The German instrument pool for amphibian seismology (DEPAS)

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(Abbreviated version)

DEPAS: **De**utscher Geräte**p**ool für **a**mphibische **S**eismologie

(German instrument pool for amphibian seismology):

Founded in the year 2005 as so-called "Large scale facility" for German researchers

Onshore seismometer (currently 100 units) operated by the German Research Centre for Geosciences (GFZ) Potsdam

Ocean bottom seismometer (currently 80 units) managed by the Alfred Wegener Institute for Polar and Marine Research (AWI) Bremerhaven

Main scientific objective: enable active and passive onshore-offshore experiments

Targets:

- Passive continental margins
- Subduction zones
- Mantle plumes
- Mid-ocean ridges

Methods:

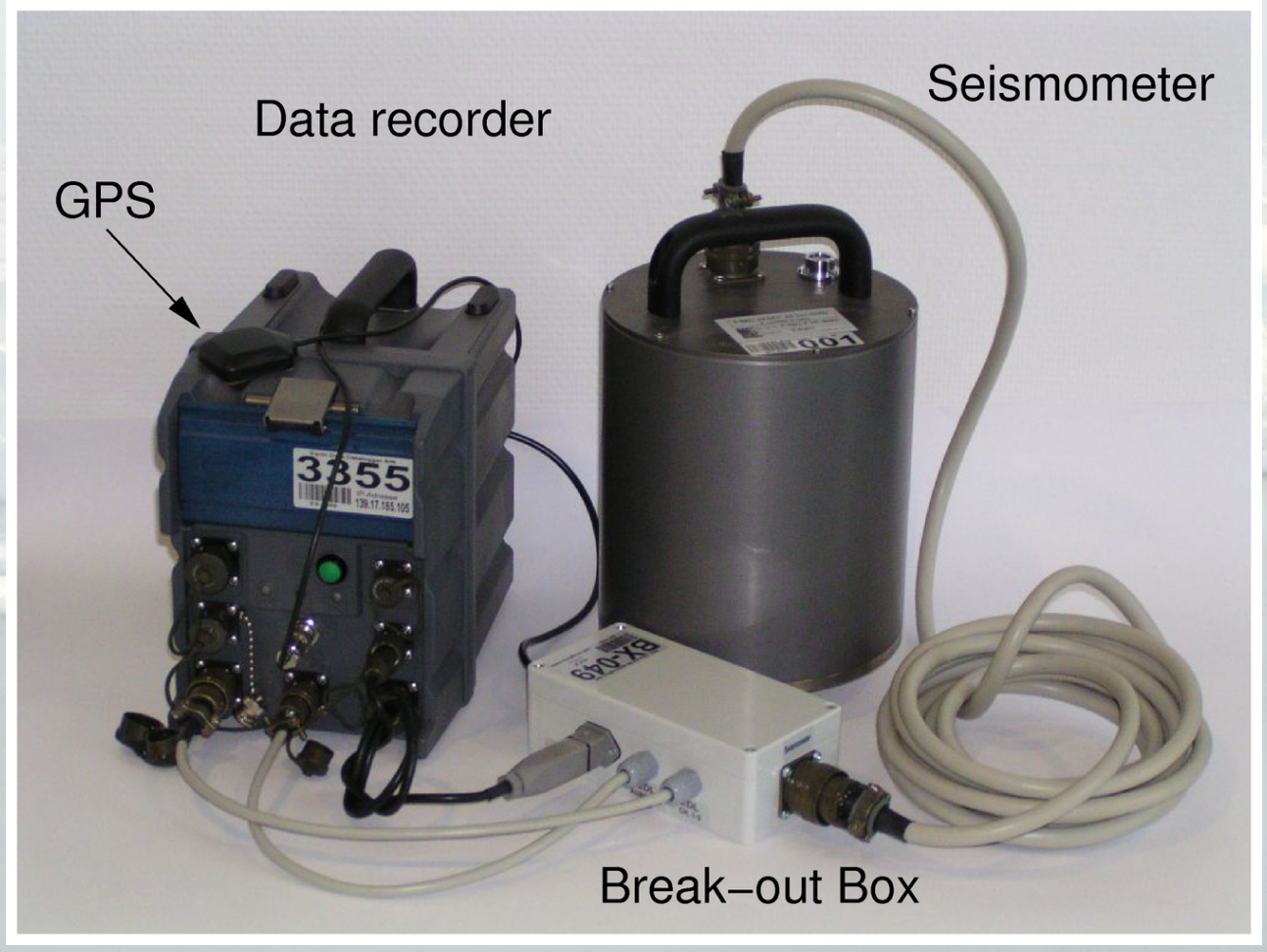
- Raytracing (wide-angle surveys)
- Local seismicity studies
- Receiver functions
- Teleseismic tomography
- Shear wave splitting
- Surface wave analysis

Technical overview: onshore stations

Geophone: Güralp CMG-3ESP Compact, 60 sec - 50 Hz

Digital data recording unit: EarthData PR6-24, 24 bit, 1 - 3000 Hz, 40 GB hard disk

Solar panels, adaptor cabels, transport boxes



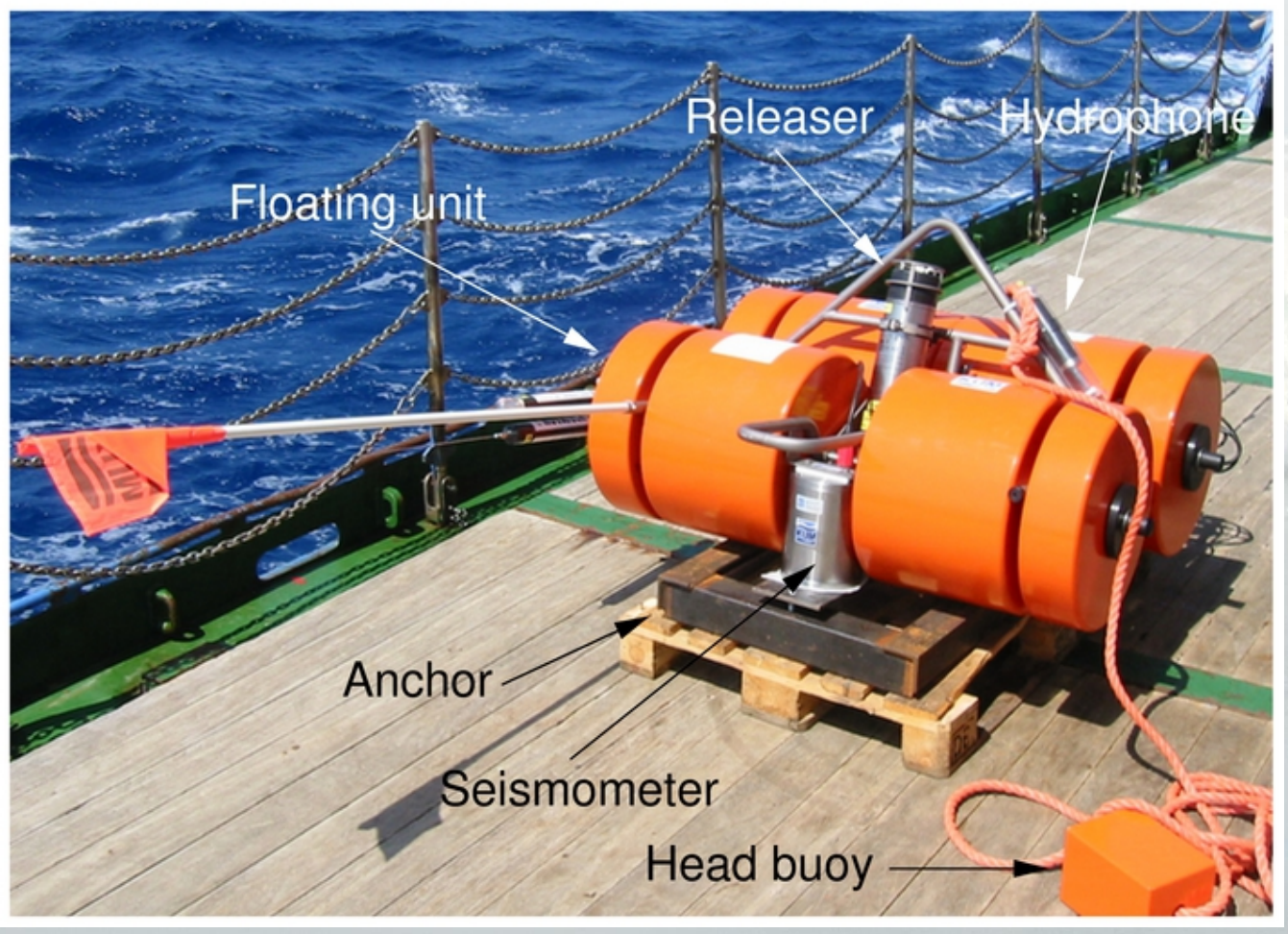
Onshore station assembled in the laboratory without outdoor casing

Technical overview: ocean-bottom stations

Floating unit: syntactical foam; frame and pressure tubes: titanium alloy

Max. deployment depth: 6000 m (standard OBS), 7300 m (deep-going OBS)

Max. deployment time: 12 months (standard OBS), 8 months (deep-going OBS)



Fully mounted OBS

ready for deployment,

weight: approx. 405 kg

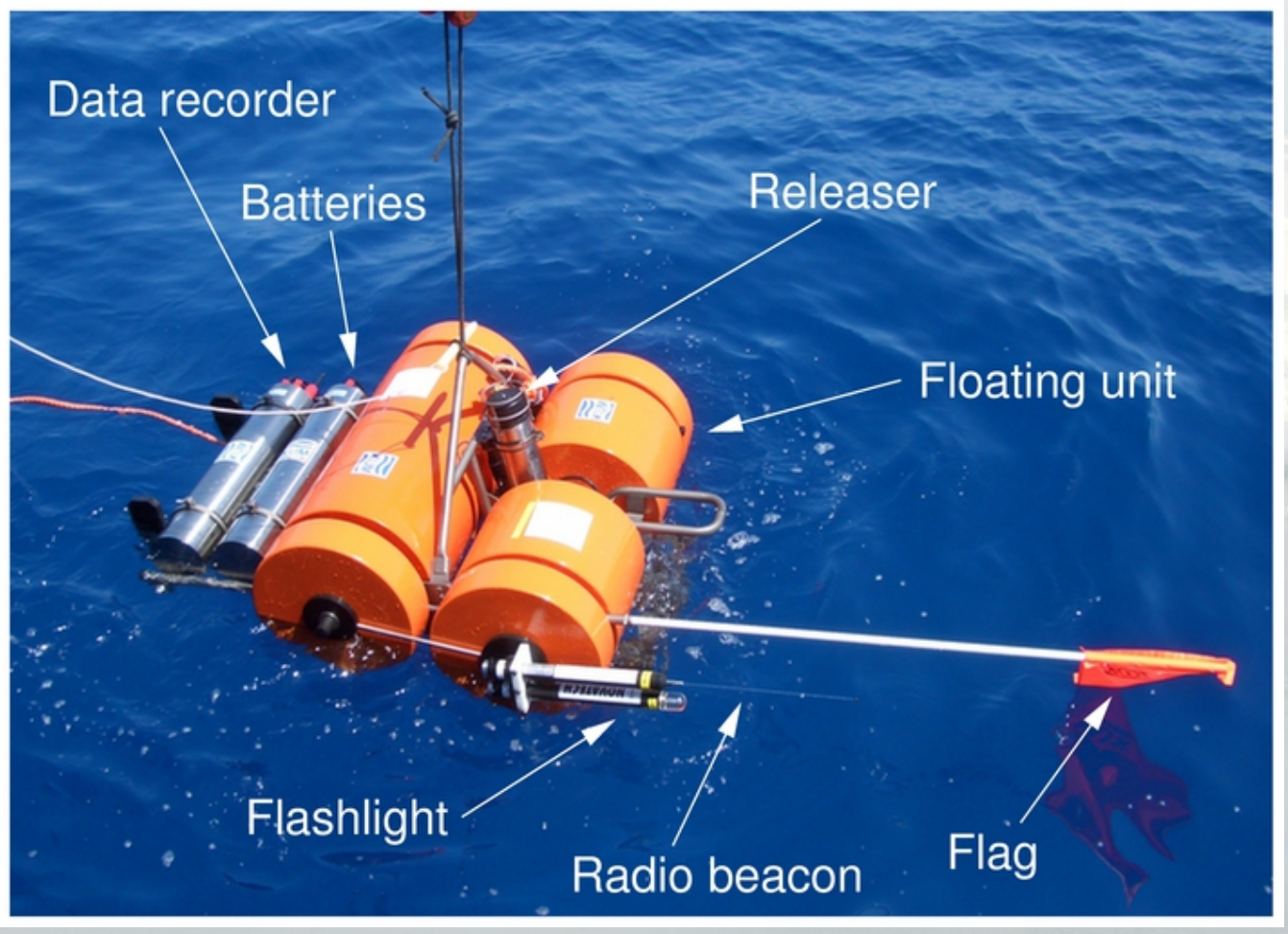
(incl. anchor)

Technical overview: ocean-bottom stations

Geophone, gimbal-mounted: Güralp CMG-40T, 60 sec - 50 Hz

Hydrophone: HighTechInc HTI-04-PCA/ULF, 100 sec - 8 kHz

Digital data recording unit: Send Geolon MCS, 24 bit, 1 - 1000 Hz, 20 GB hard disk



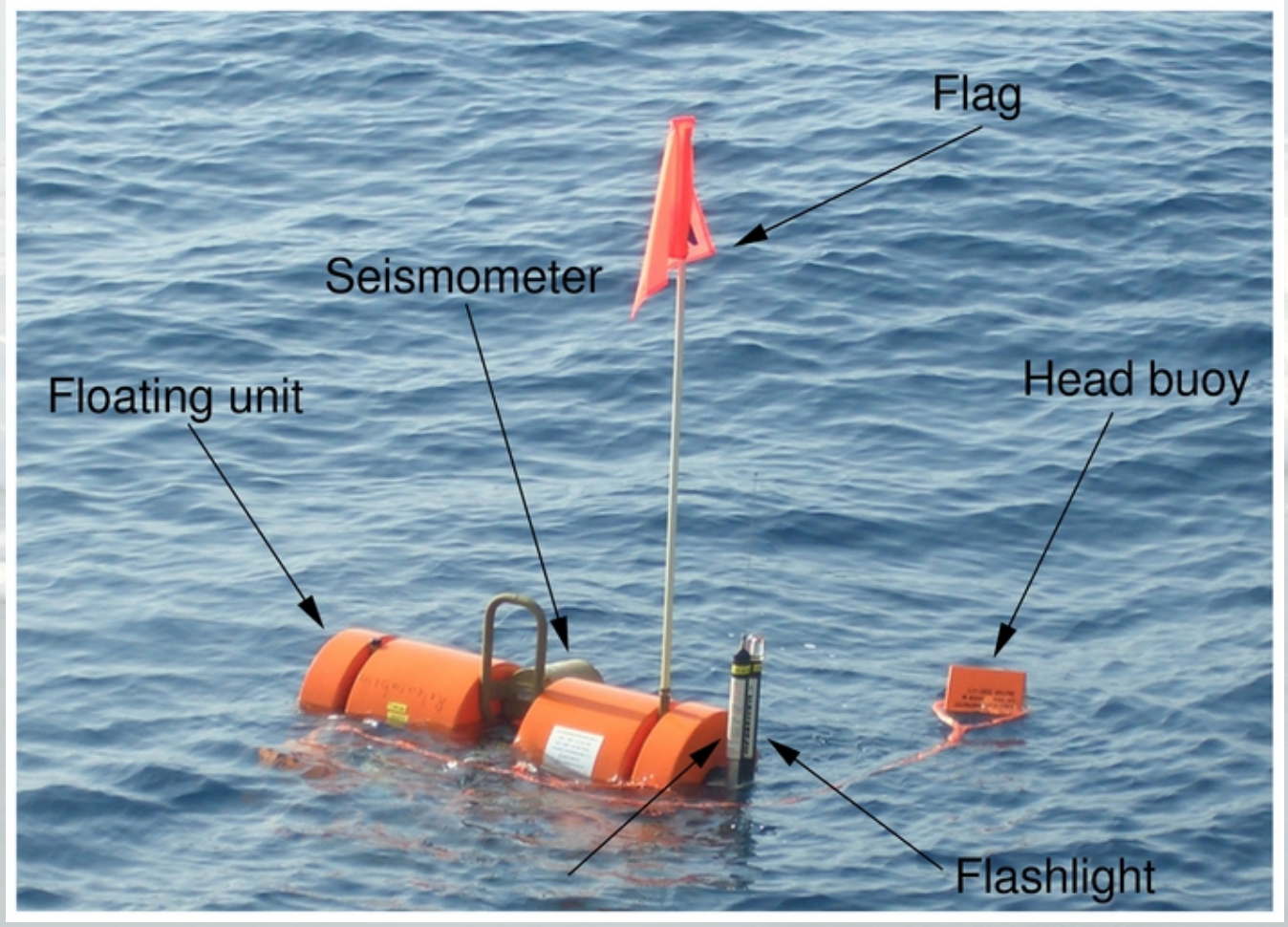
Deployment of OBS in horizontal position, velocity of descent: approx. 0.5 m/s

Technical overview: ocean-bottom stations

Acoustic release transponder: Kum K/MT 562 and Kum K/MT 8011M onboard unit

VHF radio beacon: Novatec RF-700A1 and Seimac DR500 bearing receiver

Xenon flashlight: Novatec ST-400A



OBS after emerging

at the sea surface,

rising velocity:

approx. 1.2 m/s

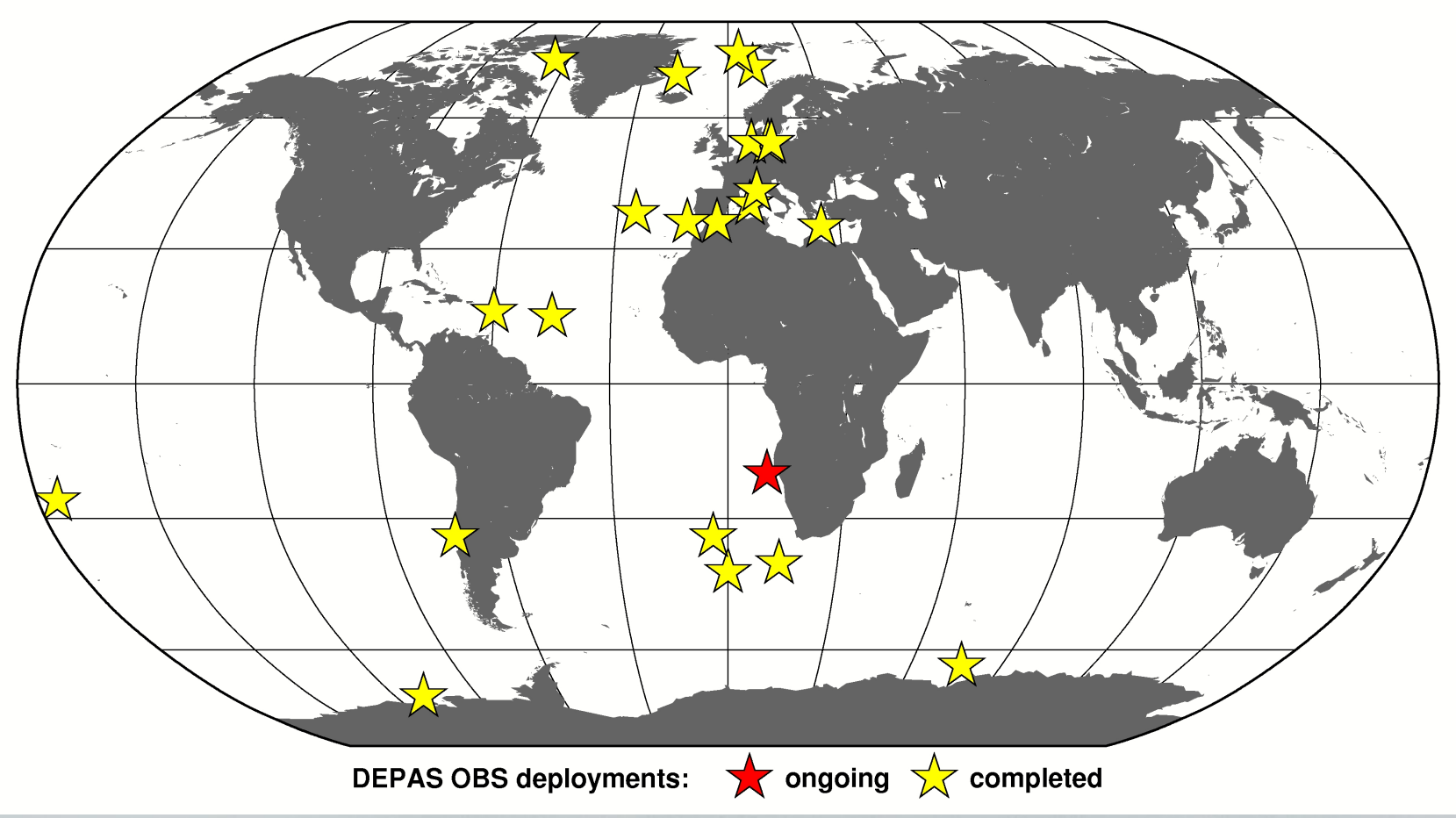
Application

All German scientists can apply for the use of onshore / ocean-bottom instruments.

Foreign institutions need a German cooperation partner acting as applicant.

Applications will be handled by an external steering board / internal advisory board.

Map of ongoing and completed projects using DEPAS OBS



Further Information

http://www.gfz-potsdam.de

GFZ Helmholtz Centre Potsdam
Helmholtz Centre Potsdam
GFZ German Research Centre for Geosciences

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DEPAS Pool

The "German instrument pool for amphibian seismology" (Deutscher Geräte-Pool für amphibische Seismologie, DEPAS) provides broadband-onshore stations and ocean bottom seimometers for the preferred use within amphibious projects. The onshore component is maintained by the GFZ, the offshore component is operated by the Alfred Wegener Institute for Polar Research in Bremerhaven (AWI).

For the marine part of the DEPAS instrument pool look at http://www.awi.de/en/go/depas

- Shipping Sizes and Weights

Recorders (stand-alone)	Seismometers (3D)
EarthData PR6-24 (100 Units) 	GÜRALP CMG-3ESP Compact (100 Units) 

Last change: 21.05.2008 to top

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http://www.awi.de/en/go/depas

AWI Alfred-Wegener-Institut für Polar- und Meeresforschung

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DEPAS

DEPAS ("**De**utscher Geräte-**P**ool für **a**mphibische **S**eismologie" / "German instrument pool for amphibian seismology") is a pool of broadband onshore and offshore seismological stations. The pool actually contains 100 onshore stations which are operated by the GeoForschungsZentrum Potsdam (GFZ) as well as 80 ocean bottom seismometer (OBS) and 5 ocean-bottom hydrophones (OBH) managed by the Alfred-Wegener-Institut Bremerhaven (AWI). The equipment was partly funded by "Geotechnologien", a geoscientific research and development programme raised by the Federal Ministry of Education and Research (BMBF) and the German Research Foundation (DFG). Additional instruments were funded by the Helmholtz Association of National Research Centres (HGF) and by GFZ and AWI.

Onshore Station near Quidico (Chile).

Ocean bottom seismometer in the Aegean Sea.

Contact
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Additional Information
DEPAS onshore instruments

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