

Phenology of the *Posidonia* meadow : biotic and abiotic constraints of short, medium and long term variations.

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1. Context:

Posidonia oceanica L. (Delile) 1813 is a key seagrass specie endemic to the Mediterranean Sea but the alarming regression of its distribution is due to human activities and climate change. Despite its protection by various conventions, little effort is made to stop its regression mainly caused by anchoring and littoralization in the Mediterranean basin.

3. Methods:

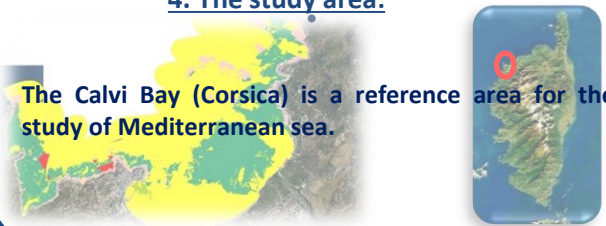
- ❖ Estimation of biomass on a bathymetric and seasonal profile and with cartography of the Calvi bay we estimated the total production of the meadow.
- ❖ Mapping (multibeam sonar) of the Calvi bay to characterize the impact of human activities.
- ❖ Method of kriging of the Calvi bay to highlight areas of interest in the bay.
- ❖ Modeling the phenology of *Posidonia* meadow at short, medium and long terms with the 30 years of data collected by the lab and the PhD data.

2. Aims:

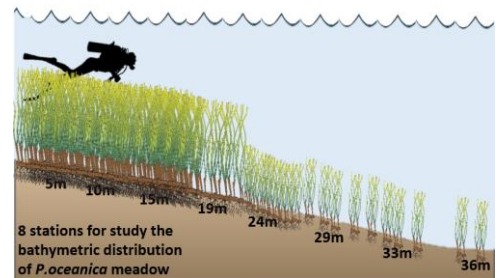
To studying the phenology of *Posidonia* meadow in short, medium and long terms and trying to determine the most sensitive parameters for better coastal management decisions and protections.

4. The study area:

The Calvi Bay (Corsica) is a reference area for the study of Mediterranean sea.



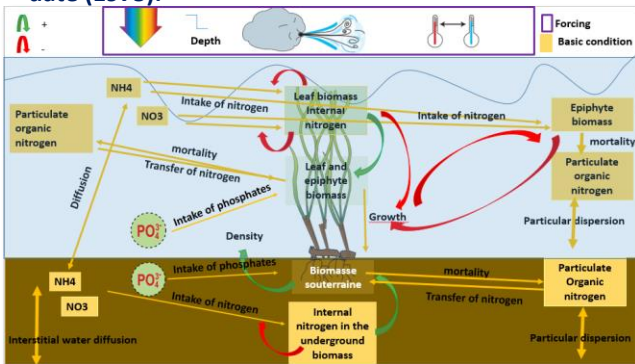
So to fill these data gaps, we have implemented:



A study of the spatial (maps) and temporal distribution (biomass) of the meadow.

The starting point

The end aim would be...
 ...a more complet conceptual model of the *Posidonia oceanica* meadow based on historical date (1975).



Nevertheless, we lack informations like:

- ❖ biomass beyond 15m
- ❖ the organ growth (rhizome, roots and shoots)
- ❖ nutrient contents and dynamics
- ❖ etc. ...



A study of root and rhizome growth (plagiorthropic and orthotropic); seasonal and bathymetric approaches.



A study of the recolonization by plagiorthropic rhizomes on sandy patch.



A study of the colonization of epiphytic organisms: seasonal and bathymetric approaches.

Acknowledgment

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