



Explore 2070

Adaptation strategies for water

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Ressources, territoires, habitats et logement
Énergie et climat
Développement durable
Prévention des risques
Infrastructures, transports et mer

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Présent
pour
l'avenir



Ministry of Ecology, Sustainable development,
Transport and Housing

Plan

- 1. Main objectives
- 2. Actors
- 3. Methodology
- 4. Challenges for future
- 5. How to act ?



1.1 Main objectives

- To build of adaptation strategies
 - ▶ Explore France's possible futures (climate, demography, economy, etc.) ;
 - ▶ Identify et hierarchy the main risks due to climate change ;
 - ▶ Quantify the main costs.

- To assess these these adaptation strategies
 - ▶ Chose the best strategies regarding the associated benefits ;
 - ▶ Build a road map to implement these strategies.

1.2 Four major questions

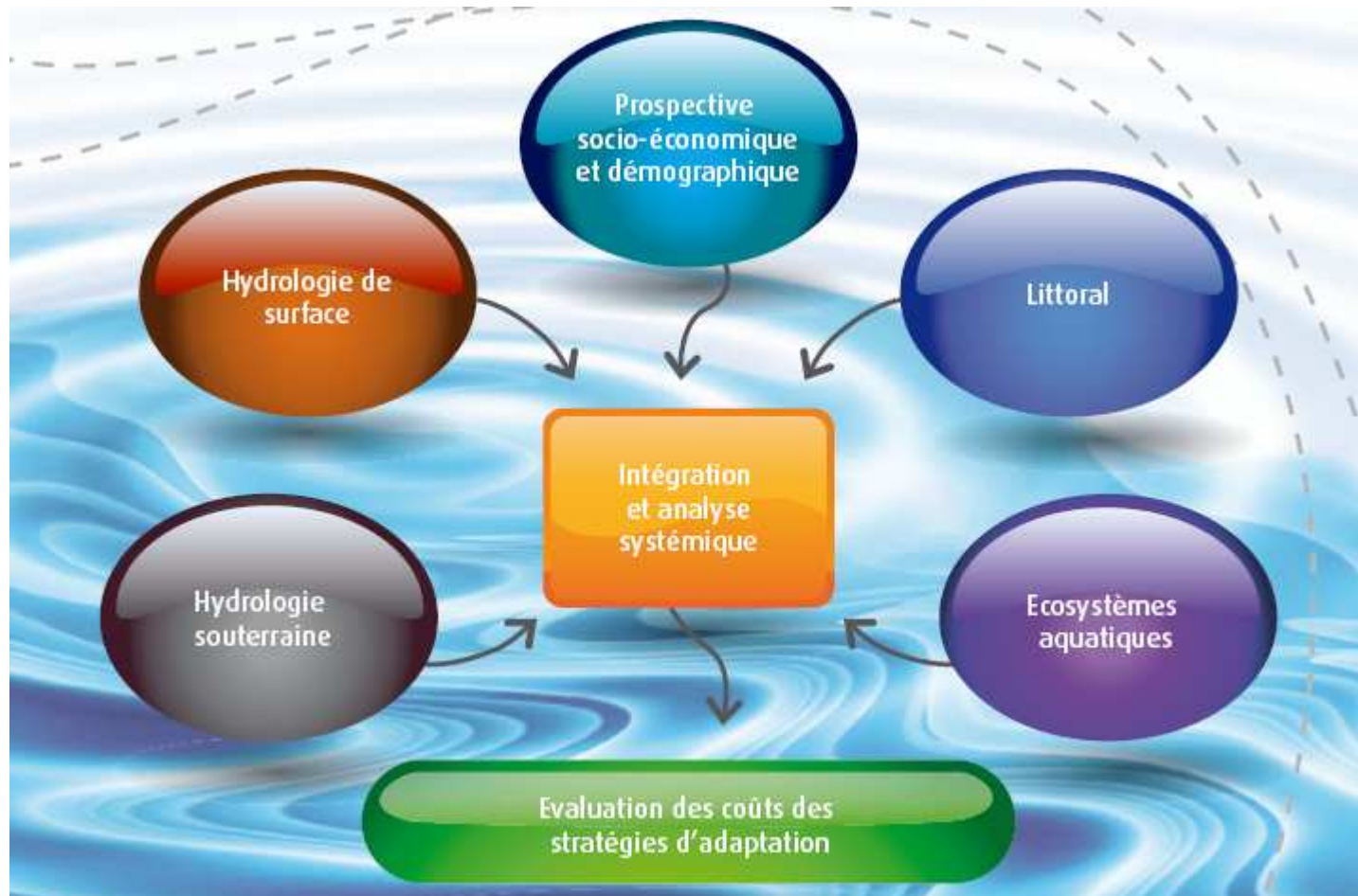
- The balance between water demand and supply
- The most exposed coasts to sea level rise
- Aquatic ecosystems vulnerability
- The impacts of extreme events

1.3 Integration of natural and human processes

- Main thematics involved :
 - ▶ Climate
 - ▶ Hydrology
 - ◆ Modification in river discharge and regime ;
 - ▶ Hydrogeology
 - ◆ Evolution of groundwater levels ;
 - ▶ Aquatic biodiversity
 - ◆ Ecologic balance of rivers and humid areas ;
 - ▶ Coast
 - ◆ Main coast exposed to sea level rise (submersion and erosion) ;
 - ▶ Forecasting for economy
 - ◆ Evolution of water demand for Agriculture, Industry, Energy, etc ;
 - ▶ Forecasting for demography
 - ◆ Population growth and repartition, standard of living ;



1.4 A systemic approach



2. Actors

- French ministry of Ecology with :
 - ▶ ONEMA
 - ◆ ONEMA : French National Agency for Water and Aquatic Environments
 - ▶ Other administrations
 - ◆ Water agencies
 - ◆ Territorial services of the ministry
 - ▶ Other ministries
 - ◆ Agriculture, Health...

- 14 research department involved :
 - ◆ Météo-France
 - ◆ International office for water
 - ◆ KPMG
 - ◆ ...

3. Methodology

- Climate scenario : A1B from the IPCC
- Quantify global change impacts
- Current (2000-2010) and future (2050-2070) situations
- Proposal of adaptation strategies

4. Challenges for future ?

- The main challenges for 2050 – 2070 :
 - ▶ How to deal with water **demand and supply** ?
 - ▶ How to protect or restore **ecosystems balance** ?
 - ▶ How evolve the **main economic sectors** linked to water ?
 - ▶ What are the new challenges for **energy supply** (hydroelectricity, nuclear, etc.) ?
 - ▶ How to deal with **demography** ?
 - ▶ What about **governance** ?
 - ▶ What kind of change is **acceptable** or not for our societies ?
 - ▶ ...

6. How to act ?

- Necessity of a systemic approach :
 - ▶ To better appreciate climate change impacts ;
 - ▶ To highlight the main issues ;
 - ▶ To organize into a hierarchy these issues ;
 - ▶ To propose consistent adaptation strategies ;

- To Assess cost due to global changes :
 - ▶ Human ;
 - ▶ Social and economic ;
 - ▶ Environmental ;
 - ▶ Infrastructure.

- To better understand what and where are the key issues to let decision makers act

Thanks for your attention

