

Marine Seismic Equipment



Attention:

Please note that operations with the Seismic Equipment can only be operated upon request. Request operations with the Seismic Equipment to AWI-Geophysics and AWI-Logistics in sufficient time prior to the cruise. Operations of the system require experienced scientific staff on board. The system is not operated by the ship's crew.

Summary

Marine seismic data acquisition is a technique to generate and record seismic waves in the subsurface. By determining location and shape of seismic reflections below the seafloor, a structural map of the subsurface can be created. For this you need a source for the seismic signal (Airguns) and receivers for recording the reflected (Hydrophone Streamer) or refracted (Ocean Bottom Seismometer) signals.

Contacts

Role	Name
Engineer in Charge	Thorsten Eggers
Data Scientist	Karsten Gohl

Components

The Marine Seismic System consists of onboard data control and acquisition computers and tape drives for data storage, a Hydrophone Streamer (reflection seismic) or Ocean Bottom Seismometer (OBS; refraction seismic) and an airgun cluster (GI-guns or G-guns) as seismic source. Parts of airgun deployment rail are stored in container WCAU351219-7.

Subdevices

Page
Airguns Cluster Reflection Seismic (GI-guns) [Marine Seismic Equipment]
Airguns Cluster Refraction Seismic (G-guns) [Marine Seismic Equipment]
Ocean Bottom Seismometer (OBS) [Marine Seismic Equipment]
Seismic Streamer 3000m [Marine Seismic Equipment]
Seismic Streamer 600m [Marine Seismic Equipment]

Data logging, storage and archiving

Logged parameters

Central geographical ship's position and time standard

Time synchronising via Polarstern Network.

Geographical ship's position via Polarstern Network.

Rawdata storage on board

Raw data is temporarily stored to the data acquisition unit and written on tapes and backup tapes on a regular basis.