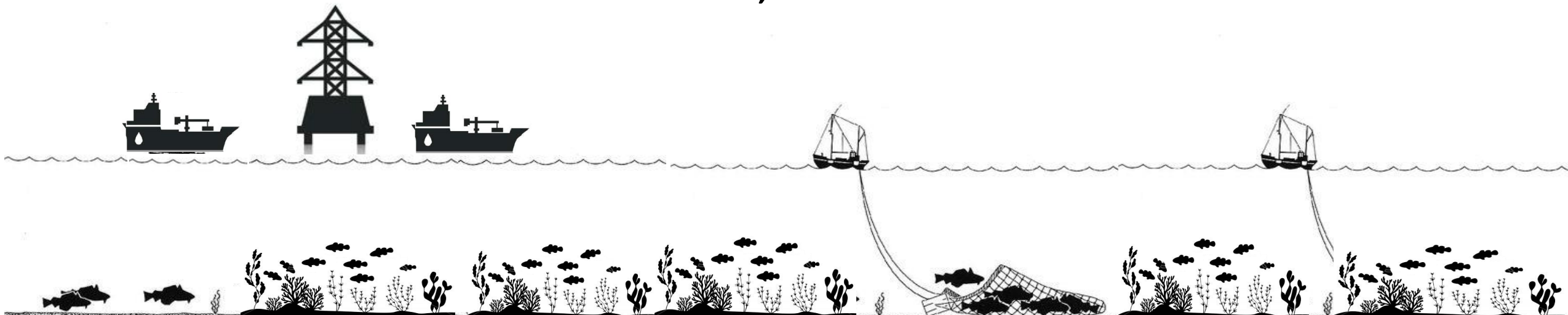


# Marine Spatial Planning

## Identifying key habitats and hotspots of fish biodiversity

Leandro **Eduardo**; **Sophie Bertrand**; Julie **Salvetat**; Tatiana **Beltrão**, Beatrice **Padovani**, Flávia **Lucena-Frédou**, Arnaud **Bertrand**

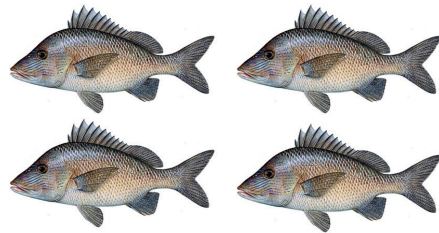


# Marine Spatial Planning

Marine Protected Areas



Biodiversity



Abundance/biomass



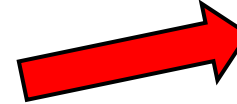
Habitats



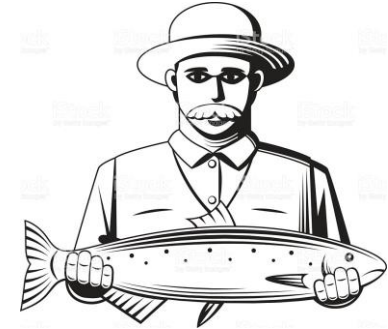
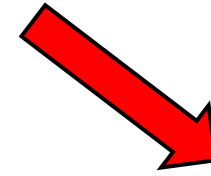
Conservation



Multiple uses of the ecosystems



Industrial fisheries



Small-scale fisheries

**Critical habitats remain unprotected**

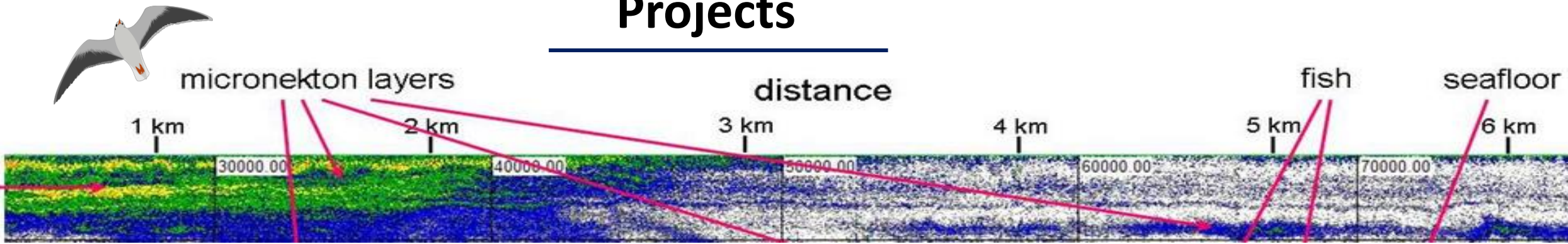
Information

Polices



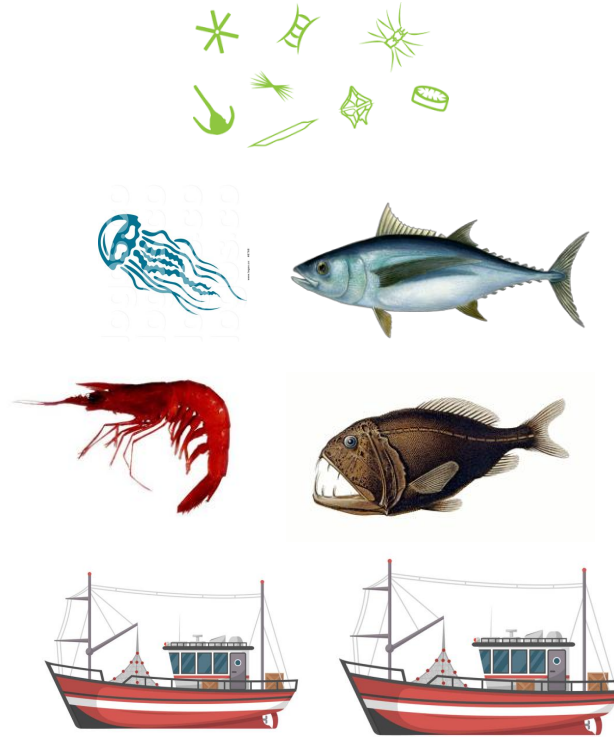
An efficient MSP should account for the spatial pattern of biodiversity/biomass and dynamic of fisheries

# Projects



**FAROFA**

**Integrated study of the tropical marine ecosystems**



**In situ**

**Biological data**

**Underwater Videos**

**Fishing boat observations**

**Vessel tracking**

**Acustics**

# ABRACOS

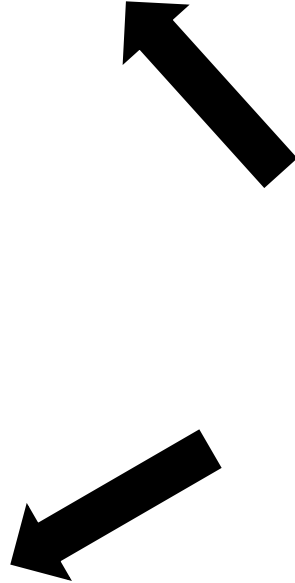
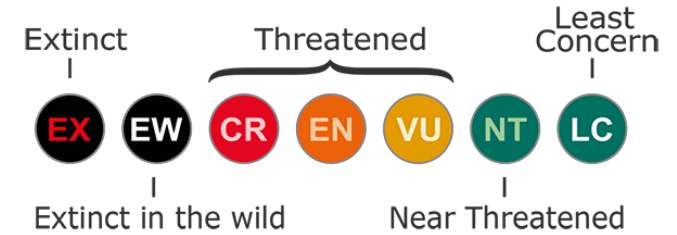


**Biomass  
Abundance**



**Composition**

**BIODIVERSITY**



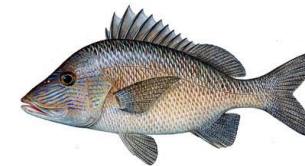
**Ecological  
importance**



**Structure of  
communities**

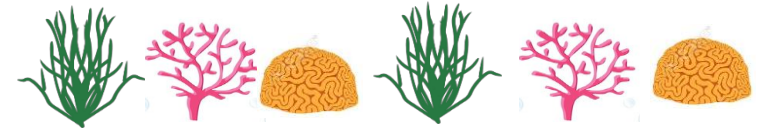
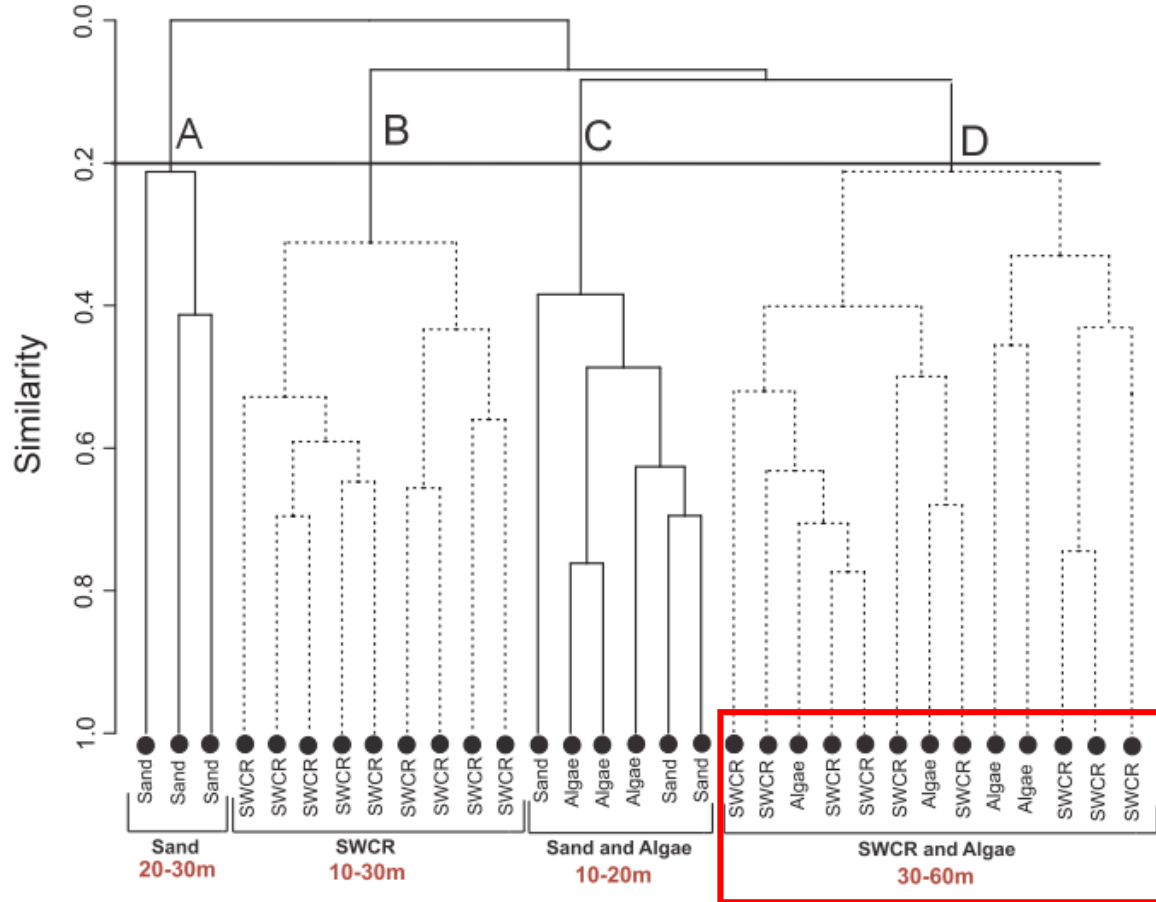


**Conservation**



# RESULTADOS E DISCUSSÃO

## Assemblage Structure



Algae and SWCR **Shelf Break**



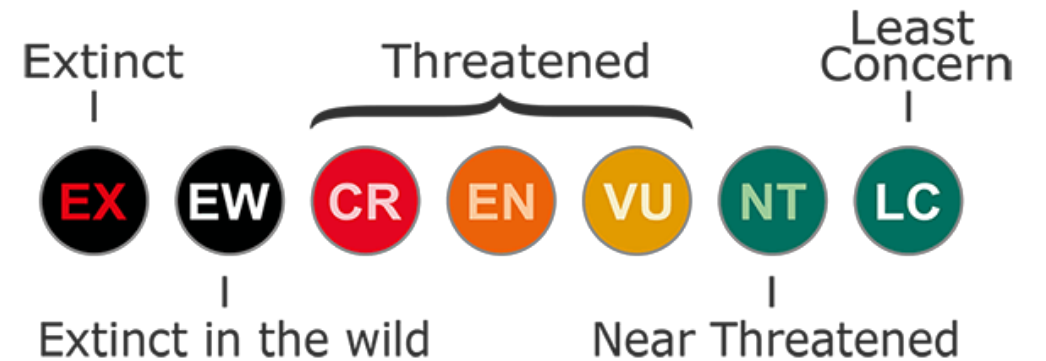
*A. polygonius*



*D. holocanthus*



*A. quadricornis*



# Habitat classification

## Algae



## Sand



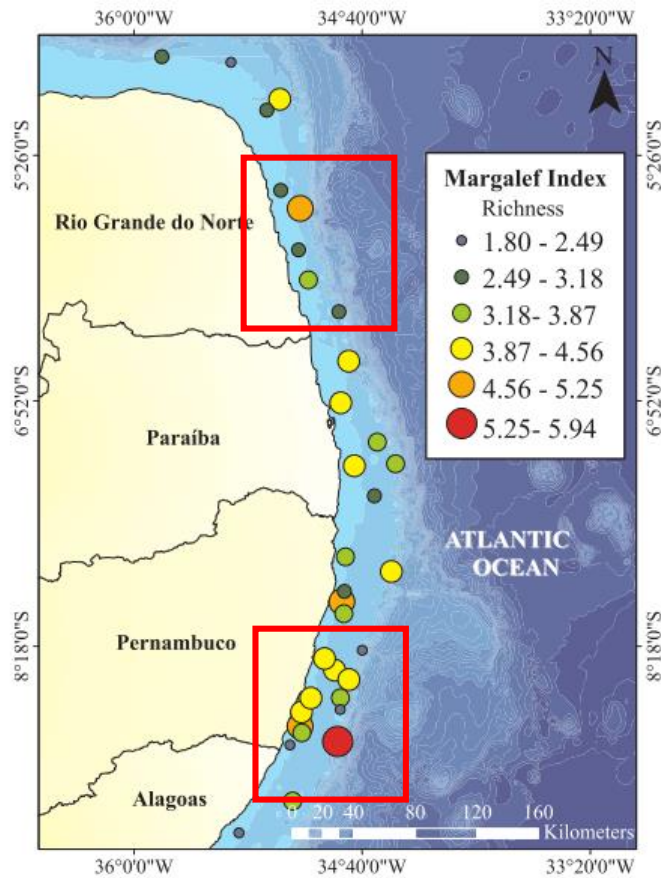
## SWCR- Sand with rocks, coralline formations and sponges



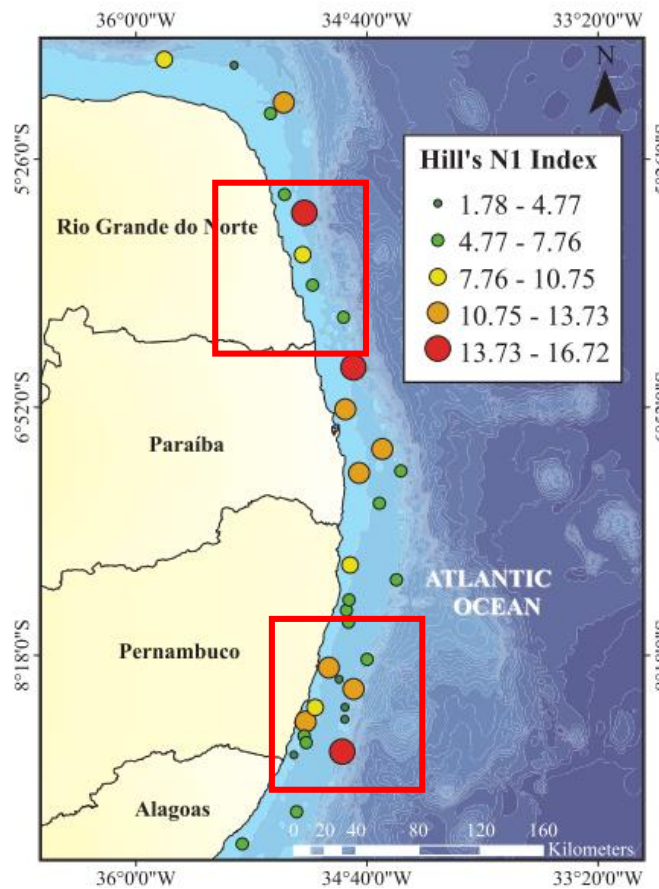
# Demersal fishes

## Biodiversity index

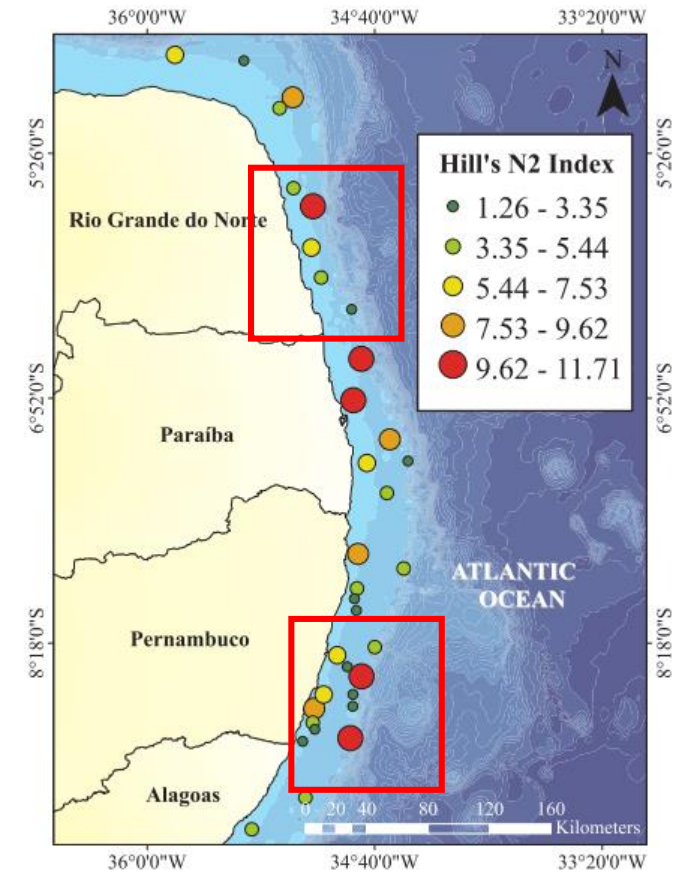
### Margalef Index



### Hill's N1 Index

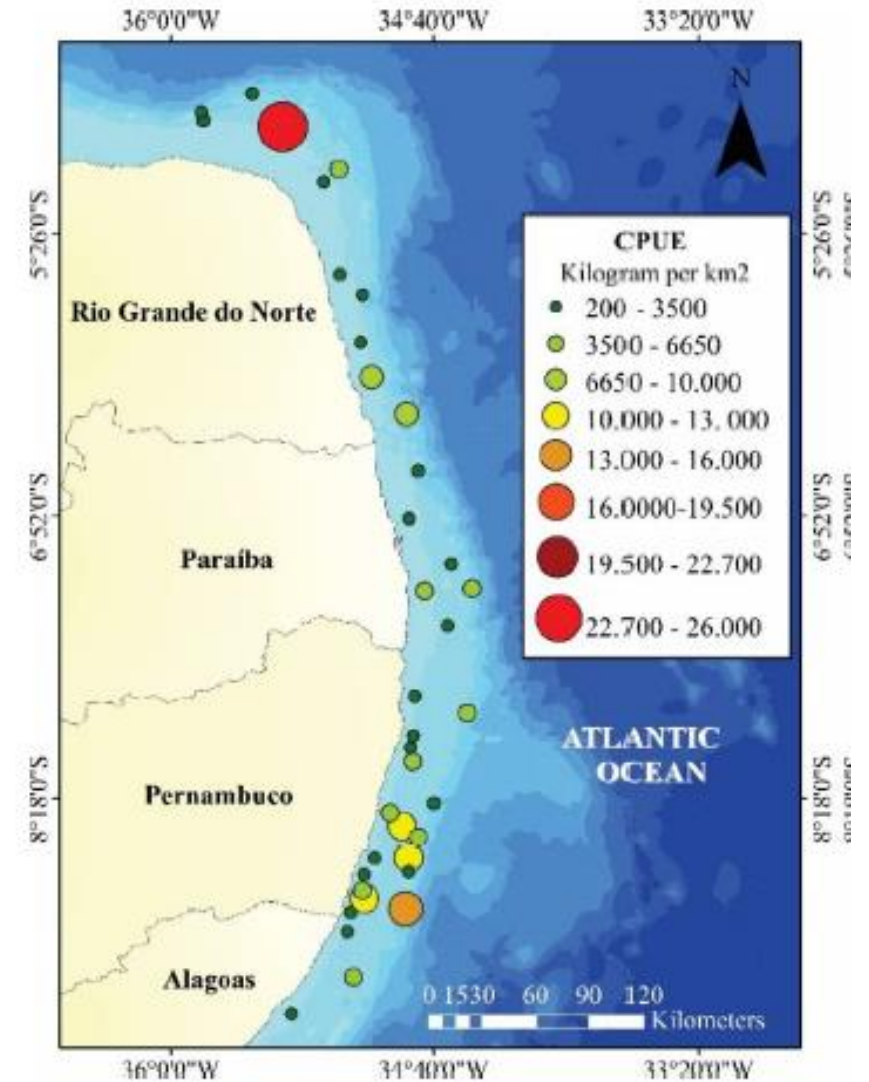
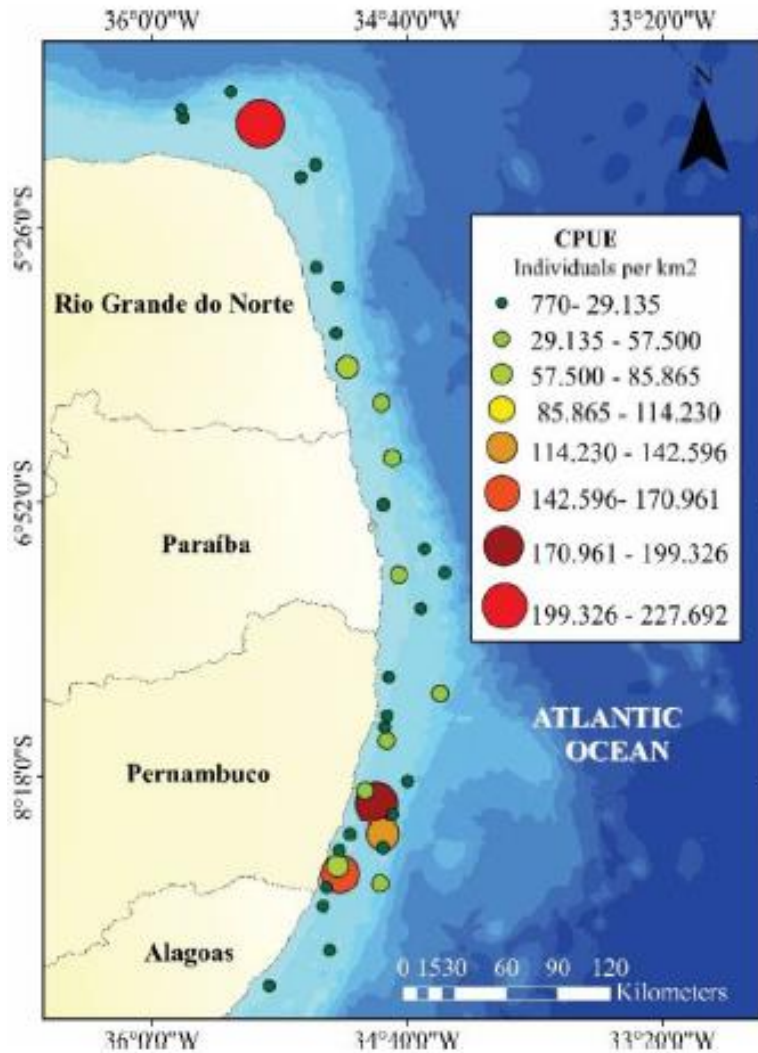


### Hill's N2 Index



# Demersal fishes

## Abundance and biomass





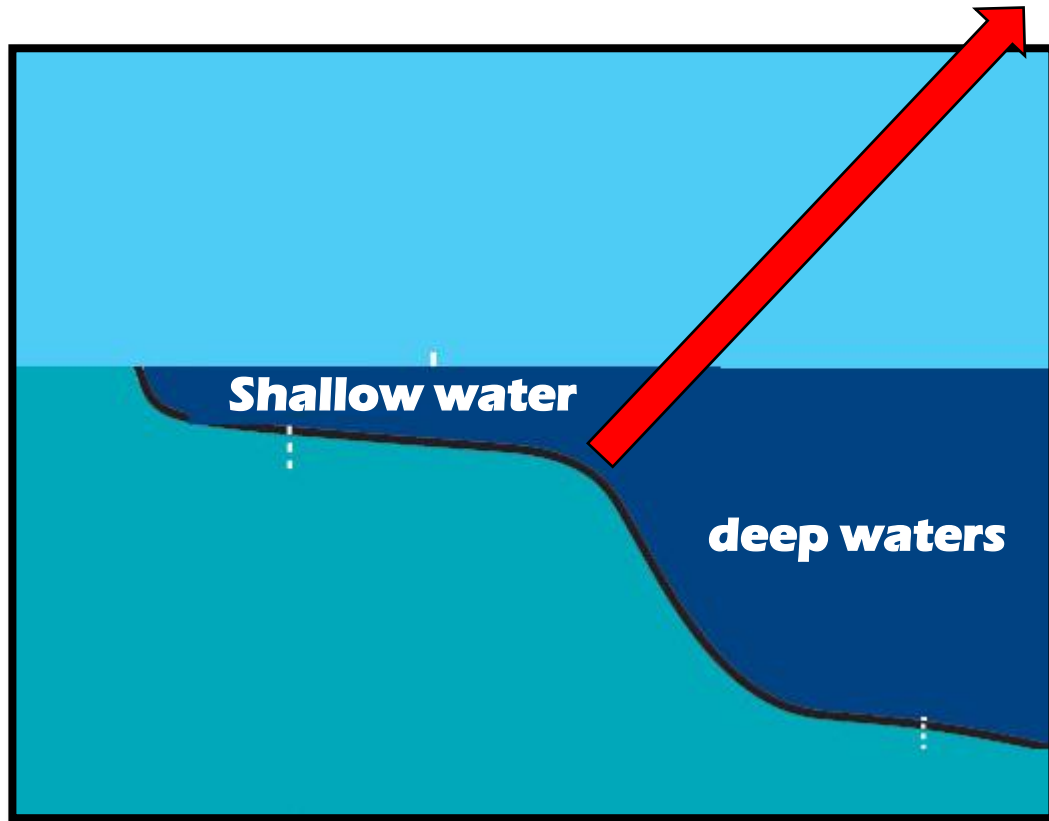
# Priority areas of conservation

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**Global hotspots**

**Shelf Break Zones**

**Shelf Break Zones**



# Priority areas of conservation

## Global hotspots

### Shelf Break Zones

- + Abundance/ Biomass
- + Biodiversity
- + Threatened species
- + Habitat complexity

## WHY

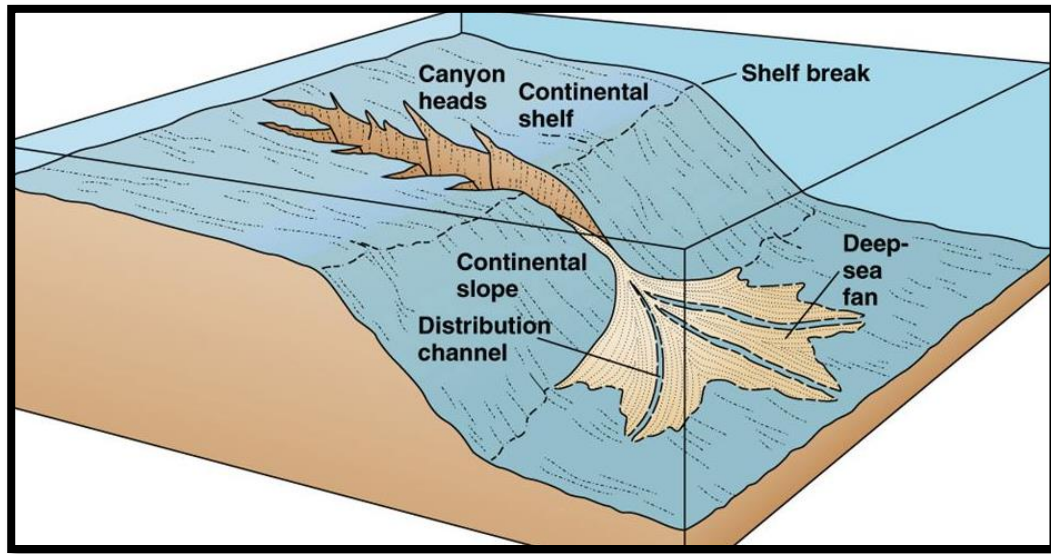


Ectones  
Conservation status

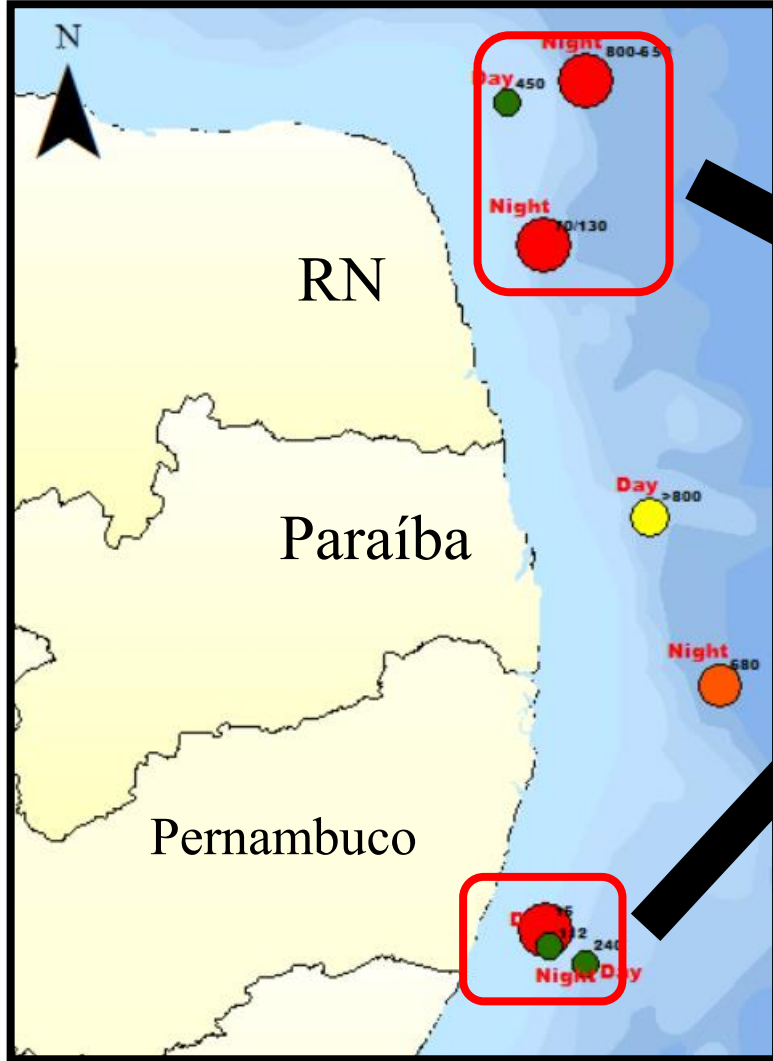
## Local hotspots

North RN  
South PE

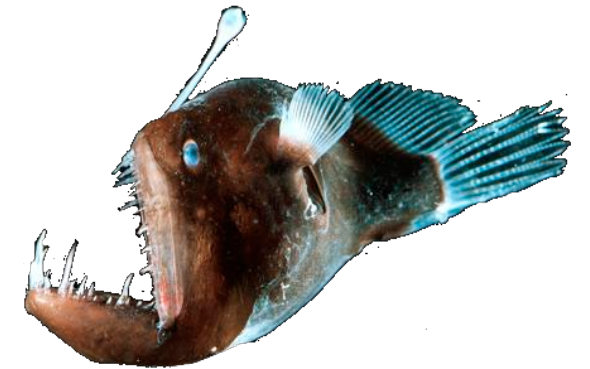
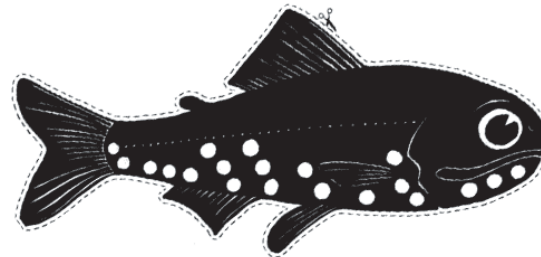
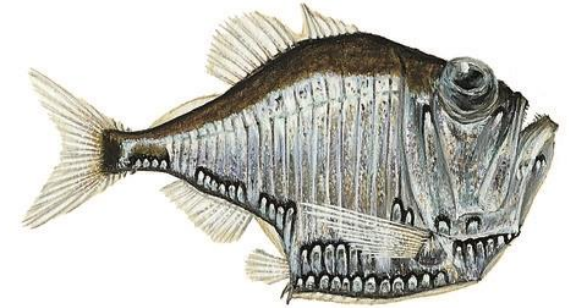
## Small-upwellings



# Priority areas of conservation

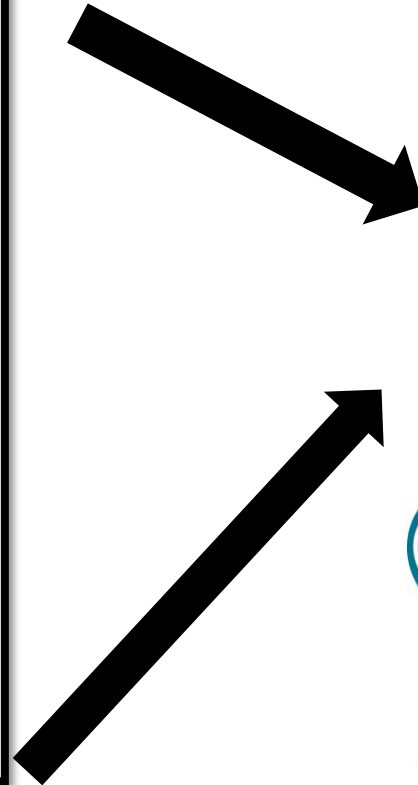
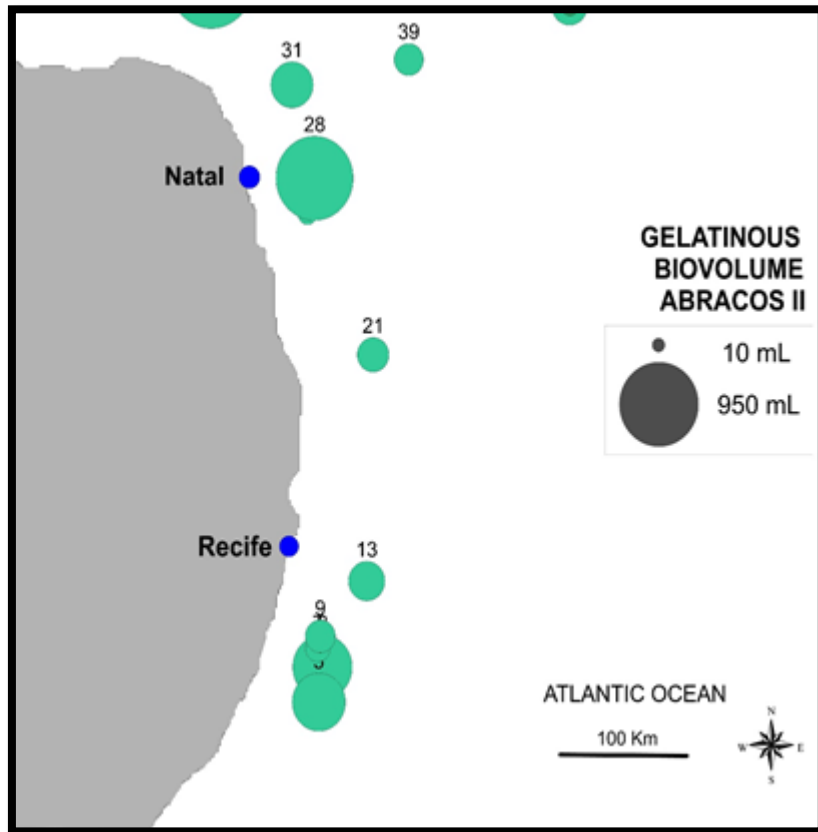


Same pattern.....



# Priority areas of conservation

Same pattern.....

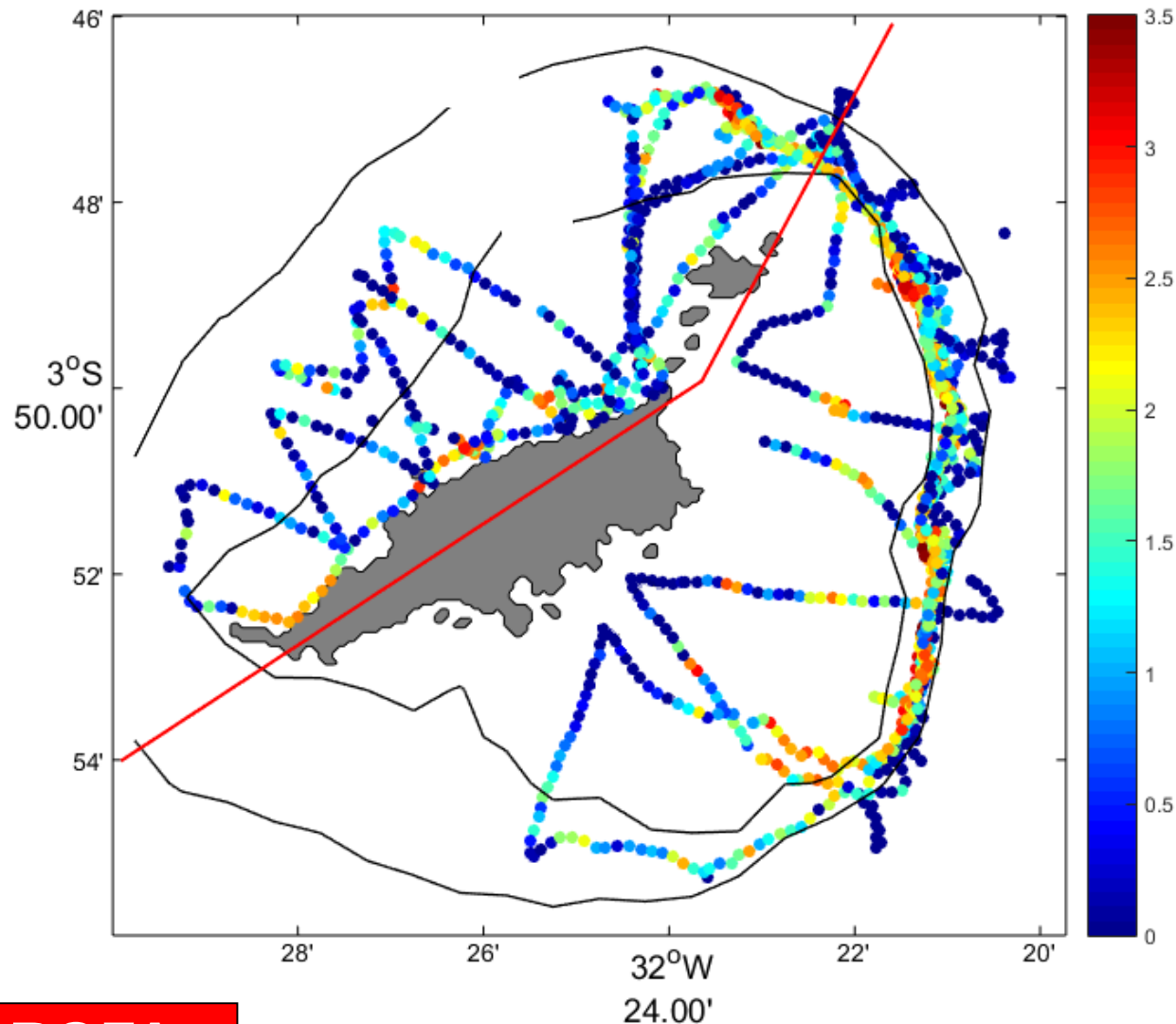


# Priority areas of conservation

Same pattern.....

Fernando de  
Noronha

How about the  
fisheries?

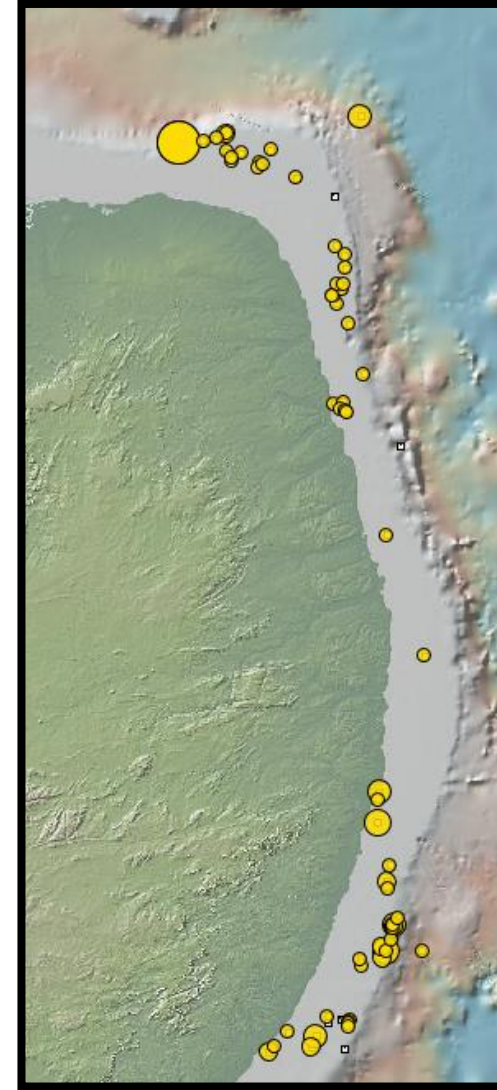
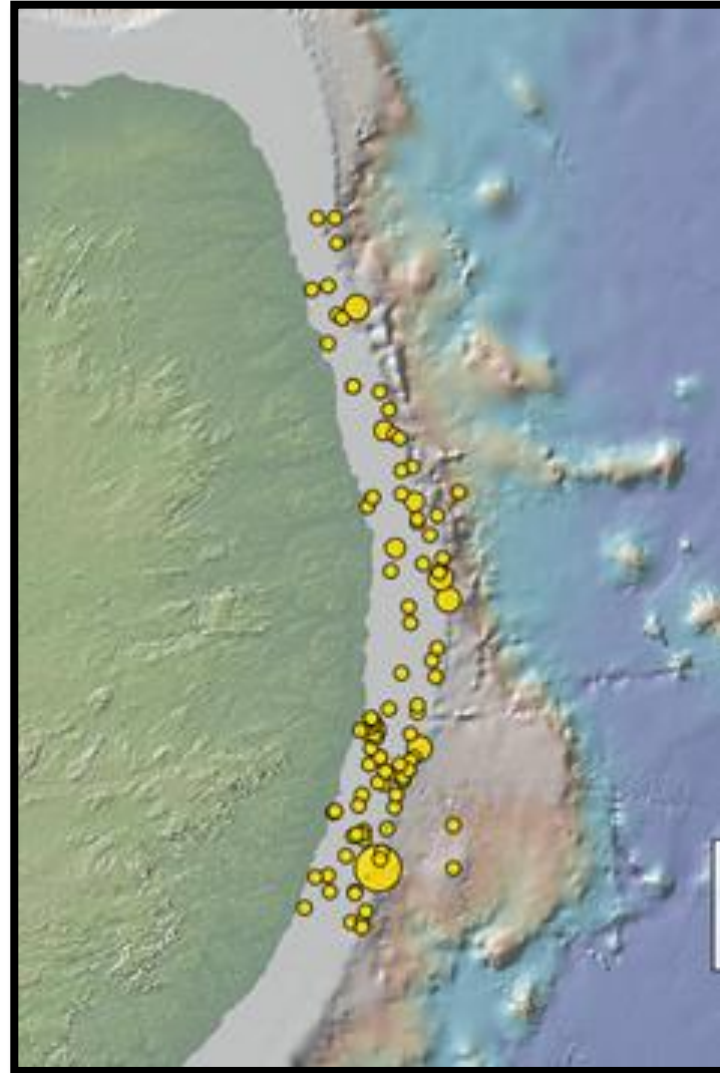


FAROFA

# Priority areas of conservation

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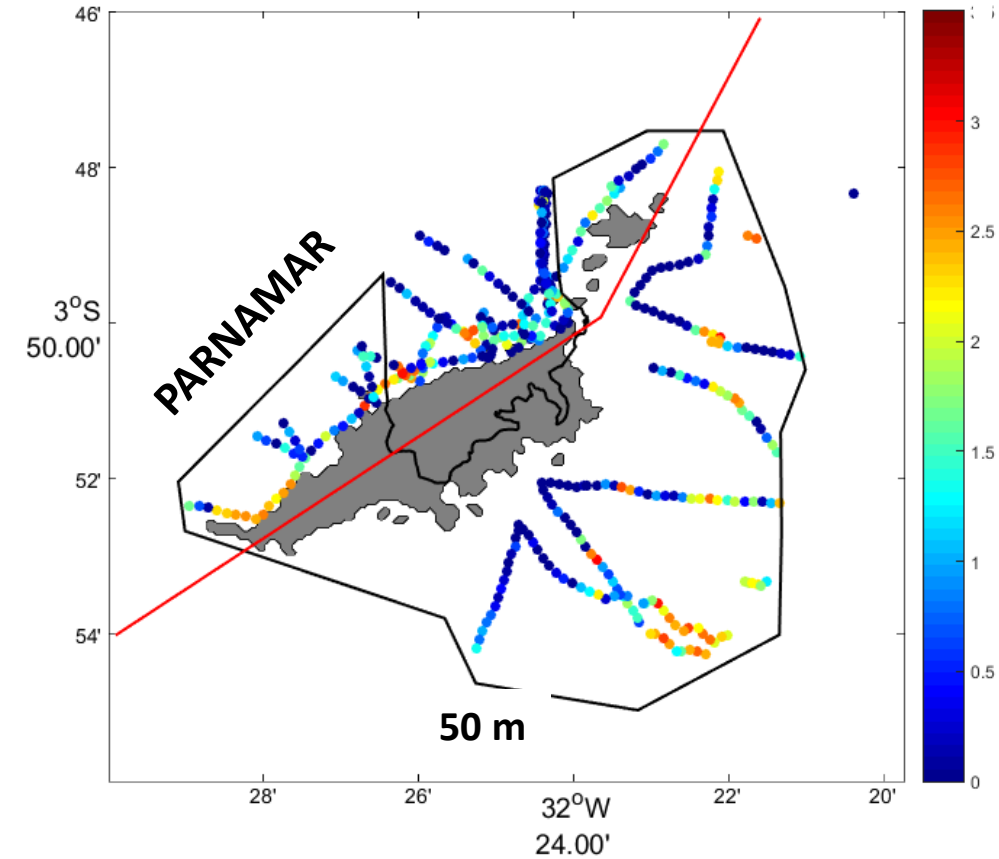
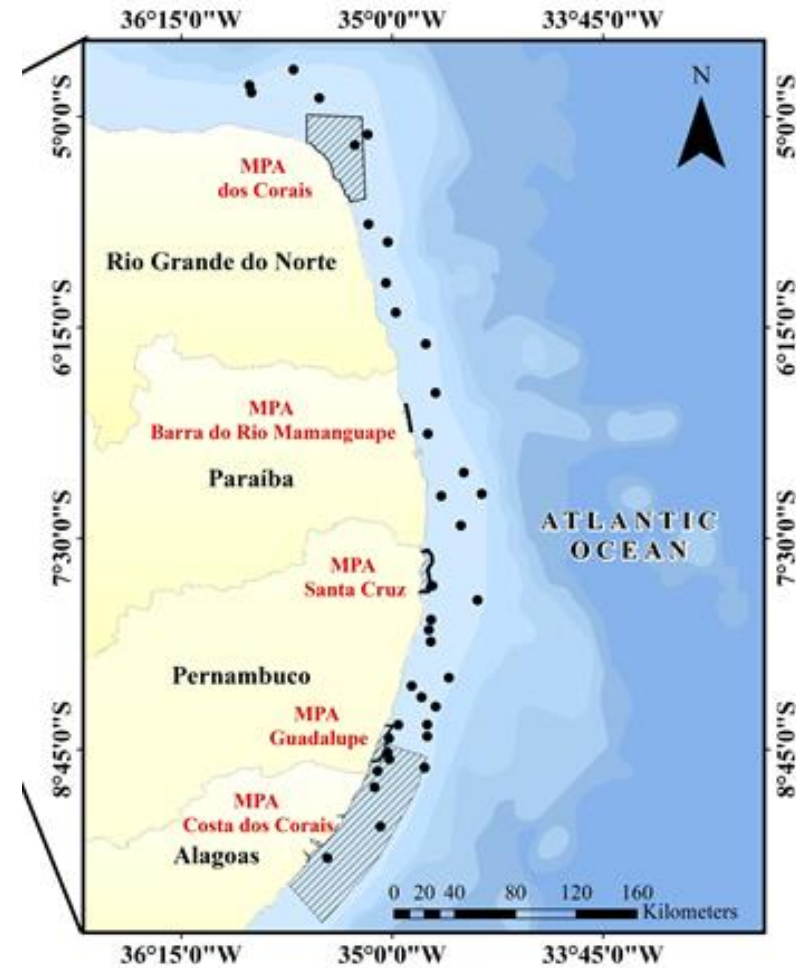
## Fisheries



# Priority areas of conservation

## Fisheries, biodiversity and conservation

Shelf break zones are not protected



PARNAMAR stops at isobath 50 m → Rethink the MPA ?

# Conclusion

Tamandaré



Shelf Break



Most important areas in terms of biodiversity/biomass and small-scale fisheries are not contemplated in the current MSP



We now have relevant information to deal with this problem



We call specific studies to improve MSP in Brazil on the basis of this information







**Shelf Break  
matters**

# Marine Spatial Planning

## Identifying key habitats and hotspots of fish biodiversity

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**OBRIGADO**

