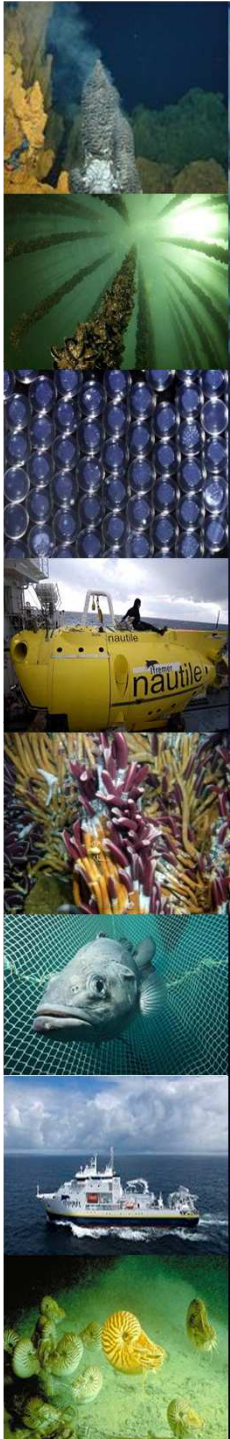


# GLOBE Software

Global Oceanography and Bathymetry Explorer

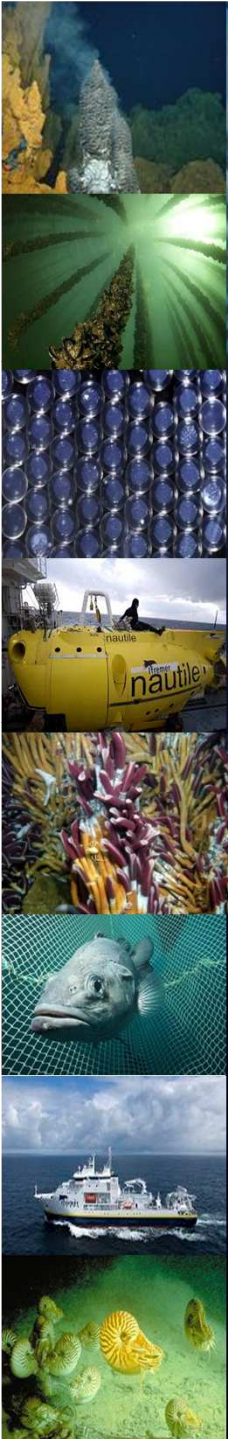
IFREMER

IMDIS2013



# Why another software ?

- Need for scientists to **display and correlate multiple data** from different sources in one single tool.
  - Need for **optimization and harmonization** in ifremer software portfolio
  - Need to be close to and to take into account **data networks demands** and file format (GeoSeas, EMODNET,...)
  - Need for **proximity to scientific users.**
- => leaded to Globe development.



# Project history



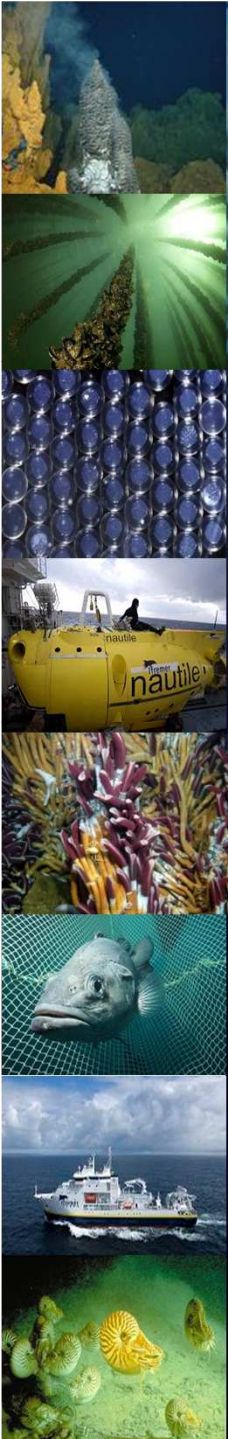
**EUROFLEETS** is an European FP7 project that aims to optimize and to federate the utilization of the european fleets. A specific work package was dedicated to the development of harmonized software for acquisition, processing and transmission of data collected at sea.

In this context, the first version of **GLOBE** software was developed.



The **EMODNet** european project aim to elaborate a common processing flow for gridding the bathymetry data and to generated harmonized digital terrain model (DTM).

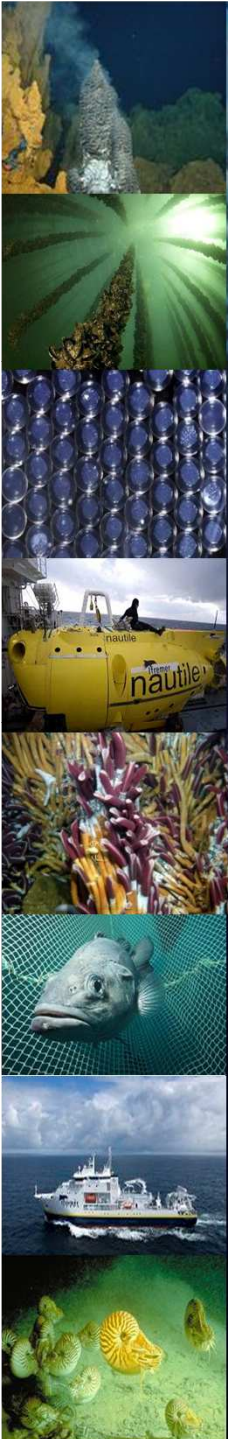
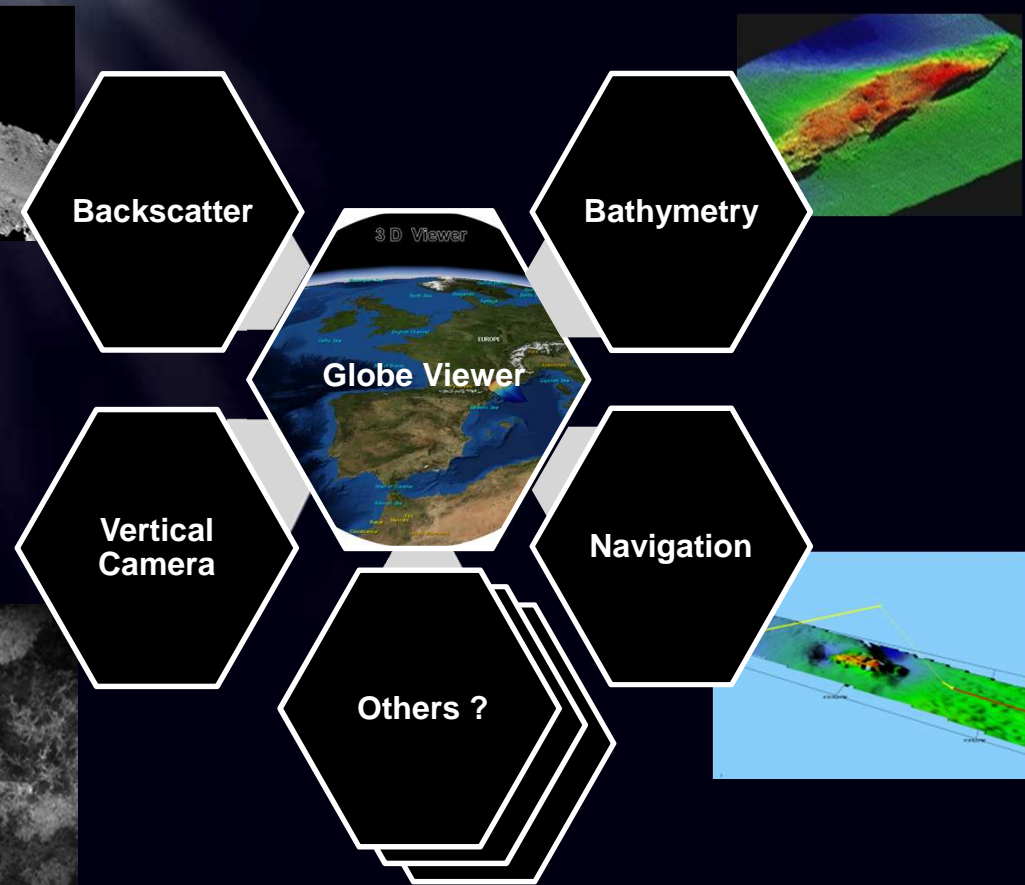
**Globe** provides the required tools for applying this methodology.



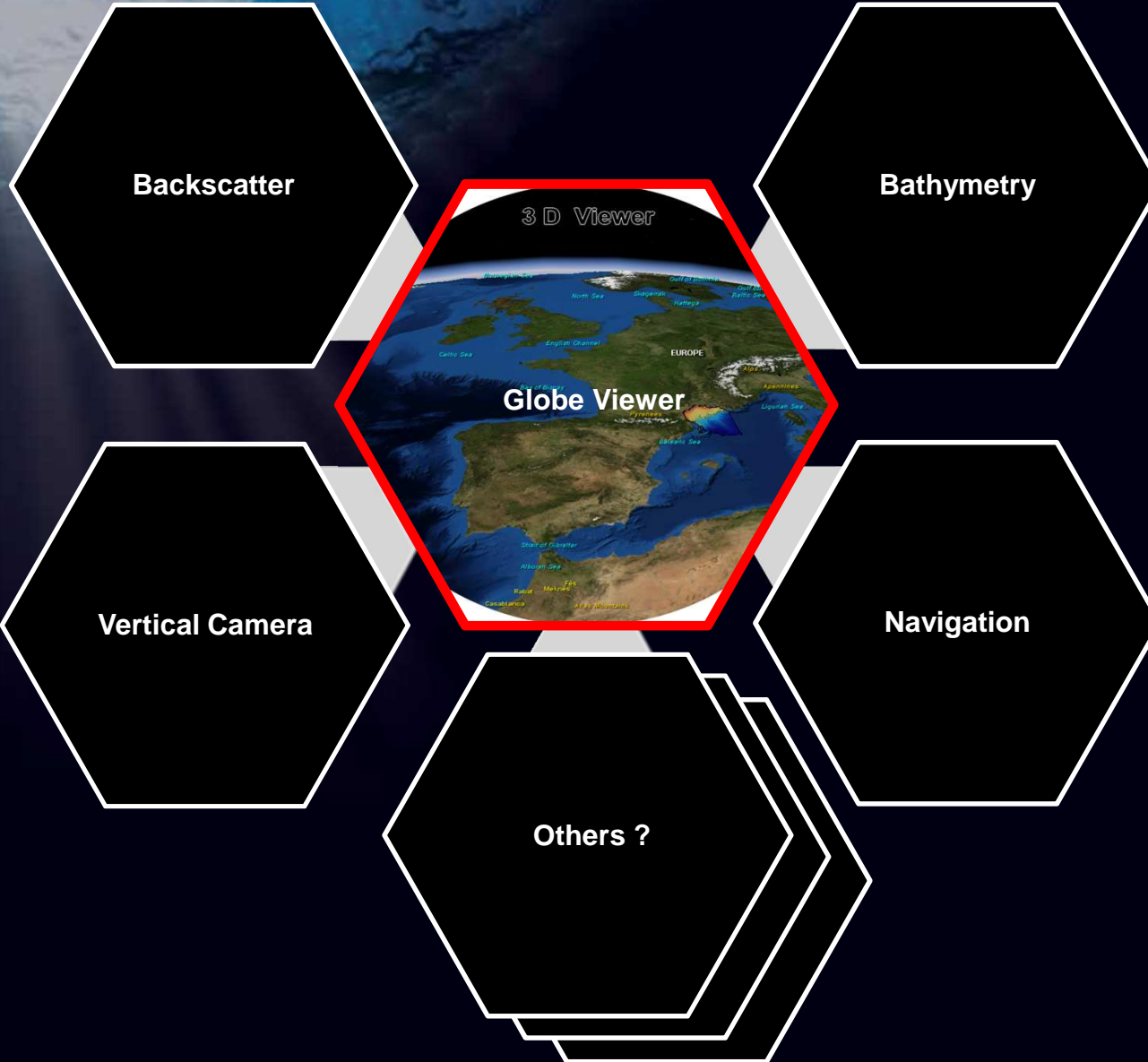
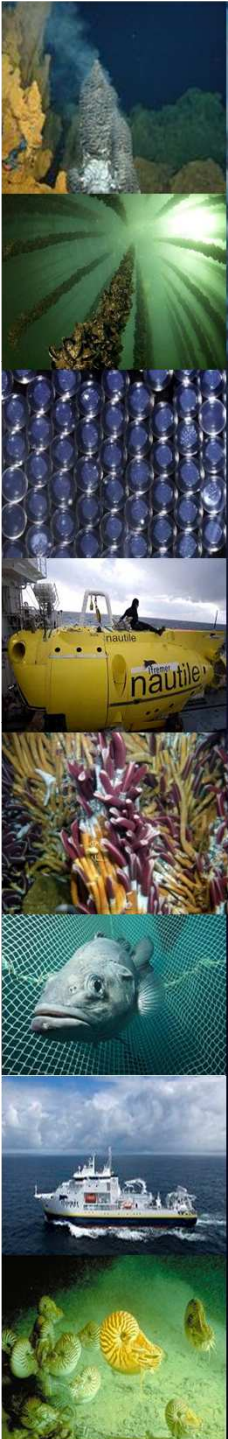


# Globe architecture

- Mainly core is a 3D Viewer displaying several kind of scientific datasets
- Architecture is **module based** : easily add new capacity to the core for specific data processing



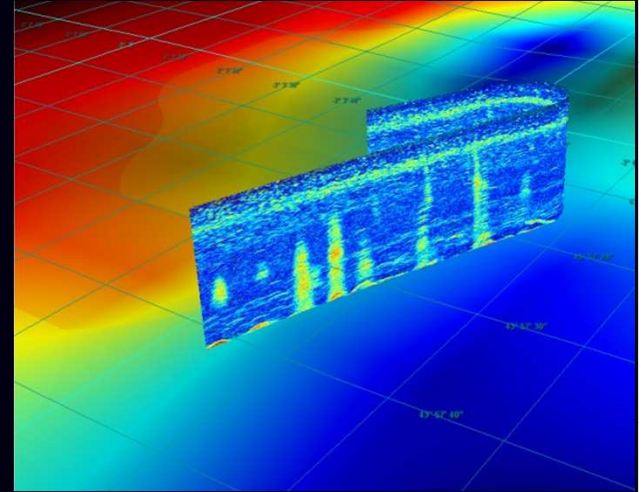
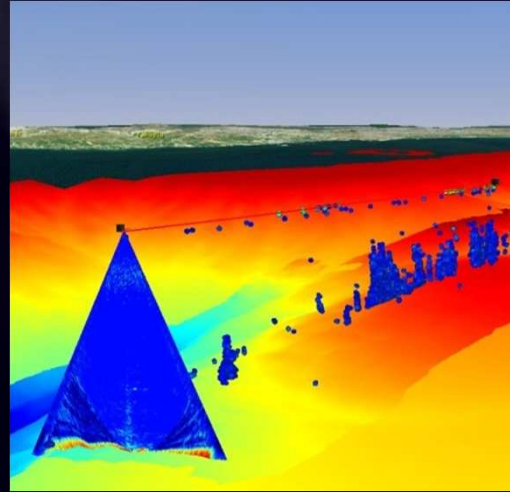
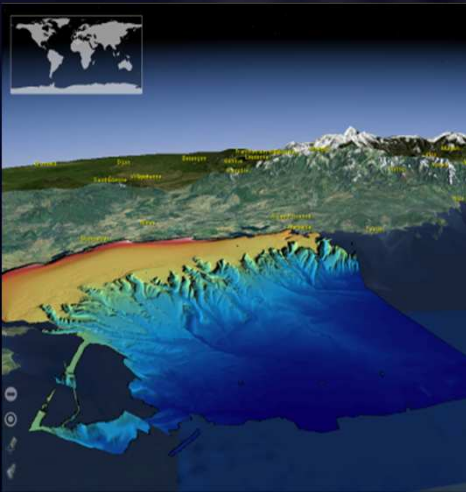
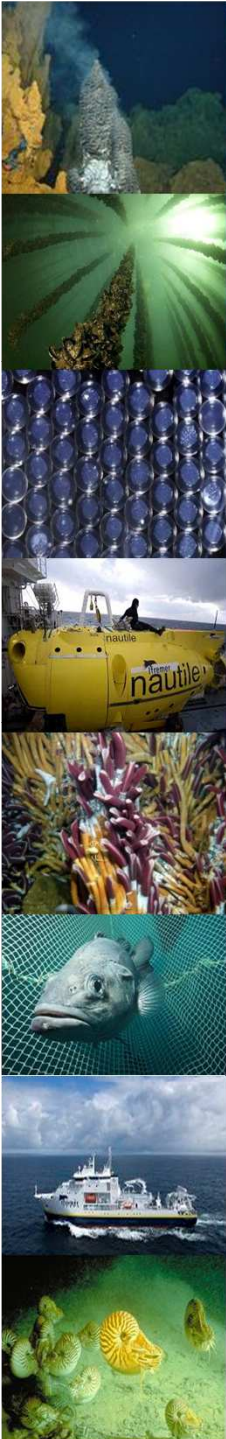
# Core viewer



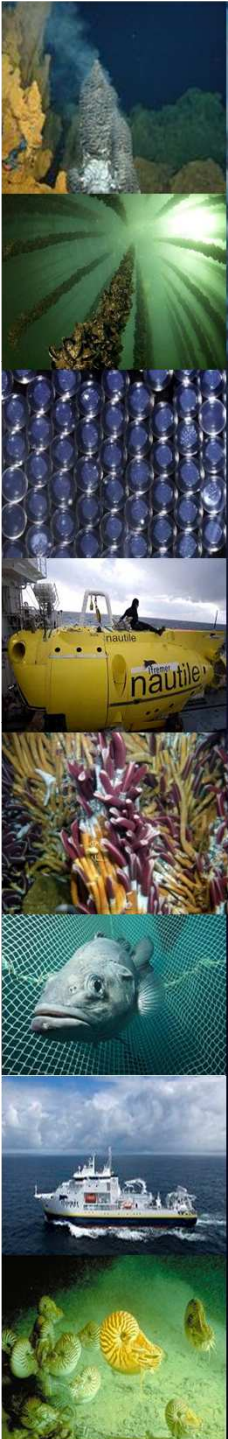


# Core viewer : principles

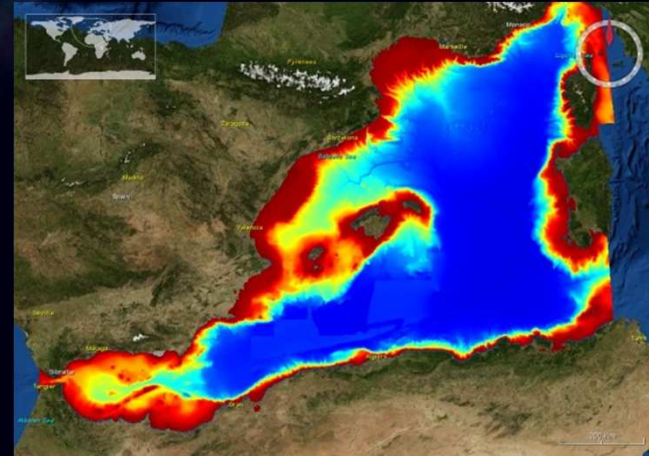
- 3D visualization engine based on NasaWorldWind.
- Capacities for multi data handling and overlay



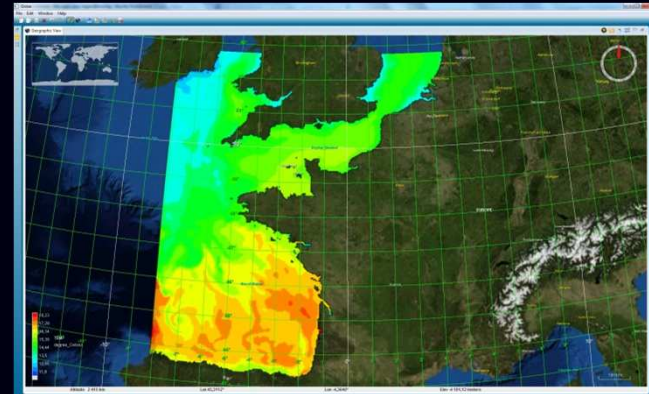
# Core viewer : datasets



- DTM (Geoseas, EMODNET)



- NetCDF (previmer)

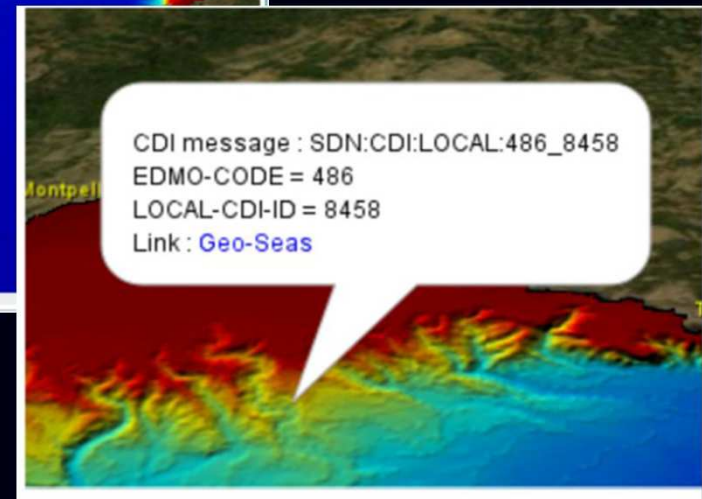
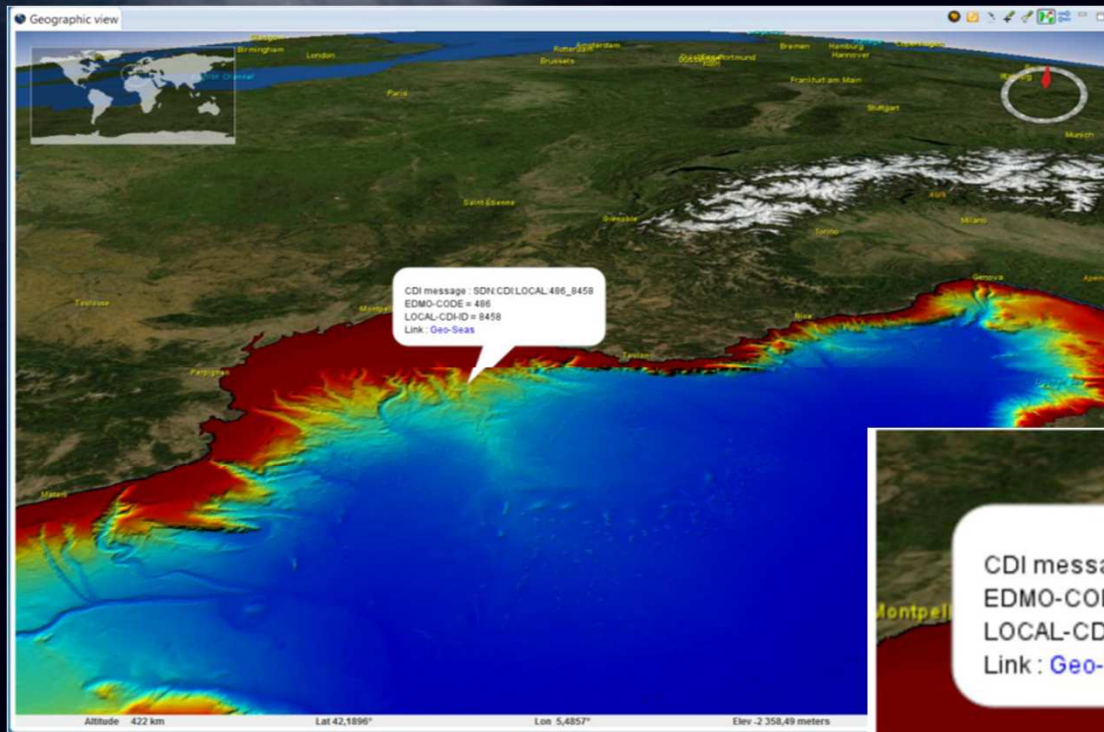
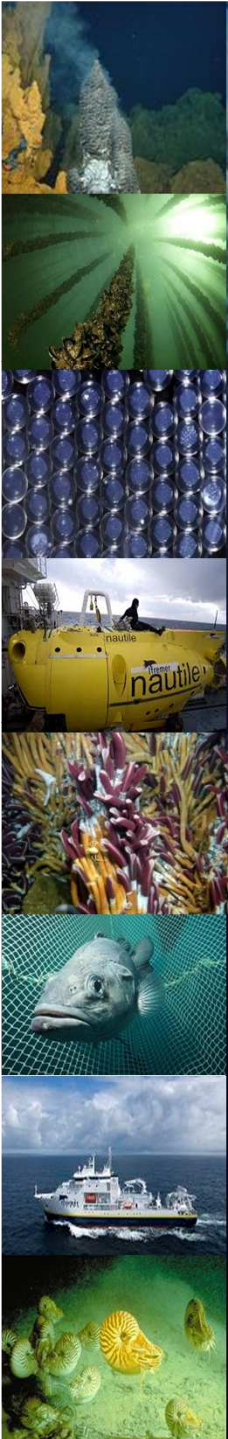


- WMS layer (sextant)



# Core viewer : datasets

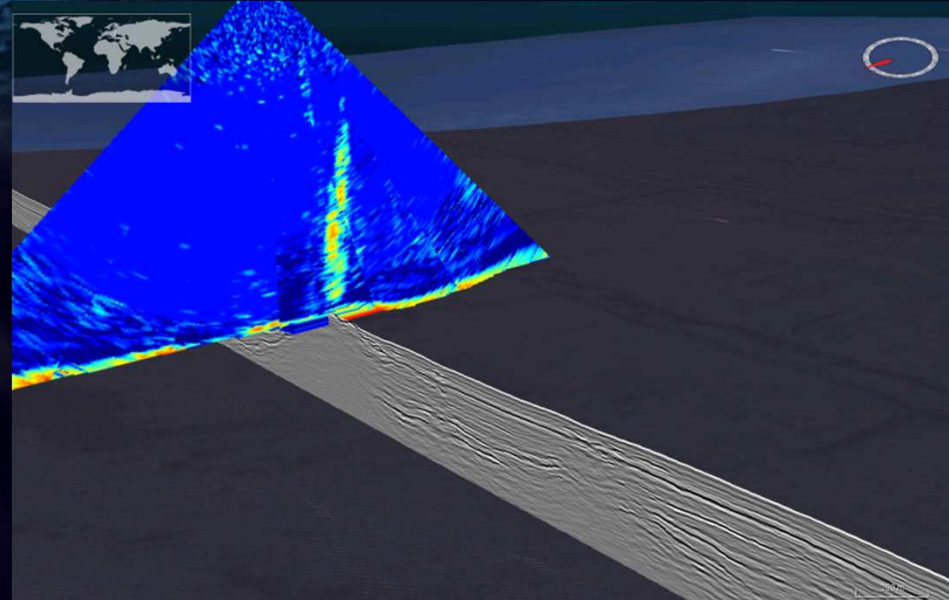
- Interaction with CDI Id layer



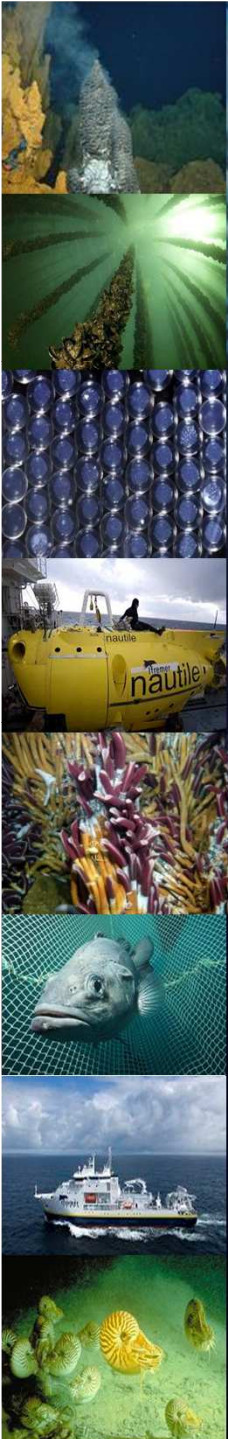
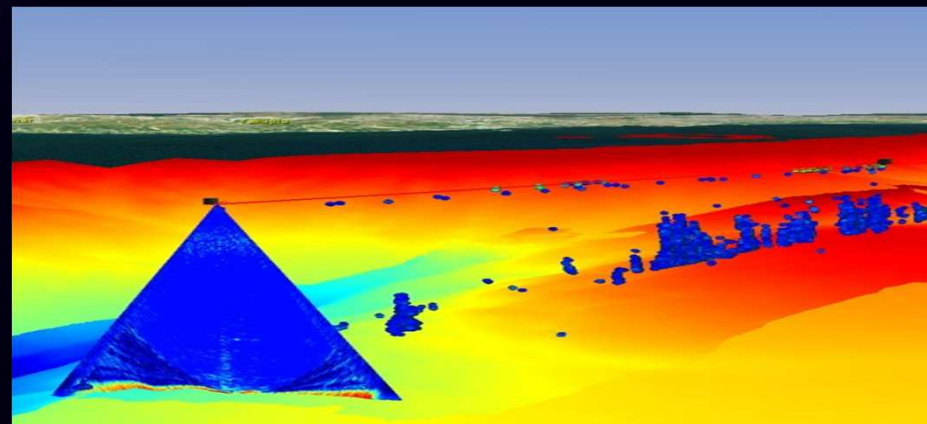


# Core viewer : datasets

- Seismic



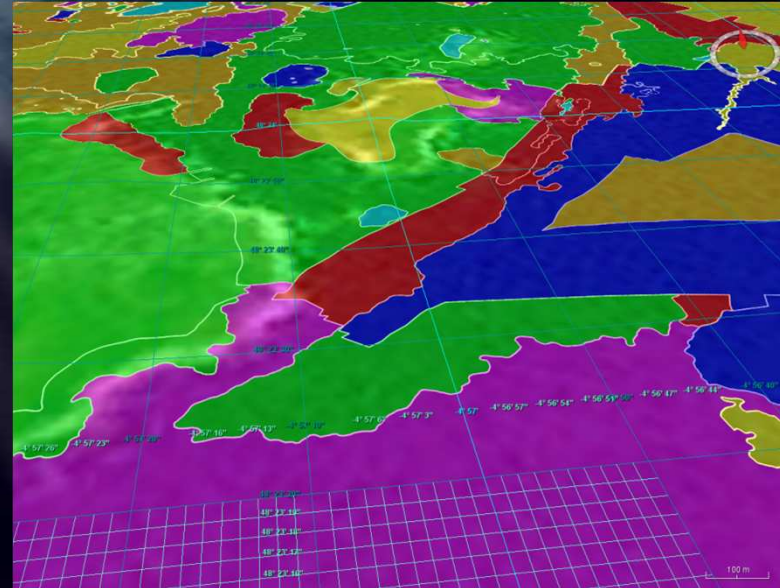
- Water column
  - 4D data



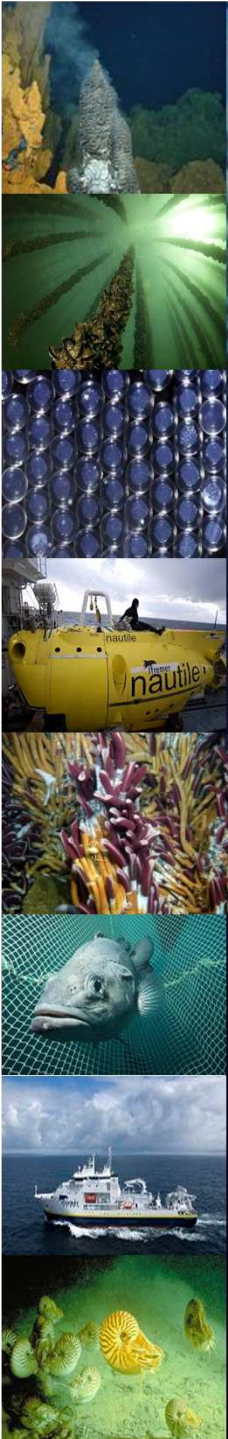
# Core viewer : datasets

- Geo-referenced data

- Shape files
- KMZ

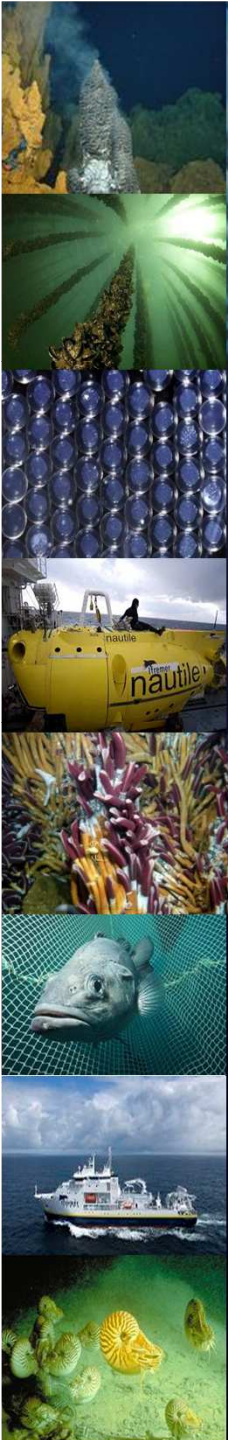


- And of course other globe modules outputs



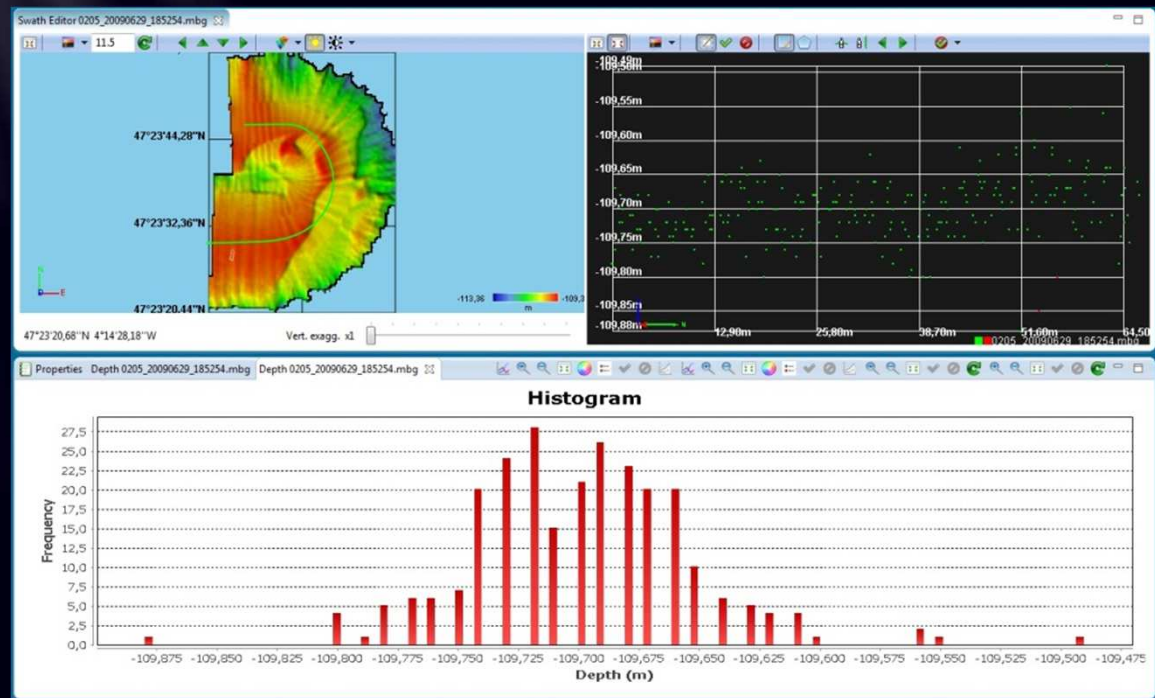
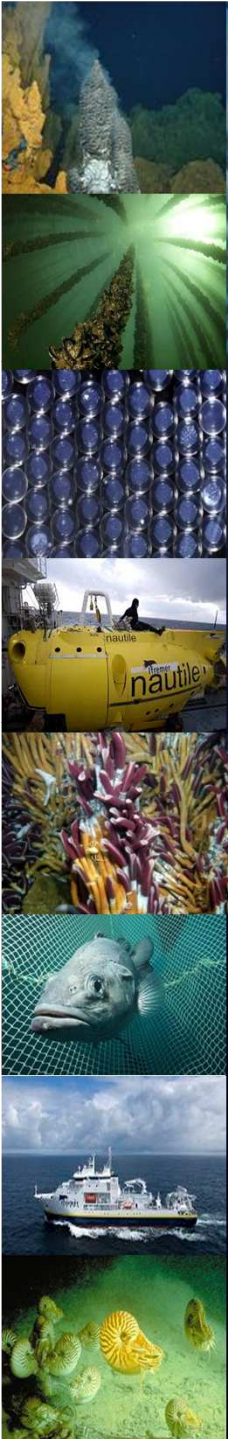


# Bathymetry



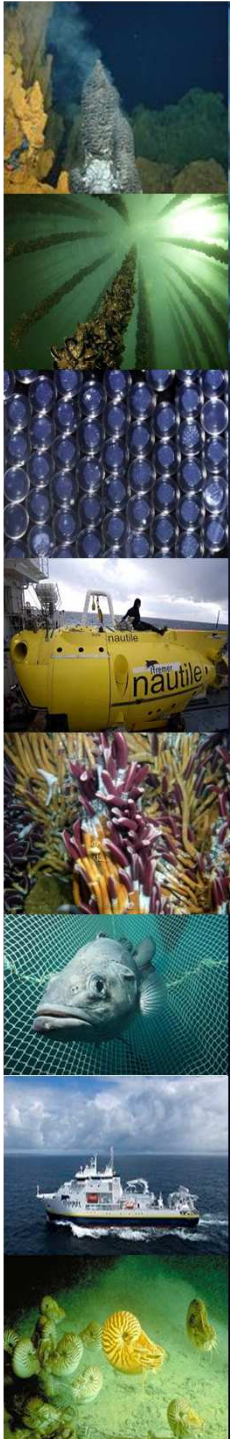
# Module : Bathymetry

- Several raw format input (.s7k, .all, ...)
- Sounding editor for bathymetry correction
- DTM generation



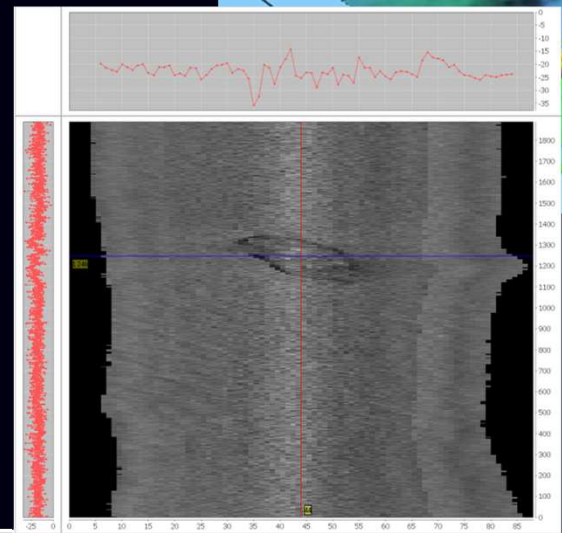
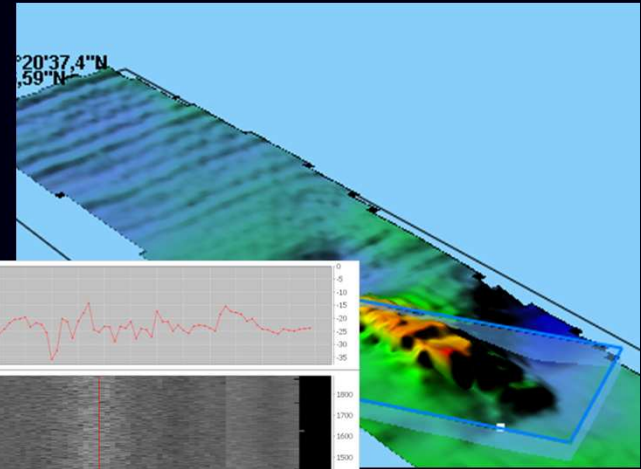
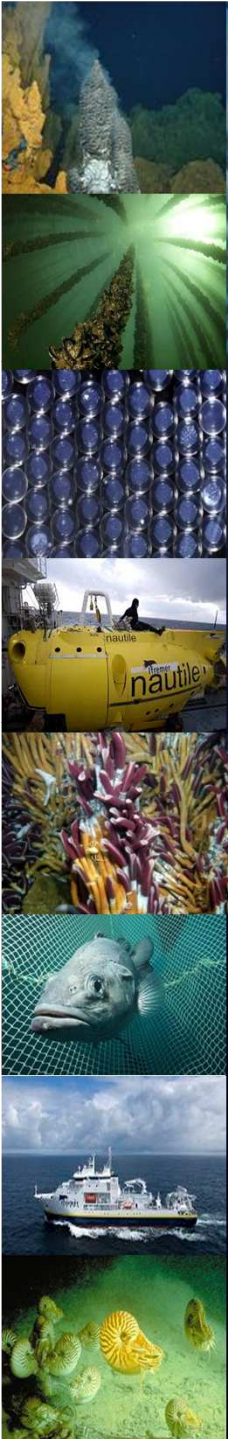


# Backscatter



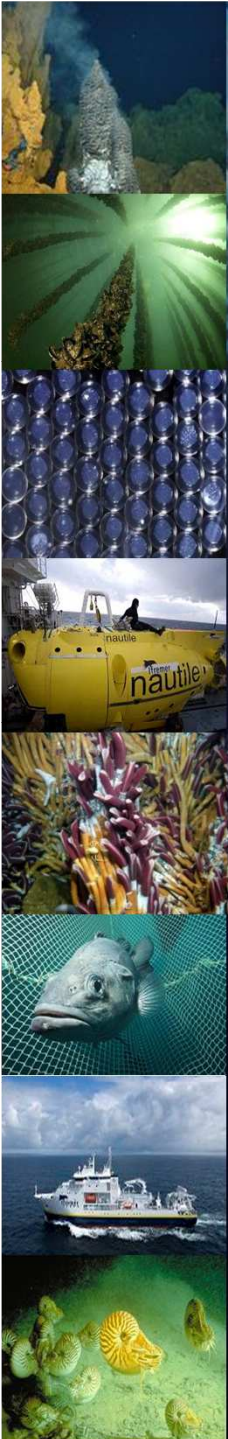
# Backscatter imaging module

- Work in progress
- Data interaction
  - 2D « signal view »
  - 3D geographic view
- Data compensation
  - statistical curves
  - backscatter compensation



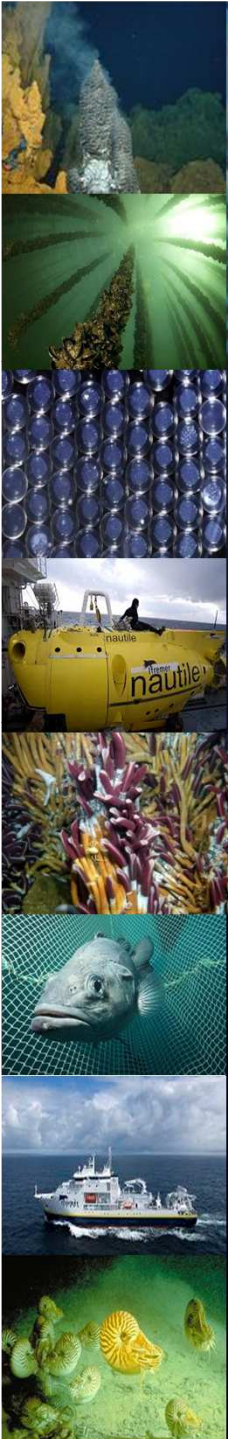
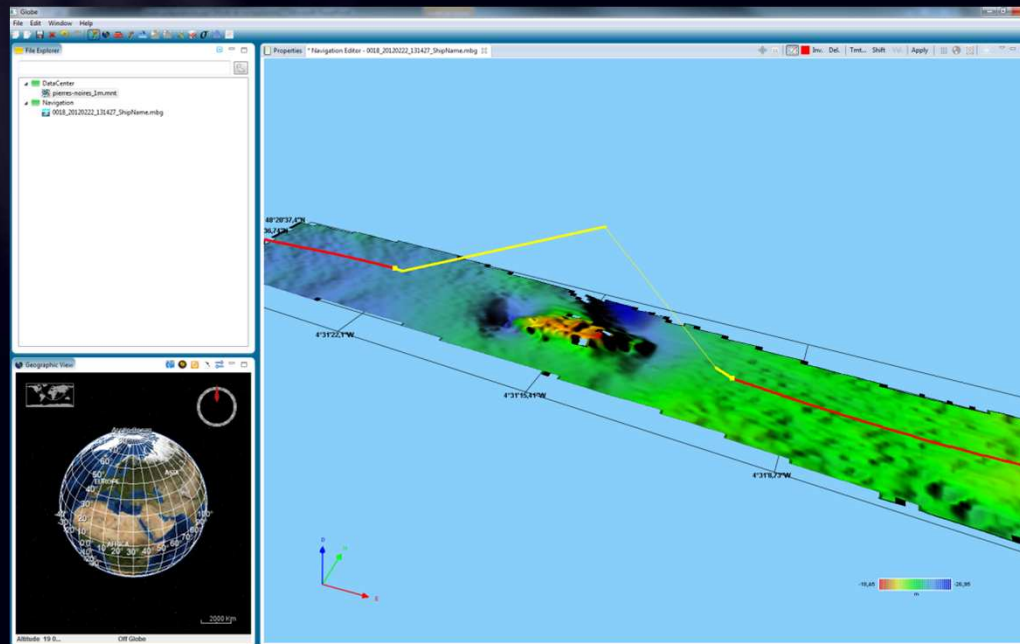


# Navigation



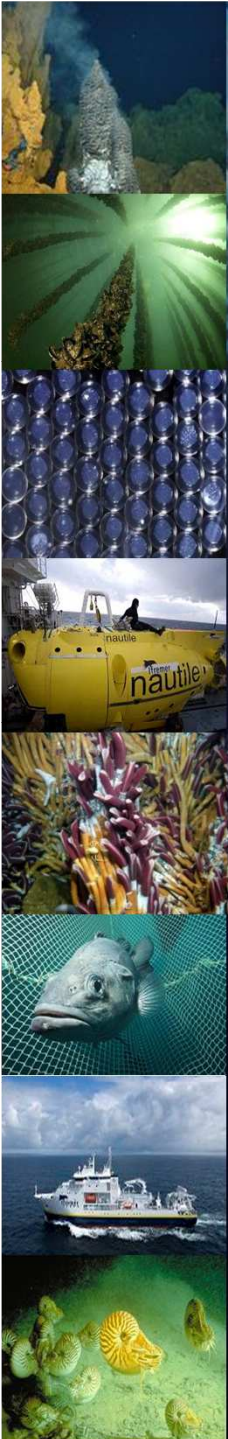
# Navigation editor

- Basic but useful tool for marine science
- Navigation correction
  - Smoothing, extrapolation, ...
- File splitting



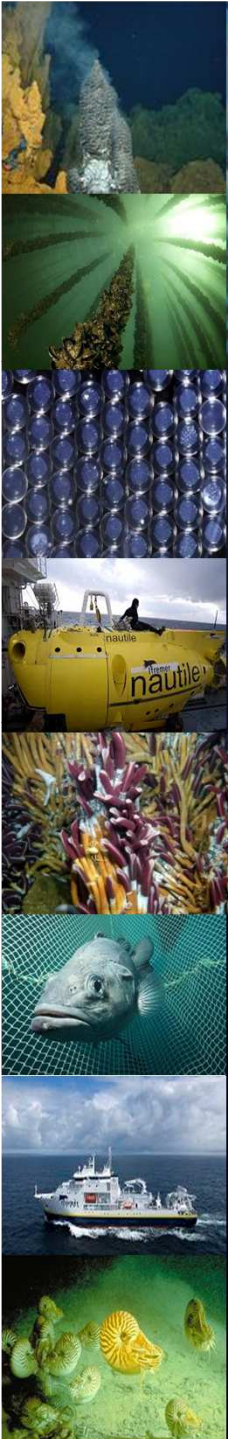
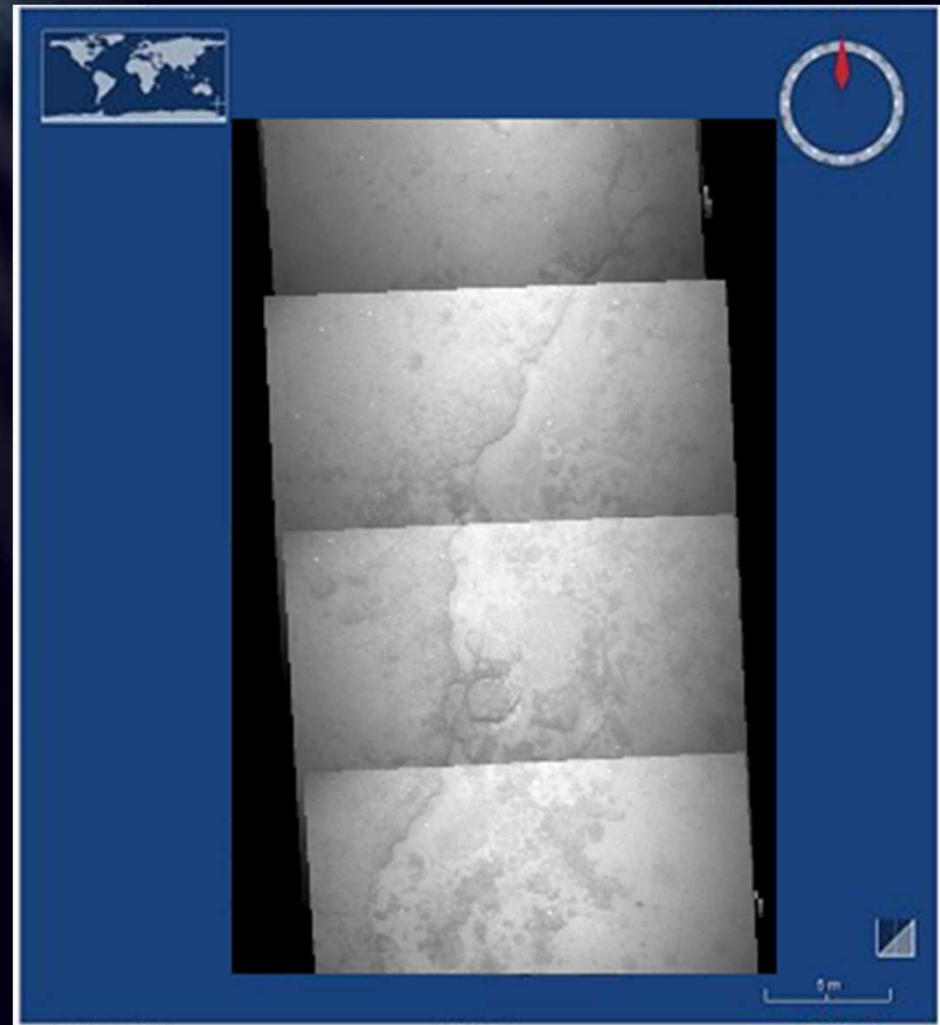


# Vertical camera module



# Vertical camera

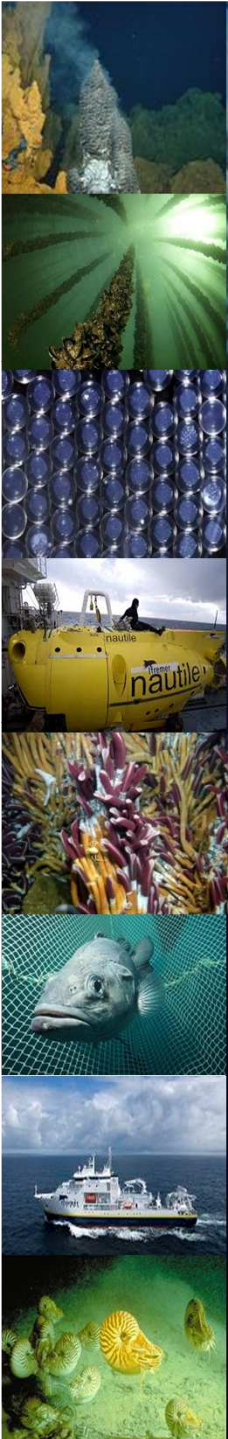
- Geo referencing of photography.
- Floor mapping
- Image sampling
- Image fusion





## What's next ?

- Bathymetry module
  - Cube algorithm integration
  - Process flow management on large amount of data
- Motion and sound velocity correction module
- Water column improvements
- Video module
  - Video georeferencing and display
  - Metadata on video (taxonomy, points of interest)



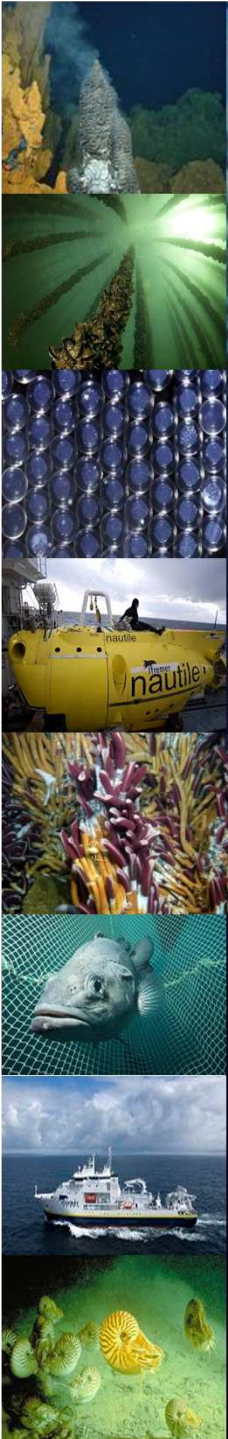
# GLOBE communities

## Development teams

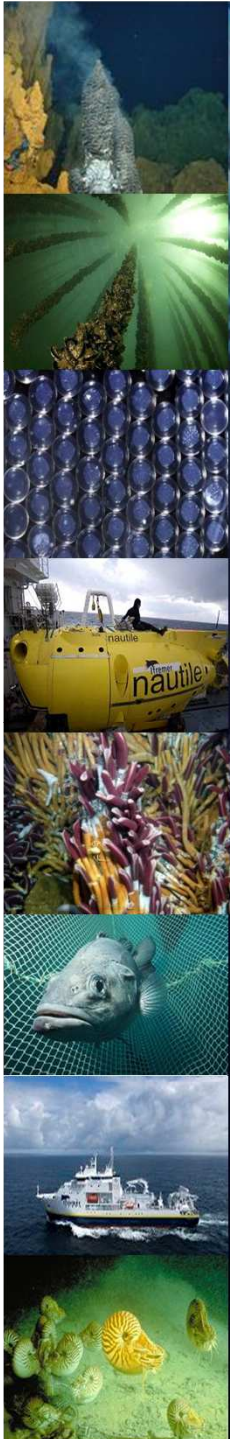
- Strong Ifremer commitment to the project (development team, long term support, multi-platform, wiki, Mantis,...)

## Scientific communities

- viewer already delivered to **GEOSEAS** community
- being released in ifremer's french labs in late 2013
- being released to **EMODNET** community in early 2014







Thank you



Cyrille Poncelet

Ifremer

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[www.ifremer.fr](http://www.ifremer.fr)