Introduction

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Français or English?

Who are we?

- I4CE : Institute for Climate Economics
- **Our vision :** Harnessing economics for the climate
- **Missions:**
  - an initiative of **Caisse des Dépôts and Agence Française de Développement.** The *think tank* provides **independent expertise and analysis on** economic issues linked to climate & energy policies in France and throughout the world.
  - aims at helping public and private decision-makers to improve the way in which they **understand, anticipate, and encourage the use of economic and financial resources** to promote the transition to a **low-carbon resilient economy.**
- **3 programs:**
  - **Industry, Energy and Climate**: understanding policies for the low-carbon transition in the industry and energy sectors
  - **Finance, Investment and Climate**: analyzing the mainstreaming of climate change into financial decision-making by public and private entities.
  - **Territories and Climate**: identifying and analyzing courses of action in the fight against climate change in the agriculture and forestry sectors as well as urban areas.

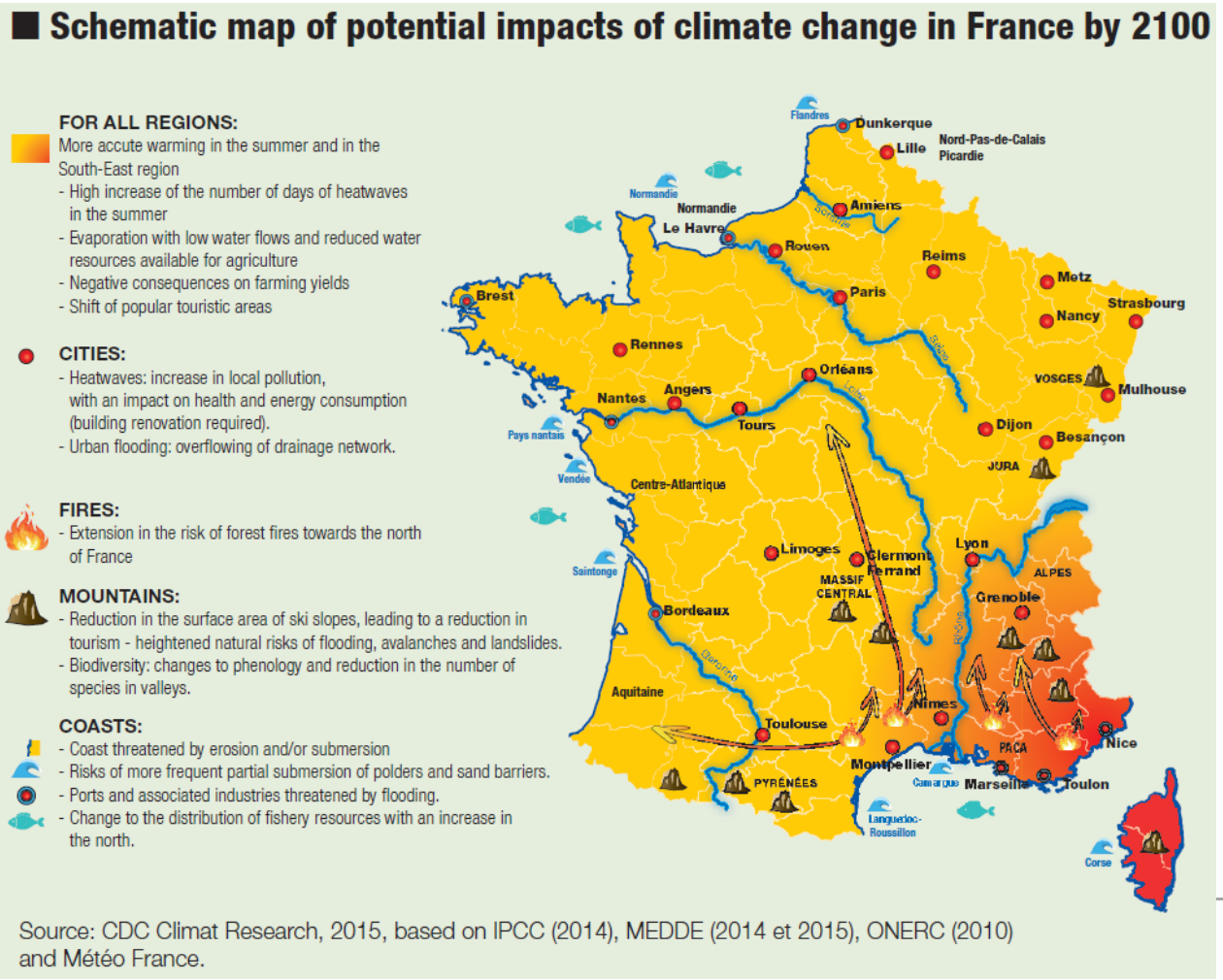
IPCC results – brief summary

- Significant increase in average surface temperatures, of 0.85°C between 1880 and 2012 – 19 out of the last 20 years, for instance, are among the top 20 hottest years since 1850.
- Warming of oceans and increase in their level: between 1901 and 2010, the average global sea level increased by 17 to 21cm, mainly due to melting icesheets and expansion due to the increase in the water temperature.
- Reduction in the cryosphere (water in its solid state): the Arctic ice pack in particular shrank at a rate of between 3.5% and 4.1% per decade during the period 1979-2012.
- All continents are concerned by those impacts and effects.
- It is *extremely likely* (95%) that human influence has been the dominant cause of the observed warming since the mid-20th century.

Main issues for adaptation to climate change impacts at a local level

- **Adaptation strongly depends on the context (geographical, economical, etc.) and requires data on possible climate change impacts**

Schematic map of potential impacts of climate change in France by 2100



Source: CDC Climat Research, 2015, based on IPCC (2014), MEDDE (2014 et 2015), ONERC (2010) and Météo France.

Main issues for adaptation at the local level

- Adaptation = complex notion (linked with development, risk management, resilience, etc.), advantage to have a systemic vision, mainstreaming
- Overcoming multiple barriers (financial, legal, organizational, cognitive)
- Involvment of stakeholders
- Using economic analysis (multi-criteri analysis, etc.) as a usefull decision-making tool
- Securing the funding for adaptation was perceived as a challenge by 85% of cities (Carmin et al. 2012)