THRIVE TORONTO

Understanding the Impacts of Climate Change on Mental Health

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Thrive Toronto brings together partners from municipal government, community organizations, healthcare and public health to drive meaningful action to improve the mental health of Torontonians. Our mission is to transform Toronto into a city where everyone can thrive. Visit www.thriveto.ca for more information.

About this document

Understanding the Impacts of Climate Change on Mental Health is part of a series of papers on climate and mental well-being produced by Thrive Toronto to inform its future climate-focused work. Visit www.thriveto.ca to see the complete series, including a Glossary of Terms to support accessibility and understanding of key concepts.

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Climate Change and Planetary Health

Climate change presents significant threats to human health, driving increasingly severe impacts on the physical health[1,2], mental health and psychosocial well-being of people in Canada[3,4] and across the world[5]. Our reliance on fossil fuels, deforestation, and activities that create pollution are driving these changes and intensifying their effects[4]. These include increased average temperatures, more frequent and intense extreme weather events (i.e., floods, storms and wildfires), loss of biodiversity, food and water insecurity, and loss of place and culture[2,4]. Without stronger efforts to mitigate damage and adapt to changing conditions, mental health challenges in Canada are expected to rise[3,6].

Research shows that the mental health impacts of climate change are not experienced equally, as they are deeply linked with environmental justice issues and shaped by a complex interplay between social and ecological determinants of health[4,5]. Climate hazards interact with social determinants, worsening existing systemic disparities such as income inequality, housing insecurity, limited healthcare access, and systemic discrimination[3]. These factors increase vulnerability to both physical and mental health impacts. Consequently, populations already facing social and structural inequities are likely to bear the greatest burden of mental health and psychosocial impacts from the climate crisis[3]. Groups particularly at risk include First Nations, Inuit and Métis peoples, Black and racialized communities, children and youth, older adults, people living with poverty or homelessness, those with disabilities and pre-existing mental health conditions[1,2].

As climate change drives more frequent and intense extreme weather events, the likelihood of experiencing overlapping or successive climate-related disasters grows[3]. Cumulative exposure can overwhelm individuals, communities, and systems, diminishing their ability to adapt and respond effectively[7]. The cumulative experience of anticipating and experiencing threats reduces the capacity of individuals and communities to recover and address systemic drivers of climate change[8].

Climate Change Impacts for Toronto

Cities with populations over one million face heightened risks to public health and well-being as extreme climate events interact with complex urban infrastructure systems[9]. Dense populations, the urban heat island effect, proximity to coasts and inland waterways[10] all increase a city's vulnerability to extreme weather[11]. In Toronto, the frequency of wildfire smoke, reduced air quality,

rising temperatures, flooding, and storms has increased, placing additional stress on residents' health and well-being. The number of extreme heat days (i.e., temperatures are above 30°C) in Toronto have risen from an average of eight days in the 1950s to 18 days per year[9]. If global emissions trends remain unchanged, Toronto could face 46 additional extreme heat days annually by 2049[12], along with increased precipitation and extreme storms. These changes are expected to cause flooding and erosion, infrastructure damage, degradation of habitat and water quality, with associated disruptions to services and the economy[9,13].

Climate hazards interact with existing social disparities across Toronto neighbourhoods, creating complex risks for community mental health and resilience. The City's Heat Vulnerability Index demonstrates that heat exposure, sensitivity, and adaptive capacity are unevenly distributed across Toronto[14]. Demographic and socioeconomic differences along with variations in land use and greenspace, all contribute to neighbourhood vulnerability. Low-income and racialized neighbourhoods are especially impacted by extreme heat, as they often have fewer parks and trees[15].

Climate Change and Mental Health & Well-Being: How they Intersect

Climate change can impact mental health in a variety of ways, from worsening existing conditions to triggering new stressors like anxiety, complicated grief, depression, post-traumatic stress, survivor guilt, and recovery fatigue[3,4]. It can also weaken people's sense of community cohesion, belonging, and purpose, leading to higher levels of stress, suicidal thoughts, increased hospital visits, and harmful coping behaviours such as substance use or aggression[3,4]. These effects may emerge immediately after exposure to extreme weather events, or may take months or years to appear[4].

Understanding how people respond to climate change and related environmental risks is essential to addressing the mental health and well-being challenges they present. Individuals report a wide range of complex emotions in response to the climate crisis, biodiversity loss and species extinction, ranging from despair and grief to hope and empowerment[2,16]. New terms such as "climate emotions", "eco-anxiety", "eco-grief", and "solastasia" have emerged to describe these reactions, which are collectively referred to as "climate-related distress" [3]. These responses could be considered understandable and adaptive reactions to the threat posed by climate change and some may argue that framing them as mental health issues may be unhelpful, as it risks prioritizing individualized solutions rather than the bigger systemic changes needed to address root causes of climate change [2,16]. Nonetheless, without effective coping strategies, such distress can impair daily functioning and increase the risk of mental health challenges[2].

Climate-related distress exists on a spectrum. For some, strong emotions may become overwhelming, leading to paralysis, avoidance and denial in response to the scale of the issue. For others, these feelings may promote agency and mobilization, empowering people to take pro-environmental actions[17,18]. In this sense, climate-related distress could have some positive community benefits through the emergence of active hope, civic engagement, and collective efficacy, ultimately strengthening community belonging and post-traumatic growth[2,4].

There are several complex pathways in which climate change impacts mental health[2]:

Direct Impacts of Climate Change on Mental Health

Direct exposure to extreme weather events can trigger acute stress, anxiety, depression, sleep disorders, burnout, and loneliness[2,3]. These effects may be long-lasting. For example, individuals previously exposed to floods may experience anxiety during heavy rainfall or when other serious weather advisories are issued[18]. Heatwaves are consistently linked with higher rates of suicide, increased hospital visits for mental illness, and poorer overall mental health and well-being across communities[19].

Indirect Impacts of Climate Change on Mental Health

Climate change exacerbates socioeconomic, environmental, political and physical conditions[2]. Climate hazards can cause economic instability, displacement, and shortages of food and water, leading to ongoing stress, anxiety, and depression[2,3]. Children and youth are particularly affected by the disruptions caused by extreme weather events on education, a key determinant of mental health[2]. Air pollution and extreme temperatures also disproportionally impact children, expectant mothers, older adults and people with disabilities or pre-existing health conditions, limiting their outdoor activities and increasing risks of social isolation[2,3]. Climate hazards can also disrupt access to health, social, and community supports and services[6]. On a political level, insufficient action on climate change by governments, corporations and institutions can foster political apathy and disengagement, especially among young people[2], which in turn reduces motivation for political action and reinforces policies that exacerbate the crisis[20].

Overarching Impacts of Climate Change on Mental Health

Mental health impacts are not limited to those directly or indirectly exposed to climate events. Simply having knowledge, awareness, and anticipation of climate change can also impact mental health and well-being[2]. Information received through education, family, peers, the media, and culture can influence their emotional responses, both positively and negatively[2]. A global survey of 10,000 youth aged 16-25 across 10 countries found that more than 45 per cent felt climate change was negatively affecting their daily life and functioning, with many reporting frequent negative thoughts. For example, 75 per cent said the future feels frightening and 83 per cent believed people have failed to care for the planet[21]. Reflecting similar concerns locally, a survey of 10,145 Ontario students in grades 7 to 12 found that 44.5 per cent felt depressed about the future because of climate change[22].

Conclusion

Climate change poses a growing threat to mental well-being by exacerbating existing social determinants, such as housing conditions and food insecurity, and introducing novel social and psychological impacts such as climate anxiety and grief. Addressing this requires a comprehensive approach to climate resilience that prioritizes psychosocial well-being through expanded social supports and services, enhanced mental health literacy, cross-sector

collaboration, and culturally relevant supports[3,4]. By understanding the complex pathways through which climate change affects mental health and identifying the factors that exacerbate vulnerability, we can target effective public health action and intervention[6]. Prioritizing solutions that deliver co-benefits for mental health, climate action, and equity will address the multifaceted social and ecological determinants of health at play[23], strengthening protective factors for psychosocial health in Toronto. A focus on prevention will reduce vulnerability, empower communities, and transform climate-related distress into positive, collective action[2].

References

1. White, B. P., Breakey, S., Brown, M. J., Smith, J. R., Tarbet, A., Nicholas, P. K., & Ros, A. M. V. (2023). Mental health impacts of climate change among vulnerable populations globally: an integrative review. *Annals of global health*, *89*(1), 66.
2. Niedzwiedz, C. L., Olsen, J. R., Rizeq, J., Afework, T., Hill-Harding, C. K., Shaw, R. J., Thomas, R., Kariuki, S. M., Katikireddi, S. V., & Weaver, A. J. (2025). Coming to terms with climate change: a glossary for climate change impacts on mental health and well-being. *J Epidemiol Community Health*, *79*(4), 295-301.
3. Hayes, K., Cunsolo, A., Augustinavicius, J., Stranberg, R., Clayton, S., Malik, M., Donaldson, S., Richard, G., Bedard, A., Archer, L., Munro, T., & Hilario, C. (2022). Mental Health and Well-being. In P. Berry & R. Schnitter (Eds.), *Health of Canadians in a Changing Climate: Advancing our Knowledge for Action*. Government of Canada.
4. Hayes, K., Berry, P., & Ebi, K. L. (2019). Factors influencing the mental health consequences of climate change in Canada. *International Journal of Environmental Research and Public Health*, *16*(9), 1583.
5. Corvolan, C., Gray, B., Villalobos, E., Sena, A., Hanna, F., & Campbell-Lendrum, D. (2023). *Mental health and climate change: Policy brief* [Policy brief]. World Health Organization. https://www.who.int/publications/i/item/9789240045125
6. Canada, P. H. A. o. (2022). *Chief Public Health Officer of Canada's report on the state of public health in Canada 2022: Mobilizing public health action on climate change in Canada*. P. H. A. o. Canada. https://www.canada.ca/content/dam/phac-aspc/documents/corporate/publications/chief-public-health-officer-reports-state-public-health-canada/state-public-health-canada-2022/report-rapport/report.pdf
7. Change, I. P. o. C. (2022). Summary for policymakers. In H.-O. Pörtner, D. C. Roberts, E. S. Poloczanska, K. Mintenbeck, M. Tignor, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, & A. Okem (Eds.), *Climate Change 2022: Impacts, Adaptation and Vulnerability* (pp. 3–33). Cambridge University Press. doi:10.1017/9781009325844.001
8. Longman, J., Patrick, R., Bernays, S., & Charlson, F. (2023). Three reasons why expecting 'recovery'in the context of the mental health impacts of climate change is problematic. *International Journal of Environmental Research and Public Health*, *20*(10), 5882.
9. Rosenzweig, C., Solecki, W. D., Romero-Lankao, P., Mehrotra, S., Dhakal, S., & Ibrahim, S. A. (2018). *Climate change and cities: Second assessment report of the urban climate change research network*. Cambridge University Press.
10. Sheehan, M. C., Khudairi, F., Swaich, G. S., Hines, W., Mehta, S., & Fox, M. A. (2022). Urban climate-health governance: Charting the role of public health in large global city adaptation plans. *PLoS Climate*, *1*(3), e0000012.
11. Toronto, C. o. (2024). *Toronto's Climate Change Readiness: Updates on commitments and a refreshed mandate for coordinating resilience activities* [Report]. C. o. Toronto.

12. Health, T. P. (2015). *A climate of concern: Climate change and health strategy for Toronto* [Report]. C. o. Toronto. https://www.toronto.ca/legdocs/mmis/2015/hl/bgrd/backgroundfile-81509.pdf

13. Lam, S., Caglayan, S. D., Mahya, M., & David, Y. (2024). *Toronto's Current and Future Climate*. T. a. R. C. Authority. www.toronto.ca/wp-content/uploads/2024/12/949f-TorontosCurrentandFutureClimate-REPORT-Final.pdf

14. Bu, S., Smith, K. L., Masoud, F., & Sheinbaum, A. (2024). Spatial distribution of heat vulnerability in Toronto, Canada. *Urban Climate*, *54*, 101838.

15. Conway, T., & Scott, J. (2020). Urban Forests in a Changing Climate. In: Greenbelt Foundation. https://www.greenbelt.ca/forests_in_a_changing_climate.

16. Pihkala, P. (2020). Anxiety and the ecological crisis: An analysis of eco-anxiety and climate anxiety. *Sustainability*, *12*(19), 7836.

17. Léger-Goodes, T., Malboeuf-Hurtubise, C., Mastine, T., Généreux, M., Paradis, P.-O., & Camden, C. (2022). Eco-anxiety in children: A scoping review of the mental health impacts of the awareness of climate change. *Frontiers in psychology*, *13*, 872544.

18. Twiddy, M., Trump, B., & Ramsden, S. (2022). Understanding the long-term impact of flooding on the wellbeing of residents: A mixed methods study. *PLoS ONE [Electronic Resource]*, *17*(9), e0274890.

19. Thompson, R., Lawrance, E. L., Roberts, L. F., Grailey, K., Ashrafian, H., Maheswaran, H., Toledano, M. B., & Darzi, A. (2023). Ambient temperature and mental health: a systematic review and meta-analysis. *The Lancet Planetary Health*, *7*(7), e580-e589.

20. Moore, B., Geese, L., Kenny, J., Dudley, H., Jordan, A., Prados Pascual, A., Lorenzoni, I., Schaub, S., Enguer, J., & Tosun, J. (2024). Politicians and climate change: A systematic review of the literature. *Wiley Interdisciplinary Reviews: Climate Change*, *15*(6), e908.

21. Marks, E., Hickman, C., Pihkala, P., Clayton, S., Lewandowski, E. R., Mayall, E. E., Wray, B., Mellor, C., & Van Susteren, L. (2021). Young people's voices on climate anxiety, government betrayal and moral injury: A global phenomenon. *Government betrayal and moral injury: A global phenomenon*.

22. Boak, A., & Hamilton, H. A. (2024). The Mental Health and Well-Being of Ontario Students, 1991–2023.

23. Lawrance, E. L., Thompson, R., Newberry Le Vay, J., Page, L., & Jennings, N. (2022). The impact of climate change on mental health and emotional wellbeing: a narrative review of current evidence, and its implications. *International Review of Psychiatry*, *34*(5), 443-498.

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