

INTERDISCIPLINARY CENTRE ON CLIMATE CHANGE

A close-up photograph of a small green seedling with two leaves growing out of a patch of dry, cracked brown soil. The background is blurred, showing more of the same dry, cracked ground stretching into the distance under a hazy sky.

UNIVERSITY OF
WATERLOO

Interdisciplinary Centre on Climate Change | IC³

The Climate Crisis

Climate change is recognized as one of the defining challenges of the 21st century. Over 180 countries of the world have signed the Paris Climate Agreement* and are working together on solutions to reduce greenhouse gas emissions and keep the global temperature from rising more than 2°C above preindustrial levels. To decarbonize global energy systems and adapt to the unprecedented risks of climate change, urgent action and transformative research are needed.

The Interdisciplinary Centre on Climate Change

Established in 2008 and based at the University of Waterloo, the Interdisciplinary Centre on Climate Change (IC³) provides a focal point for interdisciplinary climate change research, training, and knowledge mobilization.

Mission

To facilitate interdisciplinary research and education that empowers business, government and civil society to respond effectively to climate change and accelerate the transition to a low-carbon and climate-resilient society.

IC³ has three core objectives

Catalyze world-leading climate change research and innovation at the University of Waterloo

Provide experiential training for the climate leaders of tomorrow

Build new capacity and collaborations on our campus, in our community, in our country, and around the world

IC³ members

70+
Members

19
Departments
and Schools

6
Faculties

8
Research
Chairs***

*UNFCCC: unfccc.int/process/the-paris-agreement/status-of-ratification

**Bush, E. and Lemmen, D.S., editors (2019): Canada's Changing Climate Report; Government of Canada, Ottawa, ON. 444 p.

***University Research Chairs and Canada Research Chairs



IC³ Sub-Centres

INTACT CENTRE ON CLIMATE ADAPTATION

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The Intact Centre is an applied research centre with a national focus that works with homeowners, communities, governments and businesses to identify, and reduce, the impacts of extreme weather and climate change.



THE CANADIAN CRYOSPHERIC INFORMATION NETWORK (CCIN) AND POLAR DATA CATALOGUE (PDC)

CCIN provides a platform for the exchange of cryospheric information to the research community, public, northern communities, and decision makers. PDC, a repository of Arctic and Antarctic research metadata and data records, is the official National Antarctic Data Centre (NADC) for Canada.

IC³ supports climate change research and innovation in three critical areas:



Physical Science

From the role of artificial intelligence in future climate projections to remote sensing and geospatial modeling in the Arctic and Boreal Zone, IC³ researchers are using diverse methods and technologies to study how the climate is changing. This research helps to inform our understanding of how the climate system works, how it is expected to change, and the implications of these changes for natural systems, such as polar ice, forests, and coasts, and natural hazards, like floods, wildfires, and ice storms.

Adaptation

As the climate continues to change, researchers at IC³ are assessing the risks and opportunities of diverse impacts, and ways we can adapt to build climate-resilient communities and economies. Several key areas of adaptation research include the health impacts of climate change, land use planning, sustainable tourism, and the social and economic impacts of extreme weather events, particularly flooding.

Mitigation

Tackling climate change head on, many of IC³'s researchers are exploring ways we can reduce greenhouse gas emissions to achieve global and national policy goals. These researchers are focused on climate policies, governance, and clean tech solutions, such as renewable energy sources, carbon storage and sequestration, residential energy efficiency, and climate geoengineering technologies, that will support the global transition towards a low-carbon society.



IPCC and the UN Conference of the Parties (COP)

IC³ is an official observer to the United Nations Framework

Convention on Climate Change and participates in the annual Conference of the Parties (COP) to provide our top students and researchers with immersive exposure to global climate change negotiations and globally leading research. Many of our researchers have also contributed to the groundbreaking reports of the IPCC, assessing the changes to our climate and the resultant risks for our planet and society.

The University of Waterloo: A Canadian pioneer in climate change education

The University of Waterloo is training the first generation of climate change professionals. The University offers two graduate programs that equip its students with the specialized knowledge and skills necessary to manage, minimize, and mitigate climate change and extreme weather impacts.

- › Master of Climate Change (MCC)
- › Online Graduate Diploma (GDip) in Climate Risk Management (CRM)



Learn more about climate change at the University of Waterloo

uwaterloo.ca/climate-centre

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