



Fig.1. Calibrated backscatter map of Barns Pool, Plymouth, UK. The values represent the backscatter response of the seafloor in absolute dB scale. The data can be used for reliable seafloor monitoring and classification.

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## **Kongsberg Maritime: New Calibrated Backscatter Data Enhances Kongsberg GeoSwath Plus Multibeam Seafloor Detection**

The latest release of Kongsberg Maritime's advanced GeoTexture software for the GeoSwath Plus line of multibeam echo sounders introduces Calibrated Backscatter data. The update positions the combination of GeoSwath Plus and the latest GeoTexture as a unique solution capable of delivering

calibrated images of the acoustic reflectivity of the seafloor.

The system, which has been developed as a result of KONGSBERG's involvement with the GeoHab conference backscatter data working group, can be used for reliable and repeatable texture mapping and identification of seafloor types. The data generated will have important applications in marine habitat mapping, engineering and geosciences.

The backscatter working group was formed in 2013 as part of the GeoHab conference series. Chaired by experts and end-users from leading research institutions in the field, it was established to support development of systems that can acquire backscatter data that is meaningful to the end-user by providing repeatable values, independent of survey conditions.

KONGSBERG has supported the group's efforts by providing information on its sonar technology and contributing to the guideline document and peer reviewed publications. In turn, KONGSBERG was able to leverage the findings and recommendations of the group to develop necessary algorithms and procedures to produce calibrated backscatter data with GeoSwath Plus multibeam echo sounders.

The system co-registers bathymetry and geo-referenced backscatter data in shallow water environments over a wide swath. During data acquisition, a procedure is followed to gather all necessary information to characterise the seabed response at the sonar frequency and to calibrate the transducers beamplots.

During data processing, using the latest release of the GeoTexture software, specifically developed algorithms account for sonar calibration information, range and absorption in the water column, transducer directivity, vessel movement, angular backscatter response and the slope of the seafloor. The result is a map of the seafloor showing the backscatter response for the given sonar frequency in absolute dB values.

Further information about the backscatter working group:

<http://geohab.org/bswg/>

Ends

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## **About Kongsberg Maritime**

Kongsberg Maritime is a global marine technology company providing innovative and reliable technology solutions for all marine industry sectors including merchant, offshore, subsea and naval. Headquartered in Kongsberg, Norway, the company has manufacturing, sales and service facilities in 20 countries and a total of 65 worldwide offices.

Kongsberg Maritime developed systems for vessels cover all aspects of automation, control, navigation, safety and dynamic positioning. Kongsberg Maritime also develops subsea solutions covering systems for Underwater Mapping (UMAP), Underwater Navigation (UNAV), Subsea Monitoring (SUMO) and Marine Robotics in addition underwater cameras.

Marine and offshore training simulators, LNG equipment, information management software, position reference systems, integrated aquaculture technology and advanced products to support seismic and drilling operations are also part of the company's diverse portfolio.

In parallel with its extensive technology portfolio, Kongsberg Maritime provides services within EIT (Electro, Instrument & Telecom) engineering and system integration, on an EPC (Engineering, Procurement & Construction) basis.

Kongsberg Maritime delivers solutions that cover all aspects of technology underwater and on the water, aboard new build and retrofit vessels, and on offshore platforms and rigs, often under a single supplier strategy called The Full Picture.

Kongsberg Maritime is part of Kongsberg Gruppen (KONGSBERG), an international, knowledge-based group that celebrated 200 years in business during 2014. KONGSBERG supplies high-technology systems and solutions to customers in the oil and gas industry, the merchant marine, and the defence and aerospace industries.

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