

# ISLANDS AS REFERENCE STATIONS FOR ENVIRONMENTAL STUDIES

## THE CASE OF CALVI BAY IN CORSICA



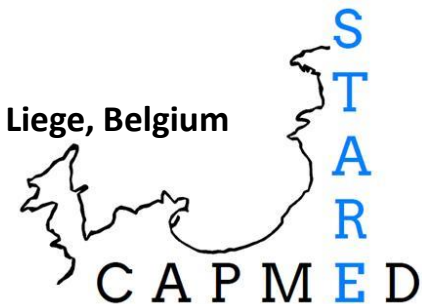
RETI symposium  
UPEI, Prince Edward  
Island, Canada  
July 2014

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The first image that cross your mind when you hear the word "island"...



Moorea, French Polynesia

Is there a happy medium ?

...but it can also look like that



Gran Canaria, Canary Islands

Dan Kamminga/Wikimedia



# SUSTAINABLE DEVELOPMENT

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Few space = a melting pot of **social**, **economical** and **environmental** issues at a small scale



A good place to study the impact of various anthropogenic activities on ecosystems

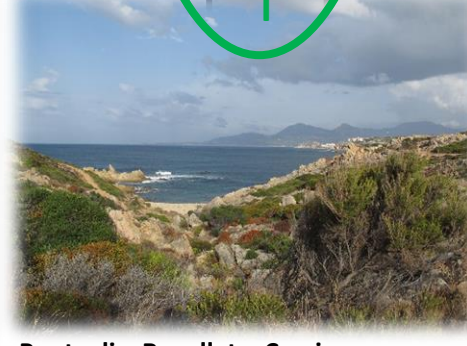
A need of **local organizations** to study the environment



Journée de la Mer, Bastia, Corsica



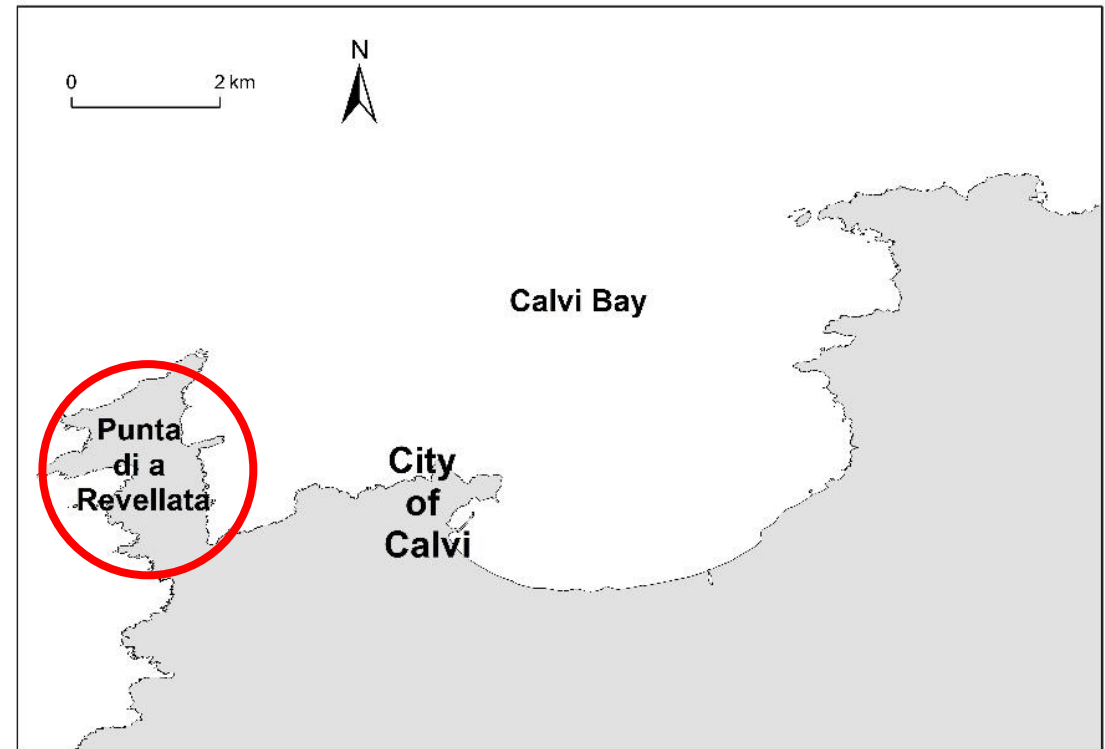
Bastia, Corsica



Punta di a Revellata, Corsica



### STARESO : an oceanographic station



**STARESO : an oceanographic station**



Environmental studies and **marine researches** at the scale of the **whole island** since the early 1970's in association with many organizations of **Corsica** and the **mainland**...



... allow to lead in Calvi Bay a **long-duration program** on the study of marine ecosystems and the impact of human activities on their functioning

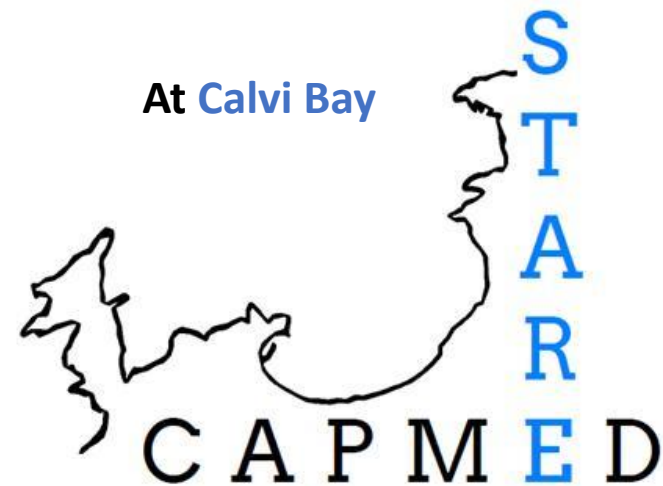


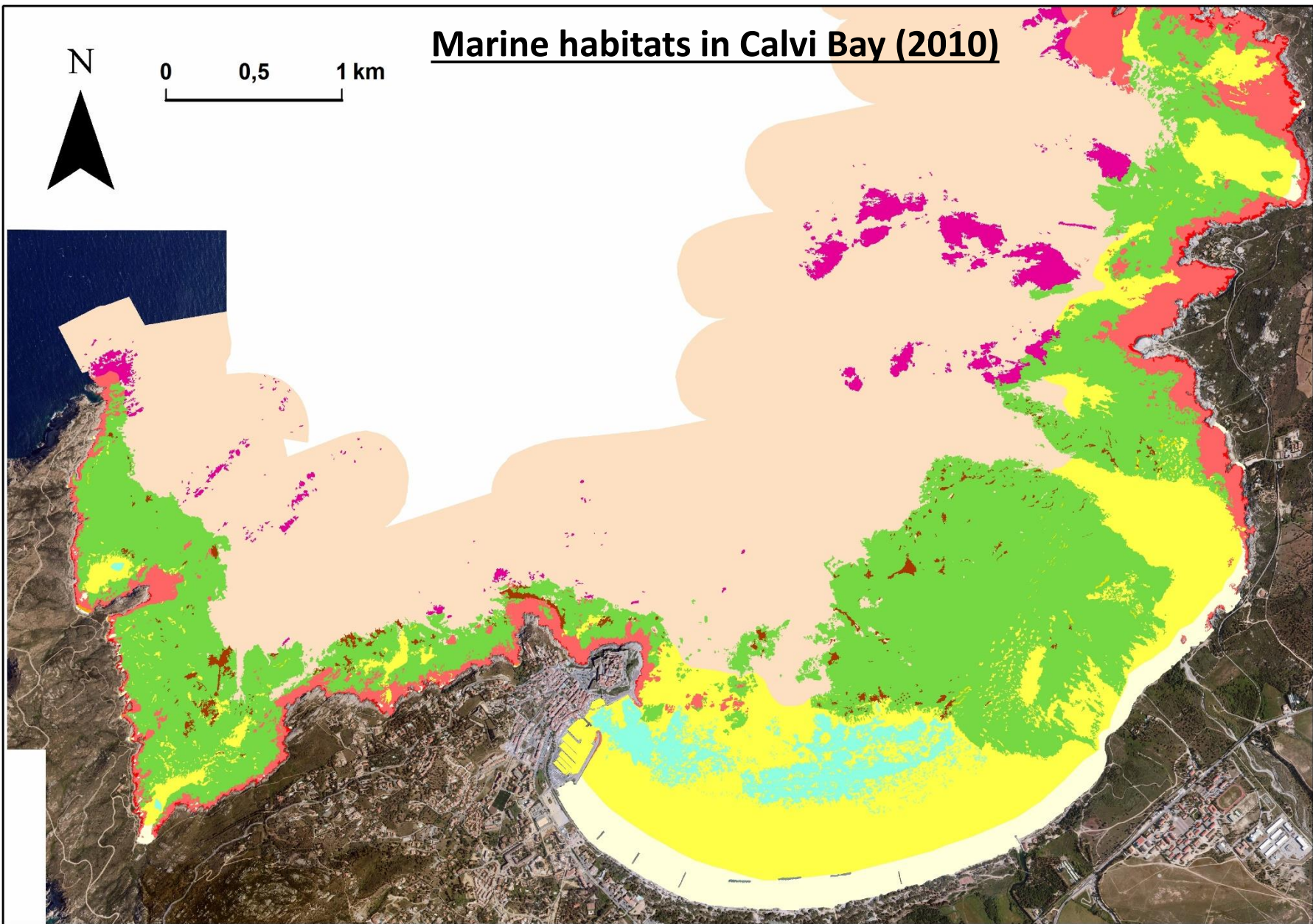
**ST**ation of **R**eference and **r**esearch on **C**hange of local and global **A**nthropogenic **P**ressures on **M**editerranean **E**cosystems **D**rifts

**Target:** the study of marine **pristine** ecosystems to create a **reference station** for the study of emerging **local** and **global** anthropogenic impacts

First phase: **3 years (2012-2015)**  
 Second phase: **5 years (2015-2020)**

**10** research **main lines**  
**4** areas of anthropogenic pressures

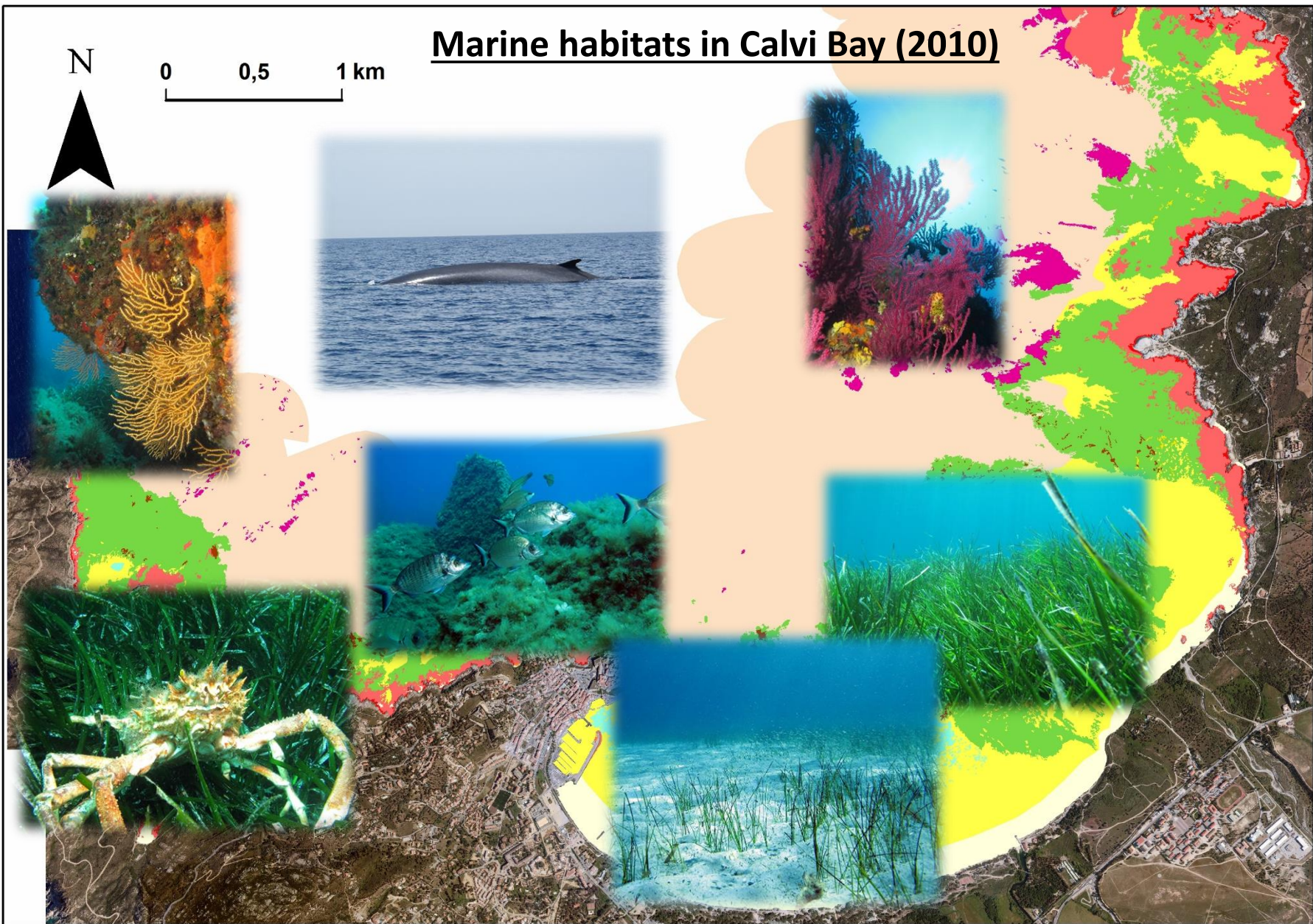




Abadie, 2012







Abadie, 2012



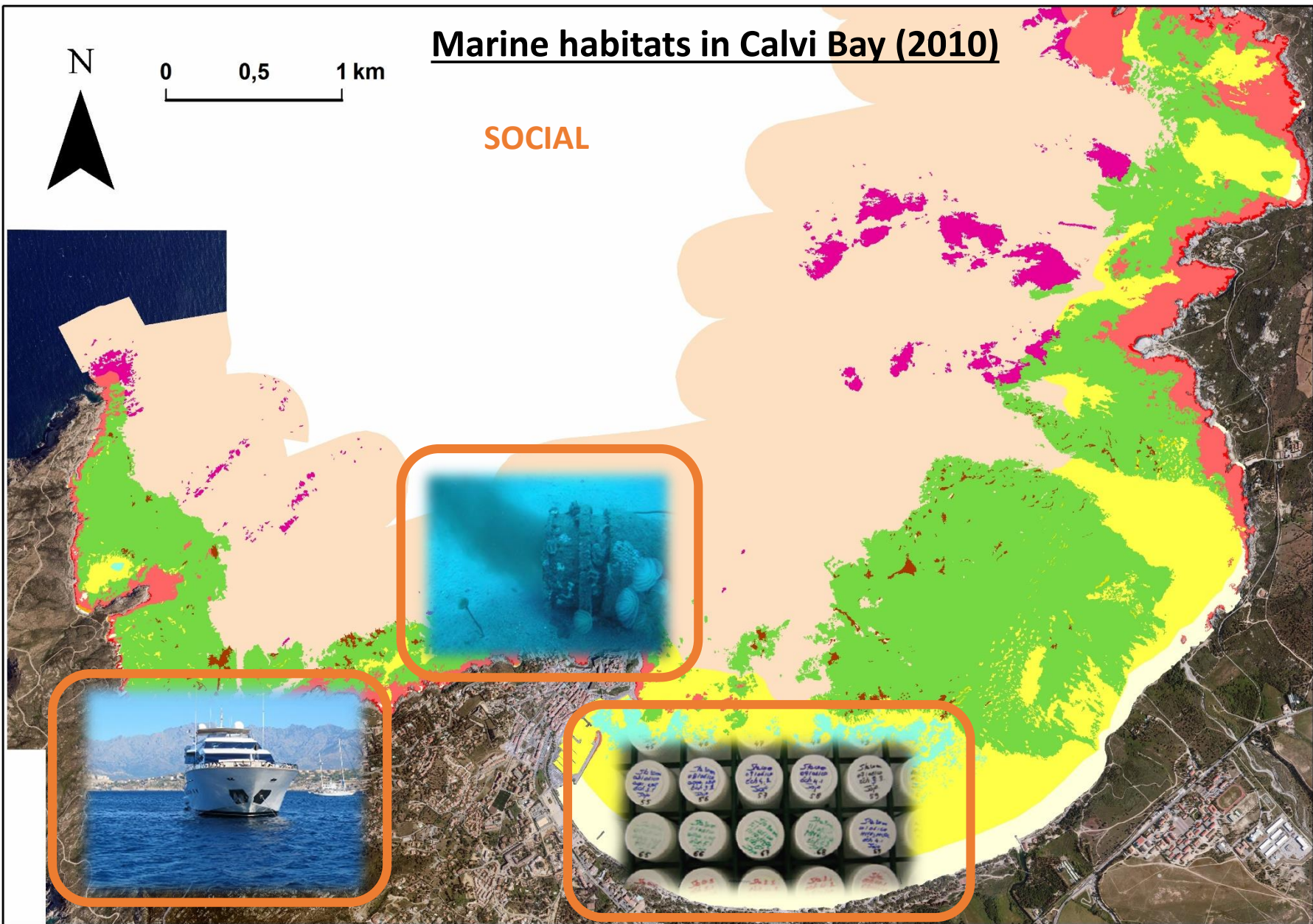
# Marine habitats in Calvi Bay (2010)

10 RESEARCH AXES



0 0,5 1 km





# 4 AREAS OF ANTHROPOGENIC PRESSURES

- urban area

## URBAN IMPACT

Waste water  
dredging

Port

Organized boats  
mooring



## 4 AREAS OF ANTHROPOGENIC PRESSURES

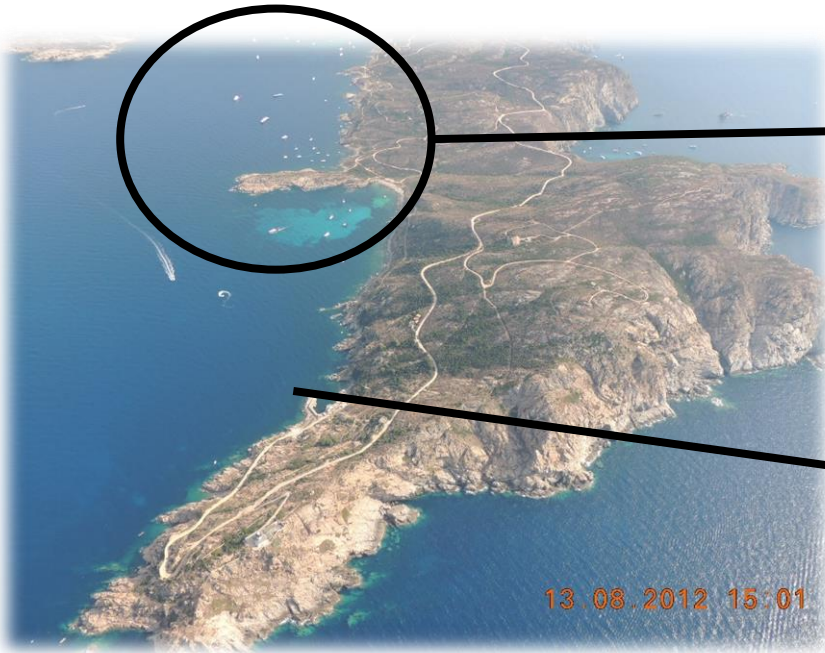
- urban area
- fish farm
- estuary

FISH FARM

COASTAL STREAM  
(Fiume Seccu)



### 4 AREAS OF ANTHROPOGENIC PRESSURES

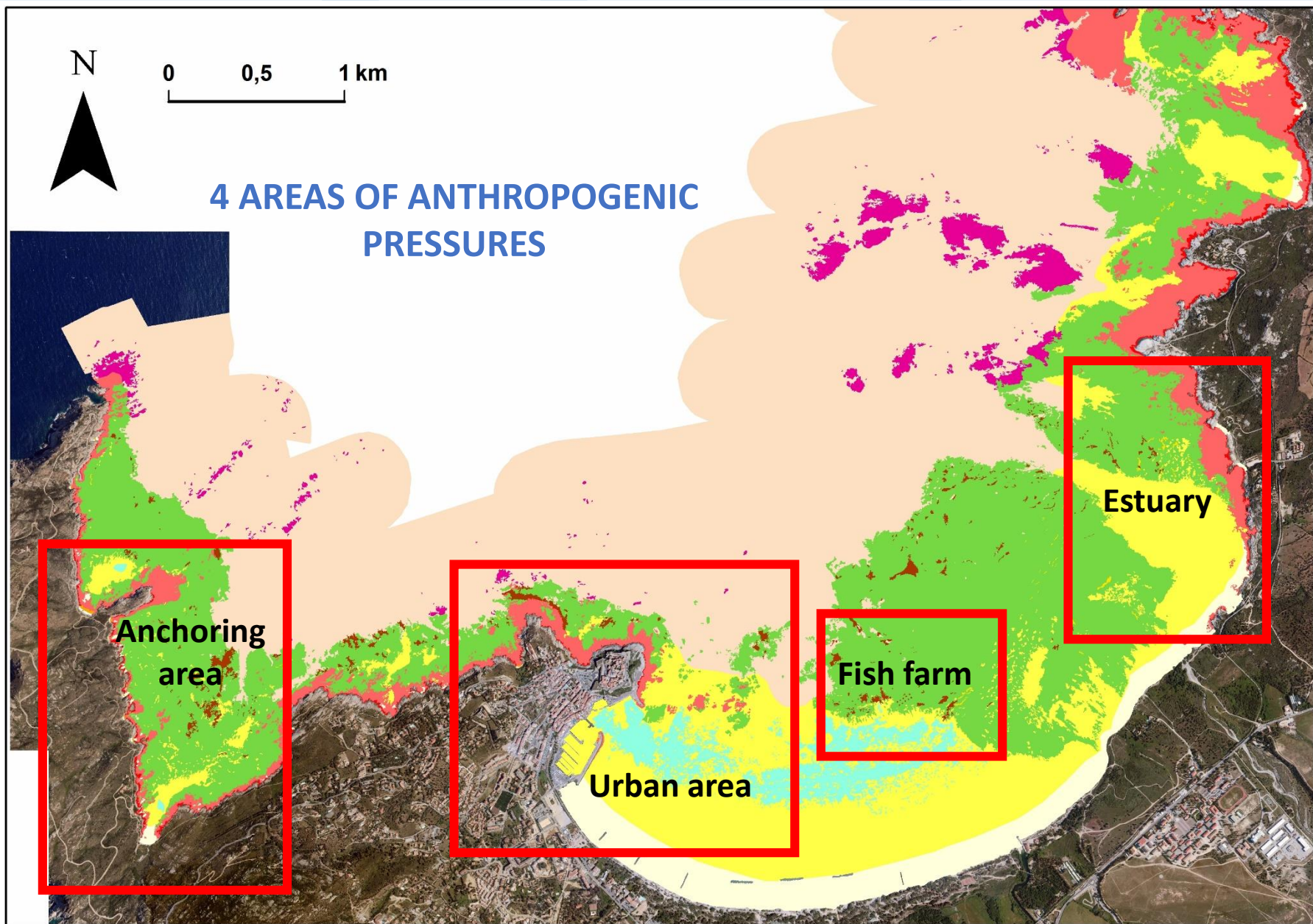


**ANCHORING AREA**

**REFERENCE  
(STARESO)**

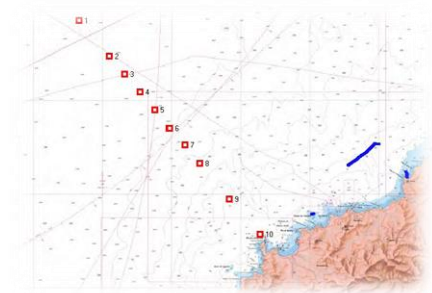
- urban area
- fish farm
- estuary
- anchoring area



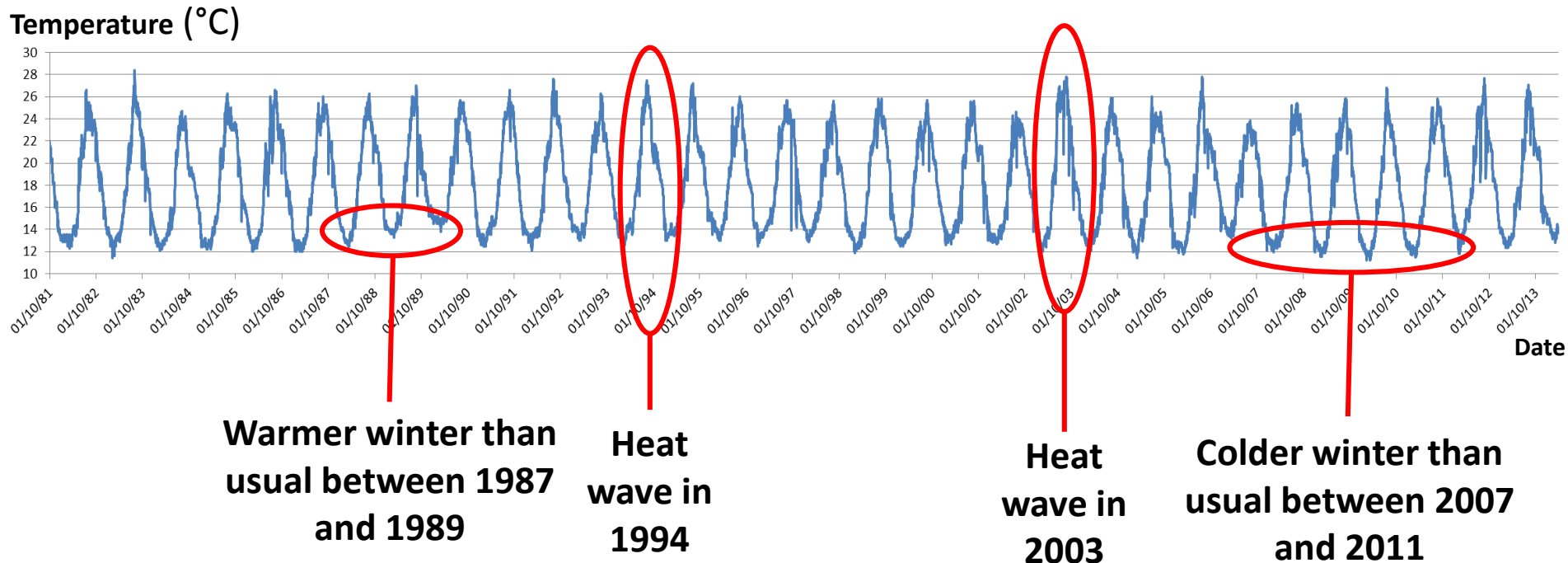


## RESULTS (examples)

- Sea surface temperature (SST)



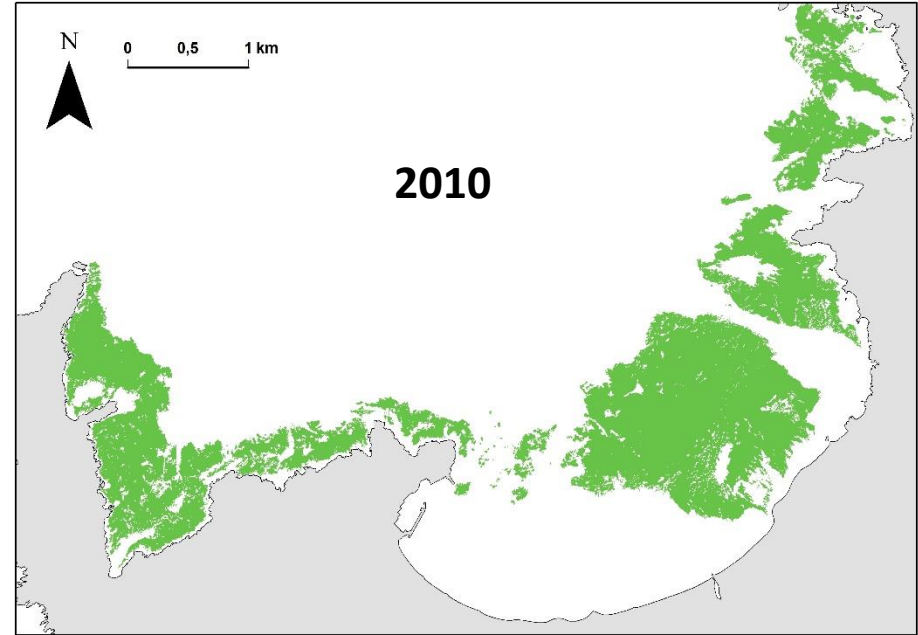
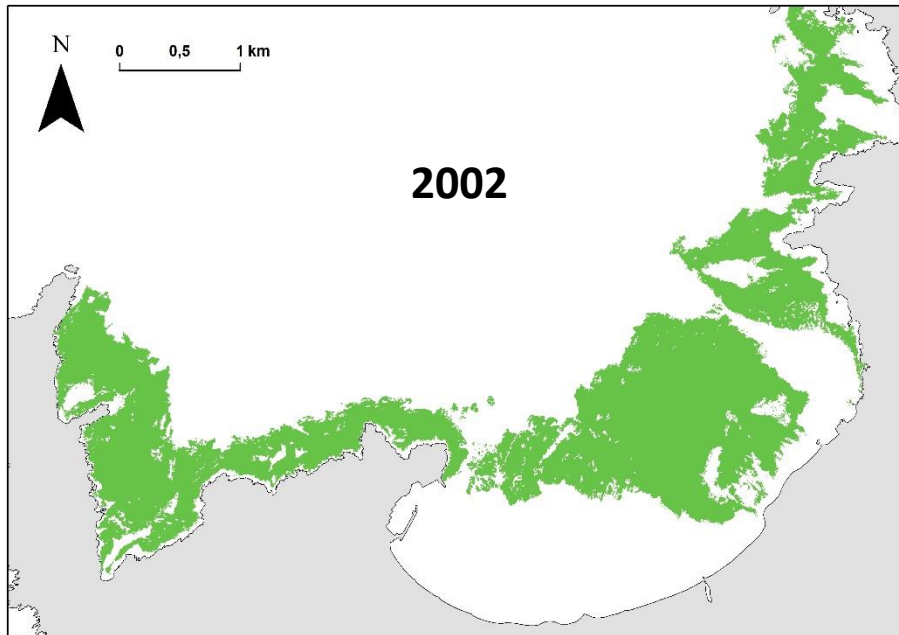
Sea Surface Temperature recorded at STARESO from 1981 to 2014





### RESULTS (examples)

- Sea surface temperature (SST)
- Regression of the *Posidonia oceanica* forests



Abadie, 2012

A regression of 18 % observed...

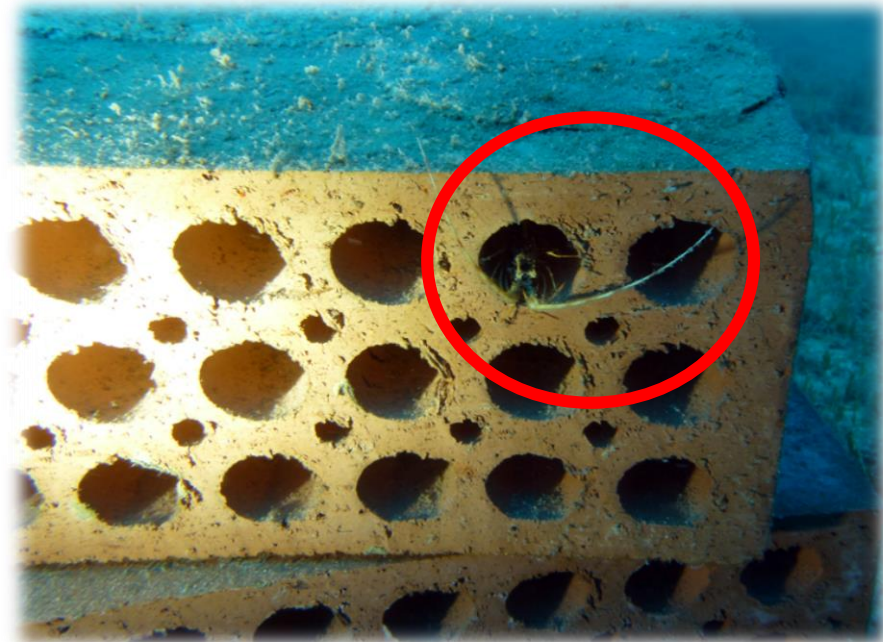
**BUT**

...strongly linked with the improvement of the mapping techniques



## RESULTS (examples)

- Sea surface temperature (SST)
- Regression of the *Posidonia oceanica* forests
- The settlement of spiny lobster (*Palinurus elephas*) juveniles



Pere, 2014

WORK IN PROGRESS

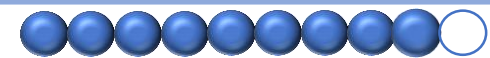
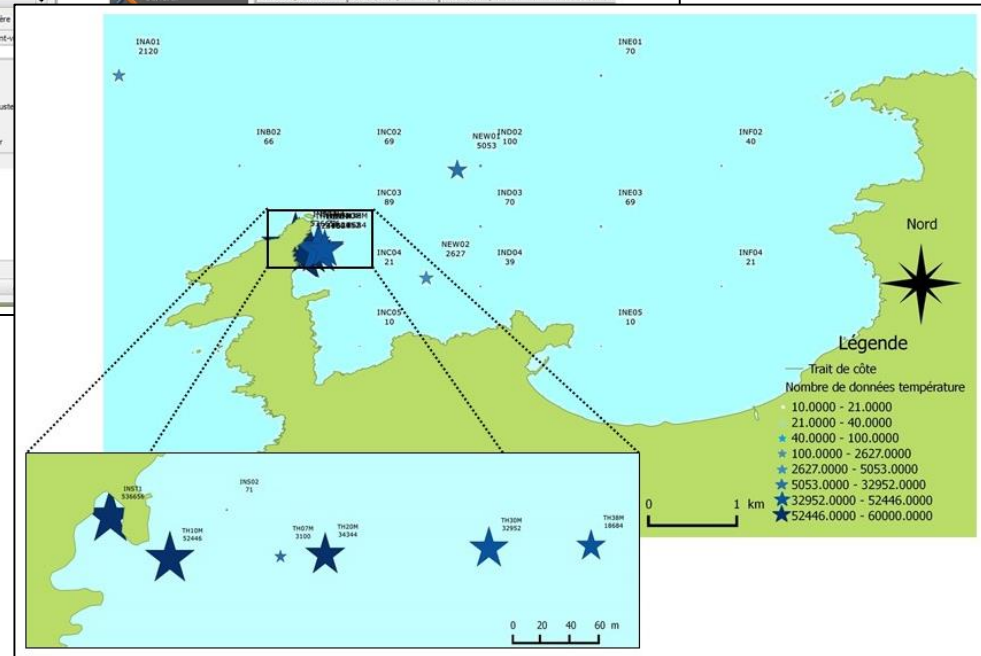
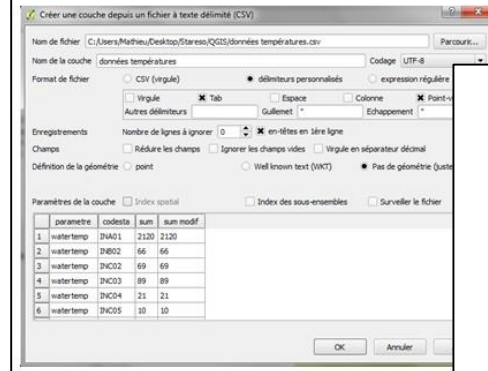
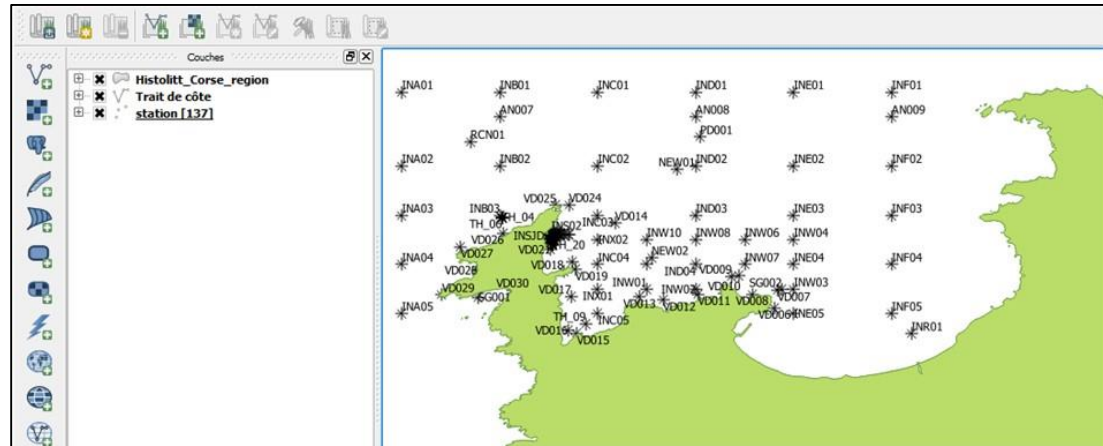
# OUTPUTS

- University memorandums
- Annual reports
- Scientific articles



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- University memorandums
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- Data bases enhancement



## OUTPUTS

- **University memorandums**
- **Annual reports**
- **Scientific articles**
- **Data bases enhancement**
- **Public awareness**

### ÉVOLUTIONS DES ÉCOSYSTÈMES MARINS À L'ÉCHELLE LOCALE ET GLOBALE

COMMENT LES MESURER ?

QUEL EST L'IMPACT DE L'HOMME ?

Journées Vita Marina le 4 avril 2014







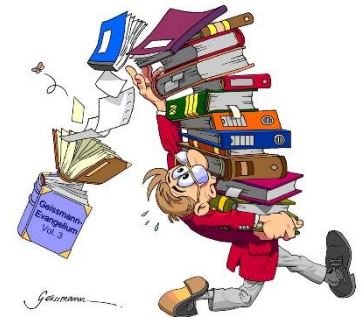




Collectivité  
Territoriale de  
**CORSE**

Cullettività  
Territoriale di  
**CORSICA**

## TAKE-HOME MESSAGE



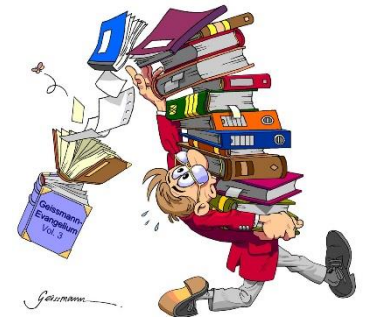
### Generally

Islands can concentrate many **human activities** at a **small scale**

It makes them perfect “laboratories” for matching **sustainable development**

**Local organizations** working in association with other institutions of the country provide a good **framework** for the study of the **environment**

## TAKE-HOME MESSAGE



### About STARE-CAPMED

STARE-CAPMED is a **long-term** program led by **STARESO** in association with other institutions

It provides a **precise view** of the **environmental processes** that occur in the **marine ecosystems of Calvi Bay** under the pressure of **human activities**, strongly linked with **economic** and **social** issues

Many **scientific outcomes** from STARE-CAPMED already exist and a great number should follow



# THANKS FOR YOUR ATTENTION!

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[www.stareso.com](http://www.stareso.com)

