

Climate change and coastal communities in Atlantic Canada

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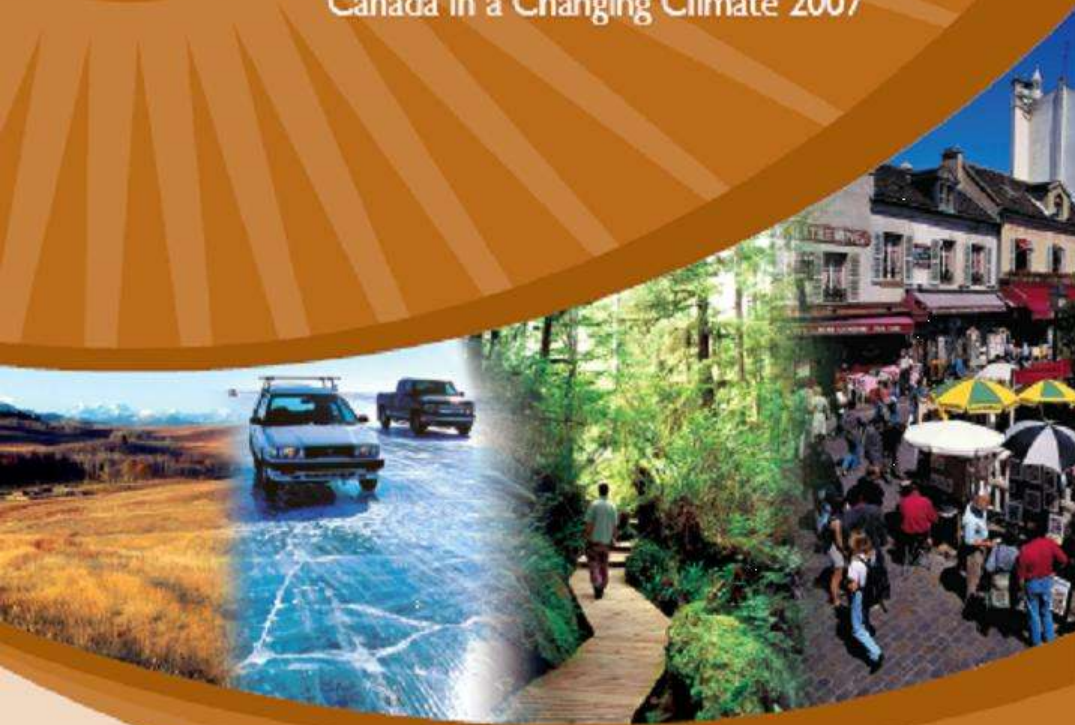
Brock University

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Outline

- Coastal communities and current situation
- Climate change projections
- Possible impacts on communities
- How does this relate to lobster?
- Directions for the future?

FROM **IMPACTS**
TO **ADAPTATION:**
Canada in a Changing Climate 2007



Atlantic Chapter

Co-leads
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Terrestrial Ecozones of Atlantic Canada



After: Agriculture and Agri-Food Canada, 1995

Acadian Forest assemblage, near Strathgartney, Prince Edward Island



Crop management, including hay cultivation, Arlington, NS



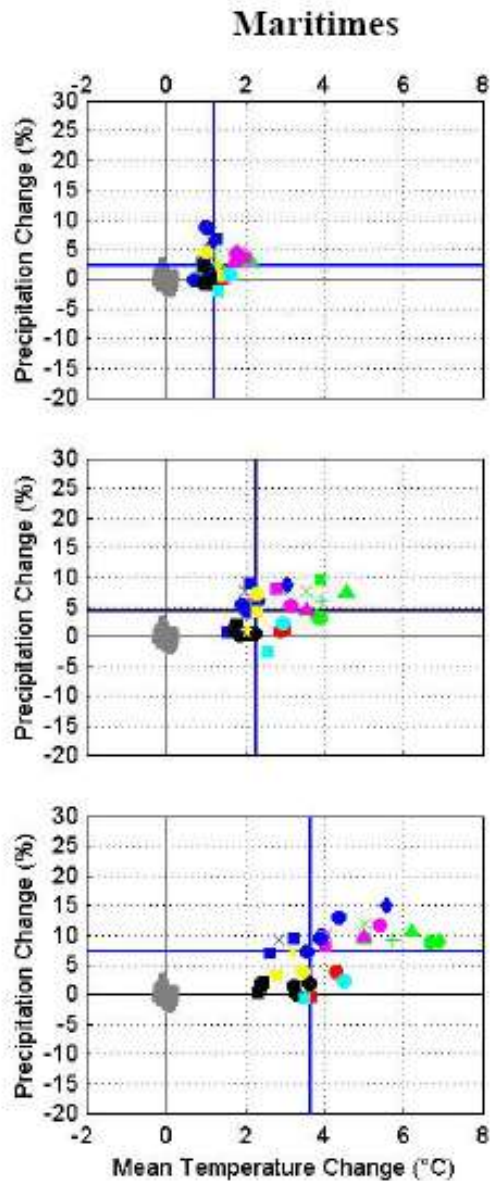
Spruce- Fir- Aspen boreal forest
assemblage, Boreal Forest Ecozone, near
Springdale, central NL.



Demographics

	New Brunswick	Newfoundland and Labrador	Nova Scotia	Prince Edward Island	Canada
Population, 2005	752 000	516 000	937 900	138 100	32 270 500
Population change, 2004–2005 (%)	–0.01	–0.25	+0.04	+0.14	+0.9
Urban (%)⁽³⁾	50	58	56	45	80
Ages 0–14 (%)	16.1	15.7	16.2	17.7	17.6
Ages 15–64 (%)	69.9	71.2	69.5	68.2	69.3
Ages 65+ (%)	13.9	13.1	14.2	14.1	13.1
Projected population by 2030	742 600	490 000	940 100	141 500	36 182 300

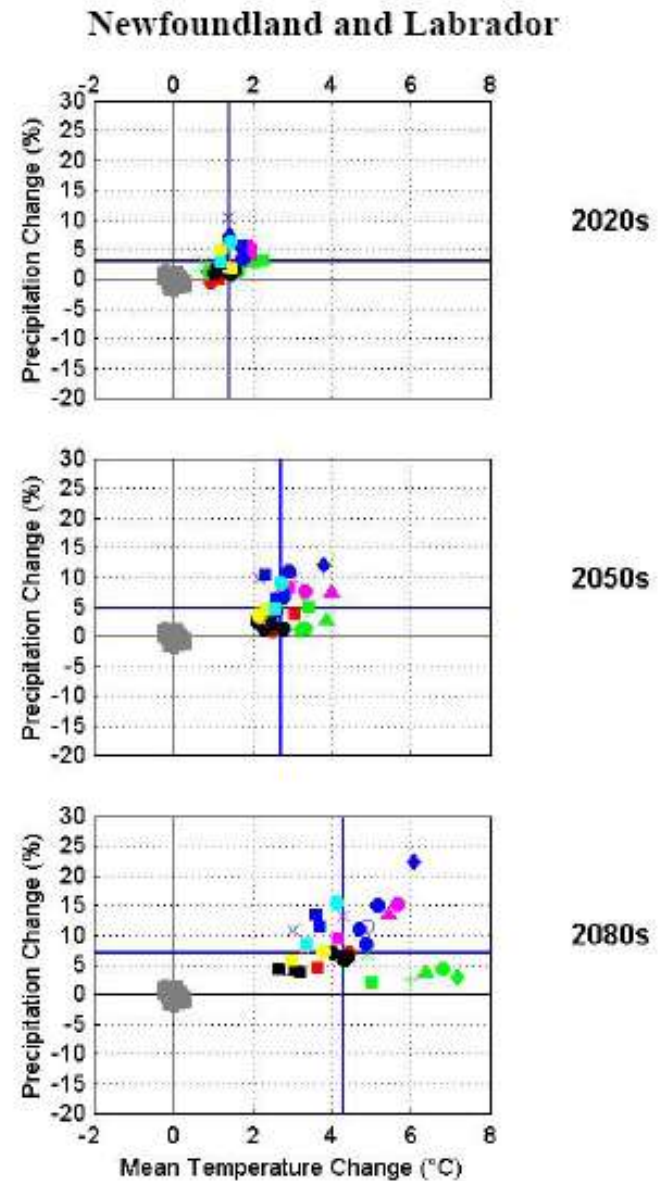
Annual change



2020s

2050s

2080s

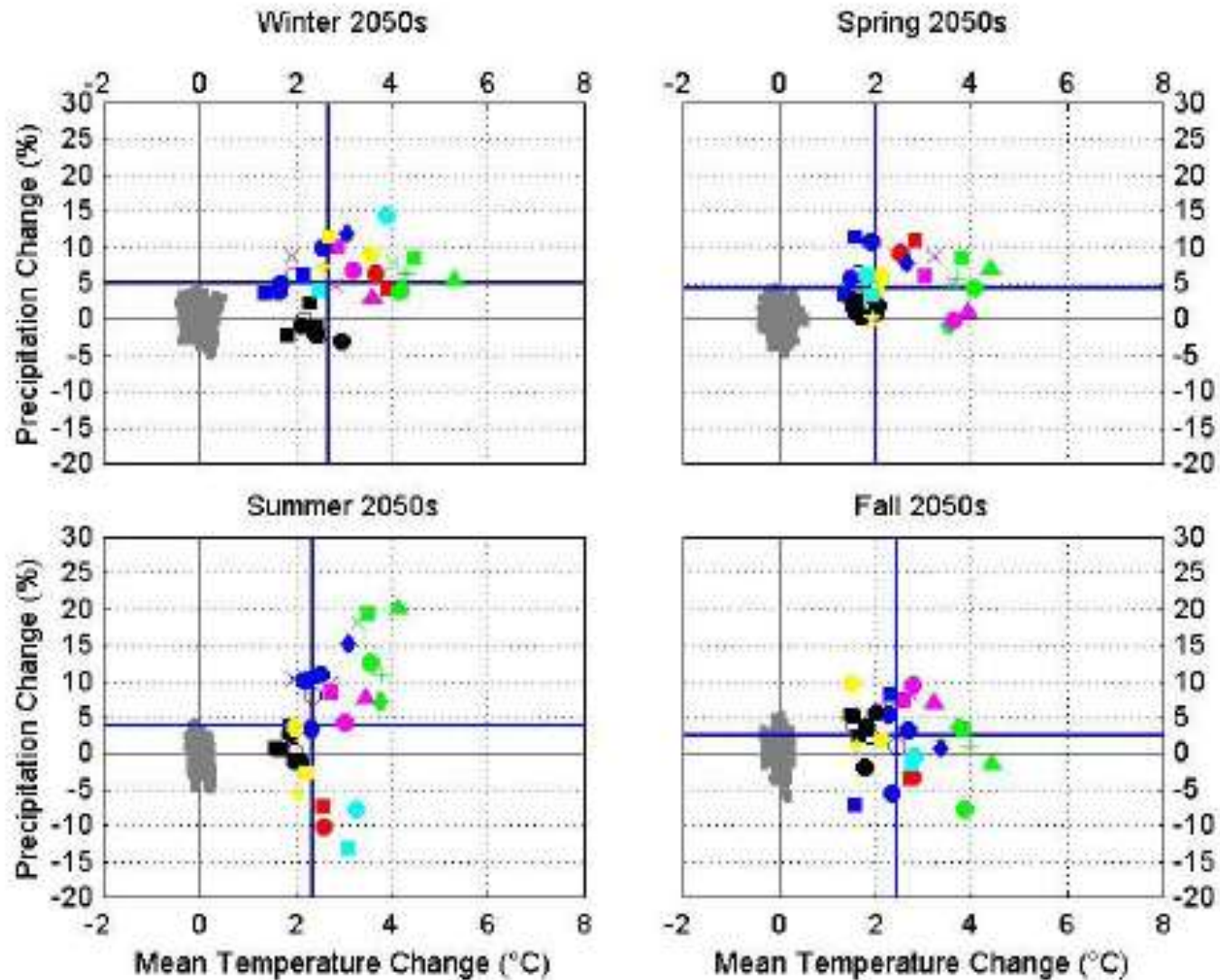


2020s

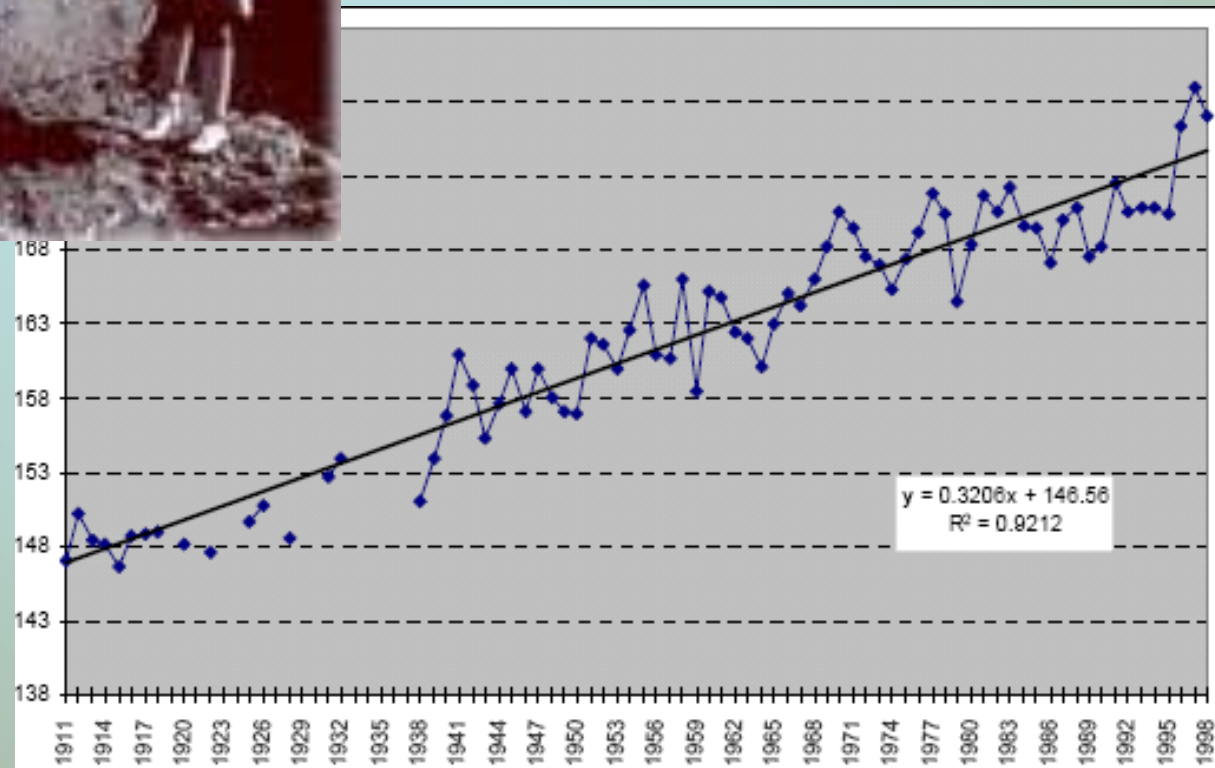
2050s

2080s

2050s seasonal change



Sea level rise Augmentation du niveau de la mer



Extreme event- Ice jam-induced flooding, Badger, NL



Ice build up on coast, NB



What to expect/ À quoi s'attendre

- Longer, hotter and drier summers
- Increased thunderstorm & lightning activity
- Increased storm activity
- More winter & spring precipitation, especially rain
- Stronger winds
- Variable, generally reduced snow cover
- More 'anomalous' events
- Decreased fog
- Étés plus longs, chauds et secs
- Plus d'orages et des éclairs
- Plus de tempêtes
- Plus de précipitations de pluie en hiver et au printemps
- Vents plus forts
- Couvert de neige réduit et variable
- Plus d'événements "anormaux"
- Moins de brume

Coastal fisheries/ pêches côtières

- Changed pathogens, predators, and pests
- Impacts to infrastructure: increased costs
- Regulatory regime
- Transportation, marketing, communications
- Operational changes by fish harvesters
- Health and safety
- Search-and-rescue operations
- Changement des prédateurs, pathogènes et pestes
- Impacts sur l'infrastructure: augmentation des coûts
- Transport, marketing et communication
- Changements opérationnels des pêcheurs
- Santé et sécurité
- Opérations de sauvetage

Salt marsh environment, Atlantic Maritime Ecozone, Kouchibouguac National Park, NB



Communities and adaptations/ Collectivités et adaptations

- Challenges due to changes in origin of people (urban versus local): adaptations vs. “beauty” of the place
- But opportunities:
 - Longer season in the valley for crops
 - Less heating in winter, but maybe higher in summer for air conditioning
 - Change in tourism
- Défis à cause de l’origine des habitants (urbains vs locaux): adaptations vs “beauté” de la place
- Mais aussi opportunités:
 - Saison plus longues dans la vallée pour les cultures
 - Moins de chauffage en hiver mais probablement besoin d’air climatisé en été
 - Changement dans le tourisme

What is adaptation to climate change?

Adaptation involves making **adjustments** in our decisions, activities and thinking because of observed or expected **changes in climate-** to **moderate harm** (reduce negative impacts) or take advantage of new opportunities.

ADAPTATION			
Based on	Type of adaptation		
Intent	Spontaneous		Planned
Timing (relative to climate impact)	Reactive	Concurrent	Anticipatory
Temporal scope	Short term		Long term
Spatial scope	Localized		Widespread

Adaptations

An aerial photograph of a coastline. The ocean is on the left, with white-capped waves crashing against a dark, rocky shore. The land on the right is covered in dense, green vegetation. The sky is a pale, hazy blue.

- Coastal policy
- Location, location, location
- Rehabilitation of species populations
- Planning: still needed
- The 3 « R »: retreat, remove (avoid), reduce (find new strategies)

Construction of buildings on pylons, Grand Barachois, NB



Adaptations

- Experimental wind farm, North Cape, PEI



Maladaptations

- Real adaptations versus maladaptations and reactions / Adaptations réelles vs maladaptations et réactions



Comments and reactions

- « Why would you like me to think and worry about this... climate change is there, there's nothing to do about this. If so, the feds can deal with it! »
- Sorry I want to retire with good money, enjoy a nice place. Don't tell me that I might loose things... I want to enjoy...
- Greed of the moment versus the « 7 generations »

An aerial photograph of a coastline. In the foreground, a dense forest of tall, thin trees covers a steep cliffside that meets the water. The water is a deep blue-grey color. In the middle ground, a small, dark structure, possibly a lighthouse or a small building, is visible on a narrow strip of land. The background shows a wide expanse of water meeting a light, hazy sky. The overall scene is serene and natural.

Thank you!

La Dune de Bouctouche

