# RadExPro 2023.3 release notes

We are delighted to introduce the upcoming version of our seismic software –
RadExPro 2023.3 ! In this release, we're excited to present a range of new features and improvements. Here's an overview of what's new in this release:

- Our latest addition is the **Q-Filtering** module, designed to model or compensate for attenuation-related effects in seismic data. It provides the flexibility to address amplitude and phase effects separately or simultaneously. Below, you can see an illustration of its performance on synthetic data:
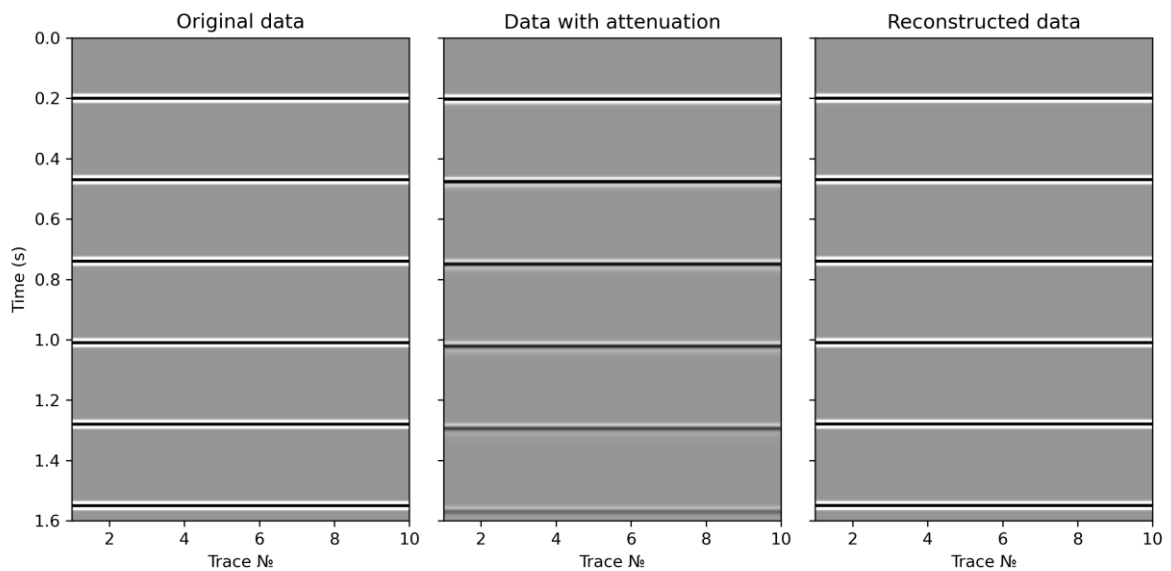

And here is the real data example:
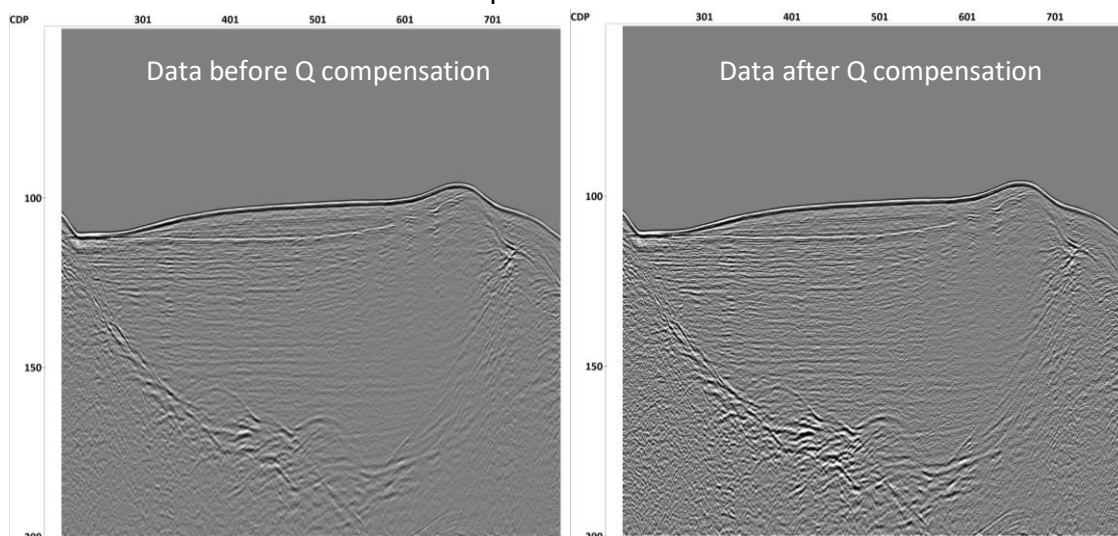
The Q compensation operator amplifies the seismic data at later times, making the amplitude distribution more even along the time axis. The phase correction is also present, although hard to observe in the above figure.

- The new **Geophone -> DAS Conversion** module conducts the conversion of particle velocity geophone data to strain rate averaged within the gauge length, which is typically output by distributed acoustic sensing (DAS) systems. The same module can also be used to convert displacement seismograms to averaged strain. It functions as a spatial filter on ensembles of traces, which, in most cases, need to be shot gathers.
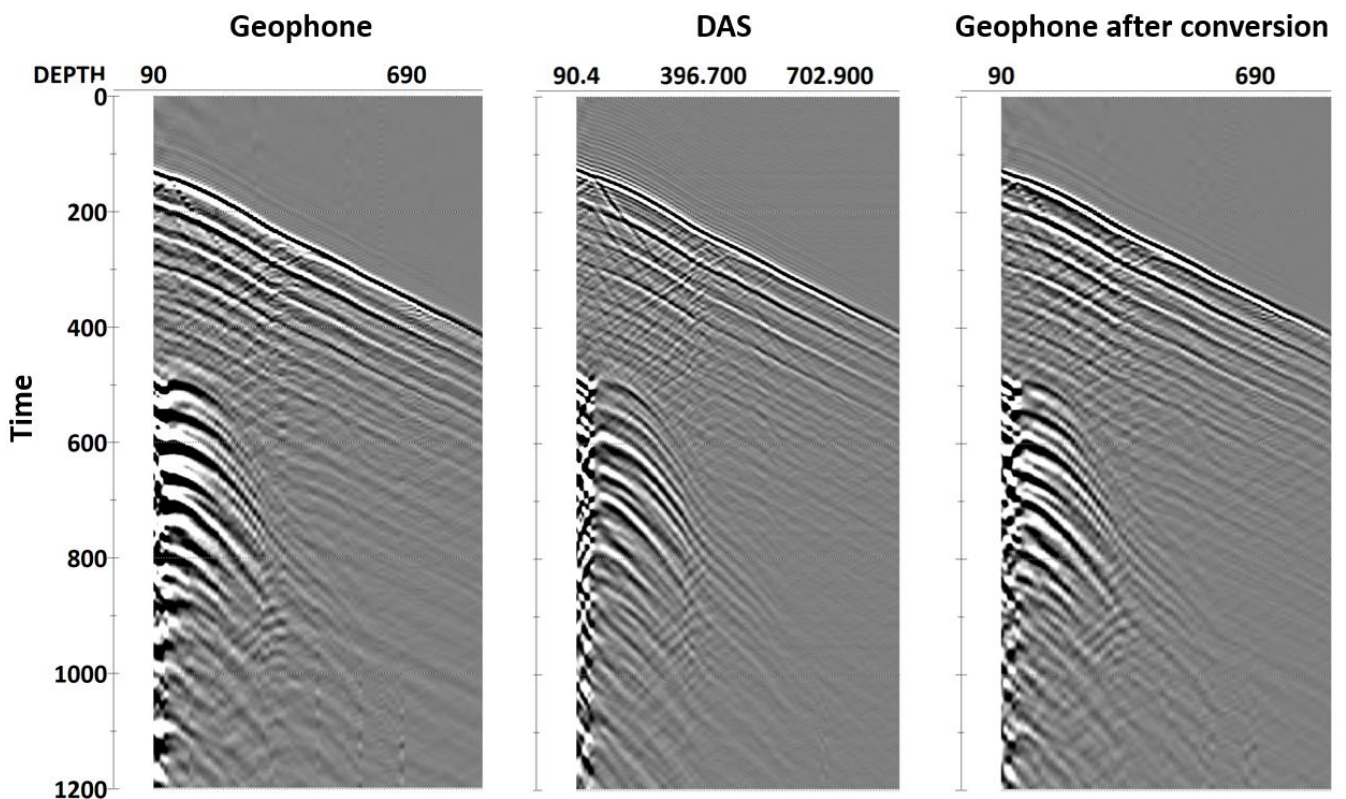
Here, the input dataset is a VSP survey acquired with both DAS and geophones which was published as an open-source dataset at Research Data Australia by Zulic et al. (2022) (https://doi.org/10.25917/7h0e-d392). The dataset was provided under a CC BY 4.0 license. More details can be found at https://creativecommons.org/licenses/by/4.0/.

- The new **HiRes Statics Calculation v2** module represents an enhanced version of our statics solution designed for high-resolution marine seismic surveys. The methodology is grounded in statistical estimation of various components, utilizing first break picks from the target horizon to identify anomalous values for deriving tidal, channel, and source static corrections. The derivation of source swell statics includes the application of the Common Offset Spatial Averaging (COSA) technique, which is suitable for both 2D and 3D data. Comprehensive details of the implemented algorithm are available in

N. Wardell's paper, titled "3D Pre-processing Techniques for Marine Very High-Resolution Seismic Data" (https://doi.org/10.3997/2214-4609-pdb.15.P127).

- We have transitioned several more modules to the new universal parameter style. These modules now offer full support for replicas and include standard export/import functionality. The affected modules are as follows:

  Trace Editing

  HiRes Statics Calculation

  Trace Math Transforms

  Header Averager

  Zero-Offset DeMultiple

  Radon Transforms

  Header <-> Dataset Transfer

The following bugs were fixed:

- PythonProxy – frequently fails to run more than once with the same script -- **FIXED!**
- Travel Time Tomography allows loading more than one pick at a source point and subsequently crashes -- **FIXED!**

As always, if you are currently under maintenance, please don't hesitate to reach out to our support team at support@radexpro.com to obtain your complimentary update. We remain committed to enhancing your seismic data processing experience.