# Climate change and security in Canada

Wilfrid Greaves

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**Wilfrid Greaves**
Department of Political Science, University of Victoria,
Victoria, British Columbia, Canada

**Abstract**

This article examines the implications of human-caused climate change for security in Canada. The first section outlines the current state of climate change, the second discusses climate change impacts on human security in Canada, and the third outlines four other areas of Canada's national interests threatened by climate change: economic threats; Arctic threats; humanitarian crises at home and abroad; and the threat of domestic conflict. In the conclusion, I argue that climate change has clearly not been successfully "securitized" in Canada, despite the material threats it poses to human and national security, and outline directions for future research.

**Keywords**

Canada, climate change, security, human security, Arctic, national security

Canada is severely affected by climate change. Its massive land area; diverse climate regions, ecosystems, and species; expansive and vulnerable infrastructure; and population centres that are, on the one hand, dense urban areas and, on the other, isolated rural communities, pose a range of climate challenges. As the federal government's most recent climate assessment outlines, significant impacts include ocean acidification along all three coasts; increased but highly variable seasonal precipitation; reduced freshwater access; loss of Arctic sea ice; coastal

**Corresponding author:**
Wilfrid Greaves, Faculty of Social Sciences–Political Science, University of Victoria, 3800 Finnerty Road, David Turpin A341, Victoria, British Columbia, V8P5C2, Canada.
Email: wgreaves@uvic.ca

flooding; and more extreme weather events, such as heatwaves, drought, extreme snow and rainfall events, and wildfires.[1] Due to its high latitude and the susceptibility of Arctic and sub-Arctic climates to warming, Canada has already warmed by approximately twice the global average, and many communities have experienced severe climate change-related damage. Without dramatic and rapid global action to mitigate humanity's aggregate greenhouse gas emissions (GHGs), the effects of climate change will worsen severely over the course of this century.

Unfortunately, effective mitigation is unlikely. Earth's system has not yet responded fully to the greenhouse gases already released into the atmosphere by human activities, and global GHGs continue to rise, leading many scientists to note the growing difficulty of avoiding a "ghastly future."[2] Combined annual rates of natural and human-caused emissions exceed any period in the last 22,000 years, and atmospheric GHG concentrations are higher than any point in the past 800,000 years, with the planet on track to exceed the worst-case scenarios modelled by the Intergovernmental Panel on Climate Change (IPCC).[3] These conditions are well outside the range in which human civilization has developed and will result in a radically different global climate from that in which current social, demographic, and geographic configurations emerged. Recent data indicate that environmental changes are occurring faster than predicted by climate models. Rising global temperature raises concern over "tipping points" that may catalyze rapid, uncontrollable threshold effects with catastrophic consequences for ecological integrity and resilience around the globe.[4] This new geological era of the Anthropocene, characterized by human interference in natural systems on a planetary scale, is undermining Earth's capacity to provide a "safe operating space for humanity,"[5] signifying nothing less than a radical shift in humanity's relationship with the global biosphere.

1. Elizabeth Bush and Donald S. Lemmen, eds., *Canada's Changing Climate Report*, Ottawa, Government of Canada, Environment and Climate Change Canada, 2019.
2. Corey Bradshaw et al., "Underestimating the challenges of avoiding a ghastly future," *Frontiers in Conservation Science* 1 (2021): 1–10; and World Bank, "Turn down the heat: Climate extremes, regional impacts, and the case for resilience. A Report for the World Bank by the Potsdam Institute for Climate Impact Research and Climate Analytics," Washington, DC, 2013.
3. Intergovernmental Panel on Climate Change (IPCC), "Summary for policymakers," in T.F. Stocker, et al, eds., *Climate Change 2013: The Physical Science basis. Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge, New York: Cambridge University Press, 2013), 11.
4. Timothy M. Lenton et al., "Tipping elements in the Earth's climate system," *Proceedings of the National Academy of Sciences of the United States of America* 105, no. 6 (2008): 1786–93; Timothy M. Lenton, "Arctic climate tipping points," *Ambio* 41, no. 1 (2012): 10–22; and Chris Derksen and Ross Brown, "Spring snow cover extent reductions in the 2008–2012 period exceeding climate model projections," *Geophysical Research Letters* 39, no. 19 (2012).
5. Paul J. Crutzen, "Geology of mankind," *Nature* 415 (2002): 23; and Rockström et al., "A safe operating space for humanity," *Nature* 461 (2009): 472–475.

Climate change exacerbates existing security challenges, generates new threats, and has spurred widespread calls to reassess the very meaning of politics and security in a radically altered world.[6] Writing from a Canadian perspective in *International Journal* in 2010, Leanne Purdy and Margaret Smythe noted that, while the first international conference on climate change and security was held in Toronto in 1988, [. . .] "since that ground-breaking event, the climate change-security nexus has not been discussed, debated, or analyzed in any serious, sustained, or comprehensive way in Canada [. . .] Canada's security players seem disconnected from—and disinterested in—the findings and insights of climate experts,"[7] despite threats to public safety and both national and international security. A separate knowledge synthesis report produced the same year outlines climate change-related threats to Canada and reiterates the lack of appropriate policy responses.[8] Indeed, "securitizing" a subject of concern "challenge[s] society to promote it higher in its scales of values and to commit greater resources to solving the related problems."[9] Climate change remains a Canadian public policy issue on which there is limited or conflicted political action.[10] Canada's two most recent defence strategies fail to meaningfully address climate change: the Trudeau Liberal Government's 2019 strategy, *Strong, Secure, Engaged,* indicates that climate change must be considered through a security lens but then fails to incorporate climate into its analysis. Further, its international- and Arctic-centred perspective wrongly implies that climate impacts *only* endanger the Canadian North or distant regions of the world. Its predecessor, the Harper Conservatives' *Canada First Defence Strategy,* does not mention climate change at all.[11] Despite increasingly severe climate impacts across the country, Canadian security and defence policy does not reflect the seriousness of the issue.

The remainder of this article outlines the security implications of climate change in Canada, defined not just in terms of direct and indirect impacts of climate

6. Jon Barnett, *The Meaning of Environmental Security: Ecological Politics and Policy in the New Security Era* (London: Zed Books, 2001); Simon Dalby, *Environmental Security* (Minneapolis: University of Minnesota Press, 2002); Simon Dalby, *Security and Environmental Change* (Cambridge: Polity, 2009); Rita Floyd and Richard A. Matthew, *Environmental Security: Approaches and Issues* (New York: Routledge, 2013); Cameron Harrington, "The ends of the world: International Relations and the Anthropocene," *Millennium: Journal of International Studies* 44, no. 3 (2016): 478–498; and Anthony Burke, Stefanie Fishel, Audra Mitchell, Simon Dalby, and Daniel J. Levine, "Planet politics: A Manifesto from the end of IR," *Millennium: Journal of International Studies* 44, no. 3 (2016): 499–523.
7. Margaret Purdy and Leanne Smythe, "From obscurity to action: Why Canada must tackle the security dimensions of climate change," *International Journal,* 65, no. 2 (2010): 411–420.
8. Gordan A. McBean et al., *The Security of Canada and Canadians: Implications of Climate Change* (London, ON: The University of Western Ontario, 2010).
9. Michael J. Sheehan, *International Security: An Analytical Survey* (Boulder: Lynne Rienner Publishers, 2005), 52.
10. Julia Croome, "Canada needs a world-class climate law," *Policy Options*, 9 September 2020, https://policyoptions.irpp.org/magazines/september-2020/canada-needs-a-world-class-climate-law/ (accessed 25 October 2020).
11. Jill Barclay et al., "Climate change, security and military preparedness in North America," North American and Arctic Defence and Security Network, 25 September 2020, 6–7, https://www.naadsn.ca/wp-content/uploads/2020/08/Annotated-Bibliography-on-Climate-and-NAm_final.pdf (accessed 17 May 2021).

change but also ways in which the processes that produce climate change—principally anthropogenic GHG emissions from industrialized fossil fuel extraction, and land use changes—affect security at the individual, community, and regional scales. The next section discusses the impacts of climate change on human security in Canada. The third section outlines four other areas of Canada's national security interests harmed by climate change: economic insecurity; threats in the Arctic region; humanitarian emergencies at home and abroad; and domestic conflict. This article responds to the call for scholars to reverse the academic marginalization of climate change within International Relations and security studies by directly engaging with the local, national, and international security implications of a climate-changed future.[12]

## Human security

First attributed to the United Nations Development Programme's (UNDP) 1994 *Human Development Report*, human security can be defined as "safety from such chronic threats as hunger, disease, and repression [...] and protection from sudden and hurtful disruptions in the patterns of daily life."[13] The UNDP approach specifies seven dimensions of human security—economic, food, health, environmental, personal, community, and political—which have informed research into how environmental changes threaten human security around the world.[14] In addition to economic, community, and political threats discussed in the next section, Canada's climate-related human security threats include harm and loss of life from extreme weather events, such as floods, wildfires, and heatwaves; catastrophic loss and damage to homes, communities, and critical infrastructure; direct and indirect health effects, including air-, food-, water-, and animal-borne pollution and disease vectors; and continued availability, quality, and access to food and freshwater supplies. These issues have been documented by scientists and analysts for decades.[15] However, the size and diversity of Canada means they affect human security differently across the country.

12. Jessica F. Green and Thomas N. Hale, "Reversing the marginalization of global environmental politics in International Relations: An opportunity for the discipline," *PS: Political Science and Politics* 50, no. 2 (2017): 473–479.
13. United Nations Development Programme (UNDP), *Human Development Report 1994: New Dimensions of Human Security* (New York: Oxford University Press, 1994): 23.
14. Purusottam Bhattacharya and Sugata Hazra, eds., *Environment and Human Security* (New Delhi: Lancers' Books, 2003); Robin M. Leichenko and Karen L. O'Brien, *Environmental Change and Globalization: Double Exposures* (Oxford: Oxford University Press, 2008); Richard A. Matthew et al., eds., *Global Environmental Change and Human Security* (Cambridge, MA: MIT Press, 2010); and Gunhild Hoogensen Gjørv et al., eds., *Environmental and Human Security in the Arctic* (New York: Routledge, 2014).
15. Heather Auld, Don MacIver, and Joan Klaassen, *Adaptation Options for Infrastructure Under Changing Climate Conditions*, Ottawa, Environment Canada, 2007; D. S. Lemmen et al., eds., *From Impacts to Adaption: Canada in a Changing Climate 2007*," Ottawa, Natural Resources Canada, 2007, https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/earthsciences/pdf/assess/2007/pdf/full-complet_e.pdf (accessed 17 May 2021); McBean et al., *The Security of Canada and Canadians*, vii–xiii; and Purdy and Smythe, "From obscurity to action," 420.

Canadians experience the threats related to climate change on the basis of intersecting sociological factors, such as affluence, geography, gender, and degree of socio-political marginalization.[16] As Gordon McBean notes, "vulnerable groups in Canada includ[e] the elderly, infants, and children. Single women are disproportionately vulnerable due to unequal access to, and control over, resources. The poor, unemployed, homeless, recent immigrants, resource-dependent Aboriginal communities, and those with pre-existing health conditions are among the most vulnerable."[17]

Human *in*security is particularly acute in the Arctic and sub-Arctic regions, and among Indigenous communities. In northern Canada, researchers have identified eleven direct and indirect climate-related impacts on human health. These include increased rates of accidents and fatalities due to unpredictable ice and weather patterns, new vectors for communicable disease, changes to food- and water-borne pathogens, increased exposure to environmental contaminants, and ozone depletion causing increased exposure to ultraviolet radiation.[18] Climate change worsens transboundary pollution, such as persistent organic pollutants from military and industrial activities, which increase rates of cancer and cause neurological damage in children.[19] Declining quality and availability of "country foods," particularly large mammals, fish stocks, and plants, exposes more people to food and health insecurity, compounding communities' shift towards wage-based economies that make it increasingly difficult to subsist using land-based methods.[20]

Global warming is also undermining critical infrastructure across northern Canada. Thawing permafrost and coastal erosion destabilize the ground on which many communities are built and, as a result, damage roads, bridges,

16. Idowu Ajubade, "Climate security and vulnerable populations in Canada: Making a case for ambitious policies," in Gordon McBean et al., *The Security of Canada and Canadians: Implications of Climate Change* (London, ON: The University of Western Ontario, 2010), 20–24; and Wilfrid Greaves, "Insecurities of non-dominance: Re-Theorizing human security and environmental change in developed states," in Matthew A. Schnurr and Larry A. Swatuk, eds., *Natural Resources and Social Conflict: Towards Critical Environmental Security* (New York: Palgrave, 2012), 63–82.
17. McBean et al., *The Security of Canada and Canadians*, viii.
18. Carl M. Hild and Vigdis Stordahl, "Human health and well-being," in O. R. Young and N. Einarsson, eds., *Arctic Human Development Report* (Akureyri, Iceland: Stefansson Arctic Institute, 2004), 155–188; and Jacinthe Séguin, ed., *Human Health in a Changing Climate: A Canadian Assessment of Vulnerabilities and Adaptive Capacity*, Ottawa, Health Canada, 2008.
19. David Leonard Downie and Terry Fenge, eds., *Northern Lights Against POPs: Combatting Toxic Threats in the Arctic* (Montreal-Kingston: McGill-Queen's University Press, 2003); and Pamela D. Noyes et al., "The toxicology of climate change: Environmental contaminants in a warming world," *Environment International* 35, no. 6 (2009): 971–986.
20. Gérard Duhaime, "Economic systems," in O.R. Young and N. Einarsson, eds., *Arctic Human Development Report* (Akureyri, Iceland: Steffanson Arctic Institute, 2004), 69–84; Nils Aarsæther, Larissa Riabova, and Jørgen Ole Bærenholdt, "Community viability," in O.R. Young and N. Einarsson, eds., *Arctic Human Development Report* (Akureyri, Iceland: Steffanson Arctic Institute, 2004), 139–154; and Stephanie Meakin and Tiina Kurvits, *Assessing the Impacts of Climate Change on Food Security in the Canadian Arctic* (Ottawa: GRID-Arendal, 2009).

airstrips, pipelines, homes, and sewage systems.[21] Glacier melt is predicted to raise global sea levels by as much as 10 feet over the next century, further endangering low-lying communities and coastal areas.[22] Some First Nations' communities are already being forced to relocate as a result of seasonal flooding that has become critically severe.[23] In 2004, the *Arctic Climate Impact Assessment* suggested that "the sum of these factors threatens to overwhelm the adaptive capacity of some Arctic populations and ecosystems," an assessment echoed a decade later by the IPCC's *Fifth Assessment Report*, which notes: "The rapid rate at which climate is changing in the Polar Regions will impact natural and social systems and may exceed the rate at which some of their components can successfully adapt."[24]

The factors that affect people's climate-adaptation capacities intersect to render Indigenous people, especially Indigenous women, particularly vulnerable to human insecurity. Changes to the land affect subsistence practices on traditional territories, undermining multi-generational knowledge about weather and climate patterns, animal movements, and methods of hunting and gathering.[25] Indigenous identities and cultural practices are predicated on a close relationship to the natural environments of their ancestral territories. This connection makes security for Indigenous peoples inseparable from damage to the land itself.[26] With notable exceptions, Indigenous communities also experience lower life expectancies and access to basic services, as well as higher levels of domestic violence, substance abuse, infant mortality, poor mental health, and suicide.[27] Many of these insecurities are unevenly distributed by gender. For instance, Indigenous women, girls, and queer and gender non-conforming people experience "the almost constant presence of violence that contributes to an overall absence of basic human security," which constitutes a central argument for the National Inquiry into

21. Arctic Climate Impact Assessment (ACIA), *Impacts of a Warming Climate: Arctic Climate Impact Assessment* (Cambridge: Cambridge University Press, 2004); and Heather Auld, Don MacIver, and Joan Klaassen et al., "Adaption options for infrastructure under changing climate conditions," EIC Climate Change Technology Confernce, IEEE (2006), DOI: 10.1109/EICCCC.2006.277248.
22. Justin Gillis and Kenneth Chang, "Scientists warn of rising oceans from polar melt," *The New York Times*, 12 May 2014, http://www.nytimes.com/2014/05/13/science/earth/collapse-of-parts-of-west-antarctica-ice-sheet-has-begun-scientists-say.html?_r=0 (accessed 15 May 2014).
23. Annie Bender, Craig Desson, and Laura Wright, "Facing the change: 5 Canadian communities threatened by climate change now," *CBC Radio*, 21 February 2018, https://www.cbc.ca/radio/day6/facing-the-change-5-canadian-communities-threatened-by-climate-change-now-1.4447042 (accessed 26 October 2020); and Olivia Stefanovich, "Kashechewan chief signs deal to move flood-prone community—but fears governments won't follow through," *CBC News,* 9 May 2019, https://www.cbc.ca/news/politics/stefanovich-kashechewan-2019-relocation-agreement-1.5129181 (accessed 26 October 2020).
24. ACIA, "Impacts of warming climate," 5; and IPCC, "Summary for policymakers," 3.
25. Yvon Csonka and Peter Schweitzer, "Societies and cultures: Change and persistence," in O.R. Young and N. Einarsson, eds., *Arctic Human Development Report*. (Akureyri, Iceland: Stefansson Arctic Institute, 2004): 45–88.
26. Wilfrid Greaves, "Damaging environments: Land, settler colonialism, and security for Indigenous peoples," *Environment and Society* 9, no. 1 (2018): 107–124.
27. Hild and Stordahl, "Human health and well-being"; and Government of Canada. Statistics Canada. *Aboriginal Statistics*, Ottawa, Statistics Canada, 30 November 2015, https://www150.statcan.gc.ca/n1/pub/89-645-x/89-645-x2010001-eng.htm (accessed 26 October 2020).

Missing and Murdered Indigenous Women and Girls' finding of genocide.[28] Conversely, Indigenous men exhibit higher rates of suicide, costing them their own lives but also placing a disproportionate burden on surviving female relatives. High rates of Indigenous suicide are exacerbated by environmental changes that harm people's connection to animals and the land because they contribute to "a view of young males not seeing a future for themselves as hunters and contributors to their community and at the same time not fitting into the cash employment structures that are becoming the dominant lifestyle."[29] The relationship between issues such as suicide, cultural change, and environmental transformation illustrates the complexity of human insecurity and environmental change, and the multiplicity of insecurities Indigenous people and communities face.

These climate-related threats to human security have been inadequately addressed by governments in Canada. Despite being an early adopter of human security as a foreign policy framework in the 1990s, Canada has never adopted human security as a framework for domestic policy, nor has it sufficiently worked to mitigate and adapt to climate change. This shortfall in climate planning and preparedness increases the potential for synchronous or compounding environmental and human security crises in the future. Particularly with respect to critical infrastructure, "many Canadian climate change scenarios would likely overwhelm provincial and municipal capacities and would be bumped up to the federal level, where concerns about capabilities and readiness persist."[30] The failures of public planning across all levels of Canadian government are likely to produce both acute and chronic human insecurities in much the way that governance failures combine with exogenous events to produce humanitarian crises elsewhere around the world.

## Other national security interests

Human security threats are not freestanding but overlap with four other areas of Canada's national security that are affected by climate change: economic threats; Arctic threats; humanitarian crises at home and abroad; and the threat of domestic conflict. Each of these contributes to human insecurity but can also be understood as threatening the national security interests of the Canadian state.

28. Government of Canada. National Inquiry into Missing and Murdered Indigenous Women and Girls. Reclaiming Power and Place. The Final Report of the National Inquiry into Missing and Murdered Indigenous Women and Girls, Ottawa, Status of Women Canada, 2019, 504, https://www.mmiwg-ffada.ca/wp-content/uploads/2019/06/Final_Report_Vol_1a-1.pdf (accessed 11 February, 2021); and Connie Deiter and Darlene Rude, *Human Security and Aboriginal Women in Canada*, Ottawa, Status of Women Canada, 2005.
29. ACIA, "Impacts of warming climate," 157; Michael J. Kral, "'The weight on our shoulders is too much, and we are falling': Suicide among Inuit male youth in Nunavut, Canada," *Medical Anthropology Quarterly,* 27, no. 1 (2013): 63–83.
30. Purdy and Smythe, "From obscurity to action," 424–425.

## Economic threats

Canada's economy is vulnerable to climate change in several ways. First, there are economic and financial costs associated with extreme weather events. From 2016 to 2019, average annual insurance claims from severe weather events across Canada totalled C$2.48 billion. All four of these years rank in the top 10 highest loss years on record, signalling a trend towards more frequent and more extreme weather events. When accounting for actual costs, which far exceed insured losses, these numbers are a conservative estimate. Notably, unlike the top three insurance loss years of 2016, 2013, and 1998, damages in 2017–2019 were not driven by a single extreme event. Instead, the costs of multiple smaller events across the country simply accumulated into a substantial annual total for insurance costs. The C$1.9 billion in catastrophic loss insurance pay-outs in 2019 represents a nearly fivefold increase in the average from 1983–2008 and is just above the annual average of C$1.8 billion since 2009.[31] The data suggest a new normal of multi-billion dollar annual weather-related losses, punctuated by even more expensive and destructive climate change-fuelled extreme weather events.

The most expensive extreme weather event in Canada was the 2016 Fort McMurray wildfire, which caused nearly C$10 billion in damage, drove more than 88,000 people from their homes, and forced the closure of approximately one million barrels per day in bitumen production—equivalent to 25 per cent of all Canadian oil production and an estimated economic loss of around C$70 million per day. In addition to being the most expensive environmental disaster in Canadian history, the fire demonstrated the vulnerability of the oil and gas sector to climate disruption. In addition to halting production, extreme weather events may also disrupt hydrocarbon transportation by damaging pipelines, rail, ports, shipping vessels, and other infrastructure. Given that oil and gas remain Canada's largest exports, and broader energy-related activities comprise around 10 per cent of gross domestic product, the economic threats of climate change to this sector are substantial.

Oil and gas are not unique, though; sectors such as agriculture, fisheries, and forestry are also susceptible to climate-related damage. For instance, the mountain pine beetle infestation in British Columbia, which affected more than half the marketable pine trees in the province, is estimated to cost nearly C$58 billion in lost gross domestic product between 2009 and 2054.[32] Canada's agricultural sector

31. Government of Canada. Insurance Bureau of Canada (IBC). *Severe Weather Caused $1.3 Billion in Insured Damage in 2019*, Ottawa, IBC, 21 January 2020, http://www.ibc.ca/on/resources/media-centre/media-releases/severe-weather-caused-1-3-billion-in-insured-damage-in-2019 (accessed 16 October 2020); and Jeff Lewis, "Climate-fuelled flooding is Canada's costliest and fastest-growing extreme-weather challenge, report says," *The Globe and Mail*, 18 January 2019, https://www.theglobeandmail.com/canada/article-climate-fuelled-flooding-is-canadas-costliest-and-fastest-growing/ (accessed 26 October 2020).
32. Laura Jane Corbett et al., "The economic impact of the mountain pine beetle infestation in British Columbia: Provincial estimates from a CGE analysis," *Forestry: An International Journal of Forest Research* 89, no. 1 (2015): 100–105.

will likewise be hard hit. Though specific data on losses are hard to come by, Agriculture Canada estimates that extreme weather events

> can have a devastating impact on crop yields. Yields could be reduced by as much as 50 per cent of the average during normal or more suitable growing conditions. Warmer summers could also cause problems for livestock producers related to heat-wave deaths. This is especially true in poultry operations. Other impacts could be reduced milk production and reduced reproduction in the dairy industry, as well as reduced weight gain in beef cattle. In addition, droughts and floods could reduce pasture availability and the production of forage, forcing producers to find alternative feed sources or reduce their herd size [. . .] The increased range, frequency, and severity of insect and disease infestations are also potential impacts.[33]

These economic losses will disproportionately affect resource-dependent communities, such as the more than 1600 Canadian communities that obtain 30 per cent or more of their employment income through agriculture, forestry, or fishing. This estimate does not capture communities with fewer than 250 people, so the actual impact could be higher, especially in Indigenous communities where subsistence activities may constitute up to half the local economy.

A final climate-related economic threat is Canada's economic investment in fossil fuel exports: namely, economic exposure to the prospect that the international community *succeeds* in its stated goal of eliminating global fossil fuel use by the middle-to-end of this century. In 2019, central banks in Canada and the UK warned about the economic and financial risks of decarbonization in the global economy and observed how limited econometric modelling and financial analysis of the subject is. Data are thus speculative. However, one report estimated that, should global warming be limited to 1.5 degrees Celsius—the putative goal of the 2015 Paris Agreement on climate change—the change would result in C$120 billion in stranded oil and gas assets in Canada, mostly in Alberta.[34] This concern is heightened when considering green options to rebuild after the ongoing COVID-19 pandemic, as demonstrated by the cancellation of the Keystone XL pipeline project on the first day of President Joe Biden's term in office. This project—cancelled for the third time in six years by a US president after an investment of C$1.5 billion by the government of Alberta—reflects a double bind whereby, according to the Bank of Canada, "climate change continues to pose risks to both the economy and

33. Government of Canada. Agriculture and Agri-Food Canada. *Climate Scenarios for Agriculture*, Ottawa, Government of Canada, 31 January 2020, https://www.agr.gc.ca/eng/agriculture-and-climate/agricultural-practices/climate-change-and-agriculture/climate-scenarios-for-agriculture/?id=1329321981630#c (accessed 26 October 2020).
34. Shawn McCarthy, "Canadian oil reserves at risk from policies that combat global warming, report warns," *Globe and Mail*, 16 January 2019, https://www.theglobeandmail.com/business/article-canadian-oil-reserves-at-risk-from-policies-to-combat-global-warming/ (accessed 26 October 2020).

the financial system."[35] The unequal distribution of these effects across Canada makes a political response exceptionally challenging. As discussed below, the political divisions around the appropriate response to climate change are their own climate change-related threat to Canada's interests.

## *Arctic threats*

In addition to human security concerns, the Arctic faces other challenges that affect Canada's security interests. The North and South Poles are the proverbial canaries in the coal mine, experiencing the fastest and most dramatic climate change on the planet. Warming is reshaping the Arctic in profound ways. Numerous studies, notably the *Arctic Climate Impact Assessment* and the IPCC's *Fourth* and *Fifth Assessment Reports*, document these changes. Most notably, sea ice volume has dramatically declined by nearly 40 per cent over 40 years.[36] Estimates now indicate that the Arctic could see ice-free summers as early as the 2030s, decades before they were predicted. Other changes include more extreme seasonal variation, reduced sea ice, receding glaciers, diminished snow cover, thawing permafrost, changing terrestrial water systems, invasive species, temperatures increasing at twice the global average, and other stressors on plant and animal populations.[37] Climate records continue to be broken, including unprecedented wildfires in Siberia and Alaska in 2019 that are also predicted in northern Canada. When forest peat is burned, its stored carbon is released into the atmosphere, creating positive feedbacks that exacerbate global warming, as do other polar feedbacks, such as methane release from thawing permafrost, reduced albedo (reflectivity) due to diminished ice coverage, and the collapse of the Greenlandic ice sheet.[38]

35. Karina Romin, "Climate change threatens 'both the economy and the financial system,' says Bank of Canada," *CBC News*, 16 May 2019, https://www.cbc.ca/news/politics/climate-change-bank-of-canada-financial-system-review-1.5137625 (accessed 26 October 2020).
36. ACIA, "Impacts of a warming climate"; R. K. Rachauri and A. Reisinger, eds., *Climate Change 2007: Synthesis Report. Contributions of Working Groups I, II, and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (Geneva, Switzerland: IPCC, 2007); R.K. Pachauri and L.A. Meyer, eds., *Climate Change 2014: Synthesis Report. Contributions of Working Groups I, II, and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (Geneva Switzerland: IPCC, 2014); IPCC, "Summary for policy makers," 9; and National Snow and Ice Data Center (NSIDC), "Arctic sea ice extent settles at record seasonal minimum," *Arctic Sea Ice News and Analysis*, 19 September 2012, http://nsidc.org/arcticseaicenews/2012/09/arctic-sea-ice-extent-settles-at-record-seasonal-minimum/ (accessed 18 August 2015).
37. ACIA, "Impacts of a warming climate"; Rachauri and Reisinger, eds, *Climate Change 2007*; IPCC, "Summary for policymakers"; James Hansen et al., "Assessing 'dangerous climate change': Required reduction of carbon emissions to protect young people, future generations and nature," *PLoS ONE* 8, no. 12 (2013): 1; and Joan Nymand Larson et al., "Polar regions," in V. R. Barros et al., eds., *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge: Cambridge University Press, 2014): 1567–1612.
38. "Peat Fires, like Those Raging in Siberia, Will Become More Common in Canada." *CBC Radio*, 1 August 2020, https://www.cbc.ca/radio/whatonearth/peat-fires-like-those-raging-in-siberia-will-become-more-common-in-canada-1.5670662 (accessed 16 October 2020); and IPCC, "Summary for policymakers," 16.

The most geopolitically significant of these impacts is the increased navigability of historically ice-covered waters in the Arctic Ocean. This shift has resulted in increased military and commercial activities.[39] As sea ice has receded, states have paid greater attention to the delimitation of their Arctic maritime boundaries and expressed interest in settling outstanding disputes. This has coincided with the need to submit claims to their extended continental shelves within 10 years of ratifying the UN Convention on the Law of the Sea.[40] Maritime boundary disputes remain between both Canada and Greenland/Denmark and Canada and the US, and there is geographic overlap between the Canadian, Danish, and Russian continental shelf submissions. Moreover, interest in the circumpolar region by non-Arctic states has grown, notably the People's Republic of China, with which Canada has been engaged in serious diplomatic tensions for years. The growing number of global actors who consider the Arctic to be important to their interests is likely to undermine Canada, which has vast Arctic territory but limited capabilities with which to enforce its sovereignty or effective control.

The rise of competitive interstate behaviour is problematic for Canada's ability to defend its Arctic interests, though all Arctic states still emphasize the absence of conventional military threats in the region and reaffirm their commitments to peaceful resolution of Arctic disputes. Uniquely among the Arctic states, Canada remains insecure in its sovereignty over Arctic territory, including the disputed legal status of the Northwest Passage (NWP). Though a longstanding issue, the opening of the NWP to commercial shipping as a result of warming waters demonstrates how climate change aggravates existing security challenges.[41] Concurrently, climate change has led to high-level concern and training and preparation for unconventional Arctic security issues—such as illegal shipping, smuggling, irregular migration, and even terrorism—in increasingly accessible Arctic waters.[42] New governance practices are also being established to manage threats related to the growing volume of maritime traffic, such as new agreements on regional search and rescue and oil spill emergency response.[43] In this respect, environmental change causes new threats, such as increased risk of damage to

39. Andrew Chater and Wilfrid Greaves, "Security governance in the Arctic," in J. Sperling, ed., *Handbook on Governance and Security* (Northampton; Edward Elgar, 2014), 123–147.
40. Elizabeth Riddell-Dixon, "Canada and Arctic politics: The continental shelf extension," *Ocean Development and International Law* 39, no. 4 (2008): 343–359; and Klaus Dodds, "Flag planting and finger pointing: The law of the sea, the Arctic and the political geographies of the extended continental shelf," *Political Geography* 29, no. 2 (2010): 63–73.
41. Adam Lajeunesse, "The Northwest Passage in Canadian policy: An approach for the 21st century," *International Journal* 63, no. 4 (2008): 1037–1052.
42. Michael Byers, *Who Owns the Arctic: Understanding Sovereignty Disputes in the North* (Vancouver: Douglas and McIntyre, 2009), 16–18; and Meagan Fitzpatrick, "Arctic military exercise targets human-smuggling 'ecotourists,'" *CBC News*, 24 August 2012, http://www.cbc.ca/news/politics/arctic-military-exercise- targets-human-smuggling-ecotourists-1.1166215 (accessed 11 February 2021).
43. Andrew Chater, Wilfrid Greaves, and Leah Sarson, "Assessing security governance in the Arctic," in Gunhild Hoogensen Gjørv, Marc Lanteigne, and Horatio Sam-Aggrey, eds., *Routledge Handbook on Arctic Security* (London: Routledge, 2020), 43–56.

vessels and oil rigs from sea ice and unpredictable weather, and new objects of security, including the Arctic ecosystem itself. While there is little evidence that a warming environment will directly lead to interstate violence, the warming of the Arctic has generated a complex regional security environment characterized by renewed state competition, the pursuit of economic gains, and the risk of significant ecological and social harms.

### *Humanitarian crises*

Climate change will fuel political and security crises that will affect Canadian interests. Thus, demands for military or humanitarian responses may increase, requiring deployment of the Canadian Armed Forces (CAF). Conflicts in climate-stressed regions are already producing socio-political instability and undermining state capacity in ways that produce significant human and interstate insecurity. Notable examples include the civil wars in Syria and Mali, which were catalyzed, in part, by climate-related social unrest. Both conflicts necessitated multilateral military interventions to which Canada and its allies contributed troops.[44] Hypothetical crises that could produce calls for Canada to intervene include a hurricane affecting Haiti or elsewhere in the English-speaking Caribbean, where Canada has extensive institutional, cultural, and diasporic ties, or a humanitarian emergency due to a cyclone or tsunami in the Philippines, country of birth to the military's largest number of recent new migrants and the fastest growing migrant population in Canada. In response to past international crises, Canada has deployed the military's Disaster Assistance Response Team seven times since its establishment in 1998, as it did to the Philippines in 2013 and Haiti in 2010. Non-combatant evacuation operations are also likely to occur when disasters necessitate the rescue of large numbers of Canadian citizens, as happened in Libya in 2011 and Lebanon in 2006.

International calls for the CAF's emergency response capabilities will increasingly compete with domestic demands upon the same assets. Operation LENTUS provides the framework for a military response to natural disasters within Canada at the request of federal, provincial, or territorial authorities. LENTUS was activated at least 31 times between 2010 and 2020, with increasing frequency. The CAF deployed once in 2010 compared to 12 times in 2018–2020.[45] The scale of

44. Peter H. Gleick, "Water, drought, climate change, and conflict in Syria," *Weather, Climate, and Society* 6, no. 3 (2014): 331–340; Shreya Mitra, "Mali's fertile grounds for conflict: Climate change and resource stress," *Planetary Security Initiative*, The Hague, 2017, https://www.clingendael.org/sites/default/files/2017-12/PB_Malis_Fertile_Grounds_for_Conflict.pdf (accessed 17 May 2021); Lyse Doucet, "The battle on the frontline of climate change in Mali," BBC News, 22 January 2019, https://www.bbc.com/news/the-reporters-46921487 (accessed 26 October 2020); International Committee of the Red Cross (ICRC), "Mali-Niger: Climate change and conflict make an explosive mix in the Sahel," ICRC, 19 January 2019, https://www.icrc.org/en/document/mali-niger-climate-change-and-conflict-make-explosive-mix-sahel (accessed 26 October 2020).

45. Government of Canada. Department of National Defence. *Operation LENTUS*, Ottawa, Government of Canada, 11 December 2018, https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-lentus.html (accessed 16 February 2021).

these operations, while often modest, can be significant. For instance, when the CAF deployed following major flooding in 2013, "at the height of the operation, over 2,300 soldiers, sailors, airmen, and airwomen were deployed to Southern Alberta, creating one of the largest domestic military operations in Canadian history."[46] In the context of the COVID-19 pandemic, the CAF also provided aid to the civil power across Canada throughout 2020–2021, including assisting with vaccination programs, deploying Canadian Rangers units to rural and northern communities in seven provinces and territories, and assisting in hard hit long-term care homes in Ontario and Quebec. Given the diffuse connections between climate change and the genesis and severity of viral pandemics,[47] the CAF's role in responding to domestic emergencies relates to both climate change and COVID-19. This dual role is an indicator of the demands that will be placed upon the military's logistical expertise and related capabilities over the coming decades and a reminder that perennial discussions around Canada's level of military spending and preparedness will be increasingly relevant at home, too.

Last, a humanitarian trend, more than a singular crisis, is the rise of climate-induced migration. Intersecting as it does with xenophobic elements within Canadian society, there has long been some concern that "a significant flow of climate migrants to Canada could generate social or economic tensions, especially if the country is already experiencing climate-related or other serious challenges."[48] While data are incomplete, the Immigration and Refugee Board reports nearly 59,000 irregular border crossers submitting refugee claims between February 2017 and September 2020.[49] How many were motivated by climate-related concerns is impossible to determine, and, ultimately, climate change will only ever be one factor in the dynamics that cause people to migrate. However, already the world has a record 250 million displaced people, with as many as 200 million more predicted to be displaced by climate change by 2050.[50]

What this will mean for Canada specifically is hard to say, and the vast majority of global migrants will be unable to reach Canadian soil, even if they wished to. However, some portion of those displaced by climate change will come, or attempt to come, to Canada, causing a variety of challenges: capacity concerns at ports of entry and vulnerable points along Canada's land and maritime boundaries;

46. Alycia Coulter, "The force of last resort: How the CAF respond to natural disasters across Canada," Ottawa, National Defence and the Canadian Armed Forces, 23 June 2014, http://www.forces.gc.ca/en/news/article.page?doc=the-force-of-last-resort-how-the-caf-respond-to-natural-disasters-across-canada/hwriv2eb (accessed 26 October 2020).
47. "Coronavirus and climate change," Harvard T.H. Chan School of Public Health, n.d., https://www.hsph.harvard.edu/c-change/subtopics/coronavirus-and-climate-change/ (accessed 17 February 2021).
48. Purdy and Smythe, "From obscurity to action," 422.
49. Government of Canada. Immigration and Refugee Board of Canada (IRBC). *Irregular Border Crosser Statistics*, Ottawa, IRBC, n.d., https://irb-cisr.gc.ca/en/statistics/Pages/Irregular-border-crosser-statistics.aspx (accessed 16 February 2021).
50. Oli Brown, "Migration and climate change," *IOM Migration Research Series No. 31*, International Organization for Migration, Geneva, 2008, 11.

significant demands on state resources for asylum processing, resettlement, and integration into Canadian society; and a domestic political backlash, as has already been occurring.[51] All told, "these scenarios," observe Purdy and Smythe, "prompt questions about the coping capacity of international security institutions, the preparedness of humanitarian mechanisms, the protection of refugees, and the responses of countries such as Canada to catastrophic situations around the world at a time when specialized resources may be stretched as a result of climate change-induced situations at home."[52] Climate change will batter the Canadian economy at the same time that demands for state capacity to respond to climate change-related security issues are accelerating. This confluence of events will produce significant challenges for national security and public safety.

### *Domestic conflict*

A final climate-related security issue is the possibility that political disputes over climate change-related energy policies will foment domestic conflict within Canadian society. In 2010, Purdy and Smythe observed that "climate change-motivated activities and events may translate into new or expanded workloads for Canada's intelligence, police, border security, and military institutions [. . .] Inaction on climate change, as well as economic disruption and losses linked to its impacts, could fuel a transition from nonviolent to radical protest movements, direct action, even eco-terrorism or anarchy."[53] Today, the conflict is multi-sided: the use of state power to support the fossil fuel industry; a climate movement willing to employ more disruptive direct action tactics; and the reactionary backlash against more aggressive climate policies, fuelled by, particularly, the broader rise of conservative populism. While the increase in violence to date has been limited, the contentious politics of climate and energy have become one of the key divisive dimensions of Canadian domestic politics.

In their ongoing support for the Canadian fossil fuel sector, governments have increasingly legitimized the use of political and state power against opponents of fossil fuel extraction, particularly the Alberta bitumen sands.[54] Beginning in early 2012, the then-Conservative federal government began characterizing opponents of these projects as belonging to "environmental and other radical groups" pursuing a "radical ideological agenda" funded by money laundered on behalf of

51. Nicholas A.R. Fraser, "Reassessing Canada's refugee policy in the COVID-19 era," *Policy Options*, 3 June 2020, https://policyoptions.irpp.org/magazines/june-2020/reassessing-canadas-refugee-policy-in-the-covid-19-era/ (accessed 16 February 2021).
52. Purdy and Smythe, "From obscurity to action," 423.
53. Ibid., 421.
54. Laurie E. Adkin, *First World Petro-Politics: The Political Ecology and Governance of Alberta* (Toronto: University of Toronto Press, 2016); and William K. Carroll, *Regime of Obstruction: How Corporate Power Blocks Energy Democracy* (Edmonton: Athabasca University Press, 2021).

"foreign special interest groups" in order to "hijack" Canada's economic growth.[55] Canada's first counterterrorism strategy identified animal rights, environmentalist, and anti-capitalist groups alongside White supremacists as the four most likely perpetrators of "domestic issue-based extremism," likening their violent potential to the 1995 Oklahoma City bombing that killed 168 people, and the 2011 attacks in Oslo, Norway, that killed 77.[56] Notably, the report defined terrorist activity as "an act or omission undertaken, inside or outside Canada [. . .] that is intended to intimidate the public with respect to its security, including its *economic* security,"[57] thus linking opposition to fossil fuels to the threat of extremist violence. According to one legal analysis, the dubious "likening [of] environmentalists and animal rights groups to home-grown terrorists and mass murderers raises the question of whether the government is blurring the lines of counter-terrorism in order to target otherwise legitimate opponents and justify questionable surveillance campaigns."[58]

Resistance against the Alberta bitumen sands, pipelines, and other sites of fossil fuel extraction and transportation has already produced significant conflicts in Canada. Social movements, often led by Indigenous peoples and organizations, have encountered increasing governmental and police tactics of criminalization; surveillance; and police, paramilitary, and vigilante violence.[59] For instance, the Royal Canadian Mounted Police (RCMP) and CAF units were used against anti-natural gas fracking protestors near the Mi'kmaq community of Elsipogtog, New Brunswick, in fall 2013.[60] More recently, the campaign against the federally-owned Trans Mountain bitumen pipeline expansion through Secwépemc territory in British Columbia has seen thousands of arrests since 2017, making it the largest

55. "Harper warns pipeline hearings could be 'hijacked,'" *CBC News,* 6 January 2012, http://www.cbc.ca/news/business/story/2012/01/06/harper-northern-gateway-hearings.html (accessed 11 September 2012); "Environmental charities 'laundering' foreign funds, Kent says," *CBC News*, 1 May 2012, http://www.cbc.ca/m/touch/news/story/2012/05/01/pol-peter-kent-environmental-charities-laundering.html (accessed 11 September 2012); and Laura Payton, "Radicals working against oilsands, Ottawa says." CBC News, 9 January 2012, http://www.cbc.ca/news/politics/story/2012/01/09/pol-joe-oliver-radical-groups.html (accessed 11 September 2012).
56. Government of Canada. Public Safety Canada. *Building Resilience Against Terrorism: Canada's Counter-Terrorism Strategy*, Ottawa, Public Safety Canada, 2013, http://www.publicsafety.gc.ca/cnt/rsrcs/pblctns/rslnc-gnst-trrrsm/index-eng.aspx (accessed 9 September 2015).
57. Government of Canada. Public Safety Canada, *Building Resilience Against Terrorism*. Emphasis added.
58. Terrance S. Carter and Nancy E. Claridge, "Canada's counter-terrorism strategy targets environmentalism," *Anti-Terrorism and Charity Law Alert* No. 31, 5 (Ottawa: Carters Professional Corporation, 2012), https://www.carters.ca/pub/alert/ATCLA/ATCLA31.pdf (accessed 25 June 2013).
59. Shiri Pasternak, Sue Collis, and Tia Dafnos, "Criminalization at Tyendinaga: Securing Canada's colonial property regime through specific land claims," *Canadian Journal of Law and Society* 28, no. 1 (2013): 65–81; and Andrew Crosby and Jeffrey Monaghan, *Policing Indigenous Movements: Dissent and the Security State* (Halifax: Fernwood, 2018).
60. Jorge Barrera, "Military's counter-intelligence unit monitored Elsipogtog anti-fracking protests: Documents," *APTN National News*, 30 May 2014, https://www.aptnnews.ca/national-news/military's-counter-intelligence-unit-monitored-elsipogtog-anti-fracking-protests-documents/ (accessed 16 February 2021).

instance of civil disobedience in Canada in the twenty-first century. In early 2020, solidarity actions with Wet'suwet'en hereditary chiefs opposed to a natural gas pipeline through their territory led to a weeks-long occupation of the British Columbia legislature and nationwide blockades that halted rail traffic across much of Canada. Reflecting the seriousness of these disruptions in the eyes of the state, the Canadian Security Intelligence Service later withheld information it had collected on Wet'suwet'en land defenders, citing legal provisions which exempt records from release if they involve "subversive or hostile" activities such as sabotage, terrorism, sedition, and espionage.[61] Alongside legislative changes increasing criminal penalties for obstructing "critical infrastructure," these events reflect state efforts to both suppress and securitize Indigenous and environmental dissent in Canada.[62]

Such resistance movements provoke considerable anxiety, since the threat of blockades and (re)occupations of Indigenous land is a powerful political—and potentially legal—tool against resource projects in Indigenous territories. In 2010, soldier-scholar Douglas Bland noted: "The Canadian economy is very vulnerable [...] especially oil, natural gas, and electricity to the United States. It's undefended and undefendable infrastructure [...] run[s] through aboriginal [sic] territories. It would take a very small number of people very little time to bring [it] down."[63] History shows, he argues, that some Indigenous groups may seek "to grind the country's economic lifelines to a halt through strategically placed blockades on the major highways and rail lines," a scenario remarkably close to the Wet'suwet'en solidarity protests.[64] The protests saw rising tensions and more forceful government rhetoric as the blockades dragged on; use of the RCMP, provincial police, and the CAF to monitor, contain, and disrupt resistance movements while enabling fossil fuel expansion; as well as strong majority Canadian support for the end of the blockades.[65] Given these factors, state force would likely have been used had the onset of the COVID-19 pandemic not intervened. All told, *ad hoc* coalitions between Indigenous peoples, allies, and environmentalists retain the potential to generate disruptive political conflict over the intersection of limited

61. Jorge Barrera, "CSIS withholds information on Wet'suwet'en demonstrations citing national security threat exemptions," *CBC News,* 2 October 2020, https://www.cbc.ca/news/indigenous/csis-wetsuweten-indigenous-demonstrations-1.5747306 (accessed 16 October 2020).
62. Philippe Le Billon and Angela Carter, "Securing Alberta's tar sands: Resistance and criminalization on a new energy frontier," in Matthew A. Schnurr and Larry A. Swatuk, eds., *Natural Resources and Social Conflict: Towards Critical Environmental Security* (New York: Palgrave Macmillan, 2012), 170–192; Crosby and Monaghan, *Policing Indigenous Movements;* and Janet French, "Controversial bill targeting rail blockade protesters soon to be Alberta law," *CBC News*, 28 May 2020, https://www.cbc.ca/news/canada/edmonton/controversial-bill-targeting-rail-blockade-protesters-soon-to-be-alberta-law-1.5589557 (accessed 16 October 2020).
63. Quoted in Jon Elmer, "Canada's brewing insurgency," *Al Jazeera,* 26 June 2010, https://www.aljazeera.com/news/2010/6/26/canadas-brewing-insurgency (accessed 26 October 2020).
64. Douglas L. Bland, *Time Bomb: Canada and the First Nations* (Toronto: Dundurn, 2014).
65. Darrell Bricker, "Majority of Canadians (61%) disagree with protestors shutting down roads and rail corridors; Half (53%) want police to end it," *Ipsos*, 19 February 2020, https://www.ipsos.com/en-ca/news-polls/Majority-Canadians-Disagree-With-Protestors-Shutting-Down-Roads-And-Rail-Corridors-And-Half-Want-Police-To-End-It (accessed 16 February 2021).

action to address climate change, a continuation of pro-fossil fuel economic policies, and the ongoing intrusions of federal and provincial governments into Indigenous territories.

Conversely, there has been a surge in conservative populism in Canada derived from the intersections of nativist, regional, and extractivist grievances. It draws from its ideological counterpart in the US, where sovereign citizen and militia movements include climate denialism, disproportionately represent fossil fuel workers, and threaten violence to disrupt the enactment of new climate policies at the state level.[66] In Canada, such sentiments were already evident prior to the 2019 federal election, but have been inflamed by public health restrictions imposed to fight COVID-19. Conservative populists are motivated by carbon pricing and other climate-related policies introduced by the former Notley New Democratic Party (NDP) government in Alberta and the Trudeau Liberal government in Ottawa, market-based and political obstacles to completing new fossil fuel pipelines, and perceived antipathy towards western Canada's energy sector from elsewhere in the country. In response, some conservatives have affected a reactionary model of patriotic nationalism. The partisan gap between conservative and non-conservative voters across a range of issues is larger than at any recent point, but is most pronounced with respect to climate change, immigration and diversity, and support for populist narratives such as "Make Canada Great Again." In particular, the concentration of Conservative Party support in the fossil-fuel producing Prairie provinces has produced a distinctively Canadian manifestation of "pipeline populism."[67]

66. Matthew Lockwood, "Right-wing populism and the climate change agenda: Exploring the linkages," *Environmental Politics* 27, no. 4 (2018): 712–732; Frank Graves and Michael Valpy, "Canada is a tinderbox for populism. The 2019 election could spark it," *Maclean's*, 3 December, 2018, https://www.macleans.ca/politics/canada-is-a-tinderbox-for-populism-the-2019-election-could-spark-it/ (accessed 26 October 2020); David Crosbie, "The far-right grassroots movement taking over Canada," *Canadaland*, 28 January 2019, https://www.canadaland.com/far-right-yellow-vests-taking-over-canada/ (accessed 26 October 2020); Steven High, "Right-wing populism and the realignment of working-class politics in Canada," *Canadian Dimension*, 19 November 2020, https://canadiandimension.com/articles/view/right-wing-populism-and-the-realignment-of-working-class-politics-in-canada (accessed 16 February 2021); *Desmogblog*, "Whose allegiance? Three percenters militia working in Bakken oil patch raises concerns of domestic terrorism risk," blog entry by Justin Nobel, 21 July 2020, https://www.desmogblog.com/2020/07/21/three-percenters-militia-bakken-oil-oneok-domestic-terrorism (accessed 16 February 2021); and Max Rosen, "Is Canada vulnerable to right-wing populism?" *McGill Journal of Political Studies* 6 (2020), https://mjps.ssmu.ca/2020/12/06/is-canada-vulnerable-to-right-wing-populism/?utm_source=rss&utm_medium=rss&utm_campaign=is-canada-vulnerable-to-right-wing-populism (accessed 16 February 2021).

67. Jen Preston, "Racial extractivism and white settler colonialism: An examination of the Canadian tar sands mega-projects," *Cultural Studies* 31, nos. 2–3 (2017): 353–375; Scott Trew, ed., "Conservatism, populism, and crisis," *Monitor* 26, no. 2 (2019); Brendan Boyd, "A province under pressure: Climate change policy in Alberta," *Canadian Journal of Political Science* 52, no. 1 (2019): 183–199; Bruce Anderson and David Coletto, "Public attitudes on oil, pipelines, climate, and change," *Abacus Data*, 9 September 2017, https://abacusdata.ca/public-attitudes-on-oil-pipelines-climate-and-change/ (accessed 26 October 2020); and David Coletto, "The Road to the Next Federal Election."(In-Focus Webinar, *Abacus Data*, 9 February 9, 2021).

This political dynamic has edged increasingly towards violence. Although the current populist wave is "elite-led,"[68] it has inflamed an authentic conservative anger at, *inter alia*, the social, political, and economic ramifications of addressing climate change and the role of Indigenous peoples and progressive organizations in driving policy change. This anger has produced confrontations between right-wing and counter-protestors; the growth of far-right militias and their infiltration into the military and law enforcement; increased threats of political violence; and the growth of gun rights advocacy and anti-state discourse fuelled by online disinformation and "fake news." A selection of recent examples includes the establishment of Three Percenter militia chapters in every province since 2015; the defection of a Canadian soldier to a US-based extremist group; the Conservative Party of Canada's embrace of a pro-fossil fuel activist convoy that espoused violent xenophobic and anti-Trudeau propaganda; increased death threats against figures such as former Alberta premier Rachel Notley, former federal climate change minister Catherine McKenna, and Prime Minister Trudeau, including credible threats during the 2019 federal election campaign; an armed soldier who drove across the country to attack the prime minister's residence in Ottawa, where he was later indicted on twenty-two charges; the CAF's 2020 launch of an official inquiry into extremism in the ranks; and the federal designation, in early 2021, of the Proud Boys organization as a hate group.[69] Some cases of vigilante violence against environmentalists and Indigenous land defenders directly involve support for new fossil fuel infrastructure. Violence targeting Indigenous women is also connected to large numbers of temporary workers constructing fossil fuel and other resource extraction projects located close to rural and isolated communities.[70]

The federal government's 2018 report on terrorist threats to Canada acknowledged and foreshadowed these security concerns by noting the relative prominence of right-wing extremism motivated by "anti-government and anti-law enforcement sentiment, advocacy of white nationalism and racial separation, anti-Semitism and Islamophobia, anti-immigration, male supremacy (misogyny), and homophobia." A separate analysis commissioned by the Department of National Defence notes

68. Michael Morden and Kendall Anderson. "Don't blame the people: The rise of elite-led populism in Canada," The Samara Centre for Democracy, 7 May 2019, https://www.samaracanada.com/research/political-leadership/dont-blame-the-people (accessed 26 October 2020).
69. Kristy Hutter, "Three Percenters are Canada's 'most dangerous' extremist group, say some experts," *CBC News*, 10 May 2018, https://www.cbc.ca/news/canada/three-percenters-canada-1.4647199 (accessed 16 February 2021); Angela Wright, "United We Roll wasn't just about oil and gas," *CBC News*, 26 February 2019, https://www.cbc.ca/news/opinion/united-we-roll-1.5030419 (accessed 16 February 2021); "Threats against PM and cabinet ministers increasing: RCMP," *CBC News*, 13 August 2020, https://www.cbc.ca/news/politics/threats-pm-cabinet-increase-2020-1.5685097 (accessed 16 February 2021); and Murray Brewster, "Defence Minister Sajjan launches panel to probe racism in the ranks," *CBC News*, 17 December 2020, https://www.cbc.ca/news/politics/sajjan-racism-rangers-1.5845568 (accessed 16 February 2021).
70. Government of Canada. National Inquiry into Missing and Murdered Indigenous Women and Girls. Reclaiming Power and Place. The Final Report of the National Inquiry, 584–594; and Jerome Turner, "Land defenders describe a violent night attack on their camp," *The Tyee*, 4 May 2020, https://thetyee.ca/News/2020/05/04/Land-Defenders-Describe-A-Violent-Night-On-Their-Camp/ (accessed 16 February 2021).

that violent extremist organizations, "especially right-wing populist movements inspired by their loss of freedoms during the pandemic," are among the anticipated domestic security threats in the coming years.[71] Another researcher describes right-wing extremism as having the "greatest potential for radicalization leading to violence" of any group in Canada.[72] While distinct, such right-wing extremism overlaps considerably with the conservative populist rejection of climate change. The disparate cases of the Proud Boys, the United We Roll convoy, and patriotic/nationalist expressions of Justin Trudeau as a traitor to be executed for crimes against Canada's fossil fuel sector are exemplar demonstrations of the extractivist subjectivity and authoritarian desire embodied in the concept of "petro-masculinity," and warrant future research.[73] In sum, although sometimes indirect, political contestation over climate change has contributed to the growth of radical new movements and unwittingly fomented the most significant domestic instability in Canada since the 1995 Quebec referendum.

## Conclusion

This article has examined the implications of climate change for security in Canada. It has outlined fives areas of Canada's national interests harmed by climate change: Canadians' human security; economic threats; Arctic threats; humanitarian crises; and the threat of domestic conflict. Canada is clearly threatened by climate change in numerous ways. Without substantial policy and cultural shifts, the country will continue to experience serious physical, political, and economic harms in the coming years. It is worth noting that this empirical discussion reflects an updated assessment of climate impacts, but otherwise is not particularly new. Climate change is not new. Its impacts for Canada have been understood for decades, and the path towards greater sustainability and, correspondingly, improved prospects for human survival and flourishing, is clear. We must develop non-GHG emitting sources of energy and transition towards a decarbonized global economy. As in most other wealthy societies, this challenge is compounded by Canada's failure to adequately acknowledge or respond to the severity of the climate crisis within its political system.

A full exploration of *why* climate change is not treated as a security issue in Canada is beyond the scope of this article, but, in theoretical terms, securitization

71. Government of Canada. Public Safety Canada. *Building a Safe and Resilient Canada. 2018 Public Report on the Terrorist Threat to Canada*. 3rd Revision. Ottawa, Public Safety Canada, April 2019, 8; Gitanjali Adlakha-Hutcheon and Peter Johnston, *The Future Impacts of COVID-19 on the North Atlantic Treaty Organization—A Futures Framework*, Defence Research and Development Canada, 16 October 2020, https://cradpdf.drdc-rddc.gc.ca/PDFS/unc349/p812285_A1b.pdf (accessed 16 February 2021).
72. Ben Mussett, "What it's like monitoring Canada's Yellow Vest movement every day," *Vice*, 8 May 2019, https://www.vice.com/en_ca/article/9kxkwp/what-its-like-monitoring-canadas-yellow-vest-movement-every-day (accessed 26 October 2020).
73. Cara Daggett, "Petro-masculinity: Fossil fuels and authoritarian desire," *Millennium: Journal of International Studies* 47, no. (2018): 25–44.

refers to the social and political process of identifying something as an existential threat to one's security and then acting accordingly to defend oneself from the threat. In this account, nothing is inherently a security issue. Rather, security issues are those problems and challenges that we collectively decide *are* security issues.[74] This process requires a substantial degree of societal acceptance of a threat or, alternatively, the elite imposition of a particular conception of threat onto a society. Notwithstanding more than three decades of academic and practitioner discussion, Canada has no consensus on the "security-ness" of climate change. At the partisan level—despite a majority of Canadians in every electoral riding believing that climate change is occurring and large majorities who believe it is a "big problem" (74 per cent) that is causing them to change their views of the oil sector (59 per cent)—the ambivalence towards climate change is evident.[75] Federal and provincial conservative parties proudly characterize themselves as "The Resistance" to climate policies, including carbon taxation, cap and trade, and other GHG reduction measures, and have made such opposition a key component of their political identities. Centrist parties position themselves as managing climate change, framing it as an issue of existential severity requiring systemic disruption, thus allowing for policies that simultaneously restrict and expand Canada's fossil fuel sector. For instance, since 2015 the federal Liberal government has introduced backstop nationwide carbon pricing and declared climate change a national emergency while rescuing and nationalizing the Trans Mountain bitumen pipeline expansion, maintaining fossil fuel subsidies, and providing other fiscal supports to the Alberta oil and gas sector. Similarly, since 2017 the British Columbia NDP has championed a GHG-*qua*-electrification strategy that incorporates the development of a new liquefied natural gas industry that will make it impossible for the province to meet its emissions reduction targets.[76] Left-of-centre parties such as the federal New Democrats and Greens are most vocal on the issue of climate change, but they win fewer electoral votes and hold little political power. No surprise, then, that while majorities of Canadians indicate that climate change is a grave and growing concern, what should be done and who should pay are less clear, and pluralities also support new pipeline construction.[77]

74. Barry Buzan, Ole Wæver, and Jaap De Wilde. *Security: A New Framework for Analysis* (London: Lynne Rienner Publishers, 1998).
75. Anderson and Coletto, "Public attitudes on oil, pipelines, climate, and change."; and Matto Mildenberger et al. "The distribution of climate change public opinion in Canada." *PLoS ONE* 1, no. 8 (2016): eo159774,https://www.umontreal.ca/climat/engl/.
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The political contestation around climate change in Canada precludes its effective securitization and an effective government response to it *as* a security issue. Moreover, nowhere in government discourse is there recognition that the Anthropocene changes the conditions under which security is pursued or the means by which it can be achieved. Securitization, in this sense, includes prioritizing allocations of finite public resources and state capacity through the determination of which actions must be taken and which may *not* be taken if prospects for survival are to be maximized. As I have argued elsewhere, given the state of knowledge about anthropogenic climate change, government pursuit of policies that knowingly contribute to climate change worsens conditions of present and future insecurity for their citizens and everyone else, and represents a pathological approach to security and the national interest that is inherently unsustainable.[78] In this context, the question is not "how does climate change threaten Canada?" because the answers are clear and numerous. Rather, the question remains "what will it take to generate a political response to the threats associated with climate change commensurate to their gravity?" To that question, we still await an answer.

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## ORCID iD


Wilfrid Greaves https://orcid.org/0000-0002-5485-068X

## Author Biography

**Wilfrid Greaves** is Assistant Professor of International Relations at the University of Victoria, British Columbia, Canada.

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