

CHALOUPE

Global change, dynamics of exploited marine biodiversity and viability of fisheries

Research project funded by the French National Agency for Research
2005 call for proposals on « Biodiversity » (*managed by the Institut Français de la Biodiversité*)

IFREMER (coordinator)



Context

→ major changes (global changes)

- in marine ecosystems (human activities; climate change)
- of human activities depending on these ecosystems, in particular fisheries

→ uncertainties

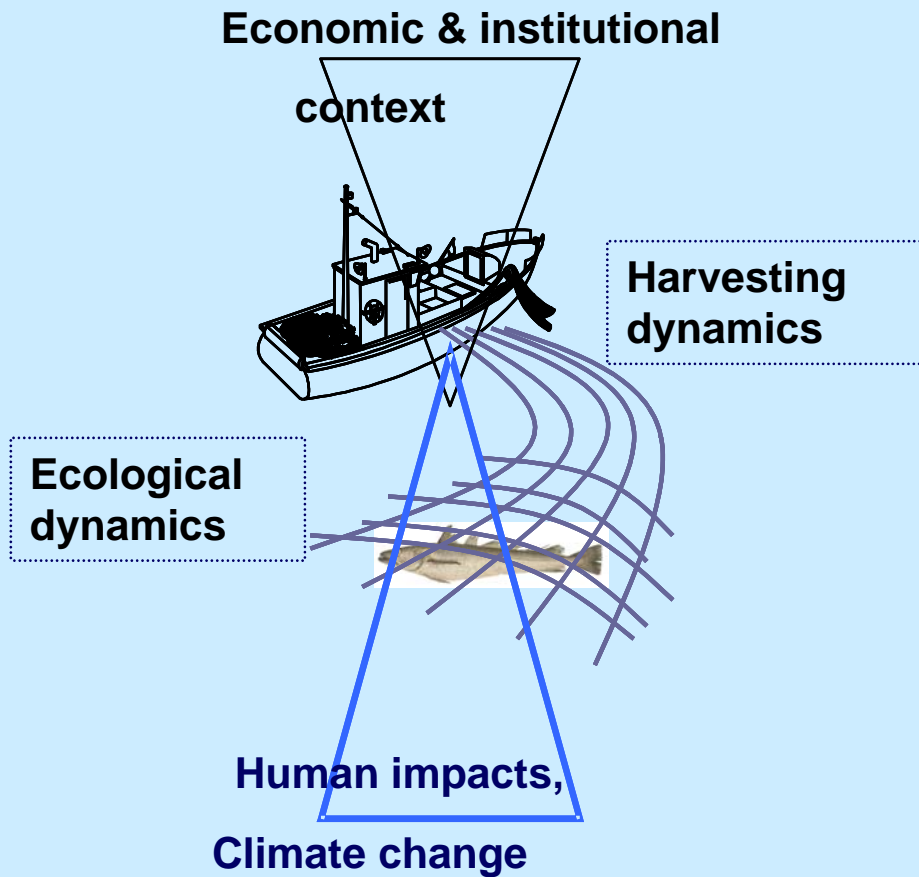
- changes in and losses of biodiversity of marine communities, and risks of irreversible changes
- consequences in terms of economic value and of the viability of fisheries

→ adaptation capacity ?

- of communities
- of current marine living resources harvesting modes

Research object :

The evolution of exploited marine communities – fisheries systems



➤ Interfaces between ecological and socio-economic systems

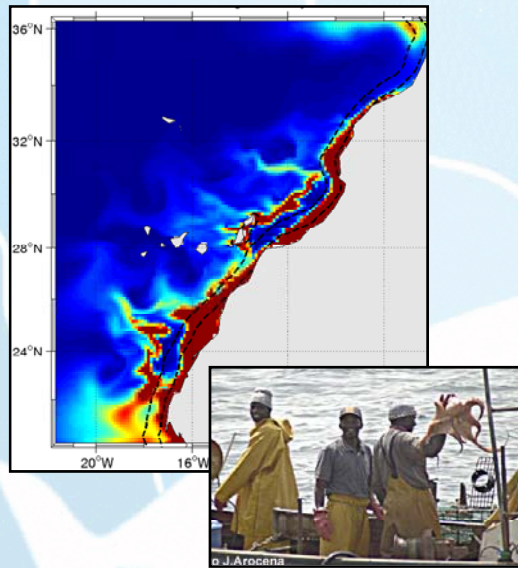
➤ Dynamics depend on interactions between ecological and economic processes

➤ Influence of many forcing factors :

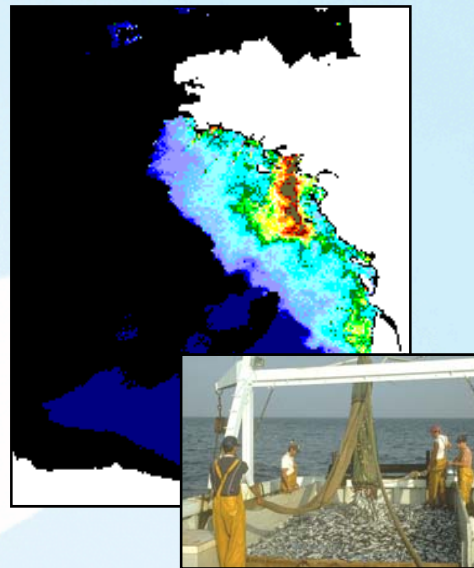
- climate and ocean
- institutional framework
- economic context

Objective

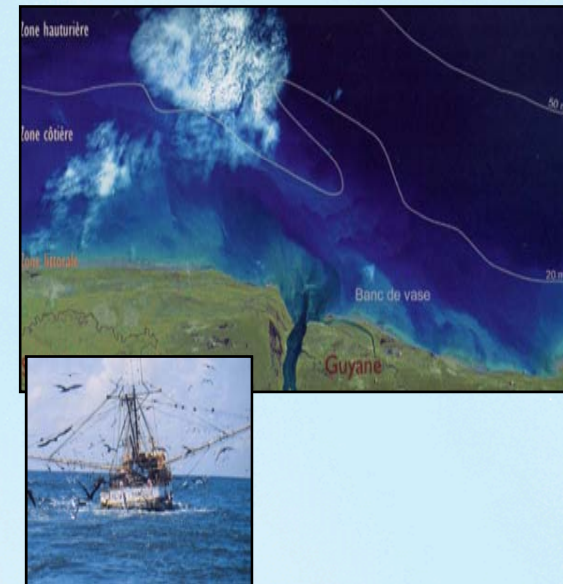
→ identify the main drivers of bio-economic changes in three systems over the past decades



Moroccan upwelling area



Temperate continental shelf of the Bay of Biscay



Amazonian continental shelf of the French Guyana

→ Contribute to the definition of scenarios of future changes in these three systems

More precisely...

At the ecosystem scale, for 2 or 3 past decades,

→ Identify the environmental changes (due to cycles or climate changes)

→ Identify the biodiversity changes of the demersal marine community of the continental shelf in relation to the environmental changes described previously and the impact of fishing

→ Identify changes in the economic and institutional context of fisheries

→ Identify changes within the fisheries in relation to biodiversity changes and to economic and institutional changes

Partnership

Ecological Dynamics

Ifremer (Fisheries Sciences, Ecology
And Modeling, tropical Fisheries
Sciences)

National Institute of Fisheries Science
Research (Morocco)

Economic Dynamics

Ifremer (Marine Economics)

Univ. Bretagne Occidentale (Law and
economics of the Sea)

CNRS-Museum

World Fish Center

Modelling

IRD (Upwelling Ecosystems)

CNRS-Museum

World Fish Center

ENI-Brest (Virtual Reality)

Univ. Littoral (informatics)