

The logo for Ifremer, featuring a stylized map of France in grey above the word "Ifremer" in black text on a yellow background.

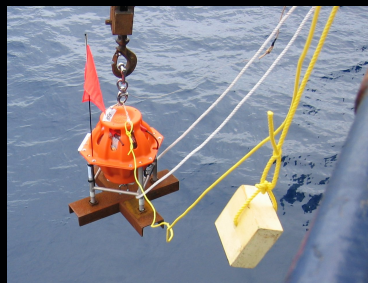
Ifremer

The logo for UBO (Université de Bretagne Occidentale), featuring the letters "UBO" in a large, stylized font, with "université de bretagne occidentale" written below it.

UBO^{ue}
université
de bretagne
occidentale

The “Breton”OBS Parc (Ifremer-UBO)

F. Klingelhoef, D. Graindorge

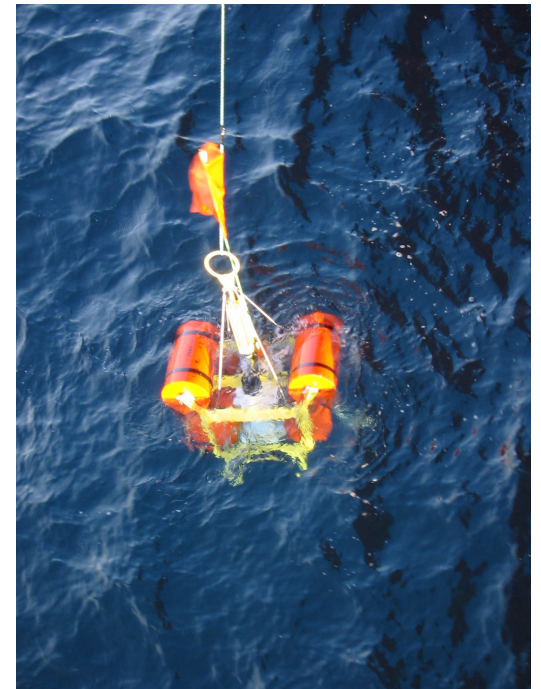
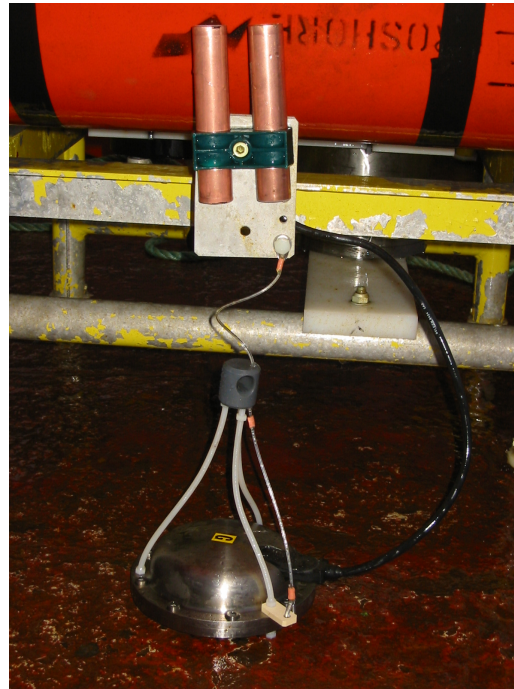
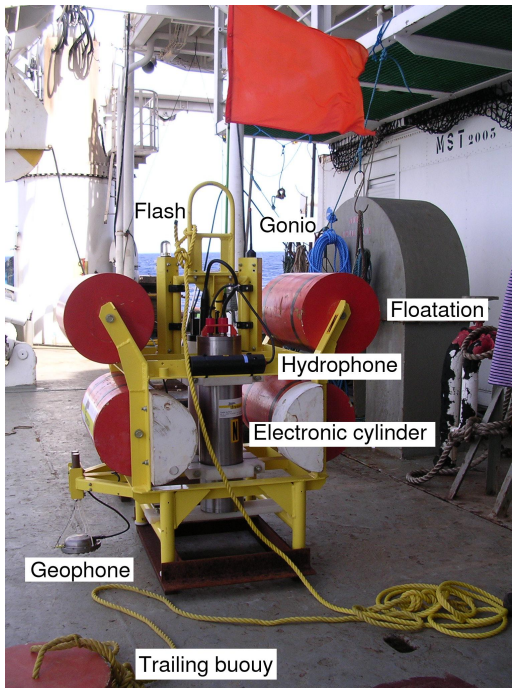


SCIENCES
DE LA MER
& DU LITTORAL



15 OldOBS based on the send electronics

- Aucune perte



15 OldOBS based on the Send electronics

- Send recording electronics (Geomar-
 - IXsea releasers
 - Up to 8 Gb memory
 - 28 days of deployment
 - heavy: more than 250 kg
 - Expensive 45000 euros per instrument

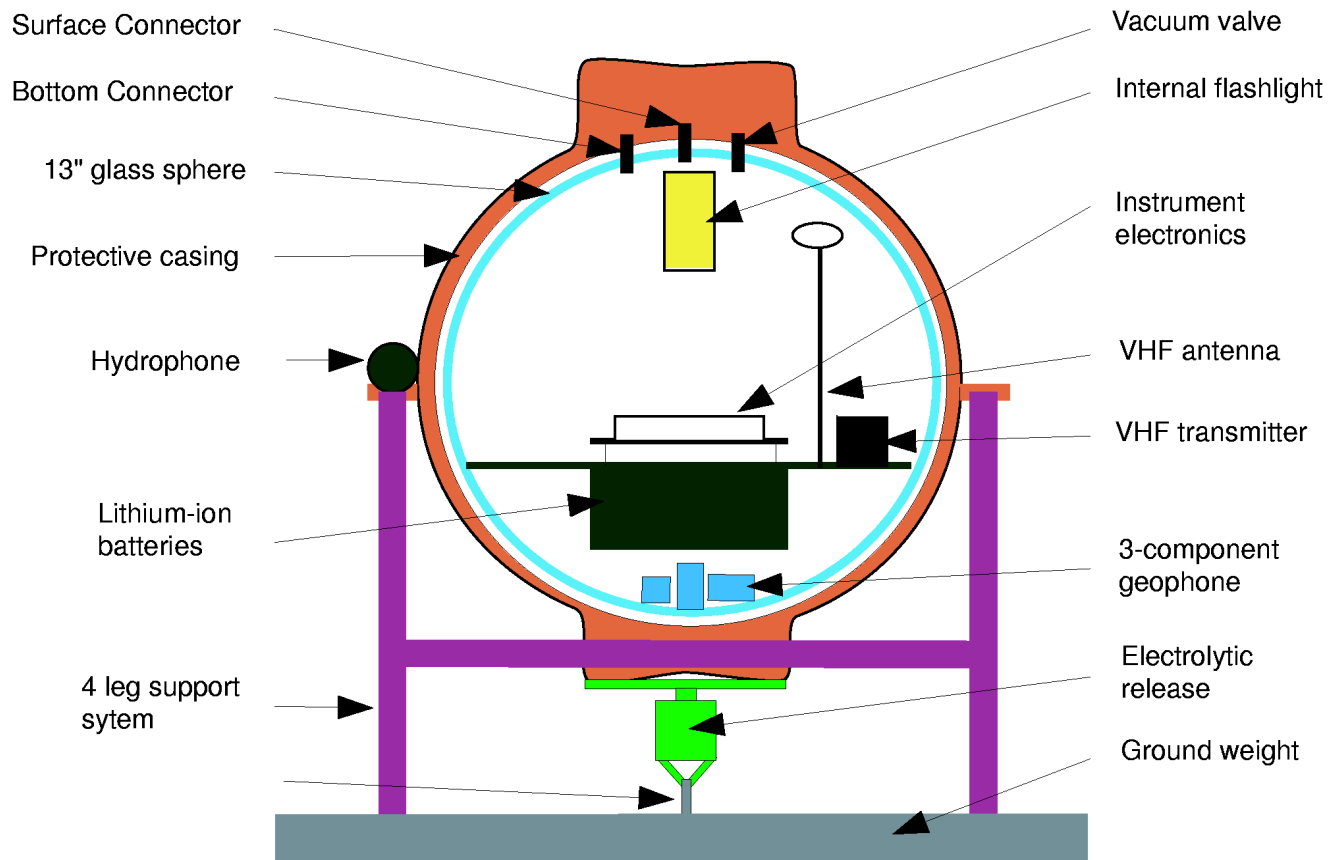
MicrOBS and MicrOBS+ : 35 instruments (Ifremer - UBO) + 20 in 2012

- MicrOBS+ = taille plus importante



MicrOBS and MicrOBS+ (55 instruments)

— Développé par Ifremer, distribué par Sercel



http://www.sercel.com/Products/seabed/underwater_acoustics/microbs.php

MicrOBS and MicrOBS+ (55 instruments)

— Mechanical

- Glass sphere 13/17 inches
 - Internal flash and radio beacon
 - Max. deployment depth 6000m, weight < 20 kg

— Energy

- Lithium-ion batteries rechargeable without opening the glass sphere
- 7/14 days recording, autonomy 14/28 days

MicrOBS and MicrOBS+ (55 instruments)

— **Electronic:**

- Sample rate between 31.5Hz and 500Hz
- 4 Channels 24 bits dynamic (1 hydro and 3 geophones)
- Compact-Flash flash memory slot for 1, 2 or 4 GB
- TCXO clock accuracy 1.10^{-7} (better accuracy in option)
- RS232 and USB data link without opening sphere
- Integrated acoustic release (up to 6000m)
- GPS external clock for setting time

LotOBS (10 instruments)

- 100 % Ifremer
- Dédiées à
l'écoute longue



LotOBS (10 instruments)

— Caractéristiques :

- External three component geophone and hydrophone
- Sample rate between 31.5Hz and 250Hz
- TCXO 2×10^{-8}
- 32-120 Gb storage
- 17 inch glass sphere, 48 kg weight / 27 kg anchor
- Deployment depth up to 6000 m
- Mechanical release
- Flash and radio beam
- Deployment length up to 6 months

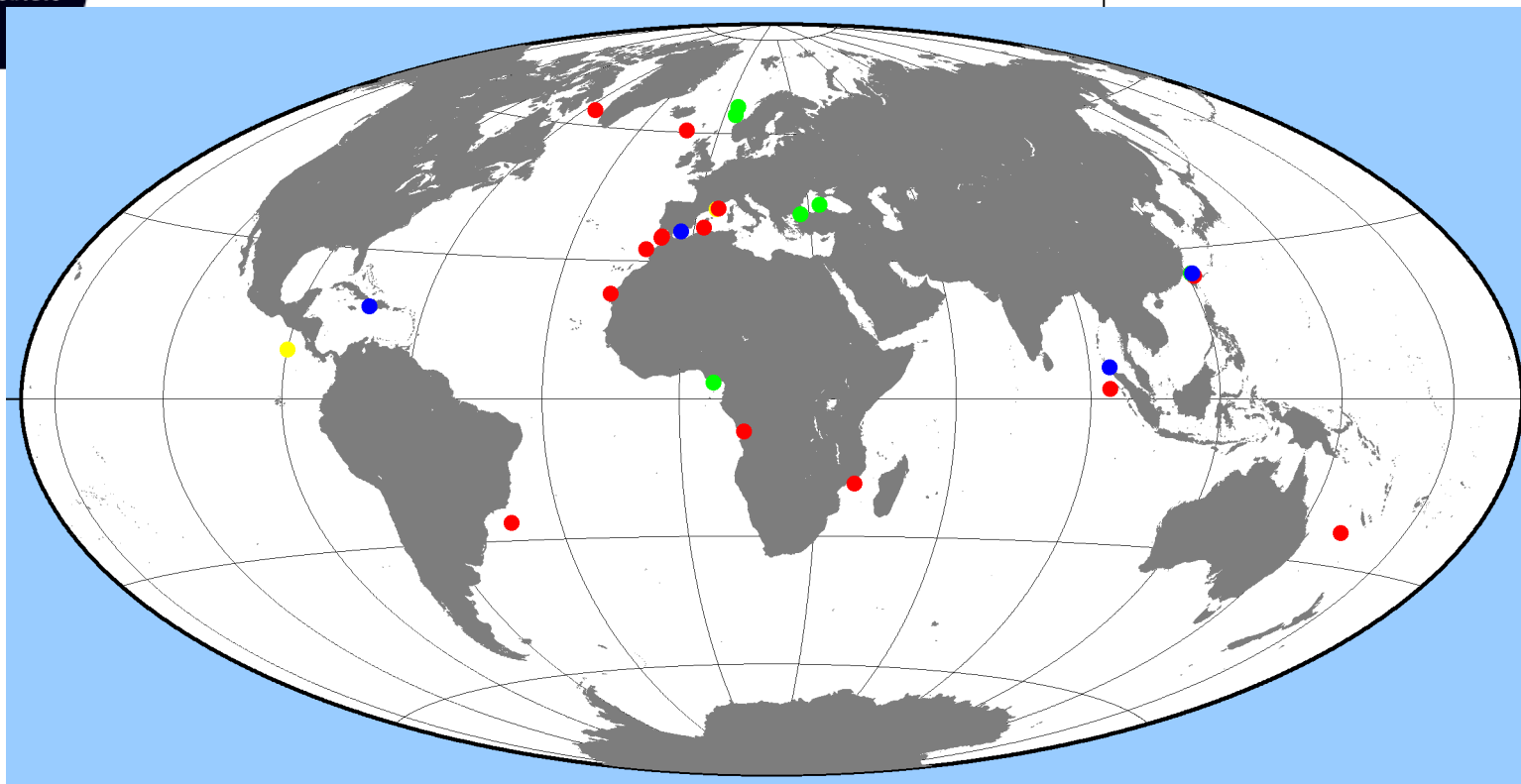
LotOBS (10 instruments)

Caractéristiques détaillées :

Général	Profondeur maxi. Poids dans l'air Poids dans l'air avec lest Poids dans l'eau Poids dans l'eau avec lest Dimensions (H / L / I)	5 000 m 50 kg 75 kg -8 kg 17 kg L 550 x l 550 x H 700 mm
Capteurs	4 composantes Sensibilité hydro Hydrophone LF-3dB Hydrophone signal pleine échelle Géophones Type géophones Géophone sensibility Géophone pleine échelle Orientation	1 hydro et 3 géophones - 160 dB ref. 1 mV/microPa 2 Hz 70 Pa 3 axes 4,5 Hz (-3 dB) 22,4 mV/mm.s-1 +/- 0,38 mm.s-1 Compas 3 axes
Acquisition	Canaux sismiques Résolution Fréquence d'échantillonnage Bande de mesure Gain du préamplificateur Horloge Correction de dérive d'horloge Interface de synchronisation Stockage Interface de configuration	4 24 bits 25 à 250 Hz DC to 0,40 x f échantillonnage Variable de 1 à 64 3.10-7 (0,3 ppm) ou 5.10-8 Correction linéaire de la dérive DCF 77 (signal GPS) 32 Go (disque IDE SSD) RS232 (9 600, 1, 1)
Energy	Pack pile alcaline ou lithium Consommation électrique Autonomie	Pile Li-Ion 0,7 W recording, 0,3 W low power de 1 à 12 mois
Largage	Largueur Acoustique Profondeur maxi	Minilargueur titane + électronique intégrée Hydrophone sismique 5 000 m
Localisation	Flash Gonio VHF	Novatech (ST 400-A) Novatech RF700A-1VHF 156,625 MHz

Ifremer OBS deployments since 2000

- Seismology
- Wide-angle seismics
- High Resolution/Gas Hydrates
- Technical test





Projects of the last 5 years

Year	Project	Depl	Funding	Subject	Partners
2006	VICKING	18	Public/Ifremer	Gas Hydrates - Norway	Ifremer
2006	SAGER-OBS	40	ANR	Deep structure - Sumatra	Ifremer/UBO/IPGP
2006	SARDINIA	78	Public/Ifremer	Deep structure - Liguro-Prov. Basin	Ifremer/Univ. Lisbon/UBO
2007	MoBaMasis	48	BGR/AWI/Ifremer	Deep structure - Mozambique Margin	BGR/AWI/Ifremer
2008	ERIG3D	13	Total/Ifremer	Gas Hydrates/slope stability	Total/Ifremer
2009	ACTS	35	ANR	Deep structure - Ryukyu Trench	Univ. Montpellier/Ifremer
2009	NEAREST	27	EU	Deep structure - Gulf of Cadiz	UTM-CSIC, Barcelona Univ. Brest
2009	SPIRAL	204	Sonatrach/CRAAG/RSDT Ifremer/UBO/Univ. Nice	Deep structure - Algerian Margin	Sonatrach/CRAAG/RSDT Ifremer/UBO/Univ. Nice
2009	HAITI	15	Ifremer	Aftershocks - Haiti	Univ. Nice, Antilles, Ifremer
2010	Sanba	179	Petrobras	Deep structure - Brazilian Margin	Petrobras, Univ. Lisbon, UBO, Ifremer
2011	Sisource	3	Genavir	Technical test of airguns	Genavir/Ifremer
2011	SPMPlac	5	Extraplac	Extension of the french continental shelf	Shom, IFP, IPEV, Ifremer
2011	MIRROR	106	Public/Ifremer/BGR	Deep structure - Moroccan Margin	BGR, UBO, Univ. Lisbon, Ifremer
2012	MAGIC	> 100	Petrobras	Deep structure of the southern Brazilian Margin	Petrobras, Univ. Lisbon, UBO, Ifremer

Future projects (short term)

- SALSA : Deep structure of the southern Brazilian margin (2013)
 - Colloboration : Petrobras, Ifremer, UBO, Univ. Lisbon
 - PI : D. Aslanian, M. Moulin, P. Schnurle
- Marmara Sea : Continuous monitoring of seismicity
 - Collaboration : Ifremer, Cerege, Univ. of Istanbul
 - PI : L. Géli, P. Henry, P. Pelleau
- AntiTheSis : Antilles, Thermicité, Sismogenèse (2013 ?),
 - Colloboration : Univ. Antilles, UBO, IPGP, UPMC, IRD, UTIG, Ifremer
 - PI : B. Marcaillou, F. Klingelhoefer, D. Graindorge

Liens internet et contacts

- <http://wwz.ifremer.fr/drogm/Activites/Instrumentation/OBS>
- http://www.sercel.com/Products/seabed/underwater_acoustics/microbs.php
- Contacts (parc)
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