

# Intertidal Biodiversity of the south of the Bay of Biscay and Observation for New research and Monitoring for decision support

BIGORNO Project

First results– Case study of Guethary

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Intertidal communities as indicator of global environmental change along the french basque coast

# Basque coast features

- Geomorphological diversity & biogeographical specificity

Cliffs



Boulder fields and Flysch



- Exposed to wave actions & storms



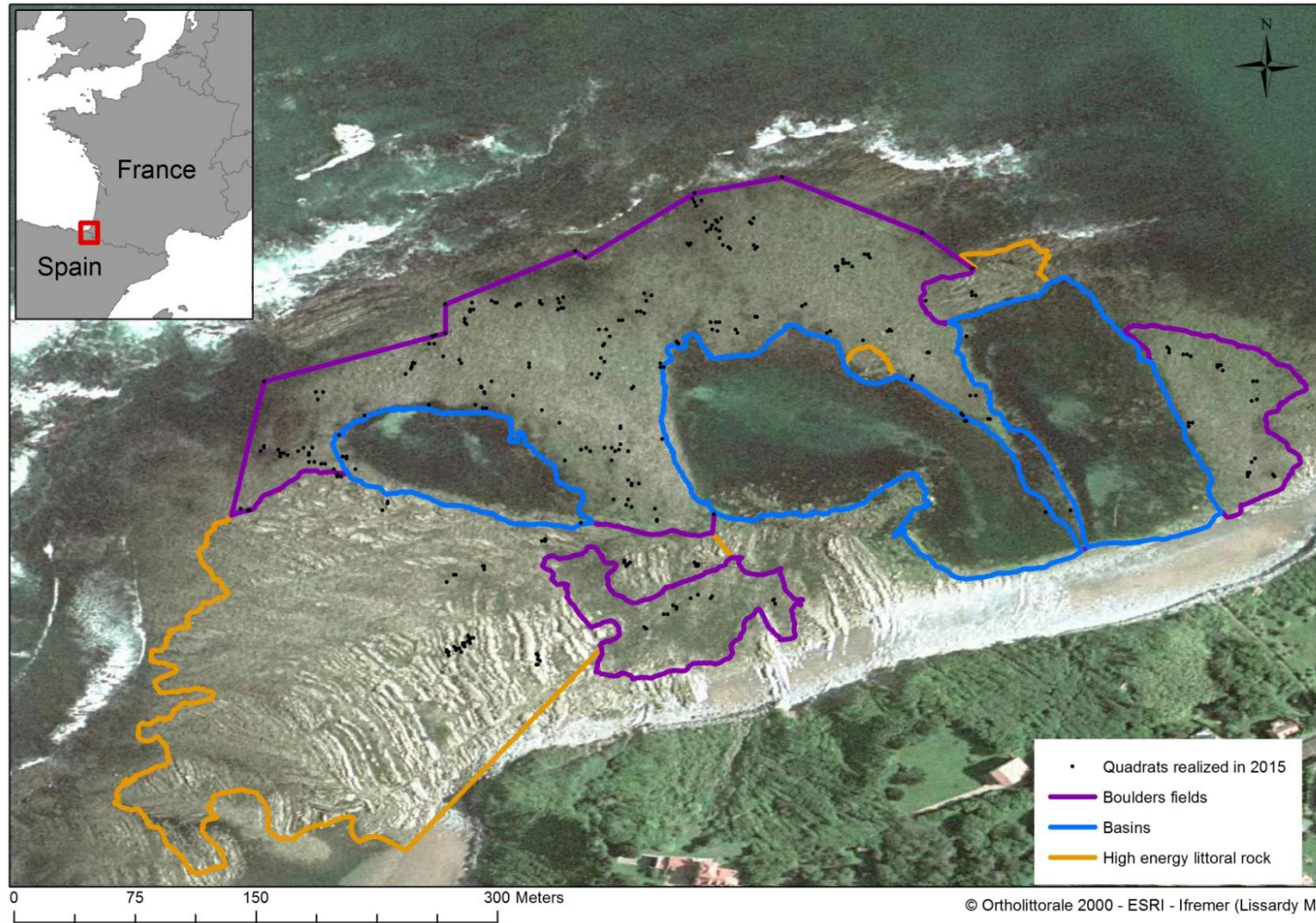
- Intertidal zone : sensitive & important functionality

**In the context of climate change : How these features will be modified ?**



# Methodology

## Stratified random sampling



### Sampling

Flora  
Abundance  
class

0,33 m

0,33 m

n = 353

Mobile  
Fauna  
Abundance

Fixed  
Fauna  
% cover

Communities structure

# 3 ways to select species :

- **Indicator species** (probabilistic)

« *Indicspecies* »

- **Biogeographic range limit** (North or South)

*Reflects global environmental change*

- **Trophic group**

*Must be monitored*



*Porcellana platycheles*

*Xantho sp.*

*Paguridae sp.*

*Gibbula sp.*



# Conclusion & axes of discussion

- **BIGORNO Project :**
  - Follow global environmental change (Natural and Anthropogenic impacts)
  - Spatial distribution & variability of abundance per habitat
  - Global change indicator species
- **Question 1 :** How it is possible to follow unusual species? (Representative of climate change)
- **Question 2 :** How it is possible to dissociate anthropogenic impacts and climatic impacts?
- **Question 3 :** How wave action impacts biodiversity between each monitoring sites? And how it is possible to integrate this parameter in our project?

## Conclusion



**Thank you for your attention**

