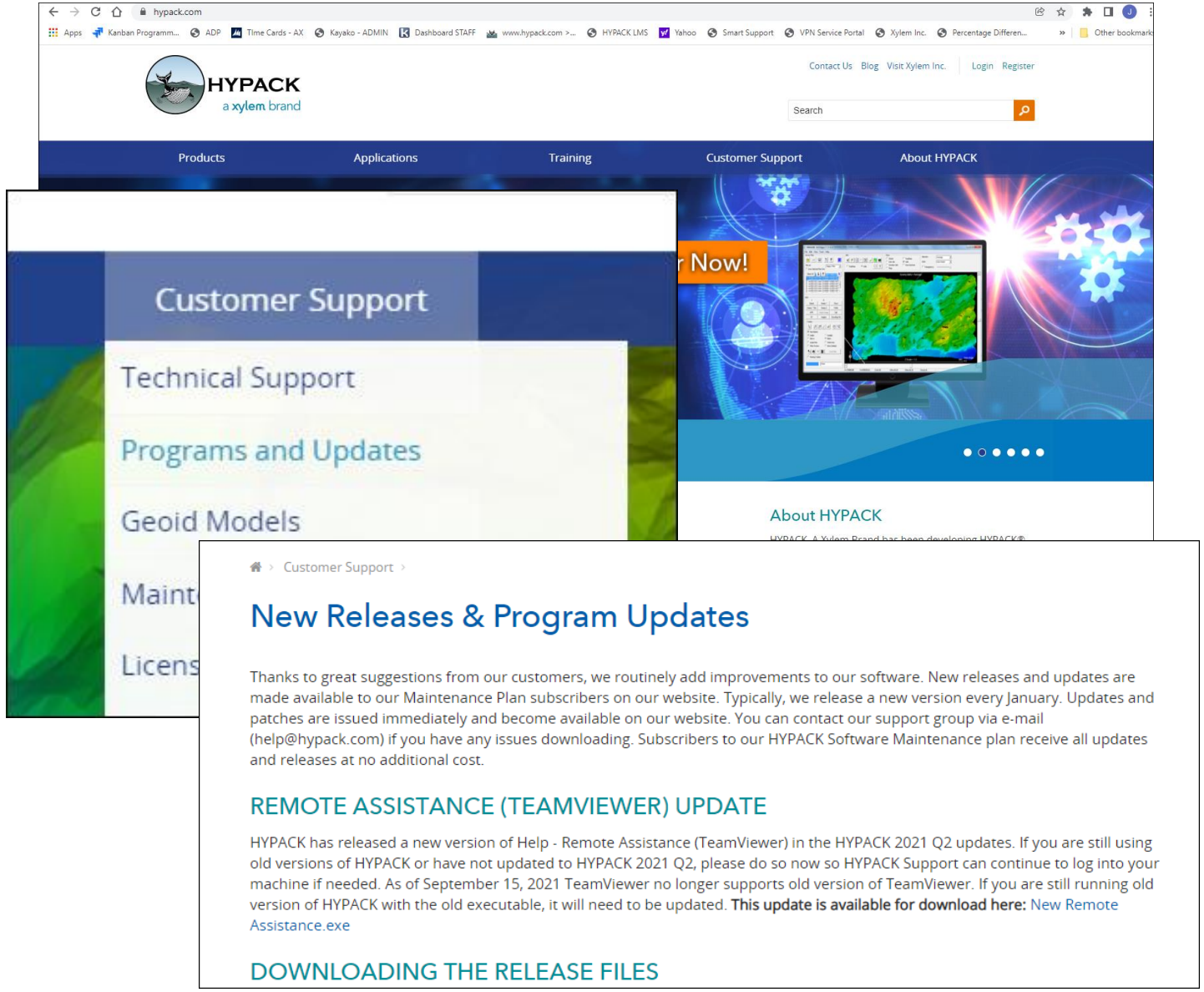
xylem
Let's Solve Water

What's New in HYPACK 2022

HYPACK 2022

OVERVIEW

- Free to all MP members!
- Download from www.hypack.com
- Contains all updates from 2021 quarterly releases.
- Hundreds of new features, enhancements, bug fixes, etc.



NEW PRODUCTS – Engineered to meet the job requirements

HYPACK ECHO

Simple Software for Single Beam Survey

- Replaces ULTRALITE
- Support for positioning devices, including RTK features
- Support for Echo-Sounders including those with Echogram capability
- Editing tools, including the SB Editor with Contour and Sort options to streamline workflow
- New HYPLOT MAX program to support final product renderings

HYPACK GEOPHYSICS

Side-scan, Sub-Bottom and Magnetometers

- Replaces SUBBOTTOM, ACOUSTIC
- Support for positioning devices, including RTK features
- Magnetometer interfaced to 24 models
- Sub-Bottom device interfaces to 11 models
- Side-scan interface supports 38 models
- Real-Time Mosaic during Survey aids in rapid target location and area coverage
- Post-Processing tools to complete the analysis of the survey
- New HYPLOT MAX program to support final product renderings

WATER QUALITY MAPPING

Software to cover ADCP and Environmental sensor data

- New license for new market
- Includes data collection and processing as well as HYPLOT and contouring.
- Support for positioning devices, including RTK
- Acoustic Doppler Profiler collection and editing
- User configurable interface to read up to 32 sensors and record them for later editing. If the interface does not exist, configure the Generic Parser to record your data
- New Water Quality Editor allows up to 32 sensor readings to be processed, cleaned, contoured and sorted for analysis
- New HYPLOT MAX program to support final product renderings

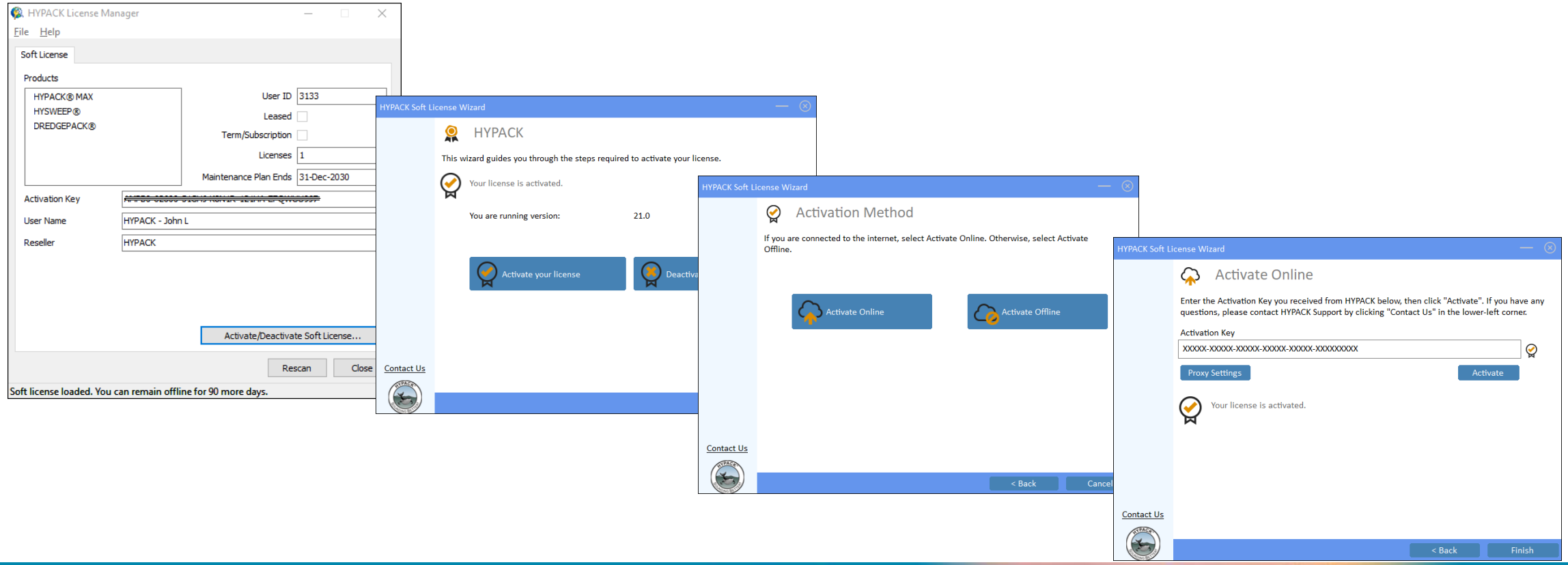
Customers that have an ULTRALITE, SUBBOTTOM or ACOUSTIC license will get free upgrade with new maintenance plan

SOFT LICENSE

- Web-based license activation.
- No need for a dongle!
- Easy transfer between computers, even if they are in different locations!

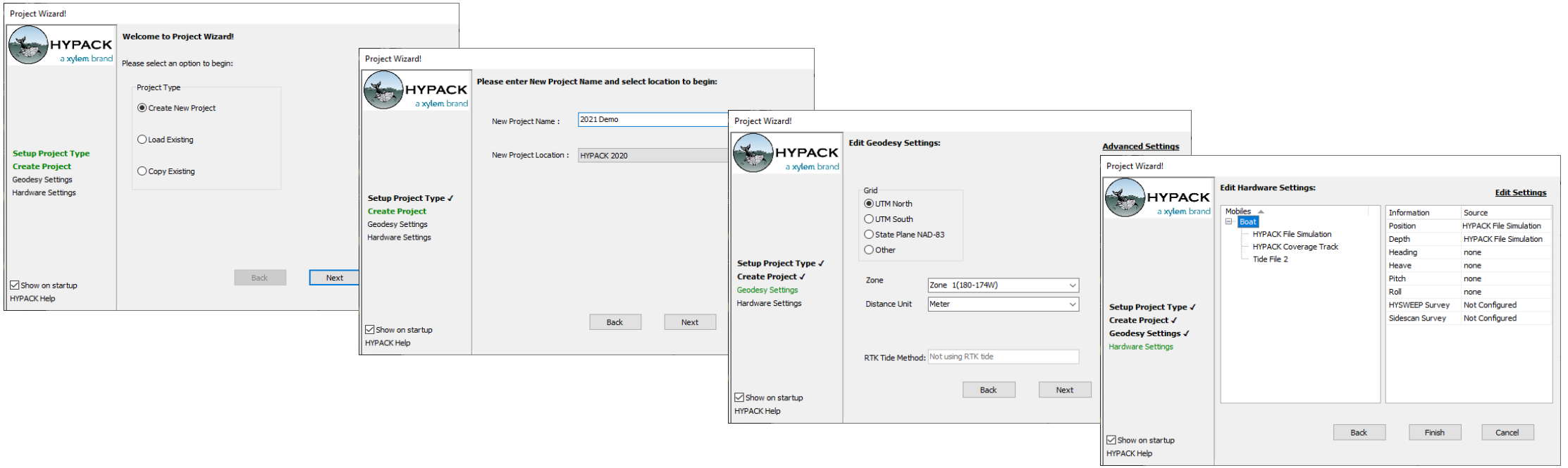
“Disadvantages”

- A soft license does not support ARCS and S63 chart permits.
- Needs internet access (every 90 days)



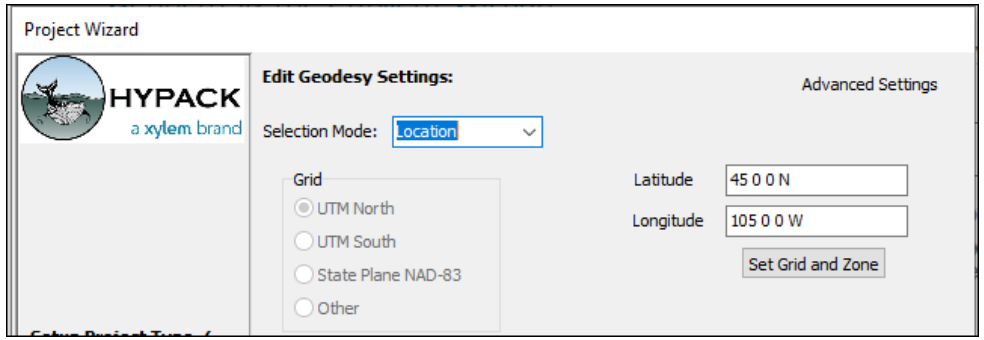
PROJECT WIZARD

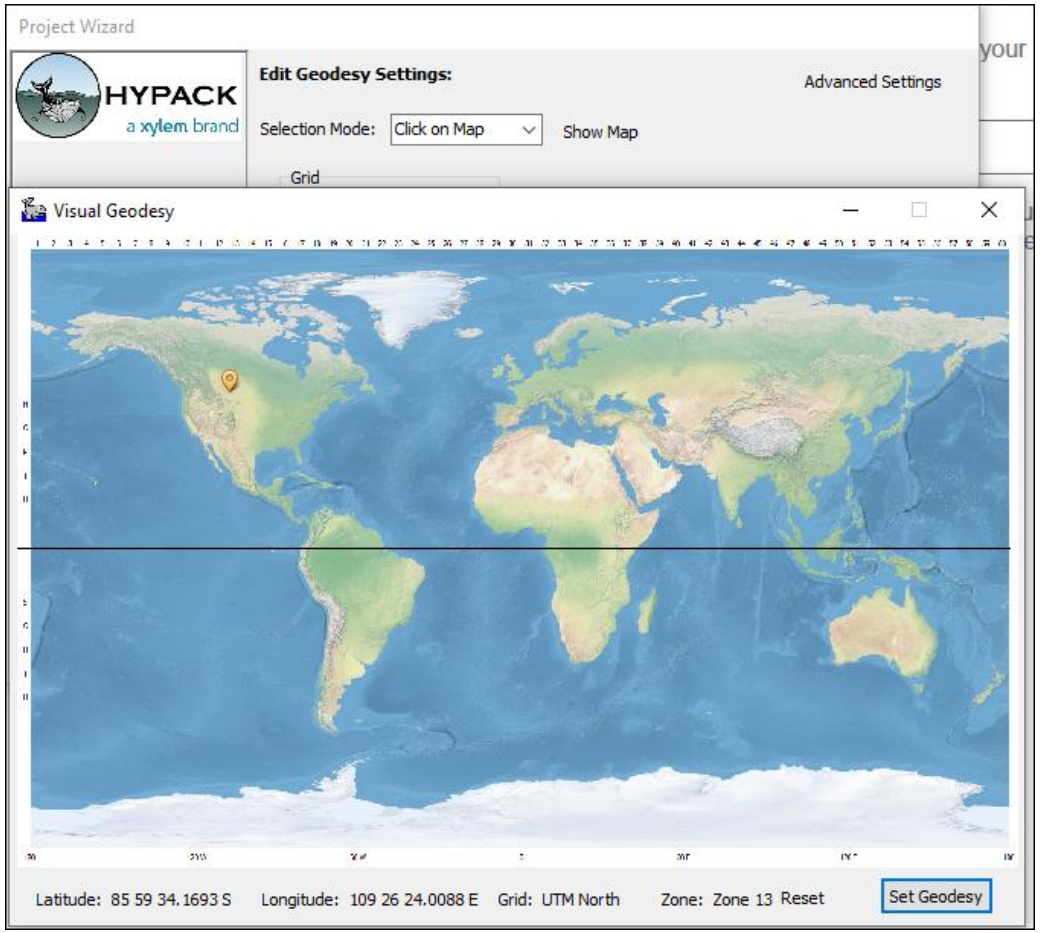
- A new project wizard has been implemented for easier operation
- It allows to create a new project or open an existing one and make changes.
- Ideal for users who use the same vessel with the same hardware and work in the same project area.
- Your work might be predredge and postdredge surveys, historical comparisons for environmental studies or beach replenishment, or updating depth data in areas of high erosion or sedimentation.



PROJECT WIZARD

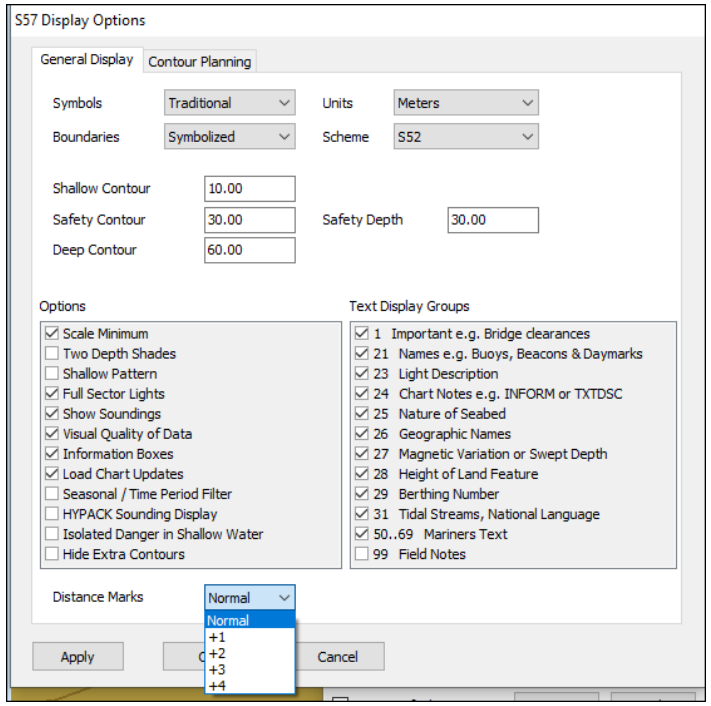
- Select geodesy by entering latitude - longitude or click on map.
- HYPACK will select nearest UTM Zone.

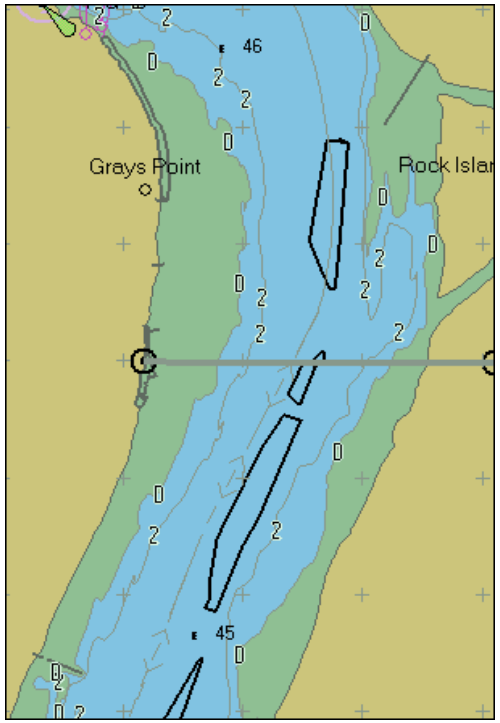




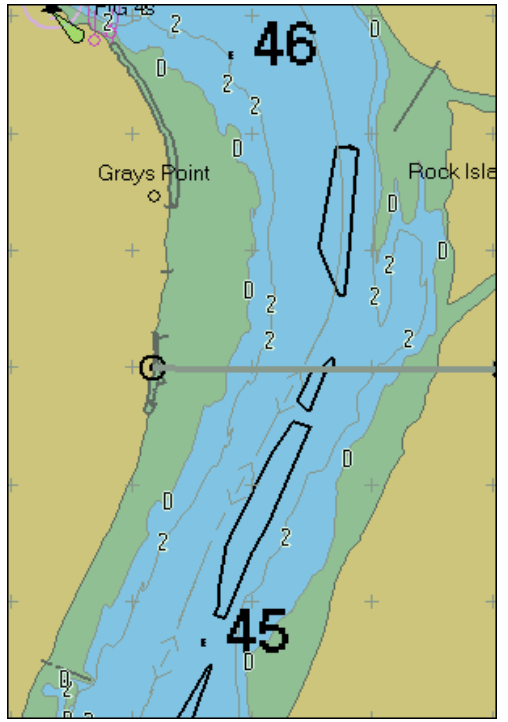
HYPACK SHELL – Continued

- Added ENVIRONMENTAL EDITOR to the PROCESSING menu.
- Added OBJ EDITOR to the PREPARATION-EDITORS menu.
- Updated to provide Polish language interface.
- Updated to provide Ukrainian language interface.
- ENC Charts - Distance Marks display option increases the font size for river mile numbers.





Normal



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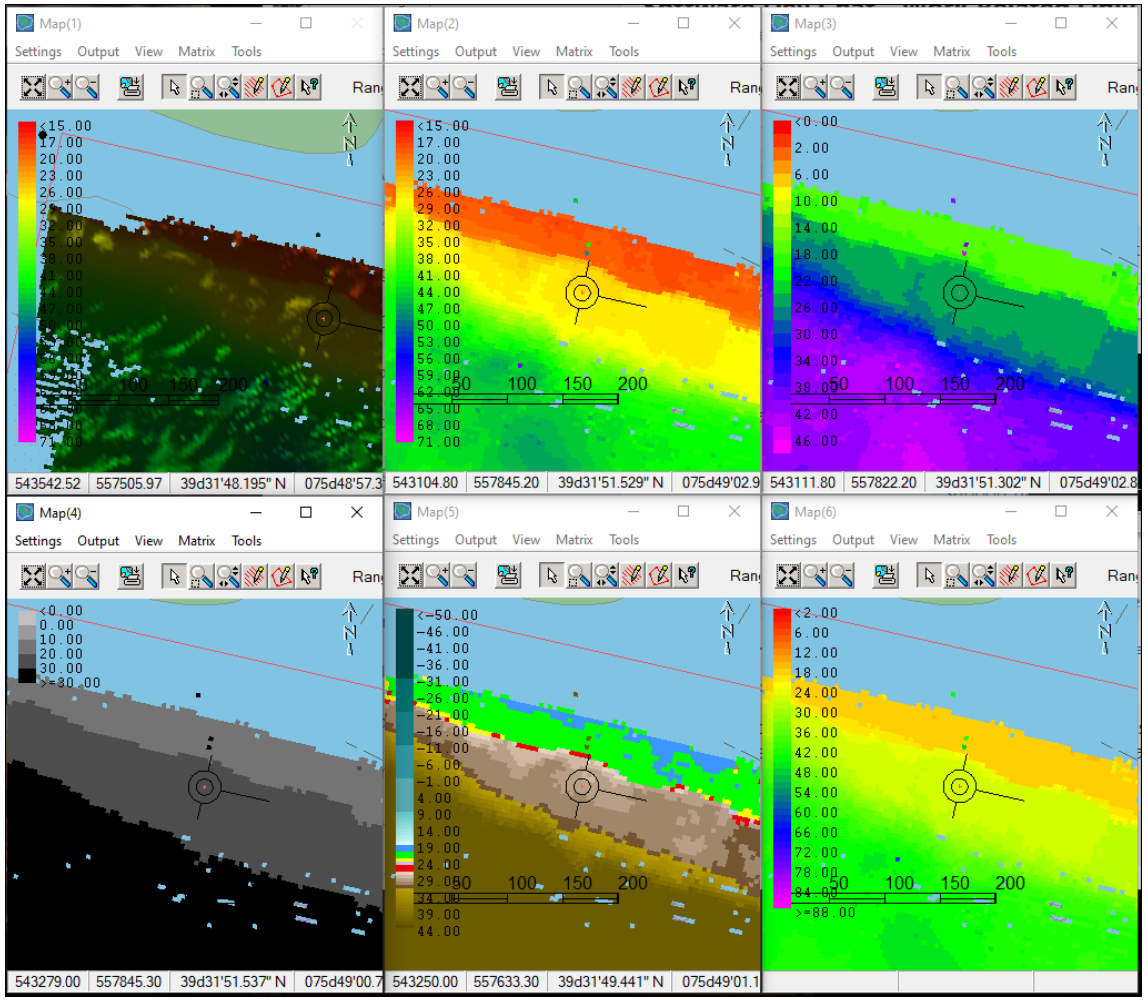
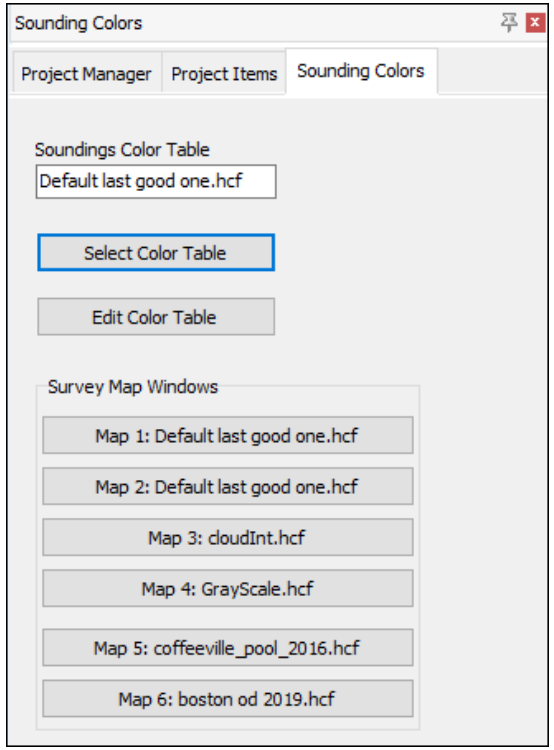
PROJECT COLORS

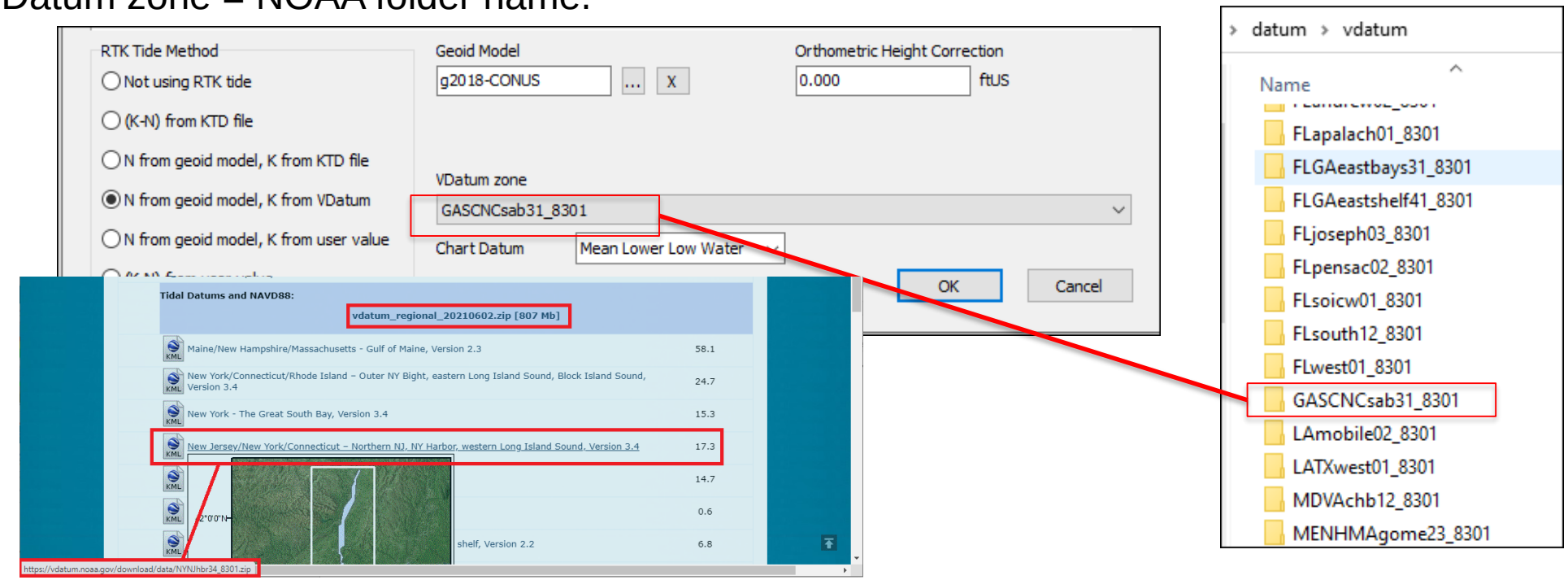
- Assign colors to various Survey maps via Shell tab.





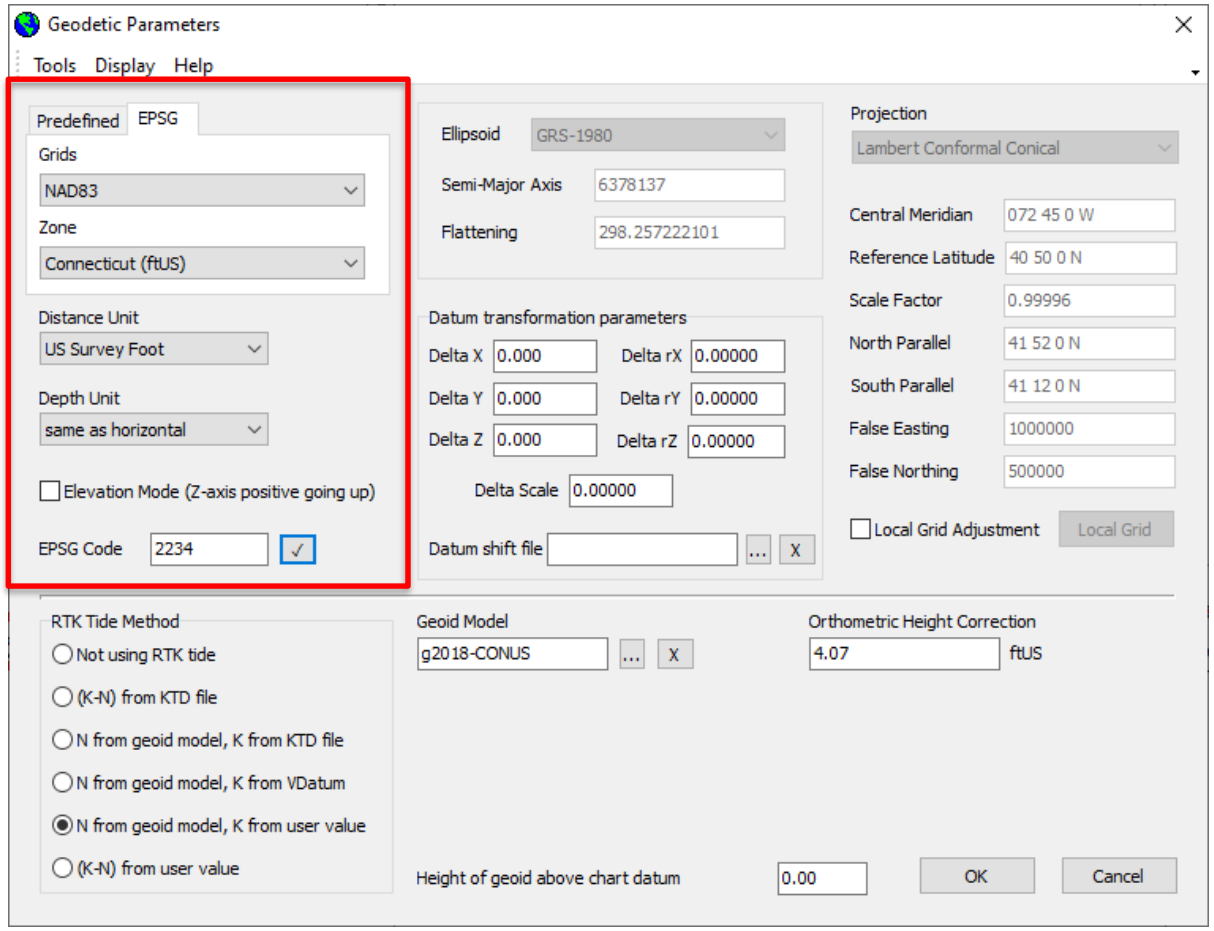
GEODESY - VDATUM

- Simplified VDatum
  - Eliminates an installer. Simply download the zones from NOAA website.
    - https://vdatum.noaa.gov/download.phpwww
  - Avoids potential IT restrictions regarding software installation.
  - Instantly updates the options for new and updated VDatum files. We don't have to synchronize our coding for each NOAA change, and users can implement NOAA changes instantly.
  - VDatum zone = NOAA folder name.



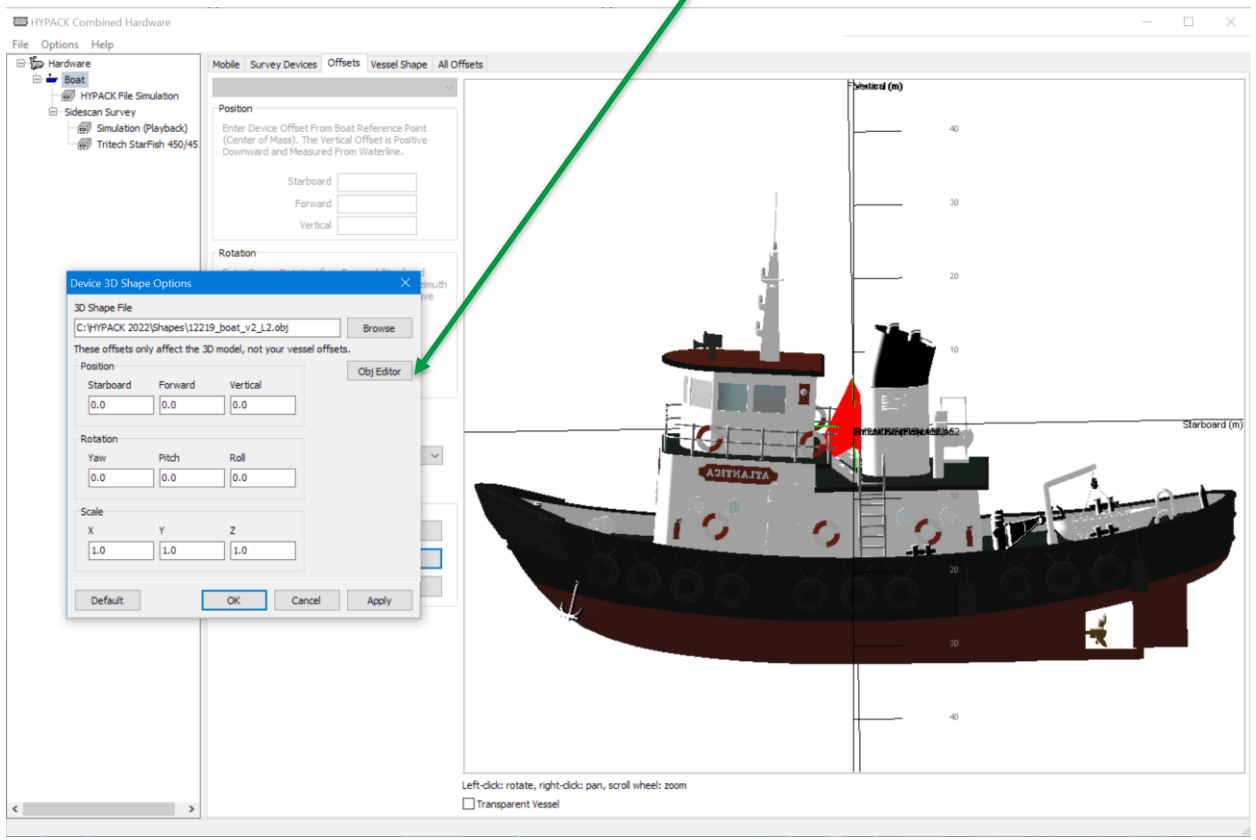
GEODESY – EPSG CODES

- Select Geodesy based on EPSG Code.
  - Choose “EPSG” tab.
  - Enter EPSG Code or select from dropdown list.

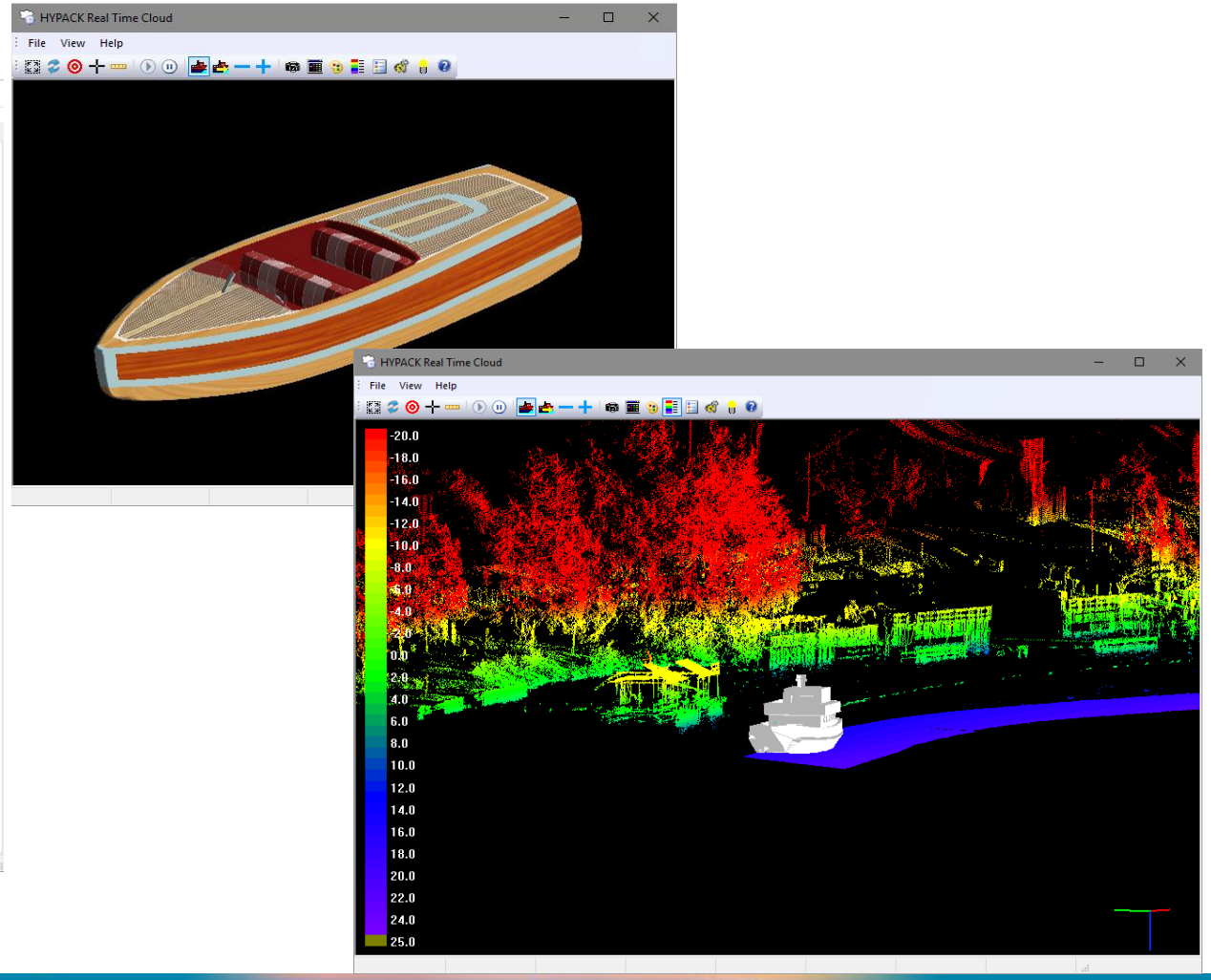


HARDWARE

- Support for 3D OBJ boat shapes
- Edit OBJ parameters in OBJ Editor

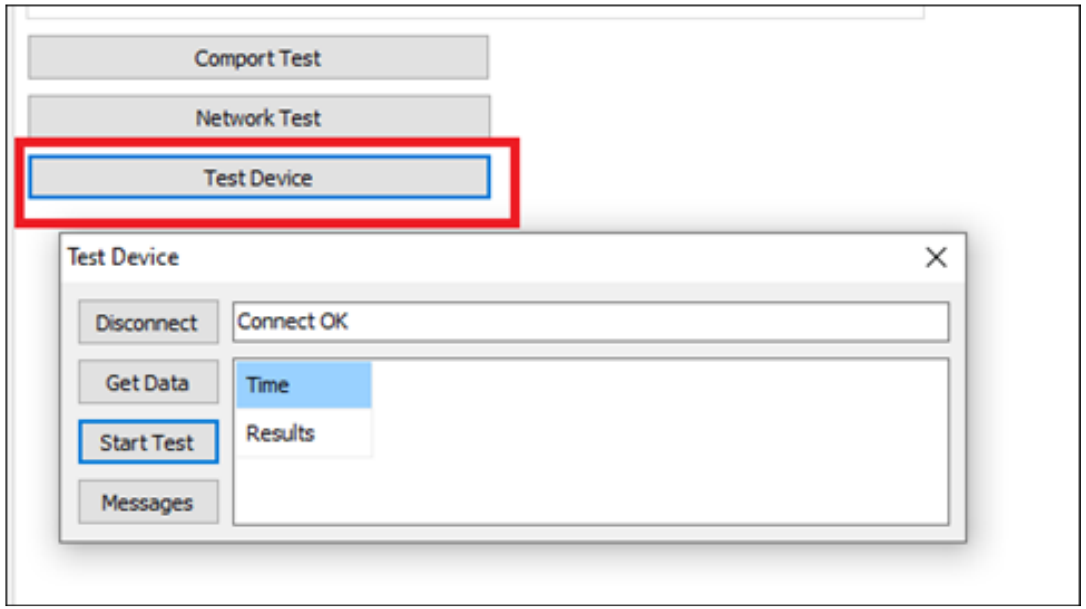


- 3D OBJ Shapes in Real time Cloud display in Survey



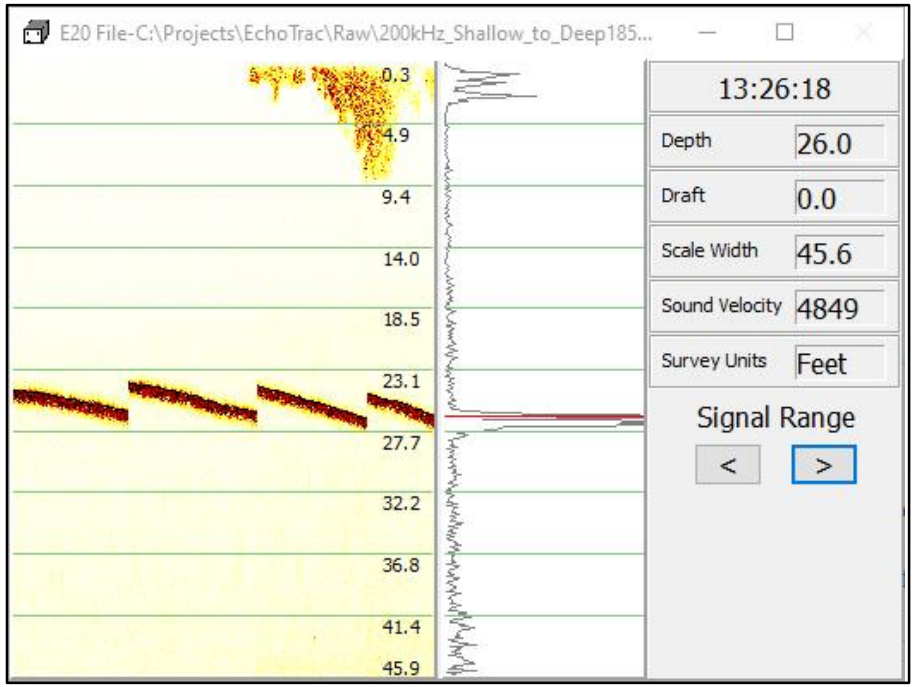
HARDWARE

- New Test Device window for MB and SS devices.



DEVICE DRIVERS

- Added support for 32-bit echogram. Any data logged with the E20 is logged at full-quality—no downsampling as in earlier versions.
- Survey device window includes Signal Range buttons to adjust the display brightness.
- 32-bit and 64-bit Single Beam Editors have also been updated to process echogram data.



SURVEY DRIVERS – More!

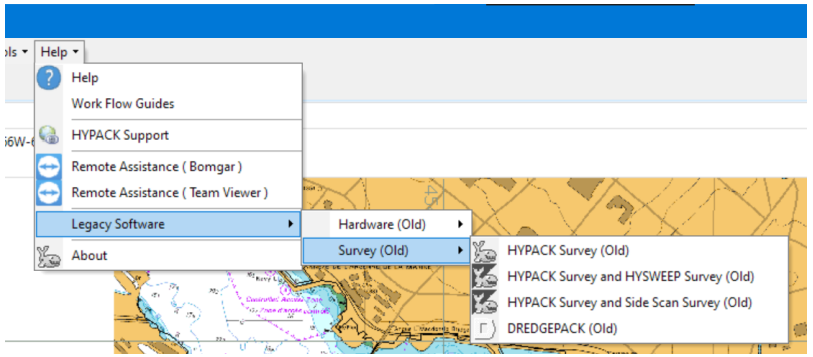
DRIVER	CHANGES
Advanced Nav INS driver	• Corrected inverted heave.
DQM_Mechanical.dll	• Enhancements and bug fixes • Added US Digital T7 sensor
Geodimeter Driver	• Added support for Trimble S6 Robotic Total Station
Magnet.dll	• Changed the Marine Magnetics labels to be more clear • Added support JW Fisher Proton 5
PosMV.dll	• Fixed SURVEY crash if Tide is disabled.
Towfish.dll	• Added [Reset Towfish Position] to reposition the towfish at its maximum cable length directly behind the vessel until the driver receives device input data to calculate it. • Added an LCI-90i “Legacy” option
Vectornav.dll	• Support for VectorNav IMU

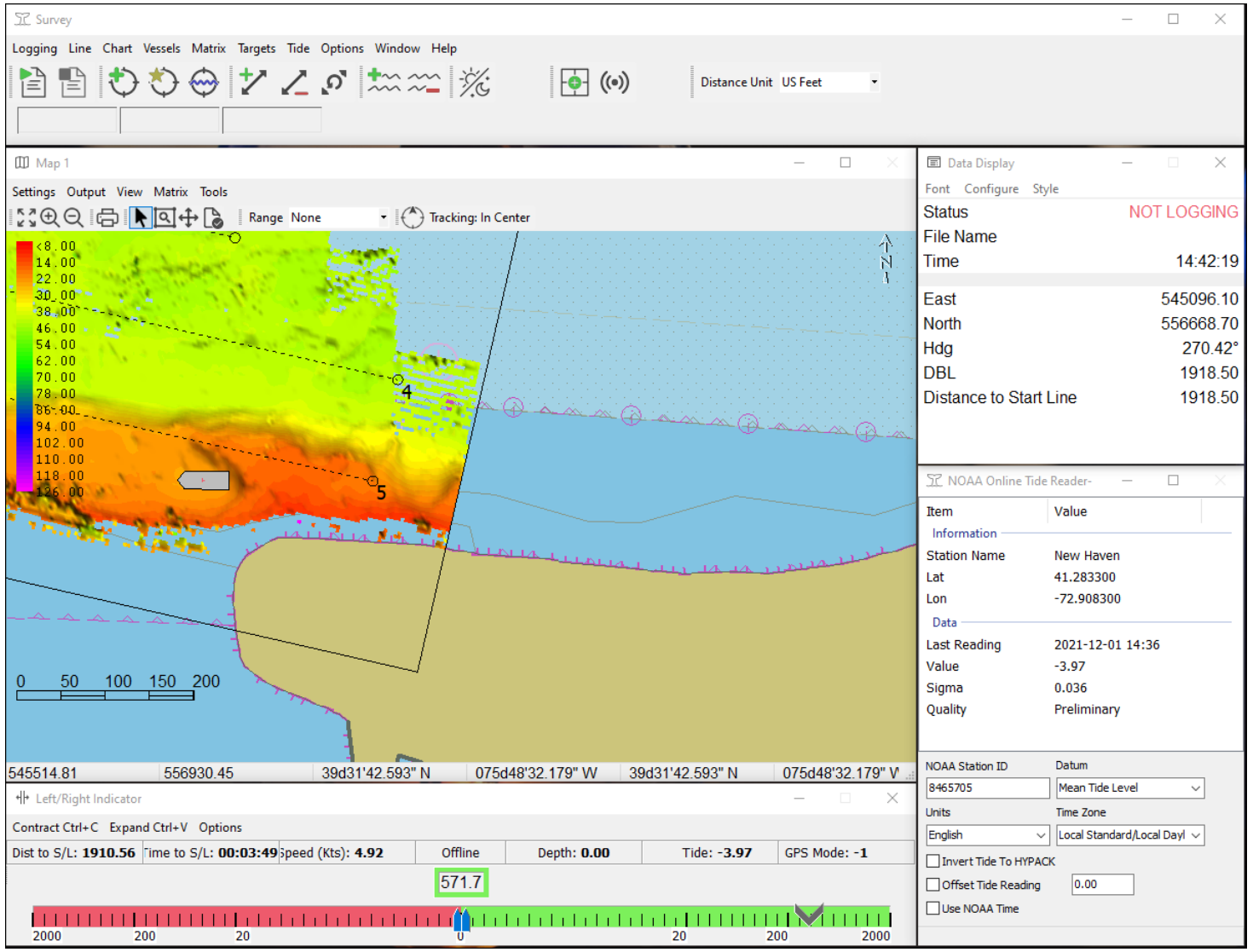
SURVEY DRIVER UPDATES - Even More!

DRIVER	CHANGES
GenCutterDQM.dll	• Based on the original GenDevParse with a few additions
NOAATides.dll	• Added tide offset • Option to use NOAA time.
Inclinometer.dll	• Added the 2Gig Engineering option • Added Telestra / SignalQuest sensor
GPS.dll	• Enhanced PTNL,GGK quality indicator codes

SURVEY

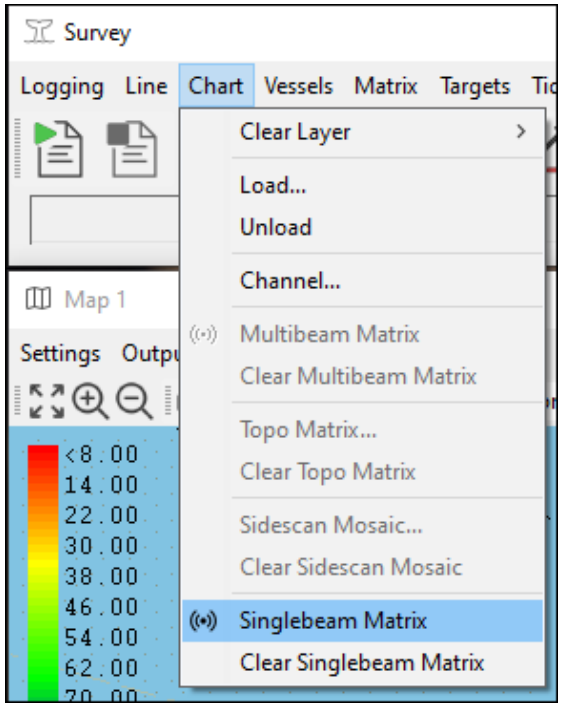
- New code base!
- Same functionality.
- Updated icons.
- More reliable.
- Easier to update with new features.
- The old Style SURVEY program is still there..

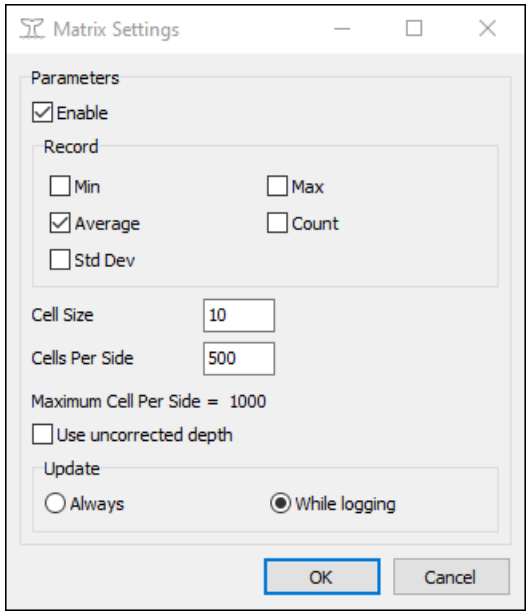


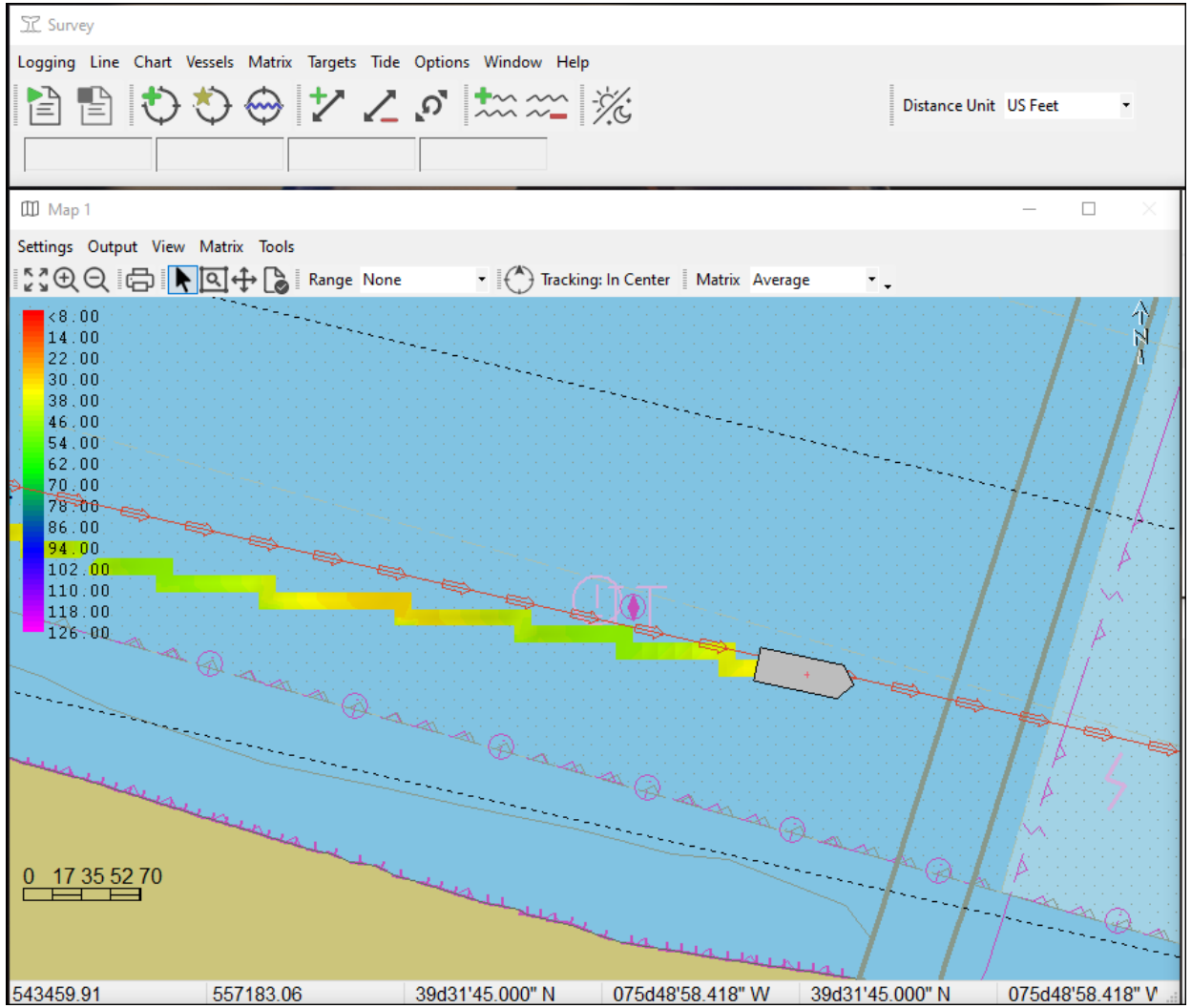


SURVEY – Single Beam Auto Matrix

- Automatically paint matrix with single beam echosounder data.
- Same options as multibeam auto matrix.

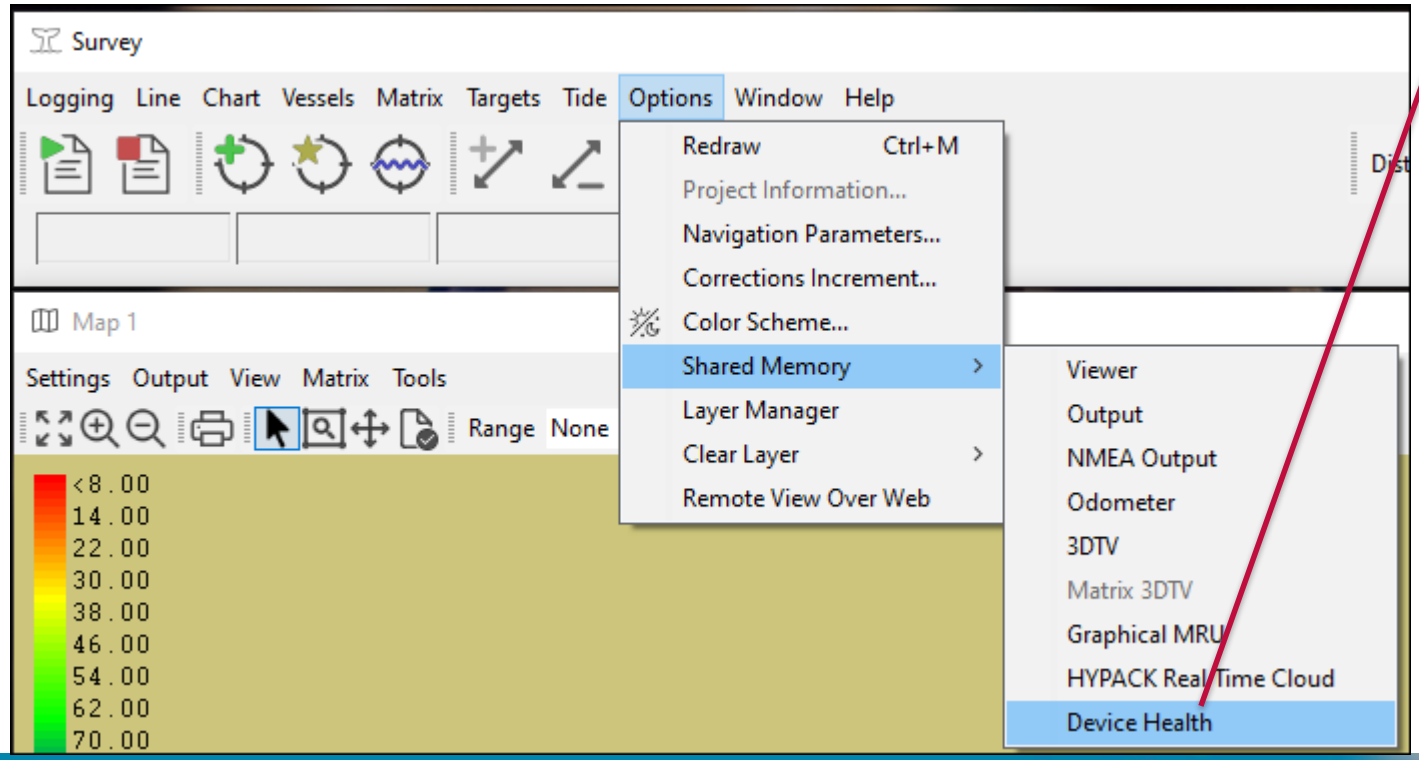


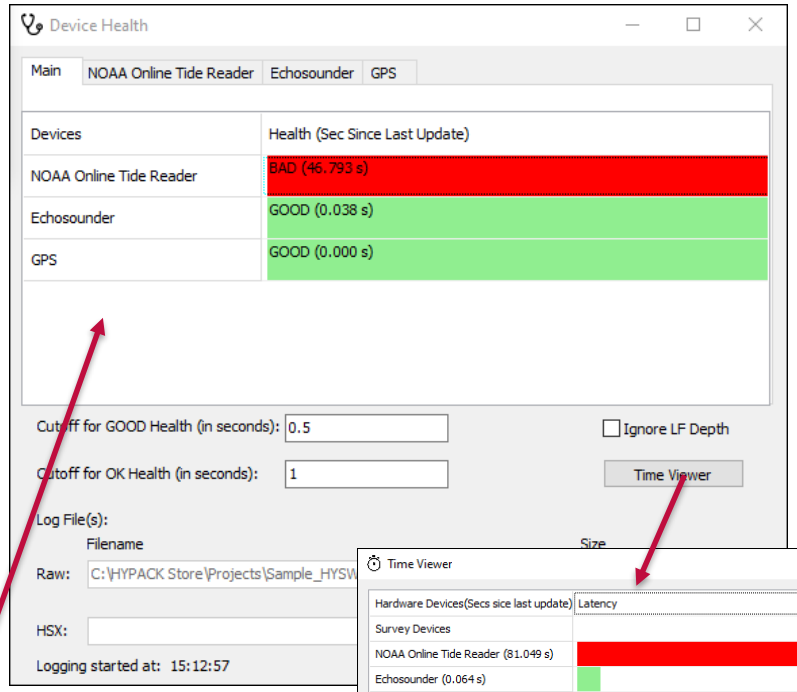


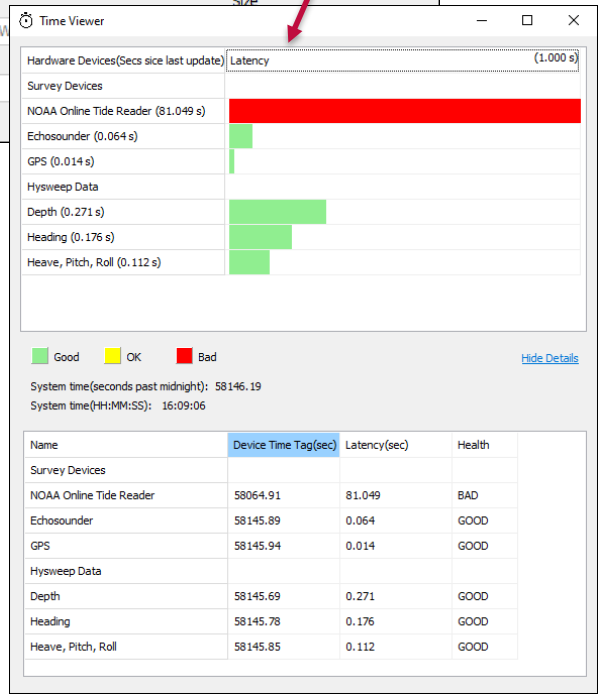


SURVEY – Device Health

- Launches from Survey program
- Tracks device timing from HYPACK, HYSWEEP and Side Scan devices.
- Color coded warning indicators.
- Tracks file logging and file size.

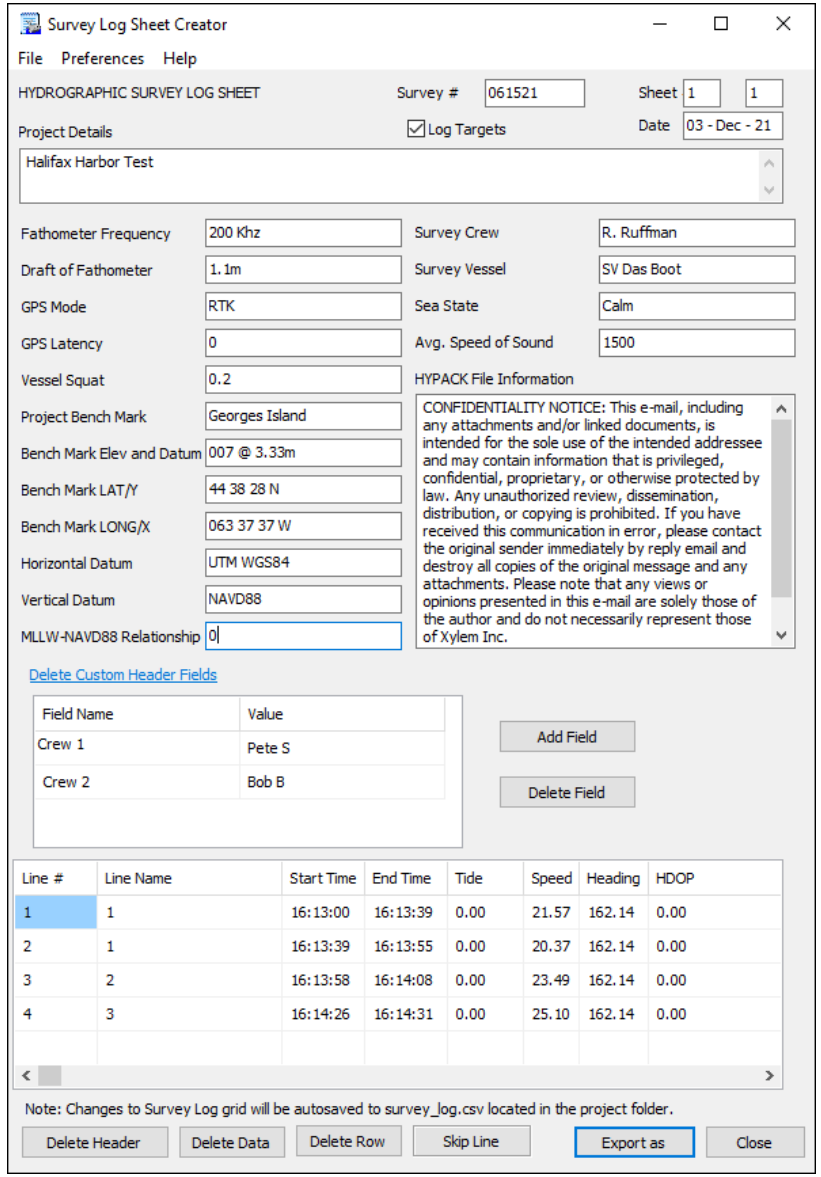






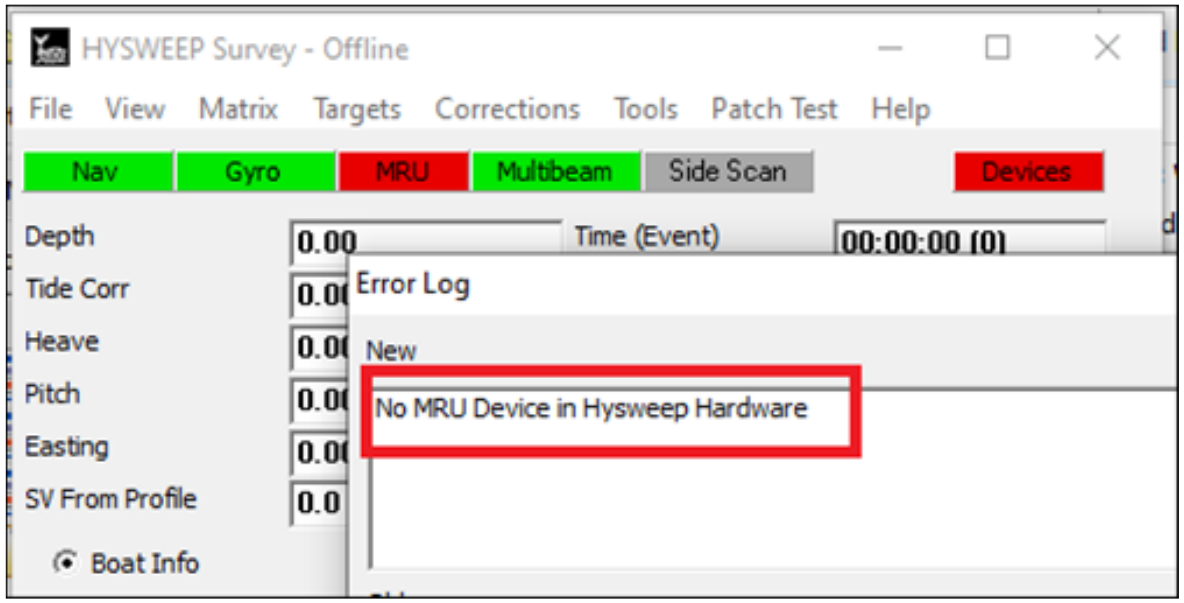
SURVEY LOG

- Automatically saves data to *.csv file so survey can be reloaded.
- Import Survey *.log file.
- Import/export header info
- Export sheet to PDF, XLS and CSV format files
- Add custom header fields
- Log targets to Memo section



HYSWEEP SURVEY

- IMU warning if no attitude device is installed



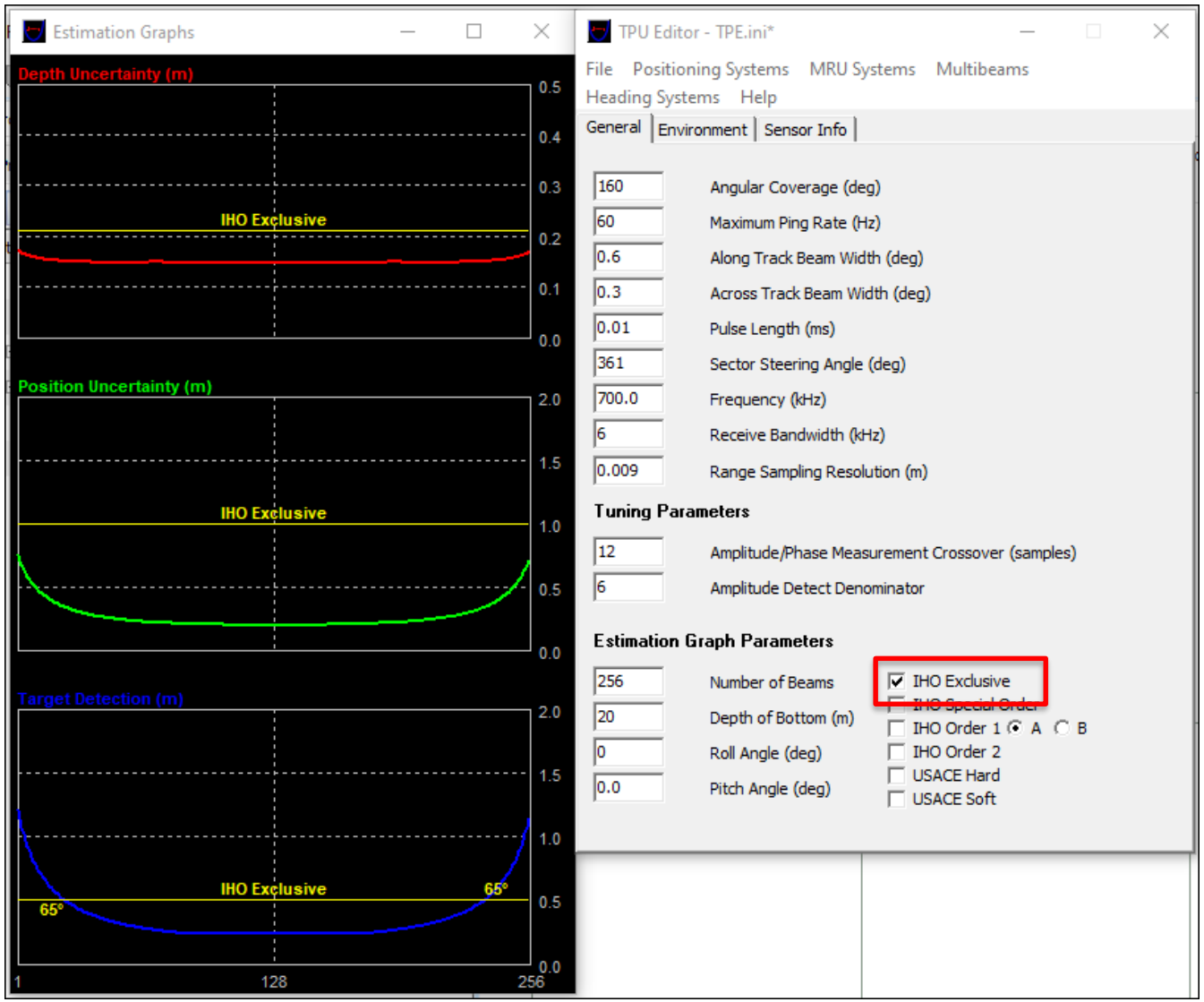
HYSWEEP SURVEY DRIVERS

DRIVER	CHANGES
Advanced Nav INS driver	• Corrected inverted heave.
AML Driver	• Support for AML-3 and AML-6 SVPs
Kongsberg drivers	• Supports Kongsberg KMALL datagrams. • Sonar frequency logged in RMB datagrams of HSX file. • Supports GPS transfer to HYPACK Survey via the HYSWEEP_Extended.DLL.
WASSP driver	• Extend slant range maximum from 650 m to 65,000 m.
Klein Drivers	• Updated to latest Klein SDK
VectorNav Driver	• Support for VectorNav IMU

Other: Added an option to suppress logging WGS84 data to HSX files (FILE –LOGGING OPTIONS in HYSWEEP Survey).

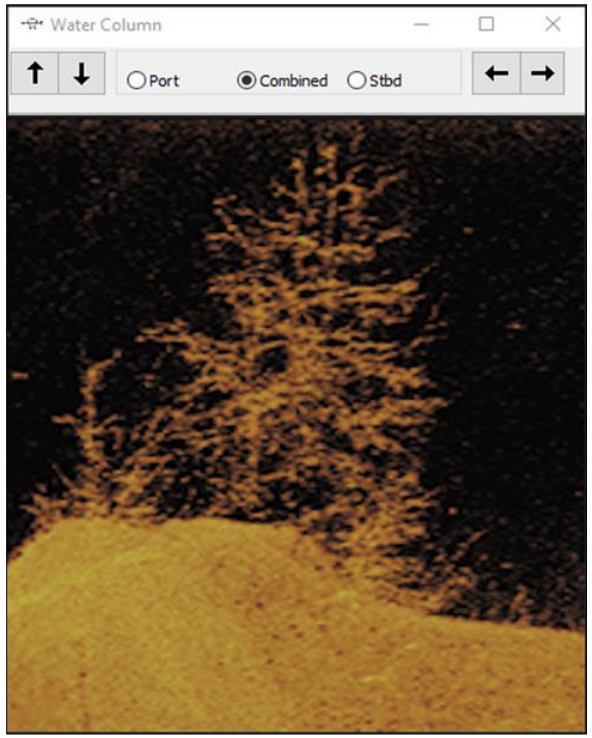
TPU EDITOR

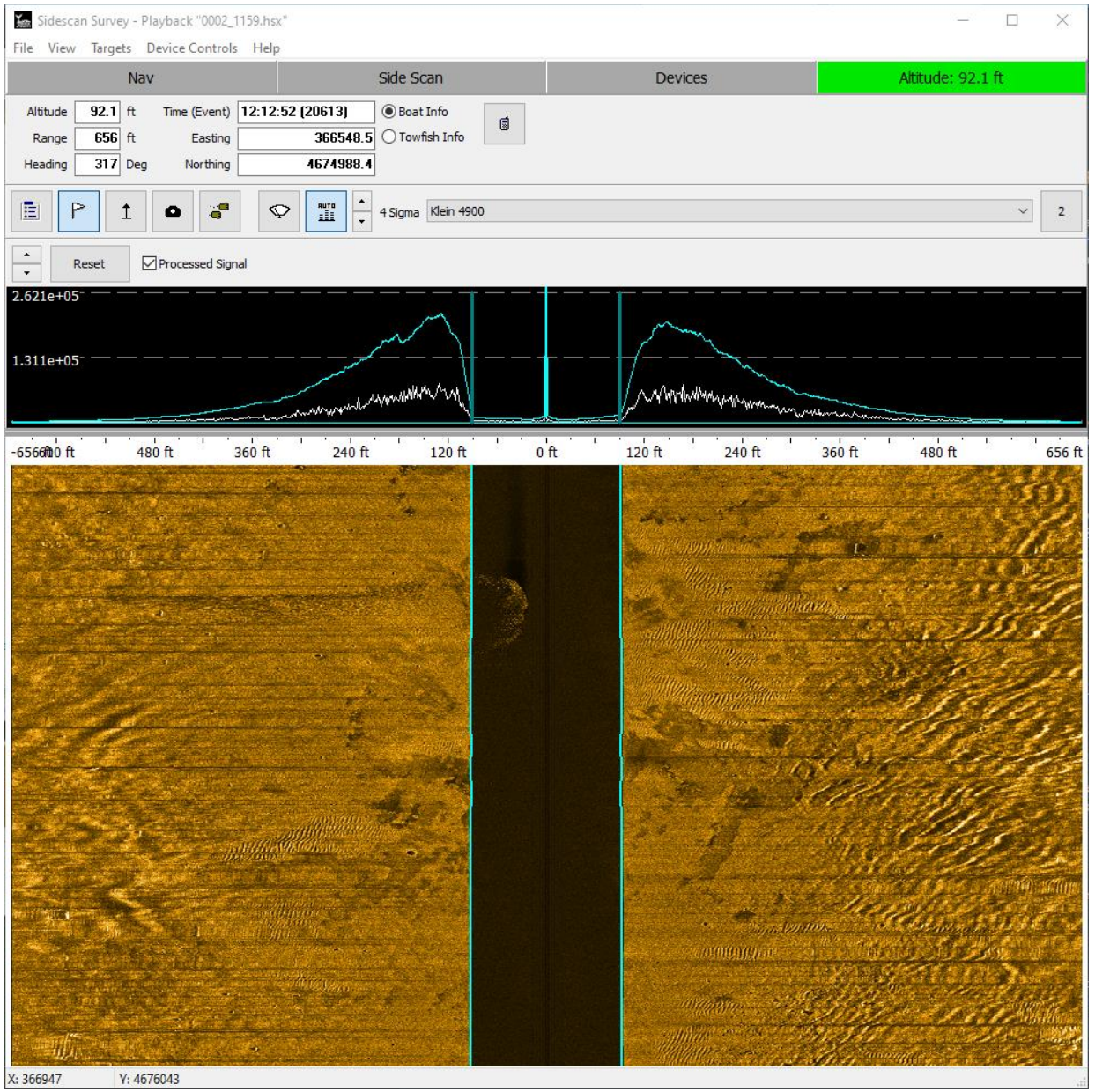
- Added IHO Exclusive Order to Estimation Graph Parameters.



SIDE SCAN SURVEY

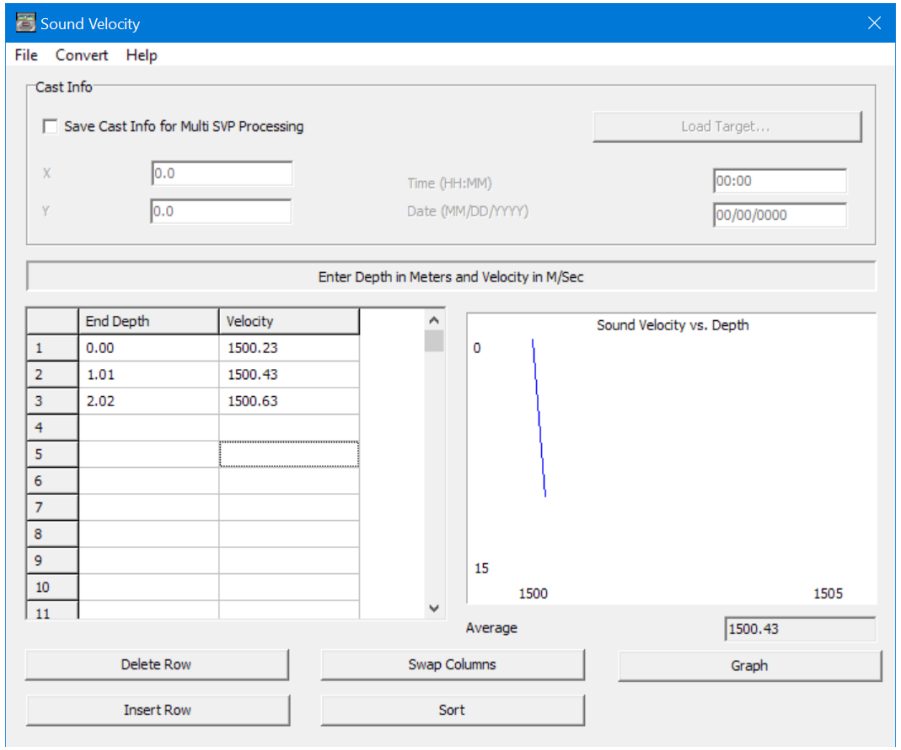
- Support for Edgetech 4205
- Upgraded to latest Klein SDKs
- New water column display

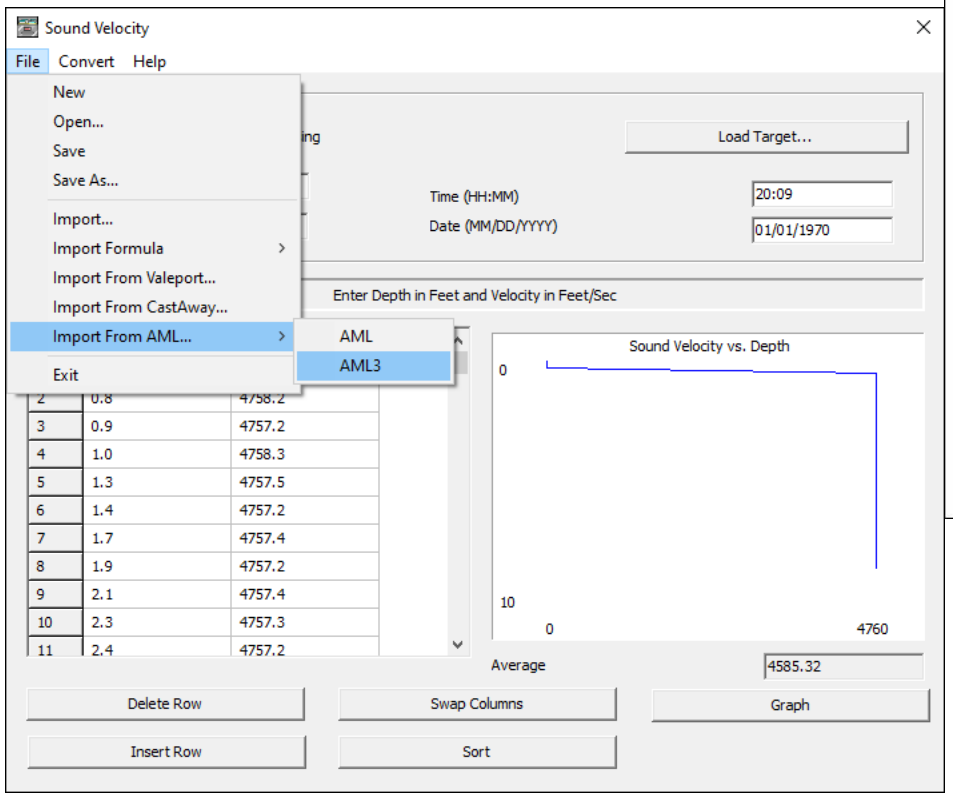




SOUND VELOCITY

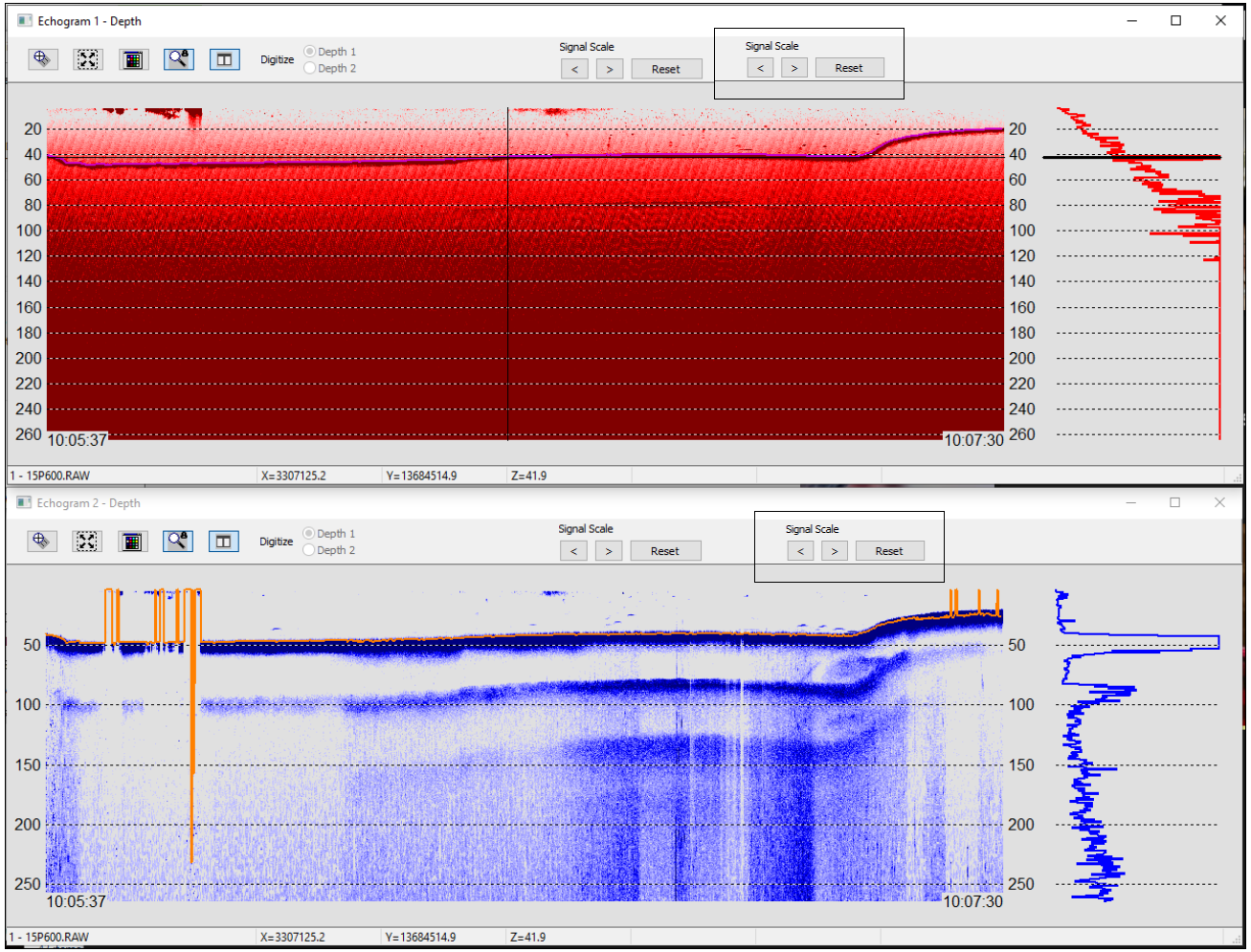
- Added Support for AML-3 and AML-6 SVPs.
- Connects via WiFi
- Sound Velocity Profile imports with centimeter resolution, not decimeter.





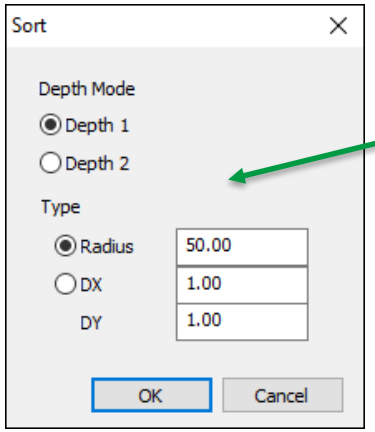
SBMAX64 – SINGLE BEAM EDITOR

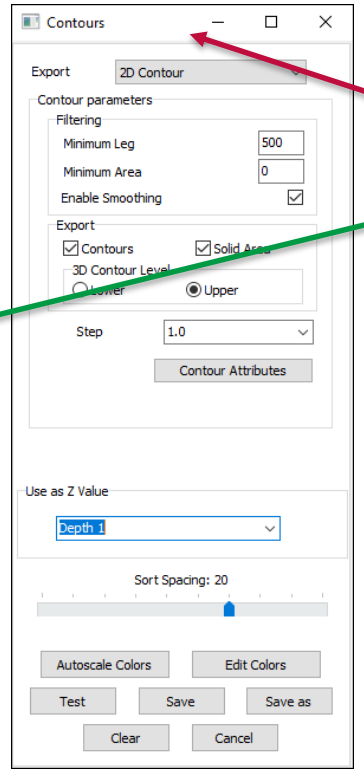
- Updated to process the full-quality, 32-bit echogram data logged with the 21.2.x Echotrac E20 driver
- Faster echogram drawing!
- Signal Range buttons to adjust the display brightness.
- Split echogram into 2 windows!
- Many updates to the File Overlay options
- Reads up to 2000 raw files. (256 before)

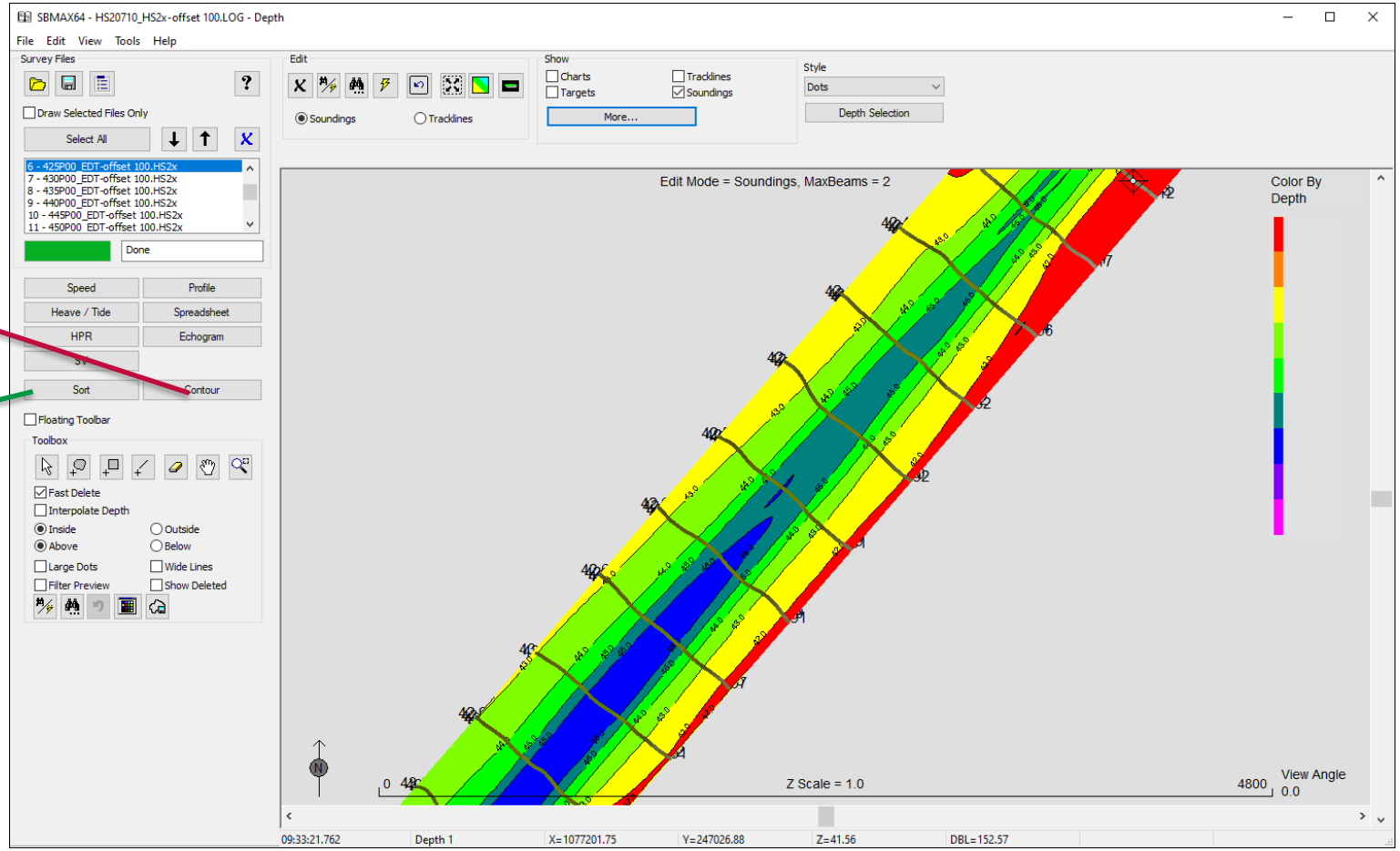


SBMAX64 – SORTING AND CONTOURING

- Sort and contour data right in SBMAX.
- Utilizes default sorting routine from Sort program.
- Utilizes contouring engine from TIN Model.

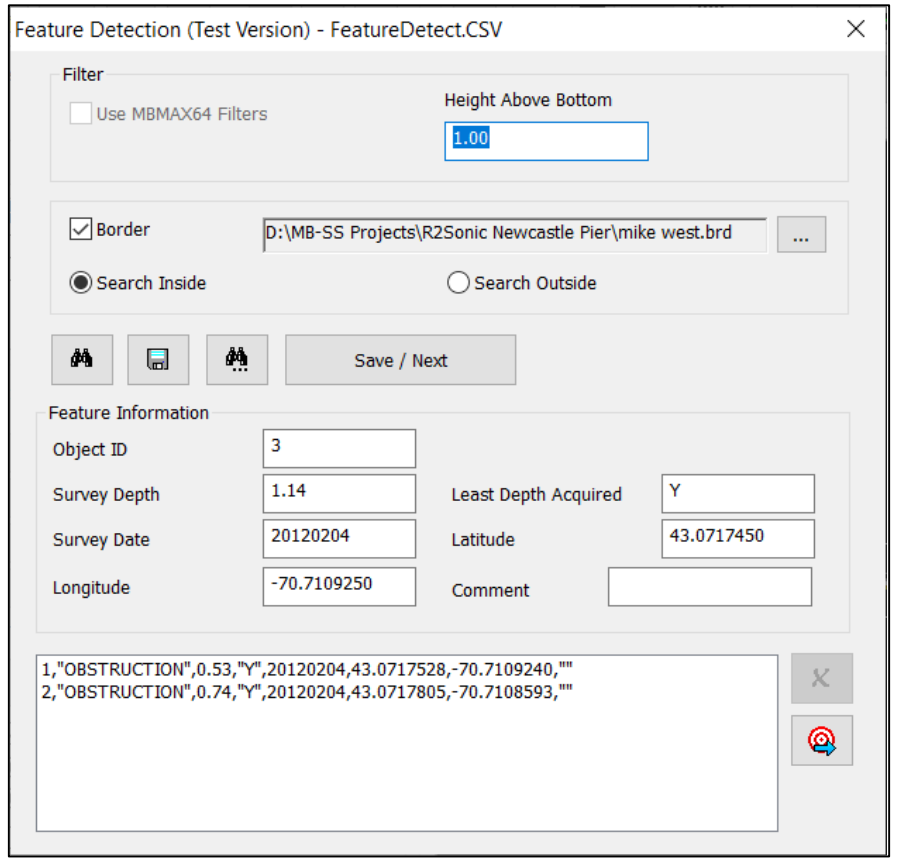


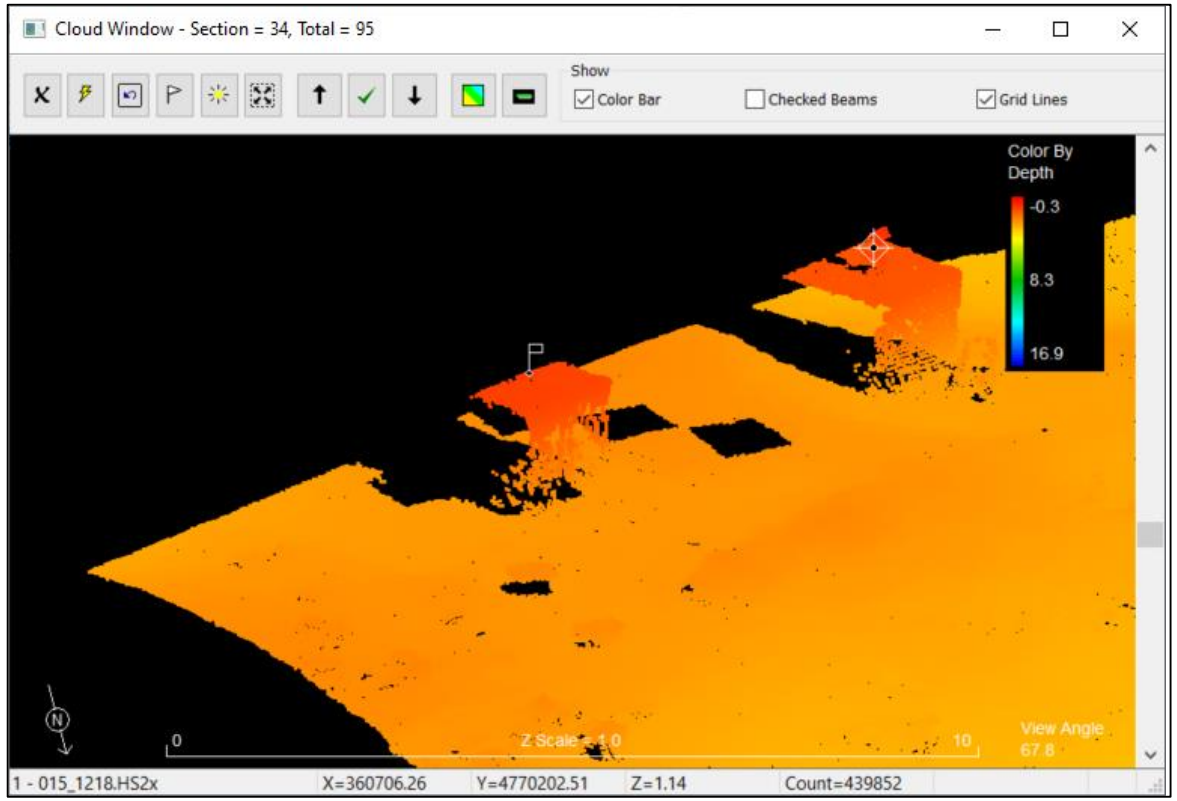




MBMAX64 – Feature Detection

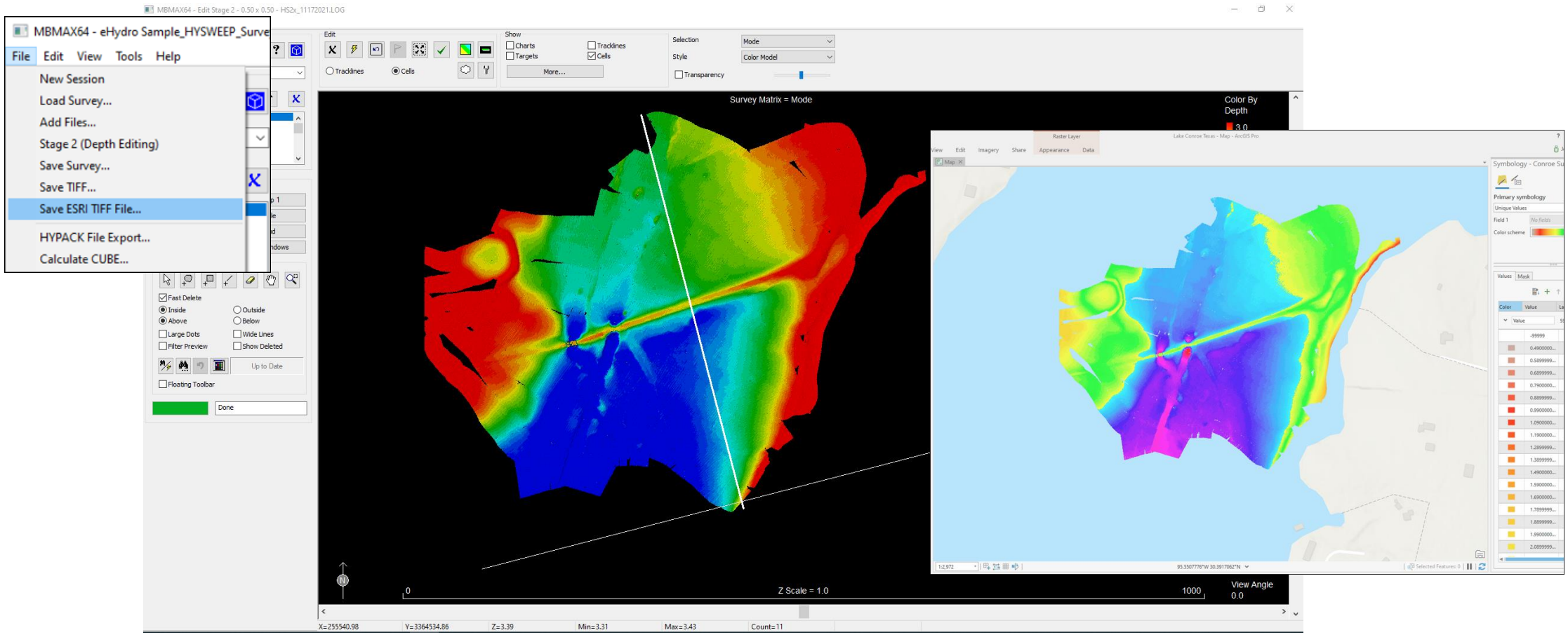
- New tool detects objects located at user define height above bottom.
- Limit search to within a border file.
- Saves to a CSV file (FeatureDetection.CSV) that is suitable for submission to eHydro.





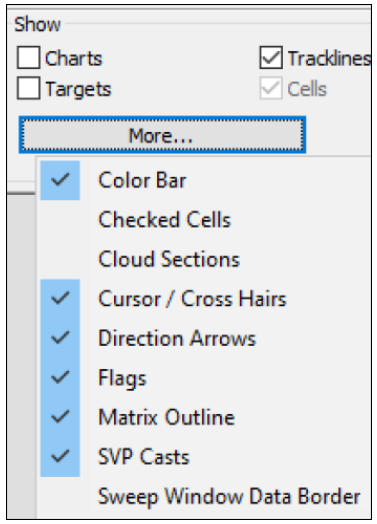
MBMAX64 – Direct Export to ArcGIS

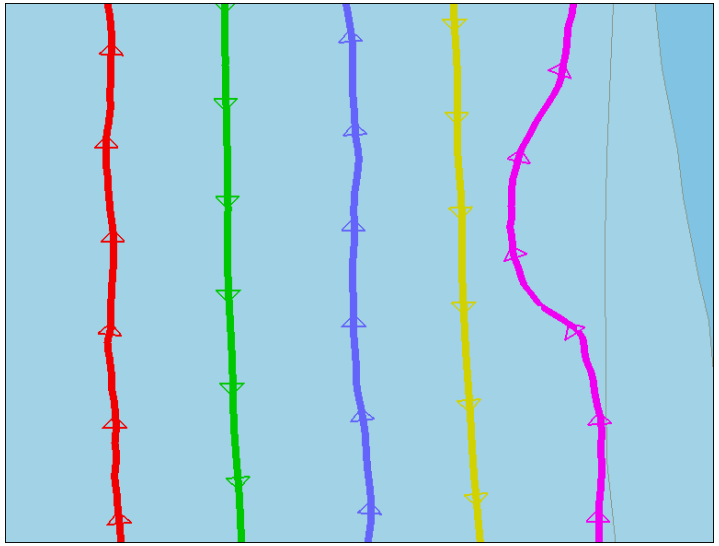
- **Save ESRI TIFF file** – creates a Geotiff of the Multibeam Data in a format acceptable to Arc GIS for easy input to their tools

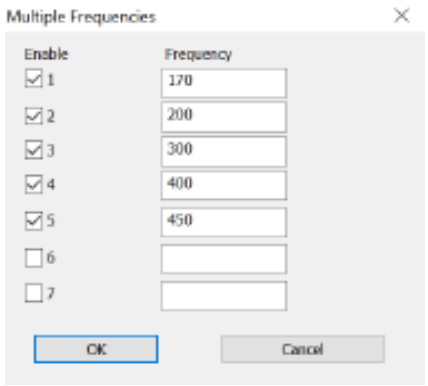


MBMAX64 - continued

- **Improved (faster!) drawing!**
- Additional SHOW Options for Survey Map:
  - Direction Arrows draws survey direction arrows on the track lines. (Phase 1)
  - Matrix Outline shows the border of the matrix. (Phase 2)
  - SVP Casts tagged with location. (Phase 1)
- Reads sonar frequency from both RMB and SNR records, as drivers may log the data to either location.
- Saves WGS84 positions (when available) to the HS2x position datagram (These positions can be omitted in HYSWEEP® SURVEY in the Logging Options dialog.)
- Improved S7K data loading.
- Now supporting Kongsberg KMALL files!
- Supports now 7 frequencies (4 before)

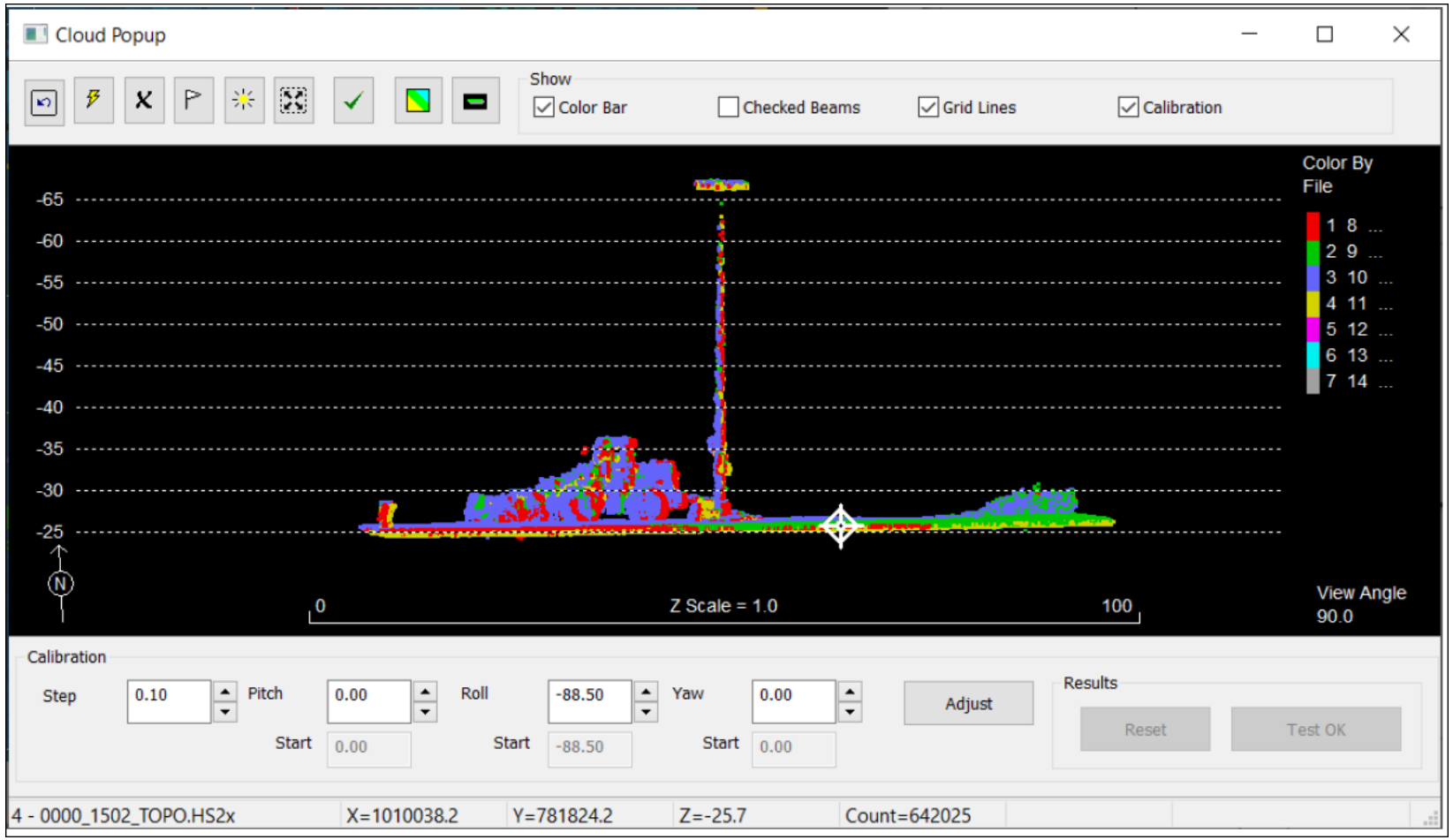






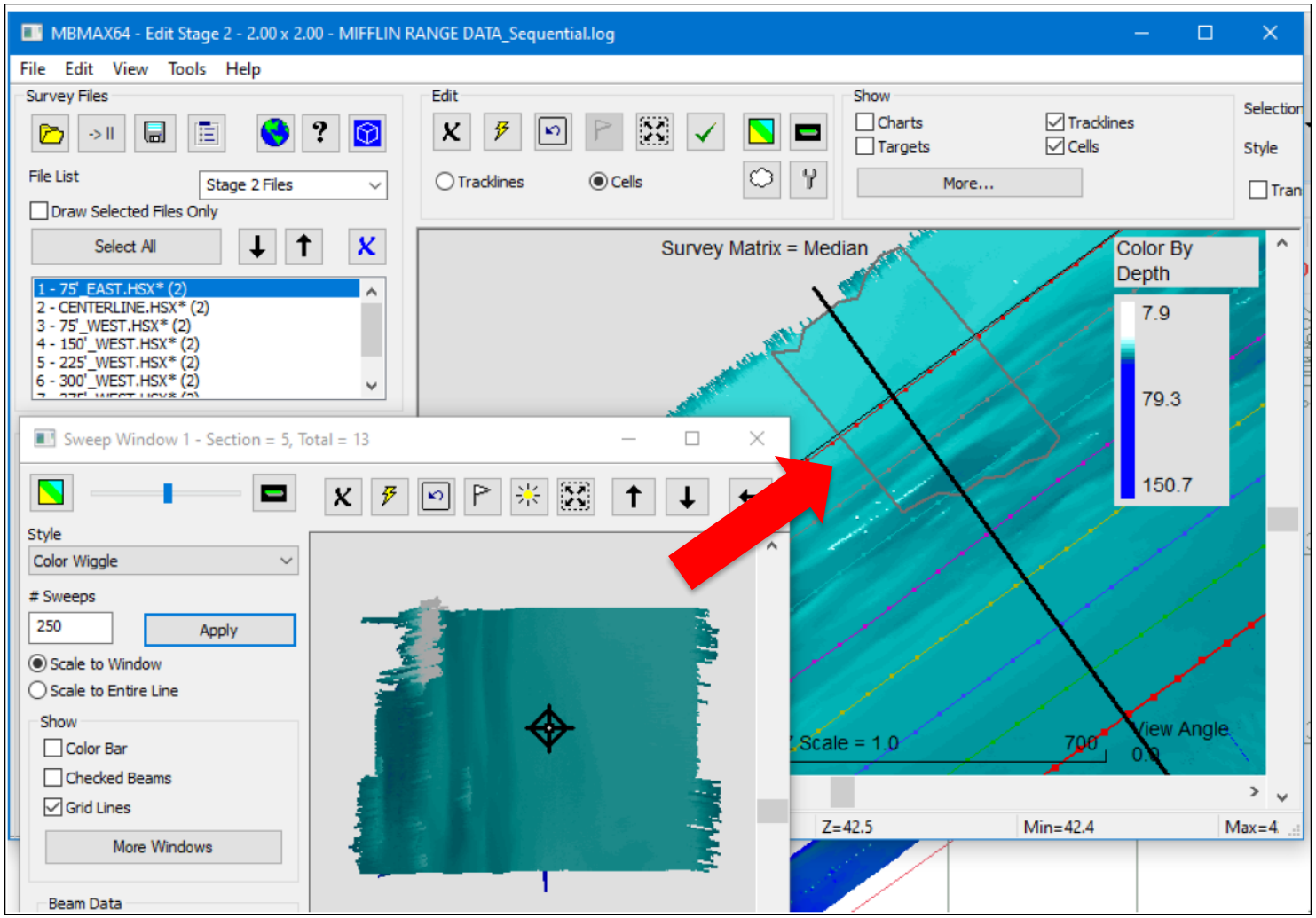
MBMAX64 - continued

- LiDAR Calibration in Pop-up Cloud window.
- Uses cloud points instead of the cross section of our traditional patch test.
- Better suited to LiDAR systems



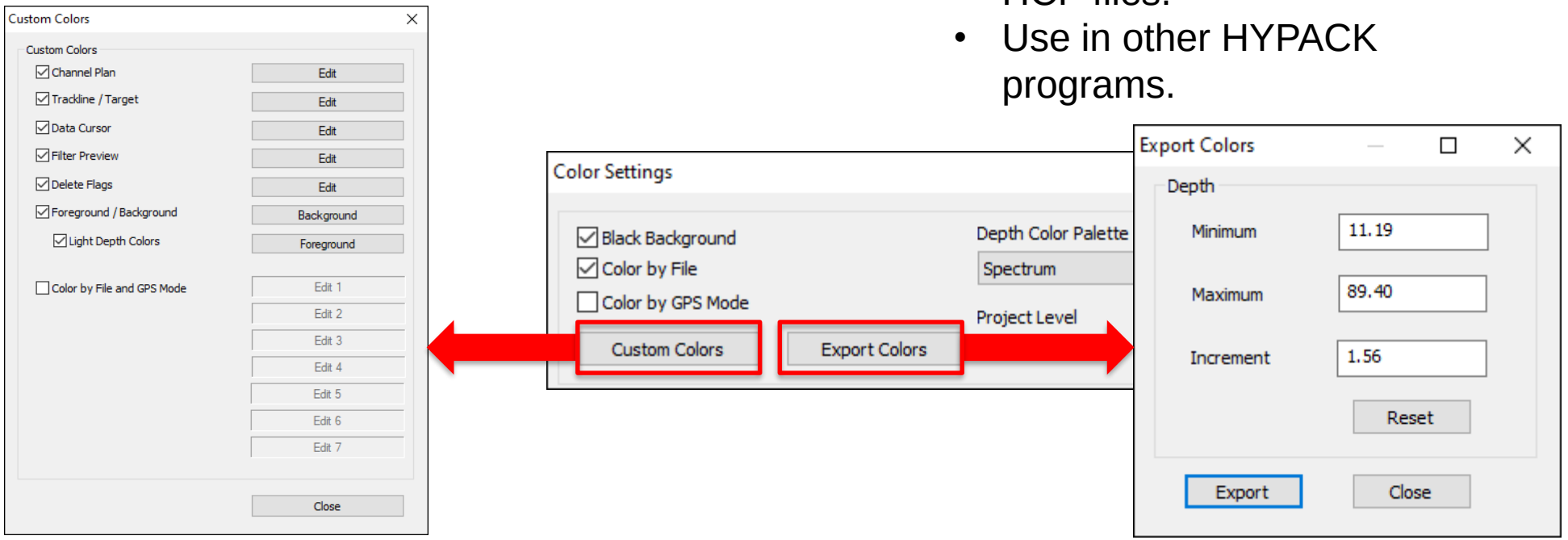
MBMAX64 - continued

- **Sweep Window Data Border:** outlines the area shown in the Sweep Window.



MBMAX64 - continued

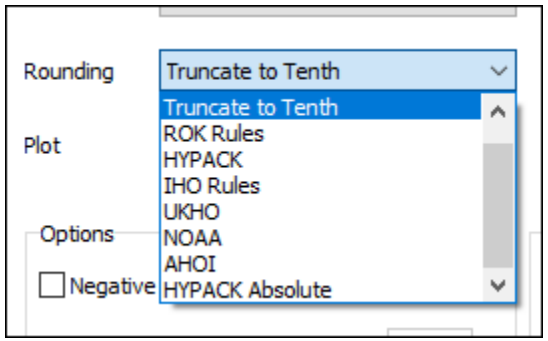
- **Custom Colors:** Define your own colors for various items.

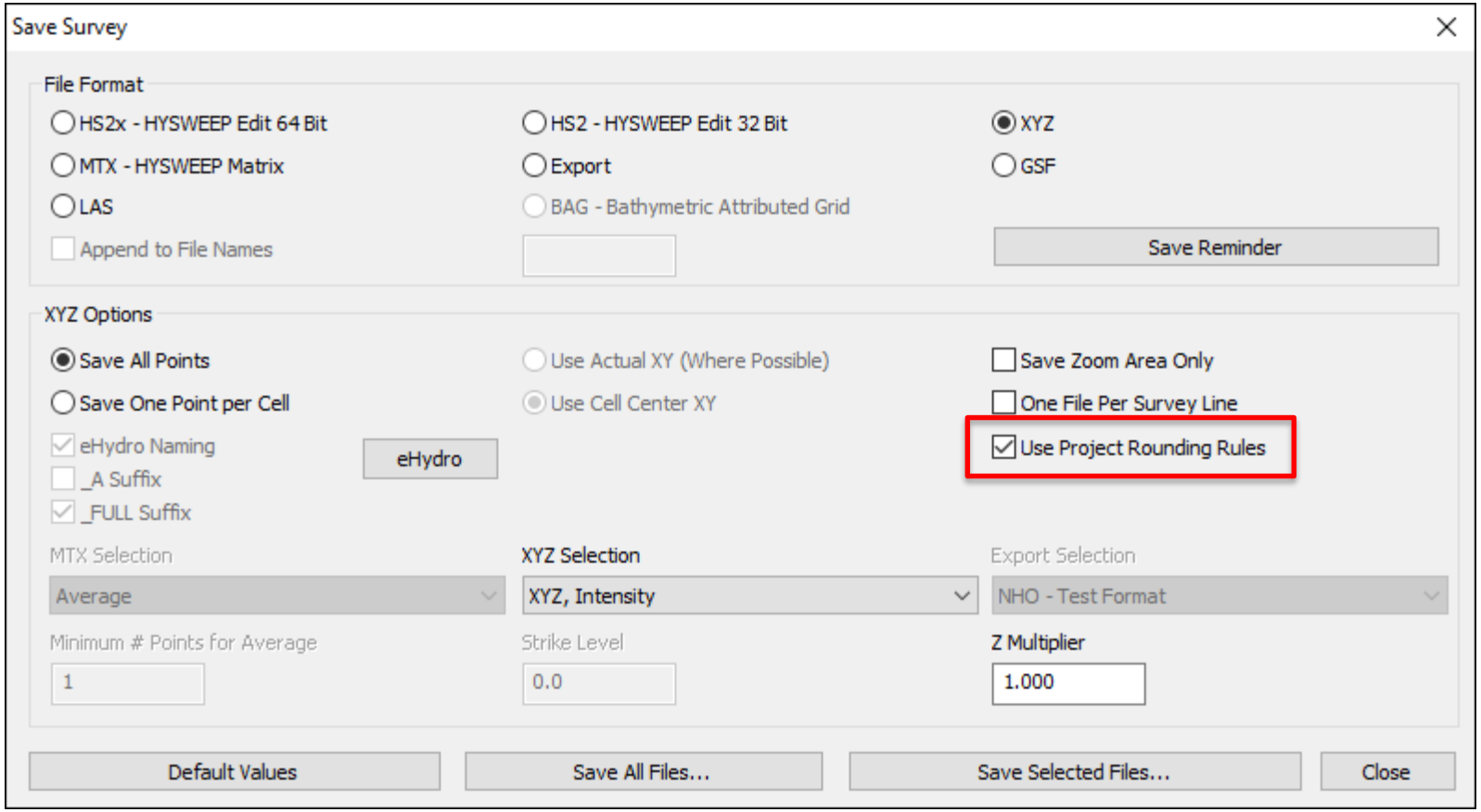


- **Export to Color File:** Exports MBMAX64 depth colors to HCF files.
- Use in other HYPACK programs.

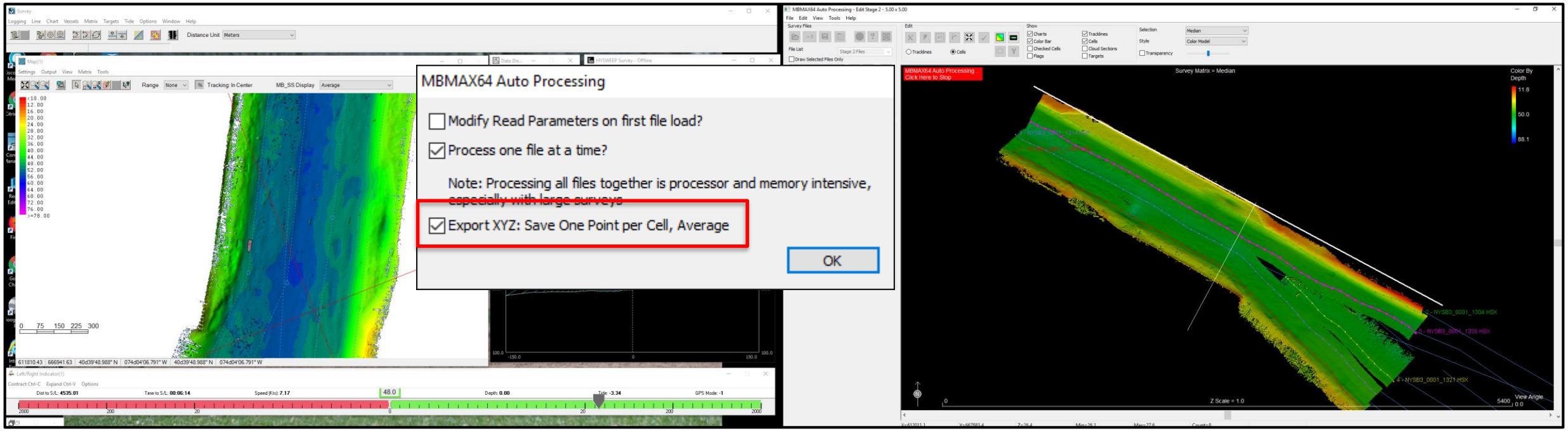
MBMAX64 - continued

- **Use Project Rounding Rules:** Use rounding rules as defined in the HYPACK Shell Settings when exporting to XYZ file.





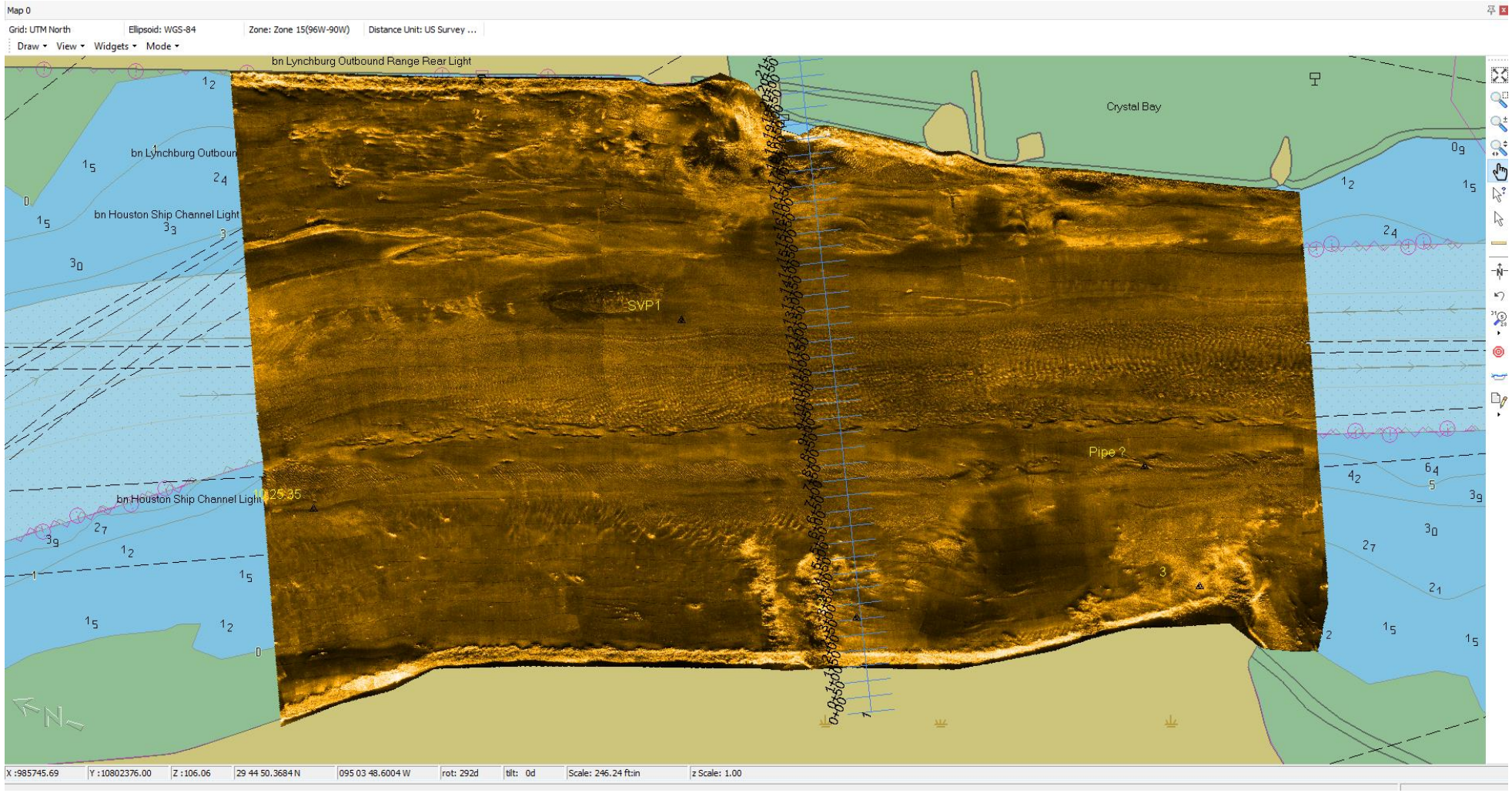
MBMAX64 – AUTO-PROCESSING



- Auto Process – Export to XYZ as part of the Auto Process output

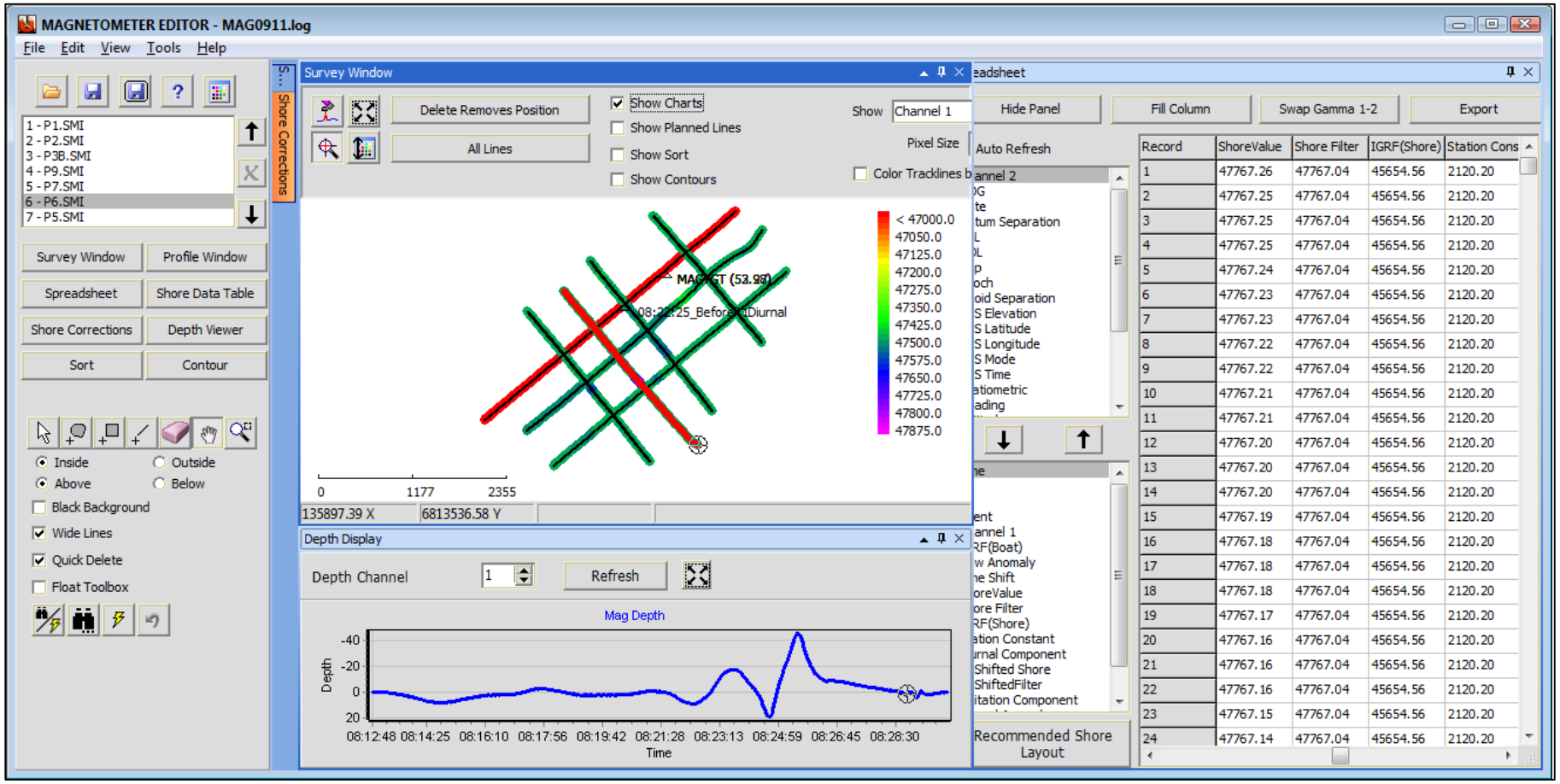
Side Scan Processing

- Various internal improvements to enhance mosaics!



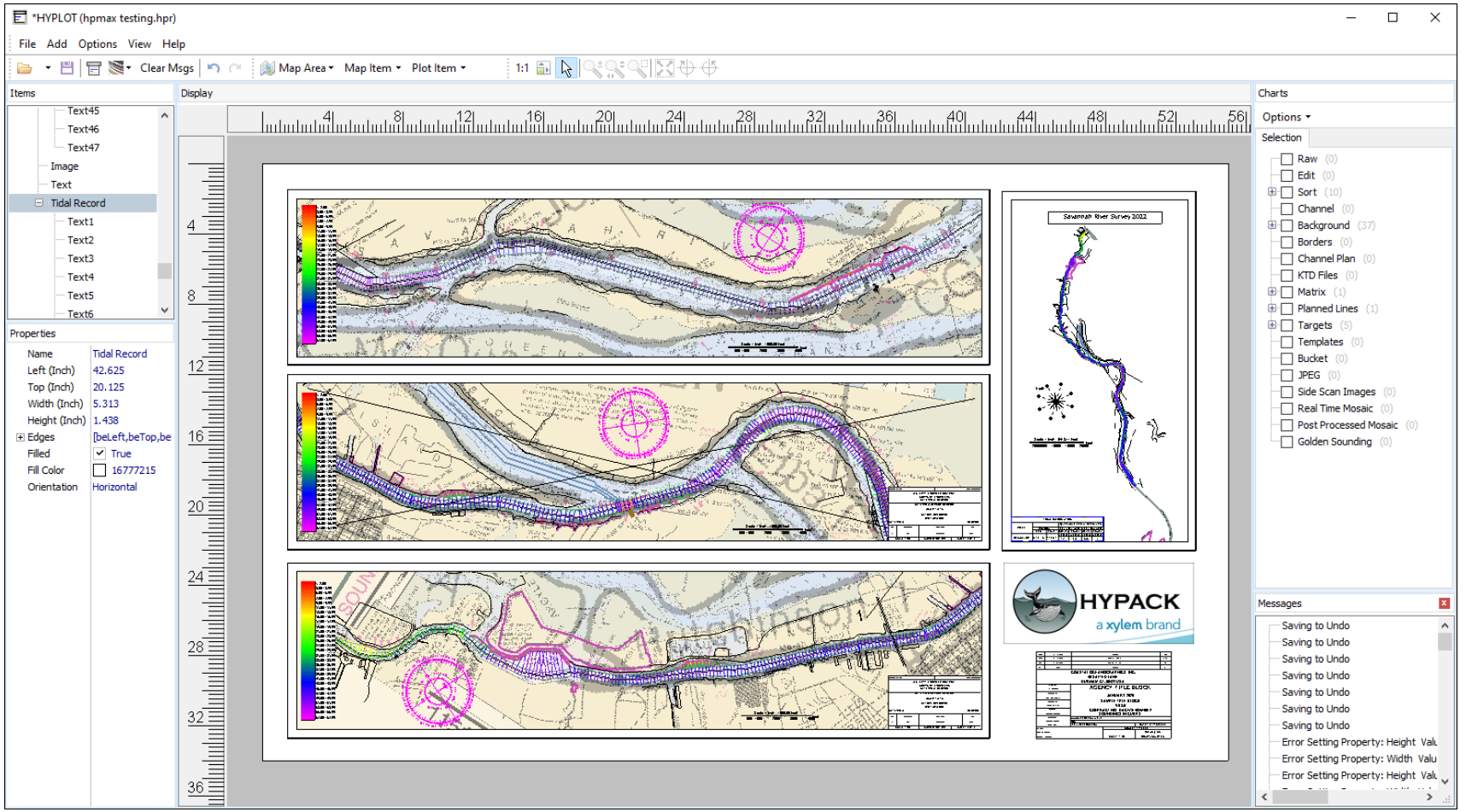
MagEdit

- New Interface!
- Dockable windows
- Sort and contour data without exiting MagEdit!
- Adapted for the processing of environmental and water quality data (SMI records).



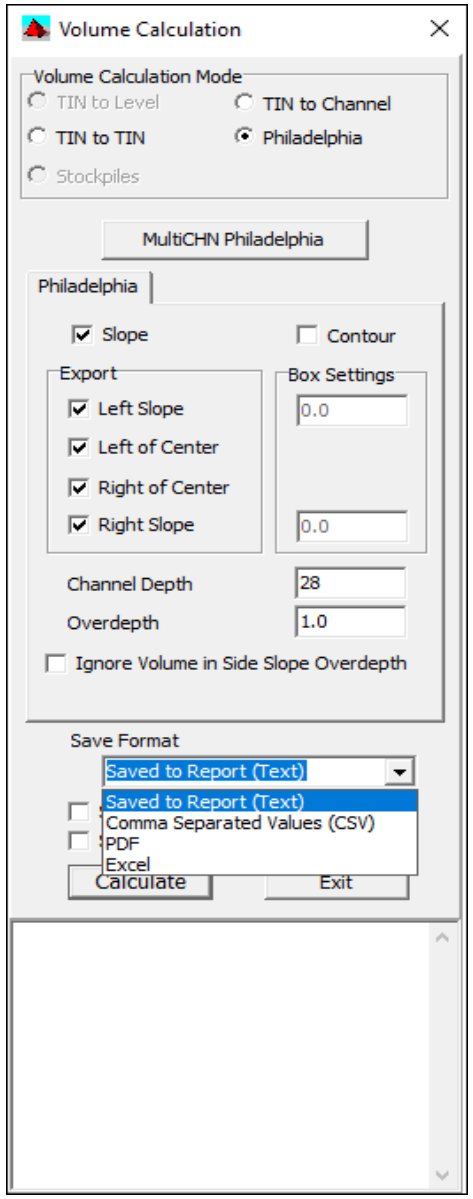
HYPLOT MAX

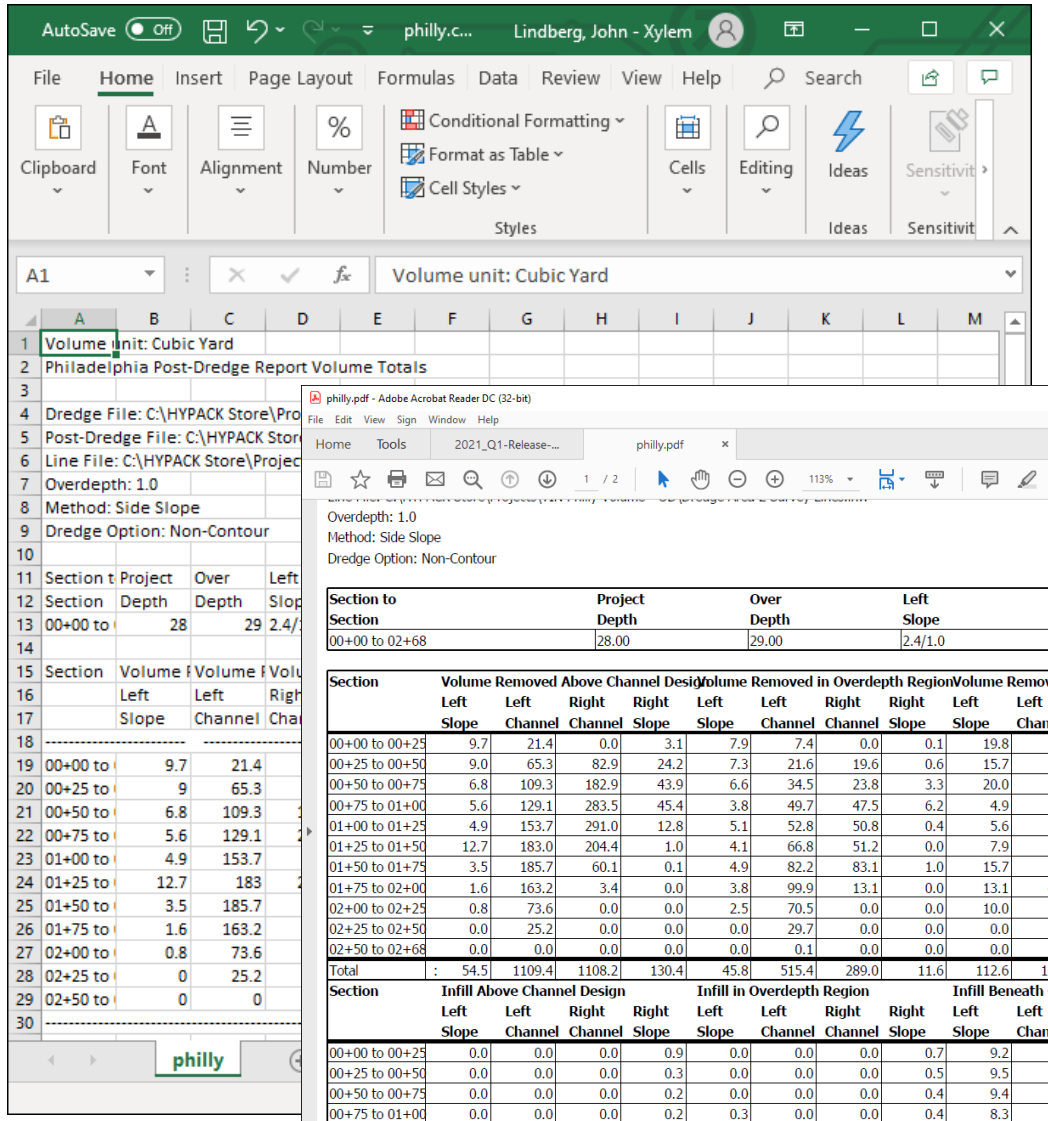
- New for 2022!
- Uses paper space.
- Plot multiple maps to one sheet!
- Create plot area without PLT file.
- Plots all background files.
- Lock items to prevent editing.
- Multiple undo's.
- Define settings in main window.



TIN MODEL

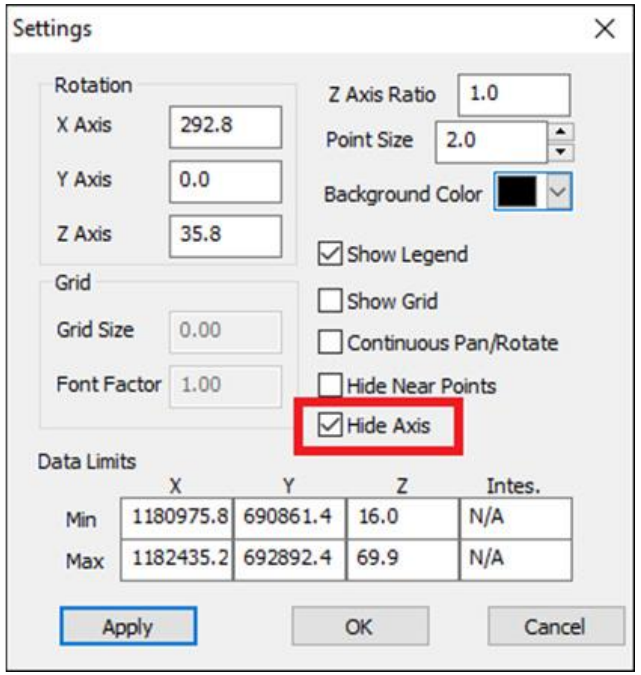
- Improved 2D drawing
- New volume report options
  - PDF
  - CSV
  - XLS

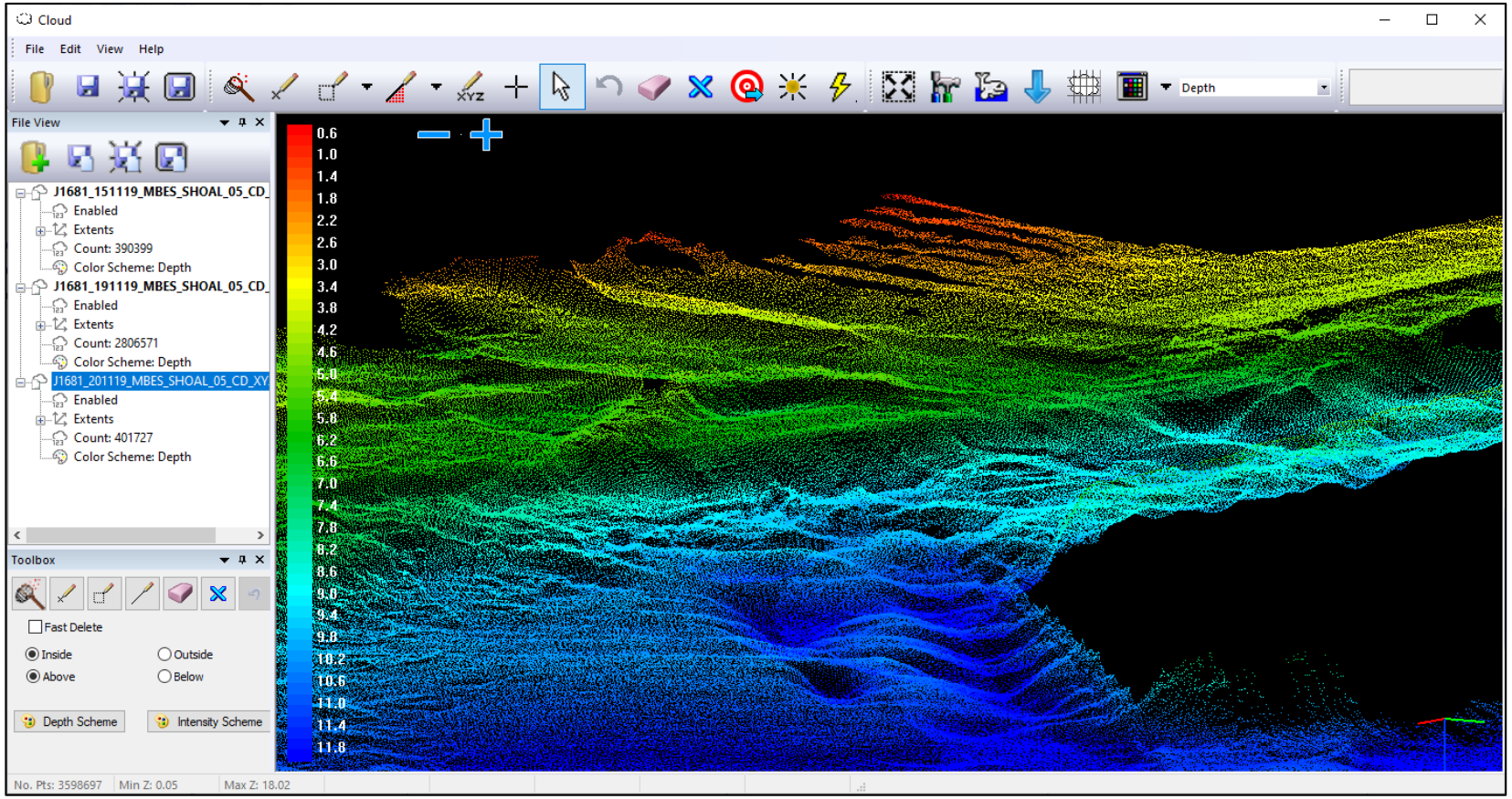




CLOUD – Enhancements

- Toolbox - similar to MBMAX64 and SBMAX64
- Toggle off axis and perimeter display
- File list view to enable/disable files without unloading them



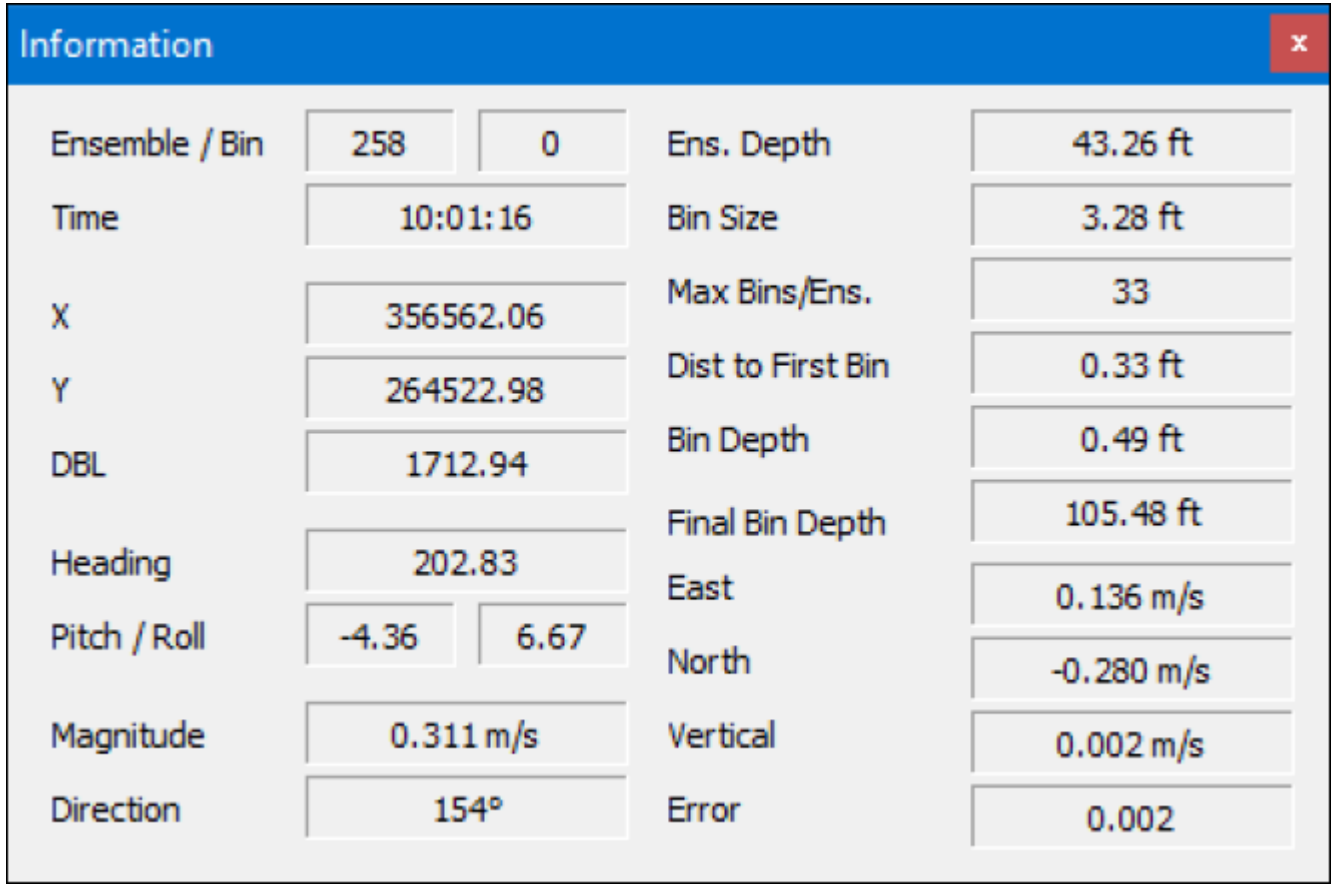


ADCP PROFILE

Information Window

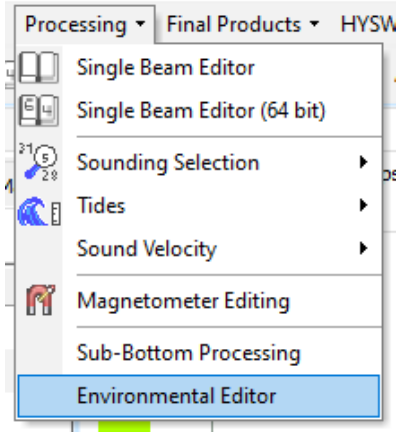
More extensive Information display: Added Ensemble Depth, Bin Size, Max Bin/Ensemble., Distance to First Bin. Bin Depth and Final Bin Depth.

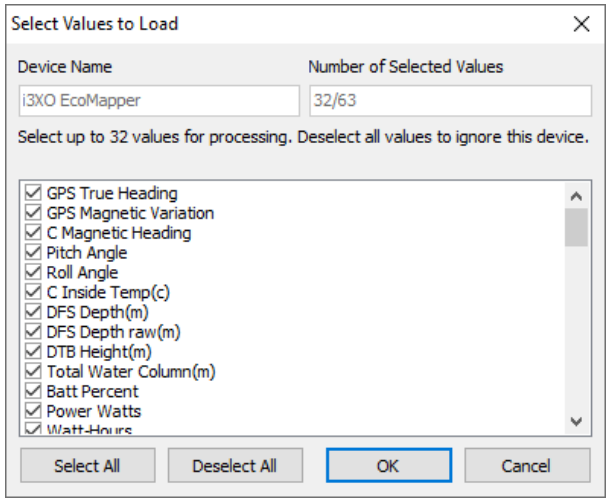
- **Corrected off-screen dialog problem.**

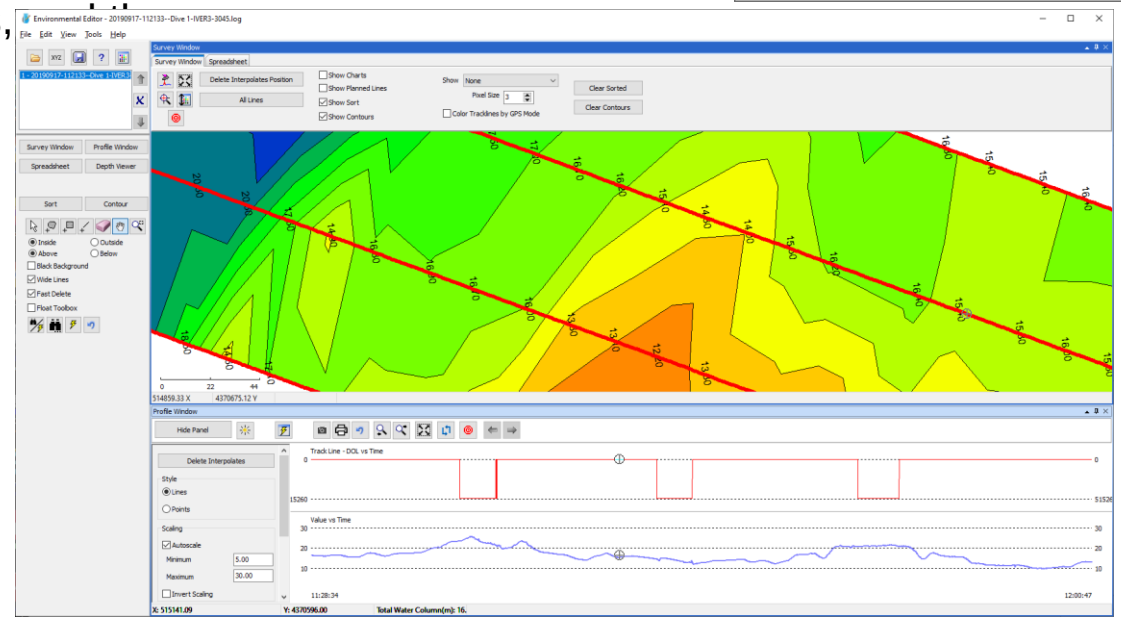


NEW ENVIRONMENTAL EDITOR

- Provides tools to process your environmental data stored to SMI record
- Launches from PROCESSING – ENVIRONMENTAL EDITOR
- Supports directly loading EXO Bin Files. All files must contain the same data combination logged in the same order in each record.
- Load up to 32 values!
- Clean bad data using point and block editing tools, Search and Filter options.
- Generate contour maps of each value.
- Generate reduced XYZ files for plotting.
- Built in sorting and contouring.

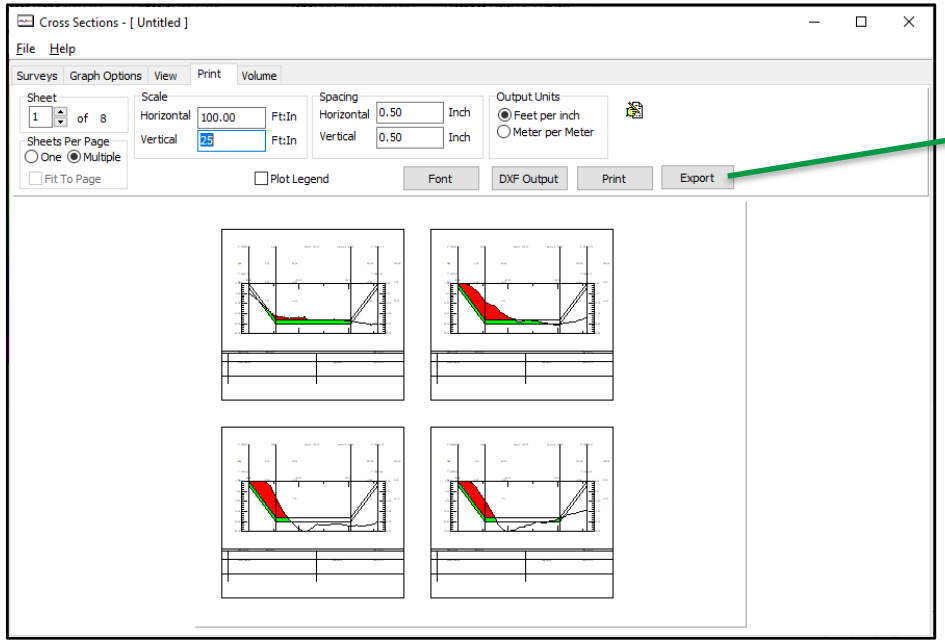


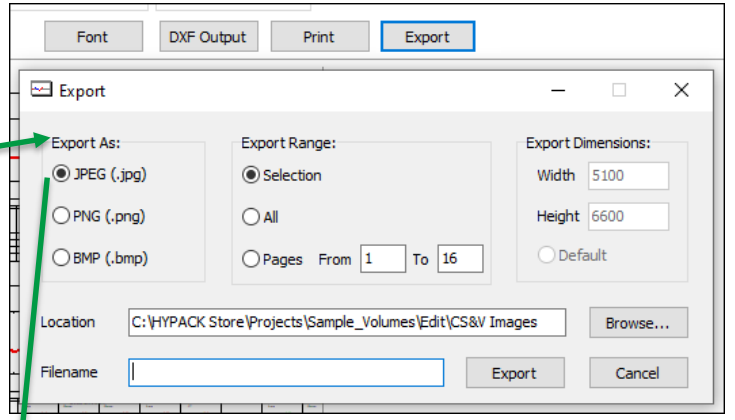


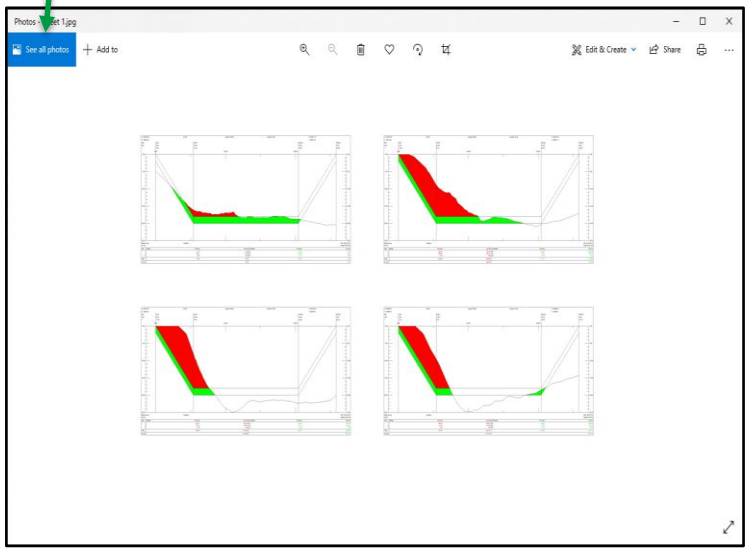


CROSS SECTIONS AND VOLUMES

- Export sections to image files (*.jpg, *.png, *.bmp)
- Images stored in your project's \Edit\CS&V Images folder.

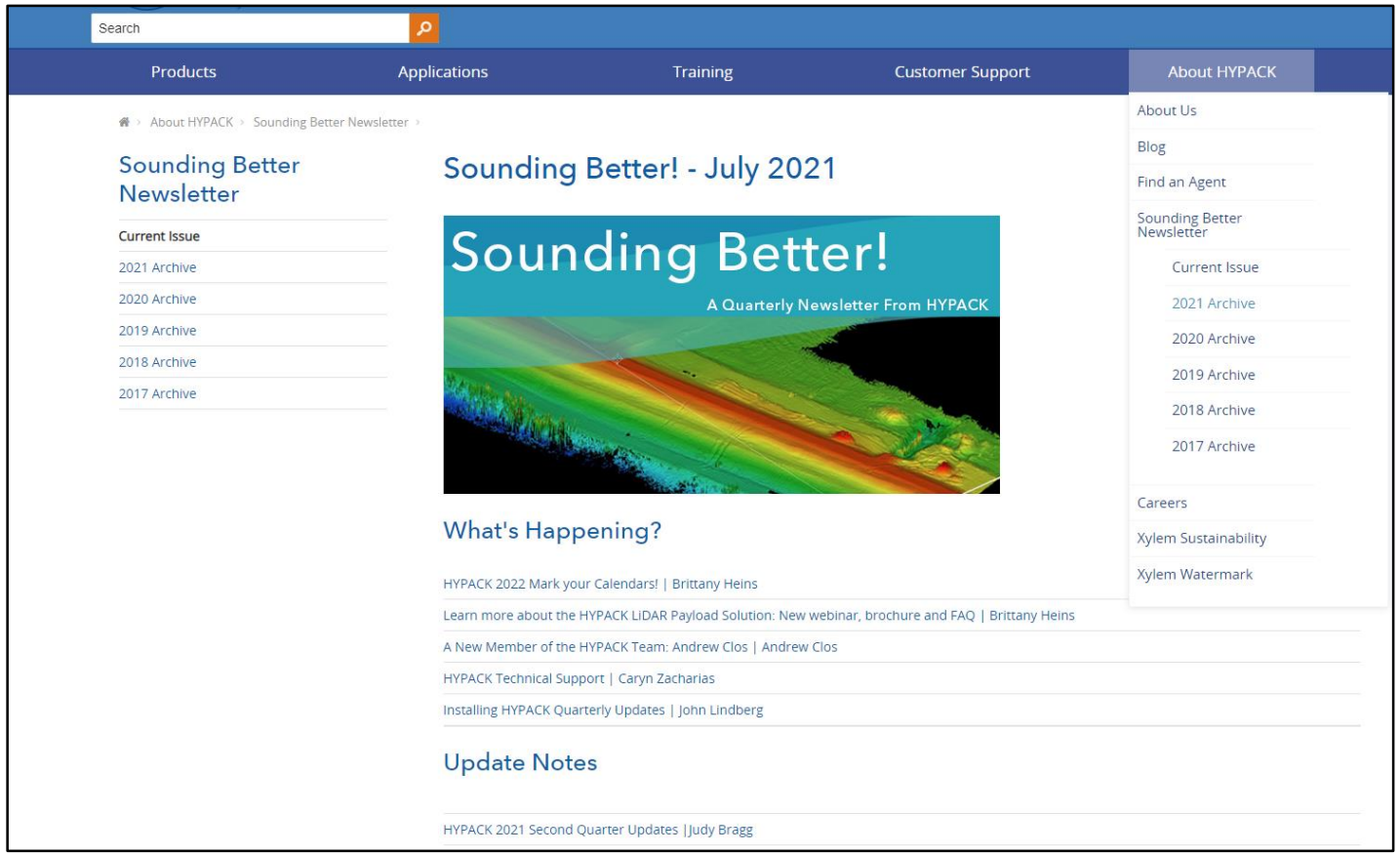






Sounding Better!

- Quarterly Newsletter
- What is new in the HYPACK world!



xylem
Let's Solve Water

Thank You !

Links to more information:

HYPACK on Youtube.com (Historical Sessions)

HYPACK on Youtube.com (Newer Sessions)

HYPACK SUPPORT Site

HYPACK Live Chat

HYPACK Ustream

HYPACK Website

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