Climate Migration in the Great Lakes Region: Collaborative Planning for an Uncertain Future

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Issue

In the face of a rapidly changing climate and its profound impact on people's lives and livelihoods, the Great Lakes Region finds itself at the forefront of a pressing new challenge: climate migration. As the region grapples with expected population growth stemming from the movement of people from higher risk climate locations across North America, collaborative planning emerges as paramount for Canada's approach to sustainable development.

Background

Climate migration is a fast and growing topic among the international climate change adaptation community. According to the United Nations High Commissioner for Refugees (UNHCR), an annual 21.5 million refugees have been forcibly displaced from their homes, because of climate related events since 2008 (UNHCR 2016). This number is expected to surge to 1.2 billion people in the next 30 to 50 years as the effects of climate change on communities and livelihoods become more frequent and severe (Institute for Economics & Peace 2020).

Dry and arid regions across the United States and Canada have become susceptible to climate vulnerability and risk within the last few decades. In Canada, due to changing frequencies of temperature and precipitation levels coupled with prolonged lengths of wildfire seasons, Western provinces are expected to face increased levels of risk for climate events such as wildfires, droughts and floods (Bush and Lemmen 2019; Hanes et al. 2019). Water shortages and megadroughts in the Southwestern United States have persisted and worsened since the early 2000s, and severe climate events are becoming increasingly frequent and intense, forcing people on the move (US Environmental Protection Agency 2023). Sea level rise is one example of a gradual change that researchers believe alone could force more than 13 million people to permanently relocate across the United States by the end of the century (Hauer et al. 2020). In Canada, research indicates sea levels may rise 175 cm in parts of Canada by 2100, leading to 42 percent more Canadians in coastal communities becoming vulnerable to climate hazards.

The migration of persons across North America and into the Great Lakes region due to climate change realities will have significant implications for community vulnerability and water security in the region.

Positioning the Great Lakes as a Climate Haven

There are 35 million people currently living in the Great Lakes region across the United States and Canada, and as climate challenges across North America are expected to continue, many have begun to label the Great Lakes region as a potential climate haven (Rajkovich et al. 2022).

Although more robust methodologies for projecting the magnitude of this trend are still forthcoming, preliminary

US studies of internal migration patterns since 1990 suggest that migration into Great Lakes cities tends to originate from areas facing extreme heat, indicating that the region could be poised to receive potential influxes from the south as the country continues to warm (Hauer, Baule and Channell 2022). Projected to face a relatively low risk of exposure to natural hazards under climate change when compared to the United States' national average and boasting an abundance of freshwater resources and temperate climate, the Great Lakes are expected to experience population growth as a result of climate-induced migration from higher climate-risk areas across the United States (United States Federal Emergency Management Agency 2023). Understanding how these population shifts might affect communities, resources, and infrastructure in the region is imperative in planning a sustainable future for all residents.

Typologies of Climate Migration

The International Organization for Migration delineates two types of climate impacts that drive subsequent migration: climate processes, or slow onset changes such as sea level rise, drought and temperature increases; and climate events, or sudden onset changes such as wildfires, floods or hurricanes (Brown 2008). Climate impacts will produce varying typologies and patterns of migration, influencing demographic trends and levels of mobility (Marandi and Leilani 2022). Community integration efforts should encompass both temporary and permanent, planned and unplanned, climate migration. Policy planning will be required at varying spatial and temporal scales to attend to the specific needs of different migrants.

Implications for Future Planning

Data Standardization and Coordination

Coordination among stakeholders is critical to the development of policies that will provide support to communities impacted by climate migration. Existing frameworks for binational coordination bring together relevant groups to tackle issues in the Great Lakes region, such as the Great Lakes Water Quality Agreement and the International Joint Commission. Although work at the provincial and state level has begun to enact policies that support climate migrants, such as Michigan's Healthy Climate Plan, recent initiatives from international bodies such as the Great Lakes Commission's Action Plan for a Resilient Great Lakes basin have yet to prioritize climate

migration in their renewed efforts to standardize policy guidance and support collaboration in the region (Clark 2022; Altenberg et al. 2022).

Canada must urgently address the growing concerns voiced by civil society, businesses and local governments in outreach initiatives regarding the priority of collecting comprehensive demographic data on climate migrants in the Great Lakes region, which hampers effective planning initiatives aimed at seamlessly integrating climate migrants into community programs, including vital areas such as social services, health care, affordable housing and training and education. While accurately predicting climate migration proves challenging, substantial efforts towards scenario planning are necessary to develop effective strategies for comprehending the magnitude and extent of population changes that may arise, in order to effectively manage climate migration in the region. Therefore, it is crucial to establish consistent definitions of climate migrants and actively gather data on their demographics and population figures. In addressing these shortcomings, Canada can better equip itself to tackle the pressing challenges associated with climate migration.

Economy, Trade and Industry

The Great Lakes region remains one of the leading economic and natural resource engines globally. Shared between the United States and Canada, the Great Lakes is home to 51 million jobs and 84 percent of North America's fresh surface water (Council of the Great Lakes Region 2016; US Environmental Protection Agency 2023). The region's reliance on the safe use of its waters is projected to increase in line with a rising population. Although robust trends have yet to be identified, early signs of increased business appetite for relocating water intensive industries to the Great Lakes are also expected with prolonged droughts occurring across dry and arid regions of the United States (Van Berkel et al. 2022).

With over 38 million people reliant on the lakes for drinking water, significant bilateral funding has been invested into protecting and revitalizing infrastructure and water security in the region, including the recent development of the Canada Water Agency and a $420-million Canadian federal budget commitment to preserve and restore the Great Lakes over the next decade (Government of Canada 2023). Current agreements, however, are piecemeal — binational technical regulations on the use of water resources such as the Great Lakes

Water Quality Agreement are decoupled from economic labour, trade and investment strategies on Canadian water sources such as Canada's Blue Economy Strategy, which focuses on sustainable business practices and developments in science and technology for marine rather than freshwater resources (Government of Canada 2021). As people and industry alike move to the Great Lakes, Canada should look to an integrated sustainable economic model that strikes a balance between leveraging the region's resources and this influx of people as a potential labour resource, with higher levels of water use and increased scarcity.

Some cities in the Great Lakes region are already looking to leverage potential demographic shifts and integrate climate migrants into a new model for economic growth, and business leaders are taking proactive steps towards peer-to-peer learning surrounding policies towards effective water sustainability. However, industry stakeholders have echoed the desire for better demographic data in order to plan for climate in-migration (American Society of Adaptation Professionals 2022). Industries centred around sustainable infrastructure and land use planning require better information on potential demographic and resource use changes in the region in order to invest now in practices that will benefit both current and future residents. An economic shift based upon a blue economy model that focuses on environmental restoration, the incorporation of new labour demographics driven by climate migration, and the sustainable management of natural resources in a freshwater context serves as an opportunity for revitalization across cities in the Great Lakes.

Community Infrastructure and Resilience

An influx of migrants into existing populated cities in the Great Lakes may increase vulnerabilities in the current infrastructure and capacities of the region to provide affordable social and public services to different residents. Governments, community members and civil society must work together to identify capacity needs and availability for the short-term and long-term integration of climate migrants, and ensure the needs of new residents are met without compromising those who are already there.

Community engagement, including Indigenous engagement, is critical for ensuring further marginalization and gentrification of existing communities is minimized in the implementation of public service programs for climate migrants. Approximately 120 Indigenous communities occupy the Great Lakes. As of 2018, Indigenous communities in both the United States and Canada have been developing climate adaptation plans that utilize data and projections within their vulnerability and impact assessments (US Climate Resilience Toolkit 2018).

Existing groups such as the Council of the Great Lakes Region, Alliance for the Great Lakes and Great Lakes Community Action partnership, are engaging in the United States at both the local and provincial level to identify community needs and perspectives on building climate resiliency within the region through outreach programs (Nordman and O'Keefe 2018). Canada should ensure programs aiming to protect and restore the Great Lakes such as its Great Lakes Local Action Fund and the Great Lakes Protection Initiative incorporate local and Indigenous knowledge perspectives into water infrastructure programming. Collaboration is also needed between communities, organizations and each level of government to create equitable, co-created models and public information tools that address potential community climate vulnerabilities and allow for informed planned migration by those looking to migrate due to slower onset climate events.

Recommendations

Promote Cross-Agency Collaboration. Recognizing that climate change issues require investment from each level of government, Canada should establish an intergovernmental working group to engage in scenario-planning and develop an adaptability plan that researches and addresses current and anticipated risks in the Great Lakes resulting from climate migration. GAC should collaborate with relevant federal departments such as NRCan, Fisheries and Oceans Canada (DFO), Environment and Climate Change Canada (ECCC), and provincial and municipal governments in Ontario and Quebec to define strategic interests and coordinate a national response that enables Canada to engage with bilateral partners through International Joint Commission working groups with the United States on a set of clearly articulated objectives.

Standardize Data Collection and Definitions. Stakeholders need to develop and implement a comprehensive data collection framework that includes a

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standardized definition of climate migrants. Using existing governance mechanisms of the Great Lakes Water Quality Agreement, Canada should propose expanding the mandate of the Climate Change Impact subcommittee to develop transboundary climate change modelling that incorporates climate migration into scenario planning efforts. In addition, Canada should look to incorporate climate migration data on demographics such as age, gender, ethnicity, income and education levels into the International Joint Commission's Great Lakes Science strategy.

By implementing a standardized data collection framework that includes a comprehensive definition of climate migrants, stakeholders will have a better understanding of the scope and characteristics of climate migration, and work to better inform future resource allocation and policy decisions related to climate change adaptation and mitigation.

Ensure Adequate Representation of Climate Migrants in Planning and Coordination Efforts. Following federal budget announcements reiterating the need to preserve and protect the Great Lakes, Canada should ensure community outreach and planning for climate migrants within this funding. In line with work done in the United States, Canada should look to fund initiatives by civil society and academic institutions that engage with the communities and business leaders in the region, including focus groups and stakeholder engagement seminars to gather input and feedback on policies and programs related to climate migration, as well as to identify and address any barriers to successful integration and inclusion.

Integrate a Blue Economy Model into Canada's Updated Freshwater Action Plan. The Canadian government has recently established a new Canada Water Agency in their efforts to build a cleaner, stronger, more resilient economy and safeguard freshwater resources for generations to come. Canada should respond to calls for consolidating "place-based solutions" for the Great Lakes within recent "what-we-heard" engagement reports on Canada's Blue Economy Strategy, by encouraging a focus on climate migration's possible impacts into their planned evaluation of a renewed Freshwater Action Plan (Government of Canada 2021). This approach will allow Canada to create pathways for integrating potential climate migrants into a sustainable labour force, while ensuring investment into coastal infrastructure works in support of community adaptation and economic development objectives.

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