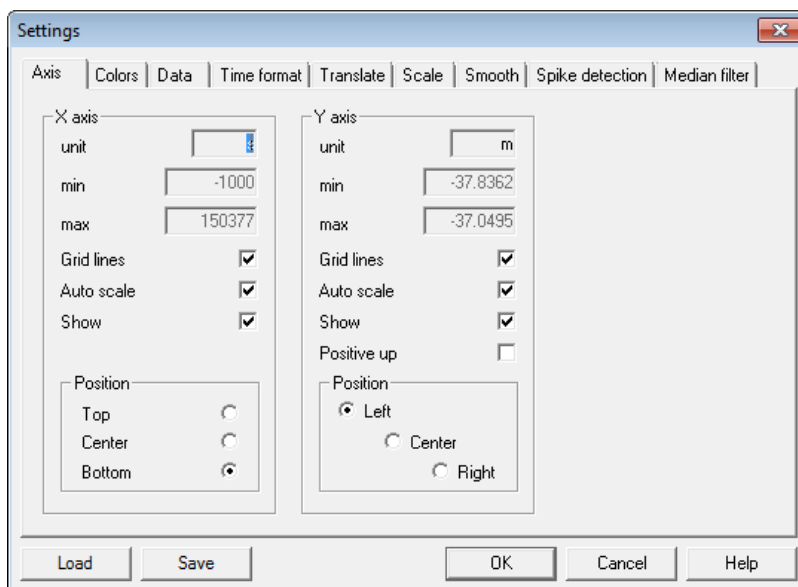


Figure 53 Data Editor time-series instrument, Settings, Axis tab

The colors of the coordinate system axis, graphs, background, grid etc. can be selected/altered utilizing the items on the **Colors** Tab. Furthermore, settings can be stored and loaded.

| Item | Description |
|-----------------------|---|
| Unit | Is usually set automatically |
| Min | Fixed minimum value |
| Max | Fixed maximum value |
| Grid lines checkbox | If checked, gridlines for the axis are drawn |
| Auto scale checkbox | If checked, min/max values are adjusted to fit the data currently shown |
| Show checkbox | If checked, the axis is drawn |
| Positive up | Determines the direction of positive values on the y-axis |
| Position radio button | Determines the placement of the axis |

1.3.1.2 Colors

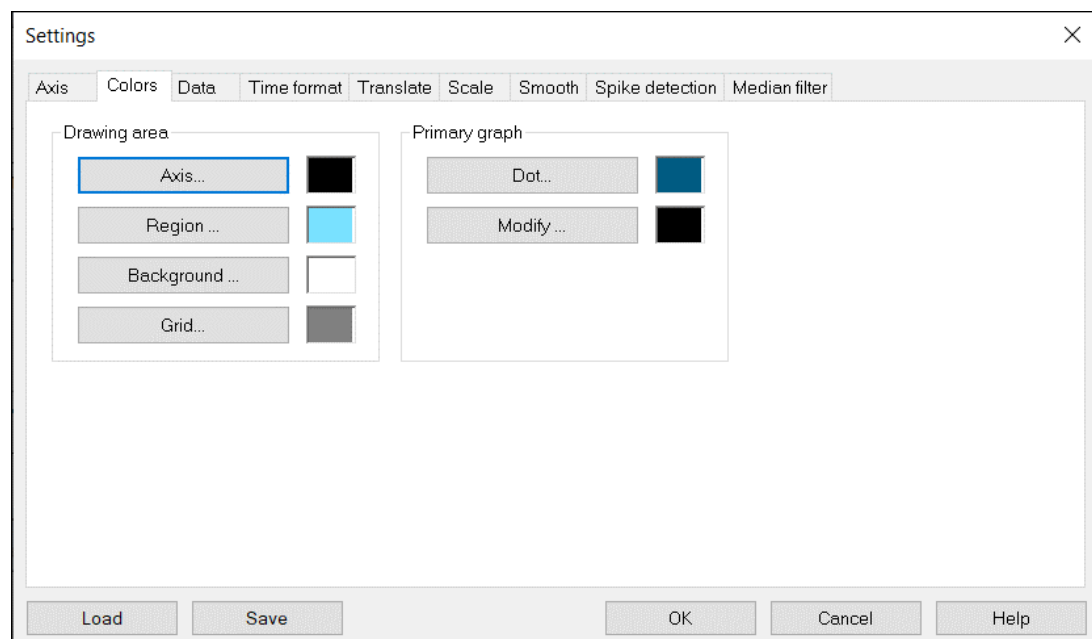


Figure 54 Data Editor time-series instrument, Settings, Colors tab

1.3.1.3 Data (time-series instrument)

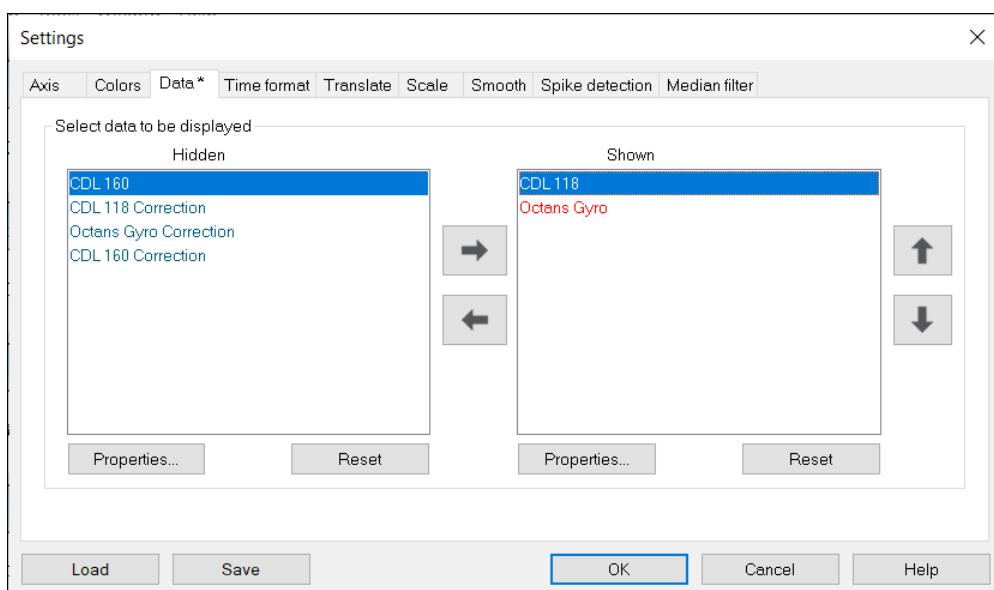


Figure 55 Settings dialogue for a time-series instrument gyro, Data tab

Selection between multiple sensors is available from the Data Tab visualized here. Note that the upper sensor will be used as reference for the final data in case of redundancy. Furthermore it is possible to change the properties of each sensor (by highlighting the sensor name and pressing the **Properties..** button). As a minimum the drawing style properties will then be shown. In some situations, additional properties may be available.

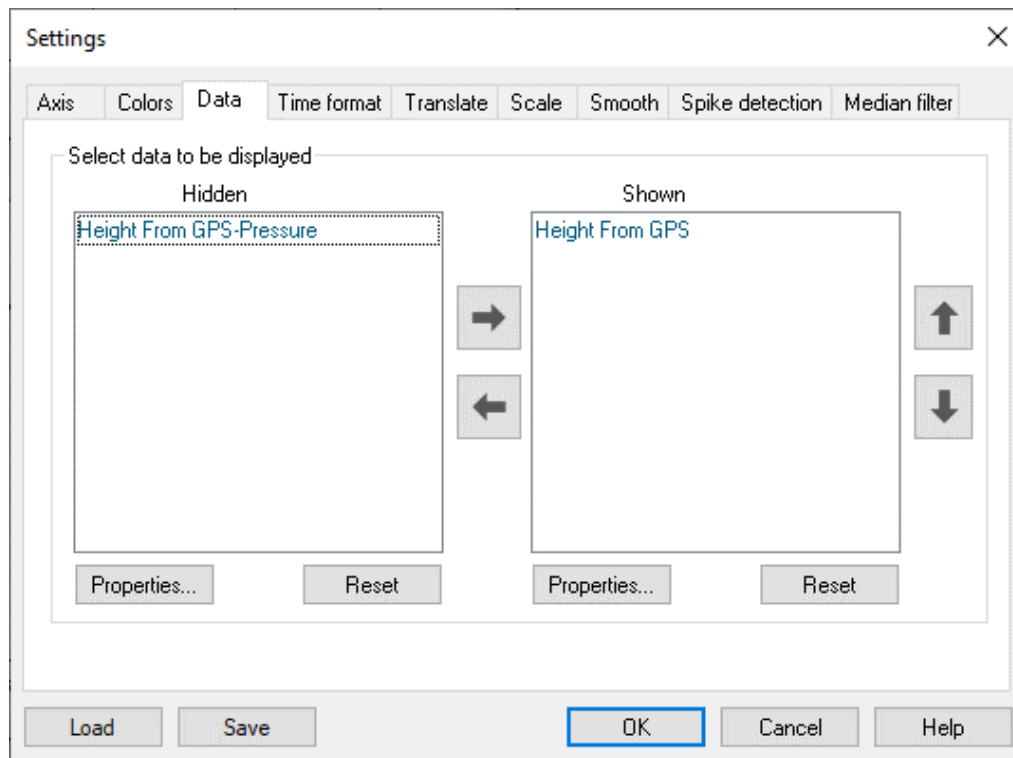


Figure 56 Data Editor MBE base instrument, Settings, Data tab

For a **MBE-based** block whereas the settings dialogue associated with a navigation instrument:

1.3.1.4 Time format

The time format on the X-axis can be changed from relative seconds (default) to hh:mm:ss (absolute) by selecting from a drop-down menu on the **Time format** tab

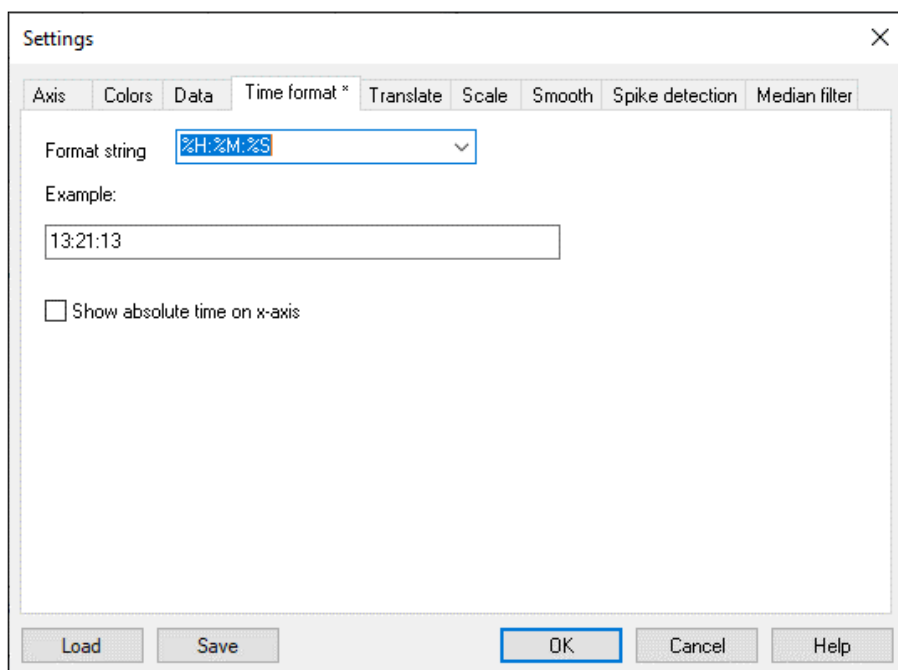
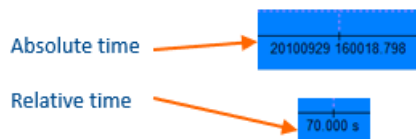


Figure 57 Data Editor time-series instrument, Settings, Time format tab



1.3.1.5 Translate

From the **Translate** Tab, it is possible to apply a relative offset to the data, or to apply an absolute constant value to the data. Note that this action merely defines the (default) setting for the translation. The actual execution associated with the setting must be performed from the menu-item that will appear by right-clicking on the window in question

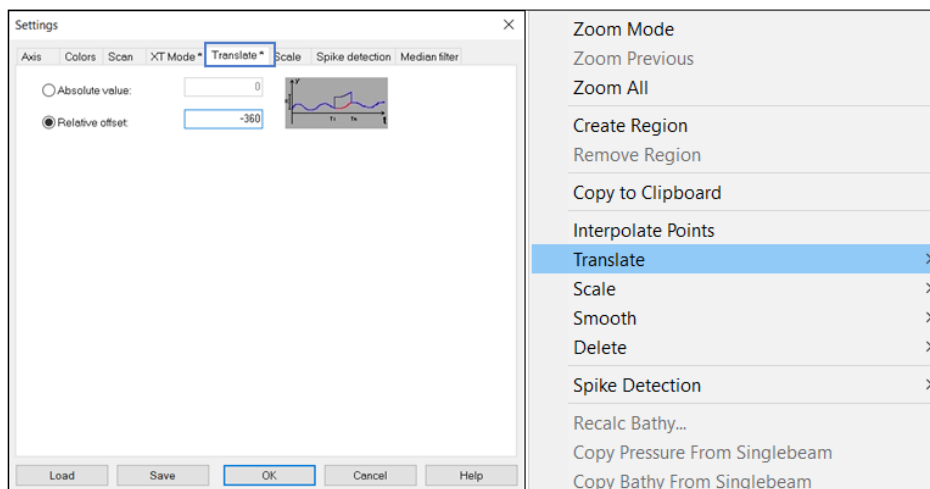


Figure 58 Data Editor Translate tool

The windows here visualize the consequence of translating

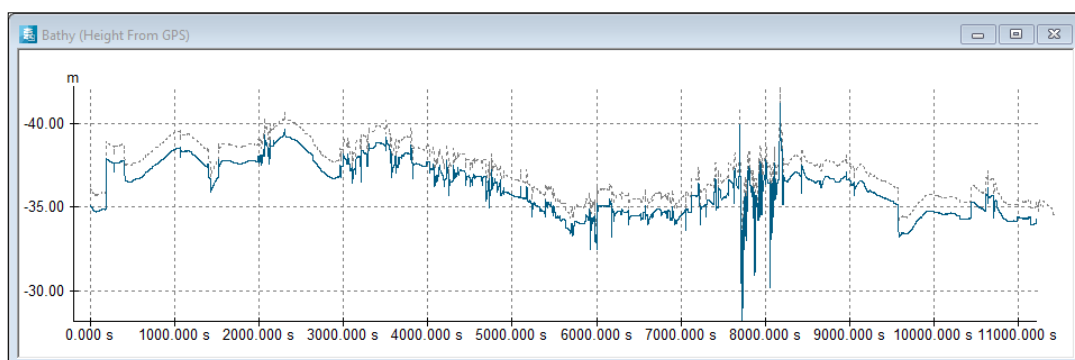
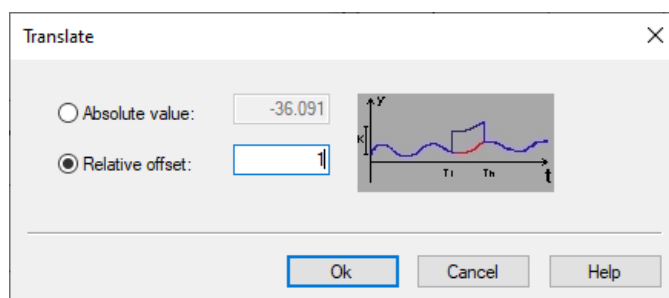


Figure 59 Translate before and after

1.3.1.6 Scale

The data can be **scaled** either by a simple multiplication or by scaling around an origin. Furthermore, a series of different scaling methods are facilitated. Again, note that this action merely defines the (default) setting for the scaling. The actual execution associated with the

scaling must be performed from the menu-item that will appear by right-clicking on the window in question

The windows here visualize the consequence of scaling:

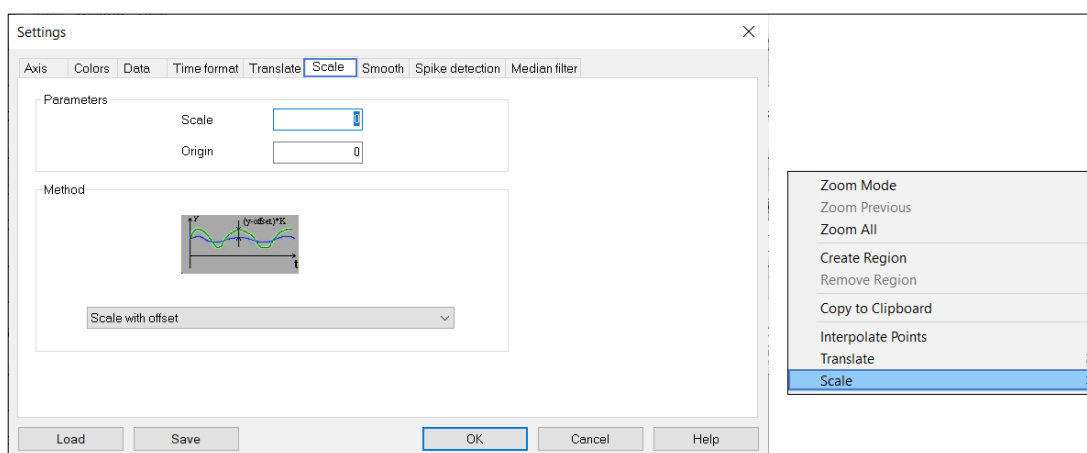


Figure 60 Scaling values that are applied

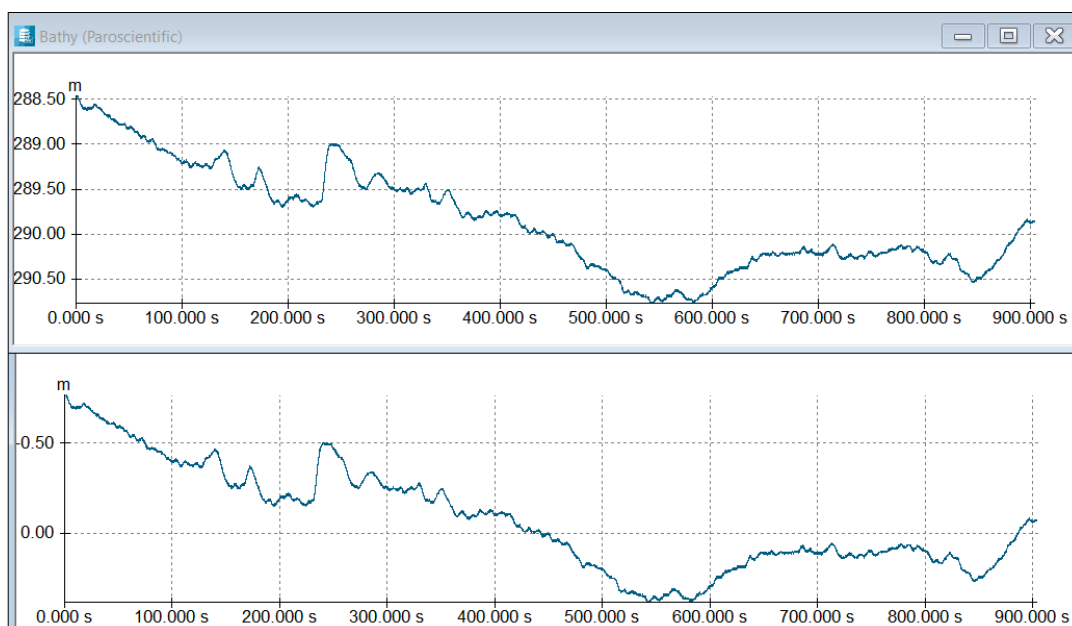


Figure 61 Bathy sensor in Data Editor. Upper screenshot shows data before scaling applied, below after scaling applied.

1.3.1.7 Smooth

The data can be smoothed by **Smooth**. A wavelength can be inserted – this parameter is used to filter out high frequency noise from the data. It is recommended to use the lowest

wavelength possible to preserve the quality of the data. Hence, setting the wavelength too high might remove important features in the data set

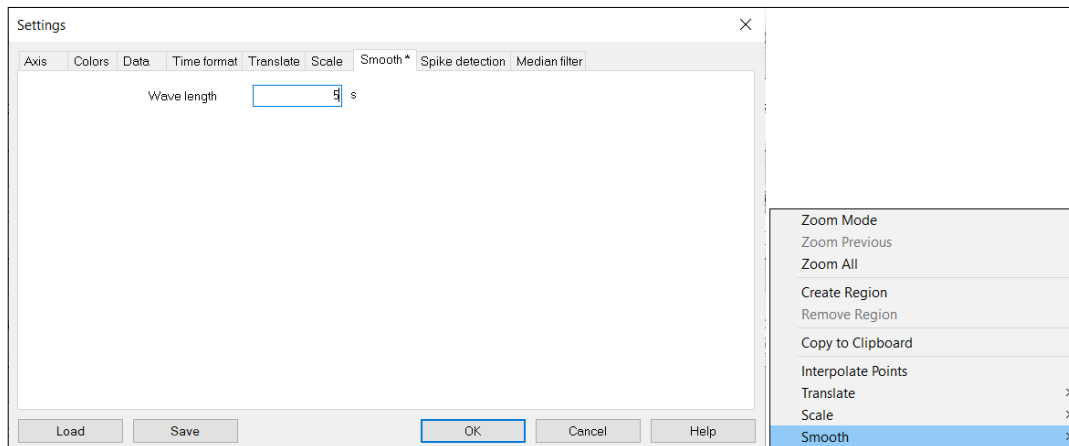


Figure 62 Data Editor time-series instrument, Settings, Smooth tab

The windows here visualize the consequence of smoothing:

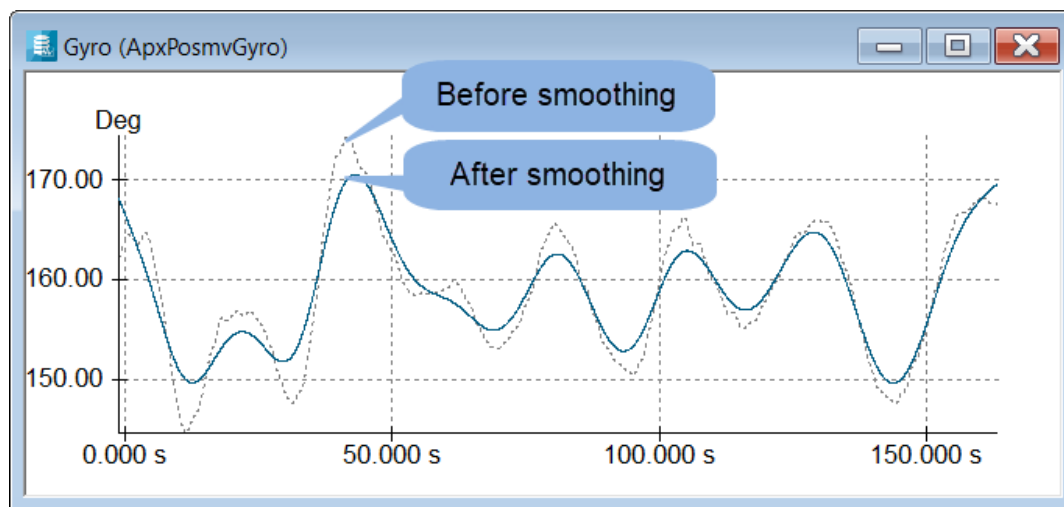


Figure 63 Smoothing results

1.3.1.8 Spike Detection

The **Spike Detection** makes it possible to define how spike detection on the data can be performed. A wavelength and a window size can be inserted as it appears. Data outside this window can be deleted automatically. The wavelength determines the **stiffness** of the filter – low values result in a less restrictive filter. The window size is used to set the threshold for points to be detected as spikes. Finally the **Show window** option will facilitate a graphical display of the filter operation. This enables the user to visually determine whether the filter settings are correct.

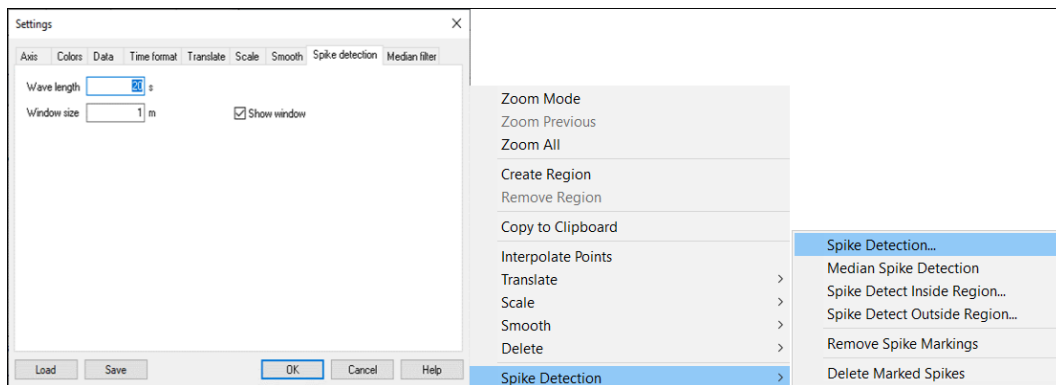


Figure 64 Data Editor time-series instrument, Settings, Spike detection tab

The windows here visualise the consequence of the spike detection settings

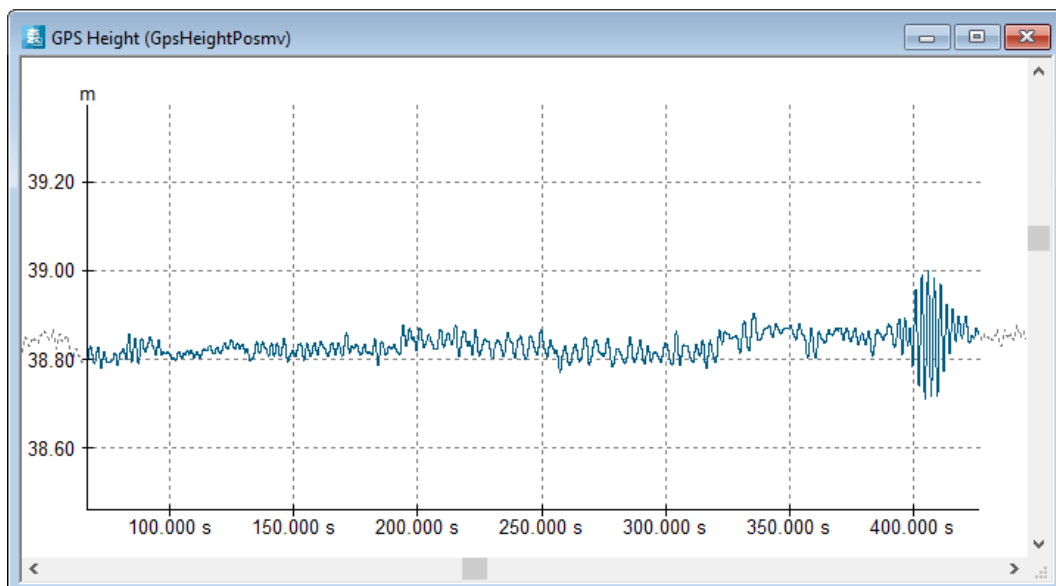
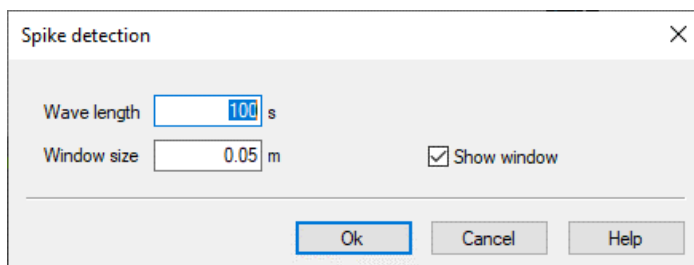


Figure 65 Before spike detection



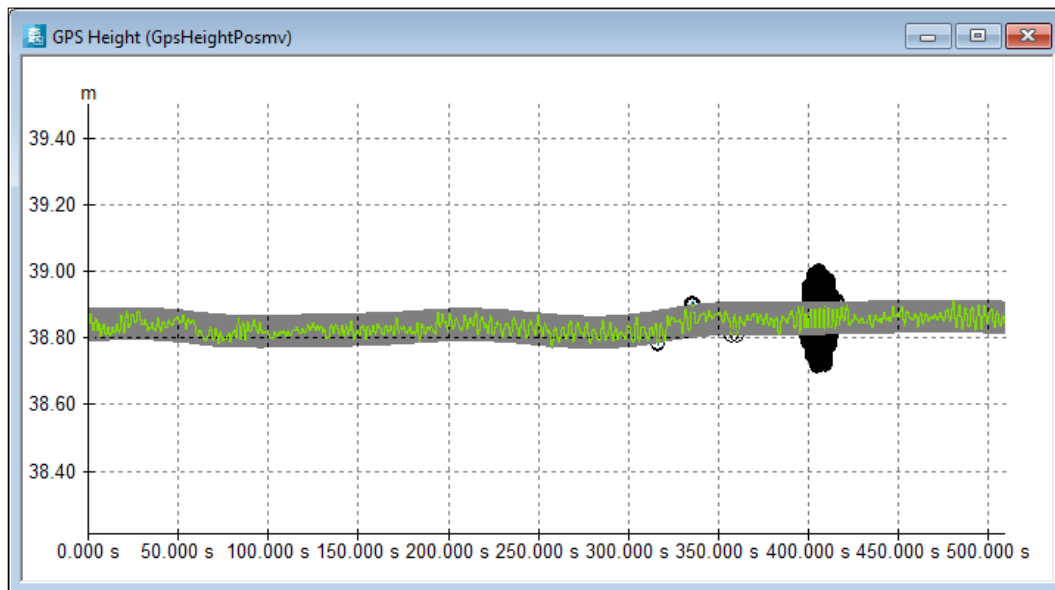


Figure 66 After Spike detection with detected spikes shown in black.

Performing the spike removal based on the detection on the previous slide with delete marks spikes.

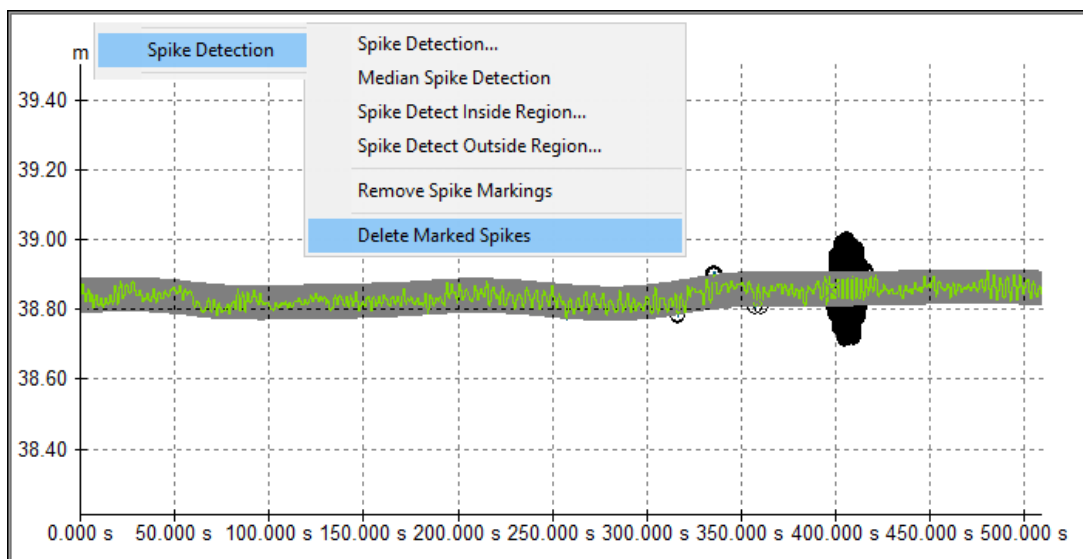


Figure 67 Spike Detection - Delete Marked Spikes

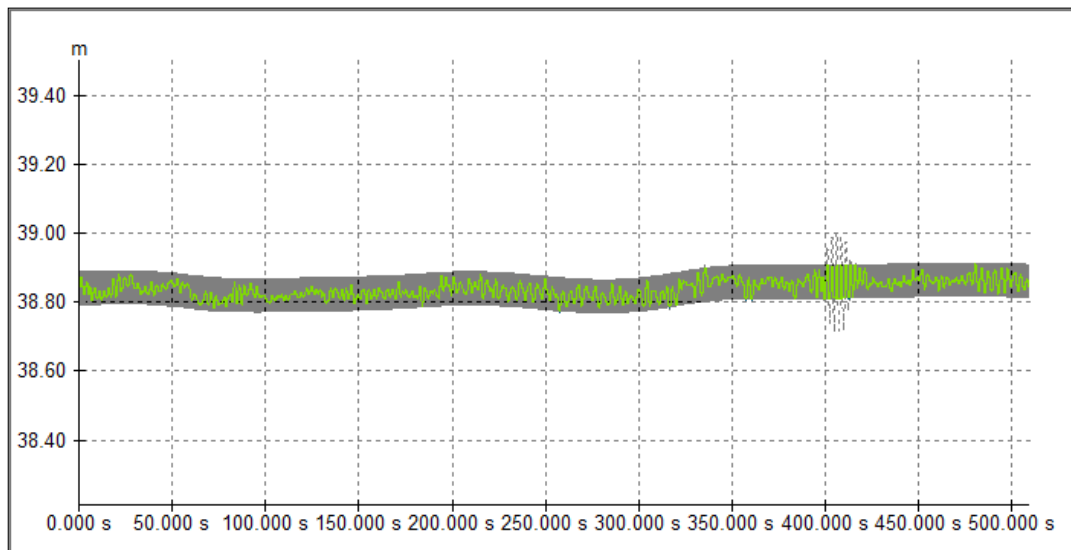


Figure 68 Deleted spikes

1.3.1.9 Median Filter

The **Median Filter** is a variation of spike detection, only here the filter is based on a median value, calculated based on a number of samples. The **Median** Tab facilitates the definition of the filter length (number of samples) as well as the reject distance (which in turn is identical to the window in spike detection). The settings defined here are the default settings that will be used when the window size is used to set the threshold for points to be detected as spikes

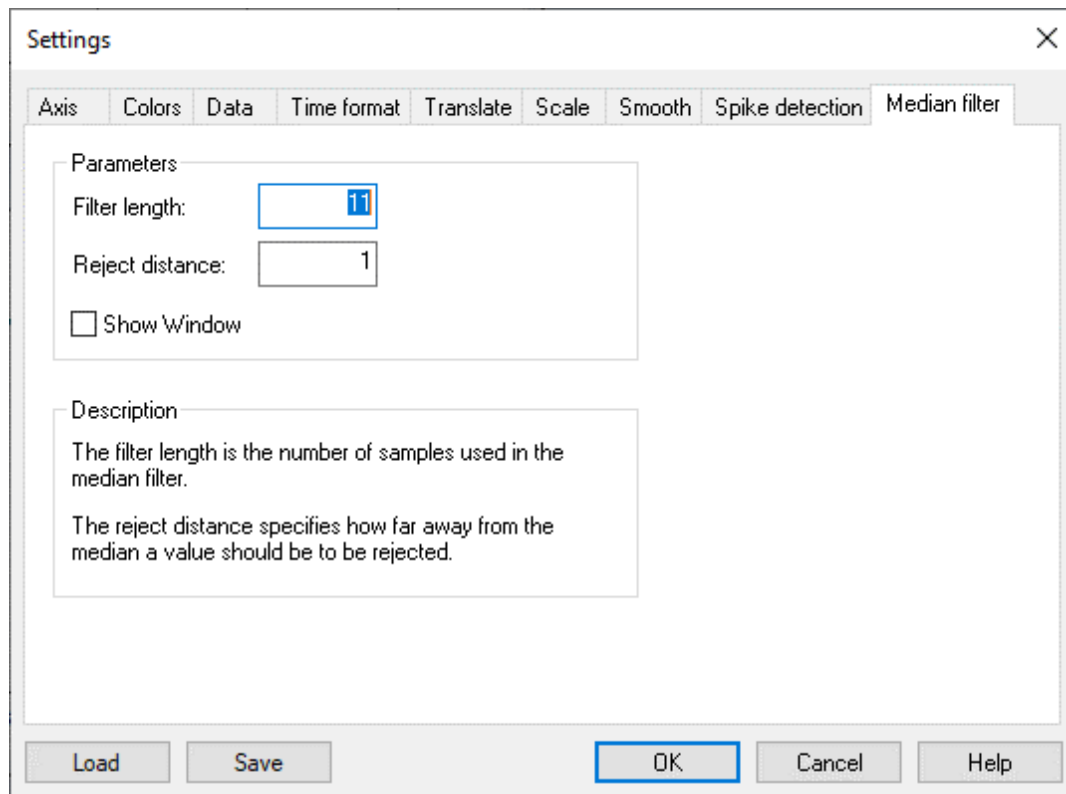


Figure 69 Data Editor time-series instrument, Settings, Median filter

The windows here visualise the consequence of the median spike detection settings

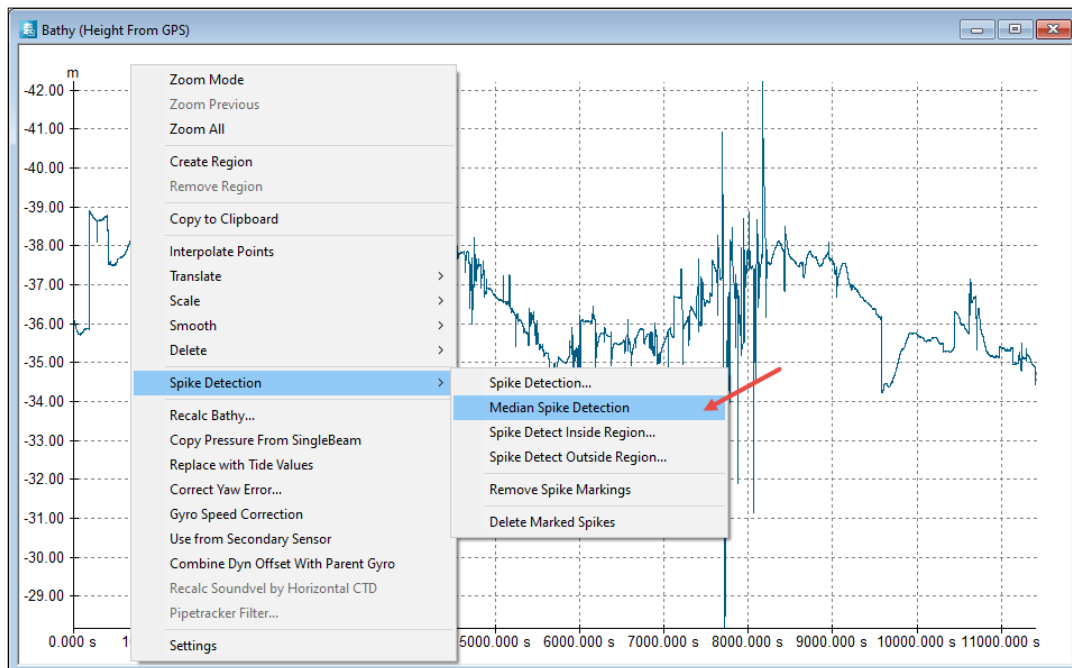
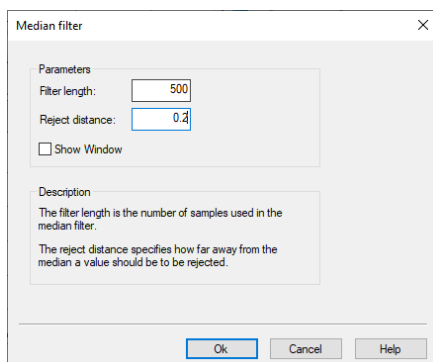


Figure 70 Before Median Spike detection



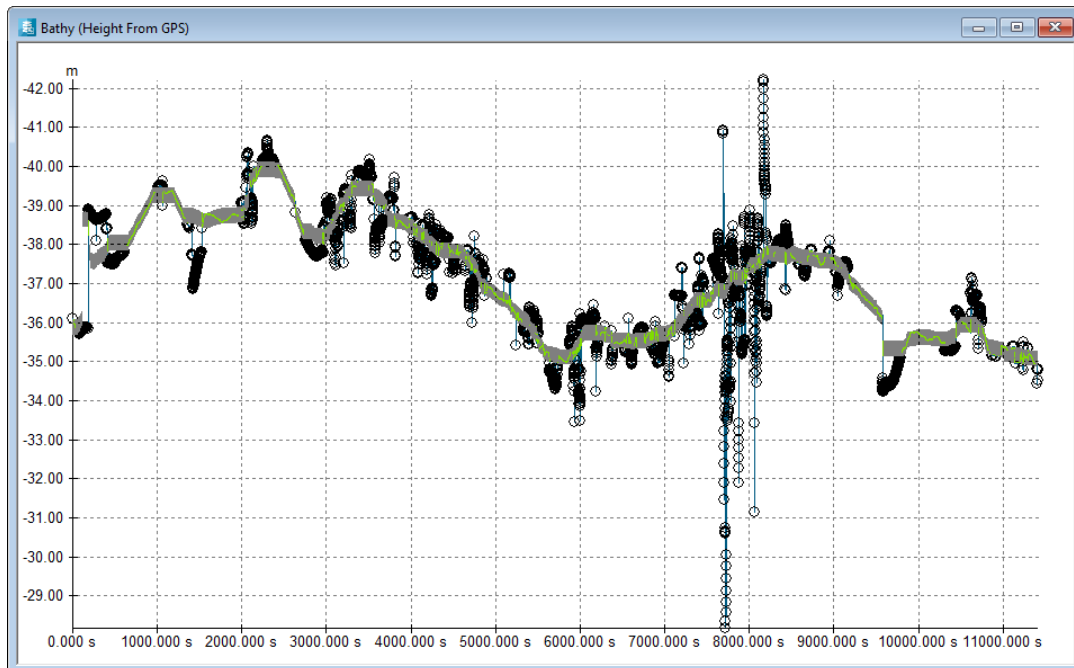


Figure 71 After Median Spike detection

Performing the median spike removal based on the detection on the previous slide

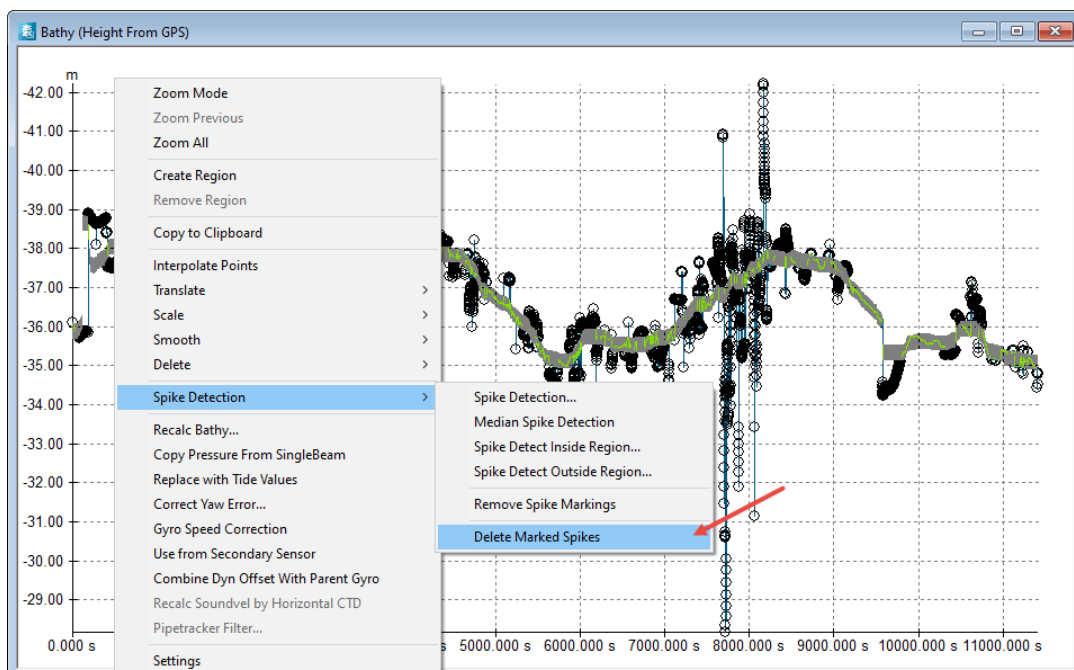


Figure 72 Run the Median Spike detection

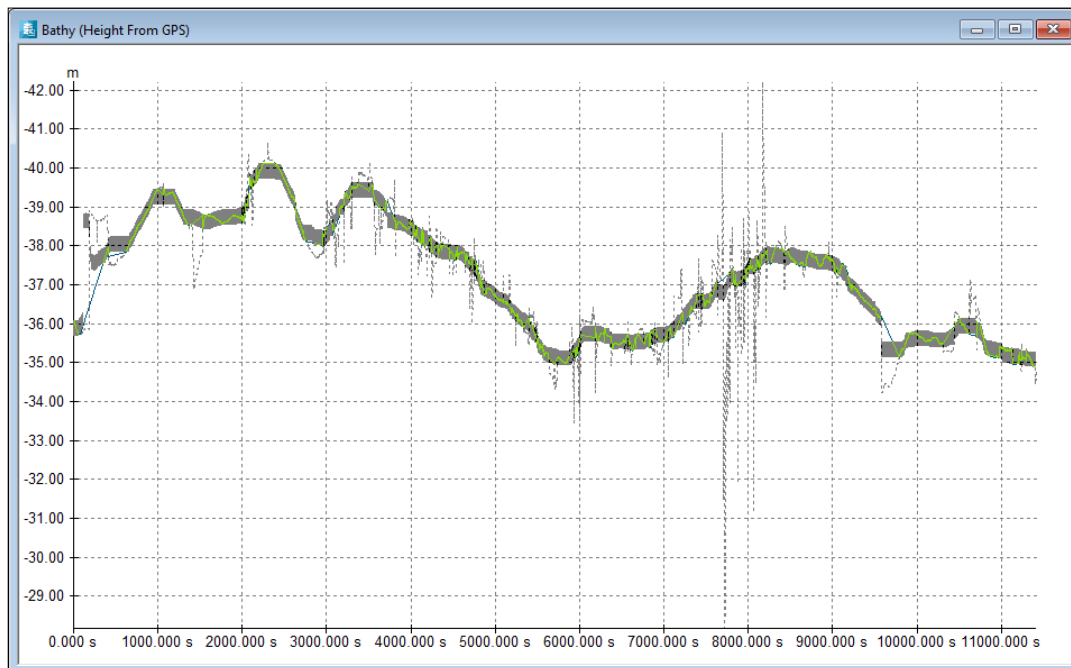
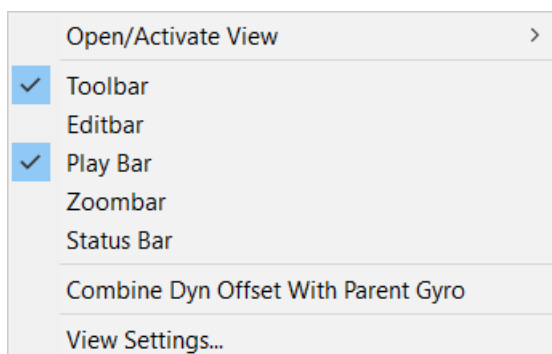
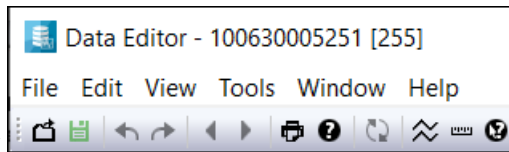


Figure 73 Result of the Median Spike detection

All editing tools can be applied to all data, directly from the sensor window or from outside the window.

There are 5 menu bars in **DataEditor**.





Toolbar

The **Data Editor Toolbar** hosts tools associated with the blocks (saving, opening as well as toggling between blocks).

Open (Ctrl+O) - Open an existing block

Save (Ctrl+S) - Save the modified blocks

Undo (Alt+Backspace) - Undo the last action

Redo (Alt+Right) - Redo the previously undone action

Previous block - Switch to the previous block

Next block - Switch to the next block

Print (Ctrl+P) - Print the active document

About - Display program information, version number and copyright

Update (F5) - Update multibeam coverage view

Toggle legend – Insert a legend in view

Create ruler – Activate the measuring tool

Help (Shift+F1) - Display help for clicked on buttons, menus and windows



Editbar

Options that are available either from the file menu or from icons (listed from left to right):

Create region

Remove region

Delete - Delete the selected point/section

Translate - Translate the selected point/region

Scale - Scale points

Smooth - Smooths all the points

Detect spikes - Detects and marks all spikes

Toggle KP Editing - Toggle KP Based Editing

Disable Bathy - Disable the effect of the pressure/depth sensor



Play Bar

Used to move (forwards as well as backwards) within the data, in time. In addition, the toolbar also hosts tools for moving between spikes

Start of file - Jump to start of file

Previous spike - Jump to previous spike

Fast rewind

Play backward - Automatic single step backward

Single step backwards (Left) - Single step backwards

Pause

Single step backwards (Right) - Single step backwards

Play - Automatic single step

Fast forward

Next spike

End of file - Jump to end of file



Various zoom mode functionalities can be selected by right clicking a window or directly from the **Zoom bar**.

Toggle zoom (Z)

Zoom in (Num +)

Zoom out (Num -)

Zoom previous

Zoom all (A) - Zoom to show all data

Zoom extent (E) - Zoom to other active block

Enable true aspect ratio - Makes round objects appear round

StatusBar

Shows additional information.

Working examples

Selecting the **Create region** tool facilitates the creation of a region. This is done by a single click for every corner finishing the region with a double-click. The various editing facilities: **Translate**, **Scale**, **Smooth**, **Delete** can now be used inside or outside the region.

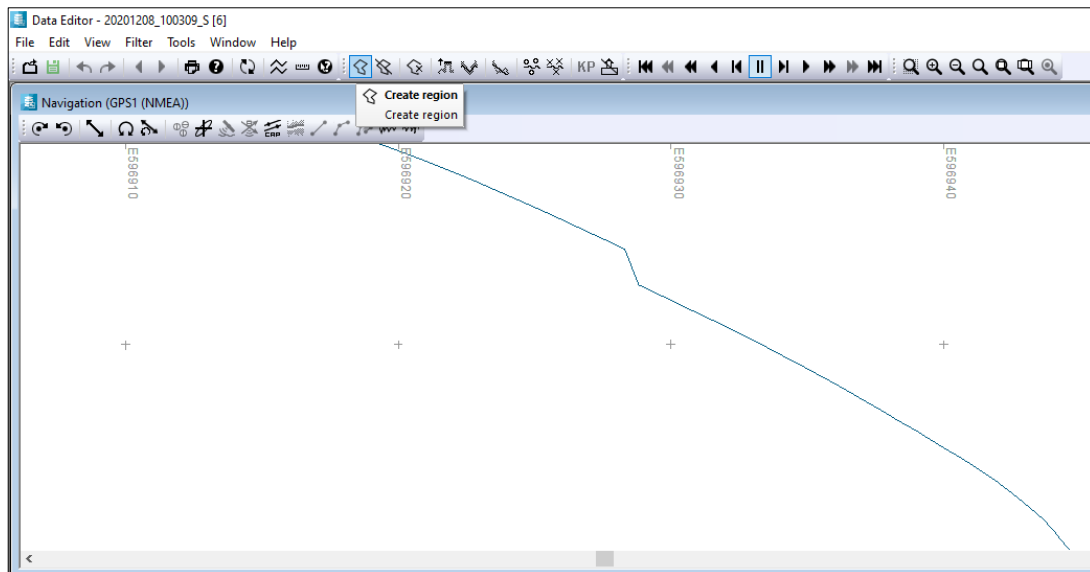


Figure 74 Create region option

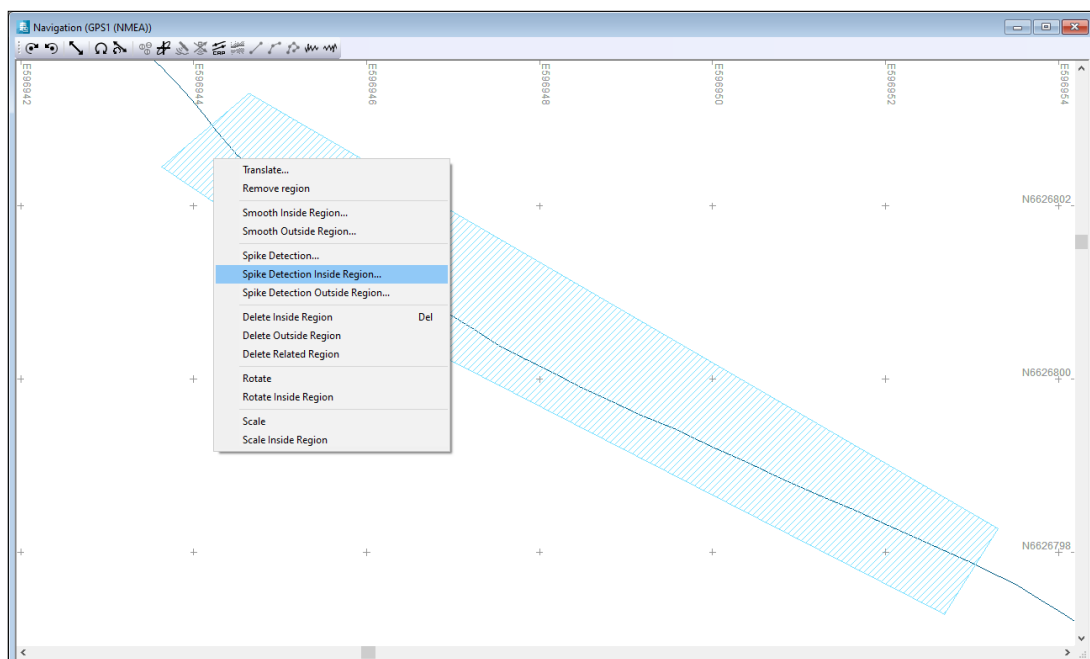


Figure 75 Action inside a region, eg Spike Detection

Right-clicking outside the region opens a menu that in some cases differ from the menu associated with a region.

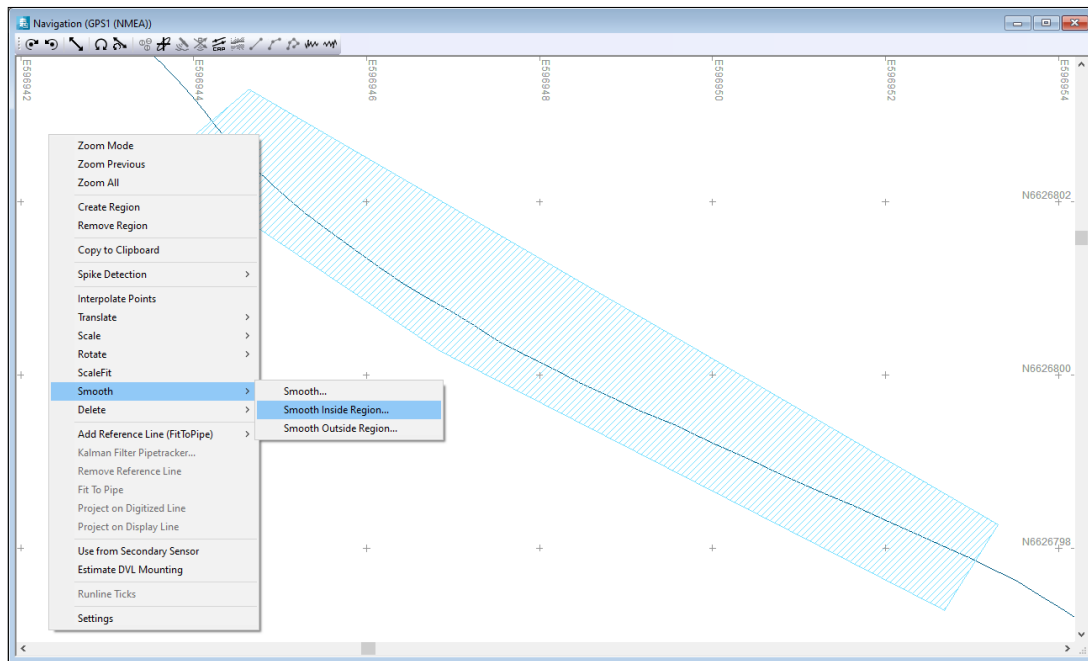


Figure 76 Menu-related options here Smooth inside a region

The **Delete** function can be activated from the **Delete** button on the keyboard, from the windows-menu as shown here or from the file-menu.

Delete can also be associated with a region. In the latter case only the menu-related **Delete** can be used.

Note that only the data associated with the window in question will be deleted.

This means that when exporting, **NaviEdit** will generate the missing data as the result of an interpolation, in time, between the start and stop gap values.

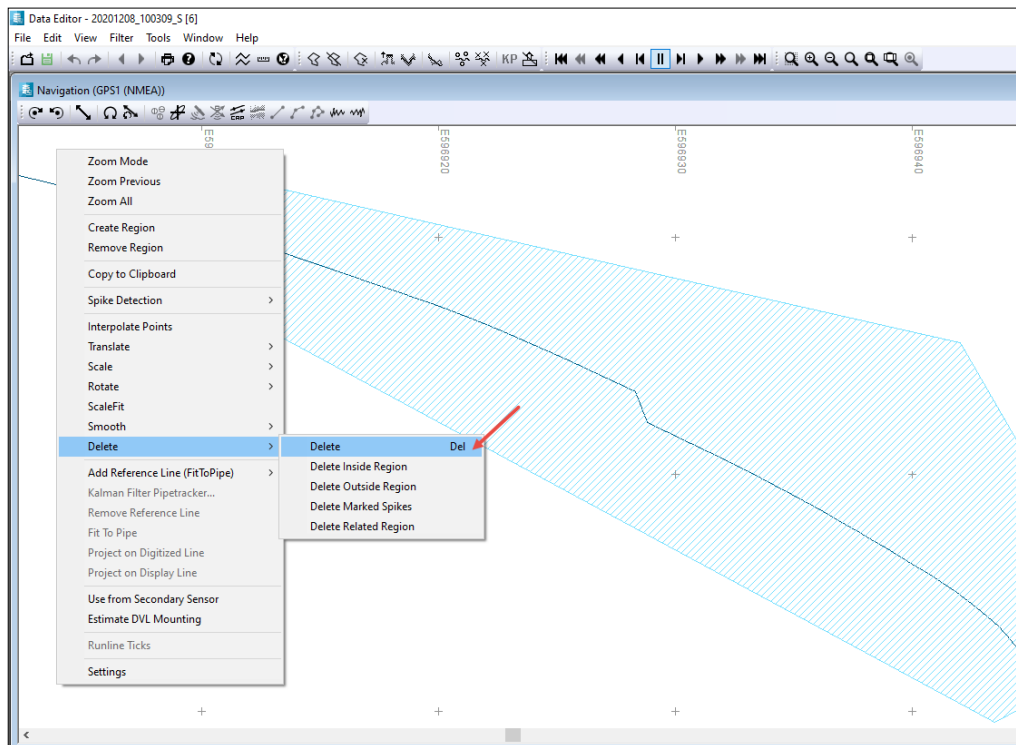


Figure 77 Delete

The **Delete related region** on the other hand will delete the data selected in the window in question as well as any associated data. The association is relative to time. Consequently, when exporting the data, **NaviEdit** will not try to generate the data missing

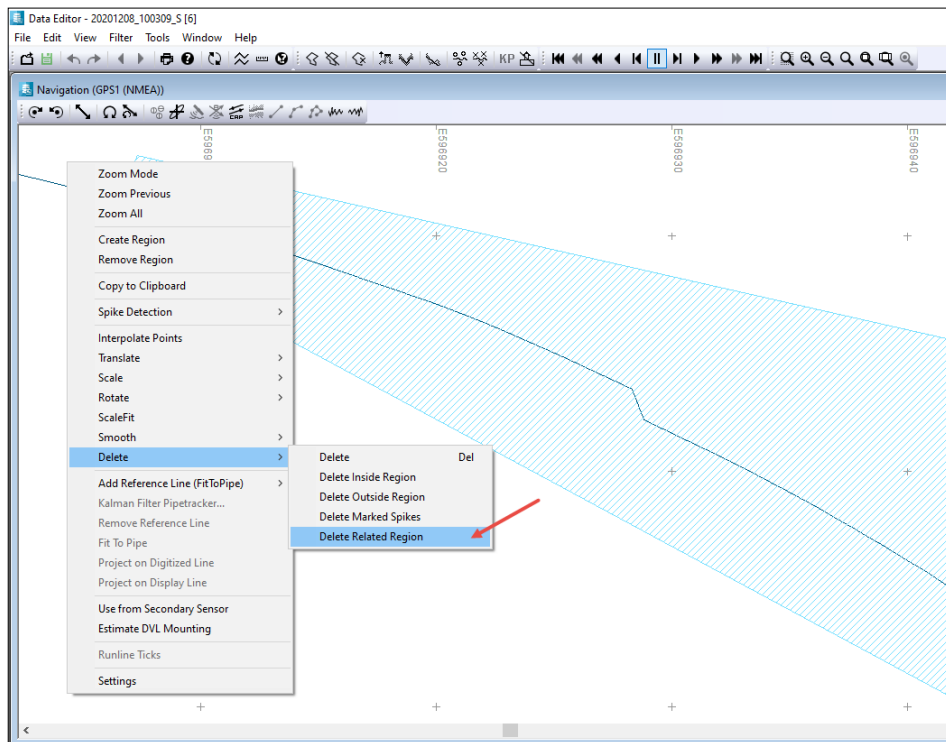
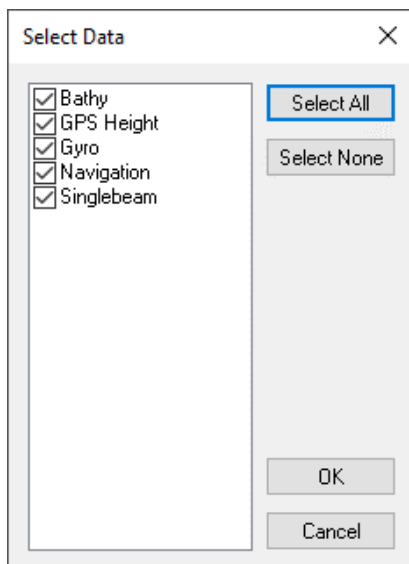


Figure 78 Delete related Region



A special case for **Navigation Editing** is constituted by the **Kalman filtering** option, that can be opened from the **Navigation**-window of the **Data Editor**.

The **Kalman filtering** is a method designed to improve the overall positioning by employing all available, relevant sensors into the determination of the position (horizontal as well as vertical).

The filtering is especially useful in connection with acoustic positioning systems combined with a Doppler log.

In this case the filtering is capable of improving the positioning quality by taking advantage of both the relatively high and evenly distributed noise with no drift that characterizes the acoustic positioning and the very low short-term noise and relatively large drift in the position over time of a typical Doppler system.

Open **Filter – Kalman..** option from the **Navigation** window of the **Data Editor**.

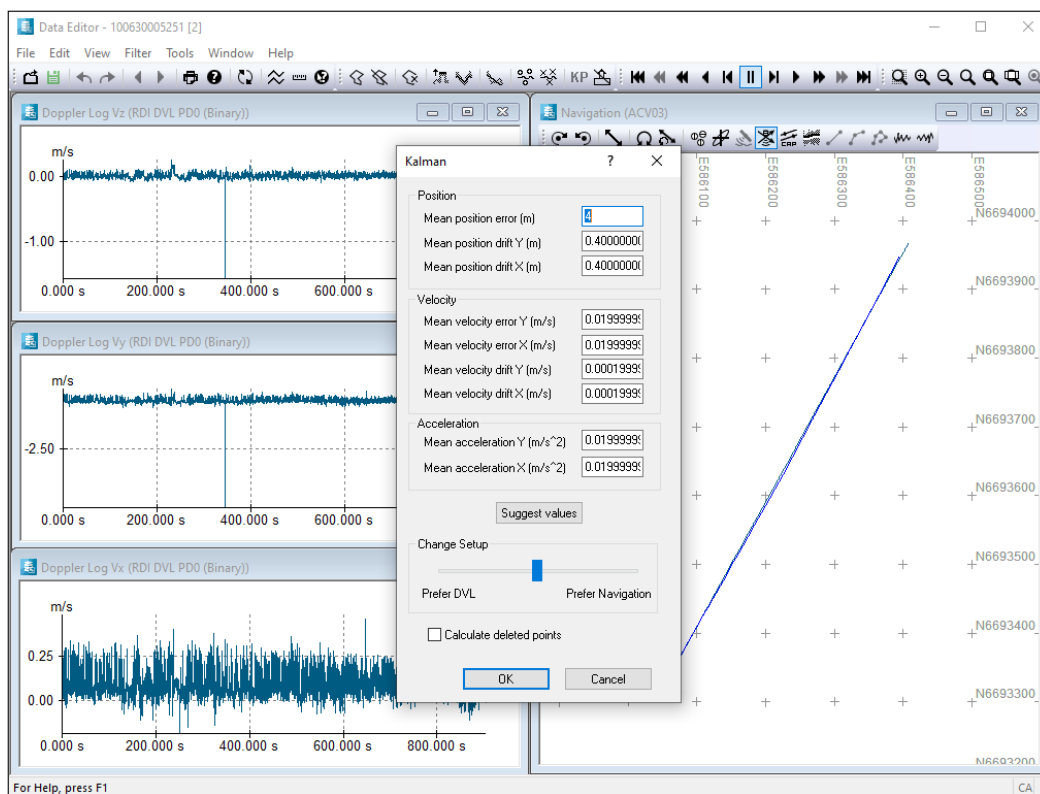


Figure 79 Navigation window context menu

The parameters for the filtering are associated the overall position accuracy, the accuracy of the doppler system as well as the capability of the captain/ROV pilot to keep a steady course/speed.

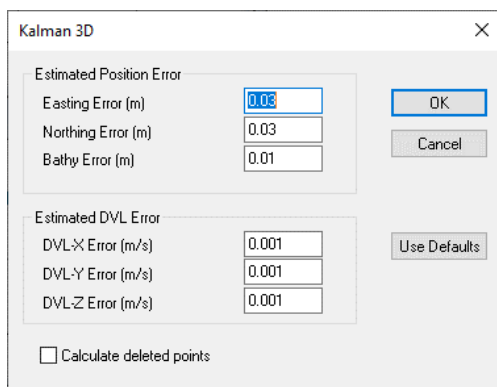
Further it is possible to perform Kalman filtering on a multiple set of files.

In this case a multiple selection of files must be read into the **Data Editor**. Once the Kalman function is started, a dialogue for multiple selection will appear.

For obvious reasons, it is a requirement that the data for Multitrack selection has been

acquired in sequence with no time-gaps in-between.

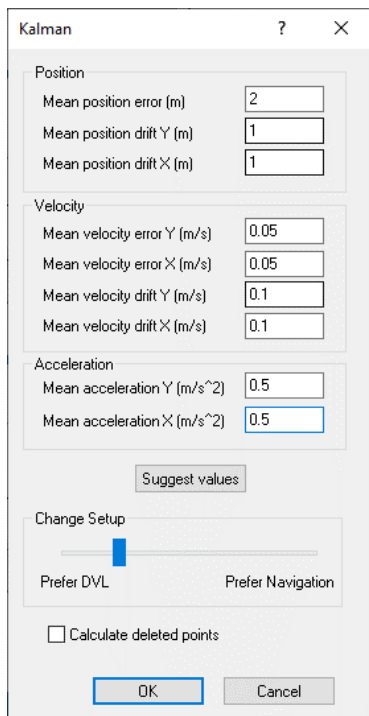
An alternative case for the Kalman filtering is the Kalman 3D filter in which the z-component of the doppler log as well information from other sensors, is used to improve on the bathy as well as on the navigation information.



The 'Kalman 3D' dialog box contains the following fields and controls:

- Estimated Position Error:**
 - Easting Error (m): 0.03
 - Northing Error (m): 0.03
 - Bathy Error (m): 0.01
- Estimated DVL Error:**
 - DVL-X Error (m/s): 0.001
 - DVL-Y Error (m/s): 0.001
 - DVL-Z Error (m/s): 0.001
- Buttons:** OK, Cancel, Use Defaults
- Checkbox:** ☐ Calculate deleted points

Figure 80 Kalman 3D



The 'Kalman' dialog box contains the following fields and controls:

- Position:**
 - Mean position error (m): 2
 - Mean position drift Y (m): 1
 - Mean position drift X (m): 1
- Velocity:**
 - Mean velocity error Y (m/s): 0.05
 - Mean velocity error X (m/s): 0.05
 - Mean velocity drift Y (m/s): 0.1
 - Mean velocity drift X (m/s): 0.1
- Acceleration:**
 - Mean acceleration Y (m/s²): 0.5
 - Mean acceleration X (m/s²): 0.5
- Buttons:** Suggest values, OK, Cancel
- Change Setup:** A slider bar between 'Prefer DVL' and 'Prefer Navigation'.
- Checkbox:** ☐ Calculate deleted points

Figure 81 Kalman filter - User defined parameters

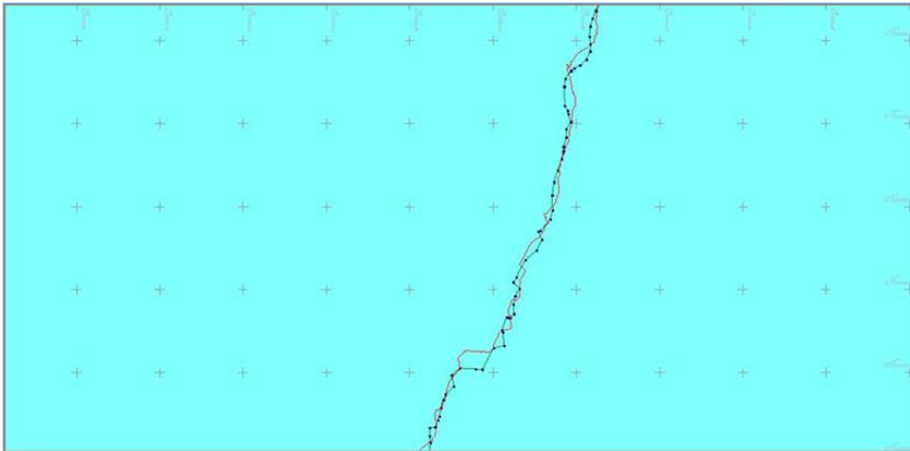


Figure 82 Raw navigation without a straight pipe

The picture above shows raw navigation and pipe-tracker data (in red) prior to applying Kalman-filtering to the data. It appears that the navigation data is very noisy and the pipe is certainly not straight as it would be expected.

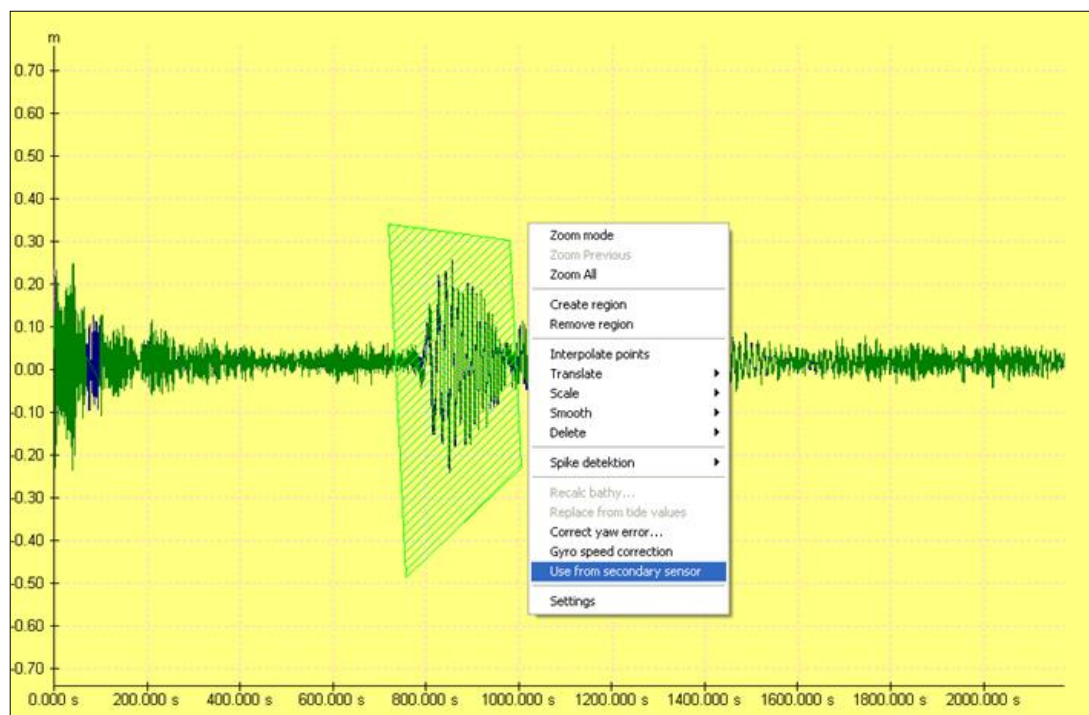
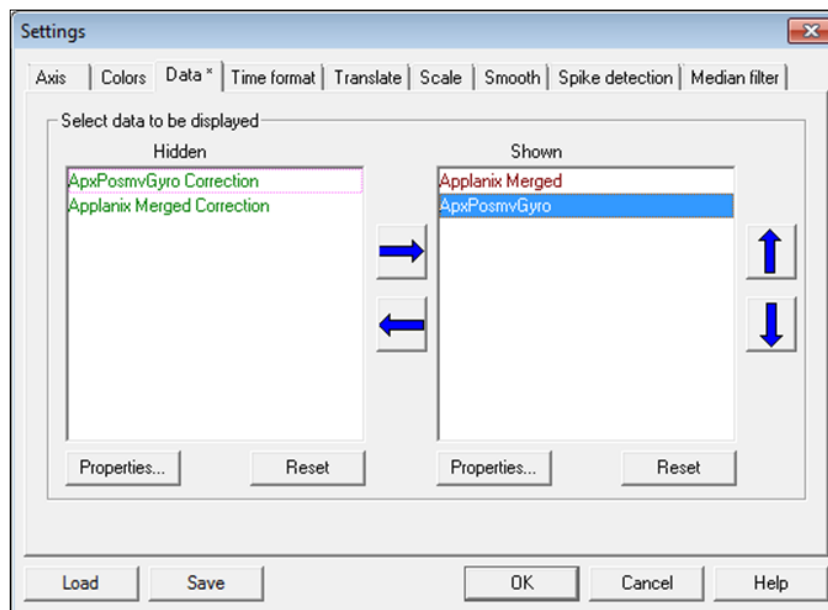
However once the parameters visualized in the previous slide (Kalman filter-User defined parameters) have been applied, the situation looks as shown in picture below



Figure 83 Navigation with Kalman-filtering applied.

Note that not only seems the noise to have been filtered away from the navigation data, but the pipe has also become straight, thus substantiating that the filtering has been correct.

The **Data Editor** also facilitates substitution of primary sensor data with information from secondary sensors. This can be done for the entire block or it can be done for parts of the block. Substitution of entire sensor-set can also be performed utilizing the **Header Editor**



The **Data Editor** can be closed by clicking the cross in the upper right corner of the window or by choosing the menu-item **File – Exit**. Either way however, the user is prompted to save the changes applied to the block(s).

If the chooses not to save the changes, then the SQL database will remain unchanged by the editing having been performed within the **Data Editor**.

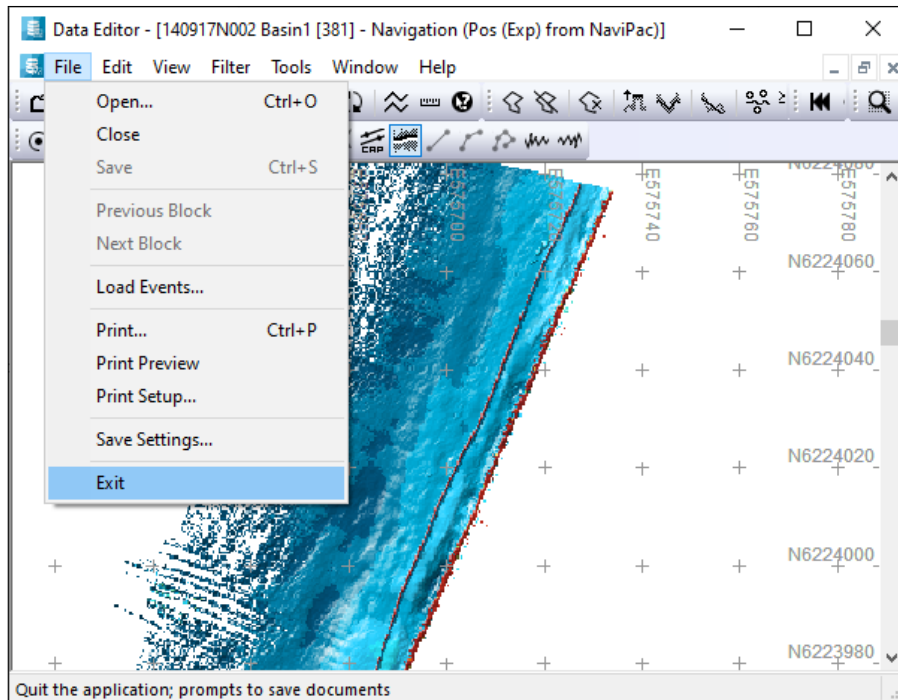


Figure 84 Close the Data Editor with Exit

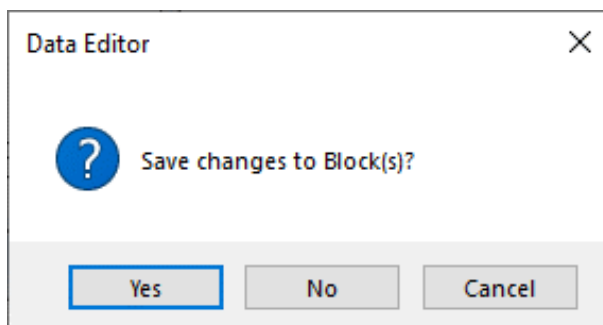


Figure 85 Data Editor - Save changes to Block(s)?

1.3.2 Header Editor

This menu entry will open the **Header Editor** with the blocks/files selected, either as a series of blocks or as an entire folder.

The action can also be activated by right-clicking on a block (file), on a series of blocks or on a folder and selecting the menu-item **Header Editor** as shown below

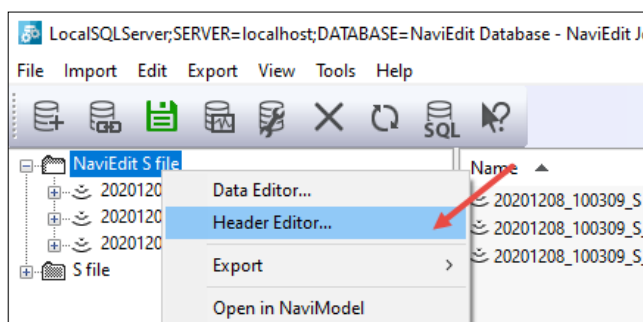


Figure 86 Start the Header Editor

The **Header Editor** enables the user to change/edit the more general items associated with a survey-file. The tools available when opening the **Header Editor** depends on the relevant data.

A **multi-beam Header Editor** will differ from a **single-beam Header Editor**, but also two multi-beam based Header Editors might have different information obtainable. However, a large portion of the information available is common for all types of data.

The **Header Editor** associated with multi-beam data acquired with one head

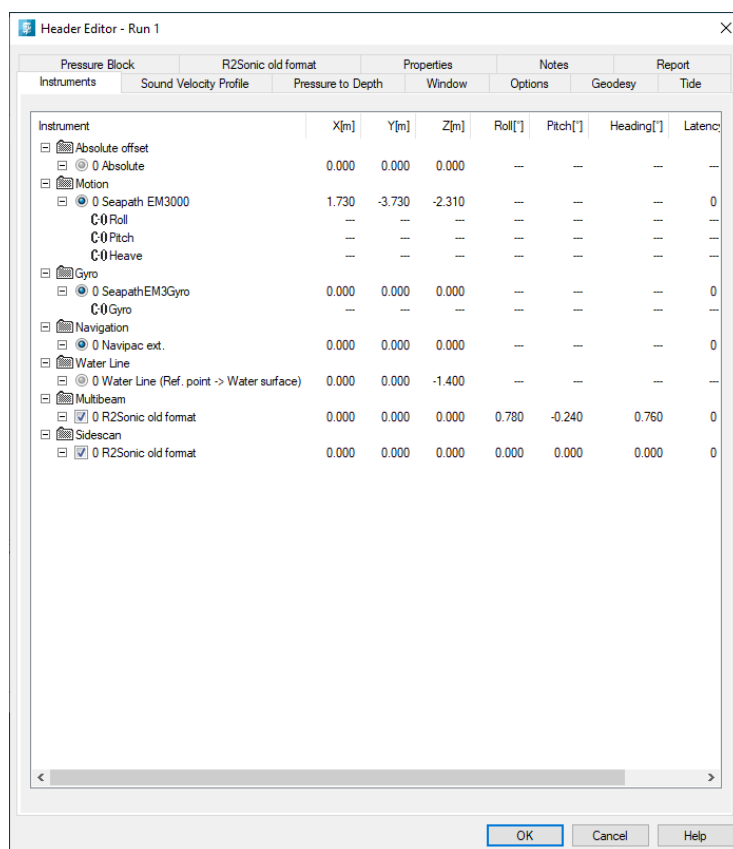
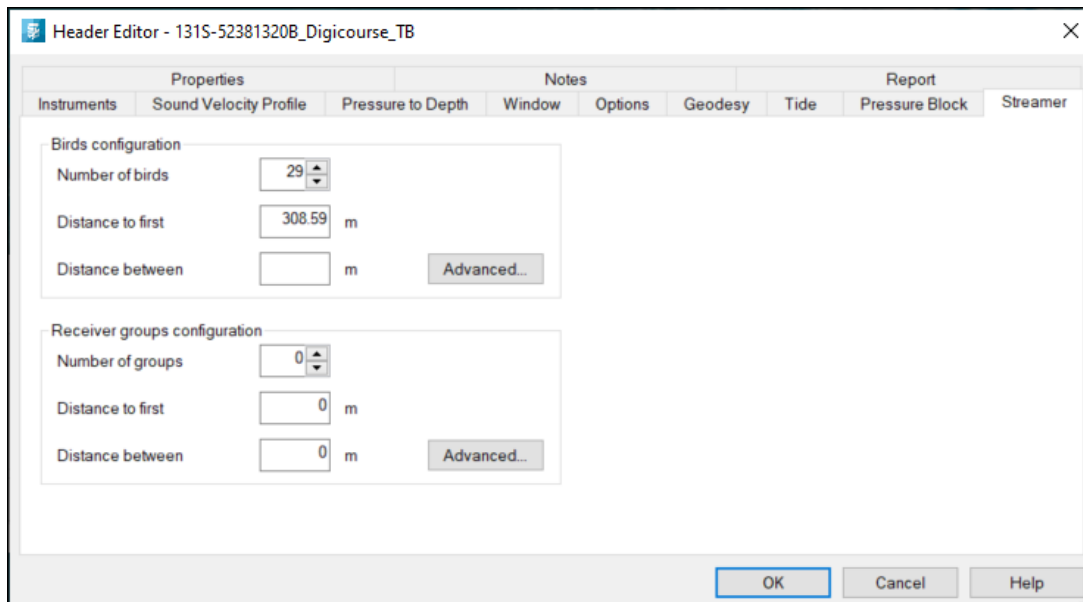


Figure 87 Header Editor - Instruments tab

The tabs shown below are associated with NaviPac data, with **2D Seismic Streamer** data and with **dual head multibeam** data.



Header Editor - 1315-52381320B_Digicourse_TB

Properties: Instruments, Sound Velocity Profile, Pressure to Depth, Window, Options, Geodesy, Tide, Pressure Block, Streamer

Birds configuration

Number of birds: 29

Distance to first: 308.59 m

Distance between: m

Advanced...

Receiver groups configuration

Number of groups: 0

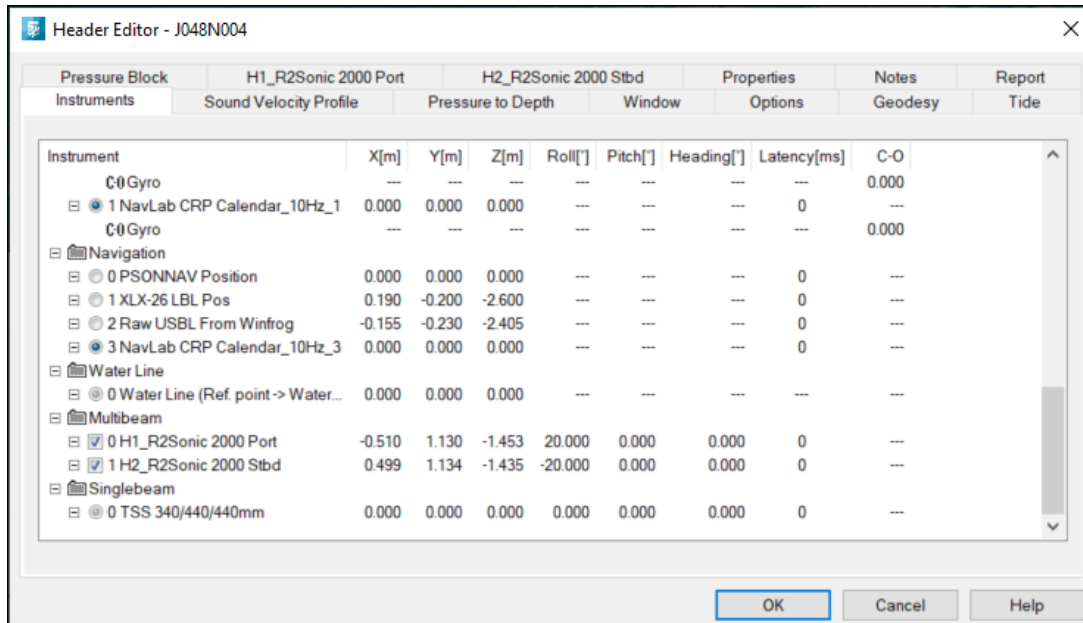
Distance to first: 0 m

Distance between: 0 m

Advanced...

OK Cancel Help

Figure 88 2D Seismic Streamer



Header Editor - J048N004

Pressure Block: H1_R2Sonic 2000 Port, H2_R2Sonic 2000 Stbd, Properties, Notes, Report

Instruments: Sound Velocity Profile, Pressure to Depth, Window, Options, Geodesy, Tide

| Instrument | X[m] | Y[m] | Z[m] | Roll[°] | Pitch[°] | Heading[°] | Latency[ms] | C-O |
|--------------------------------------|--------|--------|--------|---------|----------|------------|-------------|-------|
| 0 Gyro | --- | --- | --- | --- | --- | --- | --- | 0.000 |
| 1 NavLab CRP Calendar_10Hz_1 | 0.000 | 0.000 | 0.000 | --- | --- | --- | 0 | --- |
| 0 Gyro | --- | --- | --- | --- | --- | --- | --- | 0.000 |
| Navigation | | | | | | | | |
| 0 PSONNAV Position | 0.000 | 0.000 | 0.000 | --- | --- | --- | 0 | --- |
| 1 XLX-26 LBL Pos | 0.190 | -0.200 | -2.600 | --- | --- | --- | 0 | --- |
| 2 Raw USBL From Winfrog | -0.155 | -0.230 | -2.405 | --- | --- | --- | 0 | --- |
| 3 NavLab CRP Calendar_10Hz_3 | 0.000 | 0.000 | 0.000 | --- | --- | --- | 0 | --- |
| Water Line | | | | | | | | |
| 0 Water Line (Ref. point -> Water... | 0.000 | 0.000 | 0.000 | --- | --- | --- | --- | --- |
| Multibeam | | | | | | | | |
| 0 H1_R2Sonic 2000 Port | -0.510 | 1.130 | -1.453 | 20.000 | 0.000 | 0.000 | 0 | --- |
| 1 H2_R2Sonic 2000 Stbd | 0.499 | 1.134 | -1.435 | -20.000 | 0.000 | 0.000 | 0 | --- |
| Singlebeam | | | | | | | | |
| 0 TSS 340/440/440mm | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0 | --- |

OK Cancel Help

Figure 89 Dual head multibeam

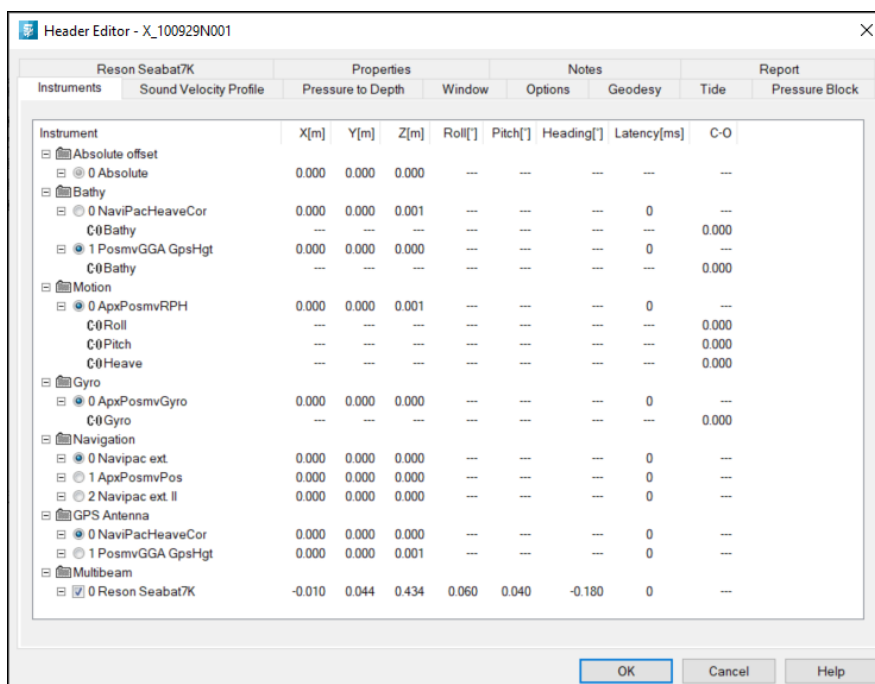


Figure 90 Header Editor - Instruments tab

The first tab to look at in the **Header Editor** is the **Instruments** tab.

Here it is possible to view and to change the settings for an instrument (by double clicking an item). It is furthermore possible to access offsets, mount angles, Time offsets and C-O values. Here it is also possible to switch active sensor (in cases where multiple sensors are available for positioning, motion etc).

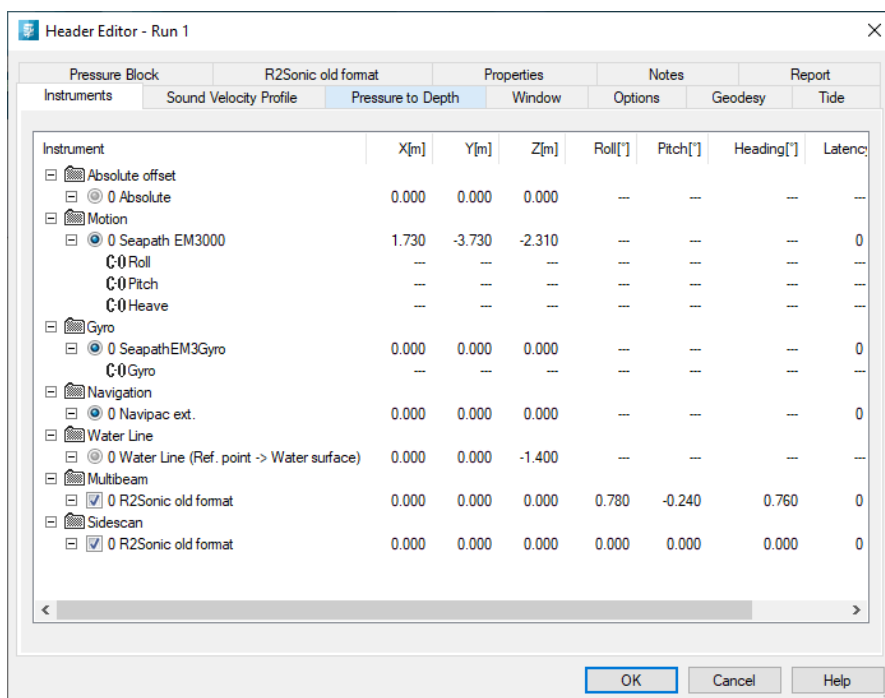


Figure 91 Multibeam settings

Double-click on an item to facilitate editing. Here the editing of the multi-beam settings is activated.

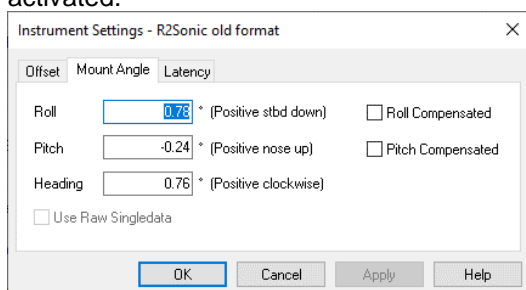


Figure 92 Instrument settings

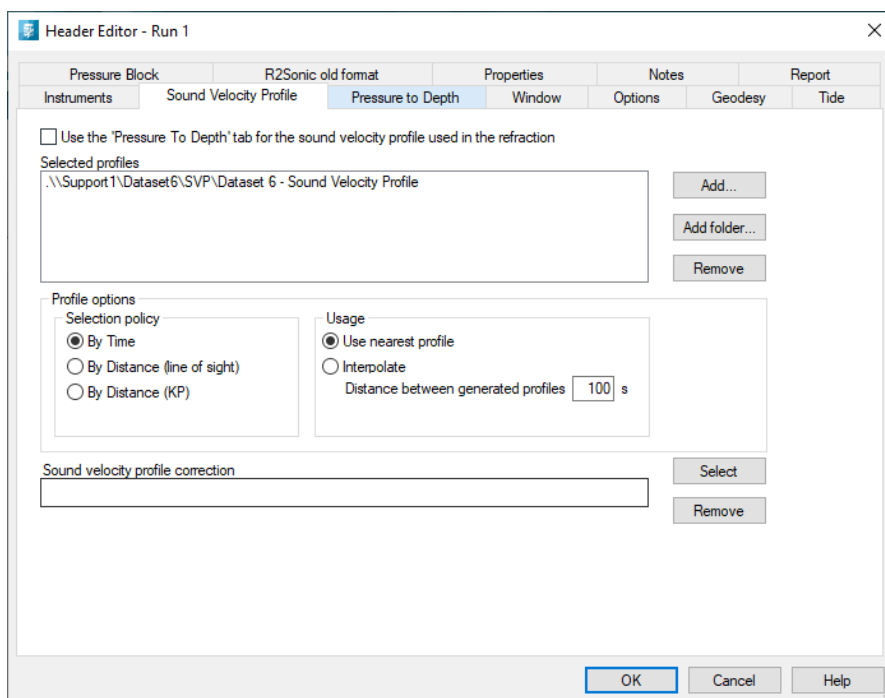
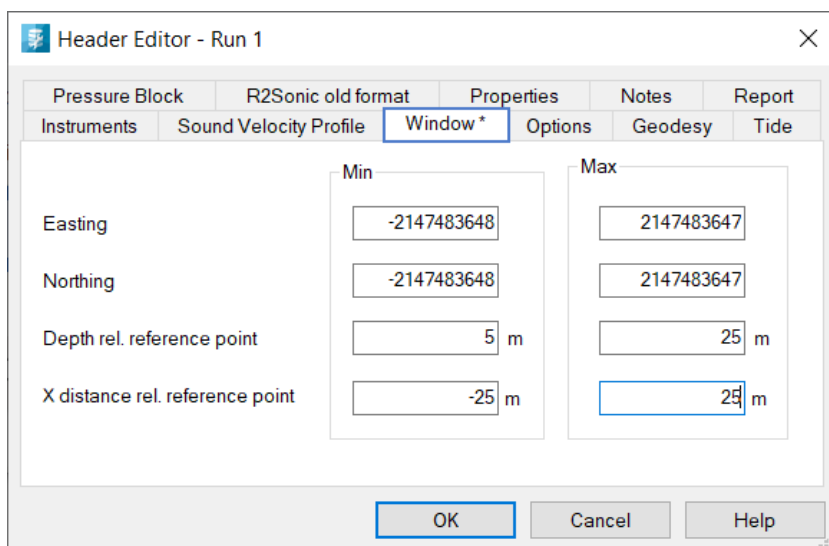


Figure 93 Sound Velocity Profile tab

The **Sound velocity** tab gives a possibility to define an SVP-file or a series of files for the SVP-correction of the data. When multiple SVP-profiles are in use at the same time, it is necessary to specify a **Selection policy**.

In time-based selection mode, NaviEdit matches a profile with the data by absolute time. Distance based selection lets **NaviEdit** choose from a position-based criterion.

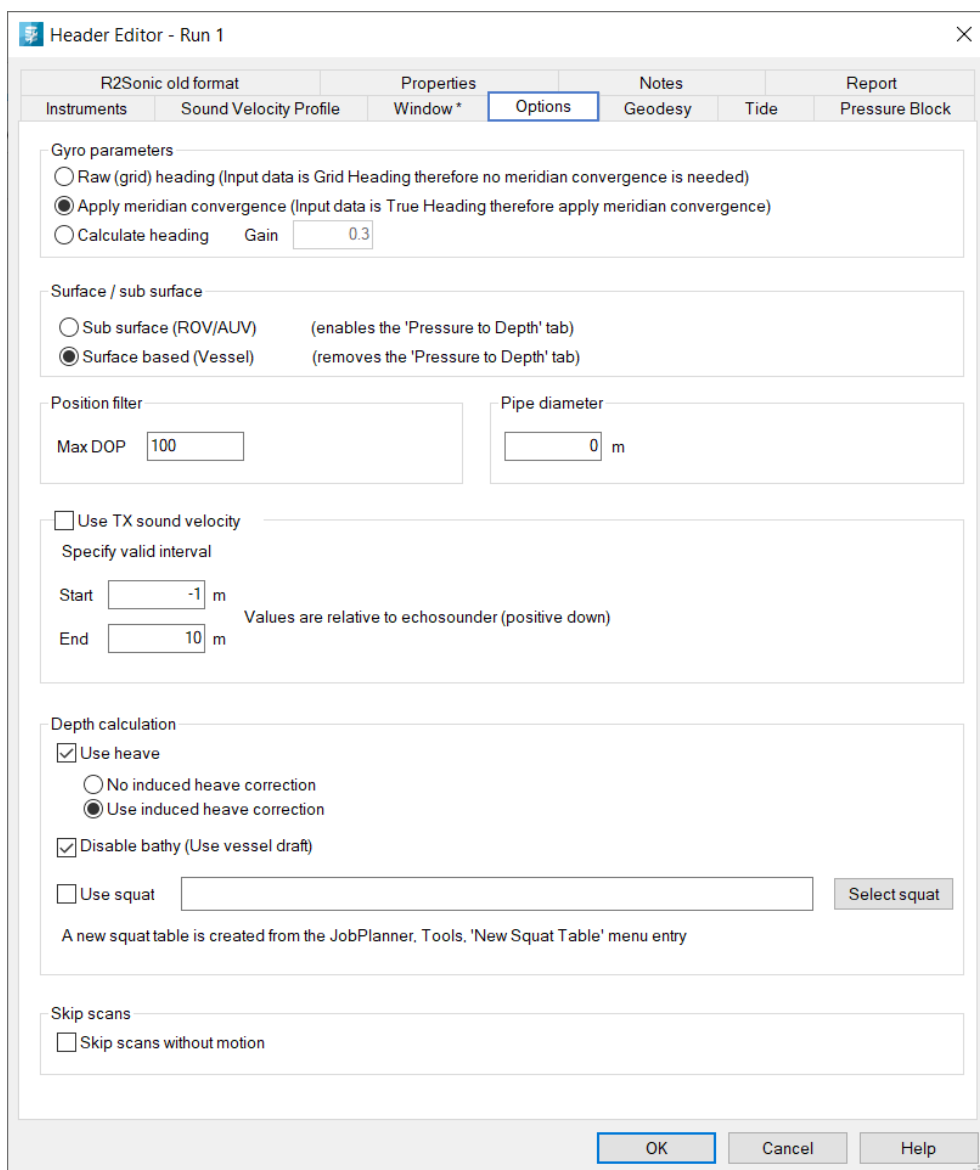
Use nearest profile usage tells NaviEdit to use the nearest profile based on the selection above, whereas the **Interpolate** usage tells **NaviEdit** to create a merged profile based on the input profiles and the selection method. This might potentially yield smoother results. The distance option affects how often a new profile is generated. Distance can be given in seconds as well as in meters, depending on the **Selection policy**.



| | Min | Max |
|---------------------------------|-------------|------------|
| Easting | -2147483648 | 2147483647 |
| Northing | -2147483648 | 2147483647 |
| Depth rel. reference point | 5 m | 25 m |
| X distance rel. reference point | -25 m | 25 m |

Figure 94 Header editor - Windows tab

In the **Window** Tab maximum and minimum values for items like **Easting**, **Northing**, **Depth rel. reference point**, **X distance rel. reference point** can be specified. Data outside these values will be discarded while reading the data.



Header Editor - Run 1

R2Sonic old format Properties Notes Report

Instruments Sound Velocity Profile Window * Options Geodesy Tide Pressure Block

Gyro parameters

☐ Raw (grid) heading (Input data is Grid Heading therefore no meridian convergence is needed)

☒ Apply meridian convergence (Input data is True Heading therefore apply meridian convergence)

☐ Calculate heading Gain

Surface / sub surface

☐ Sub surface (ROV/AUV) (enables the 'Pressure to Depth' tab)

☒ Surface based (Vessel) (removes the 'Pressure to Depth' tab)

Position filter

Max DOP

Pipe diameter

m

☐ Use TX sound velocity

Specify valid interval

Start m

End m Values are relative to echosounder (positive down)

Depth calculation

☒ Use heave

☐ No induced heave correction

☒ Use induced heave correction

☒ Disable bathy (Use vessel draft)

☐ Use squat

Select squat

A new squat table is created from the JobPlanner, Tools, 'New Squat Table' menu entry

Skip scans

☐ Skip scans without motion

OK Cancel Help

Figure 95 Header editor – Options

In the **Options** Tab the gyro parameters can be set. Normally a gyro will output data relative to true north and the settings must then be as shown below.

Position filter is used to filter outliers in the GPS data. This requires that the raw GPS data have been stored online.

The **Use TX sound velocity** option is to be used in combination with an attached sound-velocity profile (attached to the raw NaviScan-file inside the file). If checked the system will override the sound-velocity obtained from the loaded profile for the depth-interval stated.

Enable the **Use heave** checkbox to enable/disable the effects of the heave sensor. The **Disable bathy** option is used to disable the contribution of **NaviPac** heave correction.

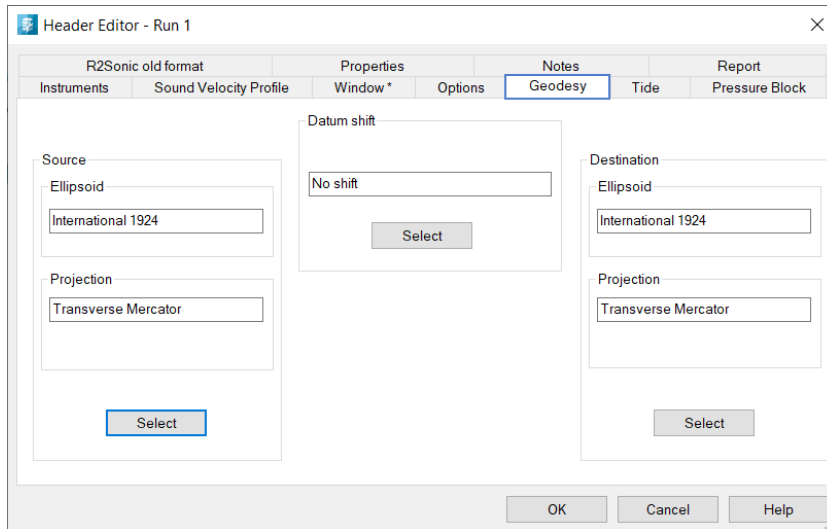


Figure 96 Header editor – Geodesy

On the **Geodesy** Tab, the raw data can be shifted to an alternative geodesy. It is important to understand that no information regarding the datum shift performed during the survey is available from this window. Initially the datum shift will always be **No shift** and the **Source** and **Destination** datum will always be identical. Source is hence identical to what was Destination during survey.

To change to an alternative geodesy, the online settings must be used to define the datum shift required to correct the geodesy.

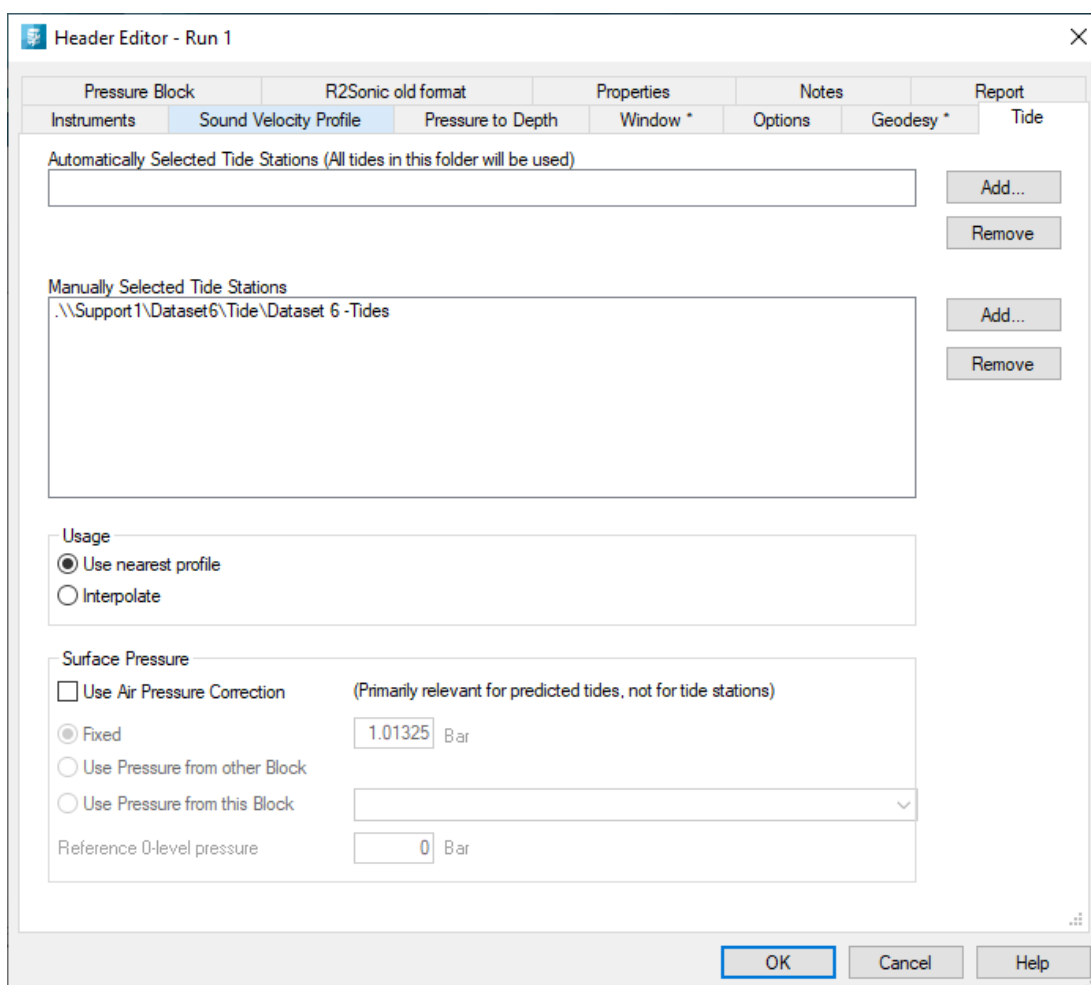


Figure 97 Header editor – Tide tab

The **Tide** Tab allows for the selection of a single tide table for tide correction of the current block(s). Press the **Select** button to select a tide block and remove the link again by pressing the **Remove** button. The tide value will be subtracted from the depths.

Note that multiple tides, based on several tide-files observed simultaneously, can be generated from the JobPlanner main window (menu-item 'Tools – Create Tides...')

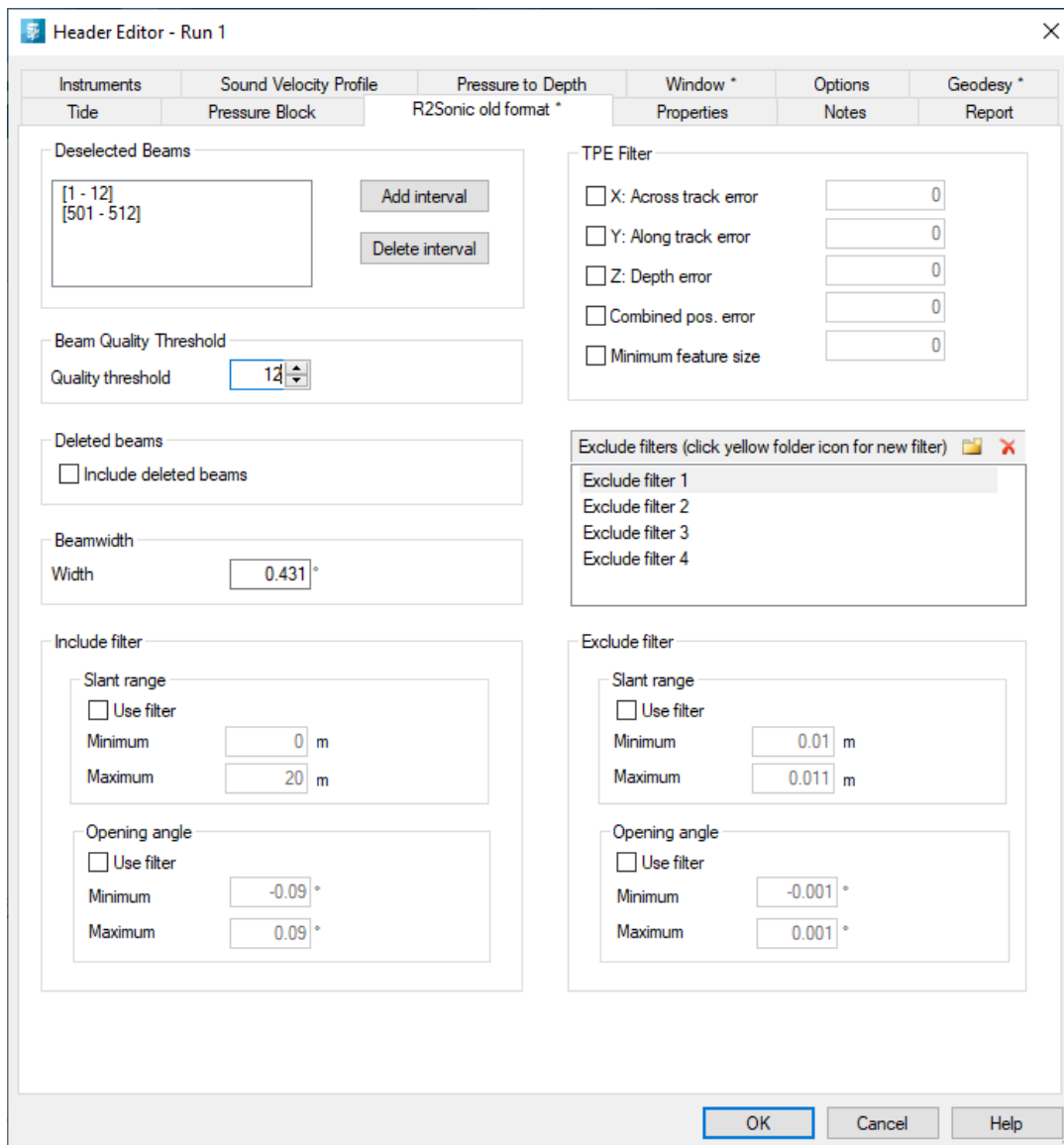


Figure 98 Header Editor - Multibeam tab

The **Multibeam Echosounder** page applies to multi-beam echo-sounders only.

Deselected Beams shows the intervals that have been added via the **Add interval** button. Eg an interval of [1 - 4] means that beams 1, 2, 3, and 4 are deselected.

Beam Quality Threshold refers to a number between 0 and 15 that is reported by the multi-beam echo sounder. Beams with a quality above or equal to this value will be used.

The **TPE Filter** option is only available if the multi-beam echo sounder in question can deliver TPE (Total Propagation of Error) information

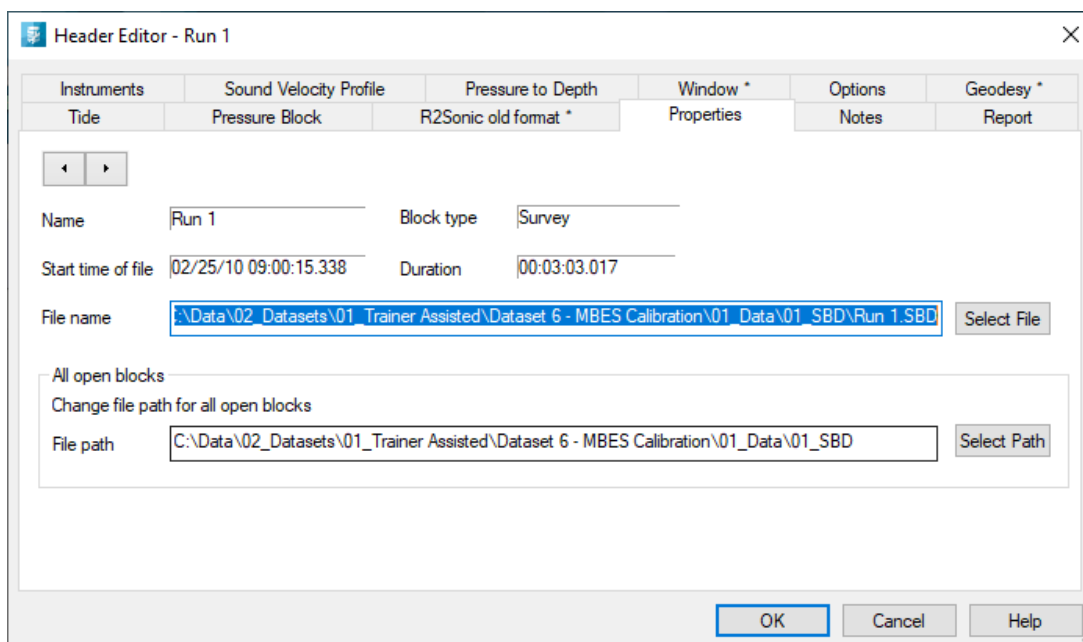


Figure 99 Header Editor - Properties

The non-editable properties available on the **Properties** Tab are for information only and cannot be modified. It is possible to toggle between the blocks loaded by pressing the arrows left and right.

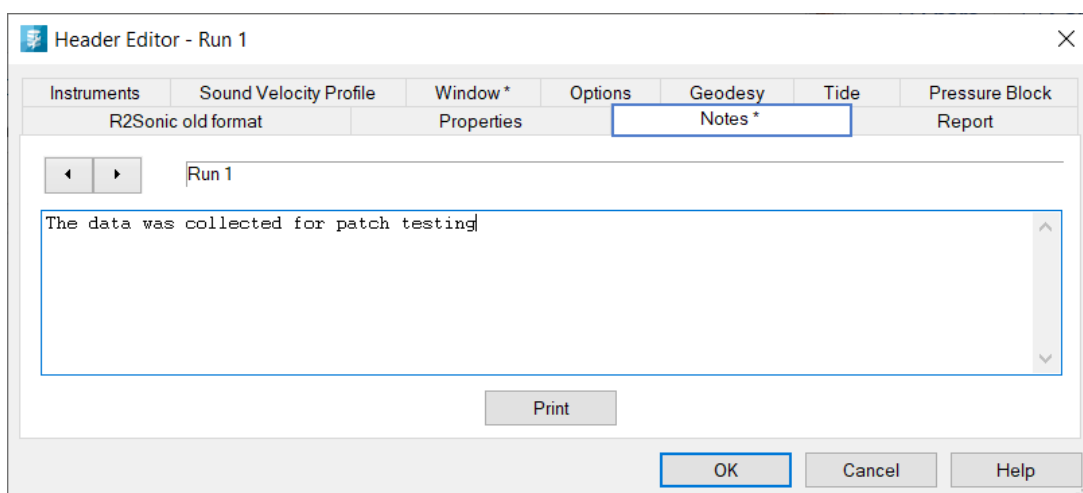


Figure 100 Header Editor – Notes

Notes, inserted when the raw data was imported to the data base, can be viewed and modified on the **Notes Tab**, for each of the files loaded. Toggling between the blocks loaded can be accomplished by pressing the arrows left and right.

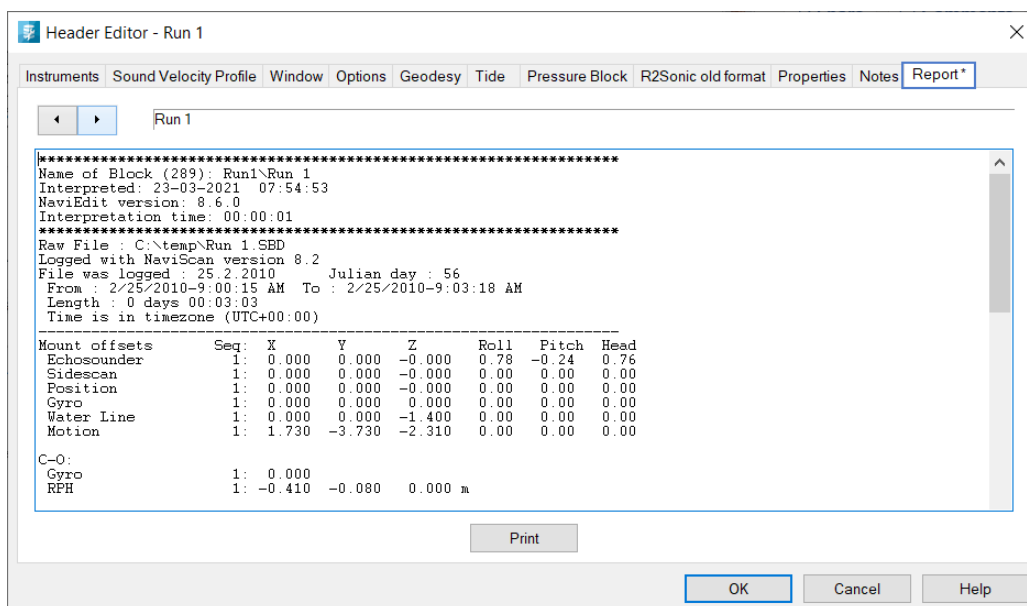


Figure 101 Header Editor - Report example

In the **Report** Tab the report can be viewed and modified. The report is initiated when the file is imported into the database. Subsequently, when a data item is modified, a note about this modification is added to the report when the edited data is saved. The report holds all information about what editing tools and parameters have been applied to a file in its existence.

Toggleing between the blocks loaded can be accomplished by pressing the arrows left and right.

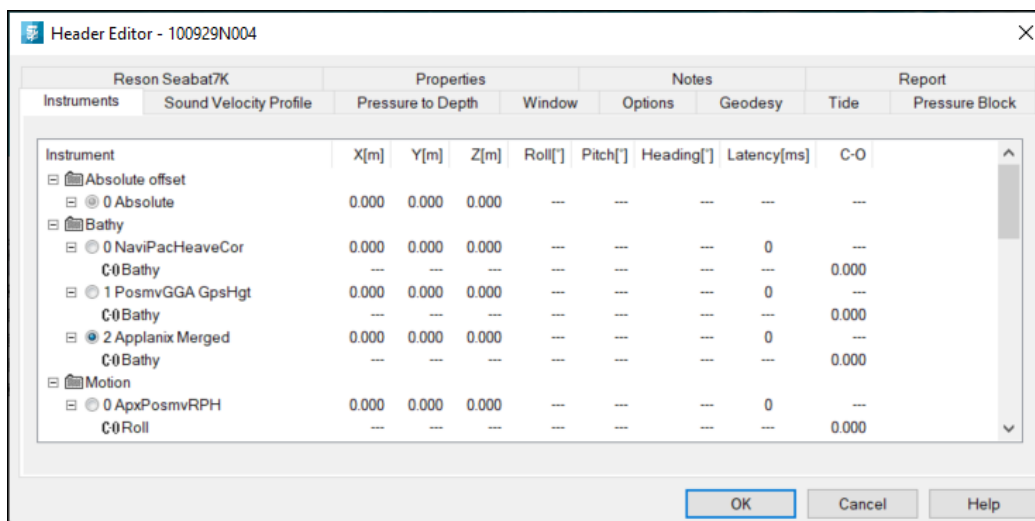


Figure 102 Header Editor - Close

The **Header Editor** can be closed by clicking the **X** button of the window or by pressing the **OK** button.

In the first case, the **Header Editor** will close without saving changes to the SQL database (this is identical to pressing the **Cancel** button. When the **OK** button is pressed, the user is prompted to save the changes. To support the decision, a list of tabs where changes have been applied, is shown. If the changes are not saved, the SQL database will remain unchanged by the editing having been performed within the **Header Editor**

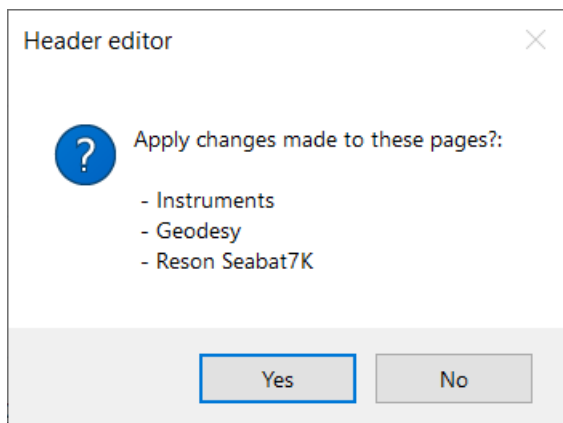


Figure 103 Instrument view - Apply changes

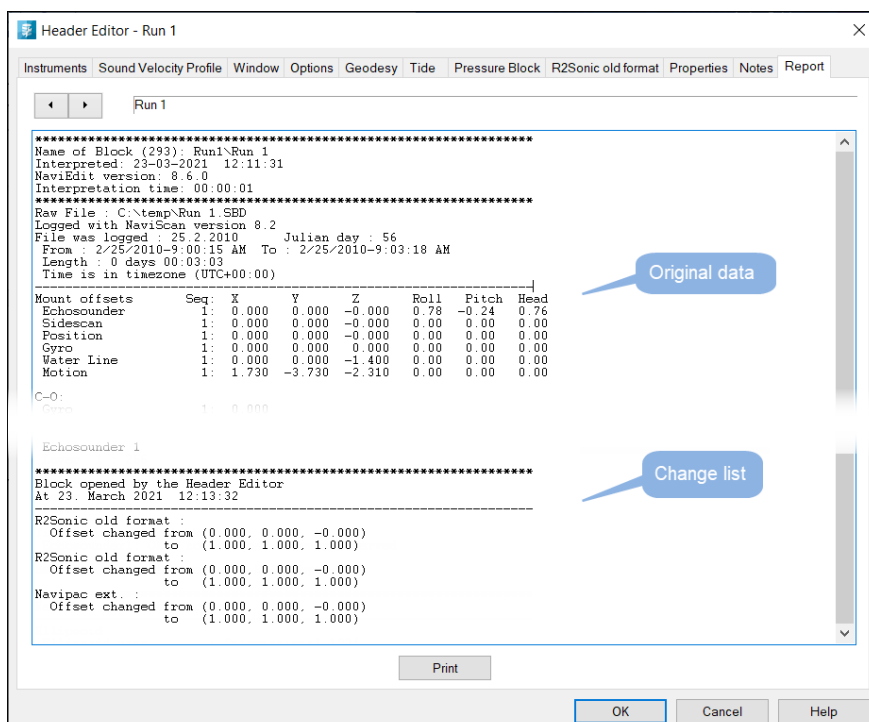


Figure 104 Report with change list

1.3.3 User Offsets

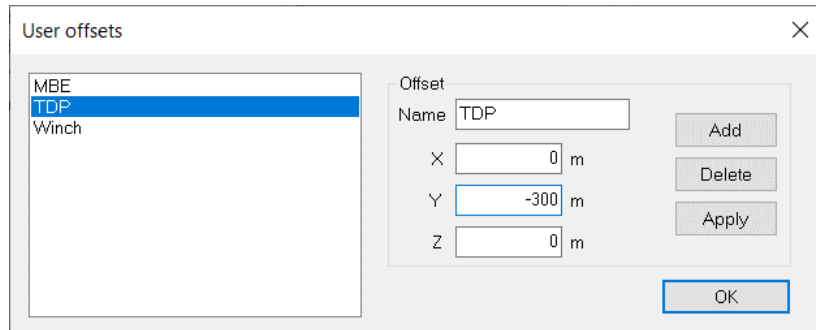


Figure 105 User offsets

Here the user can define user offsets, that are global to the present SQL database. These offsets can be used in connection with exporting of data, whenever this is relevant for the exporter

1.3.4 Global Properties

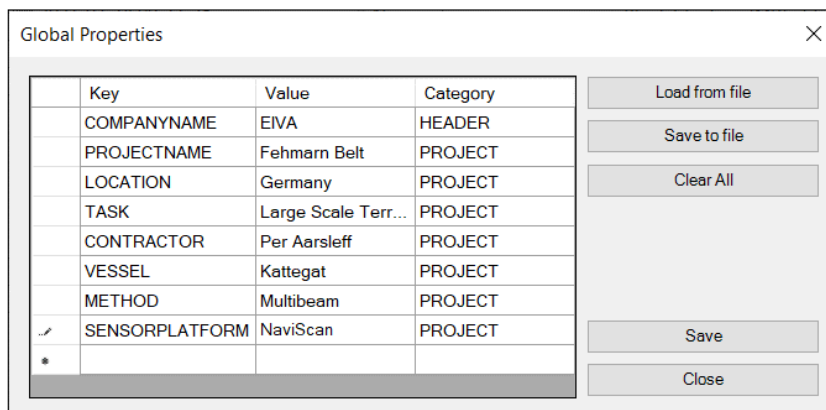
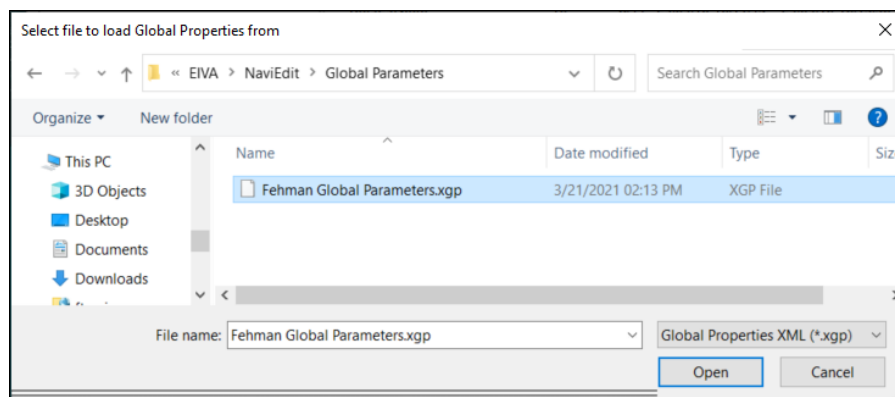
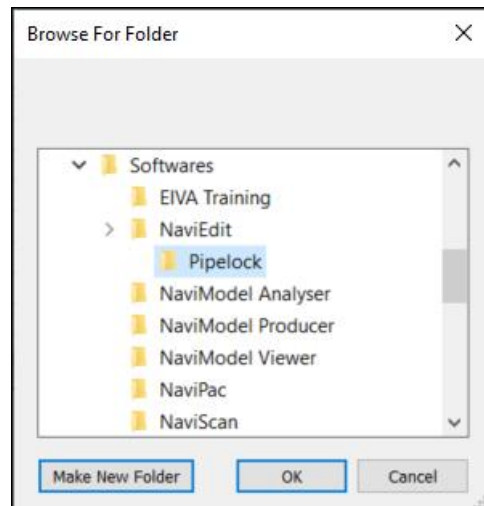


Figure 106 Global Properties



This menu entry facilitates the definition of a set of Global Properties. These global properties are used in connection with exporting of the various files, whenever this is relevant. See below that it is possible to save and load the settings to/from an XML file

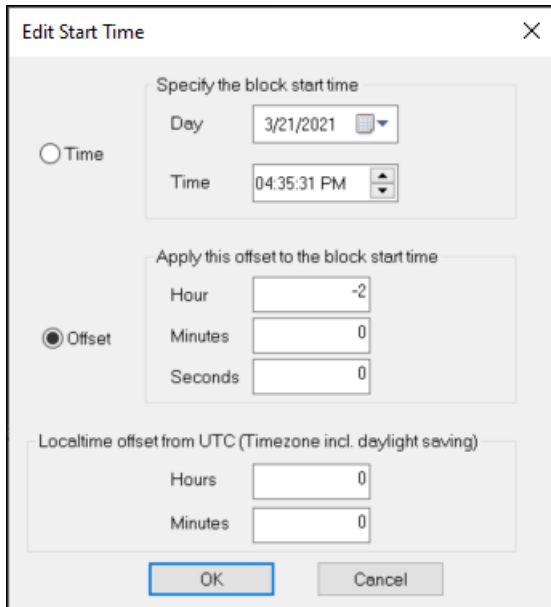
1.3.5 Pipe Lock Root Folder



This functionality is used in connection with pipeline inspections tasks. Pipelock involves applying a horizontal and vertical shift to the scan, when the pipe (flag) is moved/smoothed after applying the lock, so that the scan follows the editing movement of the pipe.

To activate usage, the pipelock root folder must first be defined here. This folder will then become the root folder of other folders containing files with pipelock shift information

1.3.6 Block Start Time



The 'Edit Start Time' dialog box allows users to specify the block start time. It features two main sections: 'Specify the block start time' and 'Apply this offset to the block start time'. The first section includes a 'Day' dropdown menu (set to 3/21/2021) and a 'Time' spinner (set to 04:35:31 PM). The second section includes an 'Offset' section with 'Hour' (set to -2), 'Minutes' (set to 0), and 'Seconds' (set to 0) fields. Below this is a 'Localtime offset from UTC (Timezone incl. daylight saving)' section with 'Hours' (set to 0) and 'Minutes' (set to 0) fields. The dialog has 'OK' and 'Cancel' buttons at the bottom.

With this functionality it is possible to define the block start time for a file loaded into the SQL database. Be careful to apply this to more than one file at a time. It is also possible to specify a time offset relative to the time of the data

1.3.7 Rename

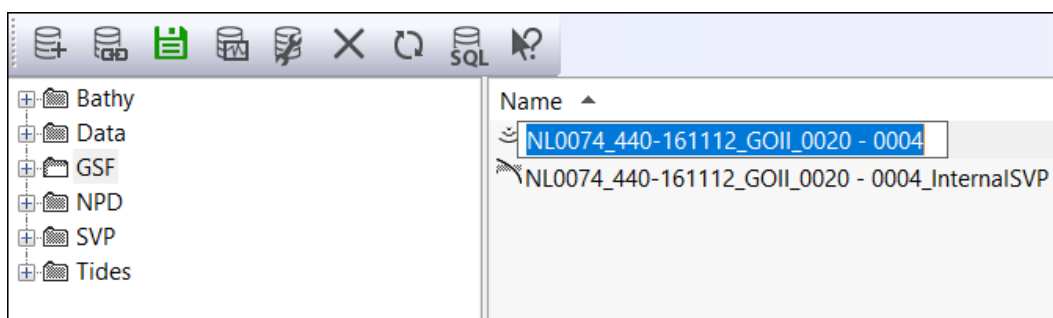
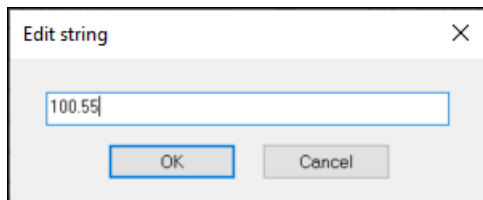


Figure 107 Rename option

This functionality can be used to rename files or folders. Highlight the file or folder in question, select the functionality (or press F2) and enter the new name. The function can also be accessed by right-clicking on a file or folder and selecting the menu-item **Rename**

1.3.8 Goto KP



Goto KP... is used to open a file in the **Data Editor** containing data originating from a given KP-value

1.4 Export

1.4.1 Ascii

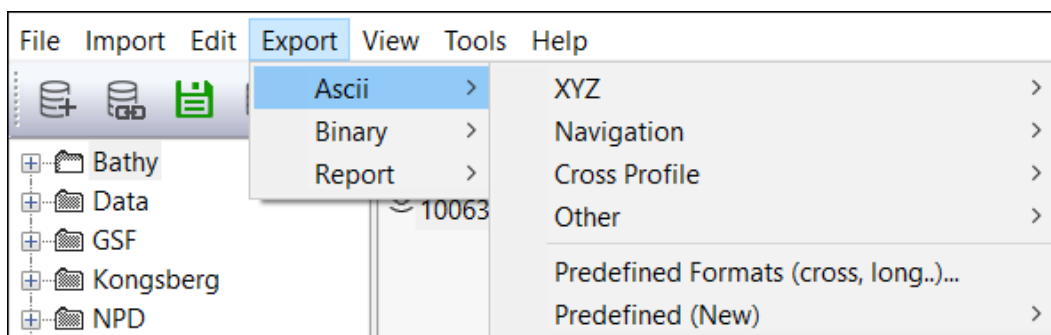


Figure 108 Ascii exporter

NaviEdit has a large variety of exporters that are found in the **Export** menu. The exporters are subdivided into **Ascii**-, **Binary** and **Report based exporters**. The Ascii-exporters are subdivided into XYZ, Navigation, Cross Profile, Other and Predefined formats. Some of these exporters have a general use, others are client specific, however most of the exporters can be used for further processing and documentation in the **EIVA NaviSuite** software, primarily in **NaviModel** and in **NaviPlot**.

In the following the use of the major exporters are explained.

The **Ascii (XYZ)** export format is used for further processing within **NaviModel**.

It is used to export bathymetric single-beam data.

The exporter exports the currently selected block(s) to an ASCII XYZ file in what is known as the **Old** NaviLine format. The user will be given the option to include or exclude the header, invert the depth values and set units, and include Time Stamp/Extreme False Easting.

Format is: Easting Northing Depth, eg 496494.19 6729408.07 154.570

- Select a **NaviEdit** block and go to the **Export** menu and choose Ascii / XYZ / Ascii (XYZ) option

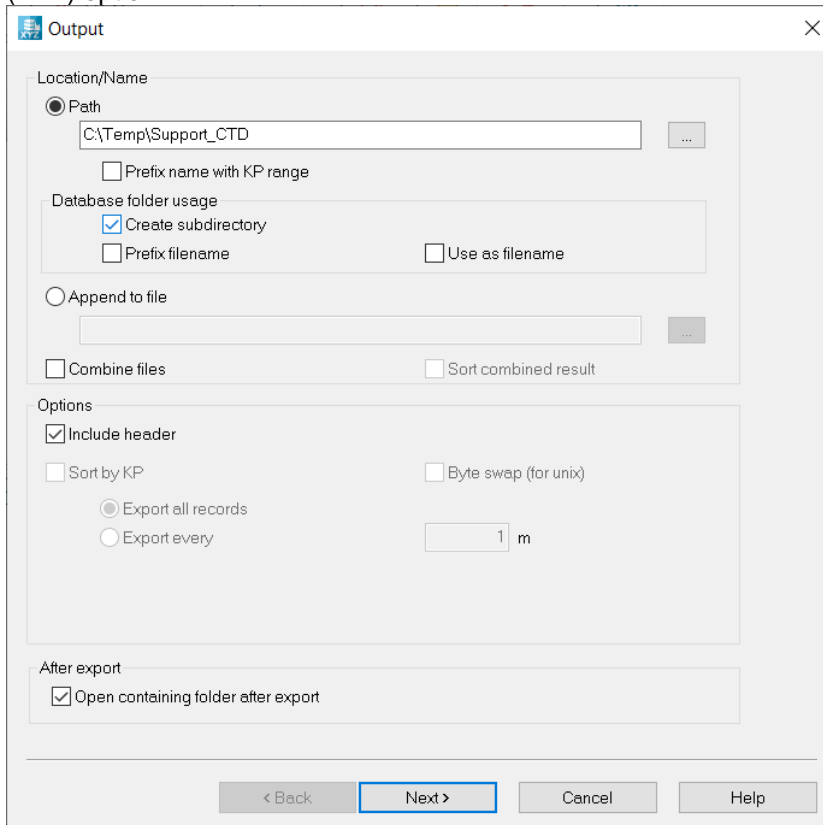


Figure 109 Ascii - Exporter - Output

- Here define the path for the exporting.
It is possible to give the exported files a prefix name that corresponds to the KP-range, to use the database folder to create a subdirectory to append to files etc.

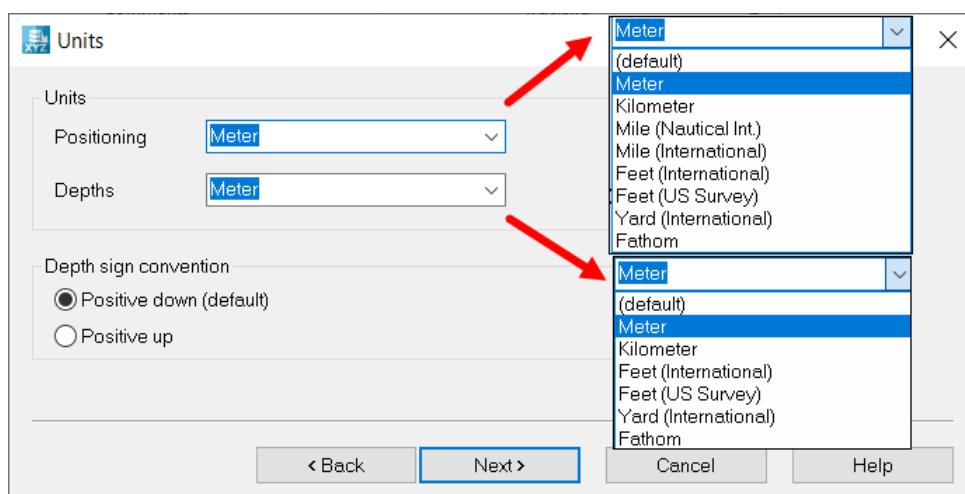


Figure 110 Drop-down-list with available units

- Next the user defines units for the horizontal as well as for the vertical component. The drop-down-list gives the units available for the positioning and for the depth, respectively. The depth sign convention must also be specified here (positive down is default)

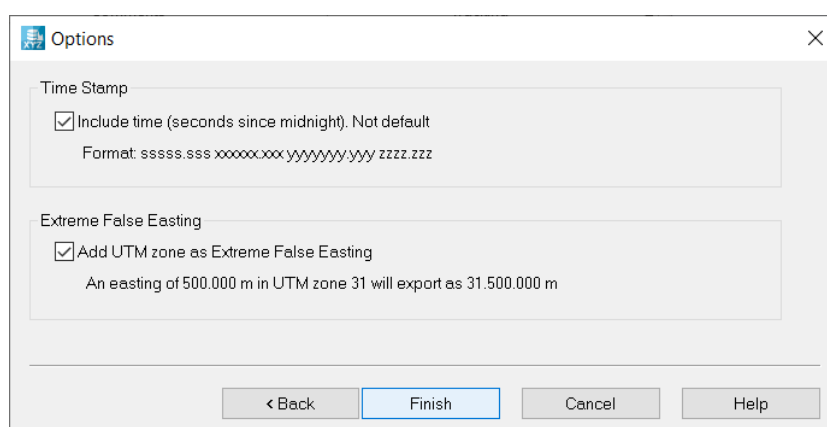


Figure 111 Time options

- In the final step a Time Stamp and Extreme False Easting can be applied to the data. When pressing the **Finish** button, the progress of the export is visualized as shown below

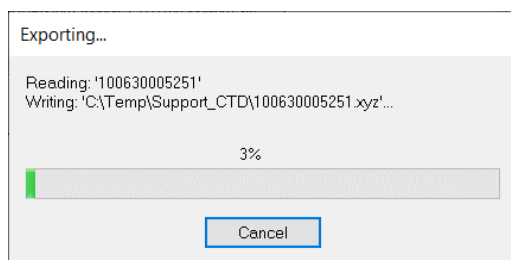


Figure 112 Exporter progress

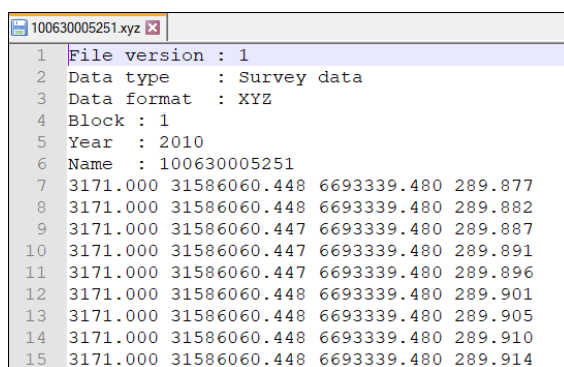


Figure 113 XYZ export result

1.4.2 Binary

| | | |
|----------|-------------------|-----------------|
| Ascii > | Binary (XYZ) | (*.ned) |
| Binary > | Binary (XYZ) Fau | (*.fau) |
| Report > | Binary (XYZ) IRAP | (*.irap) |
| | Binary MBES | (*.mbes) |
| | Binary (XYZ) Las | (*.las / *.laz) |
| | Binary GSF | (*.gsf) |

The **Binary (XYZ)** export format (also known as the *.Ned-format) is used for further processing within **NaviModel**. It is used to export bathymetric multi-beam data. The exporter should never be used to export single-beam data.

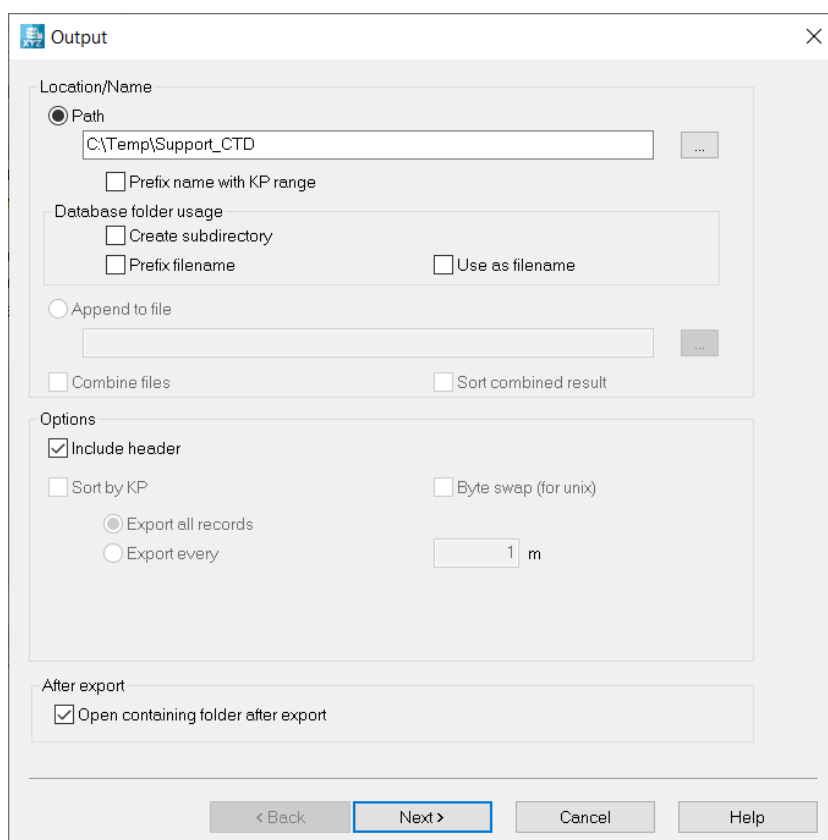
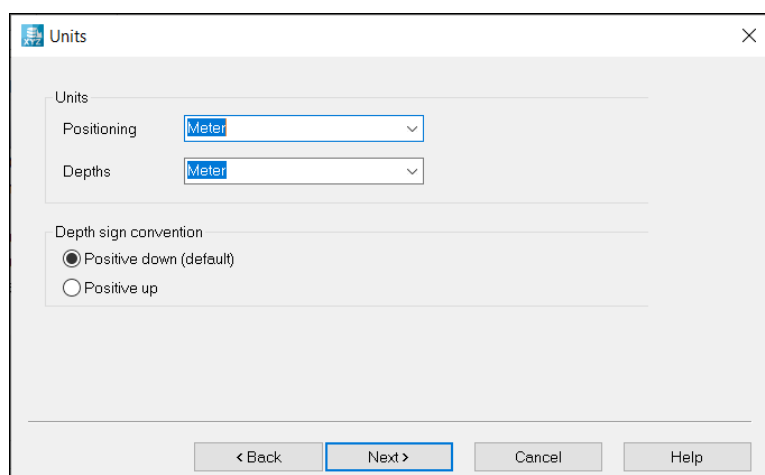


Figure 114 Binary export - Output

- The first step involves the definition of the path for the exporting. It is possible to give the exported files a prefix name that corresponds to the KP-range, to use the database folder to create a subdirectory etc.



The exporter allows to define units as well as depth sign convention. In the final step it is furthermore possible to choose between output of depth (default) or TPE. The latter is only possible, if this information is reported by the Multi-beam echo-sounder. It cannot be generated within **NaviEdit**

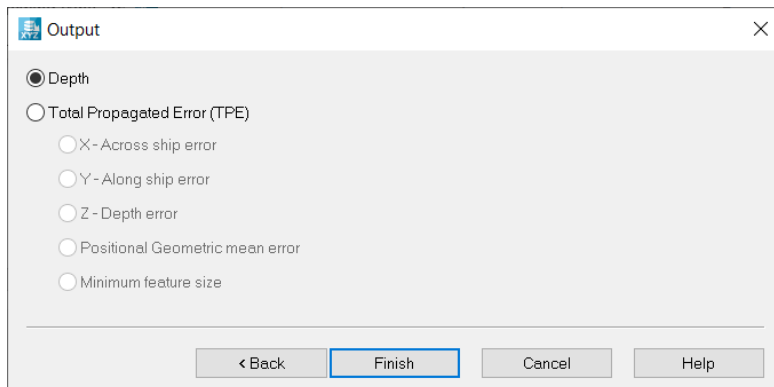


Figure 115 Binary exporter - Output (Depth and Total Propagated Error (TPE))

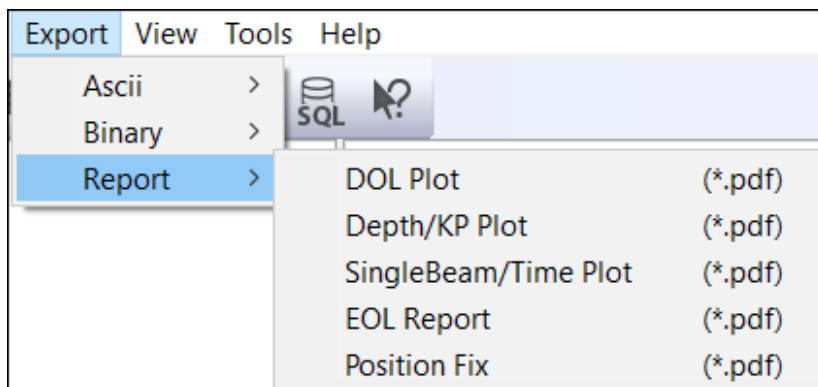


Figure 116 NaviEdit Export and Report

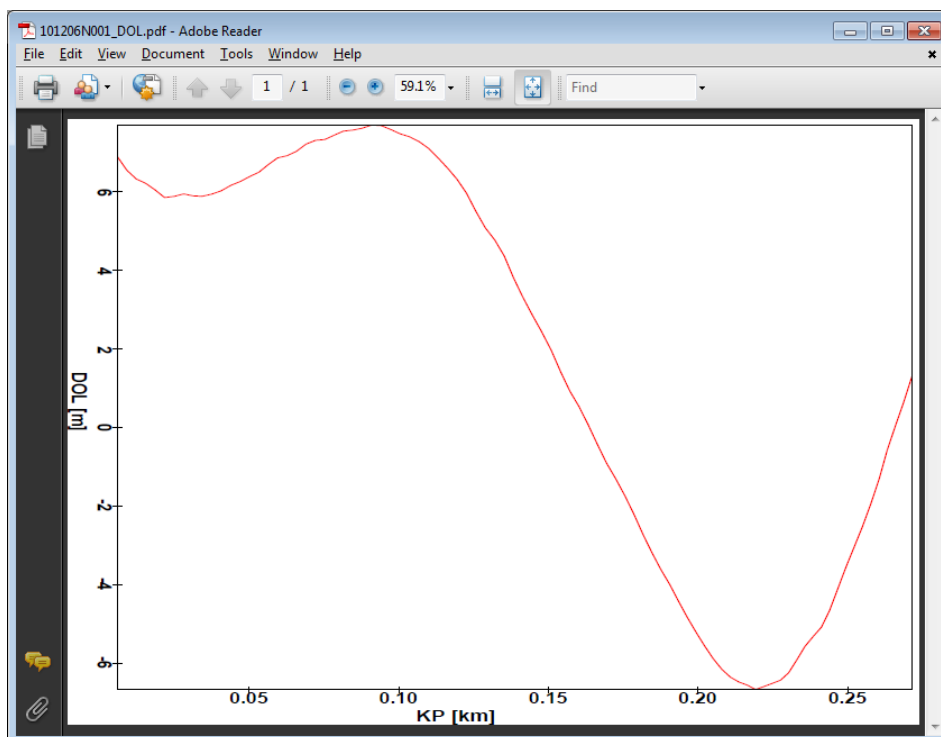
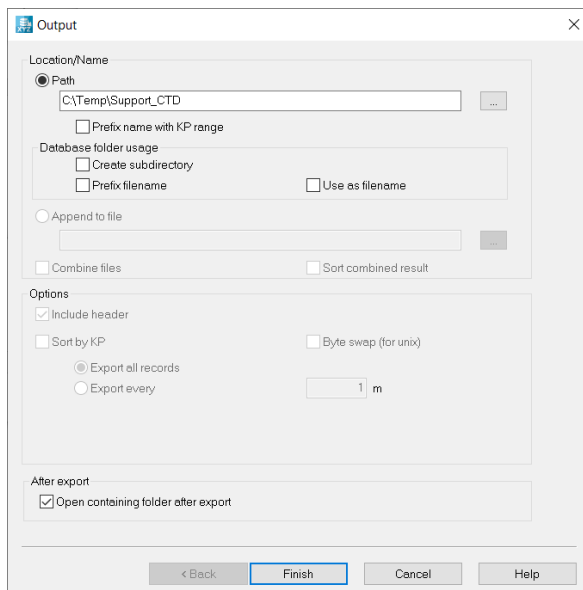


Figure 117 DOL Report example

With the Export Report functionalities, it is possible to generate different reports in pdf-format. These reports can be associated with a file or with a series of. The user only have to define the location of the pdf-file.

1.5 View Menu

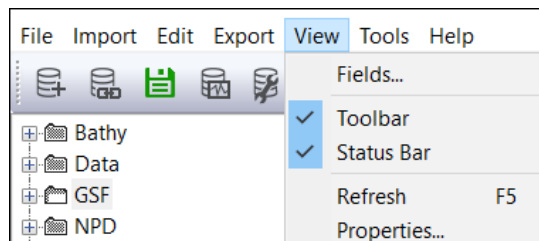


Figure 118 NaviEdit View option

1.5.1 Fields

Here the user can choose which fields to visualise in the **List View** window. By default all fields are shown. The fields yield a good overview of the present status of the editing process of all files.

The status description is described here:

| Column and status field | Description |
|--|---|
| Tide column | L for loaded tide block(s) S for SmartFolder or Stations E for empty SmartFolder |
| Not available | NA |
| Available, not viewed in Data Editor | --- |
| Loaded | L |
| Viewed in Data Editor, but not modified | OK |
| Edited, data has been modified and reviewed | OK+ |
| Batch edited. Data has been modified, but not reviewed | OKb |

Table 1 Review status

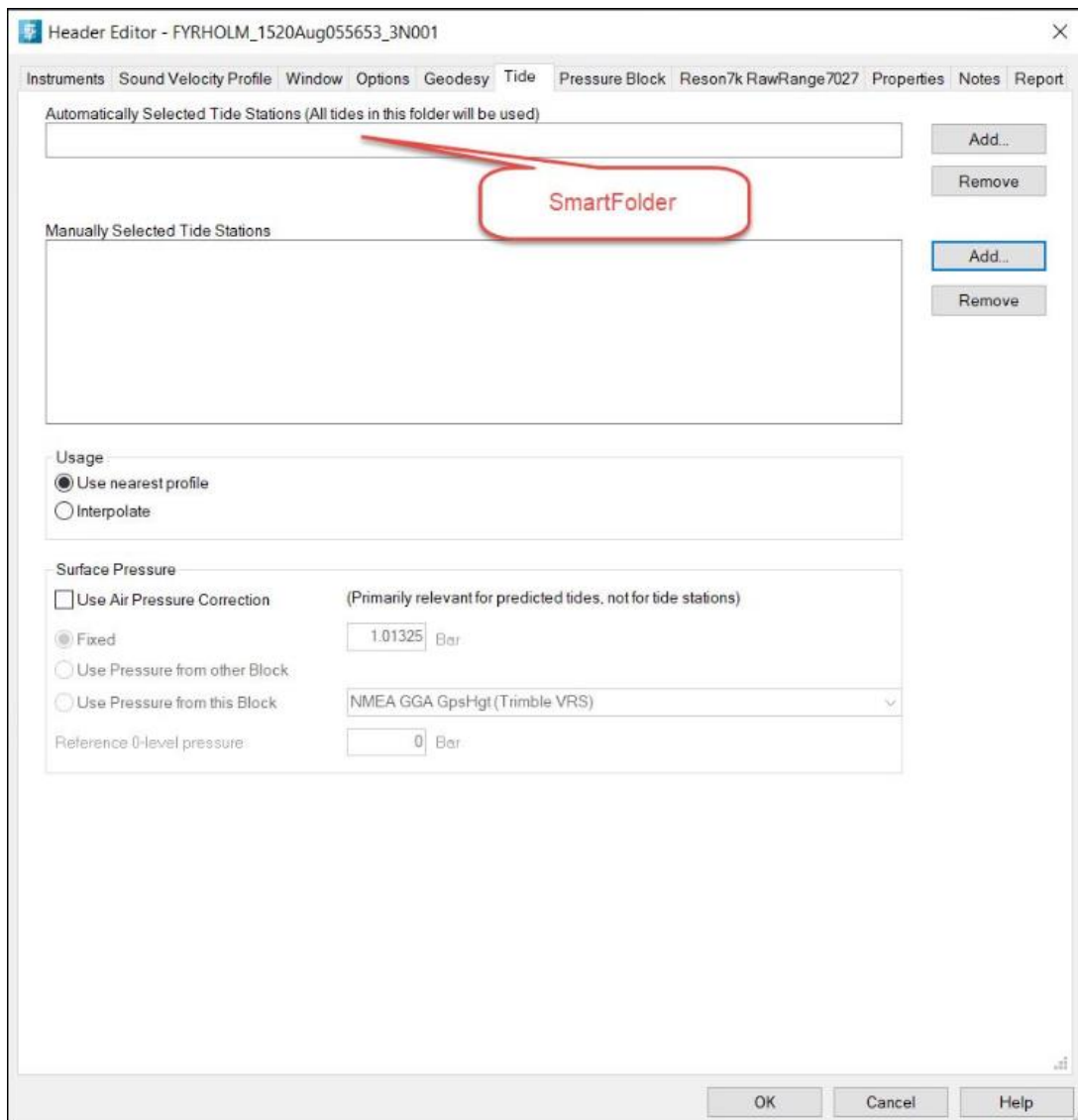


Figure 119 NaviEdit SmartFolder

| Name | Block Id | Start Time (dd... | End Time (dd... | Duration (days hh:mm:ss) | KP Start | KP End | Header | Navigation | Multibeam | Roll | Pitch | Heave | Gyro | Tide | SVP |
|--------------|----------|-------------------|-------------------|--------------------------|----------|--------|--------|------------|-----------|------|-------|-------|------|------|-----|
| X_100225N000 | 159 | 25.02.10 09:00:15 | 25.02.10 09:03:18 | 00:03:03 | -0.0274 | 0.3490 | OK+ | OK | OK | OK | OK | OK | OK | L | L |
| X_100225N001 | 160 | 25.02.10 09:10:03 | 25.02.10 09:12:28 | 00:02:25 | -0.0171 | 0.2717 | OK+ | OK | OK | OK | OK | OK | OK | S | L |
| X_100225N002 | 161 | 25.02.10 09:22:36 | 25.02.10 09:26:43 | 00:04:07 | -0.0049 | 0.2650 | OK+ | --- | --- | --- | --- | --- | --- | S | L |
| X_100225N003 | 162 | 25.02.10 09:34:04 | 25.02.10 09:36:15 | 00:02:11 | -0.0162 | 0.2729 | OK+ | --- | --- | --- | --- | --- | --- | S | L |

Figure 120 List view with review status

The **View** facilitates sorting the data relative to the contents of a field. Click on the headline of a column (eg **Block Id**) and the **List View window** will be sorted.

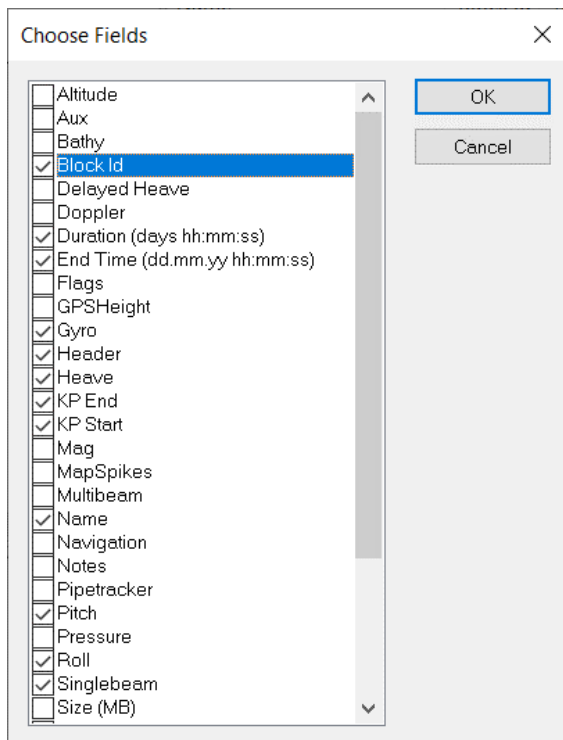


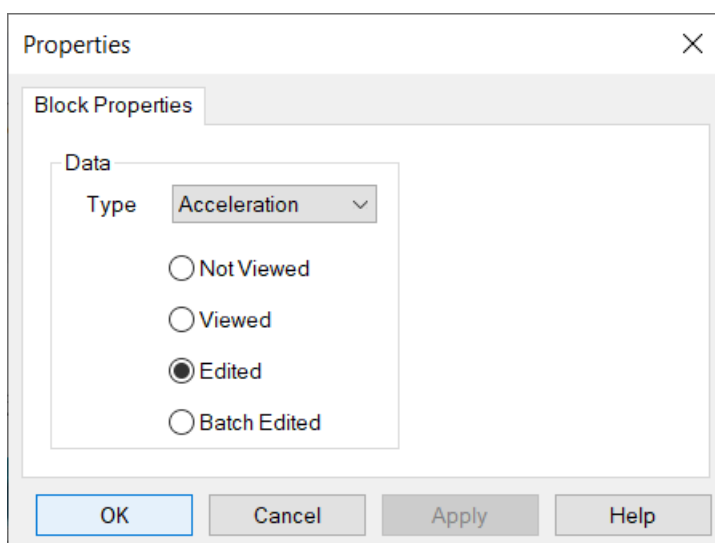
Figure 121 List view fields

Toolbar Toggle on/off

Status Bar Toggle on/off

Refresh Selecting this menu-item (or pressing the F5 key) will force a refresh of the JobPlanner view.

Properties The properties can be changed for a file, a series of files or for an entire folder.



1.6 Tools

1.6.1 Batch Job

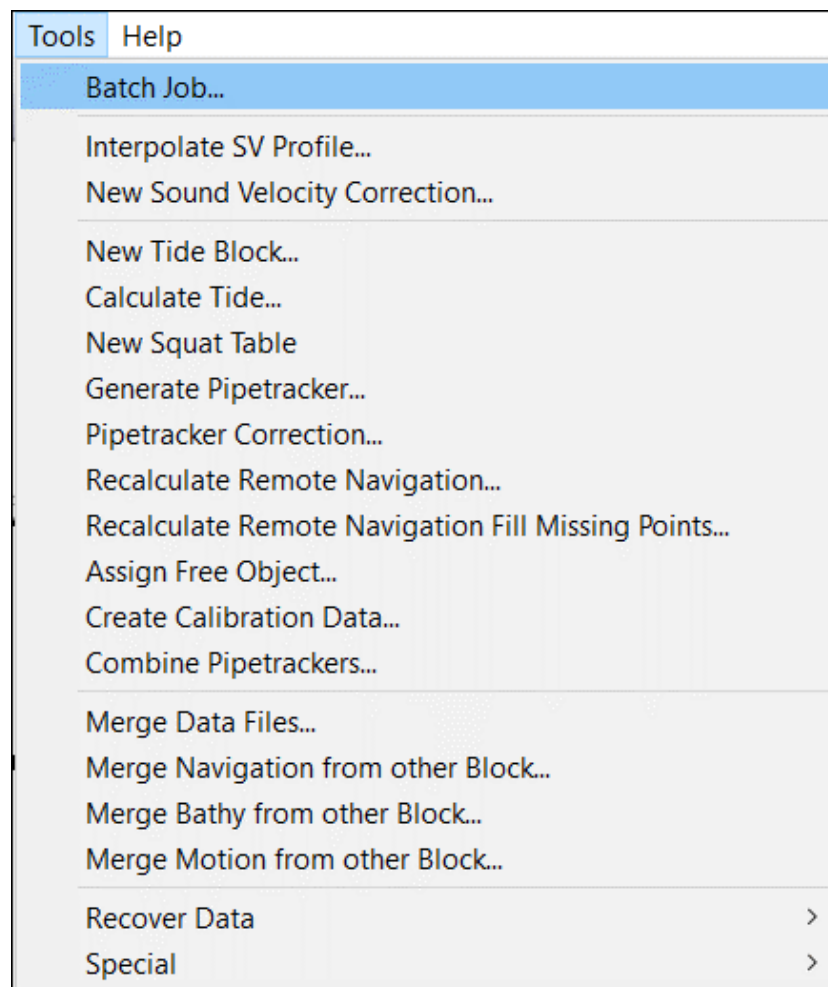


Figure 122 NaviEdit Tools option

NaviEdit can perform batch-processing on a file, a series of files and on an entire folder (including subfolders).

- Highlight the file(s)/folder in question and choose the menu-item **Batch Job**.
This window opens:

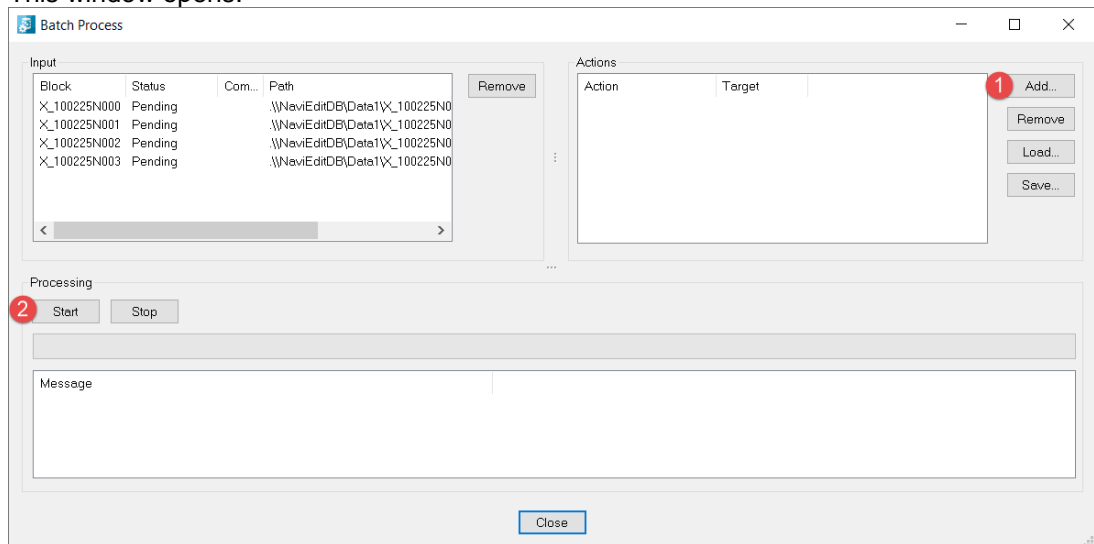


Figure 123 Batch Process window

- First an action must be defined, choose **Add** button to initiate.

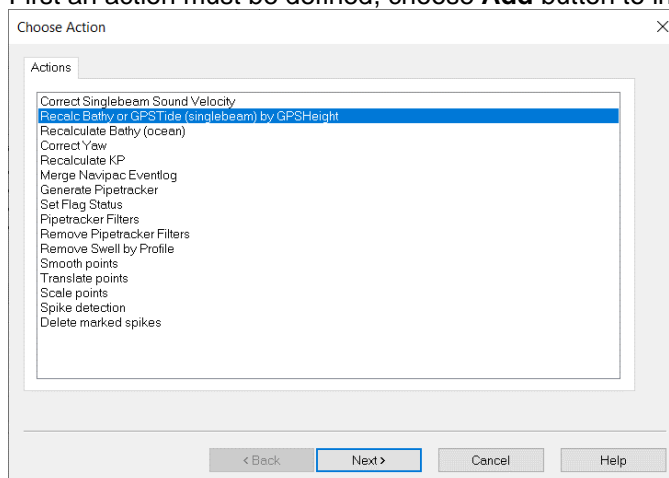
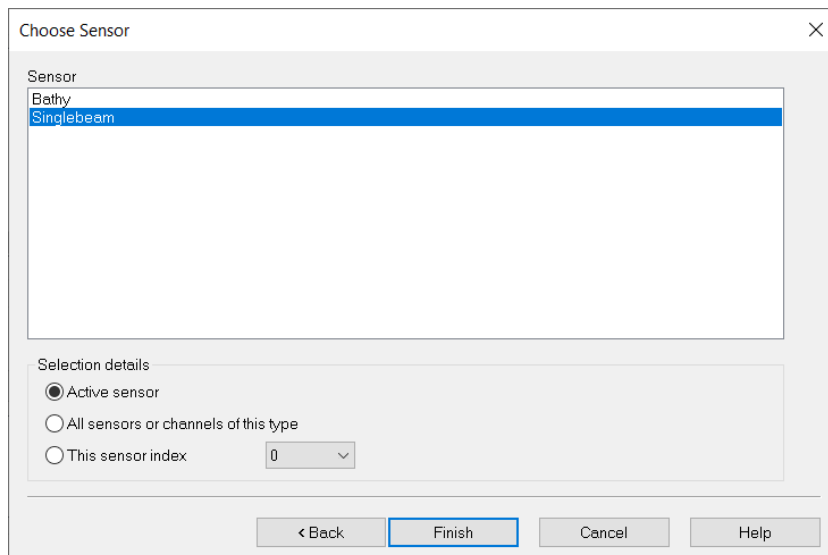


Figure 124 Choose Action

- Here **Recalc Bathy or GPSTide (singlebeam) by GPSHeight**



Choose Sensor

Sensor

- Bathy
- Singlebeam

Selection details

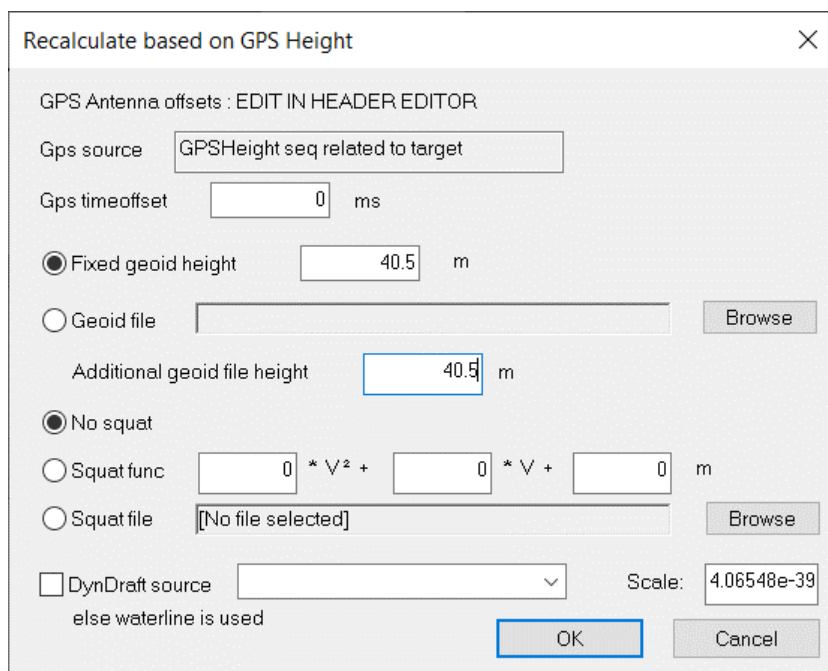
☒ Active sensor

☐ All sensors or channels of this type

☐ This sensor index 0

< Back Finish Cancel Help

Figure 125 Choose Sensor



Recalculate based on GPS Height

GPS Antenna offsets : EDIT IN HEADER EDITOR

Gps source GPSHeight seq related to target

Gps timeoffset 0 ms

☒ Fixed geoid height 40.5 m

☐ Geoid file Browse

Additional geoid file height 40.5 m

☒ No squat

☐ Squat func 0 * V² + 0 * V + 0 m

☐ Squat file [No file selected] Browse

☐ DynDraft source Scale: 4.06548e-39

else waterline is used

OK Cancel

Figure 126 Recalculate based on GPS Height

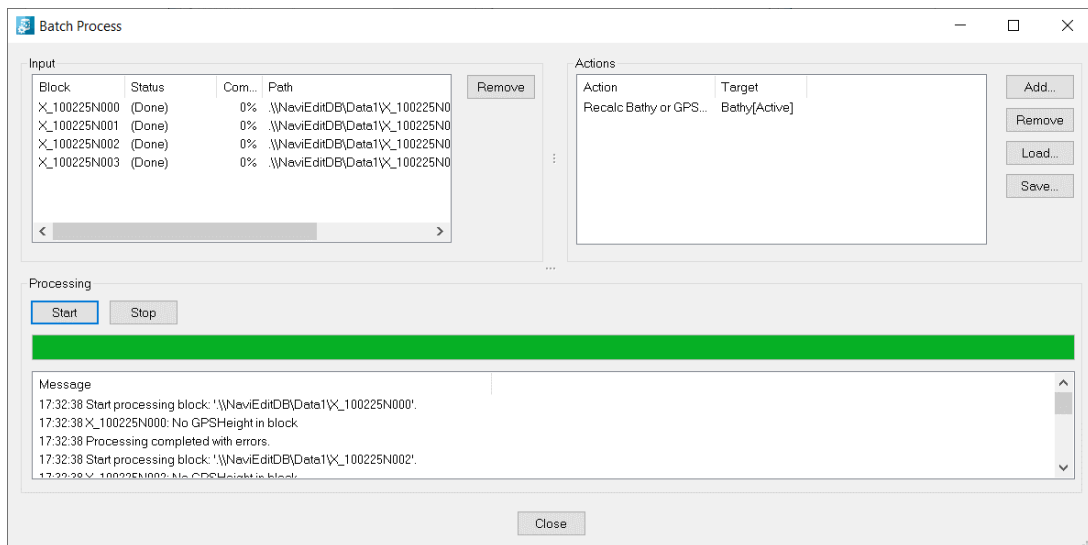


Figure 127 Batch Process

- Press **Start** once all actions have been defined, in the correct sequence. The batch editing will start. Check in the message block that all processings have been completed successfully.

1.6.2 Interpolate SV Profile

If a number of Sound Velocity profiles are available in the SQL database, it is possible to generate an interpolated profile on the basis of two of these. Select two files and invoke the functionality from the menu.

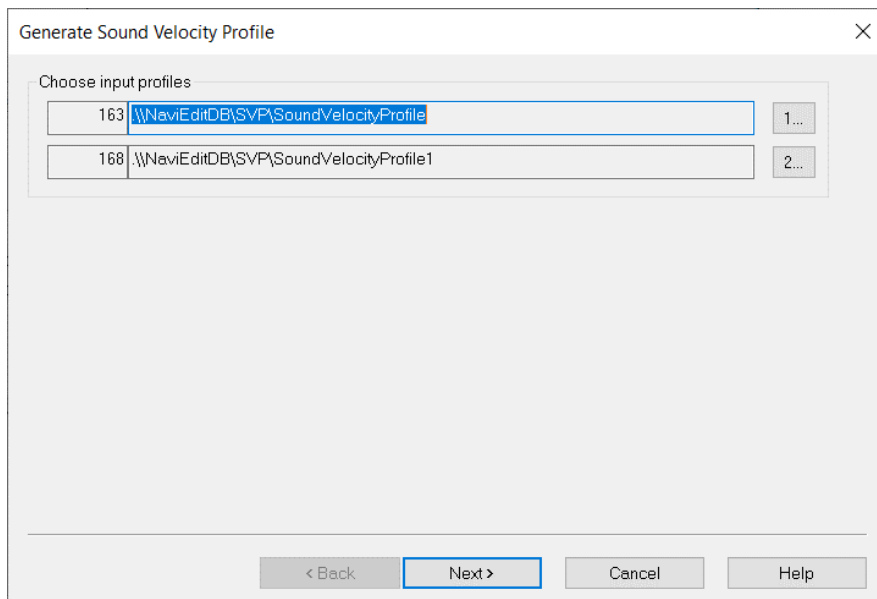


Figure 128 Generate Sound Velocity Profile

Note that it is possible at this stage to reconsider, that is to change the two files, by pressing the browse-buttons ('1...' and '2...')

In the next step, information about the start time and end time is given. Start time is the time of the first file (timewise) whereas end time is the time of the last file. Timespan is therefore the difference between the two time values

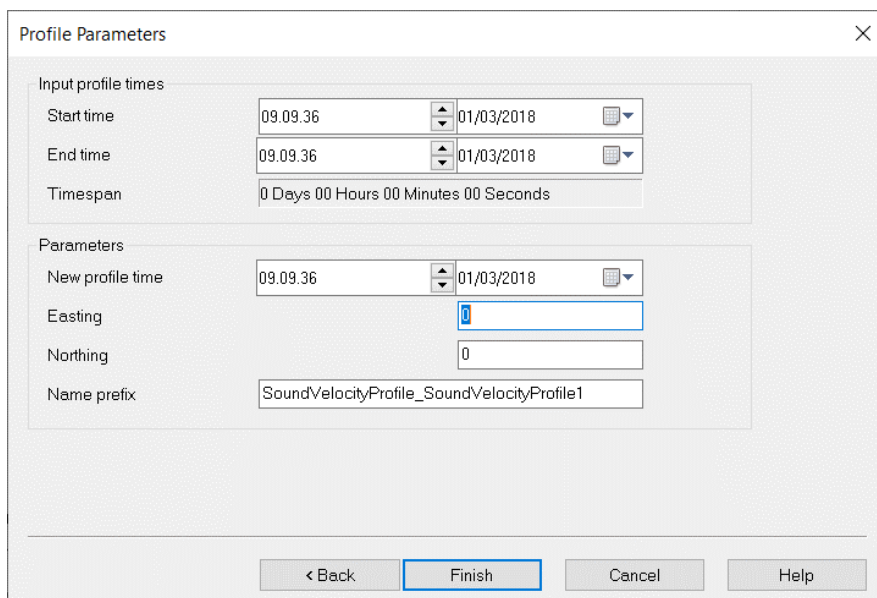


Figure 129 Profile Parameters

The suggested parameters are arrived by averaging the values from the two files. This is valid for time as well as for Easting and Northing coordinates. However the values can be changed by the user. Press **Finish** to generate the file and save it in a user selectable folder

1.6.3 New Sound Velocity Correction

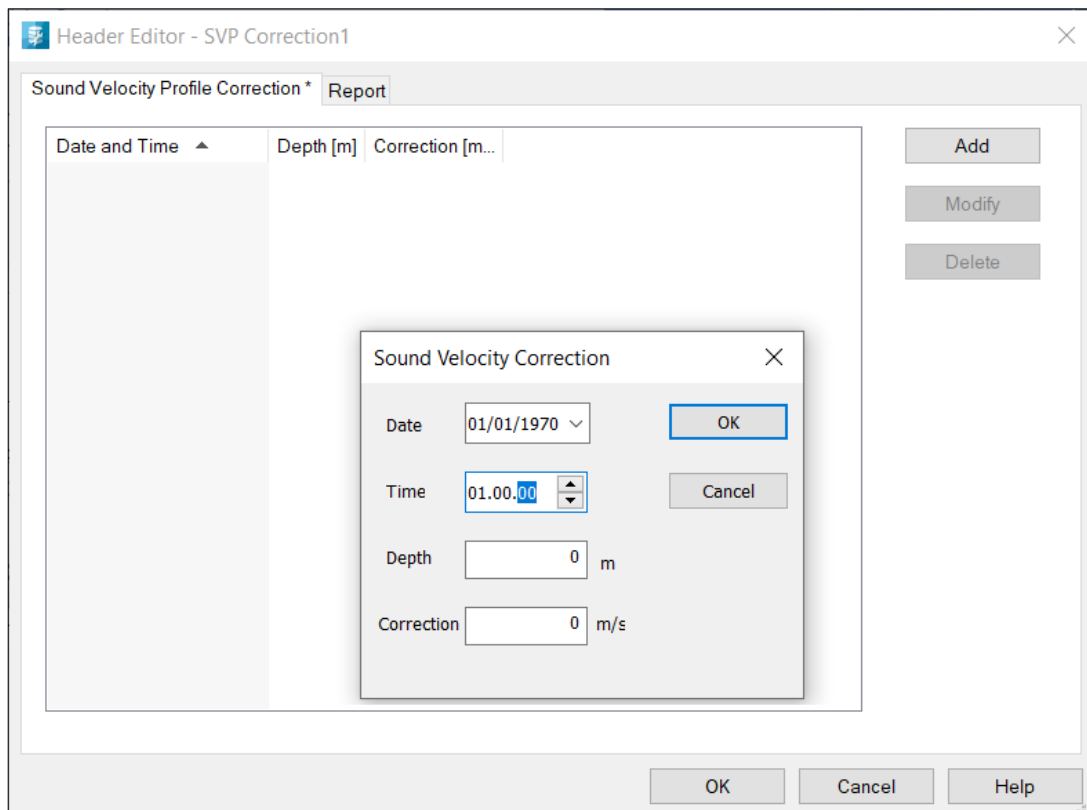


Figure 130 Add a new Sound Velocity Correction

1.6.4 New Tide Block

The **New Tide Block...** functionality generates a new tide block using manual input. To initiate it, highlight a folder and choose the menu-item. Upon exit the user is prompted whether to apply the new tides to the selected blocks

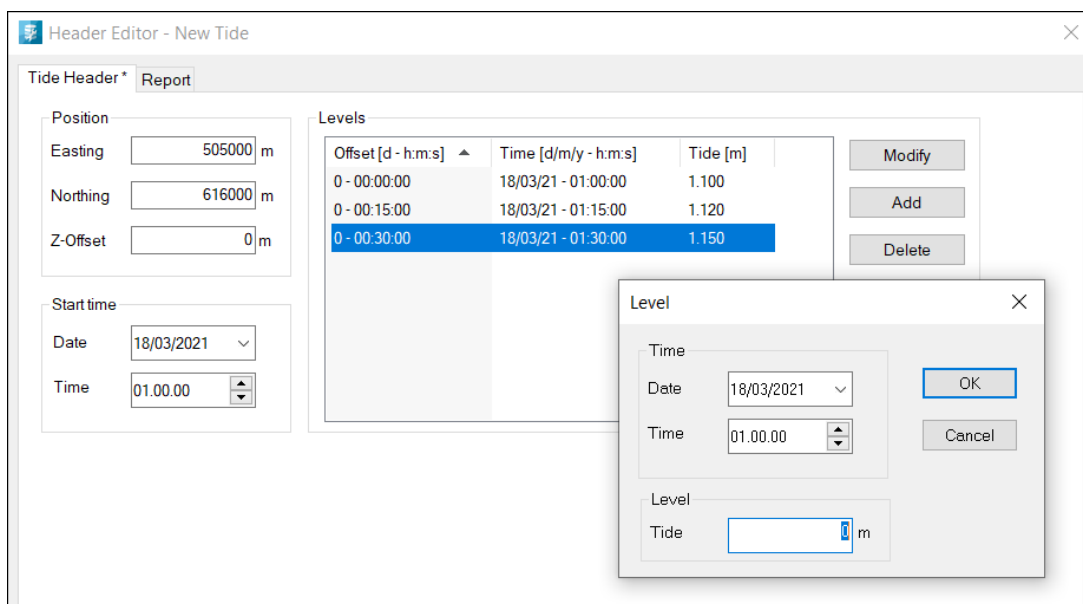


Figure 131 New Tide Block option

1.6.5 Calculate Tide

This function calculates a new tide file based on two or more tidal files that are linked to a survey block. The idea is that you have two tidal files that don't overlap. The calculated tide file will fill the gap.

Highlight the survey block you want to calculate the tide for. The new file is saved next to the survey block.

1.6.6 Generate Pipetracker

This function is used to generate artificial pipetracker information for a single file or a selection of files. The X- and Y-values will by default be 0 – they can then be **autoplaced** relative to the scans in the DataEditor

1.6.7 Pipetracker Correction

This function is used to apply pipetracker corrections from a correction file that again is originating from a calibration of the instrument. The corrections will be applied to the pipetracker data residing in the files selected

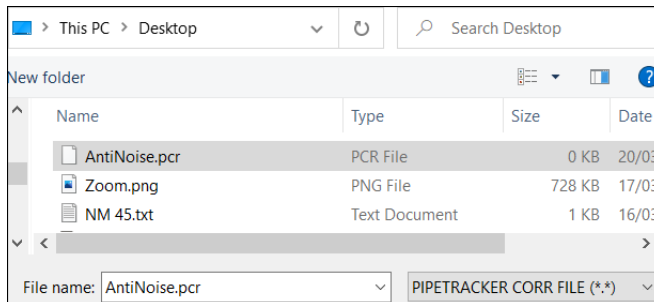


Figure 132 Load PIPETRACKER CORR FILE

1.6.8 Recalculate Remote Navigation

This function is used to calculate USBL information on a block that is depending on another (surface-based) block. Hence only **NaviPac** npd files can be used for this. Assuming you have changed some instrument offsets on the surface vessel. Highlight the surface-based folder and choose **Recalculate Remote Navigation** option in other words the USBL-based positions. The new position is recalculated, taking the revised/edited sensor-information in the surface-based block into account.

Recalculation Settings

Select/de-select all

Select all

Select none

Select object to recalculate

20210318_184838_S_Towfish [TP2]

20210318_184838_S_Towfish

☒

☐

☒

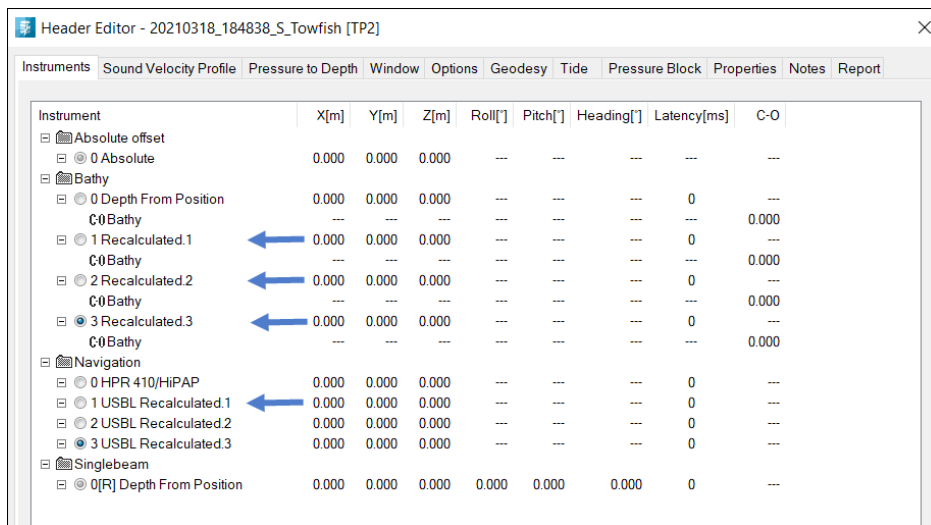
☒

Select the objects to recalculate. The objects will be recalculated in the listed order.

OK

Cancel

Figure 133 Recalculation Settings



| Instrument | X[m] | Y[m] | Z[m] | Roll[°] | Pitch[°] | Heading[°] | Latency[ms] | C-O |
|------------------------------|-------|-------|-------|---------|----------|------------|-------------|-------|
| [-] Absolute offset | | | | | | | | |
| [-] 0 Absolute | 0.000 | 0.000 | 0.000 | --- | --- | --- | --- | --- |
| [-] Bathymetry | | | | | | | | |
| [-] 0 Depth From Position | 0.000 | 0.000 | 0.000 | --- | --- | --- | 0 | --- |
| [-] 1 Recalculated.1 | 0.000 | 0.000 | 0.000 | --- | --- | --- | 0 | 0.000 |
| [-] 2 Recalculated.2 | 0.000 | 0.000 | 0.000 | --- | --- | --- | 0 | 0.000 |
| [-] 3 Recalculated.3 | 0.000 | 0.000 | 0.000 | --- | --- | --- | 0 | 0.000 |
| [-] Navigation | | | | | | | | |
| [-] 0 HPR 410/HiPAP | 0.000 | 0.000 | 0.000 | --- | --- | --- | 0 | --- |
| [-] 1 USBL Recalculated.1 | 0.000 | 0.000 | 0.000 | --- | --- | --- | 0 | --- |
| [-] 2 USBL Recalculated.2 | 0.000 | 0.000 | 0.000 | --- | --- | --- | 0 | --- |
| [-] 3 USBL Recalculated.3 | 0.000 | 0.000 | 0.000 | --- | --- | --- | 0 | --- |
| [-] Singlebeam | | | | | | | | |
| [-] 0[R] Depth From Position | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0 | --- |

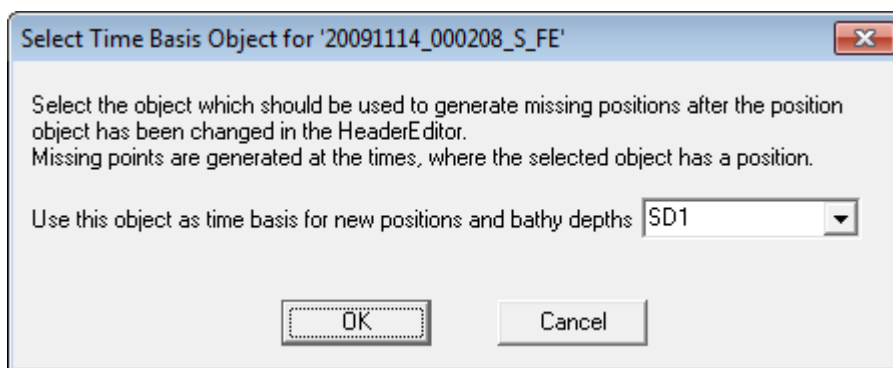
Figure 134 Header Editor of the remote positioned object (towfish) with recalculated positions

See also <Articles/43000540693-usbl-recalculation-in-naviedit>

A special variation of this is associated with I-USBL applications see below.

1.6.9 Recalculate Remote Navigation Fill Missing Points

This function is used to calculate USBL information on a block that is depending on another (surface-based) block. As opposed to the **Recalculate Remote Navigation** function, the function is used only in connection with I-USBL applications. It is used to fill missing points in a data-set on the basis of changes applied in the Header editor



Select Time Basis Object for '20091114_000208_S_FE'

Select the object which should be used to generate missing positions after the position object has been changed in the HeaderEditor.
Missing points are generated at the times, where the selected object has a position.

Use this object as time basis for new positions and bathy depths:

OK Cancel

1.6.10 Merge Data Files

NaviEdit hosts a series of merging functionalities, through which it is possible to substitute and supplement online observations sets that are based on post-processing actions. Most of the formats supported are associated with position and attitude sensor systems.

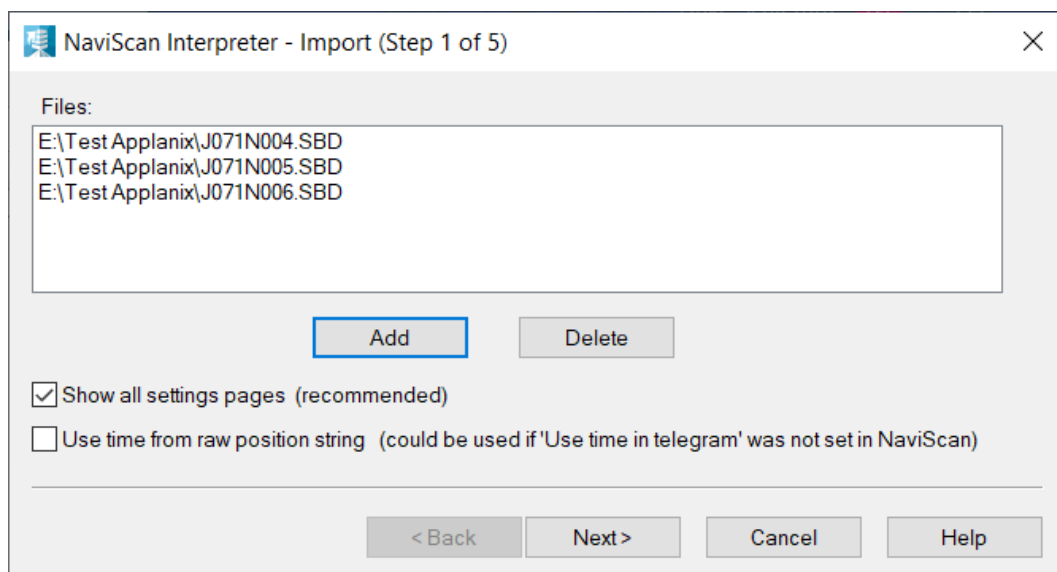


Figure 135 SBD file

- Import an SBD File with eg POSMV Applanix Navigation data

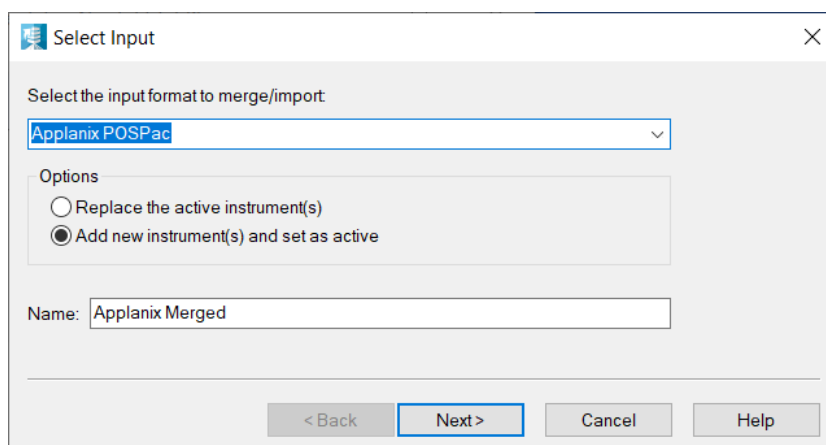


Figure 136 Select Input - Applanix POSPac

- Browse to **Tools / Merge Data** Files option
It contains a series of different formats, that can be used to merge position

information from. All formats can be merged as either a new instrument or to replace the active instrument.
The example originates from SBET-data from the POSMV POSPAC postprocessing package.

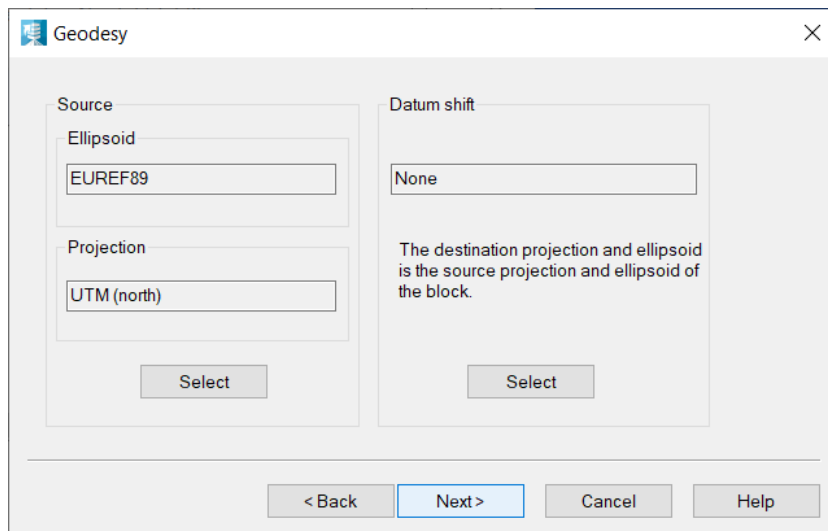


Figure 137 Geodesy

- The next step is to choose from the different formats included in the Input option.

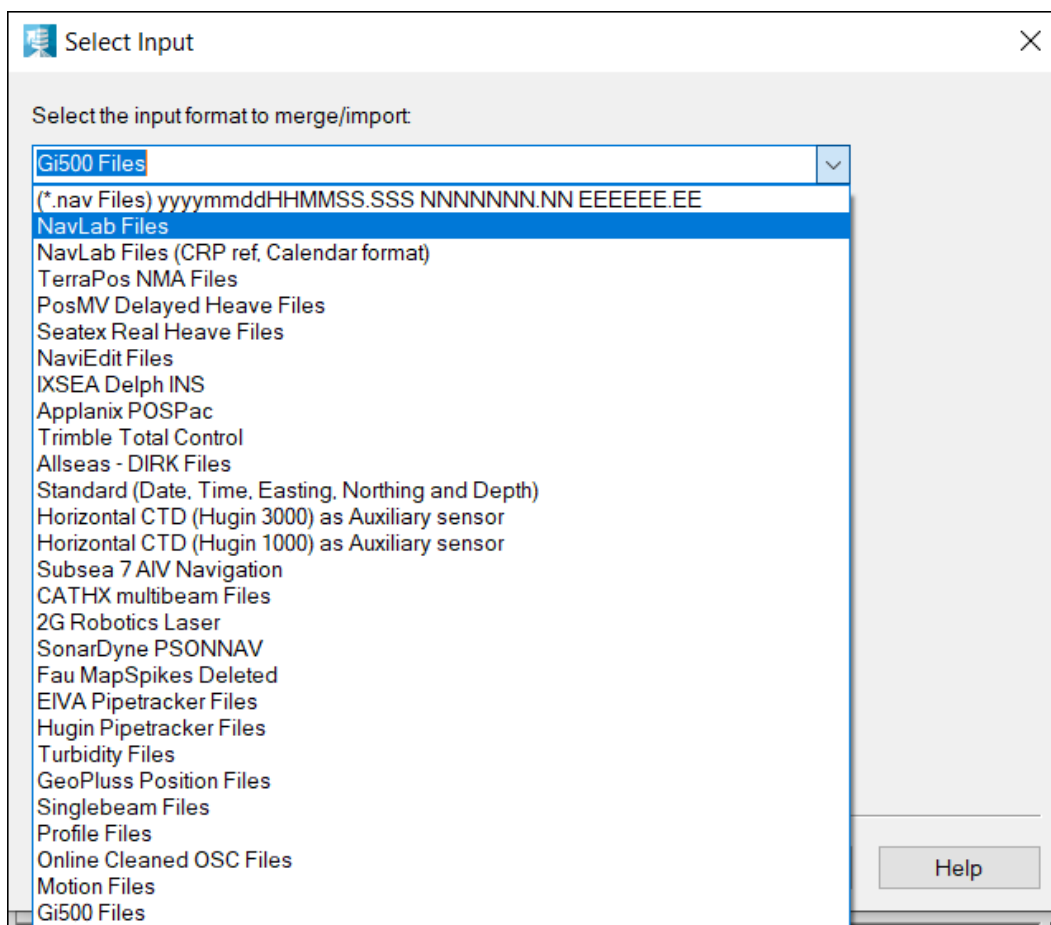


Figure 138 Select the input format to merge/import

(*.nav Files) format uses data exported from NaviEdit using the ASCII nav-format

NavLab Files originate from Hain post-processing of USBL/INS data

NavLab Files (CRP ref. Calendar format)

TerraPos NMA Files originate from the Terrapos software

PosMV Delayed Heave Files is the online, delayed heave-data from POSMV, logged using the NaviPac POSMVIF utility

NaviEdit Files originate from the NaviEdit ASCII-exporter **HAIN Vessel Track**

IXSEA Delph INS are post-processed files originating from the Delph USBL system

Allseas - DIRK Files are associated with a user defined format specified by Allseas

Motion Files

Gi500 Files - merge Navigation and motion data via the Girona 500 merger.

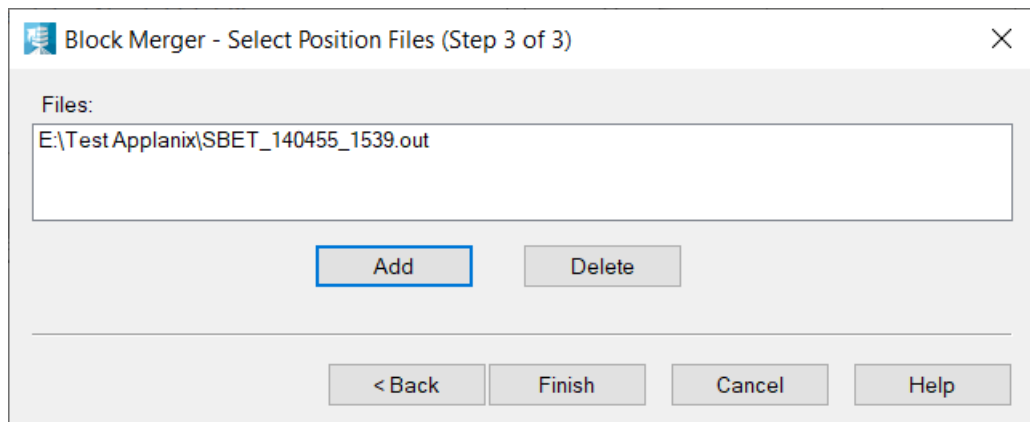


Figure 139 Block Merger – Select Position Files (Step 3 - 3)

- The next step in the example is to define the *.out file that should be merged. Once this is accomplished, a report will pop up, showing the headlines for the merging process

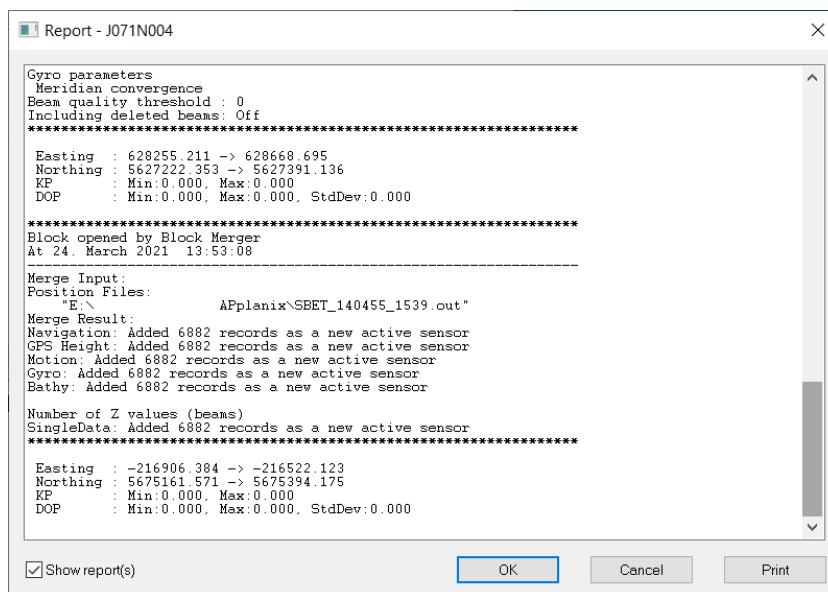


Figure 140 Report with merged instruments

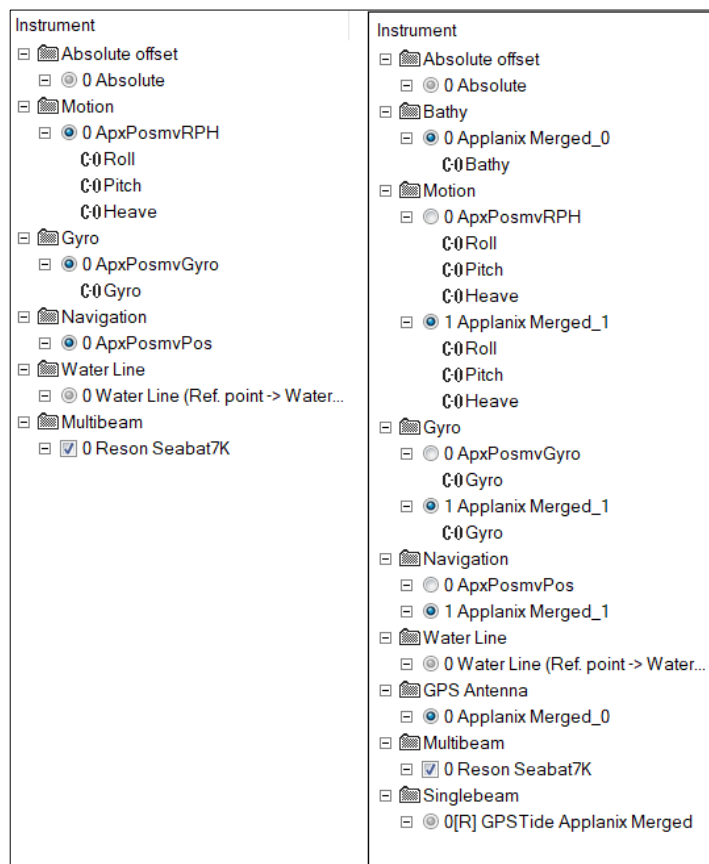
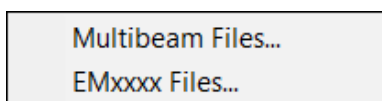


Figure 141 Instruments tab prior to merging, left and after merging, right.

See also <https://eiva.freshdesk.com/support/solutions/articles/43000529417-merge-format>

1.6.11 Recover Data



Multibeam files

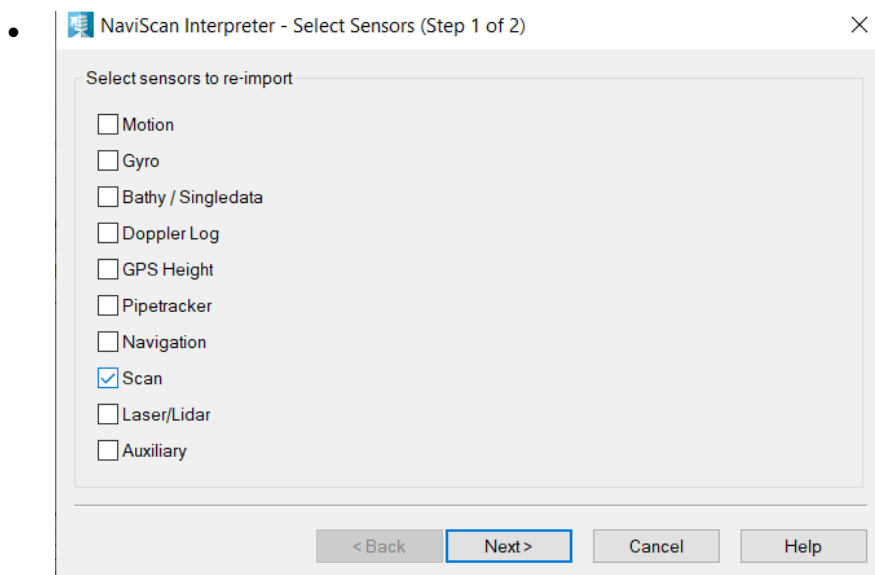
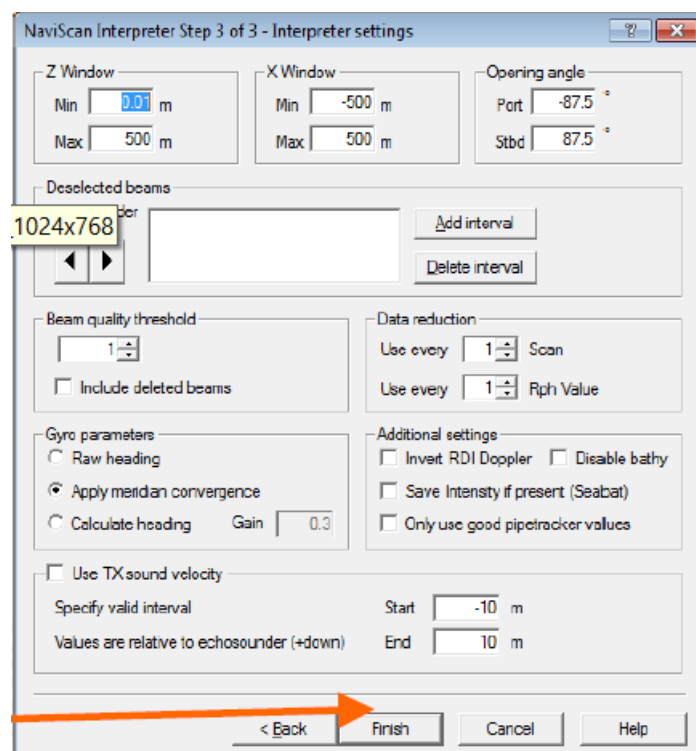


Figure 142 NaviScan Interpreter - Select Sensors (Step 1 - 2)



If data from a sensor has been erroneously edited, it is possible to restore the sensor data from the raw data. When highlighting a block (file) and choosing the menu-item, the window below will appear, in which the user is prompted to locate

the raw data in question.

This appears like first step in the NaviScan Interpreter wizard, in which the second and third steps are identical to the corresponding steps of the standard NaviScan Interpreter

EMxx files

If data from a sensor has been erroneously edited, it is possible to restore the sensor data from the raw Emxx data. When highlighting a block (file) and choosing the menu-item, the window below left will appear, in which the user is prompted to locate the raw data in question. This appears like first step in the Interpreter wizard, in which the second to fourth steps are identical to the second to fourth steps of the standard EMxxxx Interpreter

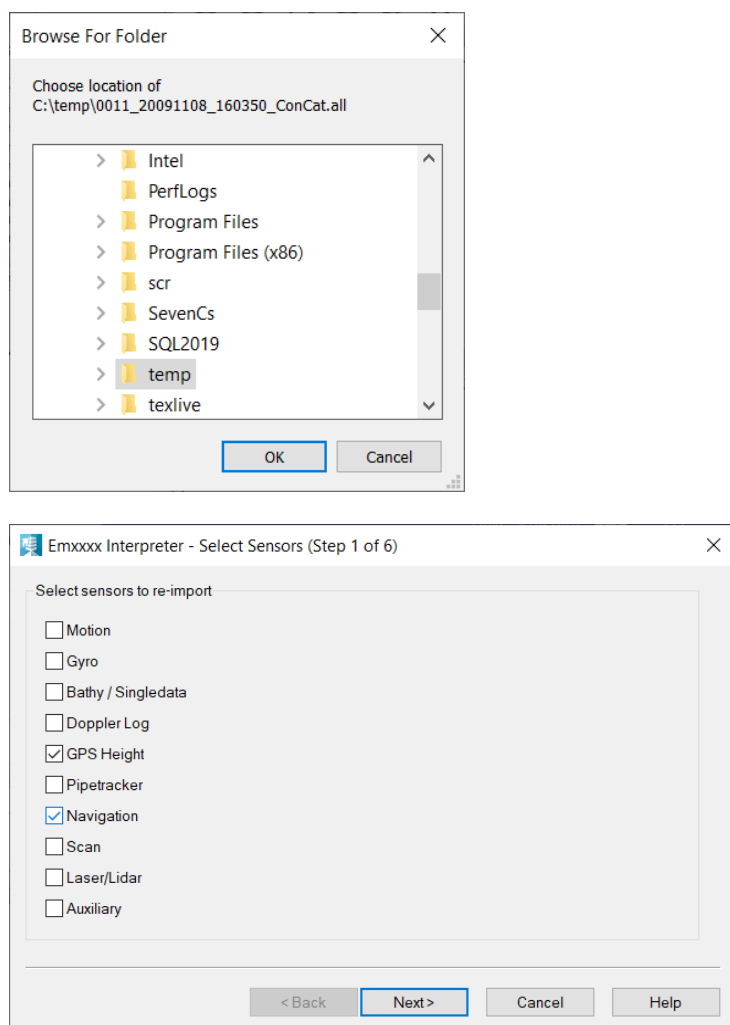


Figure 143 Emxxxx Interpreter - Select Sensors (Step 1 of 6)

Emxxxx Interpreter - Multibeam (Step 4 of 6)

Common to all echosounders

Z Window rel. CRP
 Min m Max m

X Window rel. CRP
 Min m Max m

Beam quality threshold
☐ Include deleted beams

Individual echosounder

Deselected beams

Include filter

Slant range
☐ Use filter
 Minimum m
 Maximum m

Opening angle
☐ Use filter
 Minimum °
 Maximum °

Exclude filter

Slant range
☐ Use filter
 Minimum m
 Maximum m

Opening angle
☐ Use filter
 Minimum °
 Maximum °

< Back **Next >** Cancel Help

Figure 144 Emxxxx Interpreter - Multibeam (Step 4 of 6)

1.6.12 Special

Timesync Blocks...

Extract NP S information from G file...

Move Scans to Correct Block...

Gap handling of Kongsberg files

Copy Fix from Primary Object

SQL query

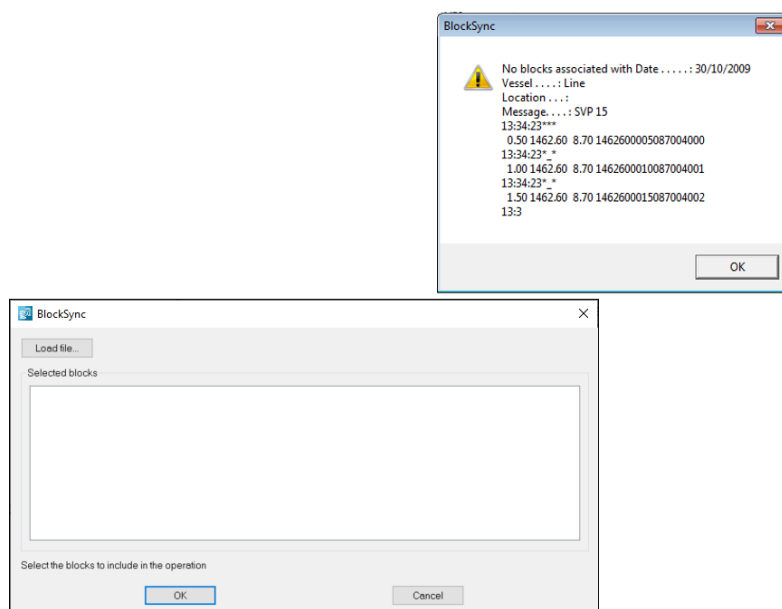
Split Echosounder in Tx and Rx part

Load missing scans from Kongsberg files

Calculate Position from Cable Length

Create empty Bathy sensor

The **Timesync Blocks** functionality will synchronise blocks against a blocksync file.
Load a file format Time Sync Files (*.tdf)



The **Extract NP S information from G file...** functionality converts the General NaviPac logging files to so-called NaviPac Survey-files.
The latter can be loaded into NaviEdit using the NaviPac Interpreter.
The user must enter the Header Data for the S-file manually.

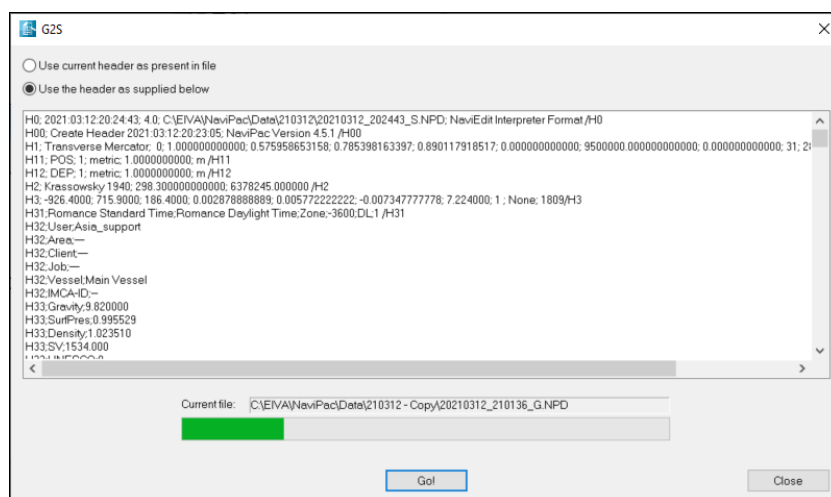


Figure 145 JobPlanner

- The **Merge Sidescan files...** functionality is used to export the sidescan part of multibeam data with certain sidescan parameters

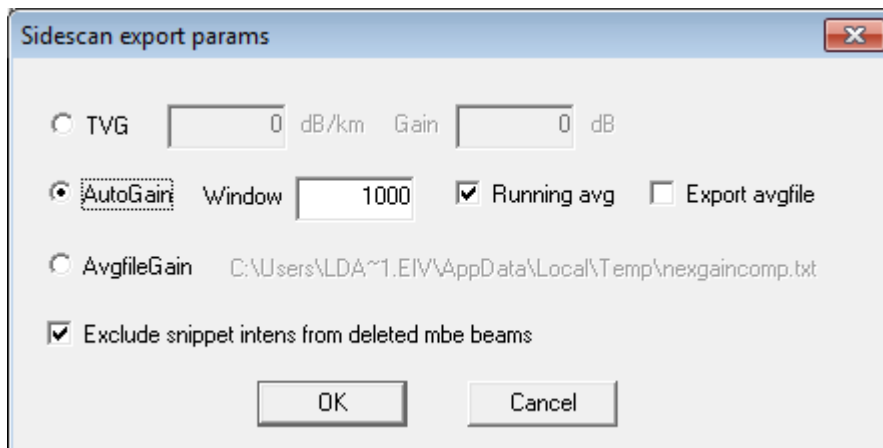
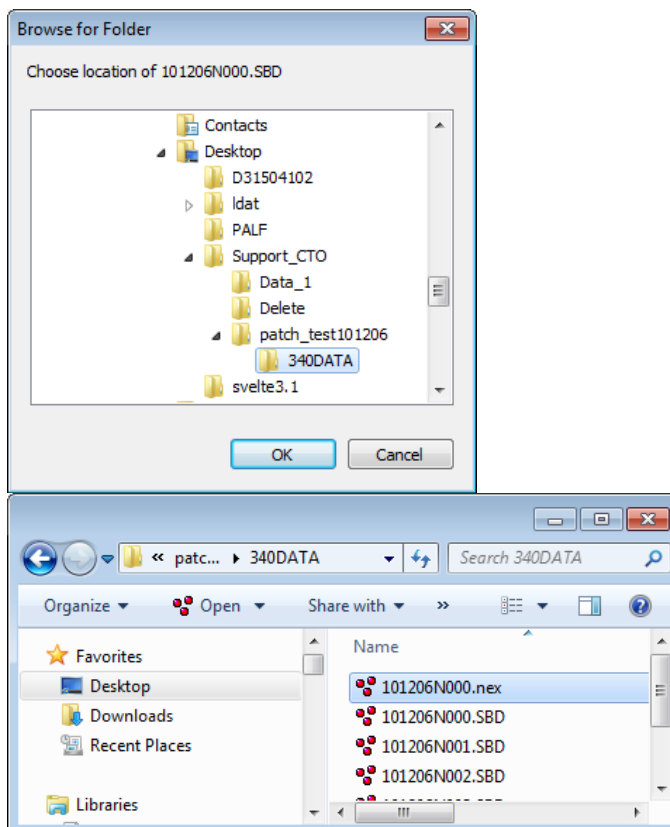


Figure 146 Sidescan export params



2 PlanView Editor

This chapter describes the options of the PlanView Editor.

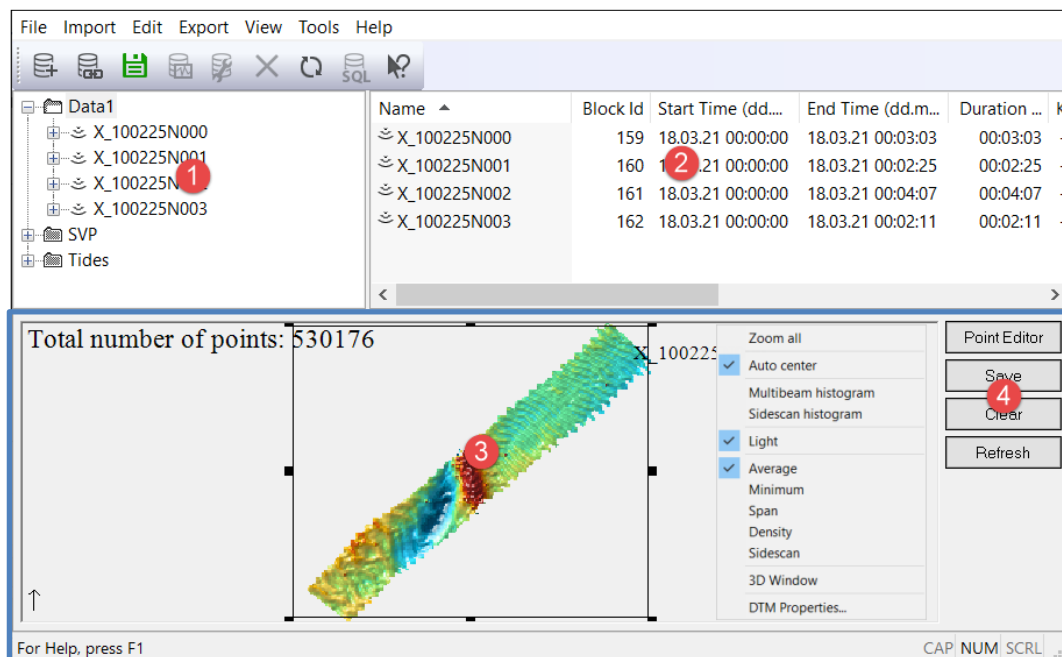


Figure 147 NaviEdit Jobplanner with (1) Project tree, (2) List view, (3) PlanView Editor, (4) PlanView Editor menu toolbar.

(4) shows the four buttons of the Planview Editor toolbar.

- Point Editor**
 Sends selected data to the **EIVA Point Editor** functionality for cleaning.
 Select the data for cleaning by left-clicking on the mouse in one corner and then dragging the cursor to the opposite corner while holding down the left-button. Releasing the button here, will create a rectangular-shaped area that can be moved and resized with the mouse. Once the selection is acceptable, press the Point Editor button to send the data to the Point Editor Cleaning tool.
- Save**
 This button will update the SQL database in accordance with the editing that has taken place in the **EIVA Point Editor**.
- Clear**
 This will clear the contents of PlanView.
- Refresh**
 When the **Refresh** button is activated, the visualization of the PlanView is updated in accordance with the editing that has taken place in the **EIVA Point Editor**.

The PlanView Editor context menu:

- **Zoom all**
This will zoom to show all data currently loaded into the PlanView Editor
- **Auto center**
Enabling this option will force auto-centering of the data currently loaded
- **Multibeam histogram**
Returns a histogram visualization of the data currently loaded, with depth shown in the X-axis and the Y-axis representing the number of points with a certain depth

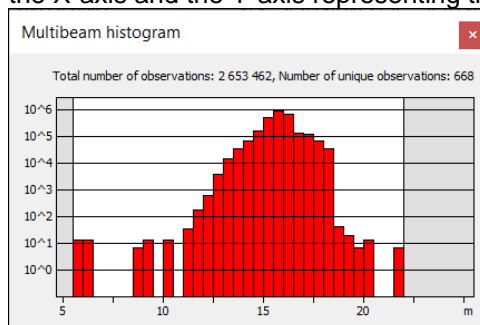


Figure 148 Sidescan Histogram

- **Sidescan histogram**
Toggling between average, minimum, span, density and sidescan representation of the data
- **Light**
- **Average, Minimum, Span, Density, Sidescan**
Span is min max difference in cell
- **3D Window**
Opens the data currently loaded into the PlanView Editor in a 3D window
- **DTM properties**
This opens a dialogue through which it is possible to change properties for the DTM within NaviEdit. Note that the settings will also be used in the DataEditor, whenever relevant

The figure shows a 'DTM Properties' dialog box. It contains the following settings:

| | |
|-------------------|-----------------|
| Max memory usage | 100 MB |
| Initial cell size | 10 cm |
| Frame rate 2D | 5 fps |
| Memory usage | 29.718 MB (30%) |
| Resolution | 10 cm |

At the bottom of the dialog are 'OK' and 'Cancel' buttons.

Figure 149 PlanView editor and its context menu DTM Properties

3 EIVA Point Editor Cleaning tool

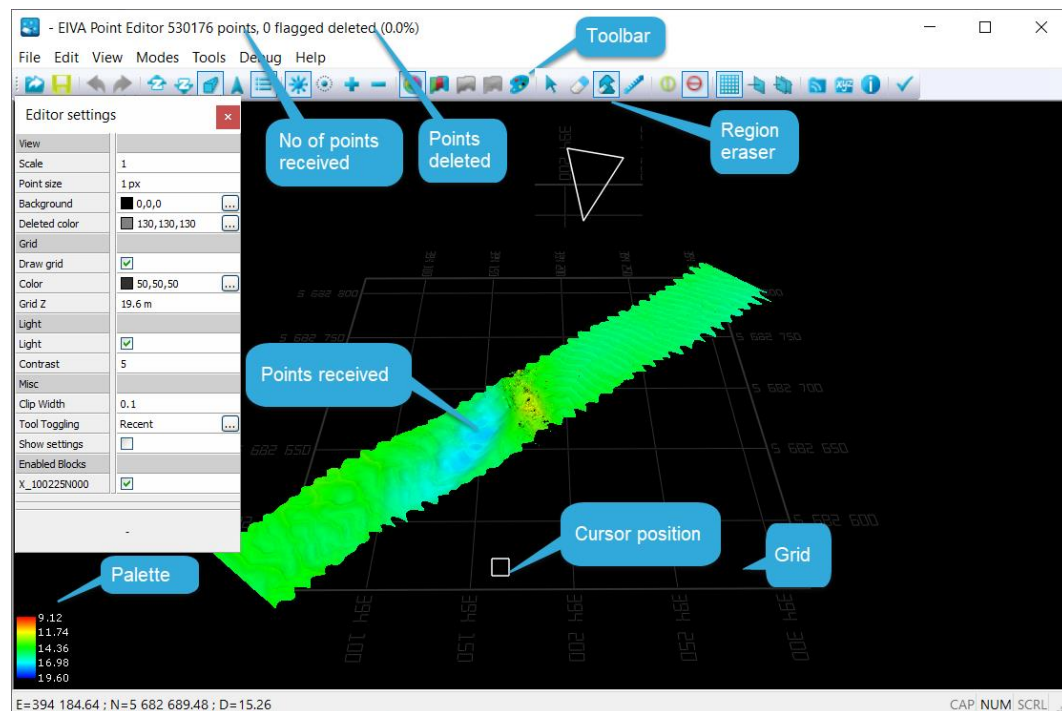
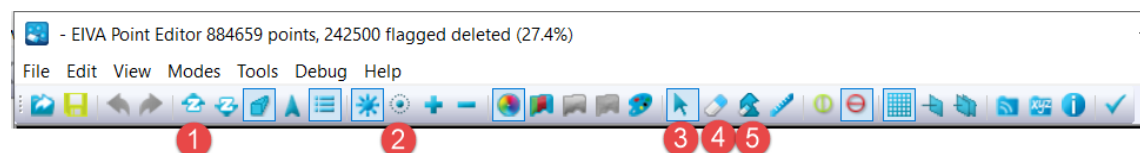


Figure 150 Point Editor user interface

After data selection in the PlanEditor view, it can be edited manually here.

The 3D-based **EIVA Point Editor** manual cleaning, in which the user can see portions of the model area includes a series of tools that can all be easily accessed by use of the mouse (including the wheel of the mouse), from a single click on a key on the keyboard, or from the menu or from buttons in the menu bar.



The user can perform manual cleaning of single points with the **Eraser tool** (4), as well as cleaning of areas with the **Region eraser** (5). Use the mouse wheel to increase/decrease the diameter of the **Eraser tool**.

It is possible to move and rotate the data in the so-called **Navigation mode** (3). In this mode it is furthermore possible to change the scale – horizontally, by turning the mouse

wheel as well as vertically, by simultaneously pressing the CTRL-button and turning the mouse-wheel. Alternatively, the vertical scale can be altered by pressing one of the buttons **Scale up/Scale down** (1).

By default only the accepted points are shown. However, it is possible to show deleted points also via the **Show deleted** button (2). This includes points deleted in the present as well as in previous cleaning sessions that have been done on the data in question.

Once the editing is finalised, close the window, and choose the **Yes** option when prompted to save the changes. This will send the cleaned data back to the Planview Editor.

The user can change the Point Editor settings from the menu bar / View / Settings. See the **Help** information per item on the bottom of the window.

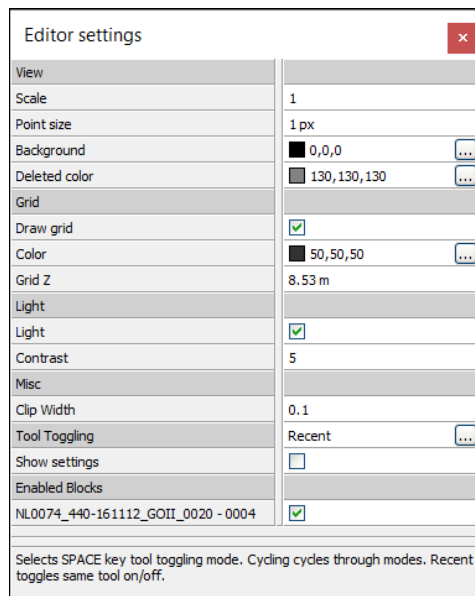


Figure 151 Editor settings with Help text

- **Scale** Vertical scale exaggeration
- **Point size** Size of observations in pixels
- **Background** Background colour
- **Deleted color** Colour of deleted/rejected points
- **Draw grid** Toggle grid on/off
- **Grid Z** Defines the z-position of the grid
- **Contrast** Light contrast. High values give darker colors when surface points are away from the light source
- **Clip Width** When two clipping planes are used to isolate data for editing, this defines the width of the clipping plane
- **Tool Toggling** Tool toggling (cycling cycles through the three modes, recent toggles same tool on/off). Switch between tools by clicking spacebar
- **Show settings**

- **Enabled Blocks**

3.1 Help

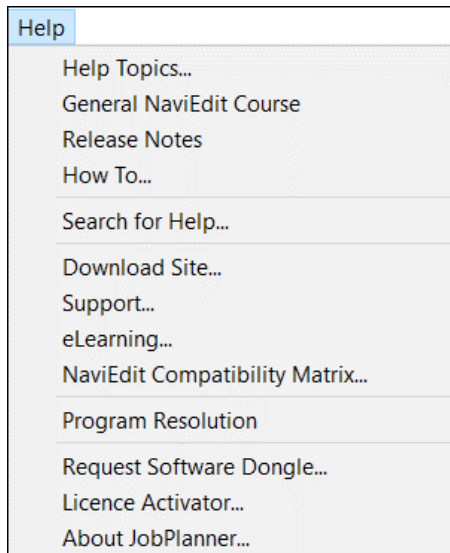
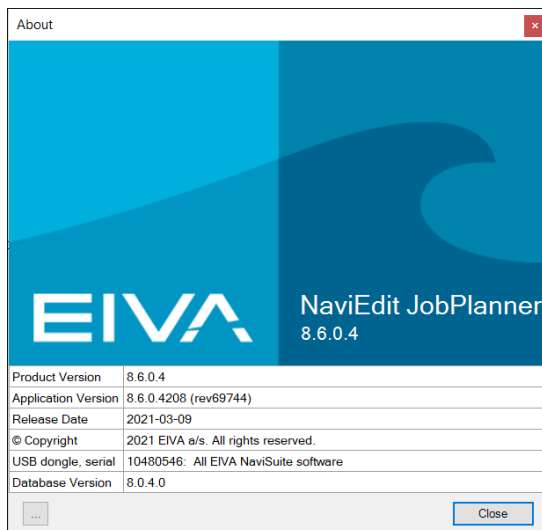


Figure 152 Help context menu

The **About JobPlanner** window contains information about the Jobplanner version, the database version and it displays relevant dongle information



4 Other functions



Figure 153 NaviEdit toolbar

- **Create new database** - Create a new local database
- **Attach database**- Locally attach old database files
- **Save Settings** - Save position an size an other settings of the JobPlanner
- **DataEditor** - Open the Data Editor with the selected blocks
- **HeaderEditor** - Open the HeaderEditor with the selected blocks
- **Delete** - Delete the selected blocks/folders
- **Refresh** (F5)
- **Execute a SQL query** - Execute a SQL query and export it as a csv file
- **Help (Shift+1)** - DIsplay help for clicked on buttons, menus and windows

The **NaviEdit toolbar** can be disabled (from the View menu-item) and it can be moved to another location. The toolbar functionalities are also accessible from the main menu of the JobPlanner program or, in some cases, from the Explorer Panel and/or the List View. The 'Help' function is slightly different when activated from the toolbar, since it will show a cursor that can then be used to point at items on the JobPlanner user interface. The associated Help information will then open as a consequence. Help can also be activated by pressing the F1 button

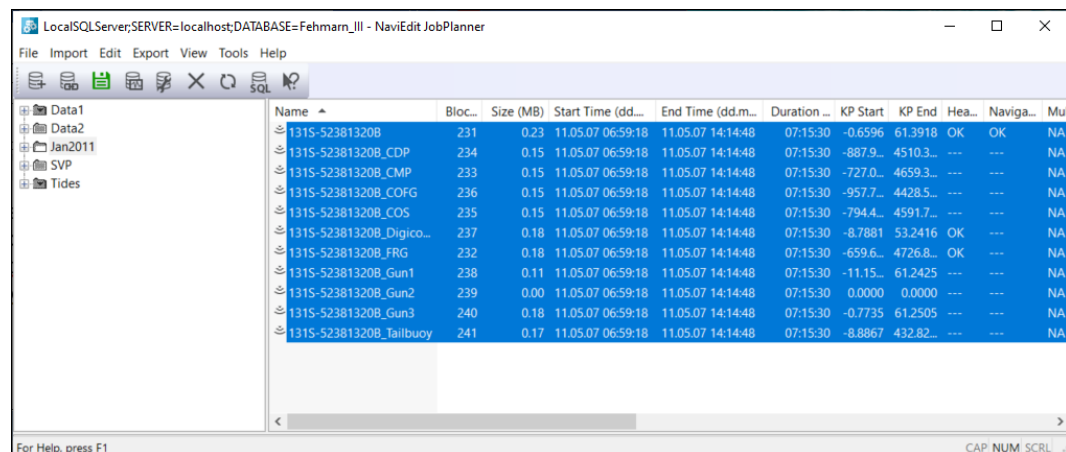


Figure 154 JobPlanner

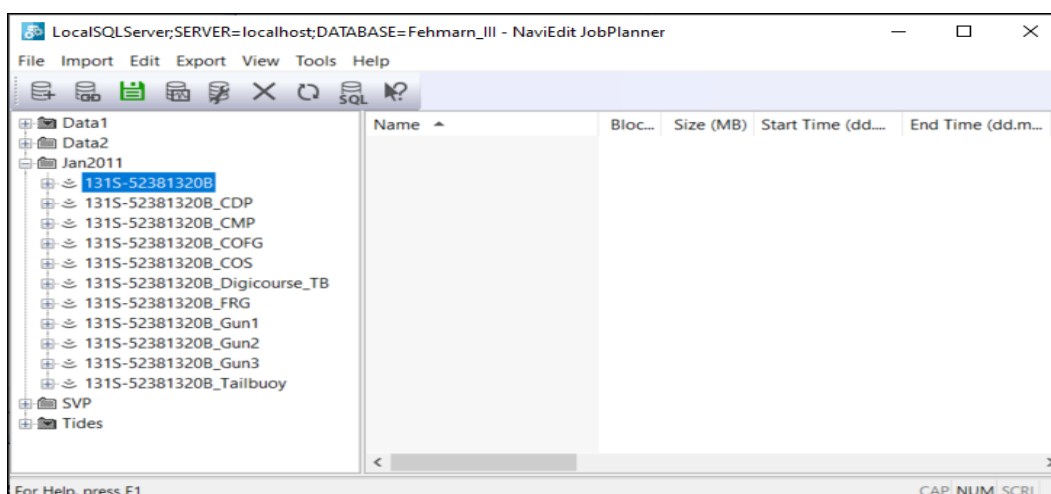


Figure 155 JobPlanner

It is possible to drag-and-drop a block/file, a series of blocks/files or an entire folder from one location to another in the SQL-database.

The report of a block is available from the Explorer Panel only. It will appear in the panel when exploding the block in question. To see the report, just double-click on it as shown here

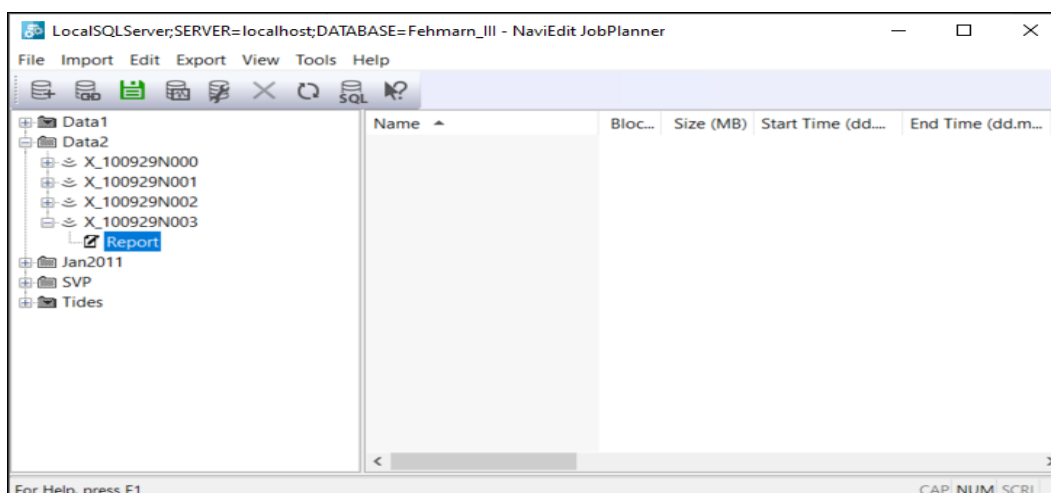
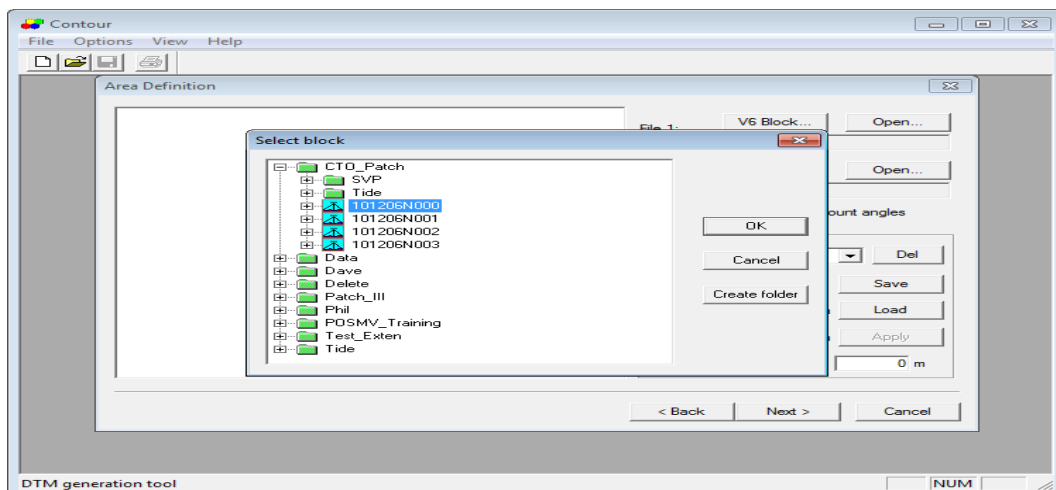
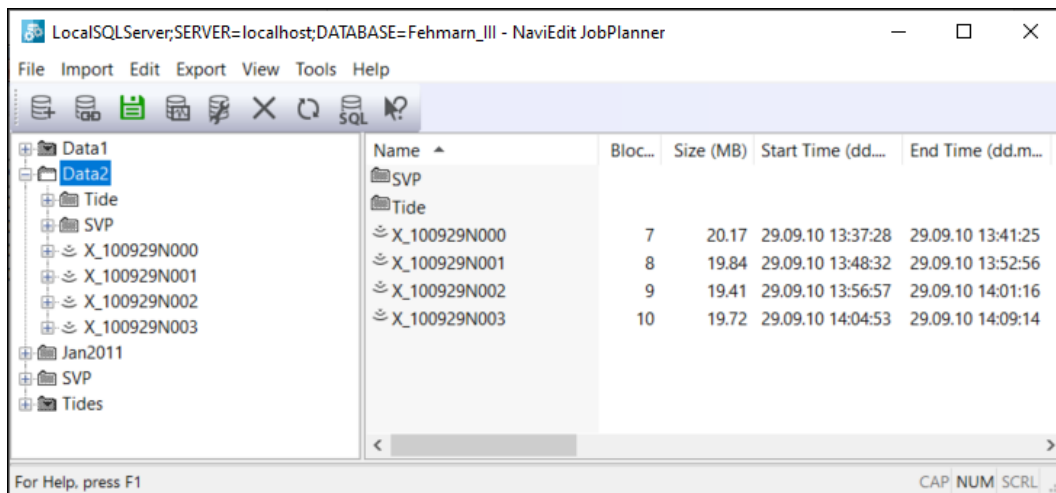


Figure 156 NaviEdit Report

It is possible to link from Contour to the SQL-database in connection with the patch test functionality here. Within NaviEdit, the data must first be edited and checked for gross errors (offsets, C-O values, latencies etc). Inside NaviEdit the data must also be corrected for tidal-and for sound-velocity variations. Once this has been accomplished, the patch-test can be performed from within Contour.



It is possible to link from NaviModel4 to the SQL-database to be able to load the files into a new or into an already existing Terrain Model.

At the same time, it is possible to send data back from NaviModel4 to the SQL database.

It is thereby possible to perform eg automatic cleaning within NM4 and then send the updated information back to NaviEdit.

See also the option **Point Cleaning toolbox / Save to external** in NaviModel.

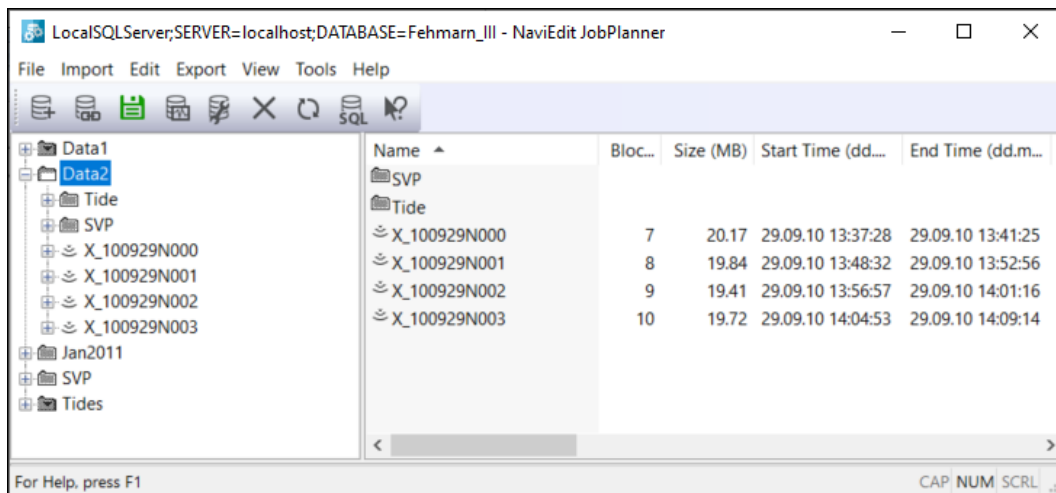


Figure 157 JobPlanner

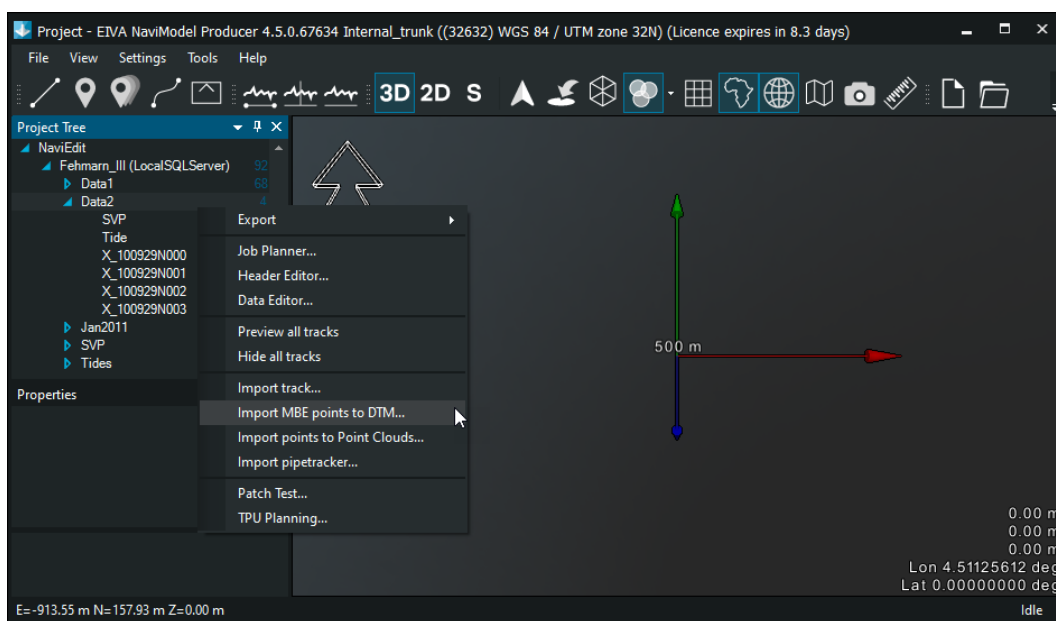


Figure 158 Import MBE points to DTM

- To view the survey perimeter(s) and the I and J Origin, the seismic bin grid block must be linked to a survey file in the **HeaderEditor**.

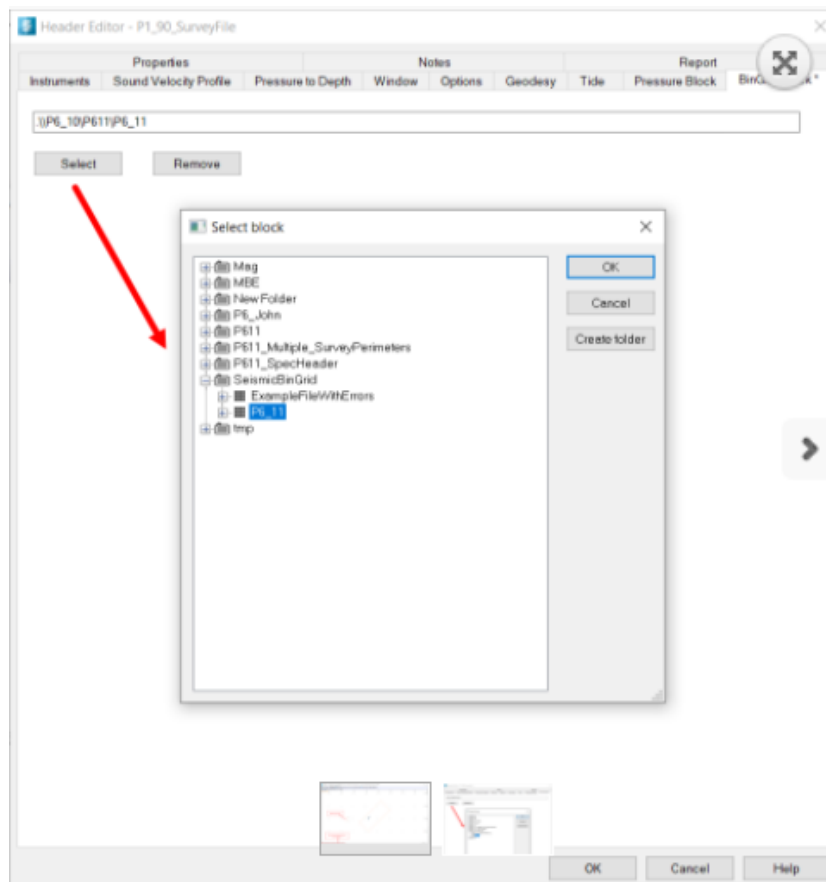


Figure 159 Header Editor - Survey file saved into the Seismic Bin Grid folder

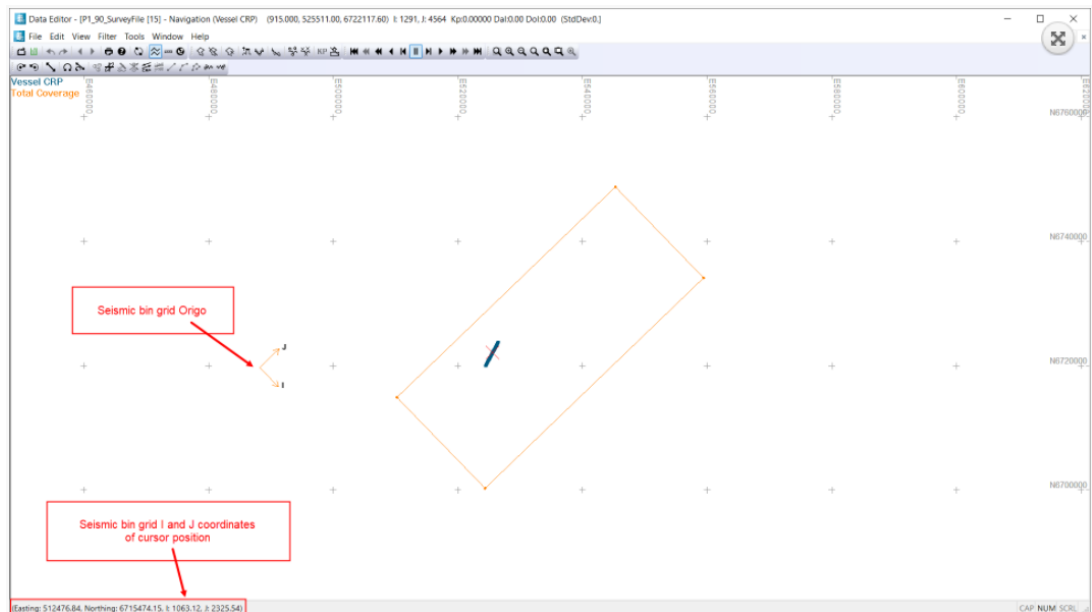


Figure 160 Data Editor Navigation view with Seismic Bin Grid

4.1.1 Pipetracker example

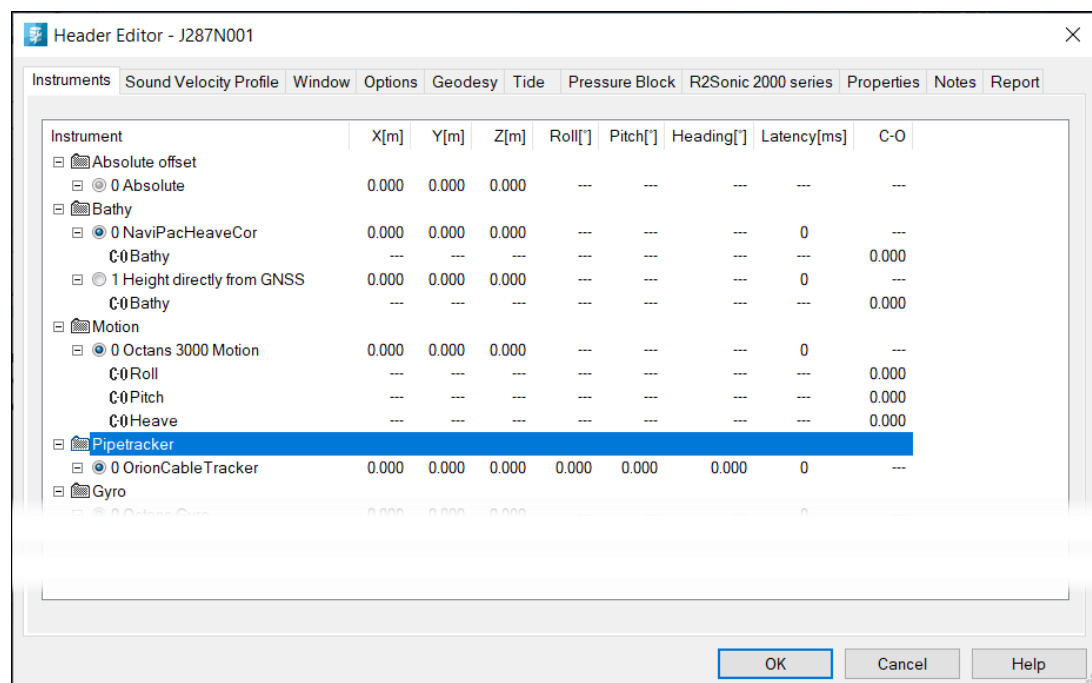


Figure 161 Header Editor with Pipetracker data

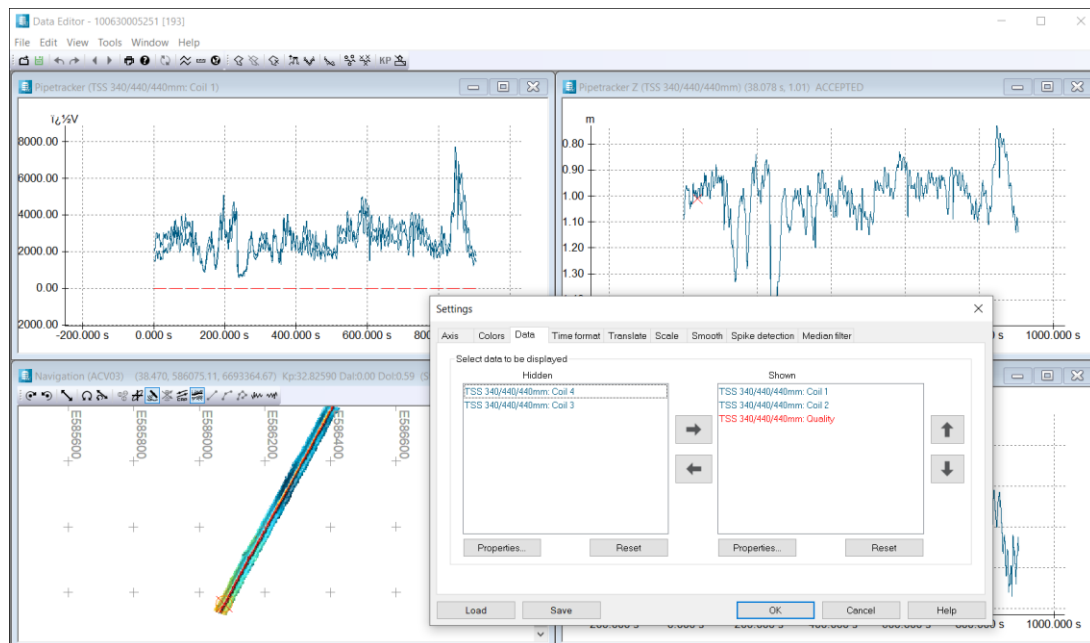


Figure 162 Pipetracker in the DataEditor.