REPÚBLICA PORTUGUESA | XXI GOVERNO CONSTITUCIONAL

IPMA

Instituto Português do Mar e da Atmosfera

Portuguese Institute of the Ocean and Atmosphere

Mafalda Carapuço

Coordinator of the Research Vessels Group

20th ERVO Annual Meeting

University of Malta, La Valletta | 12-14 June 2018

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The Context

- Never before existed a **social and political consensus** on the idea that **sustainable global development** is only possible if mankind **is able to redesign** existing production processes, food and mobility systems, and "earth-use" strategies taking into account the **finitude of geo- and bio-resources** and the **critical role of ecosystem services for survival.**

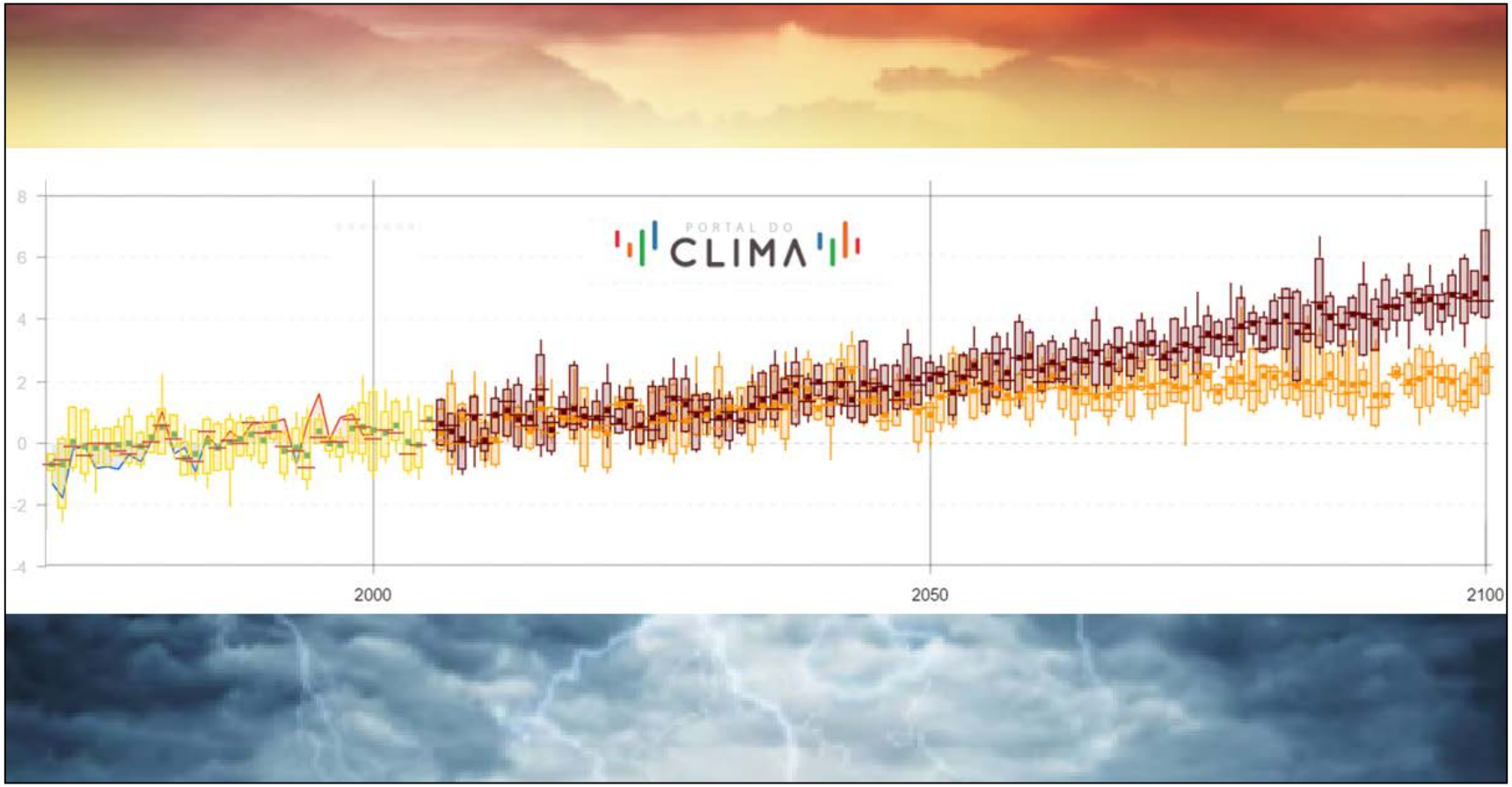
- This radical change will shape the **first half of the 21st century.**

Ocean as a source of wealth

According to the evaluation made by the European Commission blue economy in Europe corresponds to 3 - 5% of the GDP.

source: https://ec.europa.eu/dgs/maritimeaffairs_fisheries/magazine/en/policy/small-businesses-can-drive-blue-growth-and-put-europe-road-recovery

The Biggest Challenge



Causes of change

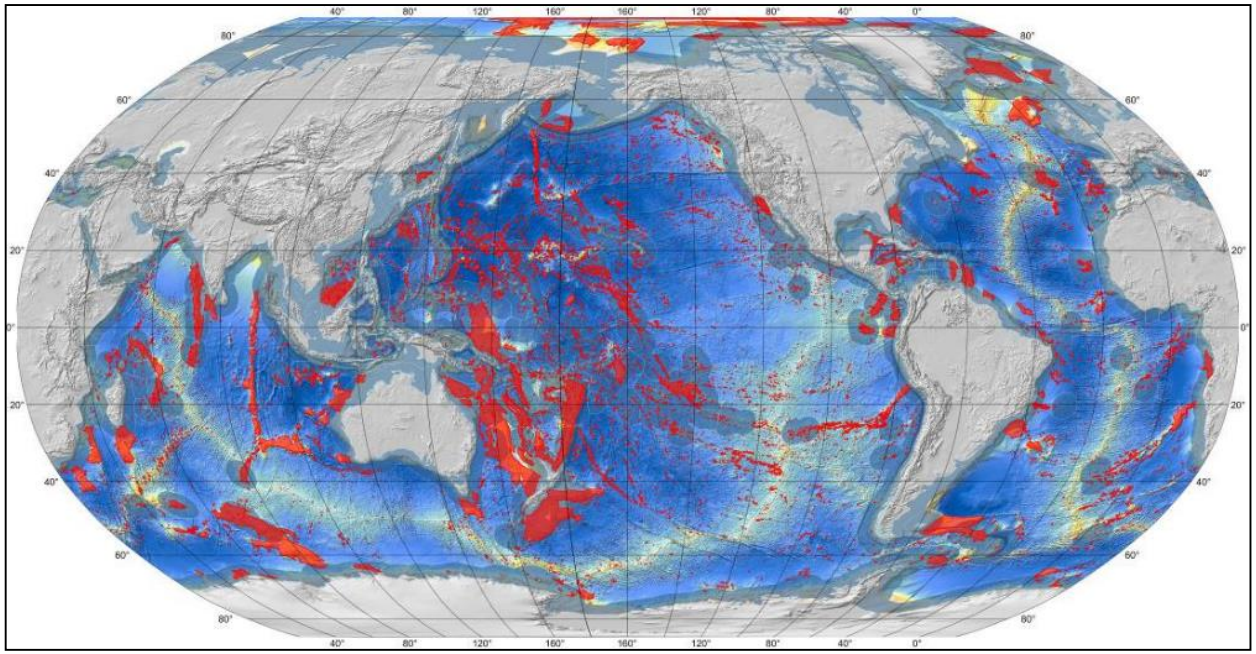
Maritime transportation is continuously increasing as the most cost-effective solution for international trade.

Causes of change

Growing energy demands and the need to decarbonize the economy are leading to the installation of large power systems close to the coast.

Causes of change

Identification and quantification of sources for critical raw materials is developing, because recycling ensures only a fraction of the demand.



Causes of change

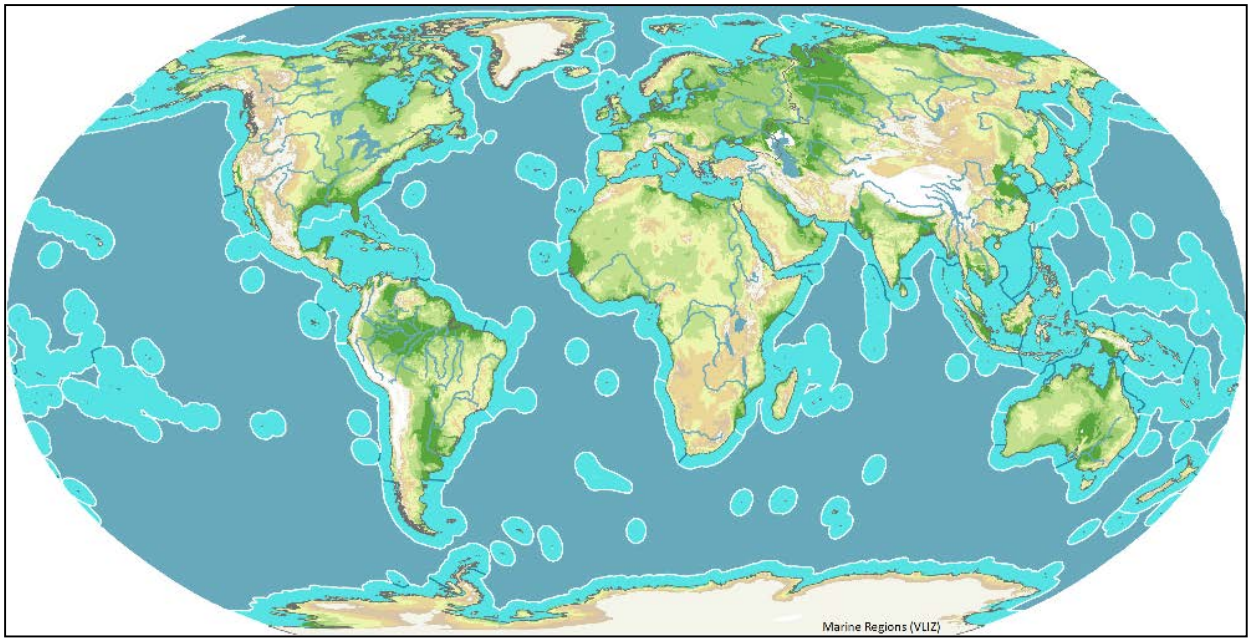
Most of the fish species are over-fished.

Causes of change

Man-made disasters have very strong political, economical and social consequences.

Causes of change

The United Nations Convention on the Law of the Sea [UNCLOS] agreement creates expectations on the role that states will have in managing large areas of the seafloor.



Changing the paradigm

- During the 20th century management was mainly based on a project-by-project or permit-by-permit approach.

- Incorporation of the interplay between the different values in stake and stakeholders is becoming more relevant.

- **Science-based governance.**

- The Portuguese Approach -

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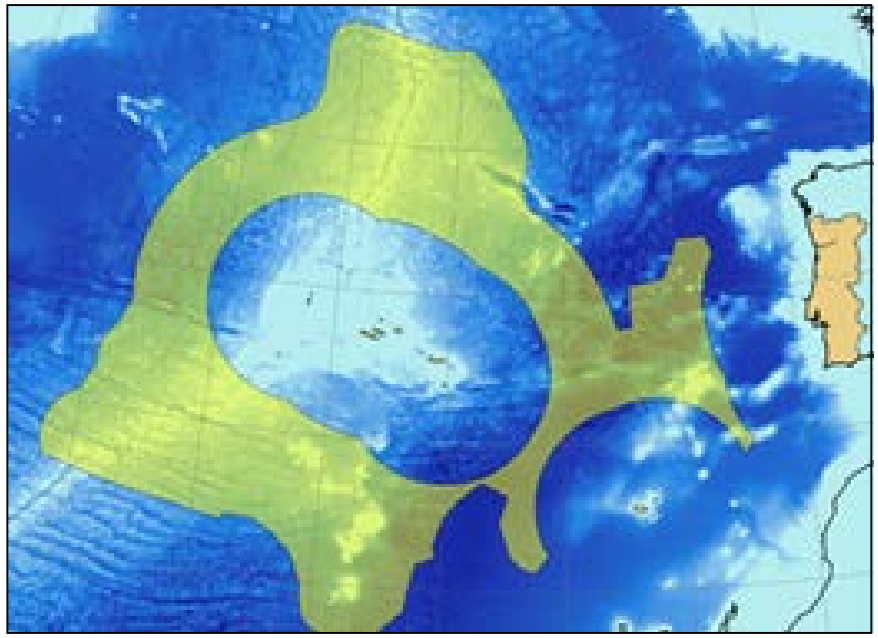
The Portuguese Approach

- Portugal has the **4th European largest marine exclusive economic zone (EEZ)** and the **11th in the world** which is still **largely unknown and unexploited.**

- The extended platform will provide Portugal with jurisdiction over a **very large area of the NE Atlantic**.



The Portuguese Approach

MINISTRY OF THE SEA

POLICY

DGPM
[Direção Geral de Política do Mar]

RESEARCH

IPMA
[Instituto Português do Mar e da Atmosfera]

GOVERNANCE

DGRM
[Direção Geral de Recursos Naturais, Segurança e Serviços Marítimos]

FISHERY

DOCAPESCA

IPMA

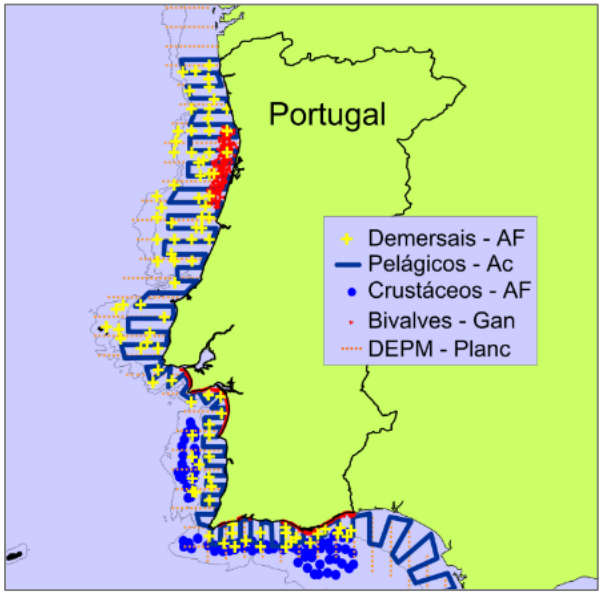
Public Research Institution devoted to Ocean and Atmospheric Sciences and Technology, since 2012.

IPMA | Mission

- To provide technical and scientific support to national policy definition.
- To operate and maintain scientific infrastructures, and national scientific databases on its areas of competence.
- To promote scientific research and technological development in its areas of expertise.

IPMA | Fishery Management

- Statistical methods to evaluate fish stocks using incomplete data
- Robustness of stock estimation
- Guidelines for the sustainable capture of target species
- Study of alternatives to fishing discards

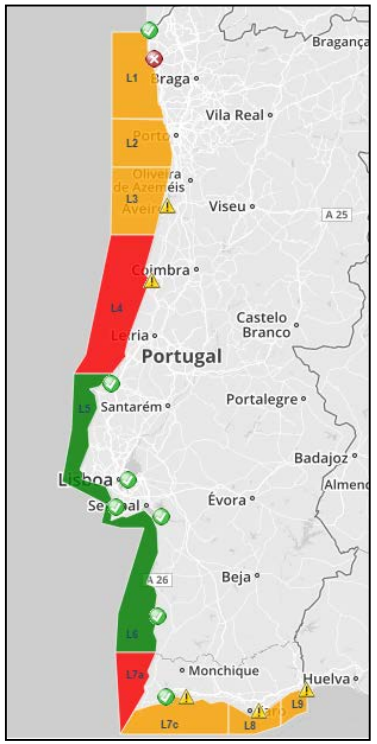


IPMA | Fish Farming

- New strategies for fish farming
- Optimization of feeding protocols
- Sensitivity to changes in environmental and sanitary parameters

IPMA | Monitoring seafood safety

- Monitoring & classification of production and relaying areas.
- Establishment of sampling programmes and protocols.
- Audit labs that supply services to the producers.

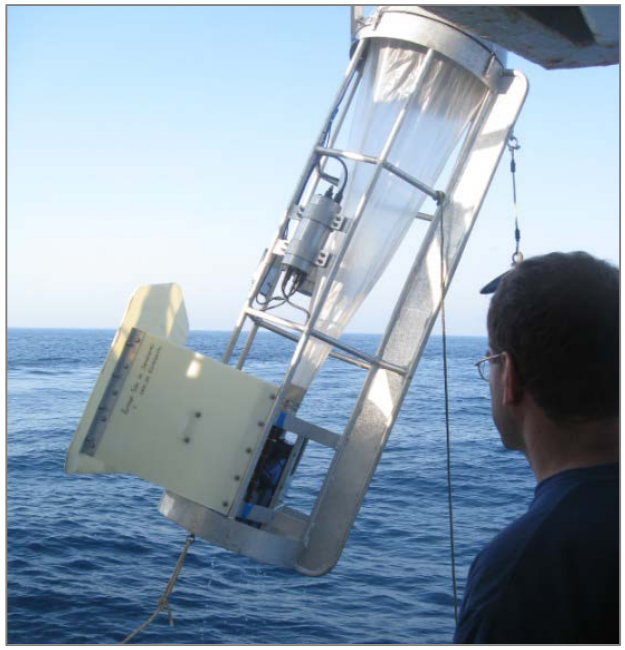


IPMA | Marine Biotechnology

- Identification of toxic metabolites in marine species
- Anti-inflammatory and neurological effects of algae
- Bio-prospection of deep sea shrimps
- Identification of Plesionika shrimps with commercial value

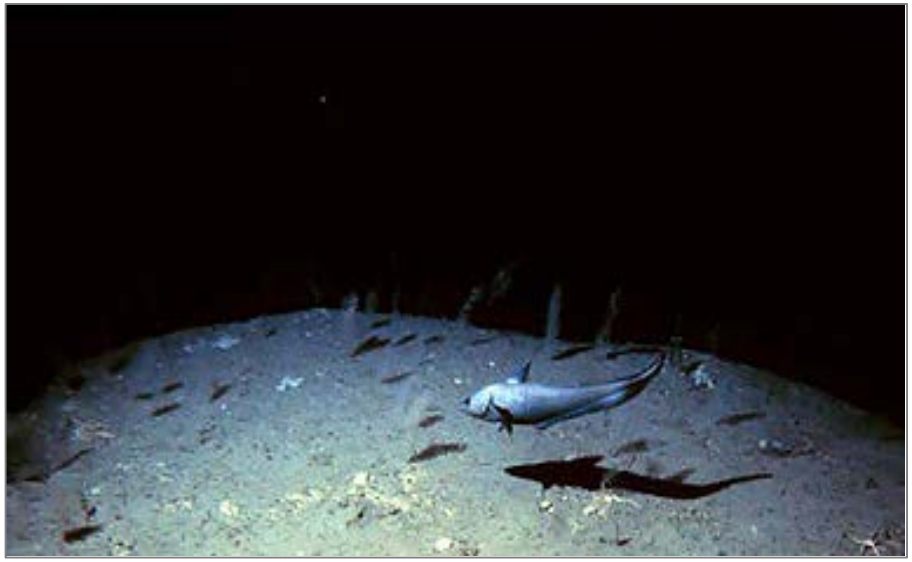
IPMA | Contaminants and marine litter

- Relevance of biogeochemical cycles and coastal ecosystems
- Effects of acidification in marine ecosystems
- Interaction between marine contaminants and ecosystems
- Marine litter



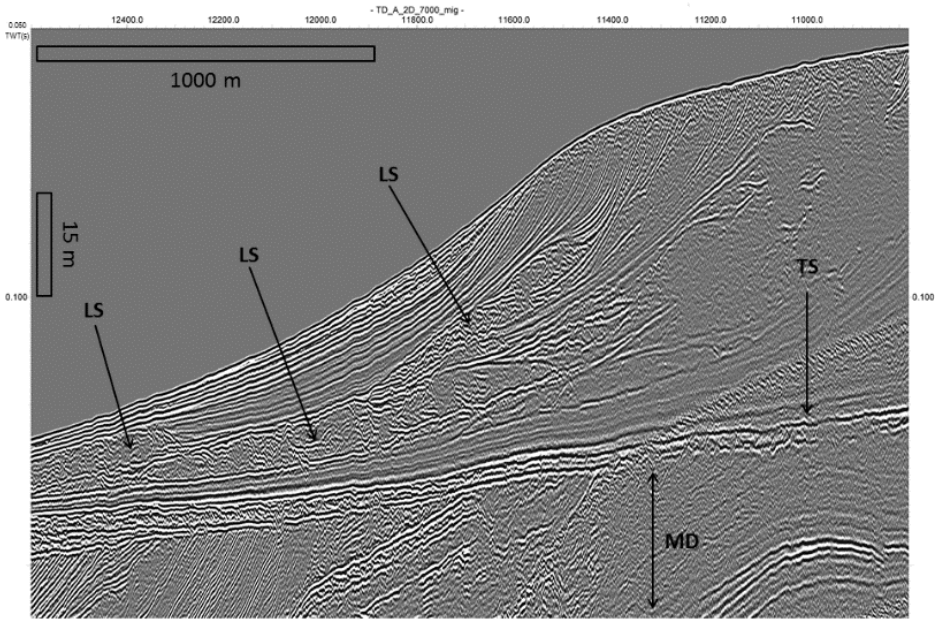
IPMA | Deep-water ecosystems

- Population structure and dynamics
- Dynamics and spatial overlap between species
- Exploitation status of deep-water resources



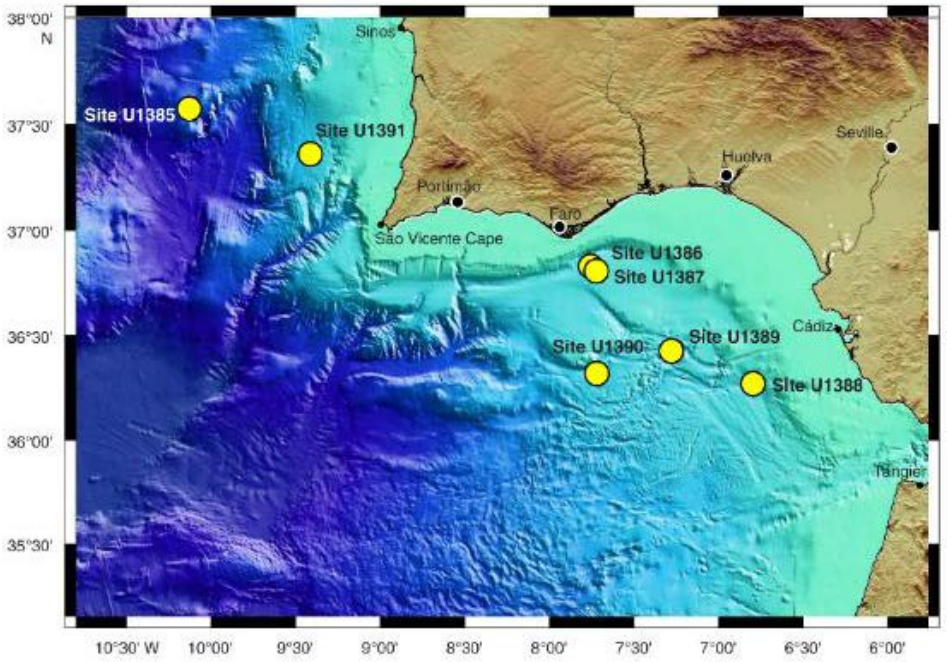
IPMA | Marine geology and mineral resources

- Structure of the margin
- Conventional energy sources
- Methane hydrates [climate-sensitive]



IPMA | Paleoceanography

- Proxy development & calibration
- Paleoreconstructions
- Past Warm periods (Interglacials & Late Pliocene)



IPMA | Ambition

- To be an active player in the national and international research communities

- To be effective in the cooperation with the industry and a strong supporter of blue entrepreneurship

- Increase our presence in the Ocean -

IPMA | Fleet

Noruega

- 47 m long
- trawler
- Used for fisheries research, oceanography and, since 2012, high resolution seismics

Diplodus

- 17 m long
- Used for habitat mapping; shallow water operations; small scale fisheries;
- supports offshore aquaculture in Algarve

Tellina

- sister ship of Diplodus
- Owned by IPMA, operated by FOR-MAR since 2015
- Used for training: pilots, machine engineers, fisherman
- Being equipped for habitat mapping

IPMA | Increasing the presence in the ocean

- Research Vessel Mar Portugal

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