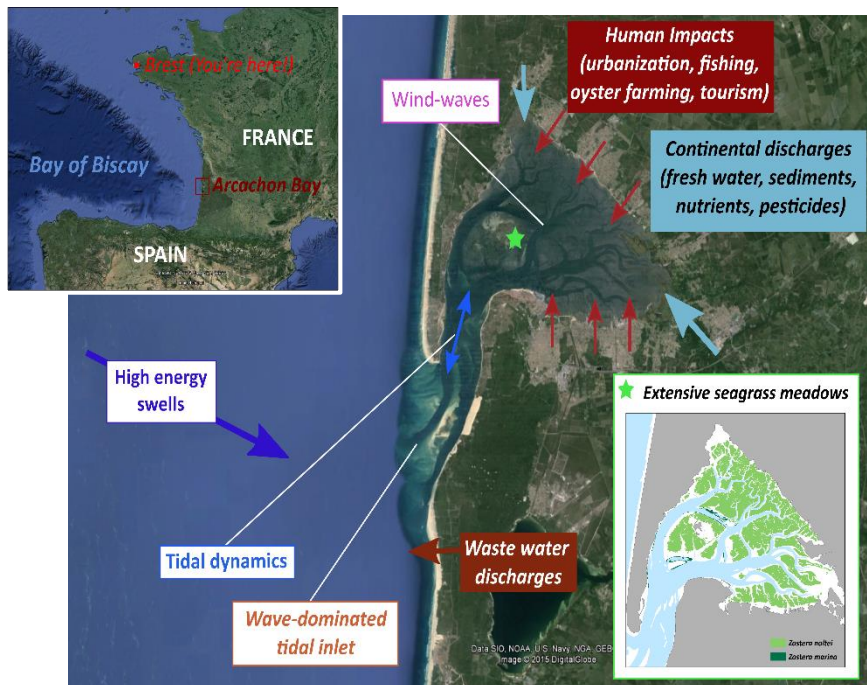


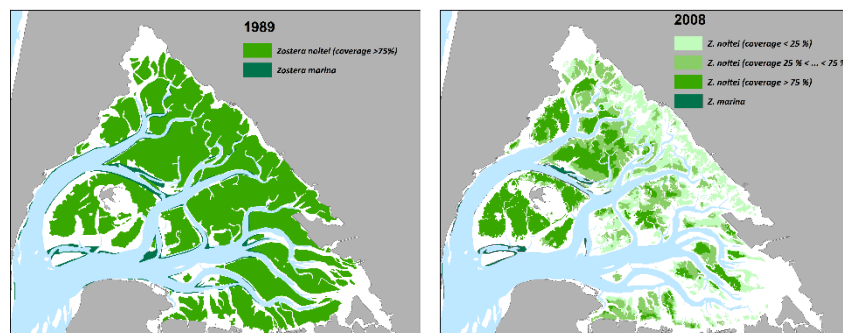
# ZOSTERA Decline in the Arcachon bay: causes, consequences and feedbacks processes on SEDIMENT dynamics (ZODARSED project, funded by the COTE LabEx – October 2015/October 2018)

Florian GANTHY<sup>1</sup>, Aldo SOTTOLICCHIO<sup>2</sup>, Richard MICHALET<sup>2</sup>, Isabelle AUBY<sup>1</sup>, Romaric VERNEY<sup>3</sup>, Martin PLUS<sup>3</sup>

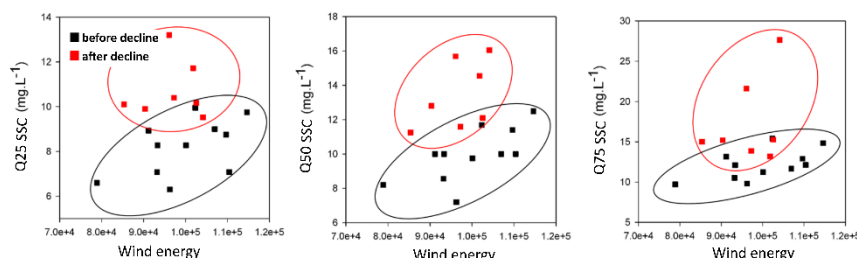
## LOCAL CONTEXT: The Arcachon Bay, a semi-enclosed lagoon submitted to various forcing, pressures and changes.



### A drastic decline of seagrass meadows

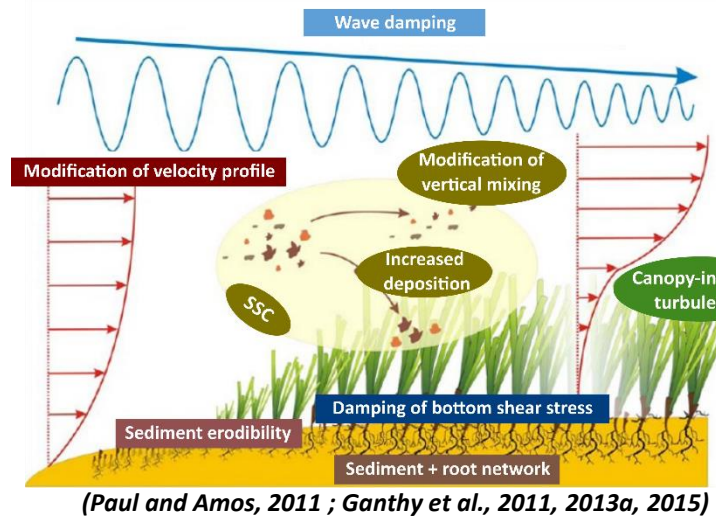


### Increase of suspended sediment concentrations



May the observed modifications of sediment dynamics within the bay be consequences of seagrass decline?

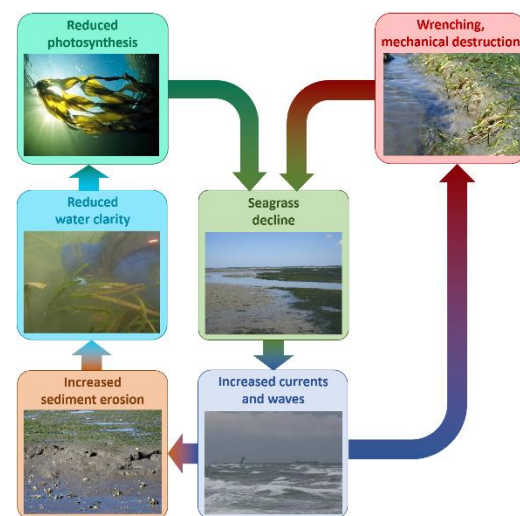
## ZOSTERA AS ECOSYSTEM ENGINEERS:



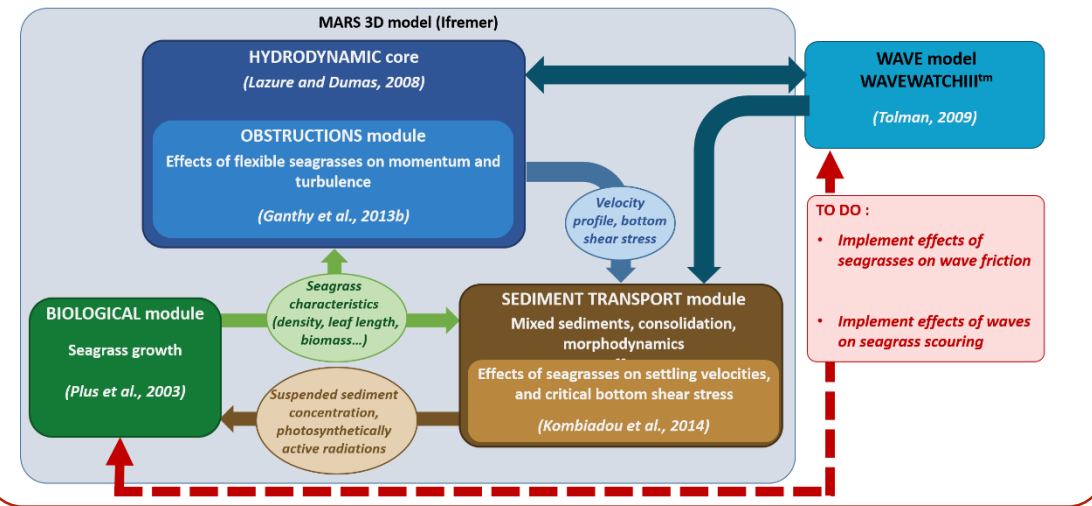
## OBJECTIVES OF THE PROJECT:

1. Better understand the physical causes of seagrass decline
2. Unravel physical consequences and quantify possible feedbacks between seagrass decline, hydrodynamics and sediment dynamics
3. Investigate past and future ecosystem responses to changes of environmental conditions

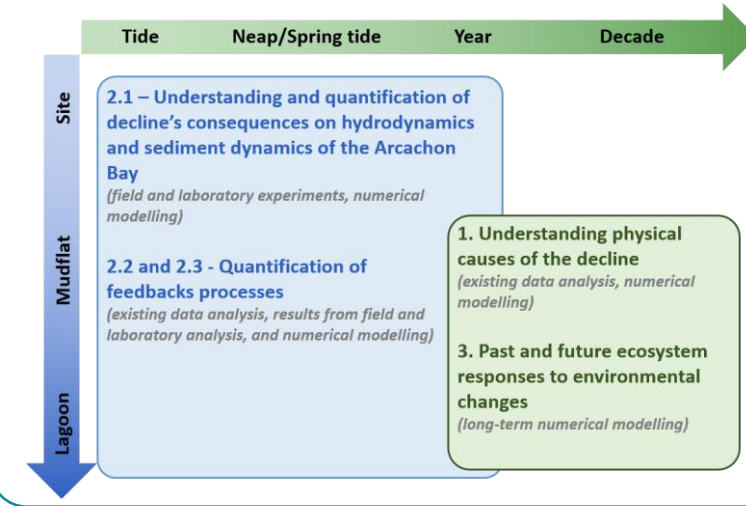
Sketch of feedbacks mechanisms between seagrass decline, hydrodynamics and sediment dynamics



## THE INTEGRATED MODELLING SYSTEM:



## A MULTI-SCALE STRATEGY:



### References:

Ganthly, F., Sottolichio, A., and Verney, R., 2011. The stability of vegetated tidal flats in a coastal lagoon through quasi in-situ measurements of sediment erodibility. *Journal of Coastal Research*, *SI64*:1500-1504.  
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