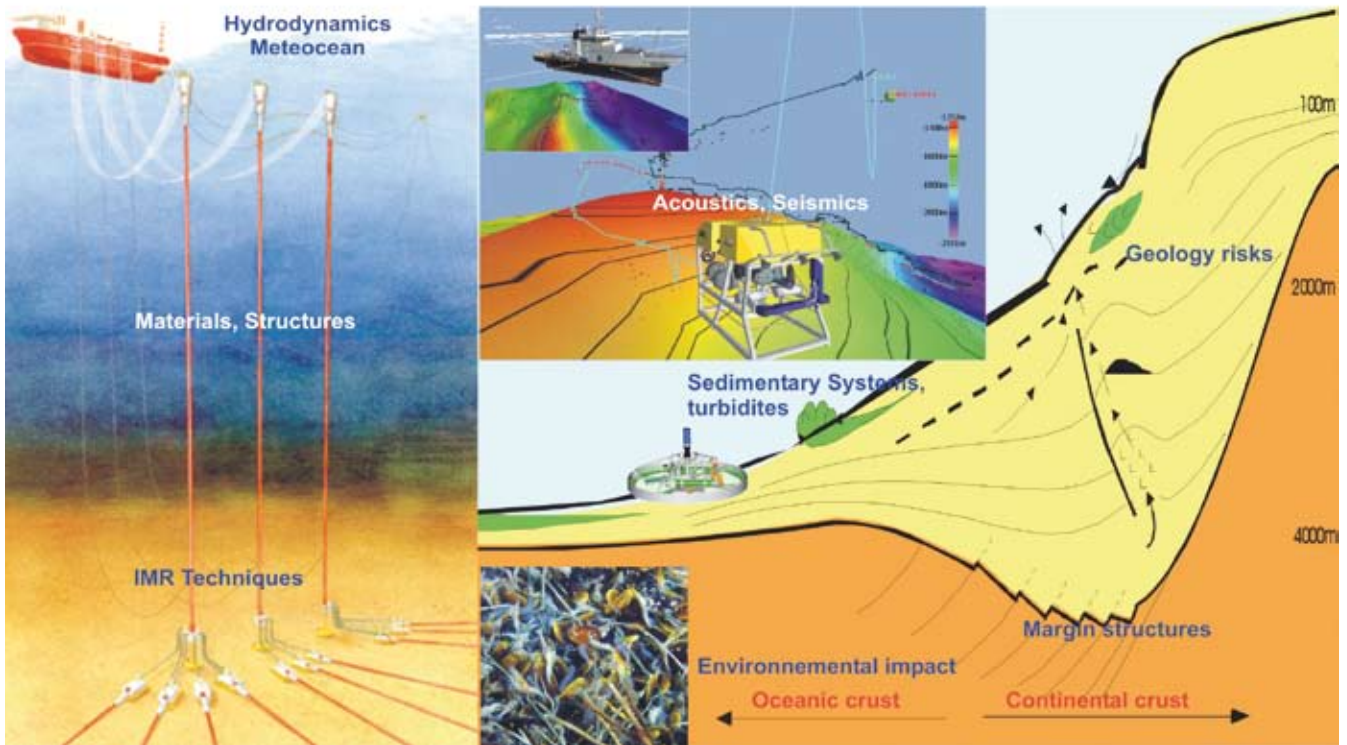




«Sustainable Exploration and Exploitation of Oceanic Mineral and Energy Resources»



Thanks to a strong research effort, **Ifremer** has developed solid references in the various **marine sciences et techniques** over more than 30 years.

The Ifremer-EDROME Carnot institute perimeter is focused on the field of mineral and energy resources specific skills.

Know-how and technology have been developed for partnership research with industrial partners.

Ifremer-EDROME scientific and technical teams belong to 5 departments and include more than 190 staff members, who develop a strong expertise, propose innovations, offer an excellent capacity to handle multidisciplinary research projects, promoted by complementary skills available on a same campus.

A strong partnership has been established, at different levels, with:

- university teams, French and foreign research institutes;
- industrial companies: **oil operators**, **engineering** companies, **equipment** providers, service companies and certification authorities.

This is being further strengthened through **participation in regional** (French "**pôles de compétitivité**" clusters "**Mer**" Bretagne and PACA...), **national** (ANR, GDR, Clarom...), **European** (networks...) and **international** (USA, Canada, Japan, China, ...) groups.



→ Research programme

Ifremer-EDROME main topics and concerns deals *with* mineral and energy resources, natural risks and understanding of climatic changes, which all fit with an important demand from society .

Research work related to the «mineral and energy resources: sedimentary process and impact on ecosystems» programme are performed by 5 departments (*Studies of Deep Ecosystems, Testing and Technology Research, Marine Geosciences, Ships and On-board Equipment, Instrumentation Technology*) who have specialised laboratories and large testing facilities (*test basins, hyperbaric tanks*) and have access to sea facilities (*ships, submarines...*).

The performed researches cover the knowledge of phenomena, their modelling and technological developments.

→ Skills and know-how

- Geophysics and geodynamics : geological reconstructions, process, multi-scale approach
- Stratigraphy, sedimentary, paleoclimatic, hydrodynamic process and instabilities
- Data treatment (bathymetry, imaging, reflection seismics), SIG
- Submarine acoustics, closetobottom seismics
- On-board architecture and electronics
- Benthic ecology
- Hydrodynamics and meteocean : Modelling, statistics, test basin
- Behaviour and protection of materials and structures in marine environment
- Design of mechanical marine systems
- Submarine optics
- Physico-chemistry, molecular biology
- *In-situ* chemical analyses

→ Main facilities

- Oceanographic fleet equipment
- Oceanographic campaign results
- Data collections
- Sea bottom seismometers (*OBS*), *microOBS*, penetrometer, pressiometer...
- Seismics and very high resolution cartography, flexible penetrometer, carrots and sedimentary analyses (*multi-parameter bench and geotechnics, scanner*)
- Deep wave basin in Brest
- Free surface flume tank in Boulogne-sur-Mer
- In-situ marine testing site
- Acoustic pool
- Hyperbaric Caissons
- Mechanical and climatic test facilities
- Metrology Laboratory
- Optics Laboratory
- Physico-chemical analyses Laboratory
- Prototype hall

→ Research teams

- Deep Environnement Laboratory
- Geophysics et Geodynamics Laboratory
- Sedimentary Environments Laboratory
- Cartography and Data Treatment Group
- Hydrodynamics and Meteocean Group
- Interfaces and Sensors Group
- Materials and Structures Group
- Acoustics Seismics Group
- Mechanical Developments Group
- In-situ Measurements Group
- Instrumentation System Group

→ Key figures

■ Staff

Permanent staff (full-time equivalent): **90**
PhD students: **26**

■ Budget

Global budget 2007: **8 700 k€**
Partnership research incomes: **2 633 k€**

→ Contact

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