

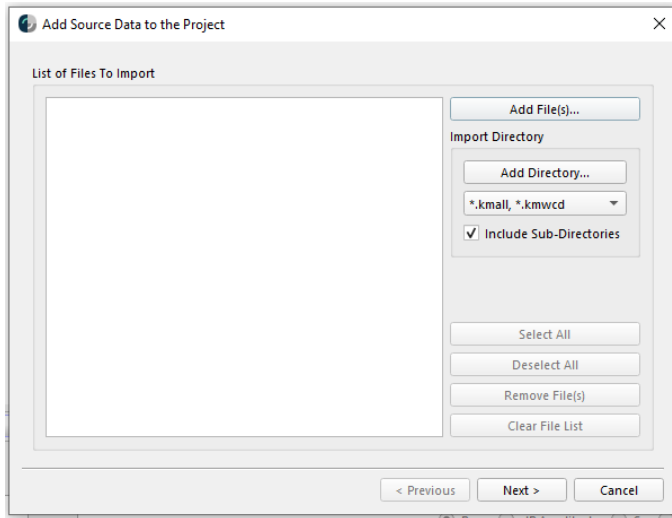
Basic FMMidwater Processing & Viewing Procedure

16OCT2023

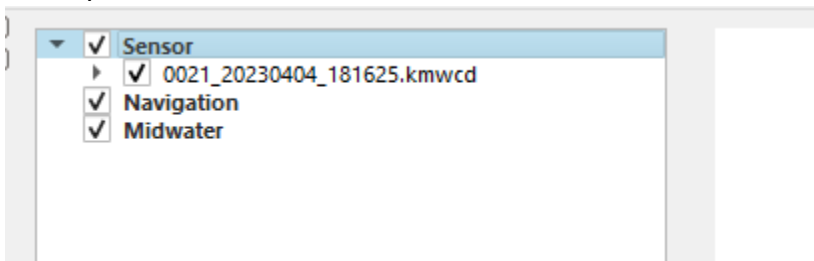
Harper Umfress

FMMidwater Processing

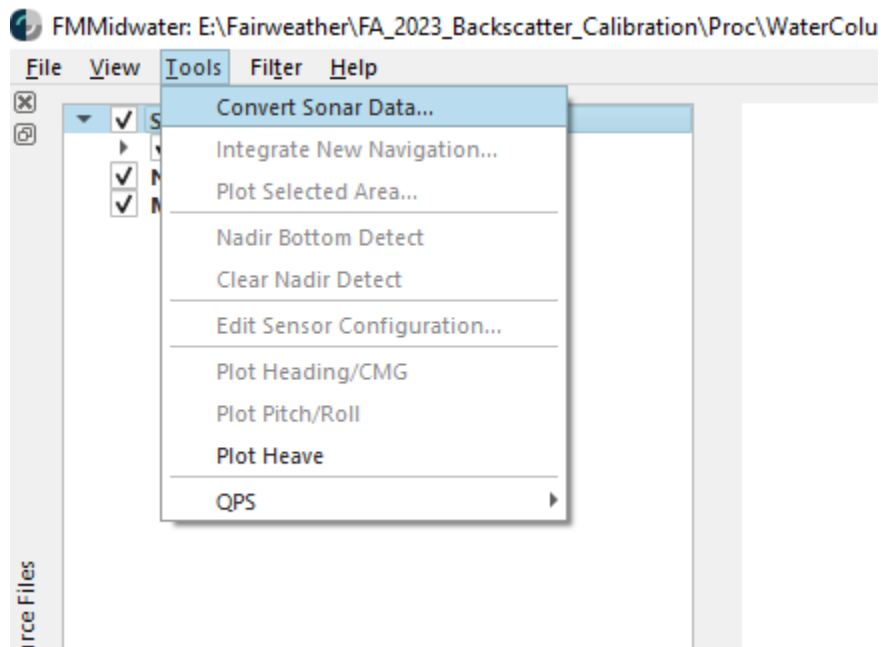
1. File -> Create Project
2. File -> Add Sonar Files. Be sure to change file format to .kmal/.kmwcd



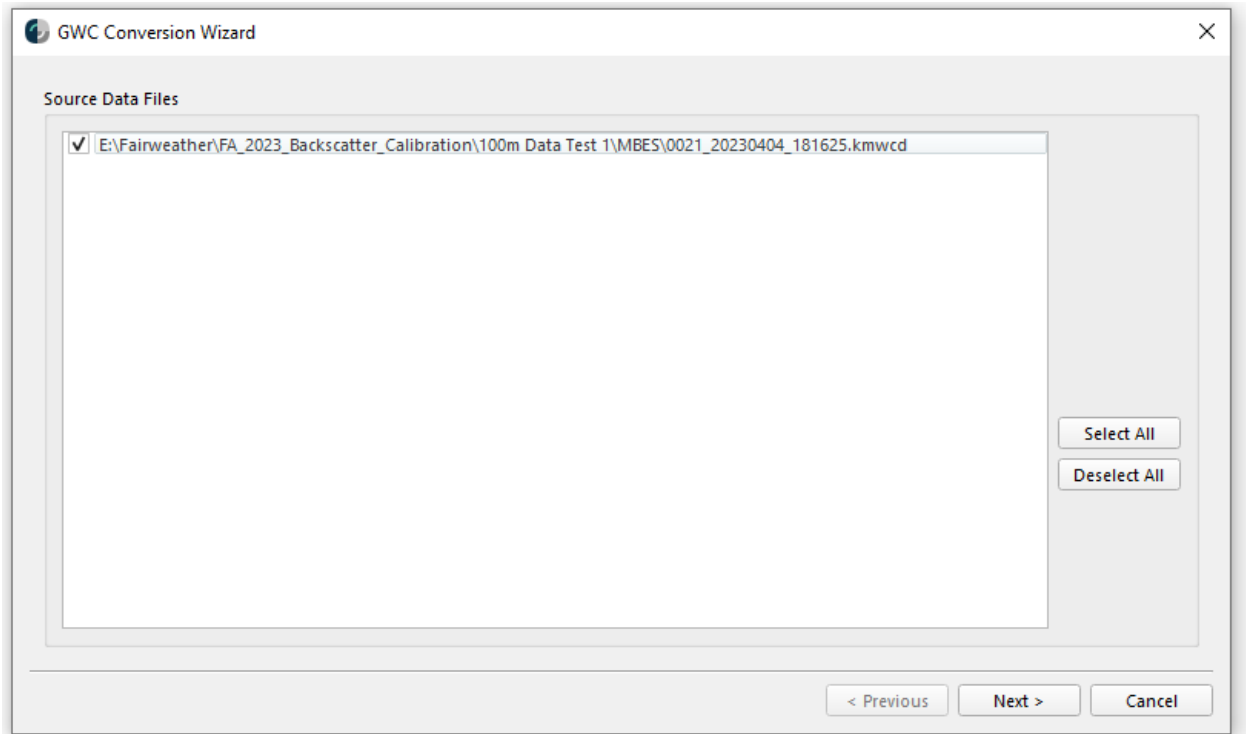
3. Add just the .kmwcd files.
4. WGS84 is probably fine for the coordinate system.
5. Press finish.
6. In the pane on the left, select Sensor



7. Tools -> Convert Sonar Data



8. Check the lines you want and hit next



9. Configure as such. You should be fine using the real-time navigation in the .kmwcd.

The screenshot shows the 'GWC Conversion Wizard' dialog box. The 'Navigation' section contains a table with two columns: 'Water Column Source' and 'Navigation Source'. The first row has the value '0021_20230404_181625.kmwcd' in both columns. Below the table, the 'Navigation Options' section has three radio buttons: 'Use file' (unselected), 'Use selected' (selected), and 'No navigation' (unselected). There is also a checkbox for 'Nav Smoothing' (unchecked) and a 'Filter Size' input field set to '12'. The 'Adjust Z Using' section has two radio buttons: 'Manual' (selected) with a value of '0.00' in the adjacent input field, and 'Model' (unselected). At the bottom right, there are buttons for '< Previous', 'Next >', and 'Cancel'.

	Water Column Source	Navigation Source	
1	0021_20230404_181625.kmwcd	0021_20230404_181625.kmwcd	...

Navigation Options

☐ Use file

☒ Use selected

☐ No navigation

☐ Nav Smoothing Filter Size

Adjust Z Using

☒ Manual

☐ Model

< Previous Next > Cancel

10. DON'T Downsample and ensure both swaths are selected.

The screenshot shows the 'GWC Conversion Wizard' dialog box. The 'Downsample Factor' section has a row of radio buttons: 'None' (selected), '2', '4', '8', '16', and '32'. The 'Concatenation' section has a checkbox 'On' (unchecked) and a 'GWC File' input field. The 'Dual Swath Selection' section has three radio buttons: 'Both' (selected), 'First Only', and 'Second Only'. At the bottom right, there are buttons for '< Previous', 'Finish', and 'Cancel'.

Downsample Factor

☒ None ☐ 2 ☐ 4 ☐ 8 ☐ 16 ☐ 32

Concatenation

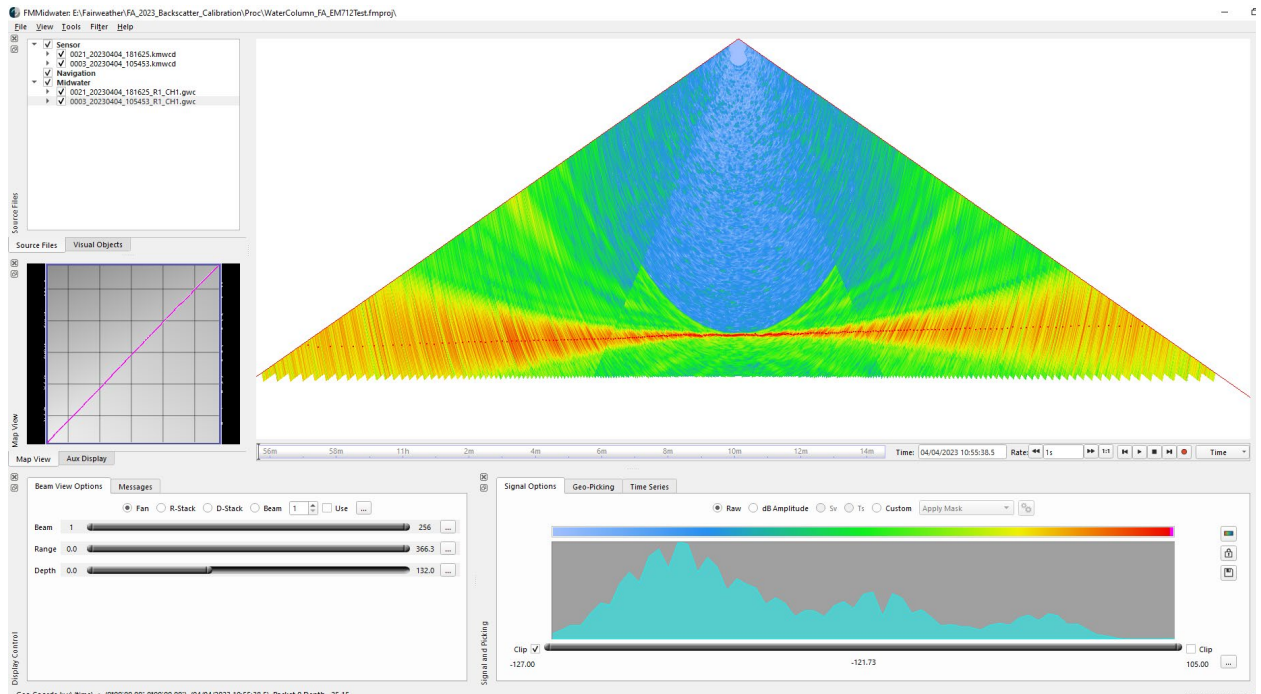
☐ On GWC File

Dual Swath Selection

☒ Both ☐ First Only ☐ Second Only

< Previous Finish Cancel

11. Press finish. It will process and you should see watercolumn.



Viewing Watercolumn Data

Three things to distinguish: the fan view, the r-stack view, and the d-stack view.

The fan view is similar to the watercolumn display in SIS. It is ping-by-ping. Single “scrolls” of the scroll wheel should advance you from ping to ping.

The R-Stack is an averaged “curtain” view of the side, where pings are averaged along lines of constant *range*. This can be very useful for seeing direct interference or other phenomenon that occur at the same instant in the rx cycle.

The D-Stack is an average “curtain” view from the side, where pings are averaged along lines of constant *distance*. This can be useful for seeing objects that are oriented horizontally in the water. Scattering layers, ships, objects, etc.

If you’re looking for something small, I recommend reviewing all three very closely.