

Echoview 14 release notes

Echoview Software is thrilled to unveil Echoview 14! This release puts you and your data at the forefront of focus and innovation.

Our dedicated team has been working hard to bring you an array of game-changing features to revolutionize your hydroacoustic data processing experience.

Echoview 14 is available to all license holders with an up-to-date Maintenance and Technical Support (MATS) plan or an active subscription or lease.

Please contact info@echoview.com to discuss your options for accessing Echoview 14.

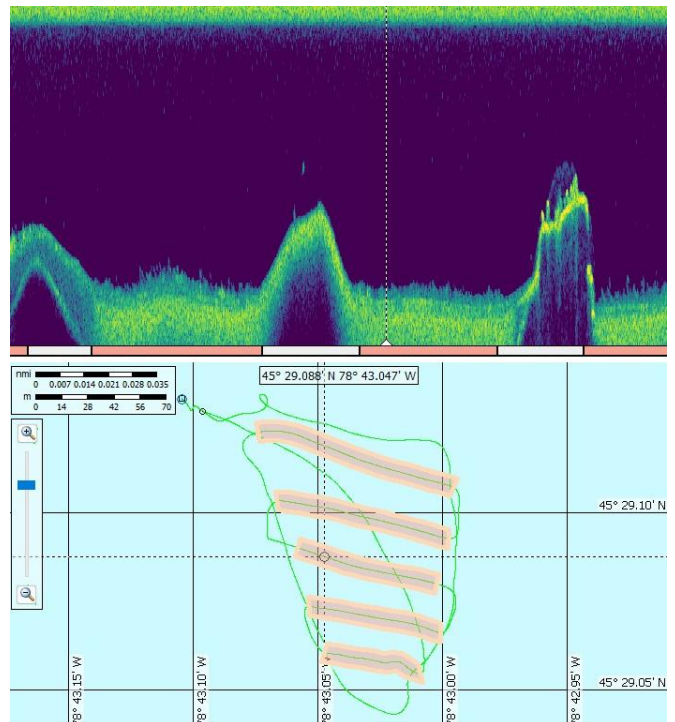
Transect definition and analysis

Analyze your data by transect easily thanks to a new layer of information that can be created to partition pings: transect groups.

Transects are defined in the time domain, and can be used with data recorded from either mobile or stationary platforms.

New features to support transect-based analyses include the ability to:

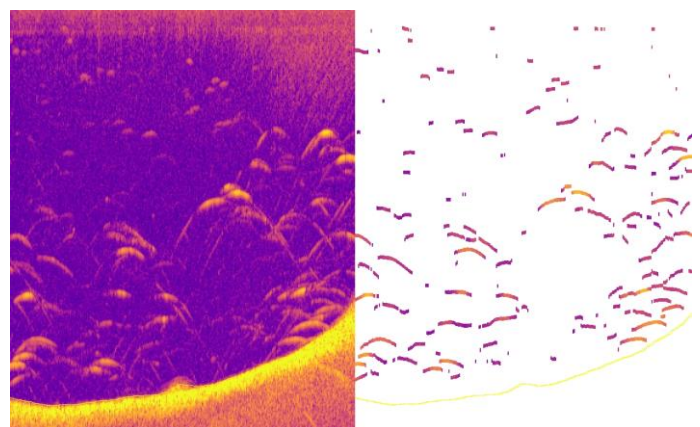
- Create transect groups in the Dataflow window, and connect a group to the platform.
- Define (draw) transects on echograms or cruise tracks, enter times in a table, or import them from a CSV file.
- View transects on echograms (in the integram), on cruise tracks, browse them in a table, or inspect them in the Details pane.
- Use a Transect Subset operator to reduce echogram data to only the pings that coincide with transects.
- Partition your pings into transects, and further subdivide data into regions or cells for existing on-screen and export analyses.
- Export results using a new Analysis by Transects option.
- Include new analysis variables that describe transect attributes in exports.
- Export transects definitions to a CSV file.



Manually define transects by drawing them on cruise tracks or echograms, or import them using a CSV file. The orange bars below the echogram highlight which pings are included in each transect.

Lowrance file format support

Echoview 14 brings compatibility with data recorded by Navico Group Lowrance fish finders, including HDS and Elite product lines plus other consumer Simrad systems that record sl2, sl3, or slg sonar log files.



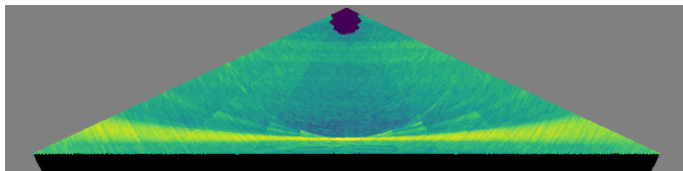
Lowrance fish finder data on the left, with the results from Echoview's target detection algorithm on the right. Following detection, targets may then be tracked and counted.

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Even more file formats

You can process even more types of hydroacoustic data with Echoview 14, as we now also support:

- Kongsberg EM series multibeam data recorded to *.kmall and *.kmwcd files.
- Furuno FCV-38 split-beam echosounder data recorded to the ICES SONAR-netCDF4 format using the version 2 specification.
- R2Sonic data in Echocheck.



This EM304 data is courtesy of NOAA Ocean Exploration, 2023, collected during EX2000, and accessed from the NOAA National Centers for Environmental Information archive.

Echoview 14 also reports new information in the Details pane: TVG applied to Kongsberg EM series data, and environmental information for Sound Metrics ARIS data.

Simrad EK80 features

Echoview 14 includes new tools specifically designed for Simrad EK80 wideband data processing, including:

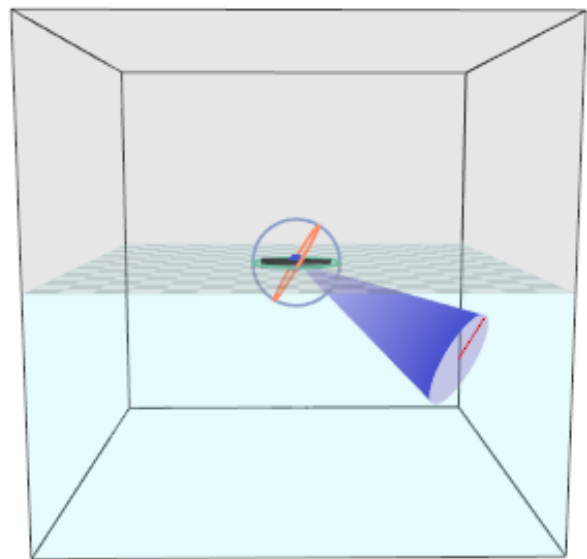
- Frequency-dependent adjustments to TwoWayBeamAngleTableWideband and AbsorptionCoefficientTableWideband via an Echoview Calibration Supplement (ECS) file.
- Single Target Detection - Wideband operator support for detecting targets in non-split beam transducer data, as the second input operand (angular positions) is now optional.
- Pulse compression calculations are faster.

Transducer geometry widget

A key step in preparing hydroacoustic data for analysis is establishing the correct depth and location of your sample data, e.g. by configuring transducer orientation. Echoview allows you to define the pointing direction of transducers in a properties dialog where degrees of elevation, azimuth, and beam rotation can be entered (or converted from alongship and athwartship angles).

For horizontal or upward-looking deployments, it can be hard to be fully certain that your transducer orientation is configured correctly.

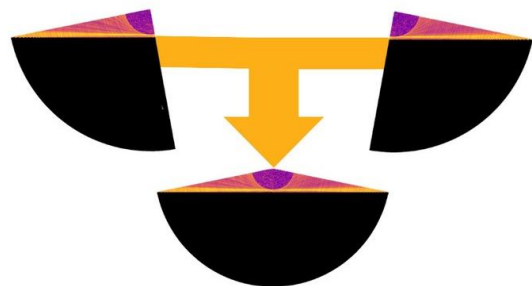
We have now transformed this process by introducing an interactive 3D widget to the Transducer Properties dialog box. You can confirm the pointing direction of your single beam or multibeam echosounder with confidence.



Echoview 14's interactive transducer orientation widget allows you to visualize the setup of your echosounder, and includes an option to show a single beam or a multibeam fan.

Combine Fans operator

The Combine Fans operator conjoins the echograms for multibeam pings collected at the same time, e.g., from dual-head Kongsberg EM systems. Once combined, utilize the output in your typical multibeam data processing tasks, such as detecting the bottom, aggregations, individual fish, gas seeps, and more.



Merge data from dual-head multibeam echosounders into a single echogram with the new Combine Fans operator.

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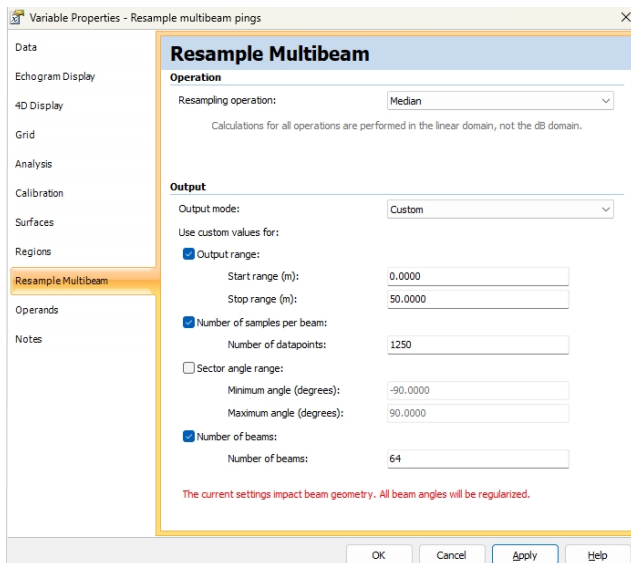
Resample Multibeam Pings operator

Resample Multibeam Pings transforms your multibeam data by modifying pings in one or more of the following dimensions:

- Sector angle
- Beams per ping
- Samples per beam
- Start and stop range

This makes it easy to manipulate multibeam pings to smooth data, to regularize sample geometry between variables or across pings, or to reduce the volume of data being processed.

Some multibeam systems have changing sample geometry from ping to ping, meaning that until now it wasn't possible to use operators that require regular ping geometry when comparing a window of pings to calculate statistics, such as Multibeam Background Removal. The Resample Multibeam Pings operator can modify your data into a regular grid, and therefore equips you to use Echoview's other multibeam operators.



The range of settings that are available for the Resample Multibeam Pings operator.

Ping Time Difference operator

Ping Time Difference replaces samples in every ping with a number that represents the time elapsed (seconds) between the current and the previous ping, making it easy to find disruptions or inconsistencies in the ping rate. Use the result to filter data based on time using the Data Range Bitmap operator.

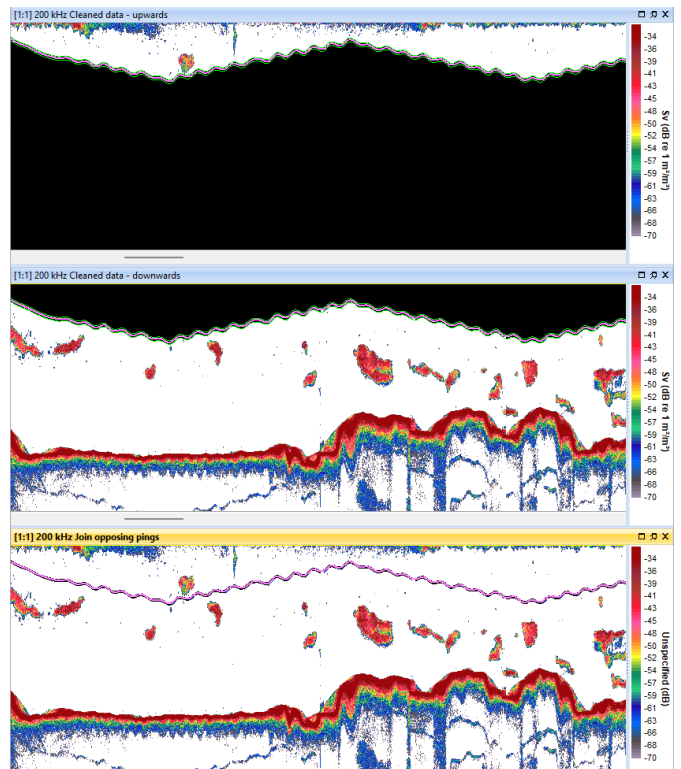


The Ping Time Difference operator replaces every sample in a ping by the elapsed time (seconds) to the previous ping.

Join Opposing Pings operator

Join Opposing Pings gives you the ability to join and view single beam data collected from platforms where co-located transducers are pointing in opposite directions, such as a glider with transducers facing both upwards and downwards.

The echograms below show data collected using an EK80 Mini from an autonomous underwater vehicle (AUV). Two pairs of multiplexed Simrad transducers were attached to a passively moving gimbal that maintained their orientation, with one set of transducers looking upward (top panel) and one downward (middle panel) as the vehicle undulated through the water. Now you can combine the two with the Join Opposing Pings operator (bottom panel).



Data kindly shared by Chad Waluk and Kelly Benoit-Bird at the Monterey Bay Aquarium Research Institute, USA.

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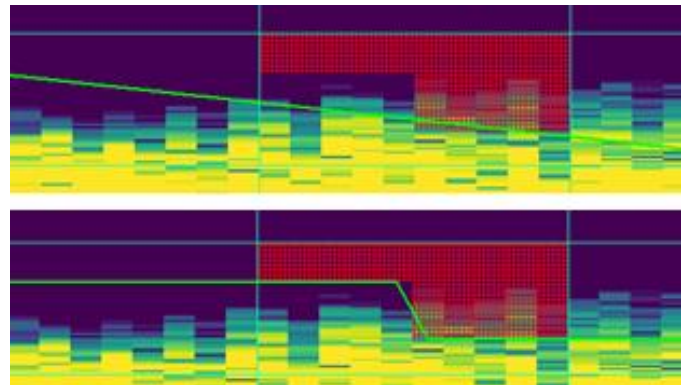
Other features

- The Background Noise Estimation operator includes an option to show calculated results without TVG applied.
- The Code operator can access a ping's position, heading, speed, and vessel log distance.
- The Vessel Speed at Pings operator accepts multibeam data types as input.
- When viewing the Details panel whilst mousing over variables in the Dataflow window, you can see whether thresholds have been applied to variables in a new Data section.

Details	
View ▾ Lock Details	
General	
Name	Maximum intensity from raw
Data type	Sv
Type	Virtual
Operator	Maximum intensity
Pings	Not yet determined
Time	0.333ms per ping
Generations	7800
Grid	
Time/distance	None
Depth/range/line-referenced	None
Analysis	
Exclude above	None
Exclude below	Seafloor
Data	
Minimum threshold	-64 dB
Maximum threshold	None
Time-varied threshold	None
Minimum TS threshold - Calibration difference off...	None

- Filesets allow you to set a specific start date and time (which can be easier to use than the previous option to apply a time offset).
- General performance improvements are included, particularly for CSV file exports and reading pings from netCDF files.
- New scripting features:
 - CloseAssociatedViews, a method to enable you to close echogram windows as well as other data views.
 - Surfaces can be accessed in the Command Interface (including the Console window), and the properties of virtual surfaces can be modified.

- The EV File Properties settings to customize region class echogram display can be accessed in the Command Interface and Console window.
- DetectFishTracks and DetectSchools COM methods include an option to delete existing regions ahead of detection.
- For multibeam variables, the exclusion options to apply an additional depth offset and/or to exclude data beyond the minimum range of a surface now apply to all exclusion-relevant data processing steps (previously they were used for 3D school detection only).
- The rendering of lines across pings with significant time gaps is improved.



When data are collected with gaps in time, the intersection of lines with ping data in previous versions of Echoview could be confusing. The above panels show where an exclusion line is displayed, along with the samples included in a cell's integration. Echoview 14 (bottom panel) better represents the position of the line relative to the data than Echoview 13 (top panel).

System requirements

Echoview 14 is compatible with 64-bit Windows 10 and 11 operating systems. Windows 8.1 is no longer supported.

Getting Echoview 14

You can download Echoview 14 from our [website](#).

A complete list of features and fixes can be found on the "New in Echoview 14" pages in the help file installed with Echoview 14.

Please contact support@echoview.com for further information.