

SeaSonde Radial Suite® Software Release 25



CODAR is pleased to announce Radial Suite Software - Release 25 (R25) – is now available. Those running earlier versions of the Radial Suite can purchase an upgrade to the latest Release.

HIGHLIGHTS of the Radial Suite Release 25 (new features since R24) Include:

Advanced Quality Metrics & QC Filtering for Cleaner Radials

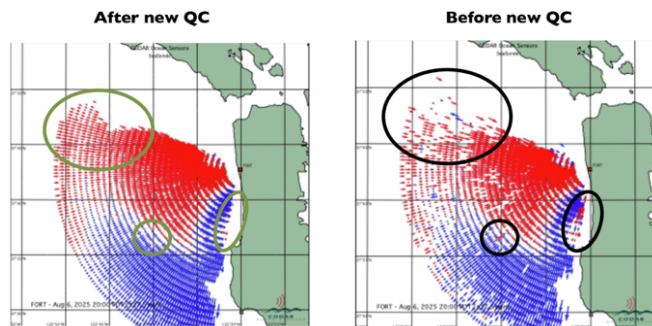
Release 25 adds automated quality control (QC) tools designed to improve the reliability of SeaSonde radial current measurements. New QC filters automatically identify and remove outlier velocity values, “lonely” vectors (those with few to no neighbors), flagged vectors (e.g. those appearing over land or beyond expected coverage area), and other low-quality data before final radial files are produced. Additionally, when operational issues are detected (echoes don't match last calibration, low or no echoes in one or more receive channels, etc.), potentially impacted data will be excluded from further processing, protecting downstream data products.

Key Benefits of R25:

- Cleaner radial current maps
- Improved automated quality control
- More complete radial coverage
- New diagnostic visualization tools
- Enhanced wave processing performance
- Simplified offline reprocessing

Radial Interpolative Fill

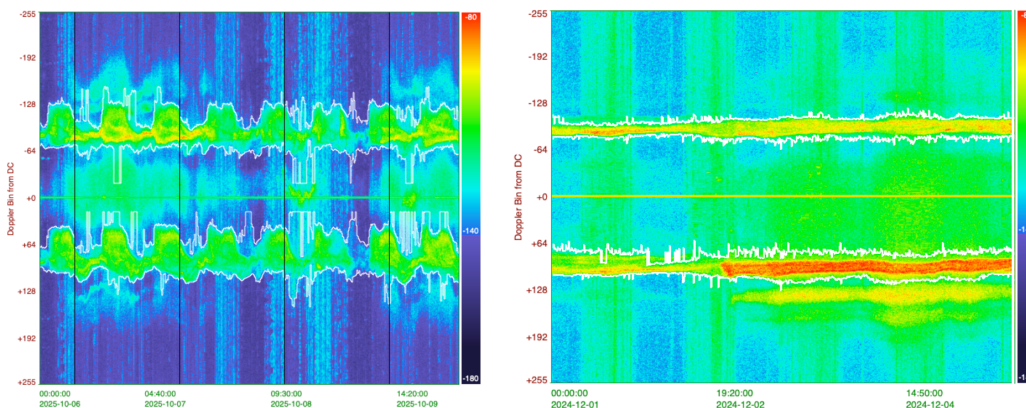
An optional radial interpolative fill capability estimates missing vectors using distance-weighted interpolation of neighboring measurements. This feature can improve spatial continuity in radial maps where localized gaps occur due to interference, weak signal conditions, or aggressive quality-control filtering. Interpolated vectors remain identifiable through vector flagging, allowing users to distinguish measured and interpolated values during analysis.



New SpectraRangeHistory Diagnostic Tool



SpectraRangeHistory (SRH) is a new diagnostic viewer that displays colorized Doppler spectra power versus time for a selected range cell. The colorized display allows operators to quickly visualize changes in first- and second-order Bragg returns, interference events and shifts, and propagation conditions over time. This provides a fast and intuitive method for diagnosing changing site conditions that might otherwise require examination of large numbers of individual spectra files.



Doppler Spectra Time Series showing changing first and second order spectra and noise conditions displayed along with first order lines for currents (left) and for waves (right).

Improved Wave Processing Performance

Several enhancements have been added into the SeaSonde wave processing chain. Wave processing now utilizes a dedicated antenna pattern automatically constrained to coastline bearing limits, improving robustness in many coastal environments. Additional processing improvements reduce outliers in wave outputs while increasing overall wave data quality and consistency.

Enhanced Blanking for Improved Nearshore Wave Measurements

A new Enhanced Blanking option provides improved second-order signal strength in near-range cells, helping strengthen wave measurement robustness in applications where nearshore wave performance is particularly important. The feature can be enabled through SeaSonde Radial Setup and configured in consultation with CODAR technical support.

Continued on next page...

Optimized Processing & Directory Structure

The operational file management structure has been thoughtfully reorganized. Unfiltered radials are now stored in a RadialMergers directory, while the fully QC-filtered and interpolated radials are saved in a clean Radials folder. Furthermore, to streamline configurations, R25 sets a new default radial angular resolution of 1° when establishing new site configs.

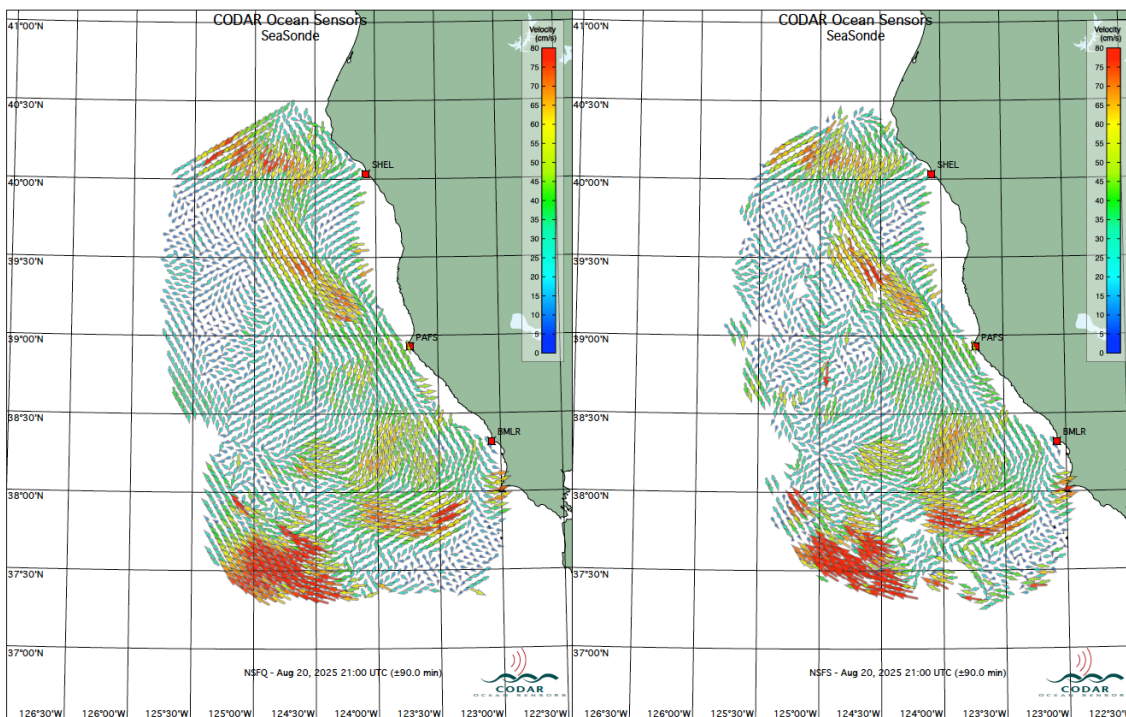
Improved Offline Processing with CodarProcessor

The CodarProcessor application continues to evolve with Release 25. Enhancements include simplified settings in the offline processing window, no manual configuration requirements for radial directory path, and other “under the hood” changes that improve overall usability. A new dedicated CodarProcessor User Guide is now included natively with the R25 software suite.

Computer Requirements

R25 is compatible with macOS 12 through 26 and runs efficiently on both Intel and Apple ARM (M-Series) processors. Review the Radial Suite Release 25 Computer Specifications and Compatibility Matrix document, posted in the CODAR website Support area, or consult with CODAR Support personnel before installing new software.

Totals using new QC radials Total with RadialMergers - Radials



Comparison of total current maps generated using the same SeaSonde radial measurements. Application of the new R25 radial quality-control tools (left) helps eliminate questionable radial vectors before total current generation, resulting in cleaner and more spatially coherent total current maps compared with processing without the new QC tools (right).

