



What has Changed

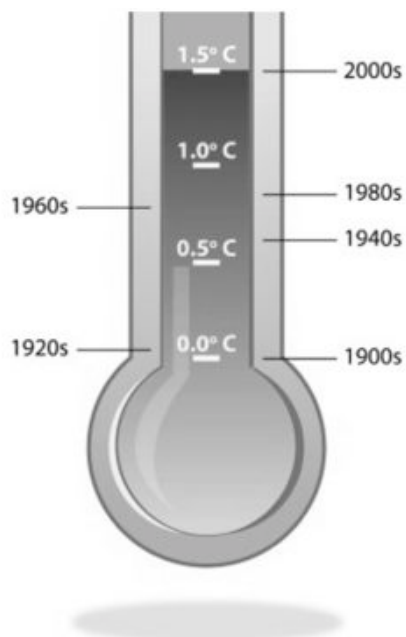
INDICATORS

- Temperature increase
- Increased intense rainfall events
- Sea Level Rise
- Coastal Erosion
- Coastal Storm Surges
- Extreme & variable weather patterns

OBSERVATIONS

- Change in bird behavior
- Fish habitat
- New species

Temperature



http://www2.gnb.ca/content/gnb/en/departments/elg/environment/content/climate_change/content/climate_change_indicators.html

Extreme Precipitation Events

Maritimes storm causes flooding, outages

Last Updated: Monday, December 13, 2010 | 11:53 PM AT Comments 54 Recommend 65
CBC News

Over 30M \$
in damages

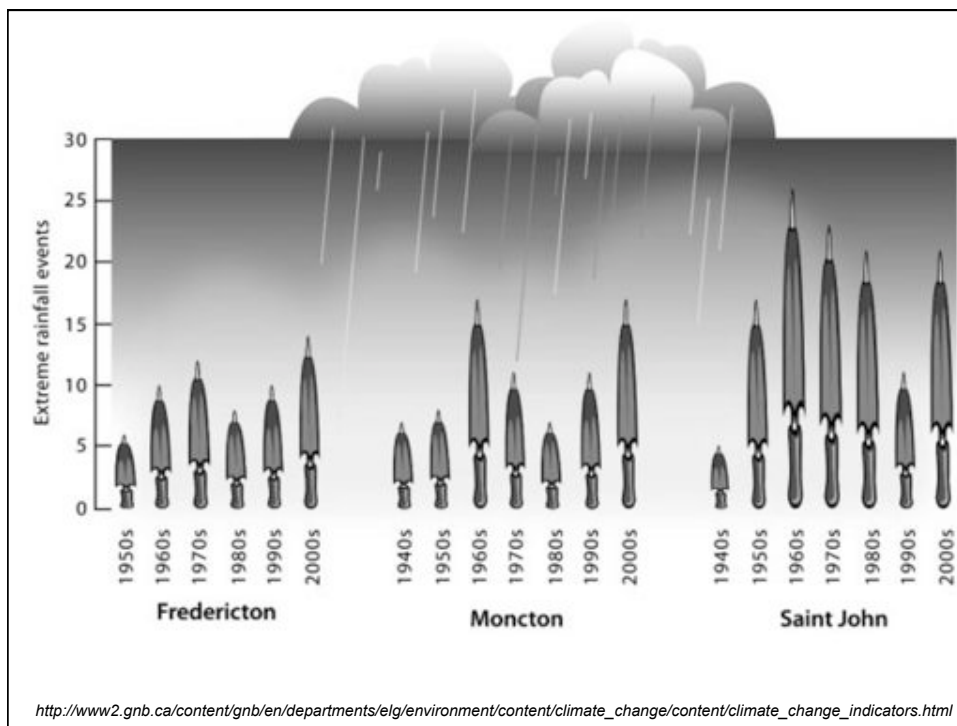


Heavy flooding in St. Stephen, N.B., forced the town to plan for a state of local emergency. (John Ferguson/Town of St. Stephen)

A wind and rainstorm expected to continue into Tuesday has caused flooding and power outages in the Maritimes and prompted one New Brunswick town to plan for a state of local emergency.

Most of New Brunswick was under a heavy rainfall warning and winds were expected to reach 90 kilometres an hour.

2010 Flooding in Charlotte County



Coastal Storms

Storm evacuates Charlo homes and cottages

Last Updated: Monday, December 6, 2010 | 6:27 PM AT
CBC News



Several homes and cottages in the village of Charlo had to be evacuated Monday due to high tide. (Donald Arseneault)

Several homes and cottages were evacuated in the village of Charlo Monday following a storm surge.

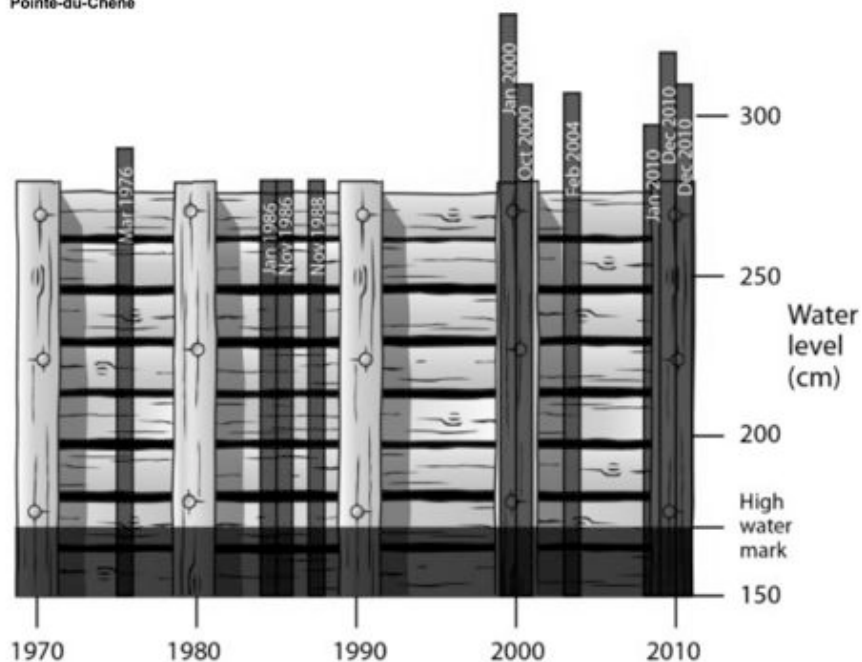
It happened late Monday afternoon as high tide hit.

Mayor Andre Carrier said about a dozen homes are affected.

Carrier said they lost electricity and were in danger of being cut off because the waves were breaking over the road.

2010 Charlo Flooding

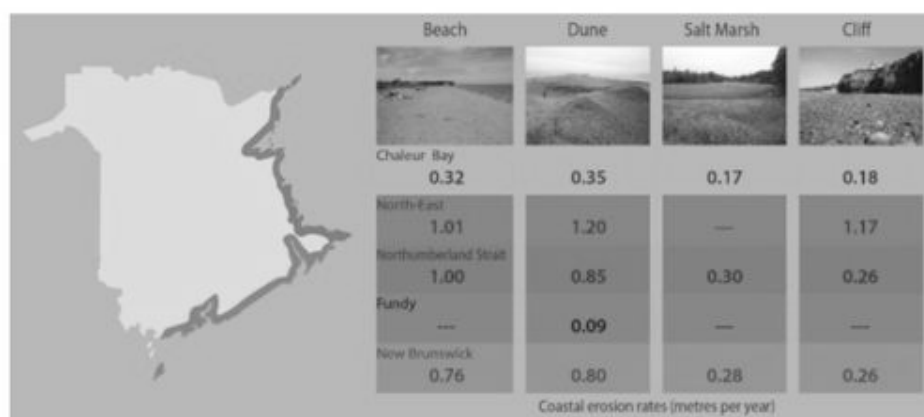
Pointe-du-Chêne



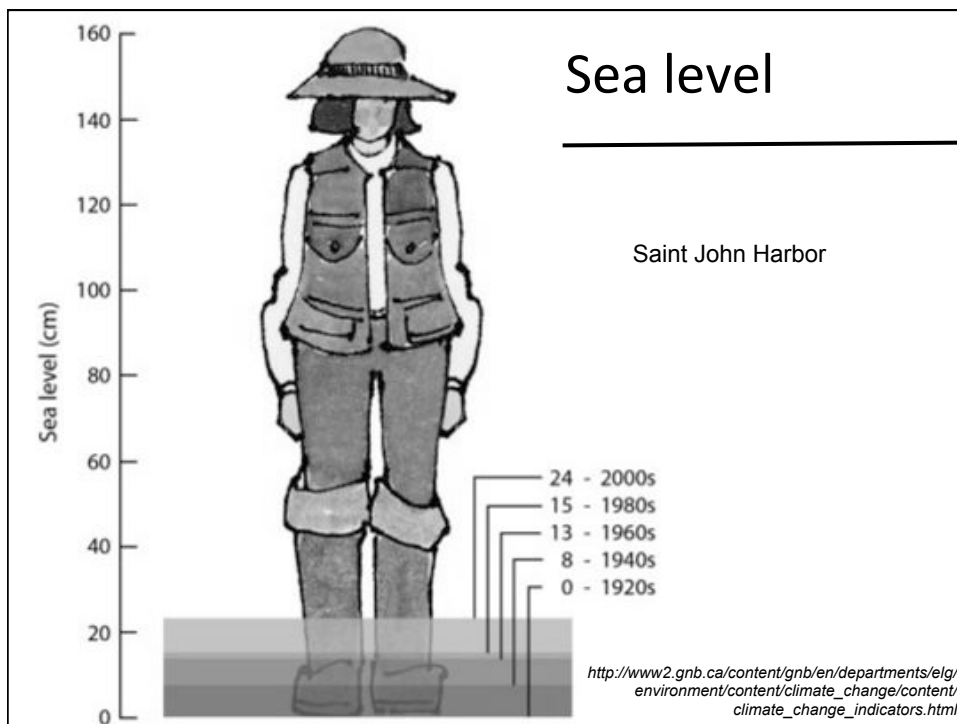
http://www2.gnb.ca/content/gnb/en/departments/elg/environment/content/climate_change/content/climate_change_indicators.html



Coastal Erosion



http://www2.gnb.ca/content/gnb/en/departments/elg/environment/content/climate_change/content/climate_change_indicators.html



15 Miramichi salmon pools close due to conditions

CBC News Posted: Jul 26, 2012 1:03 PM AT | Last Updated: Jul 26, 2012 1:37 PM AT



Despite Tuesday's rain, 15 salmon pools remain closed in Miramichi. (Submitted by Matt Trevors)

More than a dozen salmon pools on the Miramichi river system have been closed by the Department of Fisheries and Oceans.

Despite rain in much of the province Tuesday, Ernest Ferguson, area director of DFO in eastern New Brunswick, says the water level in the river is low.

Warm temperatures bring bizarre tropical fish to Bay of Fundy



CTVNews.ca Staff
Published Thursday, Sep. 13, 2012 11:50AM EDT

Unusually warm temperatures in the Bay of Fundy are attracting exotic species that rarely venture so far north -- including a several-hundred pound flat fish that is often mistaken for a shark and can grow to be thousands of pounds.



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Climate Change and Birds

2. Migration times are shifting.

- * Birds are migrating earlier in the spring. A study of 63 years of data for 96 species of bird migrants in Canada showed that 27 species have altered their arrival dates significantly, with most arriving earlier, in conjunction with warming spring temperatures.



- * Birds also seem to be delaying why not try a year of carbon-neutral autumn departure: in a study of 13 North American passerines, 6 species were found to delay their departure dates in conjunction with global warming.

http://www.naturecanada.ca/climate_change_birds.asp

What will Change

- Temperature increase
- Increased intense rainfall events
- Sea Level Rise
- Fluctuation in runoff
- Coastal Erosion
- Coastal Storm Surges
- Extreme & variable weather patterns
- Fluctuation in groundwater availability

http://www2.gnb.ca/content/gnb/en/departments/elg/environment/content/climate_change.html

Increased Hurricane Frequency

**Over 100M \$
in damages
covered
under
programs &
65M \$ in
insurance
claims**

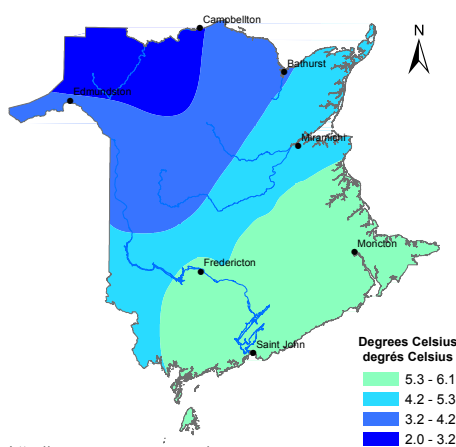


2010 Hurricane Igor, Nfld

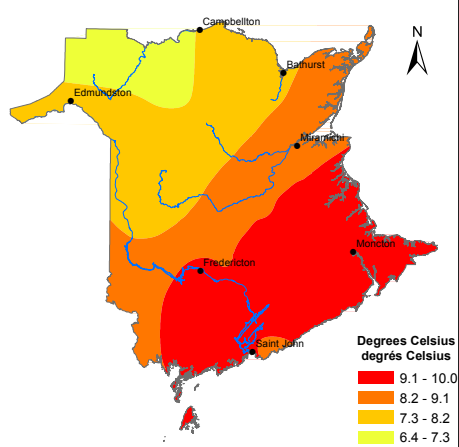


Temperature

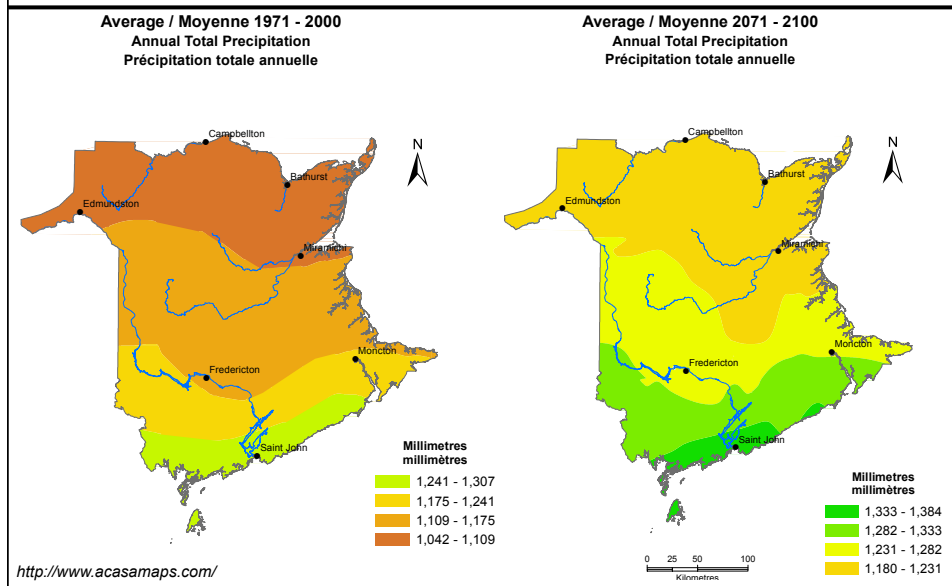
Average / Moyenne 1971 - 2000
Mean Temperature
Température moyenne



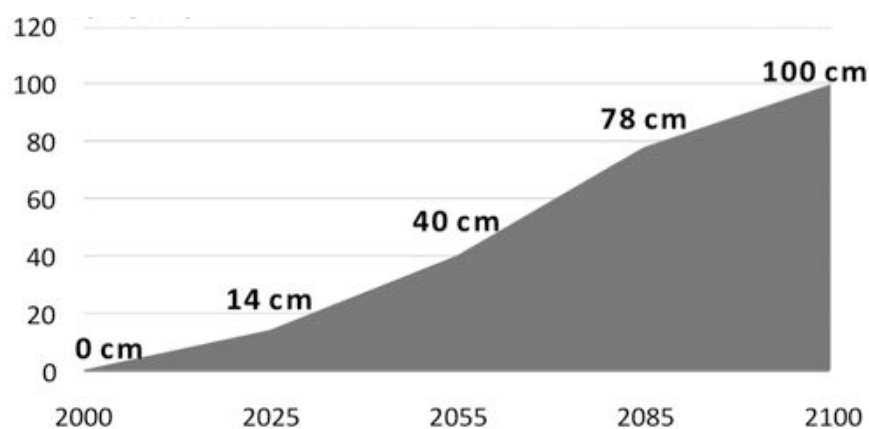
Average / Moyenne 2071 - 2100
Mean Temperature
Température moyenne



Annual Precipitation

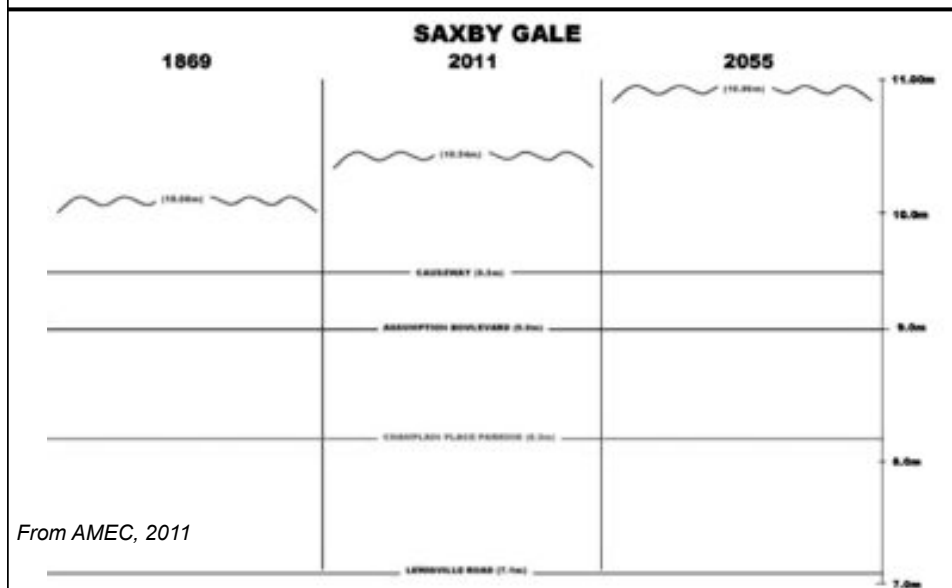


Increased Sea Level Rise



<http://atlanticadaptation.ca/node/328>; <http://atlanticadaptation.ca/node/285>

Moncton – sea level rise



Le Goulet – storm surge, sea level rise



Flood scenario of 2.2 m storm surge,
return period 2 to 5 years

Dr. A. Robichaud, I. Simard, U de M, 2011

Expected Impacts in NB

- Loss of property (private and public)
- Damage to infrastructure (roads etc.)
- Health impacts (sewage lagoons & sewer backups)
- Emergency response planning
- Insurance (flooding excluded)
- Natural Ecosystems (loss, change)

Impacts in NB

“Flooding damages to coastal dwellings, resulting from climate change-induced sea-level rise and storm surges, could cost between \$1 billion to \$8 billion per year with higher than average cost impacts in Atlantic Canada” (in 2050’ s)

National Roundtable on the Environment and the Economy (2011): <http://nrtee-trnee.ca/climate/climate-prosperity/the-economic-impacts-of-climate-change-for-canada/paying-the-price>

Options & Opportunities

- Reducing impacts – short-term
- Short-term & long-term planning
- Infrastructure design changes
- Outreach & public education
- Ecosystem services

Contacts & Websites

NB Climate Change Website:

http://www2.gnb.ca/content/gnb/en/departments/elg/environment/content/climate_change.html

NB Climate Change Indicators:

http://www2.gnb.ca/content/gnb/en/departments/elg/environment/content/climate_change/content/climate_change_indicators.html

NB Climate Futures Maps:

<http://www.acasamaps.com/>

Atlantic Regional Adaptation Collaborative Work:

<http://atlanticadaptation.ca/>

Videos:

<http://www.climatechangeatlantic.com/>

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