INFRASTRUCTURE/FACILITY	*Ocean Bottom Seismometers (OBS)*
LABORATORY	*N/A*
LOCATION OF INFRASTRUCTURE/FACILITY	*INGV Ocean Bottom Seismometer Laboratory – OBS Lab* *C.da Gibilmanna,* *90015 Cefalù, Palermo* *Coordinates: 37°59'23"N 14°01'33"E* *https://www.ct.ingv.it/index.php/risorse-e-servizi/laboratori/325-laboratorio-obs*
LEGAL NAME OF OWNER ORGANIZATION	*Istituto Nazionale di Geofisica e Vulcanologia*
COUNTRY	*Italy*
CONTACT	*Antonio Costanza, INGV* *antonio.costanza@ingv.it* *obslab@ingv.it* *NOTE: please send your messages to both email addresses*

DESCRIPTION

The OBS Lab operates a fleet of marine instruments for monitoring various geophysical parameters in the marine environment. Among the instruments the OBS Lab can share with external users, there are different types of Ocean Bottom Seismometers (OBS). The smallest and lightest type is the OBS-P which is specifically designed for active source seismology. OBS-P includes a set of three geophones, mounted on a self-levelling support, a low-frequency hydrophone, a low-power data-logger, and an acoustic release system.
The remaining OBS fit in the category of Broad-Band OBS' (BB-OBS) and are intended for seismological experiments. The general characteristics of these instruments are:

- *high-resolution data logger;*
- *solid-state storage*;

- *precision time base;*
- *independently powered acoustic release;*
- *3-axis broadband seismometer;*
- *Hydrophone or Differential Pressure Gauge (DPG);*
- *full-depth operations (6000m);*

Here's a list of the most relevant types of BB-OBS that the OBS Lab currently uses:

- *BB-OBS version-A, -A2 and –B: custom frames and vessels equipped with a high-end seismic sensor and an extra sensor, either a low frequency hydrophone or a DPG. With version A, the seismic sensor operates on the ocean floor, at a short distance from the frame. Both version A2 and B feature a tube that shields the sensors from oceanic currents, but version B offers the highest level of protection in a more compact design. OBS Lab has 12 OBS version-A/A2 and 8 version-B, but only 4 OBS version-B are currently available, while the team is working on upgrading the electronics on the rest of the pool.*
- *Nanometrics ABALONES (Autonomous Broad Application Low Obstruction Noise Exempt System) OBS, it likens itself to the marine mollusk that has a protective shell and is very difficult to pry off the bottom. The variety of configurations includes an intermediate-period/BB, strong-motion, and short-period OBS. The "standard package" is robust enough to offer a suite of sensor options while maintaining trawl resistance, seismometer isolation and current shielding, deep-water capability (6000 m) and robustness through a conformal syntactic-foam flotation-based frame design. The ABALONES is a versatile low power system that allows the use of one main recording package to support all recording configurations. OBS Lab's fleet includes 8 ABALONES.*

These instruments were used for many campaigns in the Mediterranean basin and Marmara Sea, recording earthquakes, volcanic and hydrothermal data on the seabed.

RI/ Facility participating in an ERIC	NO	*NA*

INSTRUMENTS AND AUXILIARY EQUIPMENT BB-OBS version-A, -A2 and –B

Instrument/ Auxil. Equip.	**Measured Parameter(s)**	**Elevation / Depth**	**Sampling/Bandwidth**	**Frequency of data recovery**
Trillium Compact Nanometrics OBS 120s	3-axis velocity	6000 m (underwater)	Bandwidth: 120 s-100 Hz	On OBS recovery
(or alternatively) 6TC OBS Guralp	3-axis velocity	6000 m (underwater)	Bandwidth: 60 s-100 Hz	On OBS recovery

Low-frequency hydrophone High Tech Inc., model HTI-04-PCA/ULF	pressure waves	6000 m (underwater)	Bandwidth: 0.01 Hz to 8 kHz	On OBS recovery
Cox-Webb Differential Pressure Gauge (DPG)	Differential pressure in-out	6000 m (underwater)	Bandwidth: 0.004 to 0.5 Hz	On OBS recovery

INSTRUMENTS AND AUXILIARY EQUIPMENT Nanometrics ABALONES

Instrument/ Auxil. Equip.	**Measured Parameter(s)**	**Elevation / Depth**	**Sampling/Bandwidth**	**Frequency of data recovery**
Trillium Compact Nanometrics OBS 120s	3-axis velocity	6000 m (underwater)	Bandwidth: 120 s-100 Hz	On OBS recovery
Low-frequency hydrophone High Tech Inc., model HTI-04-PCA/ULF	pressure waves	6000 m (underwater)	Bandwidth: 0.01 Hz to 8 kHz	On OBS recovery

ACCESS PROVIDED

Definition

- *Remote: the requested facility is operated by the owner's staff and the presence of the user team is not required,*
- *Physical (In person/hands-on): the presence of the user team is required/recommended during the whole operation period*
- *Partially remote: the presence of the user team is required at some stage (e.g. installing and un-installing, sample collection and storage).*

The presence of the user team is required at some stage (deployment and recovery of OBS). The interaction between owner's staff and user teams can be useful for optimising acquisition parameters and organising deposition and recovery campaigns.

SPECIAL REQUIREMENTS

Num of access/Call;	1
Longest period granted in the call:	9 months
Exclusion Periods in the call:	NA
Max period granted per single user team (working day; days for R/V)	NA
Max num of user team members admitted	3
Admin/Safety requirements for the user team (free itemized text)	NA
Min # days/months of notice to the RI Resp/PI for preparing the access	6 months.
Geographical Areas where RI/facility access is granted to user teams	Mediterranean Sea

Notes:

Deployment and recovery to be avoided in the winter period For the first call, 8 Abalones and 4 BB-OBS version B are available. For subsequent calls, the number could be increased after the electronics is upgraded on more units.