PARTNERS FOR ACTION

Flood Smart NEWS

uwaterloo.ca/partners-for-action/ Fall 2020

Canadian Voices on Flood Risk 2020: Findings from a national survey

As the costs of flooding continue to rise across the country, understanding Canadians' attitudes about its risks and how they are managed is becoming increasingly important. In 2020, Partners for Action conducted a bilingual national survey with the objective of hearing directly from Canadians about their opinions on flooding. As follow-on to our 2016 survey, P4A invited 2,500 Canadians across all 10 provinces, living in designated flood risk areas, to share their views on issues such as flood risk, property buyouts for flood risk management, responsibility for flood prevention, and how the costs of flood recovery should be distributed.

Results of the survey reveal that Canadians' flood risk awareness remains critically low. Only 6% of respondents living in designated flood-prone areas were aware of their flood risk, a figure that has not changed since 2016. This lack of awareness has also resulted in limited action by home owners to reduce their flood risk at the property level. Most respondents living in designated flood-prone areas did not implement even basic property-level prevention measures, such as installing sump pumps, elevating their belongings, or purchasing flood insurance to reduce their financial risk. The 2020 survey also revealed that the majority of the respondents did not review flood maps available in their community.

Although, public awareness of flood risk maps remains limited, Canadians also expressed their concerns over outdated and inaccessible flood maps. On the issue of property buyouts, which enable managed retreat from flood prone areas, 49% of respondents indicated that homes at risk of repeated flooding should be offered buyouts before flooding occurs, yet 68% of the respondents believe property buyout programs should be voluntary rather than mandatory. Read more results from this survey and our recommendations in the full report, *"Canadian Voices on Flood Risk 2020: Findings from a national survey about how we should manage an increasingly costly and common peril"*

RESEARCH HIGHLIGHTS

Policy Brief: Managed Retreat from High-risk Flood Areas: Design Considerations for Effective Property Buyout Programs

P4A's research on property buyouts for flood risk reduction in Canada was featured in a policy brief for the Centre of International Governance Innovation. The brief explains that by identifying priority areas to target, developing supportive partnerships between government, private sector and non-government organizations, and drawing lessons from past buyout programs, managed retreat can be strengthened in Canada. **Read the full policy brief here.**

Flood Smart Canada offers Flood Prevention Communication Resources

In consultation with partners and members of the public, P4A developed bilingual, flood risk prevention communication resources, which can be accessed from FloodSmartCanada.ca and shared broadly. Stand-alone messages about property-level actions and seasonal checklists, understanding flood risk, preparedness and overland insurance are available to access, customize and share to improve understanding of flood risk.

Partners for Action
Evolv1, Rm 1106, 200 University Avenue West
Waterloo, ON, Canada N2L 3G1
519-888-4567 x48938

Flooding and Social Vulnerability: Commentary from Jason Thistlethwaite

"Socioeconomic vulnerability is the largest contributor to climate change risk globally and in Canada. This is particularly the case for flooding where disruption from damage can lead to financial hardship and disrupt well-being." – Jason Thistlethewaite

Jason Thistlethwaite is Associate Director, Partners for Action and Associate Professor in the School of Environment, Enterprise, and Development at the University of Waterloo. His research focuses on the financial risks of climate change, natural disasters and extreme weather. His recent work explores the role of insurance and government risk management in promoting climate change adaptation and reducing economic vulnerability at the local level.

Social vulnerability refers to a combination of factors, such as low income, mobility constraints and physical disabilities that make certain groups more susceptible or predisposed to negative impacts from environmental hazards. Higher social vulnerability compounds the negative effects that flooding has on Canadian communities. And some are at greater risk than others.

In one of his latest articles, *"A place-based socioeconomic status index: Measuring social vulnerability to flood hazards in the context of environmental justice",* Jason Thistlethwaite and researchers from University of Waterloo presented a novel, placed-based socioeconomic status index of 49 indicators. They used the index to compare and rank social vulnerability in Canada's largest cities, demonstrating that it is unevenly distributed across Canada. They argued that this disparity must be considered in the design of flood risk management policies to distribute resources effectively. We asked Jason about it.

Q: What challenges do vulnerable populations with low socio-economic status across Canada encounter during flood preparedness, response and recovery?

A: "Lack of resources, time, and social networks represent significant challenges for those who are socio-economically vulnerable to flooding. Without resources and time, preparation can be costly and require time off work, which places a further burden on these communities. Social networks are often not as robust among those who are socio-economically vulnerable, particularly new Canadians. These networks can help warn about flood risk and provide shelter in the event of evacuation or damage."

Q: How can measuring social vulnerability inform and improve Canada's flood risk management?

A: "We first need to know how to measure social vulnerability accurately, and there remains uncertainty over how best to do this. But once we establish the criteria we feel are important, identifying areas of socio-economic vulnerability to flooding can help us know where to prioritize and send resources to improve flood risk management."

Q: How does the COVID-19 pandemic affect efforts to reduce flood risk or respond to flood events?

A: "COVID-19 limits our capacity to evacuate from areas prone to flooding, because we can no longer group people together in evacuation shelters. This added challenge could mean people without resources remain in a community rather than seeking emergency management resources needed for recovery. Planning and finding receiving communities capable of sheltering flood victims represents an important measure to prepare for flood risk during a pandemic. Resources are critical, in the form of direct financial support, but also allocating emergency management supports such as local volunteers, the military or Canadian Red Cross. COVID-19 limits the type of emergency response to professional organizations that can provide their own PPE and logistics to support distancing."

Partners for Action
Evolv1, Rm 1106, 200 University Avenue West
Waterloo, ON, Canada N2L 3G1
519-888-4567 x48938

Reflections on a unique flood season: How Canadian communities adapted flood response during a global pandemic

Canadians have adapted in countless ways to the ongoing COVID-19 pandemic. And there is no exception when it comes to flood response, as we observed in jurisdictions across the country that were faced with the added challenges associated with delivering emergency management services to Canadians threatened by flooding.

Adjusting Protocols and Procedures

This past spring, communities across Canada prepared for the possibility of flooding during a global pandemic. Public health recommendations to limit the spread of COVID-19 prompted many government officials, emergency planners and first responders to re-think their approach to hazard response.

To comply with new and evolving public health protocols, while still providing critical emergency services, government and emergency management officials adapted quickly to tackle new challenges such as implementing physical distancing protocols for evacuees and response personnel, attracting sufficient volunteers, supplying personal protective equipment and screening flood evacuees for COVID symptoms.

In British Columbia, for example, government officials adapted their flood emergency responses to align with new public health requirements. Emergency Management BC (EMBC), the province's leading organization for all emergency management services, modified a number of flood response guidelines, including requiring added sanitizing to facilities and limiting the number of people working closely together.

Sandbagging guidelines were adjusted to reduce the number of chutes that can used at one time and the number of people required to fill sand bags was limited to one person per sandbag, to allow for the required two meters of physical distancing.

Under normal circumstances, evacuees could expect regular delivery of supports such as food, shelter, transportation. But because of COVID-19, some jurisdictions, which had the capacity, were encouraged to perform some support services remotely to protect first responders, essential workers and evacuees. For example, for those who had been displaced from their homes because of emergencies such as floods, the province developed an electronic evacuee registration system to limit contact between emergency responders and evacuees. Although the virtual response did contribute to delays in some services, the approach ultimately worked.

Although, COVID-19 further complicated flood preparedness and response plans, it also highlighted the adaptability and resiliency of communities across Canada.

In Ontario, as concerns over spring floods grew, the government announced its commitment to flood preparedness and response measures for communities at risk of flooding during the pandemic. The Ontario government collaborated with federal and municipal governments, First Nations communities and non-government partners to develop evacuation plans, identify suitable locations for evacuees and allocated support resources to reduce the burden on local communities.

The people of Kashechewan, a First Nations community in Northern Ontario, which has been greatly impacted by floods for the past 17 years, had significant fears of evacuating amid COVID-19. Unlike in previous years, rather than evacuating residents to southern Ontario, Indigenous leaders and the Ontario government developed a new plan to accommodate residents in traditional hunt camps and remote sites located 30 km from the reserve - a move that was received well by many of the evacuees, who were able to continue important indigenous traditions, such as geese hunting. This shift also highlighted opportunities for the government to support the unique needs of communities facing risk hazards.

Limiting the spread of COVID-19 during flood evacuations

Communities also grappled with how to deal with evacuations without contributing to the spread of COVID. Public health recommendations for physical distancing created uncertainty for many residents at risk of flooding who may have needed to evacuate their homes. Traditional evacuation centres, with evacuees living in close proximity, were not an option this year. Municipalities were advised against opening reception centres and emergency shelters, which would force people into restricted areas and increase the risk of transmission.

Aklavik, a First Nations community in the North West Territories, faced the risk of evacuation from flooding in May. During previous evacuations, residents could evacuate to Inuvik, N.W.T. and stay with family or friends. But with authorities emphasizing physical distancing, this wasn't a viable option for some. Many expressed concern and anxiety over the uncertainty of what would happen to them and their loved ones in the event of a forced evacuation.

Fort McMurray, Alberta, confronted with severe flooding following a 25 km ice jam along the Athabasca River, had to experience this new reality first hand when 13,000 people were forced out of their homes. In the presence of two crises, the Regional Municipality of Wood Buffalo and the Alberta Emergency Management Agency took extra steps to protect evacuees.

(Story continues on next page)

Partners for Action
Evolv1, Rm 1106, 200 University Avenue West
Waterloo, ON, Canada N2L 3G1
519-888-4567 x48938

(Continued from previous page)

After issuing a Mandatory Evacuation Order, a joint effort between the local and provincial government focused on administering emergency services safely and effectively. Evacuees reported to a drive-thru Registration Centre with COVID-and underwent COVID-19 screening before entering into accommodation to help emergency services identify those who may be at risk. And, the province provided individual-style shelters such as hotel rooms for families to limit contact between evacuees. These, along with economic challenges experienced by some evacuees, were feared to contribute to increased mental health issues in the community, including depression and potentially post-traumatic stress disorder from the 2016 fire.

Spring flooding was the first natural disaster in Canada since the onset of COVID-19. And, although preparing for and managing two crises simultaneously generated a multitude of difficulties in preparedness and response measures, this also highlighted the capability of partnerships and the resilience of Canadian communities to adapt, something that we will undoubtedly be called upon to do again.

Please contact us to learn more or to get involved:
p4a.info@uwaterloo.ca

PARTNERS FOR ACTION
Advancing flood resiliency in Canadian communities

Evolv1, Rm 1106
200 University Avenue West
Waterloo, ON, Canada N2L 3G1
519-888-4567 x48938
uwaterloo.ca/partners-for-action/

FloodSmart Canada

NEWS IN THE NETWORK

Insured Damages from Alberta's Extreme Weather Events top $2 Billion (IBC)

The Insurance Bureau of Canada reports that the spring flood in Fort McMurray, Alberta caused $522 million in insured damages. This, in addition to extreme spring and summer weather in Calgary and the surrounding areas topped $2 billion in insured damages.

Register now for the first CatIQ Connect quarterly webinar series!

CatIQ Connect, Canada's Catastrophe Conference, has a new format until 2022, as a quarterly webinar series. The conference provides a platform for industry, all levels of government, and academia to come together to discuss mitigation and adaptation strategies, technological advancements, and sector perspectives around catastrophe management. Registration is open for the inaugural session, which takes place on October 14, 2020.

Windsor, Ontario Approves $4.9 Billion Resilience Plan (Insurance Business Magazine)

Ontario municipality that has experienced significant flooding in recent years approves bold plan to tackle future flooding.

Green Infrastructure for Climate Adaptation

The Green Infrastructure Foundation and Ontario Parks Association released a report on strategies, informed by six case studies, for implementing green infrastructure to support local climate adaptation.

With flood threat increasing, is it time to retreat from living on the riskiest waterfront land? (CBC)

"These strategies are by far the best forms of risk mitigation because you take exposure of people and property to the water and you bring it to zero by moving them to a safer location" – Jason Thistlethwaite.

Green Communities Canada offers RAIN Garden Master Class

Now available through a new online platform, this self-paced 6-week course is features interactive and engaging lectures from renowned landscape architects and environmental practitioners providing everything you need to know to start building and designing your very own rain garden.

How your advice can help flood-proof future real estate development (Canadian Underwriter)

Collaboration and access to better natural hazard risk data needed to inform development.