

SURVEY VESSEL



APPLICATIONS

- Pre-site surveys
- UXO detection
- Object detection
- Cable detection



GEOMAGNETIC SURVEYS

UXO DETECTION

By measuring anomalies in the Earth's magnetic field, geomagnetic surveys provide a wide range of applications as well as being a standard procedure for UXO detection.



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TOWED MAGNETOMETER ARRAY

Magnetometers are either installed on a fixed array (adaptable to water depth) or on an array towed behind the vessel. For accurate positioning, towed systems are tracked via USBL.

BACKGROUND

Geomagnetic surveys are widely used in UXO detection. Measuring the Earth's magnetic field allows identifying magnetic anomalies caused by ferromagnetic objects such as UXOs (Unexploded Ordnances).

Parameters of magnetic anomalies can be modelled providing information such as burial depth, magnetic moment and orientation. These results allow further evaluation with respect to the origin of magnetic anomalies.

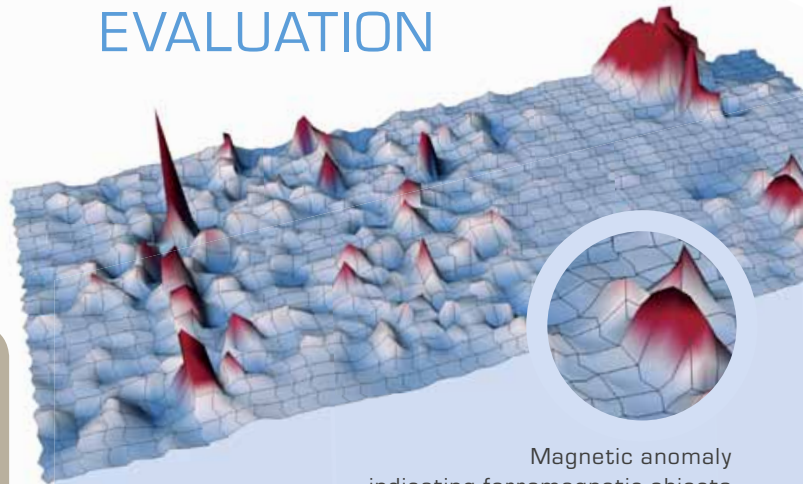
- Depending on the applied magnetometer type total magnetic field values or magnetic field gradients are measured
- Specific magnetometer arrays for different water depths are used

For area measurements parallel profiles are surveyed including several magnetometers (total field magnetometers as well as gradiometers) to perform complete coverage.



Bremerhaven (Fixed magnetometer array)

DATA PROCESSING AND EVALUATION



Magnetic anomaly indicating ferromagnetic objects below the seafloor as potential UXO

The result of geomagnetic measurements can be displayed in 2D or 3D maps of the magnetic field. Quality control and processing of magnetic data is done with well-established software.

Local information and modelled parameters are evaluated to decide whether calculated magnetic anomalies could be UXO or other relevant objects.