



OURANOS Le Consortium Ouranos www.ouranos.ca

Membres (dès 2001)

Québec

Ministères:

1. Sécurité publique
2. Développement durable, Environnement et Parcs
3. Ressources naturelles et Faune
4. Affaires municipales et Régions
5. Transports
6. Agriculture, Pêcheries et Alimentation
7. Développement économique, Innovation et Exportation
8. Santé et Services sociaux

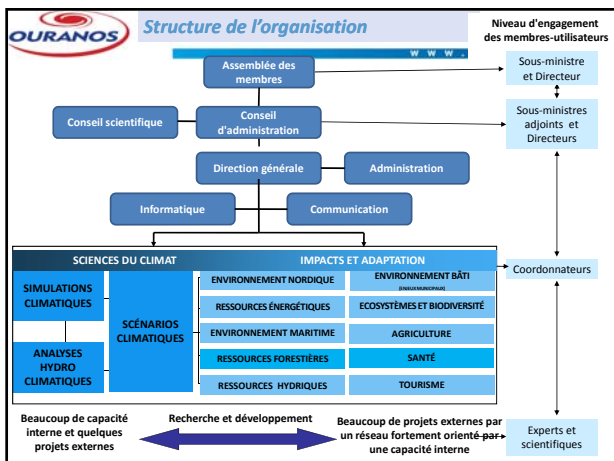
Hydro Québec, Environnement Canada, UQAM, McGill, Université Laval, INRS

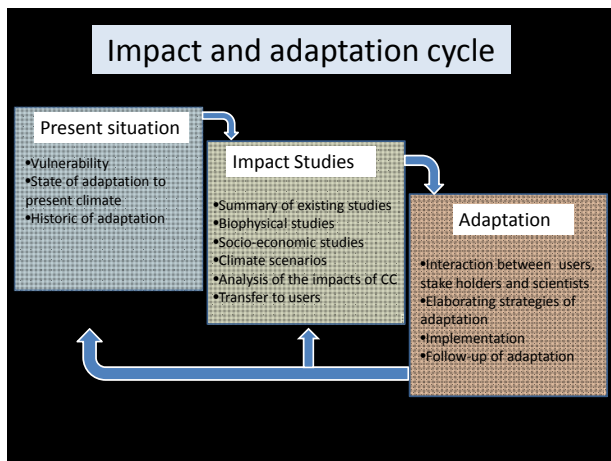
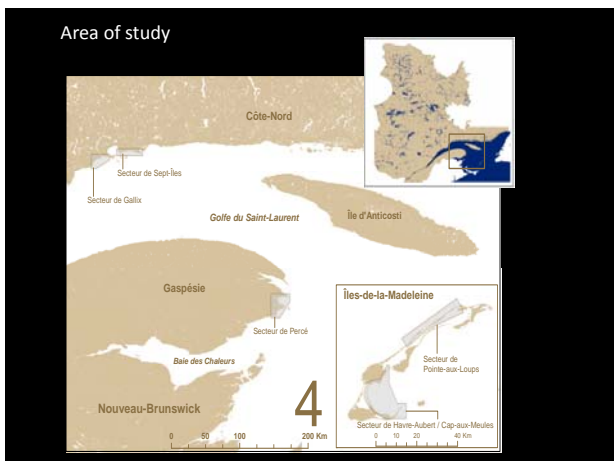
Membres affiliés (dès 2007)

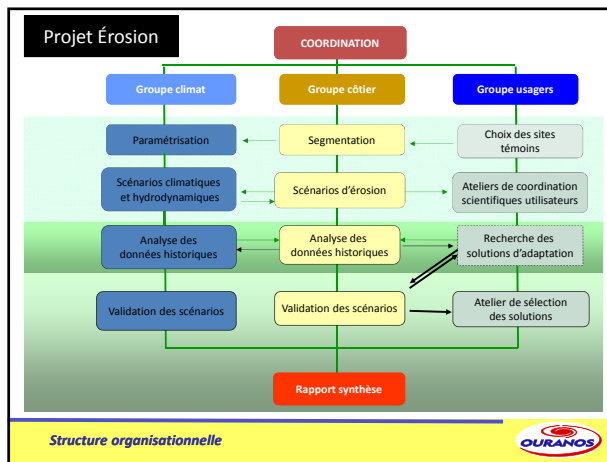
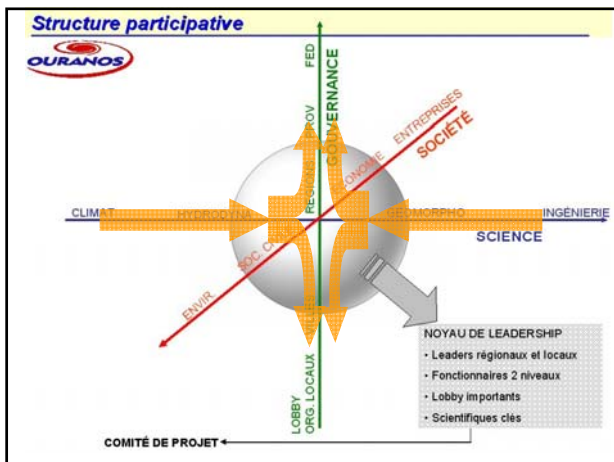
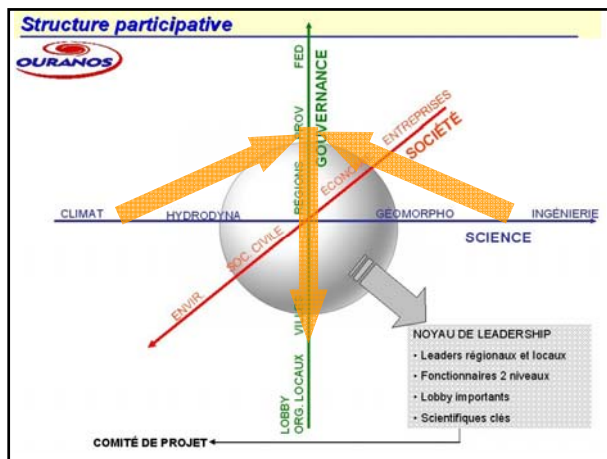
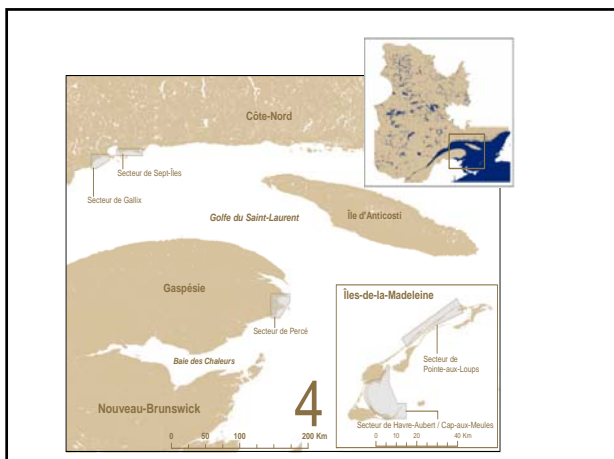
UQAR, Manitoba Hydro, Ontario Power Generation, Rio Tinto Alcan

Mission:

ACQUÉRIR + DÉVELOPPER des connaissances sur les risques liés aux CC
INFORMER + CONSEILLER les décideurs et les usagers afin de s'adapter







Phase 1 of the maritime program participating organisations

www.ouranos.ca

Photo: Christian Fraser



Erosion scenarios	
Scénarios pour 2050	Description
S1 : mean rate of erosion or shoreline retreat from 1931 to 2006	This scenario is consider as status quo or no change of the erosion rate.
S2 : mean erosion rate during a 10 to 15 year-period with the most intensive erosion rate 1931-2006	This scenario considers as likely that the erosion rate of the futur should be higher than the average of the past 70 years. This rate would be similar to the worse rate observe at a decadal time frame.
S3 : For the same 10 to 15 y period as S2 above, mean rate of erosion of all values above median for any given segment of the shoreline.	This scenario considers that futur rates of erosion will be higher than S2 due to aggravating factors related to climate and human action.



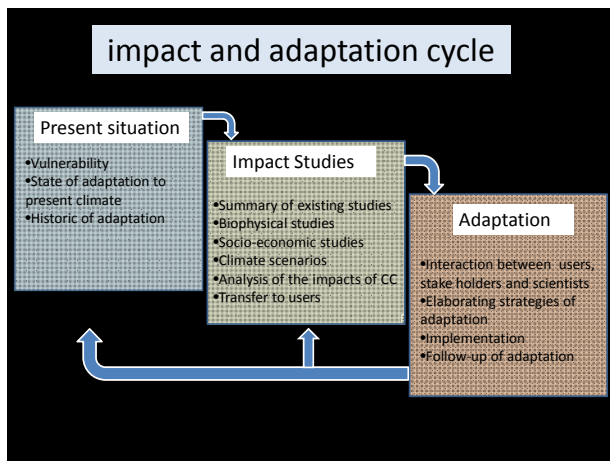
Successful adaptation

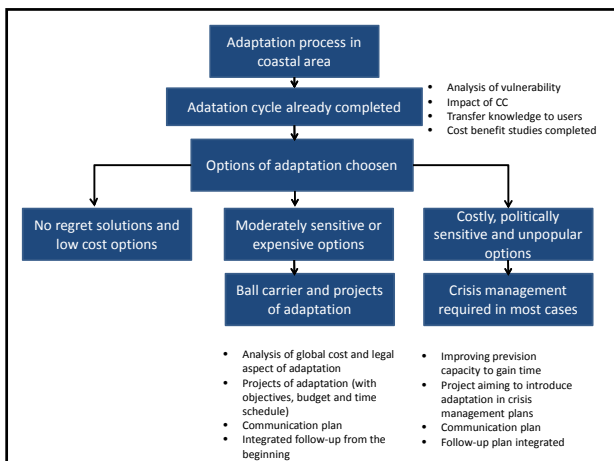
- Participants to users committees, both scientists and local users, improved significantly their comprehension of the issues.
- Confidence in the science process and in the science team did improve
- Several adaptation actions were initiated, including
 - Land regulation and planning, revised safety regulations
 - Memorandum of understanding signed by Quebec gov. and Magdalen Islands for implementing adaptation
 - Transport department of MI used sand refill to replace stone berms.
- Adaptation responses did propagated to communities not directly involved in the project.

Bad adaptation or failures

- Bureaucratic jamming and incoherence of various administrations.
- Missing participants sometime got the final word: (Engineering firms).
- Turn over of stake holders: Elections every 4 y at all government levels (local or central).
- Political response to a better access to knowledge not always positive.
- The cost of adaptation is seen as prohibitive.
- It is difficult for politicians to spend tax payer money now to solve future and hypothetical problems.





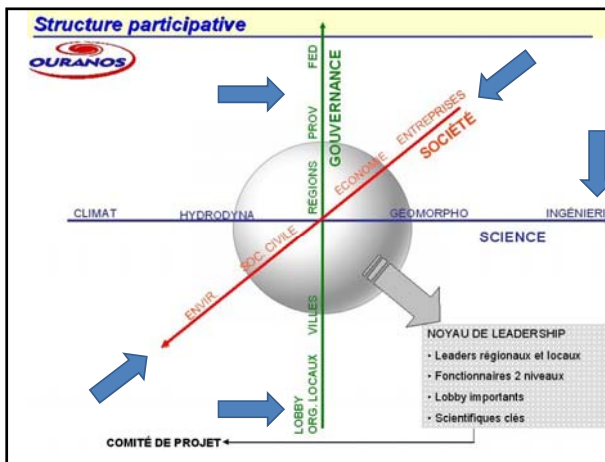


Middle range adaptation challenge

- Solutions that require approbation or implication of a small number of actors.
 - Improving existing government infrastructures
 - Reinforcing protections already in place
 - Reviewing and/or enforcing existing regulations
- Solutions that appears obvious to all key actors add
 - Case of Sept-Îles : stopping the rock berm development
 - Case of Magdalen Islands: Using dredged sand

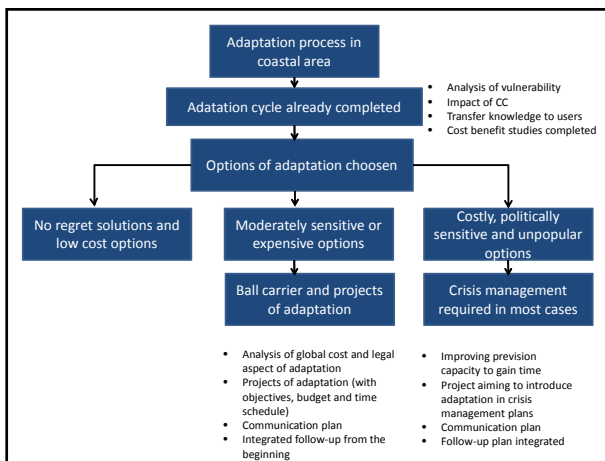
Implementing this type of solutions

The role of the ball carrier is critical
 What is an adaptation project
 How far should we get involve as scientists?



The social axis raise many questions: a few examples

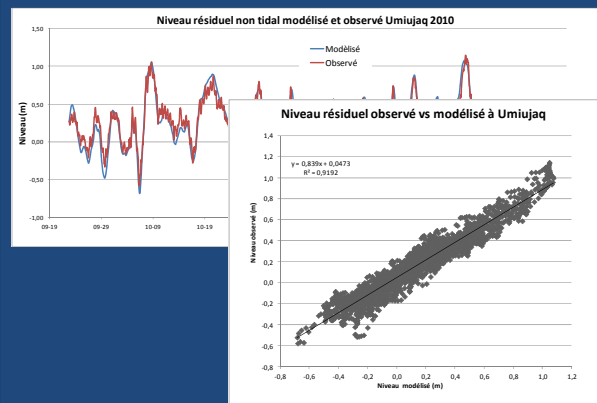
- Since the sea level will be changing for centuries, most options of fight against the sea will become increasingly expensive to support with time. Is retreating the only valid option. It is almost impossible to sale this option out of crisis situation?
- Who should decide what is an « unacceptable risk »?
- If an individual is willing to take the risk, who should pay?
- Should coastal risk management be integrated into the development of the society or community? If yes, how can we predict the future of communities and society?
- Assuming a social, political and community base consensus is achieved, what should we do with those who still reject the solution?



Crisis adaptation plan

- Identify key actors (politics, civil servants and media, etc.) of crisis management; develop and update of this list of the key actors;
- Review and update compensation programs to include adaptation aspects; train operational personal of MSP.
- prepare short technical fact sheets for each key actor providing guidelines about adaptation response for the area during a crisis;
- Improve early warning systems (storm surge and wave models) to gain time when a crisis is approaching;
- Prepare a communication plan for political actors, crisis managers and scientific actors.

Comparison of model and observed non tidal water level at Umiujaq, northern Quebec



Conclusions

- The follow-up of phase 1, although informal, provided information about various types of adaptation;
- For moderately complex adaptation scheme, case studies of adaptation projects are presently initiated. The implication of Ouranos and the science community exceed the simple support level and bring the science community in a pro-active contribution to implementing adaptation.
- The follow-up also indicates that adaptation is not efficient in some cases due to political bottle neck related to the combine effect of economical, social and political cost attached to the implementation process.
- As a response to these adaptation bottle neck, the strategy develop by Ouranos is to prepare material that will be activate when a crisis is happening. Adaptation plan will be introduce in the crisis management process of governments and other actors of crisis response.
- These plans will include communication plans for all key actors of the crisis management and to mass media, including fact sheets providing essential information to introduce adaptation scheme in the crisis management process.

Thank you
Merci

