

# Towards multi-level governance of coastal adaptation - *Nouvelle-Aquitaine Region* -

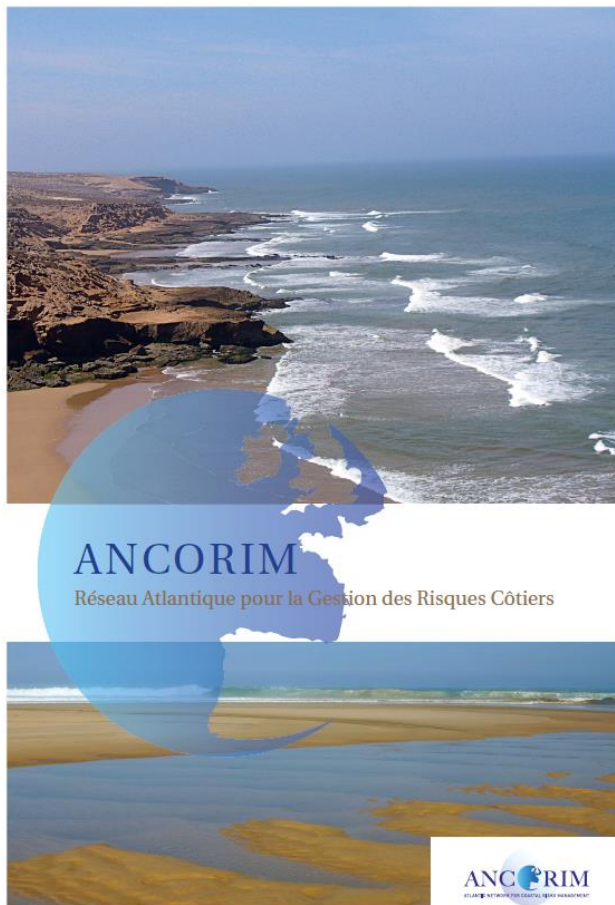
*Nicolas ROCLE - INRAE (Bordeaux, FR)*



Water is coming: the EU Strategy on climate adaptation  
Focus on coastal erosion and sea level rise, March 29<sup>th</sup> 2021



# A long-standing commitment in networking, monitoring, research and expertise support



AcclimaTerra

## Sandy coasts

### CHIFFRES CLÉS ÉROSION LITTORAL AQUITAIN CÔTE SABLEUSE

**-1,7 à 2,5 m/an**

Taux de recul moyen annuel sur la côte sableuse dans les Landes et en Gironde

**-50 m en 2050**

Recul moyen sur la côte sableuse du littoral aquitain prévu d'ici 2050

**Jusqu'à -25 m  
en un hiver**

Recul brutaux lors des tempêtes ou événement pouvant intervenir à tout moment et s'additionner aux projections

**-1873 terrains de  
foot d'ici 2050**

Surface que le littoral sableux aquitain pourrait perdre d'ici 2050 si il n'y avait plus de protection + un recul brutal comme lors de l'hiver 2013/2014

Observatoire de la Côte Aquitaine - Caractérisation de l'aléa recul du trait de côte sur le littoral de la côte aquitaine aux horizons 2025 et 2050 - Rapport BRGM RP-66277-FR 2016  
[www.observatoire-cote-aquitaine.fr](http://www.observatoire-cote-aquitaine.fr)



## Rocky coasts

### CHIFFRES CLÉS ÉROSION LITTORAL AQUITAIN CÔTE ROCHEUSE

**-25 cm/an**

Taux de recul moyen annuel sur la côte rocheuse dans les Pyrénées-Atlantiques

**Jusqu'à -25 m lors de  
mouvements de falaise**

Recul brutaux pouvant intervenir à tout moment

**-27 m en 2050**

Recul moyen sur la côte rocheuse du littoral aquitain prévu d'ici 2050, en incluant le risque de mouvement de falaise

**-104 terrains  
de foot d'ici 2050**

Surface que le littoral rocheux aquitain pourrait perdre d'ici 2050 si il n'y avait plus de protection + des mouvements de falaise généralisés

Observatoire de la Côte Aquitaine - Caractérisation de l'aléa recul du trait de côte sur le littoral de la côte aquitaine aux horizons 2025 et 2050 - Rapport BRGM RP-66277-FR 2016  
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Annual average  
of coastal retreat

Average of coastal  
retreat by 2050

Number of football  
fields that could be  
lost by 2050

# OCEAN TERRITORIES:

SOLUTIONS  
ACTORS

G7 SUMMIT	BIARRITZ
24-26 AUGUST 2019	

## CLIMATE CHANGE AND RISKS FOR THE COASTLINE

**Scientific contributions for a sustainable  
and fair adaptation**

This contribution aims to be a summary and a presentation of knowledge from research conducted by the laboratories of Nouvelle-Aquitaine on the physical risks of coastal areas, their developments as a result of climate change and socio-economic and political dynamics at work with regard to the measures and strategies for adaptation. It is the result of collaboration between approximately 30 researchers from the following laboratories: BRGM, Criham (Université de Poitiers), EPOC (UMR Université de Bordeaux - CNRS), ETBX (Irstea), GREThA (UMR Université de Bordeaux - CNRS), LIENSs (UMR Université de La Rochelle - CNRS), ONF, SIAME (Université de Pau et des Pays de l'Adour).



# From knowledge and guidelines to governance and funding schemes

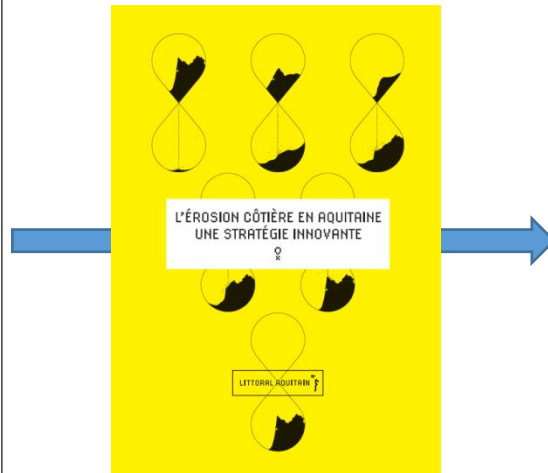
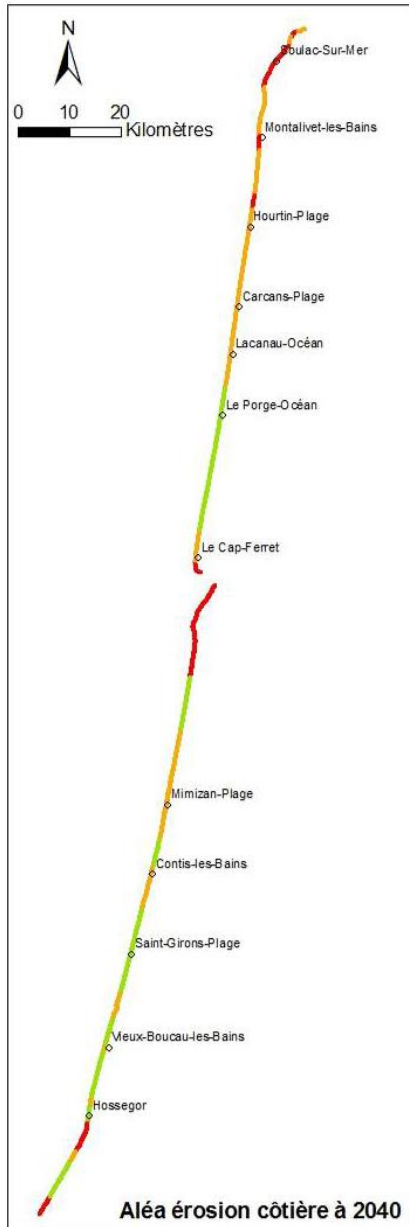
PLAN  
DE DÉVELOPPEMENT  
DURABLE  
DU LITTORAL AQUITAIN  
2007-2020

L'ÉROSION CÔTIÈRE EN AQUITAINE  
UNE STRATÉGIE INNOVANTE

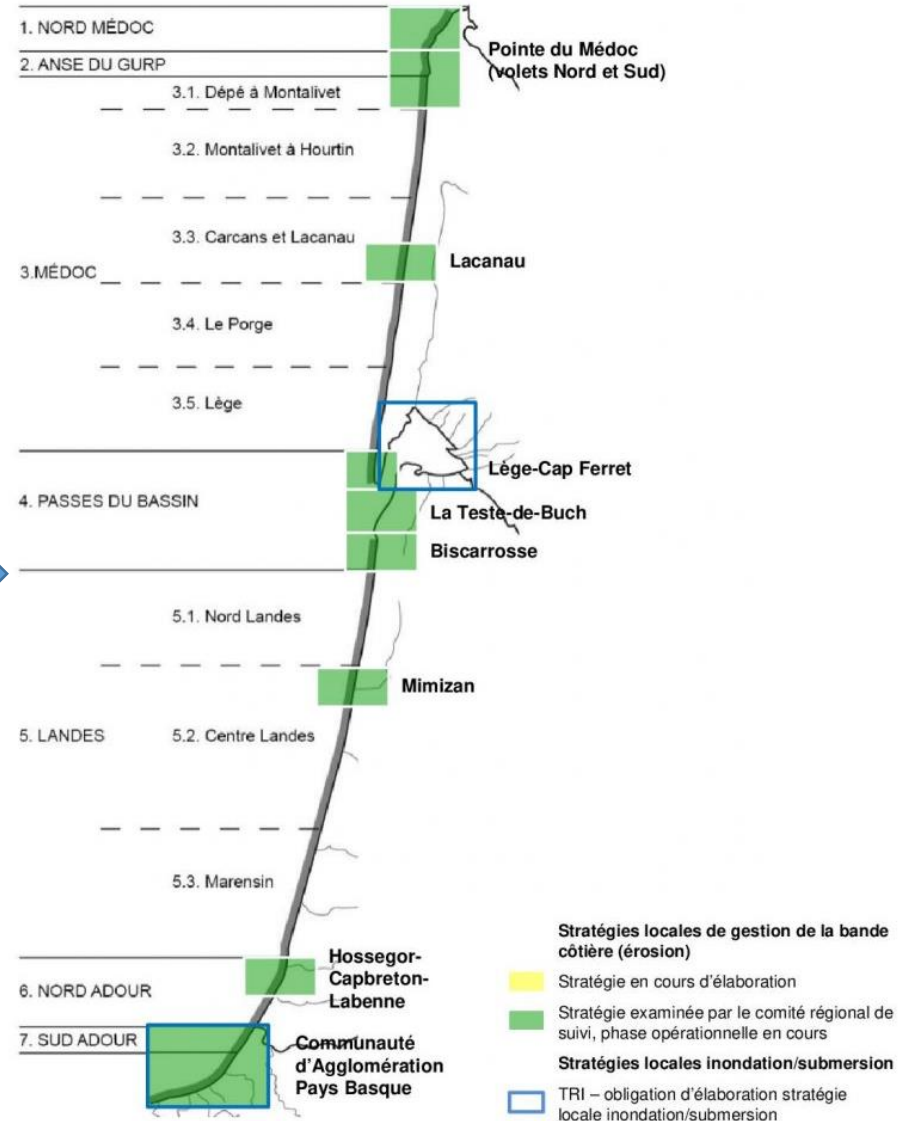
LITTORAL AQUITAIN

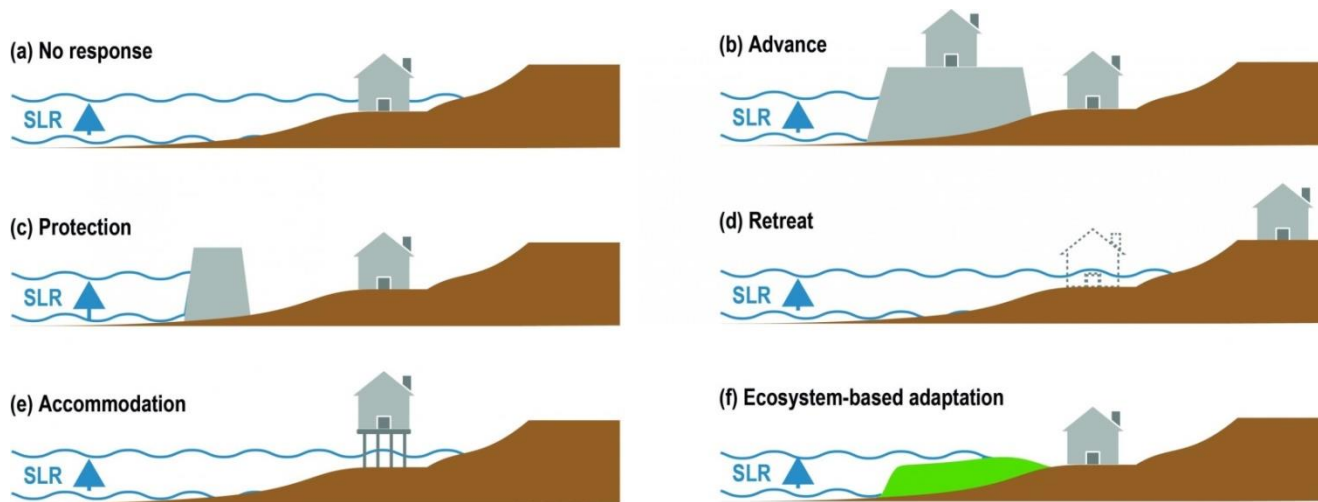
## Public Interest Group / N.-Aquitaine Coastline:

- Gathering State services and local governments (Region, Department, groups of municipalities)
- Prospective studies, dialogue, project coordination, exchange of experiences, sharing of good practices...
- A « boundary-entrepreneur » in FR coastal policies (Rocle & Salles, 2018)



# Shoreline Management Plans





IPCC, 2019: *Special Report on the Ocean and Cryosphere in a Changing Climate*



Lacanau



<http://dune-littorale-aquitaine.n2000.fr>



Ile Nouvelle

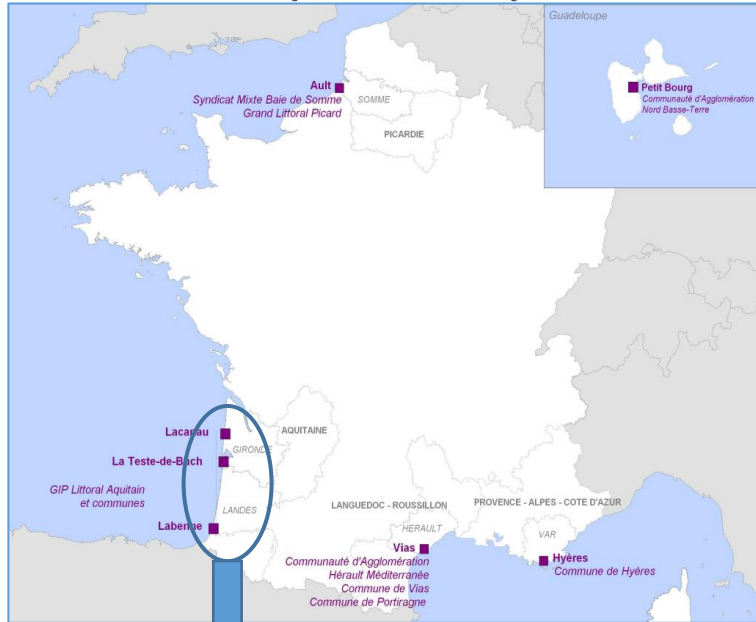
Funding priorities given to:

- Studies and projects aimed at **adapting to coastal retreat, such as supporting natural processes and managed retreat;**
- Planning and management actions with a **reversibility character.**

(State-Region Contrat, 2015-2020)

# What about managed retreat?

## Call for projects / Ministry for Ecology (2012-2016)



Feasibility studies



Law proposal  
(in progress)



Law proposal in 2016  
(not adopted)



N° 3959

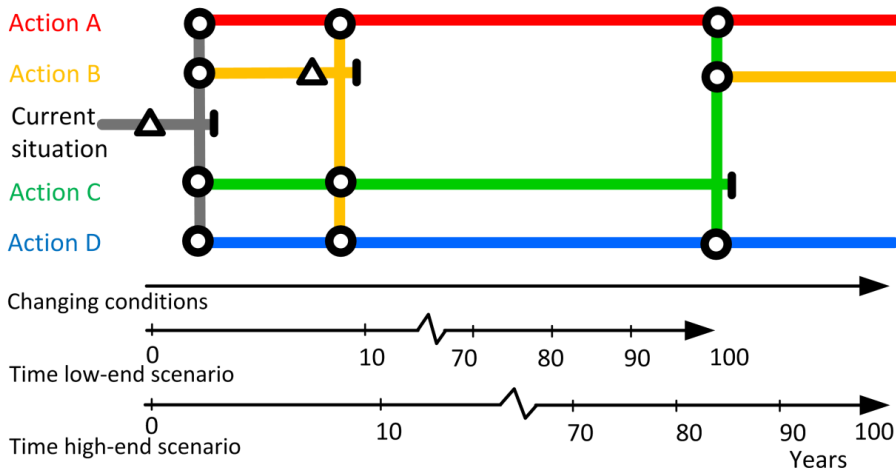
ASSEMBLÉE NATIONALE  
CONSTITUTION DU 4 OCTOBRE 1958  
QUATORZIÈME LÉGISLATURE

New **zoning** based on the rate of coastal retreat  
New **legal status** of coastal – private occupation  
Funding options for **buy-outs** in vulnerable areas



# Moving from temporary strategies to long-term adaptation pathways

Adaptation Pathways Map



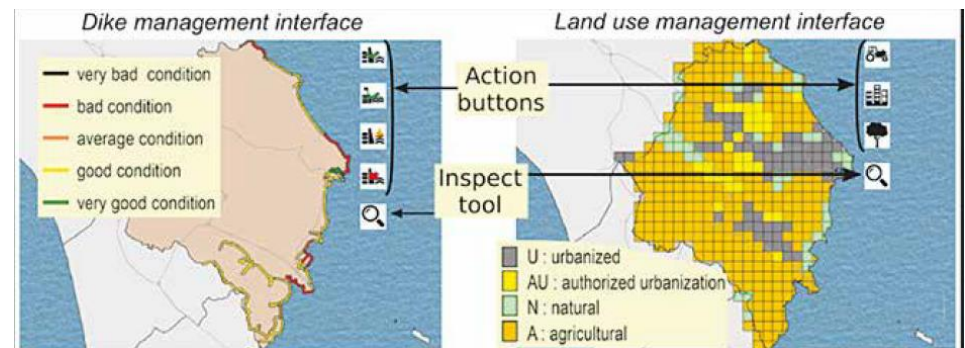
- Transfer station to new policy action
- | Adaptation Tipping Point of a policy action (Terminal)
- Policy action effective
- △ Decision node

- Anticipating future dynamics
- Implementing no-regret actions
- Experimenting NBS and Managed Retreat
- Coping with uncertainty
- Avoiding "maladaptation"

(Haasnoot *et al.*, 2013)

(Rocle *et al.*, 2020)

Participatory simulation to foster social learning on coastal flooding prevention (Becu *et al.*, 2017)



# Thank you for your attention

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## References:

- Rocle *et al.*, 2020. **Paving the way to coastal adaptation pathways: an interdisciplinary approach based on territorial archetypes.** *Environmental Science and Policy*, vol. 110.
- Rocle *et al. (Eds)*, 2019. **“Climate Change and Risks for the Coastline: Scientific Contributions for a Sustainable and Just Adaptation”.** In: *Ocean Territories: Solutions Actors, Contribution of Local Authorities and Civil Society*, G7 Summit, France.
- Rocle, N. & Salles, D., 2018. **Pioneers but not guinea pigs: experimenting with climate change adaptation in French coastal areas.** *Policy Sciences*, vol. 51 (2), 231-247.
- Haasnoot M. *et al.*, 2013. **Dynamic adaptive policy pathways: A method for crafting robust decisions for a deeply uncertain world,** *Global Environmental Change*, 23, 485-498.