

New Brunswick
Select Committee on Climate Change

INVEST IN ADAPTATION

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Three messages

Balance - A climate strategy should focus on emissions management (50%), and on investing in adaptation (50%), with an equal balance.

Focus - Flood, coastal hazards, and infrastructure are the appropriate adaptation priorities for New Brunswick.

Act now - Invest now in adaptation projects, based on a strong science foundation.

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Established in 1997 by Canada's insurers, ICLR is the oldest and largest university-based hazard research centre in Canada.

Mission: Reduce the risk of loss of life and property damage due to severe weather and earthquakes.

ICSU international centre of excellence for integrated research on disaster risk.

Programs focus on:

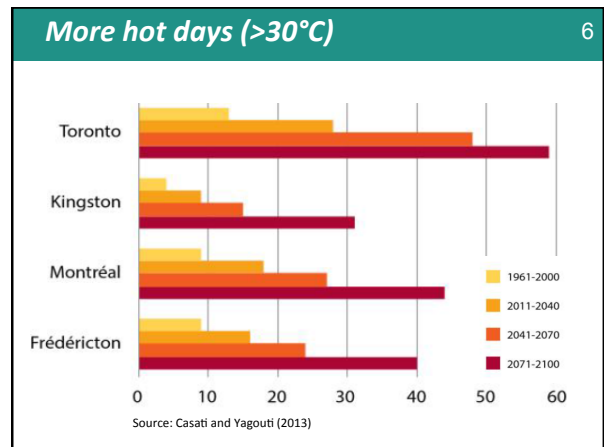
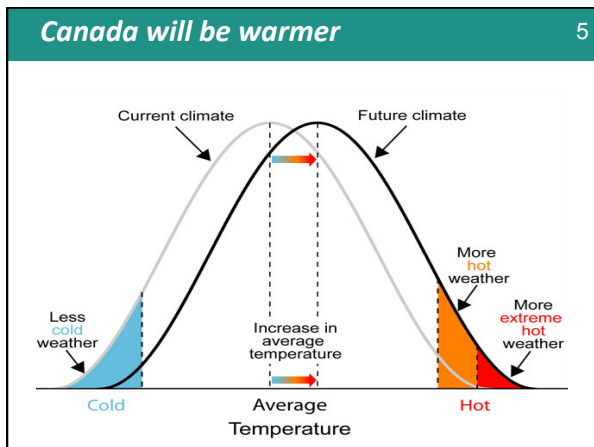
- Flood damage reduction tools for local gov'ts
- Building codes adapted for climate extremes
- Protection best practices for homeowners

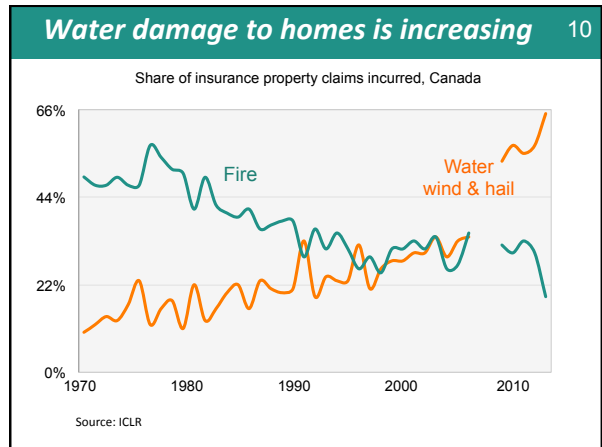
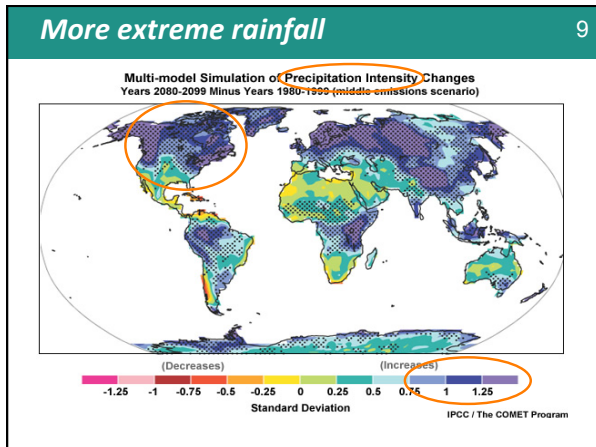
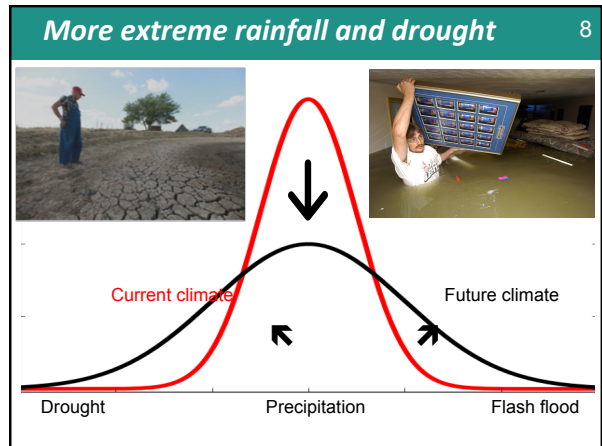
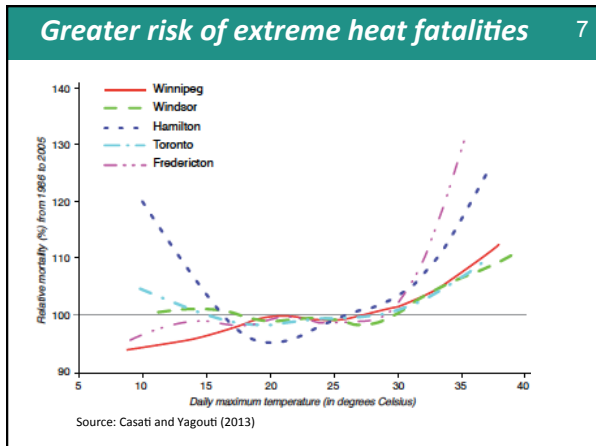
The expected impact of climate change 4

Warmer - Extreme heat events will increasingly threaten the health of the people.

Wetter - Extreme rainfall events will threaten to increase the risk of urban flooding and damage to public infrastructure.

Stormier - Climate science projects more large hurricanes, more wildfires, and an increase in the frequency of other storm events. Coastal communities will be particularly vulnerable.





Canada will be stormier 11

Winter storms

- Ice storms shift North

Hurricanes

- More large hurricanes

Tornadoes and hail

- Likely increase

Coastal communities at greatest risk 12

Options for adaptation 13

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What is adaptation? 14

Adaptive capacity

The ability of a system to adjust to climate change (including climate variability and extremes) to moderate potential damages or take advantage of opportunities, or to cope with the consequences.

Source: The Intergovernmental Panel on Climate Change, 2007

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Understand vulnerability 15

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Understand vulnerability 16

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Four clusters of adaptation tools 17

Adaptation tools for risk reduction

- Zoning / local by-laws
- Building codes / standards
- Empowered homeowners
- Defensive infrastructure

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Empowered communities 18

Zoning and by-laws

- Community planning will significantly affect risk
- Locate away from hazards - coastal, flood, wildfire
- Funding and incentives matter
- Challenging to measure effectiveness

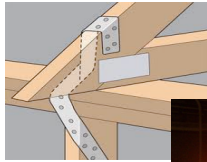
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New construction practices

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Building codes and standards

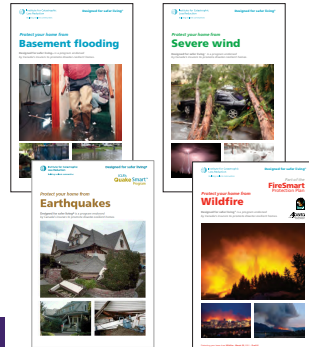
- ICLR submissions on water, severe wind, and wildfire



Empowered homeowners

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- Self assessment tool
- Risk reduction advice
- Homeowner focus



Resilient infrastructure

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- Focus on green infrastructure like LID
- Infrastructure renewal is an opportunity
- Should require accounting for climate change
 - Sewers, roads, schools, hospitals
 - ICLR / Western tool adjusting IDF curves

World class research - ICLR

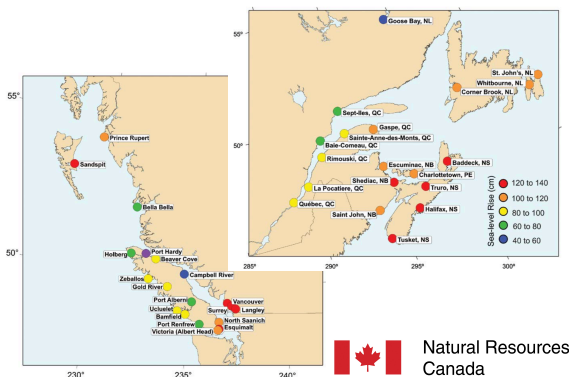
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- ICSU International Centre of Excellence Integrated Research on Disaster Research
- Backwater valve testing lab
- Insurance Research Lab for Better Homes
- Boundary Layer Wind Tunnel
- WindEEE Lab



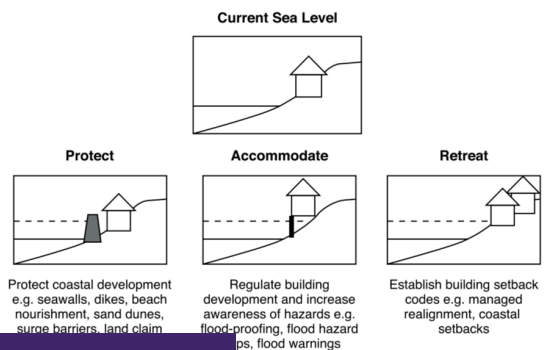
Coastal flooding

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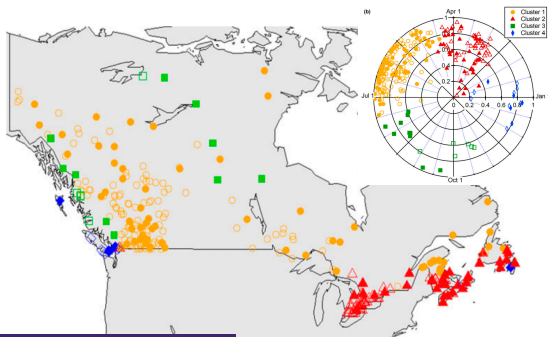
Risk reduction – coastal flooding

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Riverine flooding

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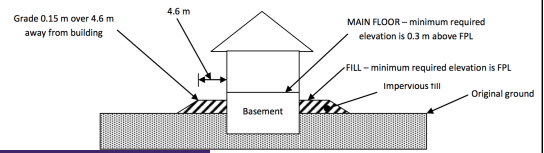
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Burns & Whitfield, 2015

Risk reduction – riverine flooding

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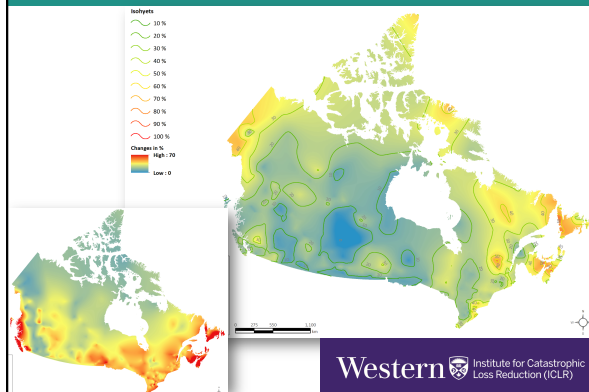
- Raise buildings onto a new foundation
- Move buildings to an area not flood prone
- Raise building onto an earth pad
- Build ring dike, terracing



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Heavy precipitation

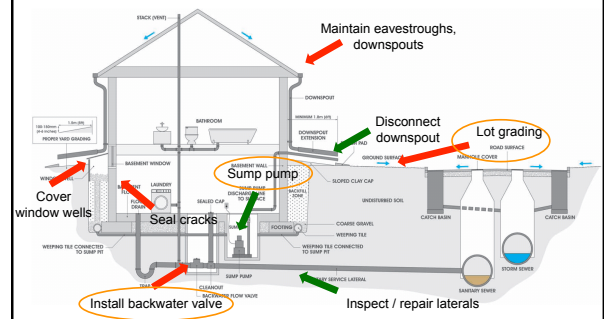
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Risk reduction – urban flooding

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Key messages

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Three messages

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