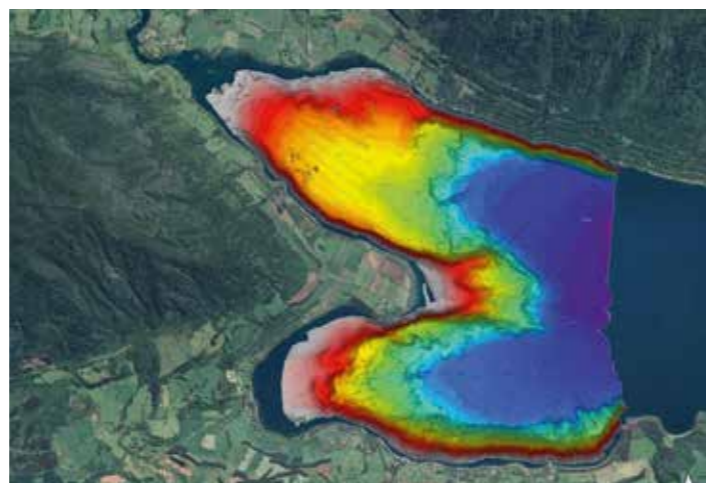


Flanders Marine Institute

An international research project of the University of Innsbruck (Austria), the Renard Centre of Marine Geology of Ghent University (Belgium) and the Flanders Marine Institute (VLIZ, Belgium) aims at a better estimation of the probability of giant earthquakes in Chile. Therefore, past earthquakes are reconstructed by investigating the bottom morphology and sedimentary infill of lakes Riñihue and Calafquén in great detail.

In December 2017, we deployed the Seabed Portable Lightweight Multibeam Set (acquired by VLIZ in 2017 from Seabed BV) on a small vessel in South Chile and were positively surprised by its performance and on-the-fly versatility, especially in dealing with complex lake bottom structures down to 180m water depth. The expedition was highly efficient and cost-effective, thanks to the compact size and light weight of the system, allowing quick transportation and easy installation over the side of the vessel. The excellent quality of the multibeam data strongly minimizes the time needed for post-processing of the data.



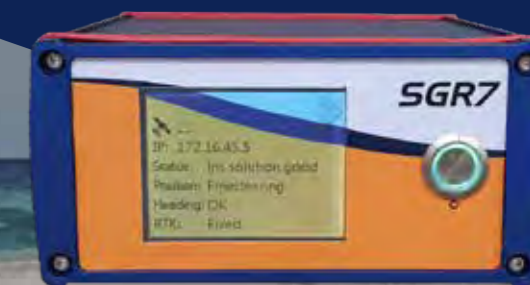
New multibeam bathymetric data of Lake Riñihue (unprocessed field data: 0-130m water depth)

The wealth of new data revealed impressive structures of earthquake-triggered sublacustrine landslides, erosive canyons, localized gas escape and landforms sculpted by glaciers during the last glaciation. These structures would have remained undetectable without the use of the very high-resolution Seabed Portable Lightweight Multibeam Set.



Research vessel on Lake Calafquén

Seabed inertial measurement units



The Seabed-IMU-S family are submersible inertial measurement units. An inertial measurement unit, or IMU, is an electronic device that measures and reports a vessel/vehicle's velocity, orientation, and gravitational forces, using a combination of accelerometers and gyroscopes, sometimes also magnetometers. When integrated with SPAN technology, the SBD-IMU-S family is ideal for maritime, airborne and ground applications that require accurate 3D position, velocity and attitude (roll, pitch and azimuth) data.



SBD-IMU-S1
mems based



SBD-IMU-S2
mems + fog based



SBD-IMU-S3
mems + fog based

Accuracy up to 0.005°

Benefits

- Tactical grade IMU performance
- Commercially exportable IMU
- Ideal for size constrained applications
- Continuous, stable positioning



Getting to the bottom of things