




2024

CLIMATE CHANGE *and* HEALTH *in* DURHAM REGION

Understanding the local health impacts of climate change



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An aerial photograph of a rural landscape. The foreground shows a green field with a white building and a dirt road. The middle ground features a mix of green fields and trees. The background shows rolling hills under a cloudy sky. A semi-transparent white box is overlaid on the center of the image, containing text.

The Region of Durham exists on lands that the Michi Saagiig Anishinaabeg inhabited for thousands of years prior to European colonization. These lands are the traditional and treaty territories of the Nations covered under the Williams Treaties, including the Mississaugas of Scugog Island First Nation, Alderville First Nation, Hiawatha First Nation, Curve Lake First Nation, and the Chippewa Nations of Georgina Island, Beausoleil and Rama.

We honour, recognize, and respect Indigenous Peoples as rights holders and stewards of the lands and waters on which we have the privilege to live. In our efforts towards reconciliation, we continue to build and strengthen relationships with First Nations, as well as the large Métis community and growing Inuit community here in Durham. We commit to learning from Indigenous values and knowledge, building opportunities for collaboration, and recognizing that we are all connected.

CLIMATE CHANGE AND HEALTH IN DURHAM REGION:

Understanding the local health impacts of climate change

REPORT | June 2024

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Message From the Medical Officer of Health



Durham Region is experiencing the impacts of climate change. Increased extreme heat days, extreme weather and other climate-related hazards are associated with greater health burdens that are expected to increase as the effects of climate change intensify. The World Health Organization warns that climate change is the greatest health challenge of the 21st century. On January 29, 2020, Durham Regional Council voted to declare a climate emergency and accelerate actions to reduce greenhouse gas emissions and build a climate-resilient region.

As part of our mandate, Durham Region Health Department has undertaken a climate change and health vulnerability assessment to determine current and future impacts of climate change on the health of area residents. This assessment is an important tool to assist decision-makers, municipalities, and community partners in understanding how climate change may impact the residents they serve and what steps can be taken to reduce harmful health impacts.

Climate change does not affect everyone equally. Priority populations are at greater risk for health impacts due to increased sensitivity, exposure, and/or a decreased capacity to adapt. For example, children, older adults, and individuals with pre-existing health conditions can be more susceptible to the effects of extreme heat. People with limited resources, including individuals living with low income, are more at-risk due to factors such as inadequate housing, transportation, and financial supports.

A commitment to climate equity means prioritizing those who are worst affected and least protected. Our vulnerability assessment will help us understand who may be most affected by the negative health impacts of climate hazards and help identify and plan adaptation measures to protect and promote the health of Durham Region communities. It will also enhance the capacity of area residents to identify and reduce the health impacts of climate change.

This is a critical time for climate action and Durham Region is committed to supporting climate resiliency. Fortunately, many of the solutions to address climate change offer numerous health benefits including, the provision of cleaner air and water; more trees and green spaces; walkable neighbourhoods; safer and more energy efficient housing; and healthy, diverse ecosystems. In short, climate change action is good for everyone's health.

Dr. Robert Kyle

Commissioner & Medical Officer of Health

A handwritten signature in black ink, appearing to read 'R. Kyle'.

About this Report

Climate change is projected to be the most challenging public health issue of the 21st century and is already affecting the lives of Canadians through impacts to our environment, economy, health, and well-being. [1, 2, 3]

Future projections anticipate more intense and frequent climate dangers such as extreme heat, wildfires, and flooding over the next 20 years. Without significant action, the livability of the planet and the communities we call home are at risk. [4]

Federal and provincial health authorities have conducted vulnerability assessments to determine the impact of climate change on health, equity, and wellbeing. However, less is known about the local health risks and vulnerabilities faced by municipalities in Ontario. To fill this knowledge gap, Durham Region initiated a climate change and health vulnerability assessment (CCHVA) to determine current and futures impacts of climate hazards on the health and wellbeing of Durham residents.

Durham's vulnerability assessment has been completed as themed stand-alone reports, released in sequence over several months. This report is a background reference document for the subsequent topic-focussed assessments that explore local health impacts of: extreme heat; extreme weather; poor air quality; vector-borne disease; ultraviolet radiation; and, food and water contamination and insecurity.

The purpose of this background report is to provide information on:

- The relationship between climate change and health.
- Climate hazards of concern and their related health impacts.
- Key factors for defining and assessing climate vulnerability and why some people and communities face greater health risks than others.
- The critical importance of an equity-focussed approach when assessing climate vulnerabilities and possible adaptation measures.
- A summary of local Durham Region environmental and community features relevant to climate change and health analysis.
- An overview of the CCHVA process undertaken by the Durham Region Health Department.

A Roadmap To This Report

- Chapter 1: Understanding Climate Change** - how our climate system works, what factors cause climate changes and the impacts of these changes now and in the future.
- Chapter 2: Climate Change and Health** - the vast health impacts of climate change, understanding factors of vulnerability, and the need for an equity-focused approach to protect and promote community health.
- Chapter 3: The Way Forward** – how health can be integrated into climate risk identification, mitigation, and adaptation strategies; including plans and methodology for Durham Region’s CCHVA assessment.
- Chapter 4: Durham’s Setting** – an exploration of how Durham Region’s rich and varied landscape influences and is affected by climate change.
- Chapter 5: Portrait of Community** – a detailed overview of the unique characteristics and needs of Durham Region’s diverse and growing population.

Report format:

Each chapter is formatted as a “stand alone” document and includes key messages, terms and definitions, acronyms, helpful resources, and references.

