FACT SHEET

The climate crisis and health: Impacts on Ontario

Key manifestations of climate change

Definitions

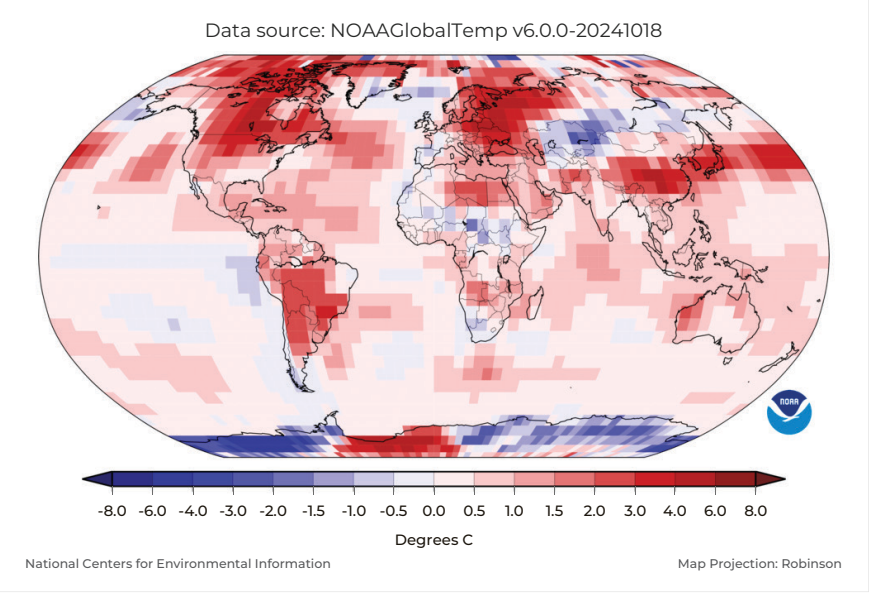
Greenhouse gases (GHGs): Gases in the Earth's atmosphere that trap heat like a blanket wrapped around the earth, including carbon dioxide (CO_2 76 per cent), methane (CH_4 16 per cent), nitrous oxide (N_2O 6 per cent) and others (2 per cent). When released to the atmosphere, we refer to them as "GHG emissions."

Global warming: The rise in the Earth's average temperature over recent decades. The global average near-surface temperature of 2023 was the highest on record, with an increase of 1.45 ° C (with a margin of uncertainty of ± 0.12 ° C) from the pre-industrial baseline, based on the World Meteorological Organization (WMO) report.

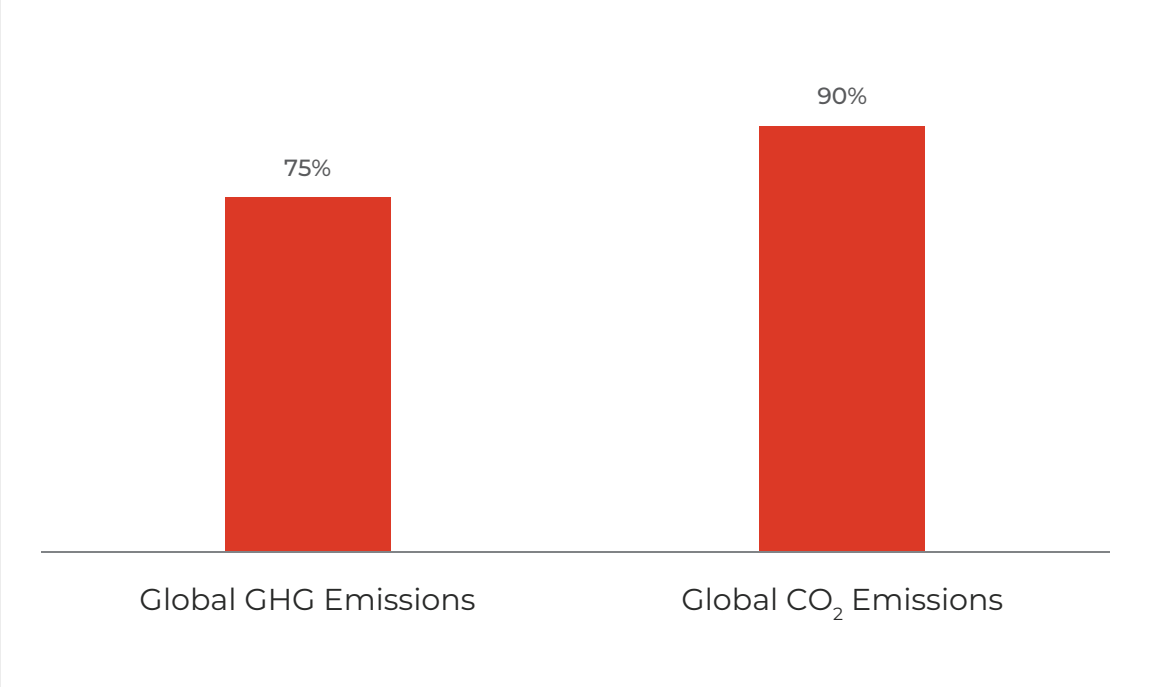
Climate change: Long-term shifts in temperatures and weather patterns. Human activities have been the main driver of climate change since the 1800s, due to: 1. the burning of fossil fuels like coal, oil and gas, and 2. agriculture and deforestation. Some climate change results from natural causes (for example, changes in the sun's activity or large volcanic eruptions). Consequences of climate change include disrupted climate patterns, intense droughts, water scarcity, severe fires, rising sea levels, flooding, melting polar ice, catastrophic storms and declining biodiversity.

Global stocktake: A requirement in the Paris Agreement for parties to review and assess implementation efforts and collective progress towards achieving the agreement's purpose and long-term goals.

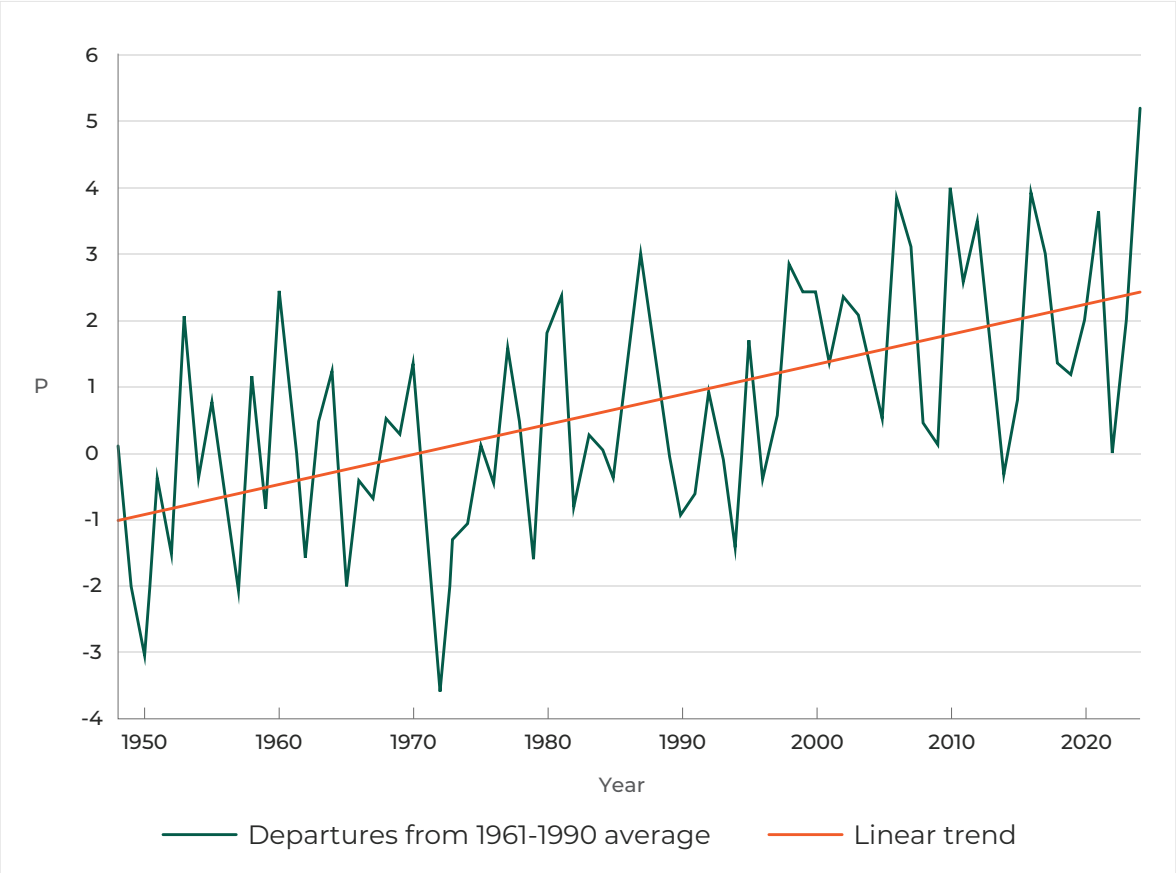
Land and ocean temperature departure from average for September 2024 (with respect to a 1991-2020 base period)[1]



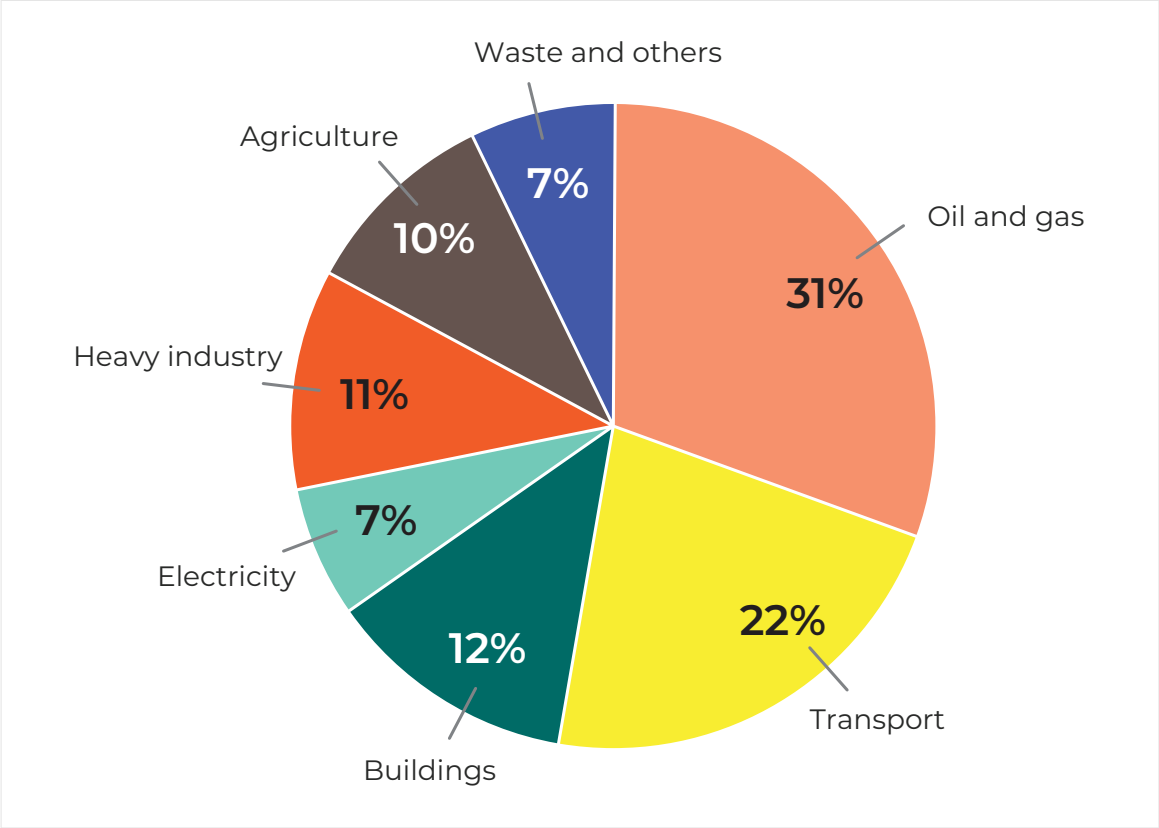
Contribution of fossil fuels to global greenhouse gas (GHG) emissions[2]



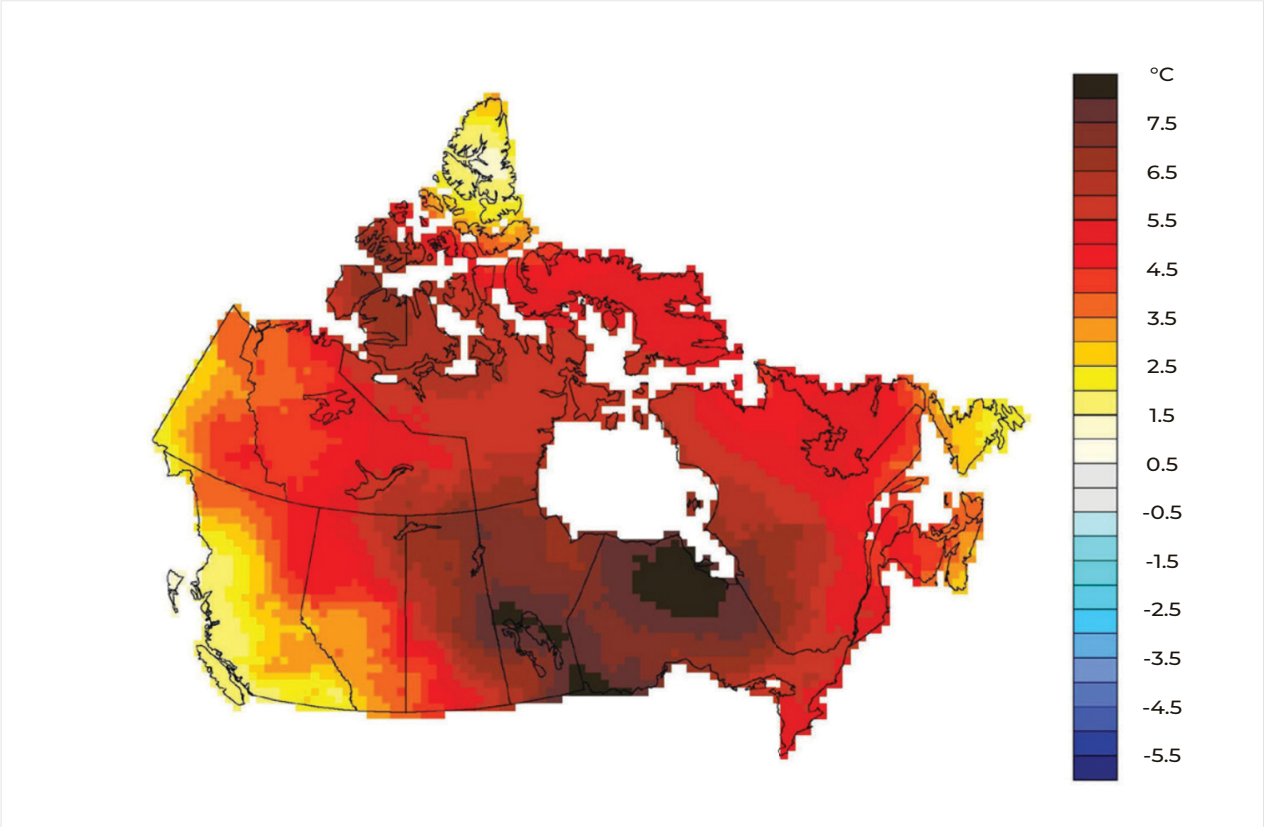
Winter national temperature departures and long-term trends in Canada, 1948– 2024[3]



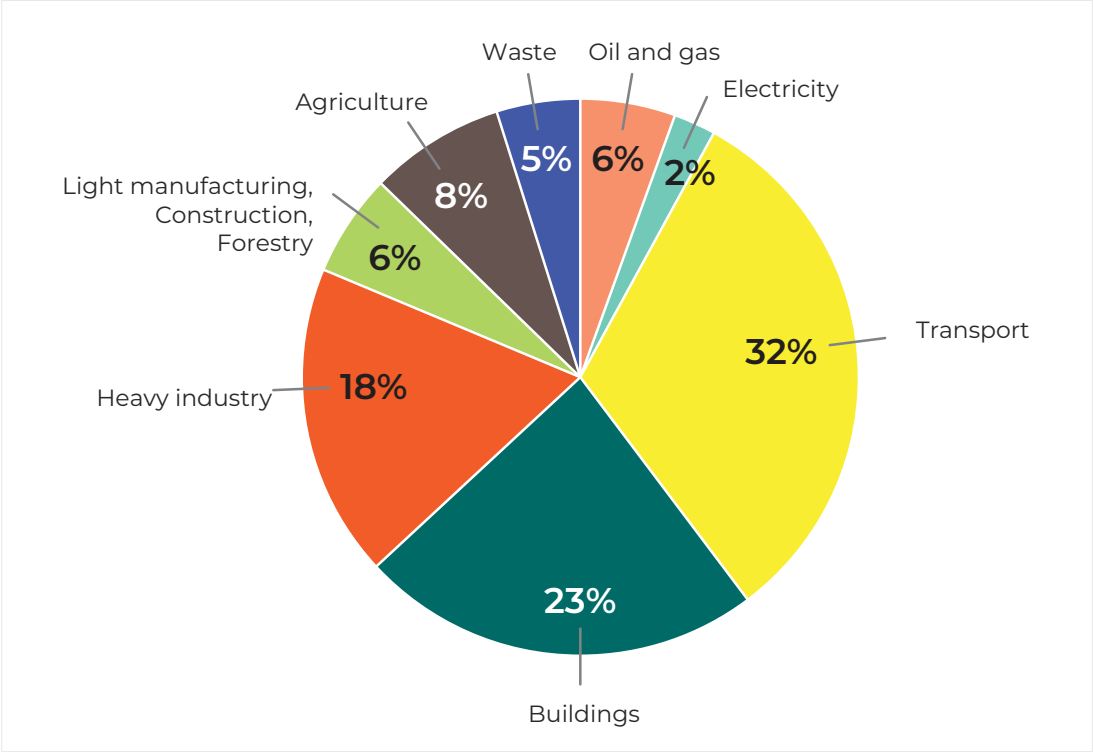
2022 Canada GHG emissions by economic sectors[4]



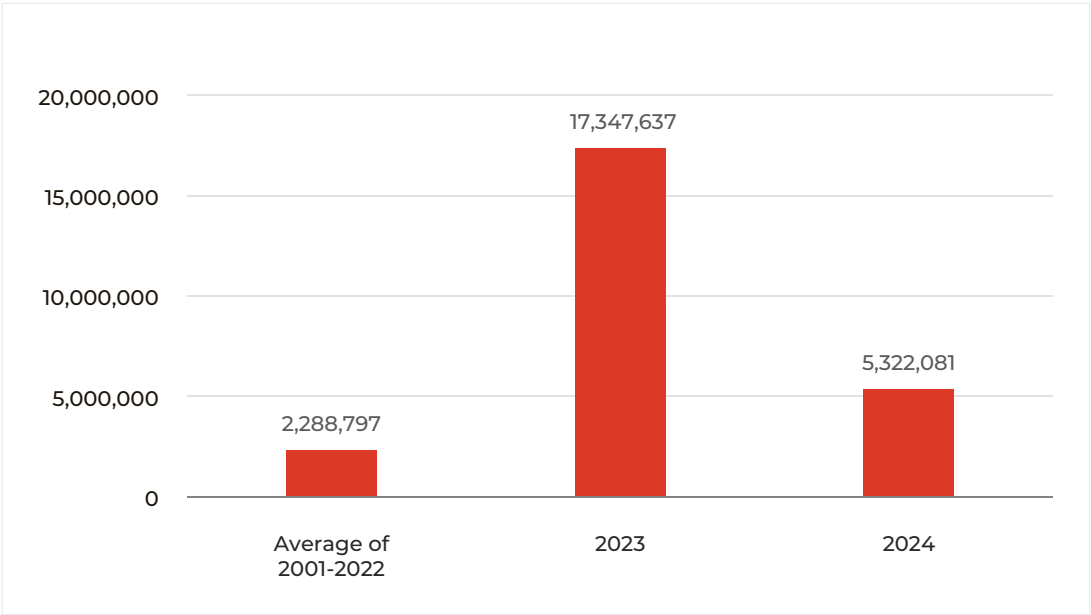
Temperature departures from the 1961-1990 average – Winter 2023-24 in Canada[5]



2022 Ontario GHG emissions by economic sectors[6]



Annual wildfire burned area (hectares) in Canada[7]

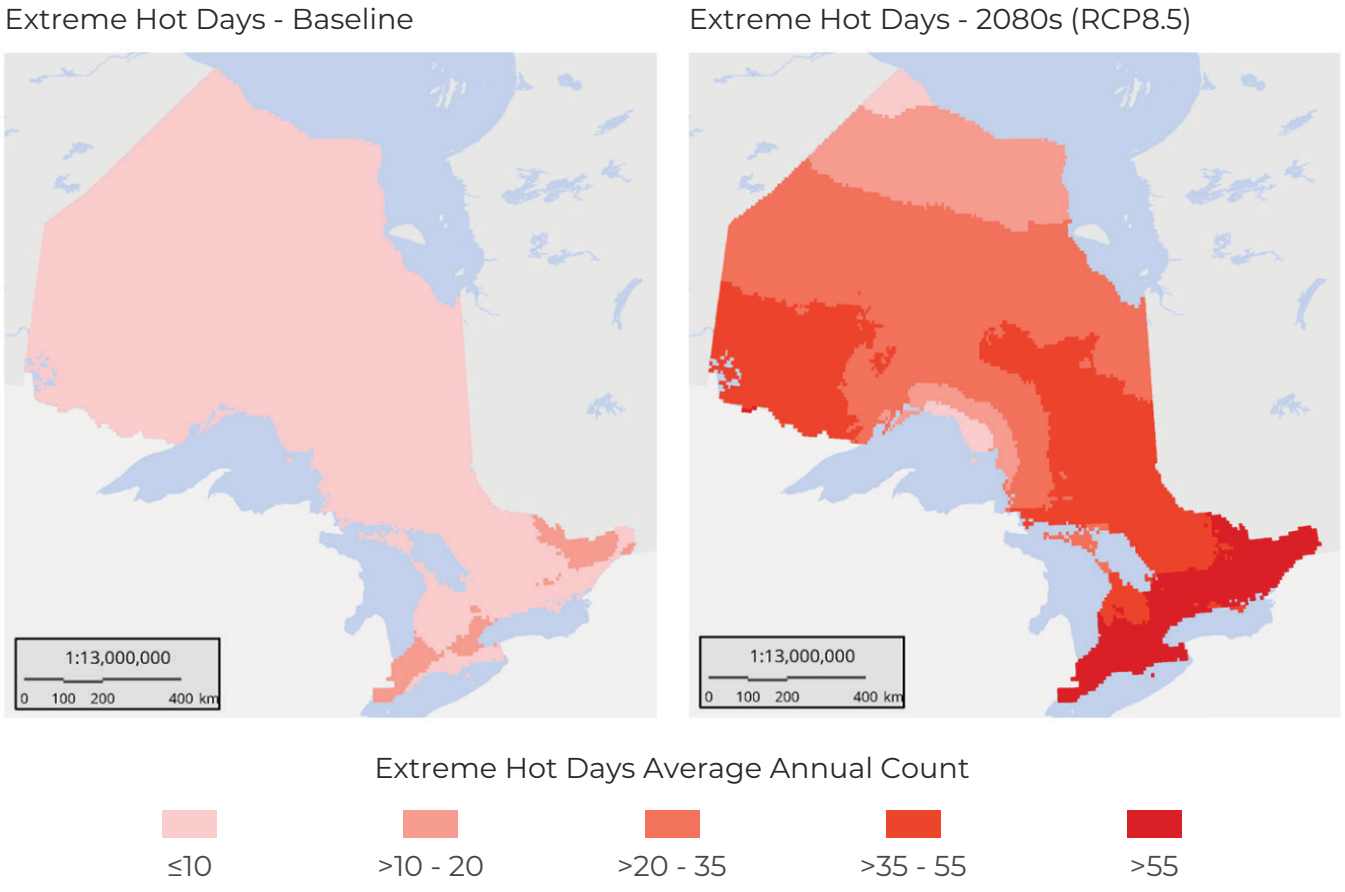


2023 Canadian wildfires:

- burned more than 7 times the average annual burned area from 2001 to 2022.
- produced 2,370 $MtCO_2$ equivalent, tripling the 2022 official GHG emissions of Canada (708 $MtCO_2$)

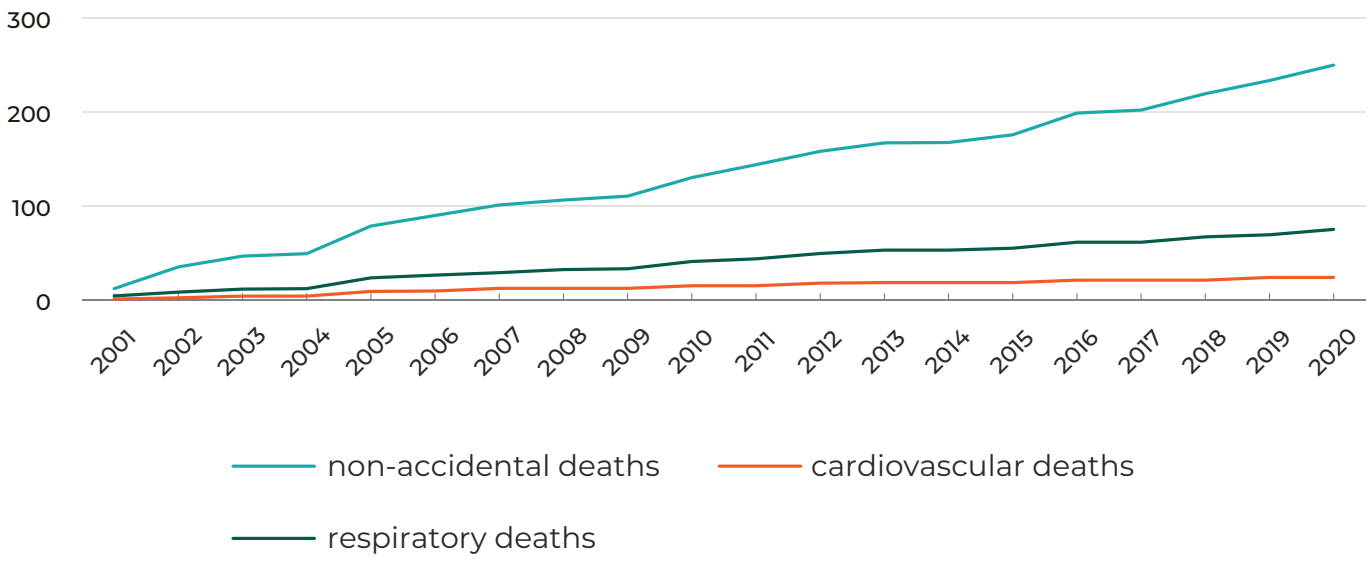
The 2024 wildfires burned more than double the average annual burned area from 2001 to 2022.

Temperature projections for Ontario[8]

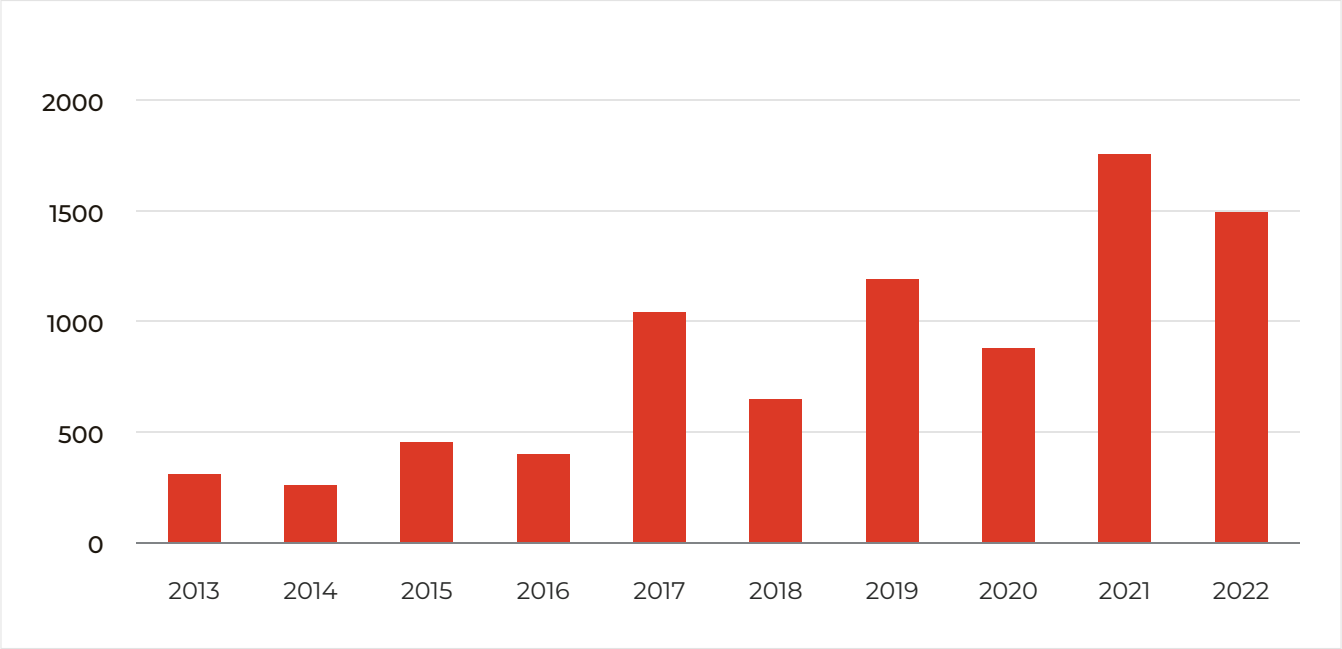


Health threats from climate change

Excess deaths attributable to extreme heat events in Toronto[9]



Number of Lyme disease cases in Ontario[10]

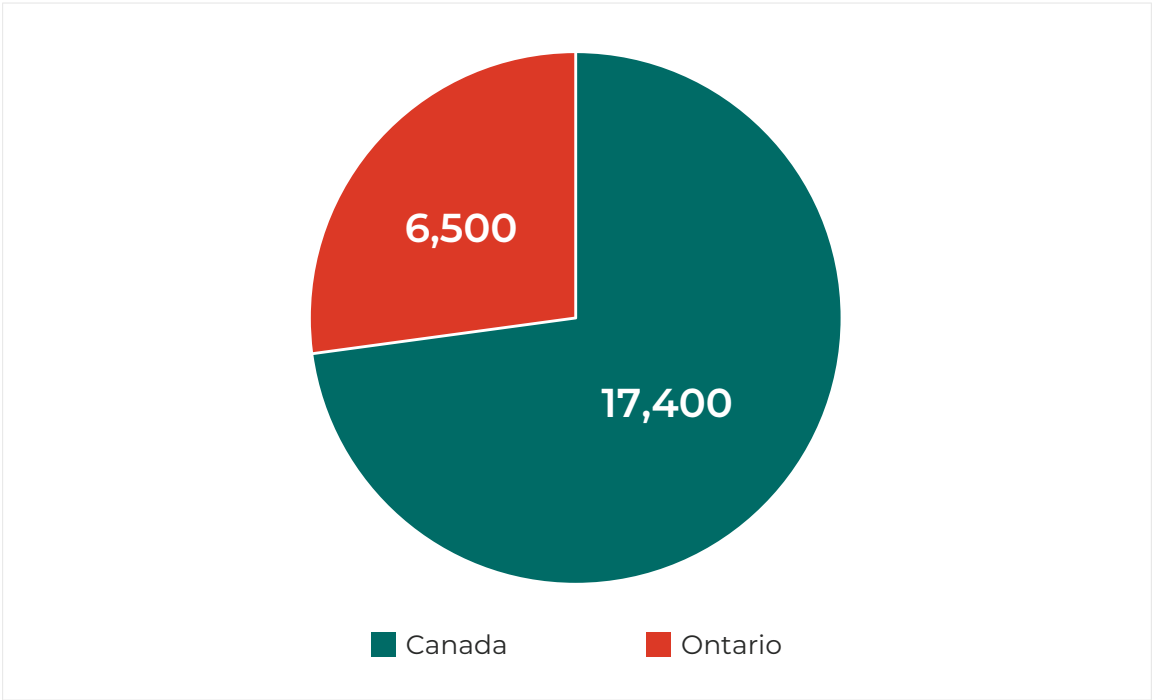


Increased estimated risk areas of Lyme disease

Estimated risk areas are locations where blacklegged ticks have been identified and where humans have the potential to come into contact with infected ticks.

Blacklegged ticks are now found further north and at higher altitudes than in 2018.

Number of premature deaths contributed by above-background air pollution in 2018[11]



Climate equity and environmental justice

Health inequities of climate change: the example of asthma[12]

Indigenous Peoples

40%

more prevalent than in the general Canadian population

Children and youth

62%

more prevalent than in adults

Low-income

1.5 times

hospitalization rates - 1.5 times higher in the lowest-income neighbourhoods than the highest one

Risks of climate change to determinants of health[13]

Increased risks for:

- Food security
- Water security
- Energy security
- Infrastructure stability
- Economic stability
- Natural system and species

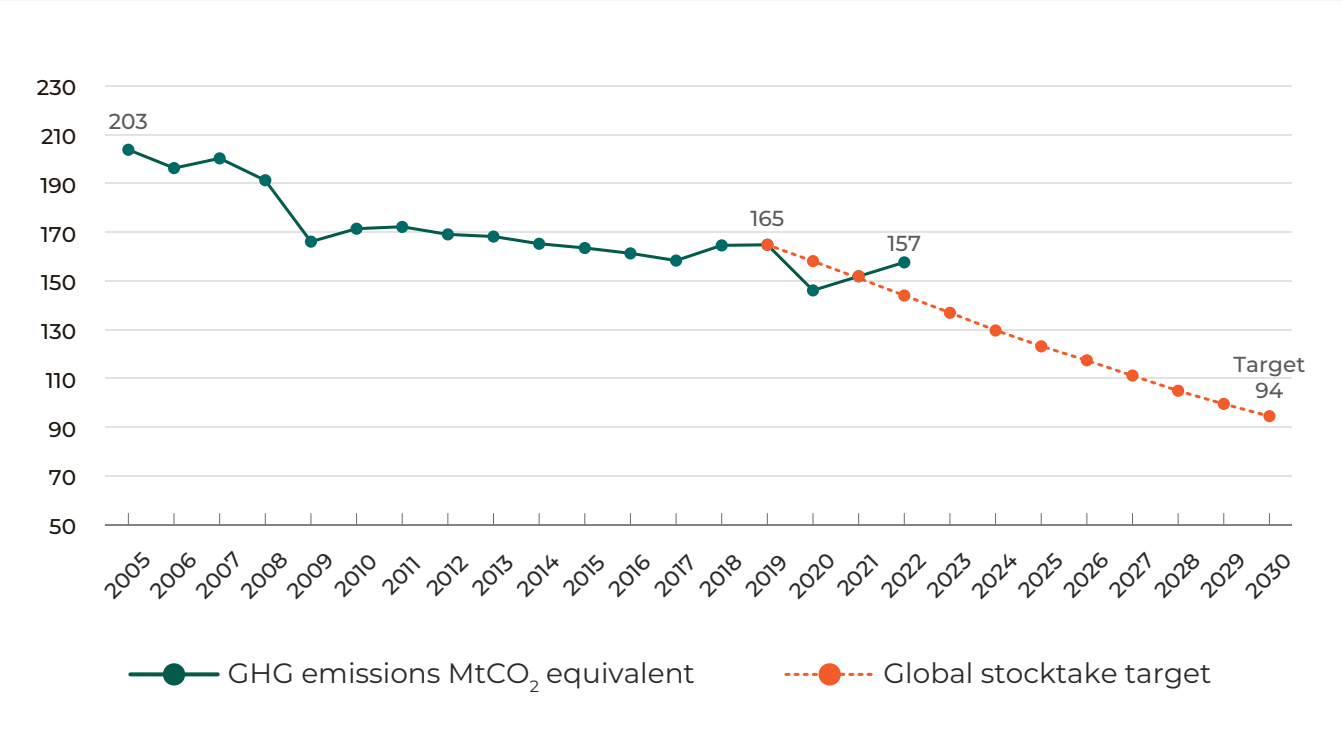
Increased risks to:
Vulnerable populations including:

- Indigenous Peoples
- Economically disadvantaged
- People with disabilities
- Children and youth
- Seniors

"Climate change has already had significant impacts on the individuals, communities, and associated services in Ontario.... The assessment reveals that climate risks are highest among Ontario's most vulnerable populations and exacerbate existing disparities and inequities (e.g. unhoused population, Indigenous population). Climate risks to Indigenous Communities and associated systems are found to be significant based on the additional layers of sensitivity and exposure related to their close relationship with the environment and its natural resources, and based on the dispersed nature of their communities noted in the far north region of Ontario."

Tackling climate crisis: Calling for GHG mitigation and reduction

Ontario GHG emissions over time and global stocktake target[14]



References

Page 1, definitions section: https://www.un.org/en/climatechange/what-is-climate-change; https://wmo.int/news/media-centre/climate-change-indicators-reached-record-levels-2023-wmo#:~:text=The%20WMO%20report%20confirmed%20that,ten%2Dyear%20period%20on%20record; https://www.c2es.org/content/international-emissions/#:~:text=by%20Gas%2C%202015-,Notes,are%20expressed%20in%20CO2%2Dequivalents

1. Adapted from https://www.ncei.noaa.gov/access/monitoring/ghcn-gridded-products/#global-maps-select
2. Source: https://www.un.org/en/climatechange/science/causes-effects-climate-change
3. Source: https://www.canada.ca/content/dam/eccc/documents/pdf/climate-change/trends-variations/winter2024/CTVB_Winter_2024-Bulletin_EN.pdf
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5. Source for 1a & 1b: https://www.canada.ca/content/dam/eccc/documents/pdf/climate-change/trends-variations/winter2024/CTVB_Winter_2024-Bulletin_EN.pdf
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