

# POLE to POLE : the OCEAN LINK

STRIVING SYNERGIES

## A NEW ERA OF BLUE ENLIGHTENMENT

LAUNCHING THE EUROPEAN UNION – BRAZIL – SOUTH AFRICA  
ATLANTIC OCEAN RESEARCH AND INNOVATION COOPERATION





# The Atlantic Ocean Research Alliance

## RESEARCH PRIORITIES

- Observing and Modelling the Oceans and Understanding the Climate engine
- Marine Ecosystem Approach
- Aquaculture / Marine Resources
- Sea bed mapping
- Polar research : Antarctica



# OBSERVING THE OCEANS

## Understanding the Climate engine

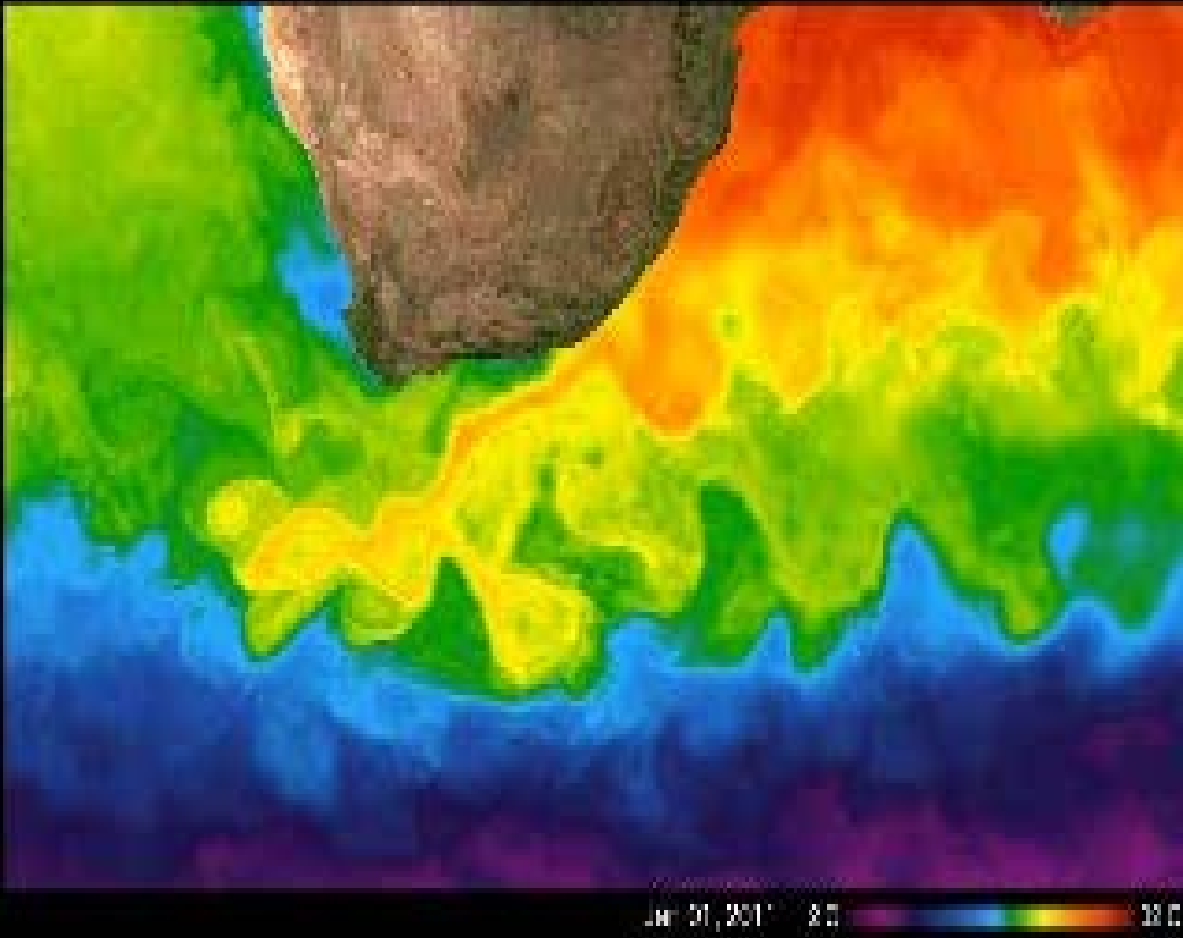
- **ARGO / PIRATA (TACE)**  
PIRATA is an important element of a Tropical Atlantic Climate Experiment. The PIRATA-SWE, MOVAR and ATLAS-B extend the Tropical array into the western subtropical Atlantic.  
*The Fernando de Noronha Experimental Observatory (FNEO) has been proposed to be a counterpart of the Cape Verde Ocean Observatory (CV00)*
- **AtlantOS H2020\_BG-08-2014:**  
Optimizing and Enhancing the Integrated Atlantic Ocean Observing System) is a major H2020 project with 62 official partner institutions.  
*For signature purpose, CSIR has been assigned as an official non-funded partners*





MUR SST Analysis

Agulhas area



## MODELLING THE OCEANS

### Understanding the Climate engine

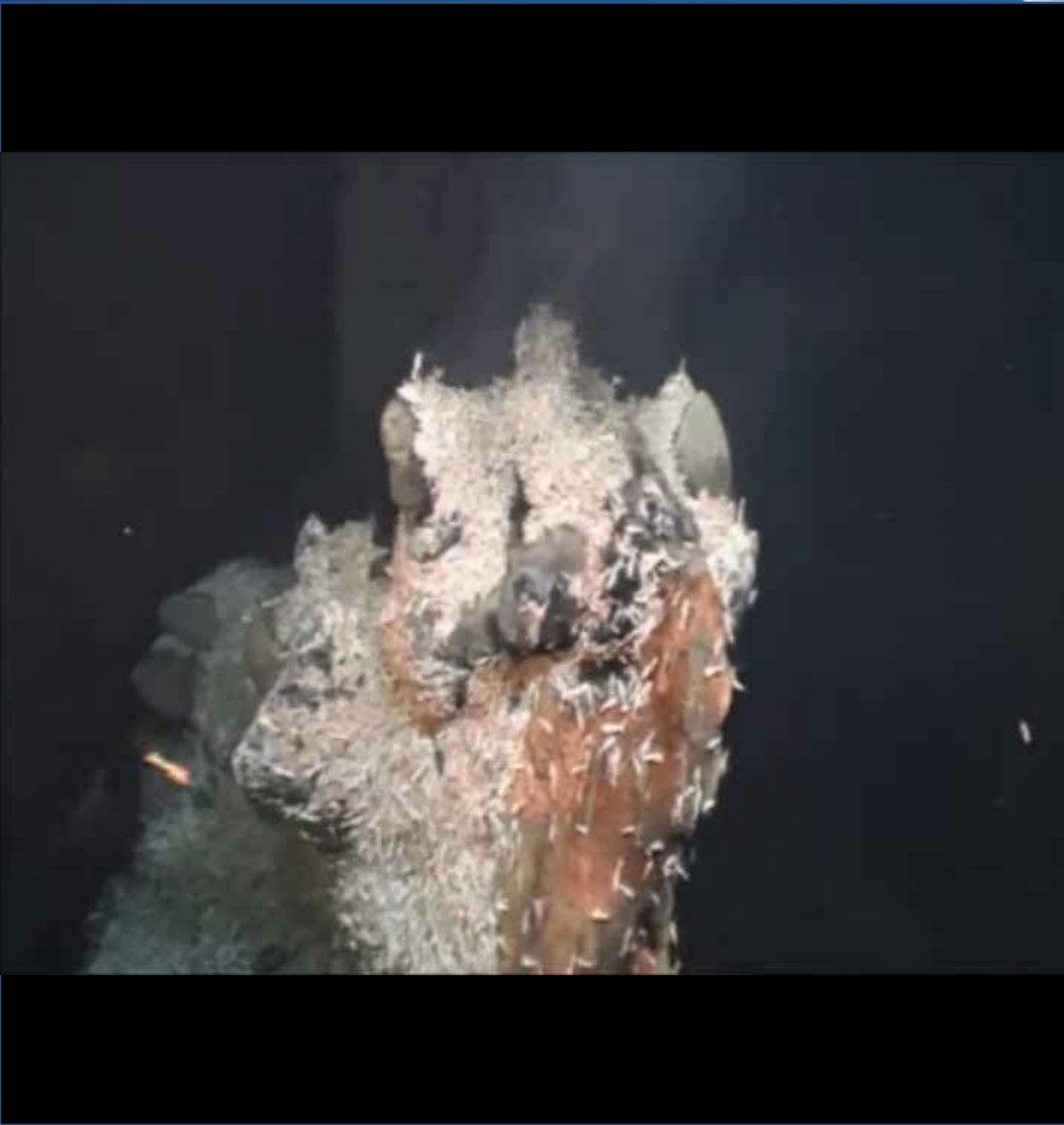
- **SAMOC – SA :**  
SAMOC: international program and includes 3 monitoring lines (SAMBA, Crossroad CT to Marion, and GoodHope).  
*Ifremer has been involved in the deployments of the instruments (program “oceanic circulation”)*
- **BENGUELA UPWELLING SYSTEM**  
TOSCA: Response of the Benguela upwelling system to fine-scale modifications of the coastal air-sea forcing.  
Characterization at various spatial and temporal scales including seasonal responses.  
Determination of long time series of high accurate remotely sensed and in-situ forcing analyses.  
*Collaborations : IFREMER, UCT, IRD, Council for Scientific Industrial Research*





## MARINE ECOSYSTEM APPROACH DEEP ECOSYSTEMS

- **SHOWCASE: CARBOCHANGE**  
A FP7 Collaborative Project ended Feb. 2015. Investigation of ocean's quantitative role in the uptake of carbon under changing climate conditions.  
*Ifremer involved as partner with CSIR*
- **POURQUOI PAS LES ABYSSES ?**  
Aims at accelerating the knowledge of the biodiversity of the deep sea. Study the distribution of marine biodiversity in deep sea sediments and the water layer
- **DEEP-SEA SPY !!**  
Images annotation from 1700 m depth geysers located in the Atlantic and Pacific Oceans! *This project invites you to discover hydrothermal fauna and participate in the Lab's research.*

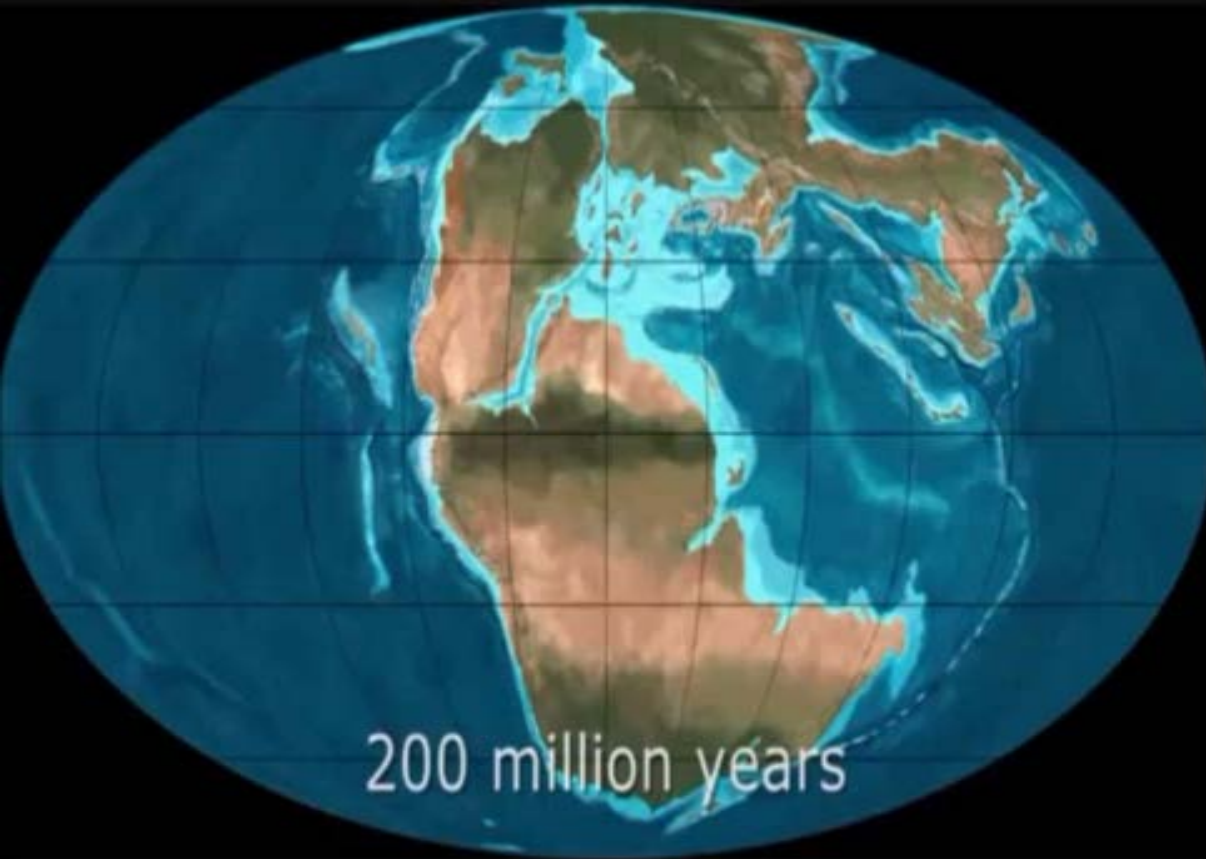




MOTHERSOUND

## MARINE RESOURCES FISHERIES & AQUACULTURE

- **SWIOFP** : a multinational research project on West Indian ocean's marine resources on fisheries.  
*The project forms part of the Large Marine Ecosystem Programme approach (LME) supported by the Global Environment Facility (GEF) as a contribution to its international waters program and implemented by the World Bank.*
- **COCALOCA**: a BEST 2012 project on the connectivity of Loggerhead turtle in Western Indian Ocean : implementation of local and regional management.  
*SA partner Nelson Mandela Metropolitan University-NMMU*
- **GERMON** project (Genetic structure and Migration Of albacore tuna) with Department of Agriculture, Forestry and Fisheries- DAFF and Capfish
- **Integrated Coastal Zone Management & aquaculture**: collaboration with Santa Catarina State/Florianopolis



## SEA BED MAPPING MARINE GEOSCIENCES

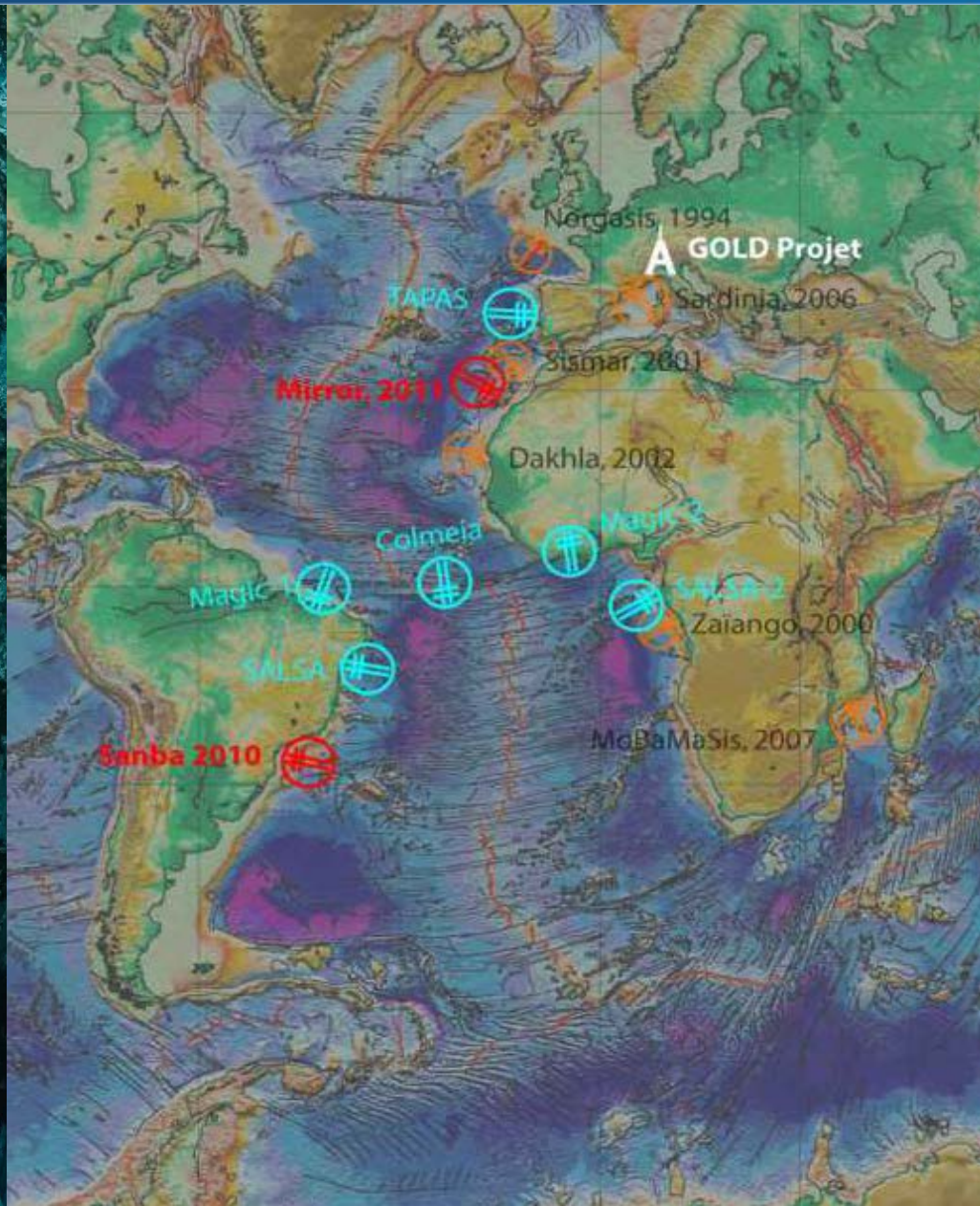
- **PAMELA** (Total Ifremer partnership)  
Research project «Passive Margin Exploration Laboratory» - Mozambican Channel. Fields of research: Geodynamic evolution, sedimentary systems (source to sink approach), Geohazards, fluides  
*Student scholarship (Nelson Mandela University)*
- **GEOSCIENCES**: several studies on continental margins involving different Brazilian and South-African stakeholders (academic and private partners). Understanding the opening of the Atlantic Ocean and the Margin Structures.





## SEA BED MAPPING MARINE GEOSCIENCES

- **PAMELA** (Total Ifremer partnership)  
Research project «Passive Margin Exploration Laboratory» - Mozambican Channel. Fields of research: Geodynamic evolution, sedimentary systems (source to sink approach), Geohazards, fluids  
*Student scholarship (Nelson Mandela University)*
- **GEOSCIENCES**: several studies on continental margins involving different Brazilian and South-African stakeholders (academic and private partners). Understanding the opening of the Atlantic Ocean and the Margin Structures.







## POLAR RESEARCH

### POLAR POD

- The goal of POLAR.POD is to undertake a “world tour” through the Southern Ocean, following the Antarctic Circumpolar Current.

Ifremer implication:

*Wave -modulated air-sea exchange  
to better understand the relationship between air-sea fluxes, surface  
wave field, wave-driven oceanic turbulence, and upper-ocean  
ventilation in the Southern Ocean*

*Chemical marine contamination*

*The occurrence and levels of contaminants and the exposure of the  
Antarctic trophic web to major contaminants*

A photograph of a young boy and girl standing on a pebbly beach, holding hands and looking out at the ocean. In the distance, several large offshore wind turbines are visible on the horizon under a clear blue sky. The water is calm with gentle waves lapping at the shore.

## Strengthening Pan-Atlantic Research Cooperation

