



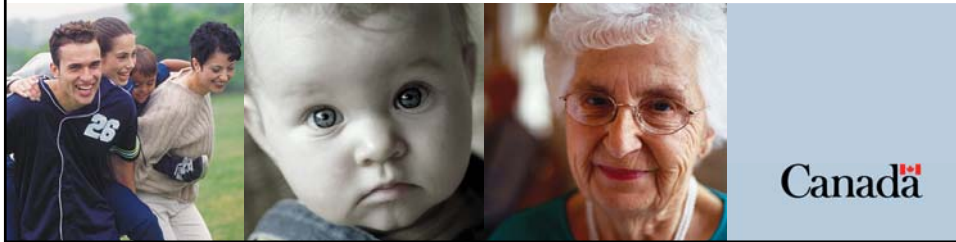
Health Canada
Santé Canada

Your health and safety... our priority.
Votre santé et votre sécurité... notre priorité.

Protecting Health in a Changing Climate

ARC Webinar
July 15, 2008

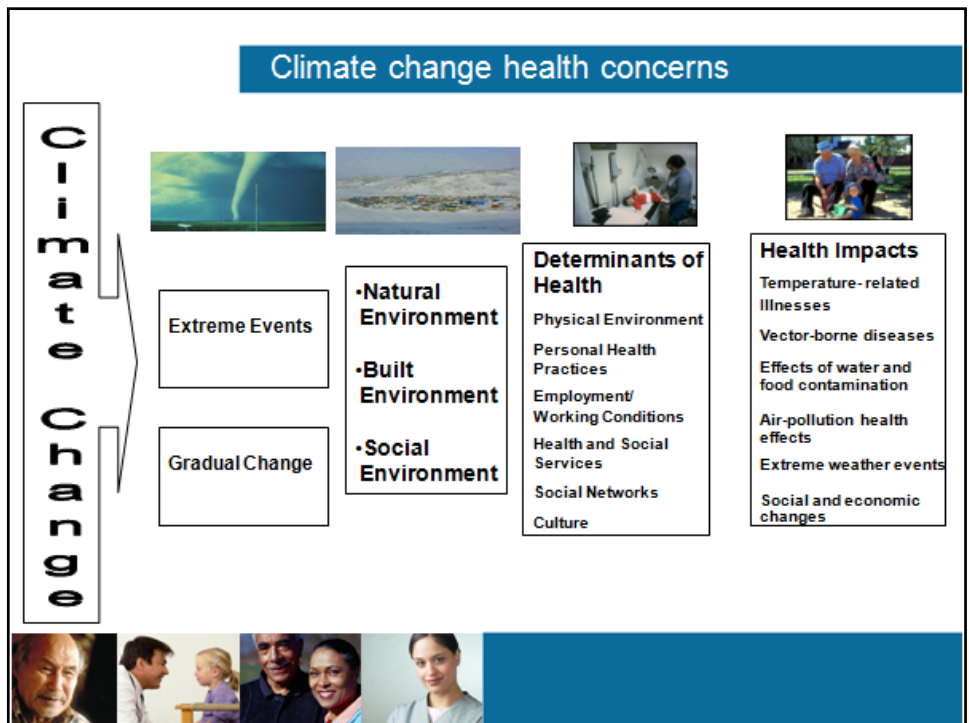
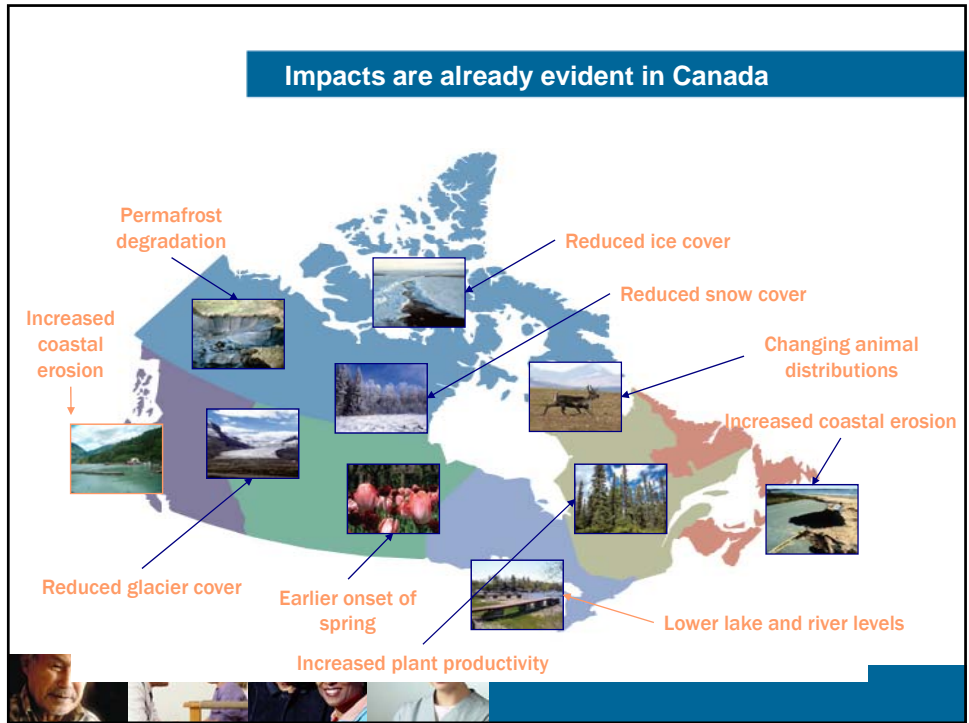
Peter Berry Ph.D.
Climate Change and Health Office
Health Canada



``We may well call it black diamonds. Every basket is power and civilization. For coal is a portable climate. It carries the heat of the tropics to Labrador and the polar circle...a half-ounce of coal will draw two tons a mile, and coal carries coal, by rail and by boat, to make Canada as warm as Calcutta...``

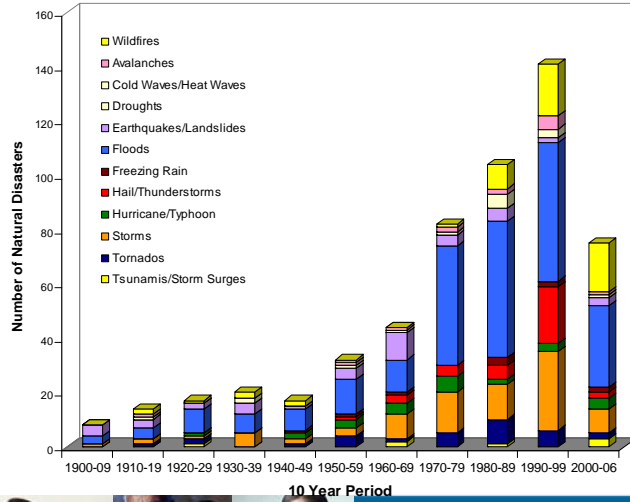
Ralph Waldo Emerson, 1887





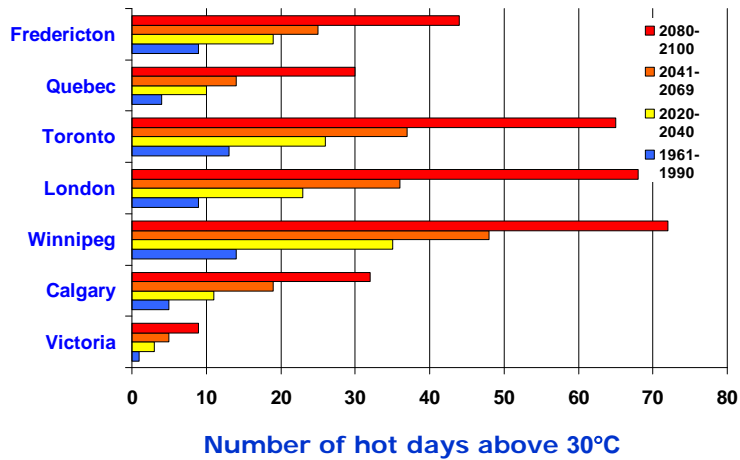
Weather-related disasters are on the rise

Frequency of Natural Disasters in Canada (1900-2006)



Canadian Disaster Database, 2006

Future Projections – Hot Days

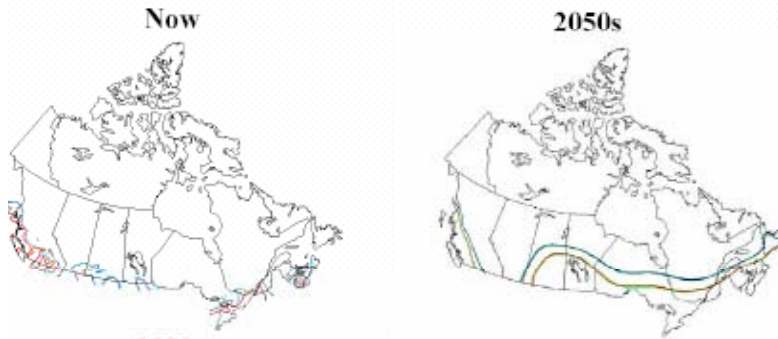


Environment Canada, 2005



Impacts on Infectious Diseases

Possible Spread of *I. Scapularis*

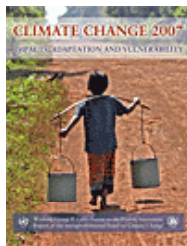


Ogden, 2005



Canada is not immune

Intergovernmental Panel on Climate Change
Working Group II
Climate Change Impacts, Adaptation and Vulnerability
Fourth Assessment Report, 2007



*“... recent work has shown that vulnerability to climate change is also highly variable within individual countries. As a consequence, **some population groups in developed countries are highly vulnerable**”*

Adaptive capacity needs to be improved everywhere; Impacts of recent hurricanes and heat waves show that even high-income countries are not well prepared to cope with extreme weather events.

There are limits to adaptation which relate to the rate of climate change. The rate of climate change is increasing.



Health authorities are adapting

- Adaptation Plans
- Adaptation Tools
- Adaptation Information



Adaptation Plans

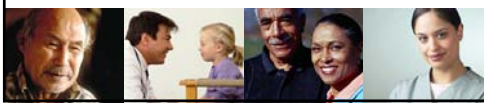
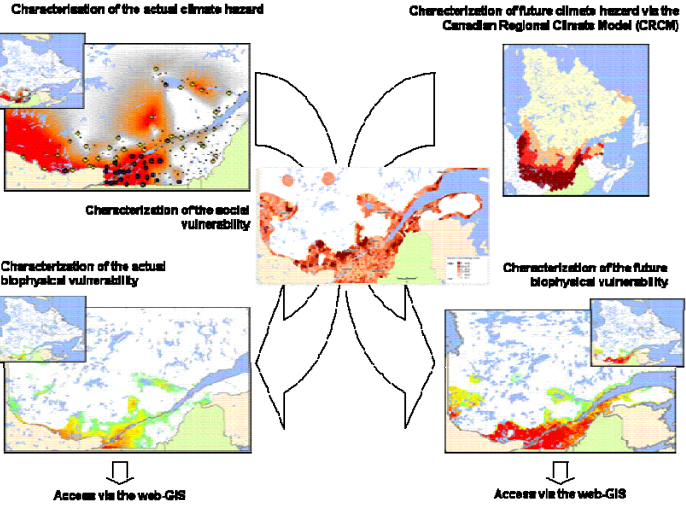
Health Measures Under the 2006-2012 Quebec Climate Change Action Plan

- Setting up an alert and monitoring system for intense heat
- Supporting health network building managers in analysis of the ventilation/air conditioning/dehumidification needs of care institutions
- Improving systems for monitoring infectious diseases and developing training on diseases related to climate change.
- Introducing an epidemiological monitoring system for short- and long-term physical and psychological health problems related to extreme climate events.
- Financial support for the creation of cool areas in urban areas and cooling for strategic infrastructures (hospitals, homes for the elderly, schools, etc) to mitigate the impact of the summer heat waves on the population.
- Support research and development on climate change and health impacts and adaptations

http://www.mddep.gouv.qc.ca/changements/plan_action/2006-2012_en.pdf



Adaptation Tools



Source: Vescovi et al. 2005

Adaptation Information

Living in a changing climate: Health

Our climate is changing and having impacts on the health of Canadians. Understanding the related risks and opportunities is vital for our future. Here are some examples of how we can adapt to climate change.

Air Pollution

There are two sources of air pollution in different ways. A major one is from the production of energy, pollution from power plants, and from cars and trucks. The other is from the ground. The chemical reactions between these two sources can create smog. This is a health hazard.

- Check your local air quality index (AQI) website.
- Reduce outdoor activities when air quality is poor.
- Use public transit, carpool, or walk/bike.
- Many actions to reduce greenhouse gases can also improve air quality and reduce smog.
- Check for leaks in your home.
- Use energy-efficient light bulbs.
- For more information visit www.ec.gc.ca/air

Ultraviolet Radiation

Due to our world's weather change resulting in increased exposure to ultraviolet radiation, Canadians in all parts of Canada will have to take extra safety precautions. Ultraviolet radiation can cause skin cancer and eye damage.

- Check for the UV index for your region.
- When outdoors, apply the 5 A's: Avoid sun, Apply sunscreen, Seek shade, and wear a hat and sunglasses.
- For more information visit www.ec.gc.ca/uv

Heat Waves

Heat waves can be dangerous to your health. They can cause dehydration, heatstroke, and other health problems. Heat waves can also affect your ability to work and study.

- Stay hydrated.
- Take breaks in shaded or air-conditioned areas.
- Wear light-colored, loose-fitting clothing.
- For more information visit www.ec.gc.ca/heat

Extreme Weather

Extreme weather events such as floods, fires, and hurricanes can cause property damage and loss of life. It is important to have a plan in place for these events.

- Check for local weather forecasts.
- Have a family emergency plan.
- For more information visit www.ec.gc.ca/emergency

Water- and Food-borne Illnesses

Warmer temperatures can increase the number and variety of bacteria that cause food-borne illnesses. This can lead to food poisoning and other health problems.

- Wash your hands thoroughly.
- Use proper food handling techniques for cooking and eating.
- Check for recalls on food products.
- For more information visit www.ec.gc.ca/food

Canada Adaptation - There is a lot we can do! C-ClARN

adaptation.nrcan.gc.ca www.c-ciarn.ca/health_poster_e.html



http://www.c-ciarn.ca/health_poster_e.html

Adaptation Information



Canadian Red Cross

A Guide to Floods



<http://www.redcross.ca/article.asp?id=4653&tid=025>



Adaptation challenges

- What information not merely informs but changes behaviour?
- What is adaptation? What is needed to do to adapt?
 - New** activity? (e.g., heat alert system)
 - Better** activities? (e.g., public outreach – “maladaptation”)
 - More** activities? (e.g., expanded surveillance)
- How do you “mainstream” adaptation?
 - acquire information about implications of future climate
 - consider climate in routine risk assessments
 - institutionalize climate considerations into assessment and planning
- How do you take a multi-sectoral/jurisdictional approach?
 - federal, provincial/territorial, municipal level collaboration
 - health considerations in multi-sectoral planning
- What are the costs of adapting? What are the costs of **not** adapting?



Health Canada's Activities

- Climate Change and Health Vulnerability Assessment
- Extreme Heat and Health Initiative
- Adaptive Capacity of Individual Canadians



Health Canada Vulnerability Assessment

Human Health in a Changing Climate: A Canadian Assessment of Vulnerabilities and Adaptive Capacity

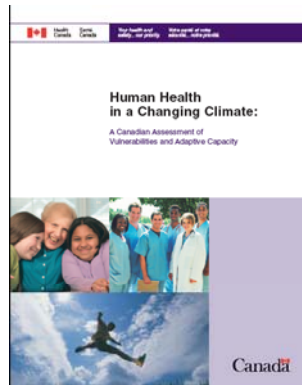


Table of Contents

- Introduction: Health in a Changing Climate
- Assessment Methods
- Impacts of Climate Change on Water, Food, Vector and Rodent-borne Diseases in Canada
- Air Quality, Climate and Health
- Canadian Vulnerabilities to Natural Hazards and Extreme Weather
- Health Impacts of Climate Change in Quebec
- Health Impacts of Climate Change in Canada's North
- Vulnerabilities, Adaptation and Adaptive Capacity in Canada



Extreme Heat and Health

Heat Alert and Response Systems

- Pilot systems in Canadian communities
- Best practices guidebook
- Health messaging to change behaviour



Health Professional Interventions and Training

- Thermoregulatory research
- Development of clinical guidelines for use in Canada
- Development of training materials



Adaptive Capacity of Individuals

Research Project – HC / PHAC / Peel Public Health

- Develop an inventory of individual level adaptation messages to health risks posed by climate change
- Examine to what extent Canadians perceive risks to human health from weather extremes, climate variability and natural disasters
- Identify the extent to which individuals are responding to the current advice on needed adaptations related to a range of health risks
- Characterize variations and gaps in current adaptation efforts among Canadians



Perceptions of Seniors

Seniors are least likely to....

- believe that climate change is definitely occurring
- be able to name at least one health impact from climate change
- think that climate change poses risks to health today
- think that either they or their community is vulnerable to climate change impacts
- name seniors as a population that is vulnerable to health impacts of climate change

EnviroNics, 2008



Take away messages

- Climate change poses significant risks to the health of Canadians
- Governments, communities and individuals must increase efforts to address increased health risks
- Health and emergency sector officials can learn from the actions being taken by others and benefit from sharing information and best practices
- Health Canada will continue working with its partners to increase understanding of the health risks and facilitate needed adaptations



More Information

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