

IUEM

European Institute for Marine Science



université
de bretagne
occidentale

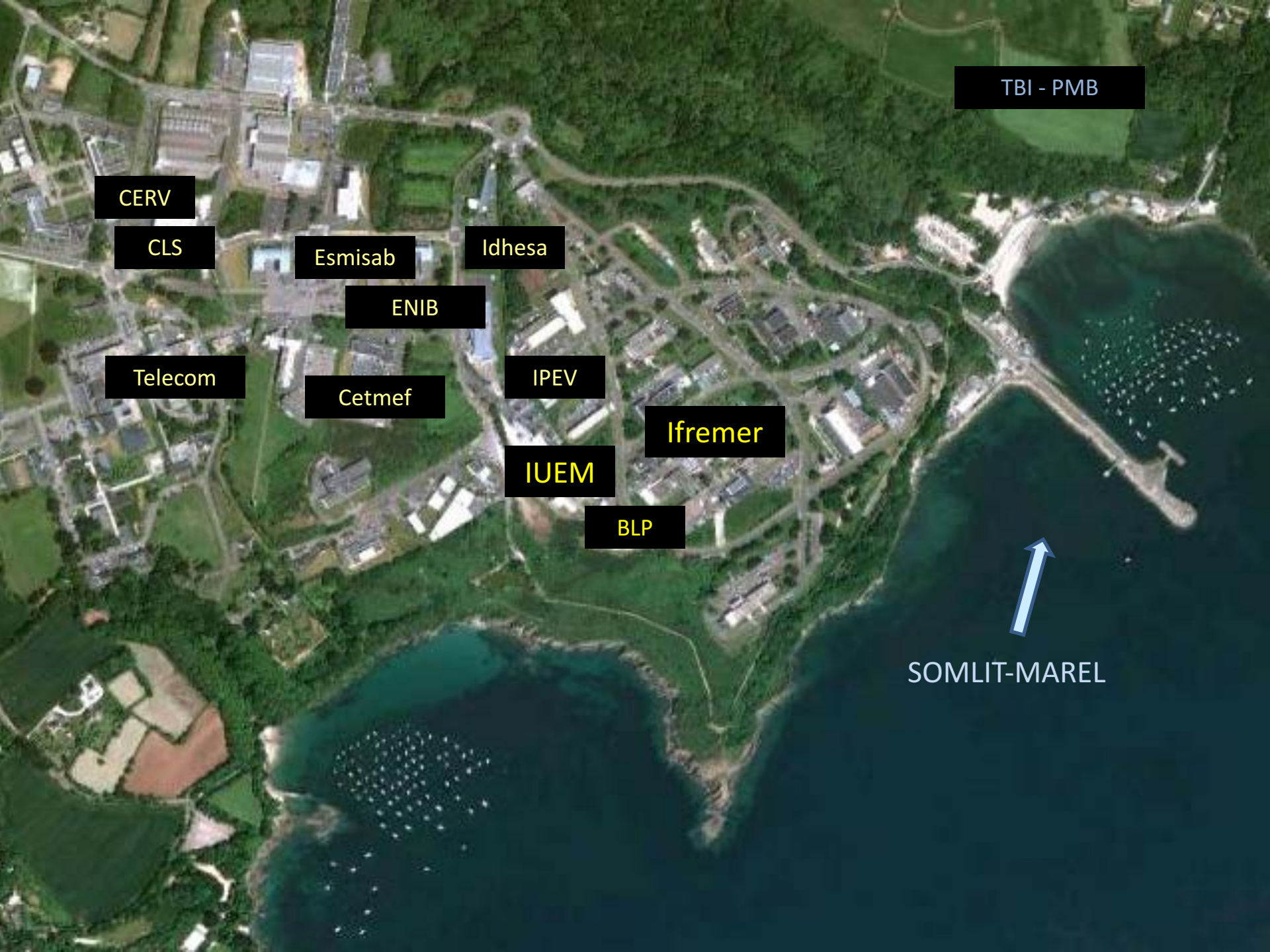


IRD
Institut de recherche
pour le développement

Ifremer







TBI - PMB

CERV

CLS

Esmisab

Idhesa

ENIB

Telecom

Cetmef

IPEV

Ifremer

IUEM

BLP

SOMLIT-MAREL

History

Marine sciences around the Bay of Brest:

- Royal Naval Academy, 1752
- CNEXO/Ifremer, 1967
- University of Western Brittany (UBO), 1971
- IUEM: concept, UBO-CNRS association (1991). New building next to the Ifremer site (1997). First director: Paul Treguer (1998-2007)
- IUEM grows: Association of new research units, IRD and Ifremer, links with South Brittany (Lorient-Vannes)... and a new building (2016!)

**IUEM is one of the faculties of UBO, and also an
Observatory of the Sciences of the Universe of the CNRS
(OSU-CNRS)**

RESEARCH

EDUCATION

OBSERVATION

460 permanent positions, 450 students (PhD and master)

A multidisciplinary approach of marine sciences



Mission: study the ocean and coastal zones as well as the related human activities, by observation, experimentation and modeling, and disseminate this knowledge through education and communication, in order to achieve the objectives of sustainable development of maritime activities and conservation of marine and coastal ecosystems.

Major challenges in research

**Coping with a changing ocean: warming, acidification, deoxygenation,
Marine ecosystem functioning, biodiversity, aquaculture and fisheries,
marine biotechnologies**

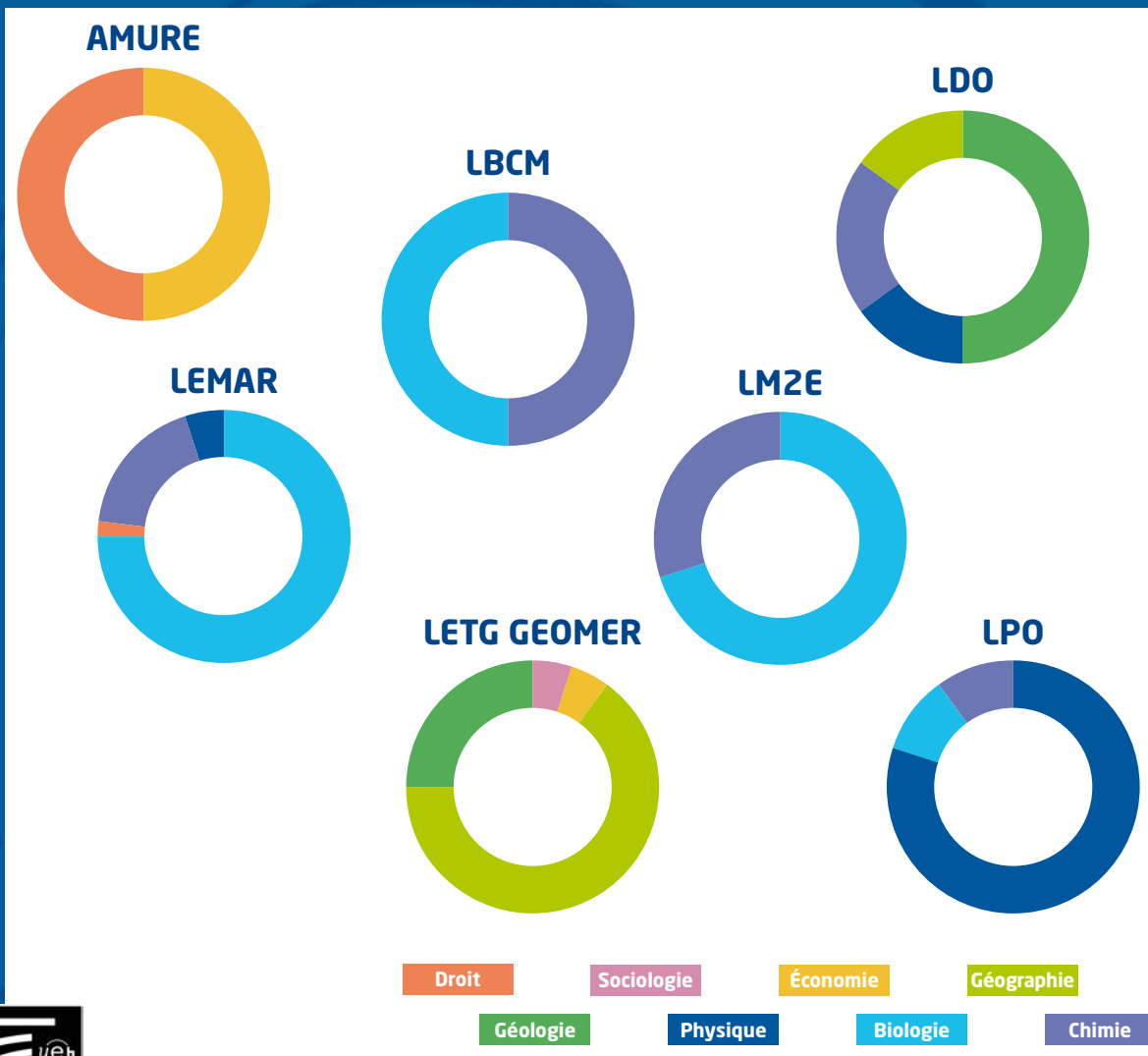
The deep sea and the sea floor, its resources and dynamics

**The coastal zone: dynamics and vulnerabilities, populations, uses and
conflicts**

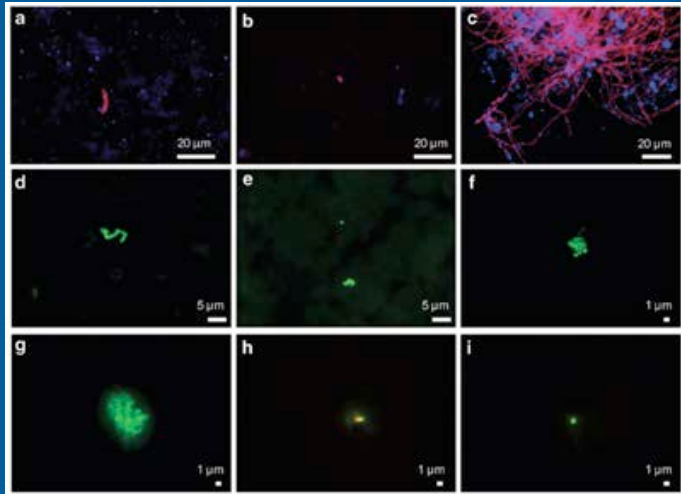
7 research units

All research units gather different disciplines

All are joint units:



Interdisciplinary collaborations



Life at 2000m under the sea floor
LMEE, CNRS-Ifremer-UBO,
(Ciobanu et al, the ISME journal,
2014)

GEOVIDE cruise, within the GEOTRACES
international programme, led by G. Sarthou
(LEMAR) and P Lherminier (LPO)



International symposium on
coastal risks, hazards, issues,
representations,
management (LDO, GEOMER,
AMURE)

Educational program

Master degrees in Marine Sciences

7 specialties from physics to law and economics
230 students

PhD program in marine sciences

A multidisciplinary doctoral school of the University of Western Brittany (UBO)

in partnership with

Ifremer, Ecole Navale, ENSIETA, SHOM, IRD, CEREMA, AGROCAMPUS,...

220 PhD students

Observations at IUEM

Marine observatory, coastal zone

SOMLIT, national network for water quality in the coastal zones

High frequency MAREL buoy (with Ifremer)

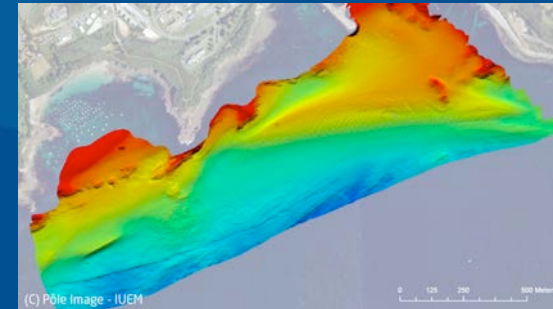
Benthic biodiversity, phytoplankton



National network Dynalit (dynamics/erosion)

Observatory of fisheries

Observatory of human activities in marine protected areas



Open-ocean and deep ocean :

Water column: ARGO (with Ifremer), North Atlantic centre

Sea Floor: EMSO, acoustic detection of volcanic and seismic activity / Indian and Atlantic Ocean

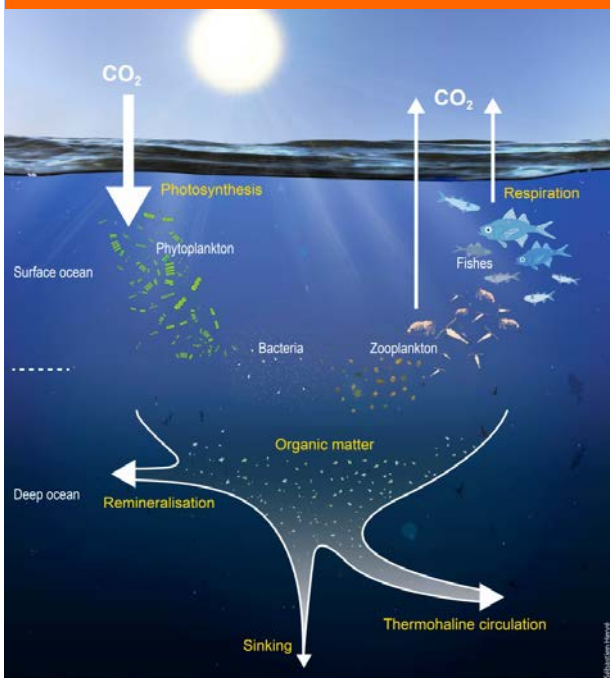
Research axes





Axis 2: Complexity and efficiency of the biological pump

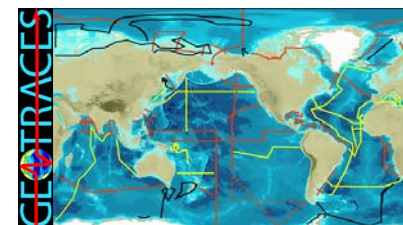
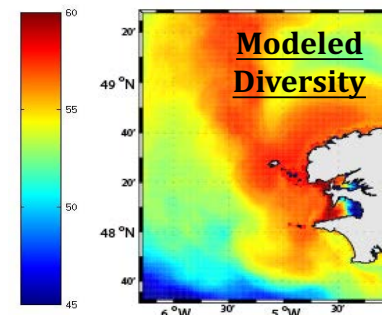
Investigate geochemical and ecological controls



Determine the fate of biogenic materials

Objectives: Characterization of processes governing the biological pump

- Transport of organic C in the deep ocean and in sediments
- Interactions with the cycles of trace elements, of Si, N
- Role of functional biodiversity
- Impact of co-limitations (eg Zn/Co)
- Impact of Si and P on organic matter degradation, aggregation and sinking



Laboratoires Sciences de l'Environnement MARin (LEMAR),
Physique des Océans (LPO),
DYNamiques de l'Environnement Côtier (Dyneco)



Thank you