



Aboriginal Housing Management Association

Over 30 years of Indigenous housing expertise

Preparing Together: Weather Emergency Management Across Indigenous Non-profit Housing Providers in British Columbia

Prepared by: Joaquin L. Valdez Guzman, RNBN, UBC Sustainability Scholar, 2026

Prepared for: Sara Fralin, Manager, Engagement and Technical Services, Aboriginal Housing Management Association

August, 2026



Index

- 1. Title Page..... Page 1
- 2. Acknowledgements
 - Disclaimer..... Page 3
 - Territory.....Page 4
 - About AHMA..... Page 5
- 3. Executive Summary..... Page 6
- 4. Problem Statement.....Page 8
- 5. Background and Context
 - Changing Weather in British Columbia..... Page 9
 - Disaster Phases in Emergency Management.....Page 10
 - Disproportionate effects on Indigenous Populations.....Page 11
 - Housing, Health and Climate..... Page 12
 - Intersectionality, Social Determinants of Health, and Gender Violence.....Page 13
 - Emergency Communication and Trusted Channels..... Page 14
 - Previous AHMA Research..... Page 15
- 6. Research Questions..... Page 16
- 7. What We Heard (Findings)
 - Current State of Emergency Management..... Page 17
 - Interorganizational Communication.....Page 21
 - Gaps and Support Opportunities for AHMA.....Page 21
 - Emergent Themes..... Page 22
- 8. What We Learned (Discussion)
 - Current State of Emergency Management..... Page 25
 - Communication Preferences..... Page 26
 - Gaps and Support Opportunities for AHMA.....Page 26
 - Emergent Themes..... Page 27
- 9. Recommendations..... Page 28
 - For Members..... Page 29
 - For AHMA.....Page 30
 - For Provincial and Federal..... Page 31
- 10. Future Research..... Page 32
- 11. Appendix A – Methods and Methodology.....Page 34
- 12. Appendix B – Researcher Positionality..... Page 35
- 13. Bibliography..... Page 36

We thank all participants, collaborators and partners whose contributions made this work possible.

Disclaimer

This report was produced as part of the UBC Sustainability Scholars Program, a partnership between the University of British Columbia and various local governments and organizations in support of providing graduate students with opportunities to do applied research on projects that advance sustainability and climate action across the region.

This project was conducted under the supervision and mentorship of the Aboriginal Housing Management Association (AHMA) staff. The opinions and recommendations in this report are those of the author and do not necessarily reflect the views of AHMA as an organization nor those of the University of British Columbia as an institution.

About the Sustainability Scholars Program

The UBC Sustainability Scholars Program is an innovative paid internship program that matches UBC graduate students with on- and off-campus organisations to undertake applied research projects that advance sustainability and climate action in the Lower Mainland and across British Columbia. The program is one of several offered by the UBC Sustainability Hub that provide students with experiential learning opportunities related to complex sustainability issues.

To learn more about the Sustainability Scholars Program, visit the website here:
<http://sustain.ubc.ca/scholars>

To read this and other project reports, visit the project library here: <http://sustain.ubc.ca/scholarslibrary>



THE UNIVERSITY OF BRITISH COLUMBIA

Sustainability Hub



© 2026 Joaquín Valdez Guzmán

Territorial Acknowledgement

The work for this project was carried out remotely, largely on the UBC Point Grey (Vancouver) campus, which sits on the traditional, ancestral, and unceded territory of the xwməθkwəy̓əm (Musqueam) First Nation. Its water is sourced from the watershed of the North Shore Mountains, which are the traditional, ancestral, and unceded territories of the səlilwətał (Tsleil-Waututh), Skwxwú7mesh Úxwumixw (Squamish), and xwməθkwəy̓əm (Musqueam) Nations. These Coast Salish nations have stewarded these lands and waters since time immemorial.

Colonial practices and policies have impacted and continue to impact the health and well-being of First Nations, Métis, Inuit, and Urban Indigenous people. I am committed not simply to acknowledging Musqueam territory, but to realizing that acknowledgment through an active dedication to more just and more accountable relations in the spirit of trust, reconciliation, and collaboration.

At AHMA, we honour elders past, present, and future from all Nations and traditional territories. The land and waters colonially named British Columbia are home to over 290,000 Indigenous people and 203 distinct First Nations.^{25,38}





© 2026 Joaquin Valdez Guzman

About AHMA

The Aboriginal Housing Management Association (AHMA) has over 30 years of expertise in advancing housing rights for Indigenous Peoples.

AHMA is the first **For Indigenous, By Indigenous (FIBI)** housing authority established in Canada, rooted in belonging, cultural respect, and honouring Indigenous traditions. Its members manage over 95% of all Indigenous housing units located off reserve in British Columbia. AHMA serves over 10,000 Indigenous individuals and families, advocates broadly for Indigenous housing, provides operational guidance, conducts research, supports asset management, and much more.

AHMA members provide a spectrum of trauma-informed, culturally safe housing and supports, including affordable housing units, homeless shelters, transition homes, supportive housing, assisted living facilities, parenting support, mental health and addiction programs, and complex care. Together, AHMA's members are taking back their inherent rights to self-determination and invite others to participate.

Executive Summary

Recommendations for Members

- Prioritize Emergency Management:
 - Members without a current emergency management plan should prioritize creating one using *existing public resources, within capacity constraints* (e.g., templates, checklists, risk-assessment tools).
- Foster Community as a Resilience Tool:
 - Members should support community-led events and activities to strengthen social ties among tenants, reinforcing self-agency and relationship building before an emergency occurs.

Recommendations for AHMA

- Clarify and Communicate AHMA's Role in Emergencies to Members:
 - AHMA should clearly define and communicate its role during emergencies.
- Support Adaptation of Emergency Management Training and Resources:
 - AHMA should pursue funding for an Emergency Management position to support the regional adaptation of plans, training, and materials, and serve as a point of contact during emergencies.

Recommendations for Provincial and Federal Governments

- Align Emergency Management Responsibilities with Sustainable Funding and Capacity Supports:
 - Provincial and federal governments should establish dedicated, Indigenous-specific funding streams for emergency management that are proportional to the responsibilities already assigned to non-profit housing providers under Canada's emergency management framework.

This report explores how Indigenous non-profit housing providers across British Columbia experience and manage extreme weather-related emergencies, and how the Aboriginal Management Housing Association (AHMA) can better support member societies and the communities they serve.

Recommendations are drawn from eight interviews with member societies, examined alongside existing literature on emergency management, Indigenous governance, and housing and climate resilience.

Executive Summary

Background and Context

- British Columbia faces growing frequency and severity of climate hazards, including extreme heat, wildfires, drought, flooding, and earthquakes.
- Canada's emergency management framework places primary responsibility for preparedness on individuals and local organizations.
- Community-level organizations are treated as front-line actors in emergency management without a guarantee of resources or support.
- Ongoing colonial legacies compound, resulting in under-reporting of disasters in rural communities, and disparities in health and resources at baseline.
- Climate-related hazards affect seniors, women, children, and precariously housed individuals more than other groups.
- Changes in weather pose health hazards: extreme heat can lead to kidney injury, cardiovascular strain, and worsened mental health outcomes.
- Previous AHMA research found that communication usually relies on informal channels, and emergency planning remains in its early stages.
- This study builds on the research by examining all four levels of emergency management through the experiences of society staff members and how AHMA can walk alongside members in the process.

Findings

Across the Four Stages of Emergency Management:

- **Mitigation** is happening, but it is often reactive and rarely recognized as “mitigation” by staff.
- **Preparedness** varies widely. Some societies have structured systems: incident command roles, tiered regional alert networks; while others rely on staff discretion.
- **Response** is generally adaptive and resourceful, shaped by community relationships to mobilize supplies, create shelter, or evacuate residents.
- **Recovery** practices centred on staff wellbeing and cultural safety. In at least one case, cultural brushing ceremony followed a death in a building.

Communication and AHMA's Role:

- Members continue to draw on a mix of resources for weather information, rather than relying on AHMA as a primary channel. Some participants expressed a desire for regionally specific, easy-to-redistribute communication and for AHMA to continue and improve its responsiveness as a point of contact when extra support is needed.

Emergent Themes

- **Community as resilience:** One of the strongest themes that arose unprompted was the role of community supports as a protective factor for tenants during emergencies and in daily routines.
- **Vulnerable residents:** Seniors, neurodiverse individuals, and residents with significant mental health needs were repeatedly flagged as a distinct area of concern during extreme weather events.
- **Supply chain exposure:** Members recognized that disruptions elsewhere in the province, particularly in the Lower Mainland, can cut off essential supplies to their communities.
- **Staff turnover:** High turnover creates recurring gaps in emergency readiness, as new hires are not always briefed on procedures before the next event occurs.



© 2026 Joaquin Valdez Guzman

Problem Statement

In the context of increased frequency of climate disasters, Indigenous non-profit housing and service providers in British Columbia face disproportionate risks. Current federal, provincial and municipal emergency management frameworks place the onus of emergency management on individuals, leaving vulnerable urban Indigenous populations and support agencies to prepare themselves.³¹ Meanwhile, AHMA's staff question member engagement with existing internal emergency communication materials sent out to members and past research demonstrates low levels of preparedness.² This applied research study explores the experiences of AHMA members (Indigenous non-profit housing and service providers in British Columbia) across the four stages of emergency management - prevention and mitigation, preparedness, response, and recovery - to identify climate change impacts, gaps in emergency management, how providers are responding to climate emergencies, and how AHMA can better support its members and the communities they serve.

Background and Context

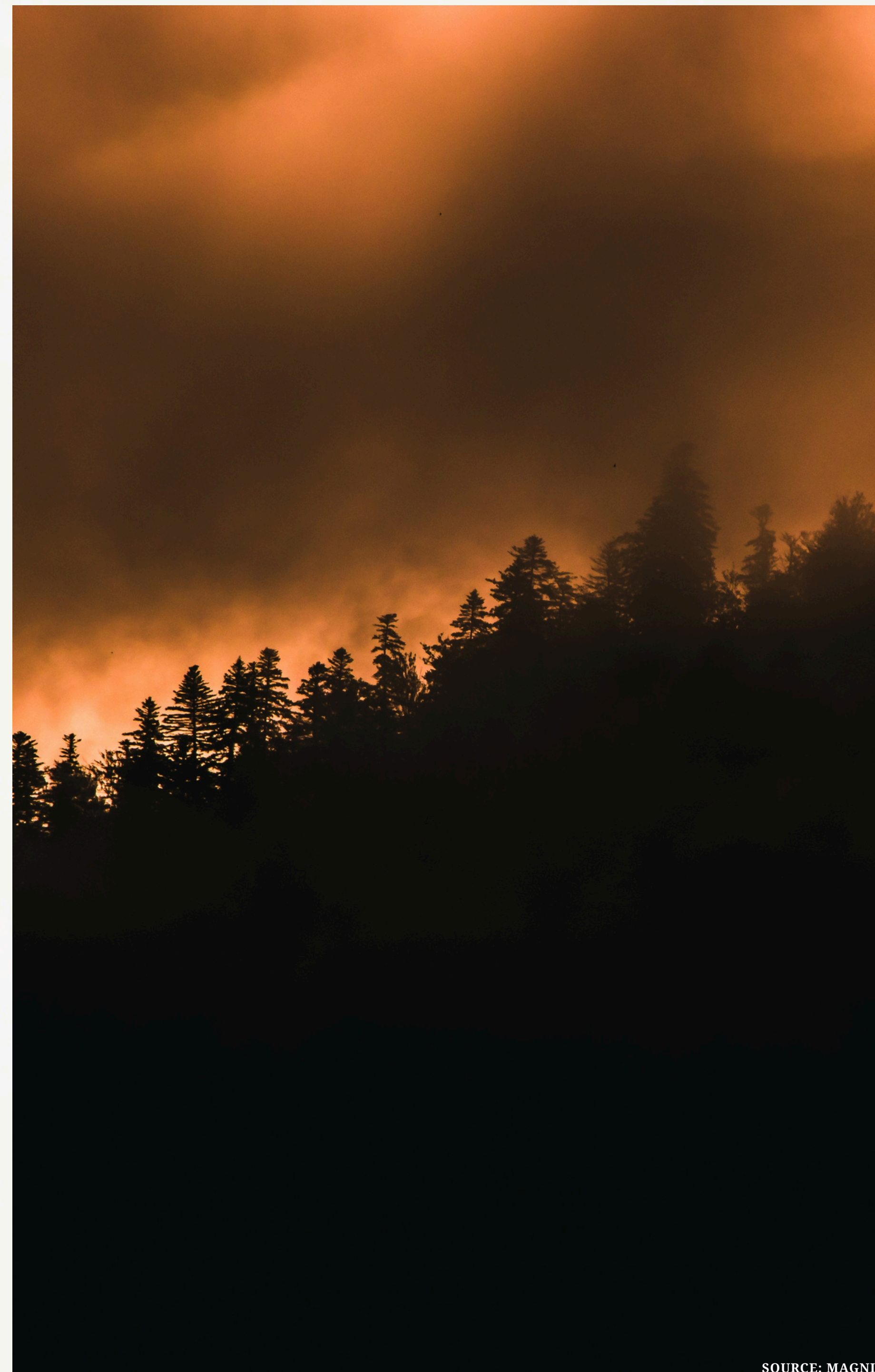
CHANGING WEATHER IN BRITISH COLUMBIA

British Columbia (BC) is prone to natural hazards and experiences wide variation in climate across the province.^{32,9} Current projections indicate that BC's annual surface temperature is rising at a much faster rate than global trends.²² Even with limited success to control emissions at the international level, BC will see a rise of 3-6 degrees Celsius by the year 2080.¹⁰ The magnitude of this forecast highlights the importance of emergency planning in the province.

In 2024, BC's insured losses from extreme weather events were estimated at \$300 million CAD, reflecting an upward trend across Canada in recent years.²³ According to the 2025 Disaster and Climate Risk and Resilience Assessment Report, this province faces seven priority hazard categories:

- Riverine flooding
- Coastal flooding
- Extreme heat
- Drought and water scarcity
- Wildfires
- Earthquakes
- Multi-hazard events²²

Each of these hazards carries direct implications for the housing sector, continuity of services, and the physical well-being of Urban Indigenous peoples, consequences that will be explored further in the report. For Indigenous non-profit housing providers operating with limited resources, any risks compound existing structural inequities in ways mainstream emergency planning has yet to address.^{20,11} This project is timely in attempting to gather information to best support Indigenous non-profit housing and service providers within AHMA's mandate while promoting climate resilience.



SOURCE: MAGNI

Background and Context

DISASTER PHASES IN EMERGENCY MANAGEMENT (CANADA'S FRAMEWORK) – 4 STAGES

Emergency management in Canada operates within a structured federal framework established by Public Safety Canada.³¹ This comprehensive, all-hazards approach links climate change to the increasing frequency and intensity of emergency events and calls for a whole-of-society approach to manage their associated risks.

The framework identifies four interdependent components constituting emergency management in Canada.

Prevention and Mitigation – Eliminating or reducing risk before a disaster occurs (infrastructure improvements, land-use planning and policy).

Preparedness – Ensuring readiness before an emergency (emergency response plans, training, resource inventories, and public awareness activities).

Response - Actions taken during or immediately after a disaster to manage consequences, minimize suffering, and protect lives.

Recovery - Efforts to restore conditions to an acceptable level following a disaster (return of evacuees, trauma support, reconstruction, and economic impact assessment).

As part of this whole-of-society approach, all parties – including Indigenous peoples – share a responsibility to be prepared for disasters, with first response to an emergency almost always falling to local authorities or at the provincial or territorial level. Federal assistance, then, is contingent on a formal request from provincial or territorial governments.³¹

For Indigenous non-profit housing providers, this distribution of responsibility carries significant implications. It positions community-level organizations as primary actors in emergency preparedness and response, without corresponding guarantees of resources, capacity, or culturally appropriate support structures. This gap between assigned responsibility and available support is a central concern of the present study.



WHOLE-OF-SOCIETY, WHOLE-OF-GOVERNMENT

Effective emergency management depends on the shared responsibilities of federal, provincial, territorial, indigenous, municipal governments, private sector, and individuals. Working together builds safer, more resilient communities.



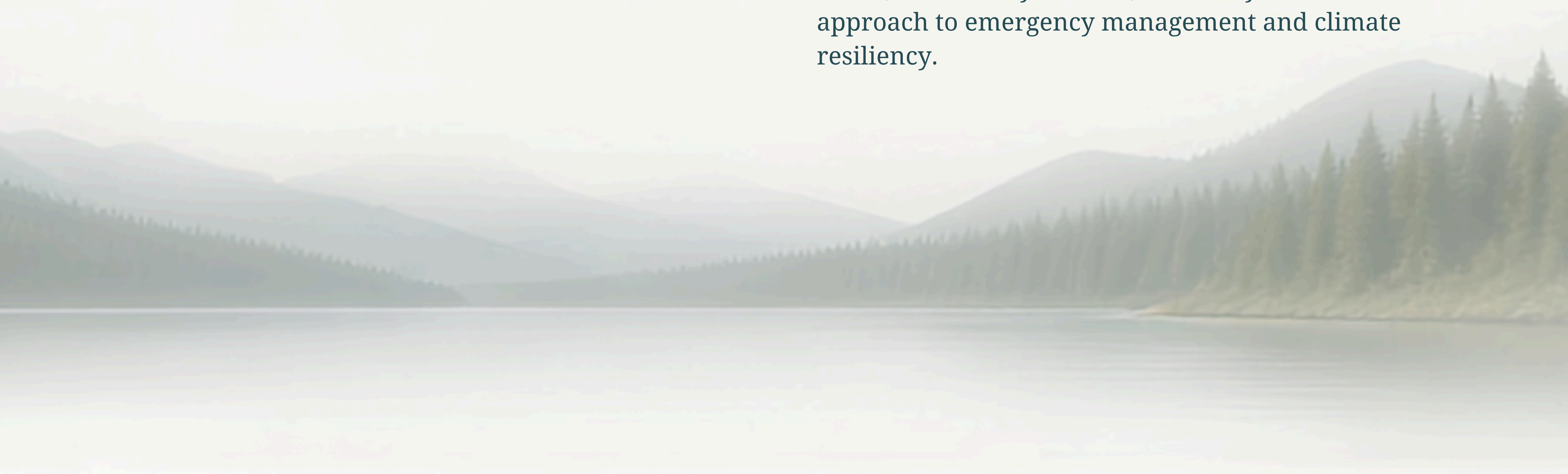
Background and Context

DISPROPORTIONATE EFFECTS ON INDIGENOUS POPULATIONS

Ongoing colonial legacies continue to shape differential health outcomes in Indigenous communities.²⁰ This is compounded by the lower reporting of disasters affecting rural and Indigenous communities, which increases inequities in preparedness planning and recovery funding.²⁰ In this way, extreme weather events can also increase food insecurity and displacement among Indigenous populations, many of which maintain deep relational ties to the land and places they inhabit.¹⁶

Governance failures deepen these risks. In Canada, First Nations leaders have documented instances where state security forces have attempted to unlawfully override community decisions about managing emergency events,¹⁷ reflecting a broader pattern in which emergency management agencies create structures that lack local legitimacy and fail to ask communities how they wish to be engaged.³³ As mentioned, the federal framework itself places responsibility for preparedness on communities without guaranteeing corresponding resources or culturally appropriate support.³¹

The literature is clear that Indigenous knowledge systems have long served as early warning indicators of extreme weather and climate events, and that integrating this knowledge into mainstream emergency management frameworks is essential to building genuine resilience.¹⁸ Indigenous non-profit housing providers in BC are at a crossroads, relying on local authorities while implementing culturally informed emergency management. Presenting the need for a strengths-based, community-defined, culturally safe approach to emergency management and climate resiliency.



Background and Context

HOUSING, HEALTH AND CLIMATE

Holistic approaches to housing are associated with positive health outcomes.¹² Yet, climate change is rapidly degrading the conditions that make housing safe and habitable. Exposure to extreme heat within the home carries documented health consequences, including acute and chronic kidney injury, sleep problems, heatstroke, adverse pregnancy outcomes, exacerbation of diabetes, cardiovascular and respiratory disease, mental health impacts, and increased mortality.¹² Across Canada, this crisis is converging with the housing crisis as the share of Canadians living in areas exposed to floods and large wildfires rose from 8% in 2010 to 36% in 2024, while households facing affordability challenges now exceed the available share of social and affordable housing stock.²⁴

Emergency response systems consistently fail to account for precariously housed individuals and those in transitional or emergency shelters, for whom the effects of extreme weather events face disproportionate physical, economic, and psychological impacts.²¹ During a disaster, losing shelter compounds existing trauma and leaves individuals more exposed, unable to recover losses,²¹ and can leave vulnerable groups disconnected from social support networks.

Despite housing being a climate adaptation priority,¹² the health system must recognize it as such⁴ so that policies may increasingly target housing as an upstream approach to preventative health care. Non-profit housing providers, while committed to equity and inclusion, frequently lack resources to adapt to accelerating climate impacts while continuing to provide affordable housing in an increasingly polarized system.¹¹ In the context and scope of AHMA, ensuring that members have access to the knowledge, resources, and support to maintain safe housing conditions before, during, and after climate emergencies is both a health and an equity imperative.



Background and Context

INTERSECTIONALITY, SOCIAL DETERMINANTS OF HEALTH, AND GENDER VIOLENCE

The Social Determinants of Health (SDoH) framework provides a useful lens for understanding why climate emergencies disproportionately harm already marginalized populations. SDoH refers to the interrelated, nonmedical conditions in which people are born, grow up, live, work, play and age - including income, education, housing, and access to services.²⁹ For Indigenous peoples in Canada, Indigeneity itself functions as a social determinant of health, as it is compounded by the ongoing consequences of colonization and colonialism influencing all other determinants of health,³⁰ which may include dispossession from land, intergenerational trauma, underfunded services, and geographic isolation.

In the context of climate emergencies, these determinants combine in ways that increase exposure and reduce capacity to cope. Social isolation, itself a product of poverty, geography, and systemic exclusion, has been identified as a key risk factor for mortality during extreme heat events, with its impacts particularly severe for Indigenous people, the economically disadvantaged, and older adults.³ Gender identity compounds with geography, as women in rural and remote areas face health needs during extreme weather events that are poorly met by existing systems.¹⁶ Displacement can create conditions of overcrowding and lack of security that expose women to harassment, physical violence, and sexual violence.³⁴ Children, a vulnerable group, exposed to climate disasters face adverse neurological and psychological development outcomes that compound across a lifetime.³⁹ Lastly, unhoused and precariously housed individuals face physical, economic, and psychological impacts from extreme weather that formal emergency response systems are structurally ill-equipped to address.²¹



For an association serving Indigenous non-profit housing providers, this intersectional picture has direct implications. Members serve tenants who may simultaneously be seniors, women, children, people experiencing homelessness or transitional housing, and individuals carrying intergenerational trauma. A one-size-fits-all emergency management approach is therefore insufficient. Effective emergency communication, planning, and response must be designed with these overlapping strengths and vulnerabilities in mind and developed in partnership with the communities from a trauma-informed lens.

Background and Context

EMERGENCY COMMUNICATION AND TRUSTED CHANNELS

Following major disasters, formal communication systems have been shown to fail, leaving word of mouth as the primary means of information sharing among providers and communities.⁶ –This failure is structural as agencies consistently adopt top-down approaches that lack local legitimacy and underinvest in genuine community engagement.^{33,40}

In British Columbia, rural and remote Indigenous communities rely heavily on radio for wildfire and emergency information, particularly in areas with limited cellular connectivity.^{35,36} Even where formal systems exist, awareness and uptake remain low.³⁵

Trust in communication sources matters as much as the channel itself. Indigenous communities consistently report greater trust in local, community-based, and nongovernmental sources over provincial or federal ones, citing disconnection, lack of accountability, and negative past experiences with higher levels of government.³⁵

Among AHMA members specifically, prior research found communication relying on an inconsistent mix of formal and informal channels, with emergency planning capacity described as early-stage and under-resourced.^{2,5} Moving forward, the literature and past projects support a shift toward community-led, locally trusted communication strategies developed in partnership with members and sustained through ongoing relationships rather than reactive engagement.¹⁵ This project helps to dive deeper into AHMA members' experiences with emergency management communication before, during, or after an extreme weather event.



SOURCE: MAGNIFI



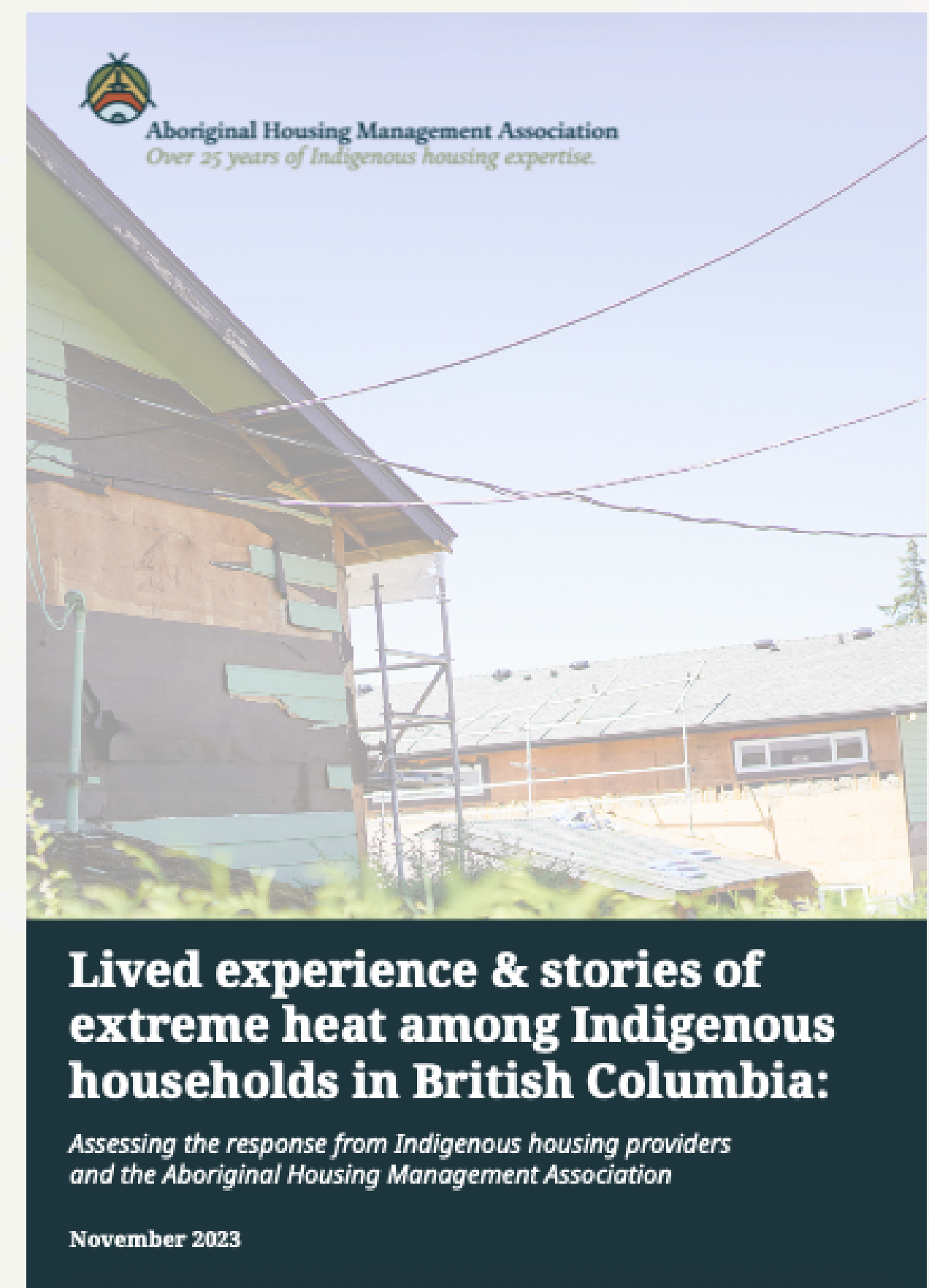
Background and Context

PREVIOUS AHMA RESEARCH

Relevant to this study, AHMA has commissioned two prior research projects relevant to this study. The first, *Lived experience & stories of extreme heat among Indigenous households in British Columbia*, engaged 16 AHMA members to gain insight into the lived experiences of their tenants dealing with extreme heat, especially following the 2021 heat dome.² It found that rural and urban communities experience heat differently, and that communication with their tenants relied on a mix of formal and informal channels (word of mouth, mass emailing, leaflets, posters, in-person check-ins, and social media). The project also highlighted the need to streamline external communication to avoid duplicating sources, while flagging the unique needs of each community.

The second, *Climate Resilient Buildings for Urban Indigenous Housing and Service Providers*, surveyed 15 AHMA members and interviewed six individuals from 5 different Societies with experience in housing, climate, and emergency management.⁵ Findings were more structural: only 5 out of the 15 respondents had emergency plans in place, only one had conducted a risk assessment, and 9 described emergency planning as “ongoing”.⁵ This second report situated this within BC’s 2023 EDMA (Emergency and Disaster Management Act), which sets out emergency preparedness duties across a network of actors, failing to hold a single authority responsible during an emergency.⁵ This puts a strain on capacity for existing staff as well as reveals a gap in funding attached to new legislation mentioned by one of the interviewees.⁵

Together, the two reports establish that current emergency management among AHMA members is early-stage and inconsistent, that communication practices are informal and uncoordinated, and that structural gaps in funding and staff capacity persist across both heat-specific and general climate emergency planning. Neither report has directly asked tenants or covered the full four-stage emergency management cycle from the members’ perspective, which is the gap this study addresses.



Research Questions

The following questions were used to guide the interviews and overall project.

Overarching question: What are the experiences of Indigenous non-profit housing providers in BC across the four stages of emergency management in the context of climate disasters?

Sub-question 1: How are Indigenous non-profit housing providers in BC currently carrying out climate disaster-related emergency management?

Sub-question 2: How do Indigenous non-profit housing providers in BC prefer to receive emergency communication, information, and resources from the association to best support the tenants they serve?

Sub-question 3: What gaps exist in current emergency management supports available to Indigenous non-profit housing providers in BC, and what resources could AHMA aim to facilitate?



What We Heard

CURRENT STATE OF EMERGENCY MANAGEMENT

Overall, all participants had experiences with extreme weather events and engaged in a range of activities across the four stages of emergency management. The level of exposure varied with the length of time each participant had been part of their society; all participants had experienced extreme weather events, directly or indirectly, in their personal lives. This report focuses on their experience as part of the staff in their respective societies.

MITIGATION

Participants reported Mitigation efforts centred on building upgrades, hazard reduction, and anticipatory purchasing of supplies. Their efforts were often constrained by staff capacity and funding. While mitigation efforts were reported, they were not always framed by participants as ‘mitigation’ practices, reflecting a disconnect between components constituting emergency management and on-the-ground practices.

At least five participants described mitigation-related actions, though several noted proactive investment was limited by workload and resourcing:

“There are considerable opportunities to adopt a more proactive approach to tenant well-being. However, limited funding and resources often prevent the implementation of preventative measures, even in response to isolated emergencies. Greater investment in education, prevention, and risk mitigation could improve tenant outcomes while reducing organizational and insurance-related liabilities.”
– Participant 3

This suggests that members see mitigation as valuable in principle, but it is difficult to prioritize against competing demands and scarce resources.



1 MITIGATION

Eliminating or Reducing risk before a disaster occurs

- Infrastructure improvements
- Land-use planning
- Policy
- Natural hazard and climate risk reduction
- Prevention and protection measures

For some societies, mitigation practices *followed* an identified problem or event. One participant described commissioning a formal overheating investigation only after heat-related issues had already surfaced, which then led to a pilot AC installation for their most vulnerable residents (Participant 5). For these participants, this may indicate that mitigation planning is being rendered as reactive rather than preventative.

Other mitigation activities were described as routine maintenance rather than emergency preparedness, including landscaping and tree removal near buildings (Participant 3) and pre-purchasing portable air conditioners and high-grade air filters ahead of wildfire season (Participant 4). These actions functioned as mitigation without being labelled as such by participants, suggesting some existing practices may already serve emergency management goals without being formally recognized as part of a member’s strategy.

These findings suggest that mitigation activity among the participants has been shaped most often by reactive necessity and routine (seasonal maintenance) than by dedicated, well-resourced planning.

What We Heard

PREPAREDNESS

Most participants described active preparedness measures, including stocked supplies, alert systems, evacuation planning, and remote backup capacity. However, in at least one case, preparedness relied less on formal procedure than on staff discretion and assumed competence, presenting the risk of a disorganized, uncoordinated response.

Several societies described concrete, anticipatory systems. Participant 8 referenced an incident command structure, including defined roles, communication processes, and a dedicated disaster recovery workbook maintained since emergency planning began in the early 2000s. Participant 2 described participating in a regional relief network that issues tiered alerts up to 48 hours in advance, requiring designated staff to be ready to activate on short notice. Participant 7 described distributing evacuation kits and pamphlets to tenants, with follow-up checks to confirm supplies were in place. Participant 6 described seasonal adjustments to food storage, staffing, and equipment (e.g. shifting to cold meals and shelf-stable stock in anticipation of winter power outages). This suggests that, where resourcing allowed, preparedness extended beyond stocking supplies into structured planning and role clarity.

However, not all societies described a comparable formal structure. Participant 4 noted that for incidents like fire, staff would typically respond within 5 to 10 minutes, but acknowledged there was no established formal procedure guiding that response:



2 PREPAREDNESS

Ensuring readiness before an emergency

- Emergency response plans
- Training
- Resource Inventories
- Public Awareness Activities

“Unfortunately, at this time we do not have a set procedure. We have limited resources and staff as many non-profits do. The staff that we do have are knowledgeable and capable of assessing what these situations require. The staff have displayed this capability in past situations, and as we build a strong team, the plan is to move into the future with a concrete procedure.” - Participant 3

This indicates that, in some cases, preparedness depends on strong relationships and trust in staff judgment rather than on documented protocols or formal training. This may function adequately in familiar scenarios, but, depending on the organizational context, it poses a risk that staff turnover or absence would compromise a society’s capacity and consistency in responding.

Taken together, these findings suggest preparedness levels vary considerably across members, from structured, documented systems to informal reliance on staff instinct.

What We Heard

RESPONSE

Response practices varied across member societies, shaped by community size, staff capacity, and the nature of their relationship with tenants. Despite this variation, participants generally described adaptive, resource-driven responses when an event occurred.

At least three participants described mobilizing available supplies and space during active responses to extreme weather events. Participant 1 described distributing water and food, and opening shelter and youth spaces during extreme heat. Participant 2 described a coordinated standby process, confirming receipt of an alert with a team lead, preparing staff, and notifying community partners before standing down once the threat had passed.

“...we came in, we got... ourselves prepared and reached out to the community partners and said, ‘we’re ready to go’, and they said, ‘okay, we’re on standby’, and they rescinded it... ‘you guys can stand down, everything is good. Go home.’” - Participant 2

This suggests that where alert systems and communication channels functioned as intended, societies were able to activate and stand down efficiently, reflecting responsiveness rather than improvisation.

Some societies described prioritizing residents with the greatest need and relying on capable family members to support others, particularly in situations with limited resources. Participant 7 described this approach during an evacuation:



3 RESPONSE

Actions taken during or immediately after a disaster to manage consequences, minimize suffering, and protect lives

- Alerting and public communications
- Search and rescue, emergency services
- Evacuation, sheltering, and essential services
- Coordination and resource mobilization

“We tried to reach out to our elders and our local nations to see if they had evacuation points for them... to make sure their children were the ones that would be reactive and not us, because we don’t have the resources to go get their family for them.” - Participant 7

This reflects a triage strategy driven by available resources, including staff capacity, that directed limited efforts toward those least able to self-evacuate and used family and community networks to support other tenants.

Overall, these findings suggest that response capacity among AHMA members is adaptive, resourceful, and shaped by community context and relationships.

What We Heard

RECOVERY

Recovery efforts centred on staff wellbeing, structured debriefing, and cultural and community-based healing. Participants placed an emphasis on care and compassion toward staff following high-stress events.

Three participants described formal debriefing processes for staff after an extreme weather event. Participant 2 described allowing for staff to step back and process, including allowing for time off and access to counsellors, suggesting that members recognized the emotional toll of responding to emergencies, including strain from exposure to traumatic events, and built recovery time accordingly.

Participant 7 similarly closed operations for a day to allow staff to rest after an extended period of alert and held follow-up meetings with tenants to review what had and hadn't worked. One participant described a comparable emphasis on care after a major event, explicitly telling staff there was no fault in not being able to give more than they had:

“...you don’t want to have expectations of people, and they can't perform it. I think that was a real valuable lesson... not everybody could come, and that's okay. You know, no guilt or fault in that.”

**Rosanna McGregor, Executive Director,
Cariboo Friendship Society**



4 RECOVERY

Efforts to restore conditions to an acceptable level following a disaster

- Return of Evacuees
- Trauma Support
- Reconstruction
- Economic Impact Assessment

This shows a compassionate approach to staff limitations and realities during moments of crisis and suggests that leadership recognized that sustainable recovery depends on protecting staff wellbeing.

Recovery also extended into cultural and community practice. Participant 6 described cultural responsibilities following a death within a building as bringing in elders to conduct a brushing of the space before reoccupation.

Altogether, these findings suggest that recovery practices among members combine structured debriefing with compassion for staff and cultural safety.

What We Heard

INTERORGANIZATIONAL COMMUNICATION

This research project investigated how members currently receive information about extreme weather events and which sources they trust.

At least six participants described receiving information primarily from external bodies, including BC Housing, AHMA, municipal governments, and Environment Canada, as well as informal personal sources. Participant 2 relied on the city to disseminate information to partner organizations. Participant 7 followed Environment Canada alerts directly, while Participant 8 had direct access to provincial Emergency Operations Centre calls. Participant 4 learned about a flood event through news coverage and on-site staff observation, rather than a formal alert.

This spread of sources suggests members are largely self-reliant in sourcing emergency information, drawing on whichever channel is available or trusted in the moment. Given the geographical and organizational diversity of AHMA's membership, this self-reliance may reflect a reasonable adaptation to individual local contexts.

Participants also voiced views about how existing AHMA communication could be changed. Participant 6 specifically wanted alerts organized by region rather than delivered as a single undifferentiated notice or formatted so they could be forwarded to staff without additional editing:

“If [emergency preparedness materials] were categorized by region - like: ‘Emergency Preparedness: Heat Dome in [Area]’ - I could immediately forward them to team members in that area or region, instead having to sort through the long email and potentially missing an important announcement”
- Participant 6

This suggests that broadcast-style communication, even when timely, may place additional work on already-stretched staff to filter and repackage information before it reaches other team members.

GAPS AND SUPPORT OPPORTUNITIES FOR AHMA

Participants identified various supports as helpful or missing, spanning funding, training, communication, and role clarity. Specific preferences varied by geography and organizational capacity, but a consistent thread was the need for AHMA's role to be clearly understood and communicated as a source of available support.

Funding flexibility was a recurring concern. Participant 7 described needing rapid, low-barrier access to funds during active events:

“[During an emergency], I need [funds to help the situation and our communities]. I don't need [to be questioned] ... this is what is for...we're getting air conditioners, we're getting water, we're getting electrolytes, we're getting gift cards...”
- Participant 7

This suggests that existing processes may function as a barrier during emergencies, and that regionally adaptable, trust-based disbursement may better meet urgent needs during an emergency.

Training and shared learning tools were also widely requested to support preparation. Participant 4 suggested a compiled checklist of response procedures, while Participant 5 valued events and engagement sessions that would bring members together from across the province to share solutions to common challenges. This points to a desire for practical, tested tools rather than a generic approach.

What We Heard

Views on AHMA's overall role varied, but several participants converged on wanting a responsive point of contact rather than a directive authority. One participant summarized this:

"I don't know [if] AHMA has a role to play... but I think that if I needed them for something, I would call them up... and I think that's really the role they have to have."

**Rosanna McGregor, Executive Director,
Cariboo Friendship Society**

This suggests members value knowing support is available on request more than they value directive involvement, reinforcing that role clarity may matter most during emergency/extreme weather event management.

Overall, these findings suggest the core gap is less about any single missing resource or tool and more about ensuring members understand what AHMA offers and how to access it when needed.

EMERGENT THEMES

Beyond the core themes above, four additional patterns emerged that participants raised without direct prompting, and that fell outside the study's original scope.

THE POWER OF COMMUNITY

Community emerged as a significant and unprompted theme, surfacing repeatedly as participants described coping with extreme weather.

At least six participants described community or organizational culture as a source of resilience, both during weather events and other urgent situations. Participant 5 captured this directly, suggesting that community functions as a protective factor:

"We highly believe that we're stronger together, and if we're able to work together as one, it benefits us all."

**Thomas O'Brien, Manager of Housing &
Facilities, Island Urban Indigenous
Wellness Society**

Several participants gave concrete examples of tenants supporting one another. Participant 3 described tenants checking in on each other during wildfire smoke events and opening their homes to neighbours. Participant 4 described tenants collectively adopting and caring for the dog of someone in the community who had passed away and conducting informal wellness checks on people they hadn't seen recently. Participant 5 described community members coming together to support a grieving family following an elder's death, ensuring they were fed and cared for.



What We Heard

Community was also evident at the organizational level. Participant 6 described a deliberate culture of staff support across buildings, describing it as essential to getting through hard days, weather-related or otherwise. Participant 3 also noted that intentionally housing intergenerational families supported both daily caregiving and emergency readiness, since families were already on-site to help one another.

Together, these findings suggest community, among tenants and staff alike, functions as a critical resource for **social resilience*** and an important aspect of emergency management. As an emergent theme, this suggests that fostering community may warrant further attention as a protective factor to be intentionally cultivated alongside formal emergency management infrastructure.

VULNERABLE RESIDENTS

Several participants voiced specific concern for residents at heightened risk during extreme weather events, including seniors, neurodiverse individuals, and residents with significant mental health needs. Participant 3 described the risk for residents who may not recognize or voice their own need for help:

“[We have observed residents struggling in isolation, often without informing anyone of the difficulties they are facing. In some instances, individuals have passed away in their units and remained undiscovered for days due to a lack of social connections and support networks.]”

– Participant 3

*Social resilience refers to the strengths within a community that support its ability to prepare for, respond to, and recover from disruptions caused by disasters.¹⁴

Participant 8 and Participant 6 echoed similar concerns, describing efforts to keep cognitively vulnerable clients calm and reassured during extreme weather events, and instances of dehydration and delirium-driven behaviour among residents during heat events. This suggests that vulnerable residents are consistently visible to frontline staff as a distinct area of concern, and a need for additional support for AHMA members in serving this demographic, in the form of dedicated grants or funding.

SUPPLY CHAIN VULNERABILITY

Participants also recognized that risk was not confined to events happening in their own community, with disruptions elsewhere in the province capable of cutting off access to essential supplies. One participant described how highway and rail closures could interrupt the transportation routes their community depends on:

“...all of those roads... they were all blocked... produce, everything, all the essential stuff comes on trucks out of the Lower Mainland... but the trains were also impacted.”

Rosanna McGregor, Executive Director,
Cariboo Friendship Society

This suggests some members understood their emergency exposure as extending beyond local weather events to include disruptions elsewhere in the province, especially in the Lower Mainland. In the context of emergency management, this understanding must be considered during planning, with alternative supply chains ready or essential supplies stocked.

What We Heard

STAFF TURNOVER AND PREPAREDNESS CONTINUITY

Some participants also raised concerns about how high staff turnover affects emergency readiness, with new hires sometimes brought on without adequate training before an emergency event occurs, contingent on whether those members had access to such training. Participant 2 noted this gap directly, describing the possibility that new staff might realize mid-event that they had never been briefed on emergency procedures. This suggests that sector-wide turnover may create recurring gaps in readiness, even where training processes formally exist, since new staff are not always onboarded before the next event hits.

Together, these emergent patterns suggest members are attentive to risks beyond the study's original focus, particularly the safety of vulnerable residents, and provide valuable directions for future research and planning.



What We Learned

CURRENT STATE OF EMERGENCY MANAGEMENT

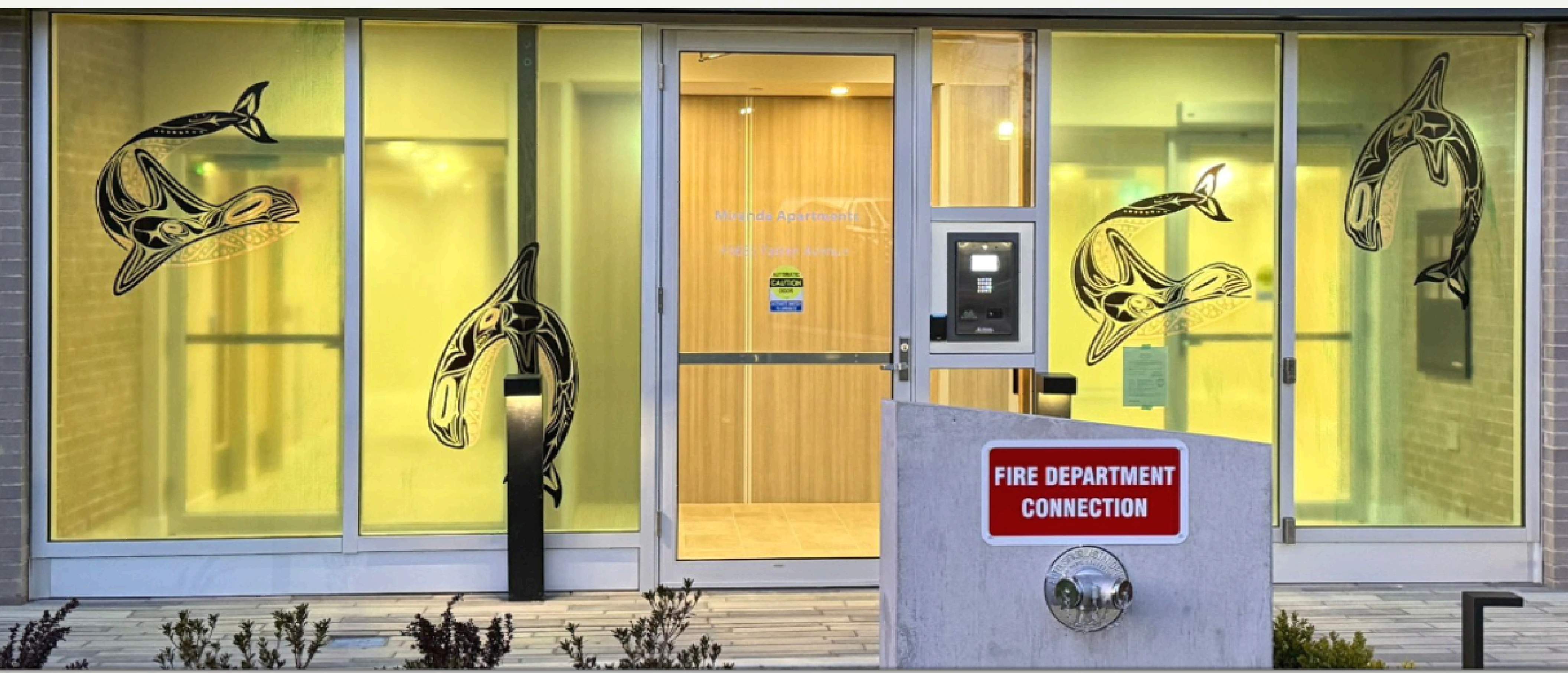
Participants' descriptions of their emergency management practices revealed a landscape that is functional but largely informal, reactive, and uneven among AHMA members, a pattern consistent with prior research on non-profit housing providers operating under resource constraints.¹¹

We learned that mitigation activities were occurring but were not recognized or labelled as such, suggesting a conceptual gap between what societies do and the formal emergency management framework established by Public Safety Canada, which defines mitigation as a distinct and intentional stage.³¹ However, this gap is not unusual; the Canadian framework itself acknowledges that emergency management has historically emphasized preparedness and response over mitigation,³¹ but it does suggest that AHMA members may benefit from reframing existing practices within this framework rather than developing new ones from scratch.

The unevenness in preparedness is particularly notable. Societies with structured systems appeared to rely on intentional investment in documentation and role clarity, while others operated on assumed competence, a risk point consistent with Russell-Smith et al.'s observation that agencies tend to underestimate the time and resources needed to build effective emergency capacity.³³

The data showed that during response phases, members generally demonstrated adaptive and resourceful responses shaped by community context and relationships. The triage approach described by participants (prioritizing the highest-need residents while engaging capable family members and community networks to support others) shows how community-based resources fill the gap when tangible resources and staff capacity are insufficient, a finding consistent with Milofsky's argument that strong local social networks are foundational to effective emergency response.²⁸

Recovery findings were among the most distinctive. The explicit attention to staff well-being, compassionate communication, and cultural healing practices, such as ceremonial space-clearing and communal drumming, extends beyond what the mainstream emergency management literature typically captures in recovery frameworks. This appears to reflect an Indigenous organizational culture that integrates relational and spiritual dimensions of recovery alongside other efforts. This finding resonates with Dorji et al.'s argument that Indigenous knowledge systems offer distinct and underutilized contributions to climate resilience.¹⁸



What We Learned

COMMUNICATION PREFERENCES

Communication preferences were only indirectly addressed; the finding that members relied primarily on external sources, BC Housing, municipal alerts, weather applications, and informal family networks, rather than AHMA as a primary channel, is backed up by the problem statement, where AHMA staff questioned member engagement with existing internal emergency communication materials. It is also consistent with Sandoval et al.'s finding that trust in community-based and local sources tends to exceed trust in organizational or government sources and may suggest that AHMA has not yet established itself as a trusted, timely, and actionable source of weather-related emergency information for its members.³⁵

The experience of existing communications as lengthy, non-regional, and responsibility-offloading aligns with Arrieta et al.'s finding that standard information dissemination is frequently ineffective,⁶ and with Zarin and O'Connell's critique of top-down communication approaches that fail to account for local context.⁴⁰

GAPS AND SUPPORT OPPORTUNITIES

The core gap or support opportunity identified by participants was role clarity and trusting support. Members appear to want assurance of availability and accessible points of contact more than they want prescriptive guidance, which may suggest that AHMA's most valuable and actionable short-term contribution is relational and structural. This is consistent with Milofsky's argument that organizational flexibility and inter-organizational trust are foundational to community resilience,²⁸ and with Russell-Smith et al.'s observation that effective partnerships require genuine responsiveness to how communities want to be engaged.³³ The call for regionally adapted support further reflects what the literature identifies as a persistent failure of centralized approaches to account for geographic and contextual variations.⁴⁰



What We Learned

EMERGENT THEMES

The emergence of community support during extreme weather events response is an emergent theme consistent with the social capital literature²⁸. Amani et al. found that social connection functions as a public health adaptation to climate emergencies.³ That this theme arose organically may suggest that its prominence to participants exceeds what formal emergency management frameworks cultivate.

The three additional emergent themes, vulnerability of seniors and neurodiverse residents, supply chain exposure, and staff turnover, extend beyond the original scope of the study but are not without grounding in the literature. Concern for seniors and residents with cognitive and mental health needs is consistent with the intersectionality framework developed in the literature review,^{3,39} while supply chain vulnerability is consistent with El-Baba et al.'s finding that rural and Indigenous communities face compounded exposure due to geographic isolation and infrastructure limitations.²⁰ Staff turnover as a readiness gap reflects the capacity constraints documented among non-profit housing providers more broadly.¹¹ These themes warrant attention in future research and in AHMA's planning processes.



Recommendations

The following recommendations have been informed by the interviews and an independent literature review. The challenges identified by participants were examined alongside existing research as outlined in the Background Section of this report, including emergency management, Indigenous governance, housing landscape in BC, and community resilience. These recommendations address immediate operational needs, respond to broader structural issues, and align with AHMA's Four Pillars of Cultural Safety in housing: self-agency, relationship, trauma-informed practice, and reciprocity, which provide an existing framework for this approach.¹



Recommendations for Members

Recommendation 1: Prioritize Emergency Management

AHMA members without formal emergency management plans should prioritize creating them as a health and equity imperative.²⁰ While emergency management must be balanced against available resources, operational needs, and staff capacity, every effort should be made to prioritize it in maintaining community safety at the forefront.

Based on the interviews, emergency response was often carried out informally, and relatively few members reported having a formal emergency plan in place. This absence carries human and economic consequence for the communities as changes in climate expose their tenants to increased risk.²⁰ The utilization of existing public resources (policy templates, risk analysis, checklists, etc.) should not be overlooked for this objective, while other recommendations in this report become actionable.

Recommendation 2: Foster Community as a Resilience Tool.

AHMA members should foster strong social connections by supporting community-led initiatives and events. These efforts aim to build resilient social networks prior to extreme weather events or emergencies while promoting self-agency in residents and strengthening community relationships.

Members from diverse geographic regions independently highlighted the important role the community plays during emergency response and recovery. This is backed by the literature as stronger social relationships act as a protective factor during climate events and as a public health adaptation to extreme heat.^{3,28} In the context of changing weather patterns in the province, community resilience becomes an important protective factor for under-resourced communities and systems.



Recommendations for AHMA

Recommendation 3: Clarify and Communicate AHMA's Role in Emergencies to Members

In the short term, AHMA should clarify their role within the emergency management phases to avoid confusion and miscommunication during high-stress situations. This should be accompanied by tailored emergency communications and resources for individual members' contexts (geographical regions or exposure to hazards, etc.) to streamline dissemination among society stakeholders (staff and tenants).

Participants wanted to know AHMA is available and reachable during emergencies, more than they wanted direct involvement. Pre-packaged, regionally adapted, forwardable communications were specifically identified as useful. This is consistent with the literature identifying role clarity and interagency coordination as foundational to effective emergency response.^{35,28} Clearly defined roles and region-specific communication strategies can help close the knowledge and awareness gaps some members described. A dedicated staff member responsible for regular outreach and resource coordination would further support community preparedness and resilience. Radio-based or satellite communication should be considered for rural and northern members where cellular connectivity is limited.^{36,35}

Recommendation 4: Support Regional Adaptation of Emergency Management Training and Resources through a Designated Staff Position

Consistent with Recommendation 3, AHMA should support the development of emergency management plans to align with the diverse capacities, resources, and operating environments of member organizations. The establishment of a dedicated Emergency Management staff position, enabled through strategic partnerships or funding streams, should be explored as a key capacity-building measure. In the meantime, AHMA should provide or support the development of training resources, operational checklists, and region-specific communication tools that account for local hazards, infrastructure limitations, and community contexts.

Given AHMA members' geographic diversity, a one-size-fits-all approach to emergency resources is discouraged. The variety in requests and different needs identified through the interviews speaks to this need. The literature consistently identifies generalized communication approaches as insufficient, particularly for geographically and contextually distinct communities, highlighting the need for tailored, context-specific approaches rather than a one-size-fits-all approach.^{6,35,2} A dedicated staff position to communicate with and support members would respect self-agency among members while balancing the need to adapt planning to local contexts.

Once member-specific emergency management plans are in place, AHMA should support members in developing simple and transferable emergency onboarding materials for new employees. This addresses capacity constraints documented among non-profit housing providers¹¹ without requiring significant new resources.

Recommendations for Provincial and Federal Governments

Recommendation 5: Align Emergency Management Responsibilities with Sustainable Funding and Capacity Supports

In alignment with the mandate directed to BC Housing by the BC Minister of Housing and Municipal Affairs,²⁶ and in accordance with the *Climate Change Accountability Act*, which supports climate risk mitigation, and the *Declaration on Right for Indigenous Peoples Act*, which emphasizes working in partnership with Indigenous Peoples, this recommendation outlines the following:

- Recognizing that colonial legacies continue to affect disaster preparedness among Indigenous communities,²⁰ provincial and federal governments should establish sufficient, dedicated, and Indigenous-specific funding streams to support Indigenous non-profit housing providers across all four phases of emergency management: mitigation, preparedness, response, and recovery.
- Recognizing that colonial legacies continue to sustain inequities in infrastructure among Indigenous communities,²⁰ provincial and federal governments should address these inequities through sufficient, targeted investment.
- Funding should be sufficient, accessible, flexible, and rapidly deployable during emergencies to support response efforts without creating administrative barriers or delaying action.
- Provincial and federal governments should ensure that Indigenous non-profit housing providers receive sufficient, dedicated, long-term emergency management funding proportional to the responsibilities assigned to them under Canada's Emergency Management Framework.³¹

Members consistently voiced that funding constraints were a persistent challenge across all stages of emergency management. The literature supports this concern, stating that non-profit housing providers consistently lack the resources needed to carry out operations while adapting to changing climate demands,¹¹ and that proactive climate adaptation stalls without targeted government support.¹¹ Based on the recommendations and existence of this report, member societies and AHMA are fulfilling their responsibilities under the framework.

Future Research

This study identified several areas for further investigation:

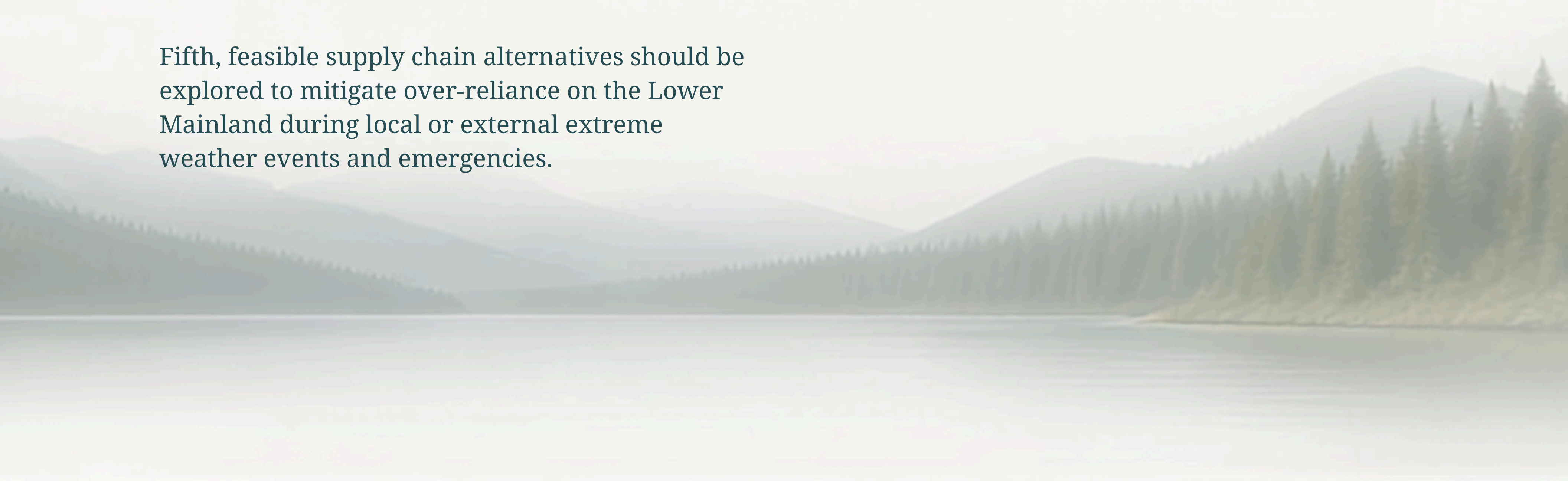
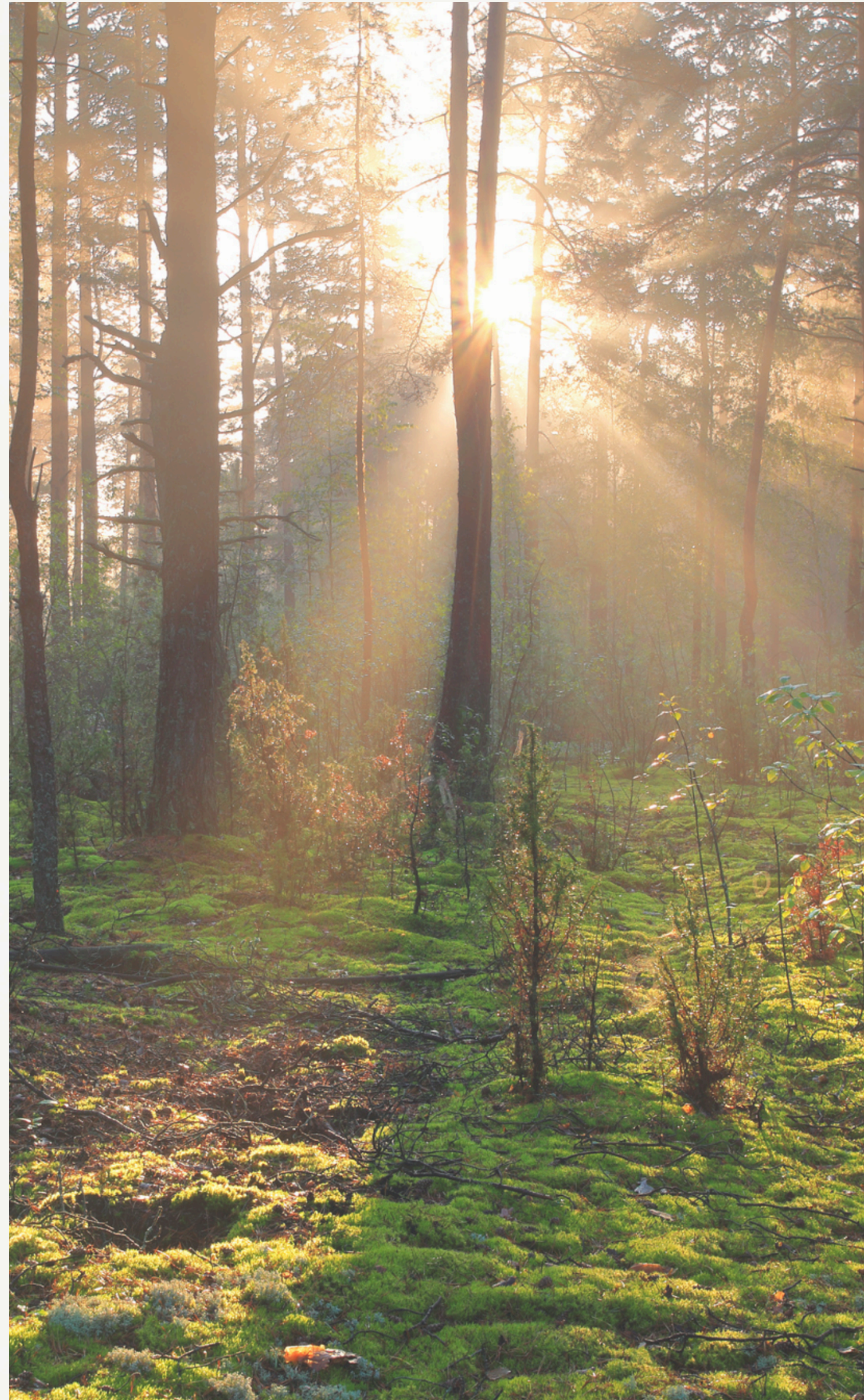
First, given the relatively small number of respondents relative to AHMA's full membership, generalizing a stated communication preference from this sample alone risks overstating consensus that may not hold across the wider membership. A future, lower-commitment survey, reaching a broader base of members with minimal burden, would be better suited to capturing preference data with the reach this question requires; this research should ask this question directly to produce data that can meaningfully inform AHMA's communication strategy.⁷

Second, the tension between energy-efficient retrofits and climate resilience (high-performance building envelopes during extreme heat), particularly regarding ventilation and airtightness, is a practical challenge that remains understudied. More research is needed into effective, evidence-informed housing modifications and their policy implications;¹² members' current projects offer a case study of such interest and focus.

Third, tenants' own experiences were outside this study's scope but are essential to a complete understanding of the emergency impacts of extreme weather events on Indigenous housing in BC.

Fourth, research to determine members' levels of extreme weather event-related emergency readiness based on current contexts (existing policies, plans, and human capital) would help to understand and target efforts equitably for AHMA member societies.

Fifth, feasible supply chain alternatives should be explored to mitigate over-reliance on the Lower Mainland during local or external extreme weather events and emergencies.



Appendix A: Methods and Methodology

METHODOLOGY

This internal research study adopted a phenomenological approach, focusing on describing what participants have in common as they experience a phenomenon.¹³ In this case, the phenomenon is extreme weather events, and the research intended to uncover the perception of each member's emergency planning readiness. Given that the research question sought to explore and interpret perceptions, experiences, organizational practices, and perceived gaps (meanings, concepts, descriptions) across geographically dispersed populations, a qualitative approach was most appropriate for engaging with the nuances of participants' lived experiences in ways that quantitative approaches cannot.^{8,27}

RESEARCH DESIGN

This study used semi-structured interviews as its primary data collection method. Semi-structured interviews provide a consistent topic guide across participants while preserving the flexibility to pursue emergent themes and probe participant responses in depth.⁸ This flexibility was particularly important given the diversity of organizational contexts, geographic locations, and emergency management experiences represented across Indigenous non-profit housing providers in British Columbia.

Participants quoted in the study were given the opportunity to revise and edit their statements ahead of report finalization.

SAMPLING

This study employed a hybrid approach combining convenience and purposive sampling. In this way, the sample group was sought out to best inform the research on the problem outlined in the problem statement.¹³ Initial Recruitment was conducted initially through the association's newsletter by sending a general callout for participants. Individual emails were then sent out to an existing network of members who had previously demonstrated interest in research engagement. Purposive sampling was carried out by sending emails to specific association members who were identified based on their unique geographic location, regional context, or previous experience with extreme weather events. These approaches were deemed appropriate given the time and funding limitations of the study and the need to attempt a representation of the geographical diversity at hand.^{8,13}

A target of ten participants was established based on the scope, timeline and phenomenology nature of the project.¹⁹ This number of interviews was deemed appropriate to provide logical inferences about Indigenous non-profit housing providers and would attempt to reach saturation within the scope and constraints.³⁷

12 AHMA members (Indigenous non-profit housing societies) answered the call to interview for the project; this number decreased to eight members by the end of the interview phase of the project. This attrition in participation was attributed to scheduling constraints as well as instrumental factors.

The members interviewed spanned an area from Dawson Creek to the North, Kelowna to the East, Mission to the South, and Nanaimo to the West. The interviewees ranged from entry-level hires to executives from member organizations, providing a range of perspectives and experiences.

Appendix A: Methods and Methodology

ANALYTIC APPROACH

The preliminary research questions and the related literature were used initially as guidelines for phenomenological data analysis.²⁷ The researcher identified significant statements in the data as they related to the research questions and individual experiences. The significant statements were then grouped into themes from which a textural description of experiences was drawn by the researcher. Lastly, a composite description was generated by the researcher about the experience of emergency management in relation to extreme weather events for the participants.¹³

STUDY BOUNDARIES

This study focuses on Indigenous non-profit housing providers in British Columbia who responded to the recruitment call. Findings will reflect the experiences of a self-selected sample within a specific provincial and organizational context. Generalizability beyond this population is not the intent; the aim is depth of understanding within a defined and underserved context.

LIMITATIONS

Convenience sampling introduces the risk that participants who respond may not be representative of the broader population of Indigenous non-profit housing providers in BC, limiting the transferability of findings. Purposive sampling partially mitigates this selection bias by targeting variation in the sample, but cannot fully overcome selection effects.

Semi-structured interviews introduce risk of social desirability bias, where participants may present their organizations favourably, and participant reactivity, where the presence of a researcher/interviewer alters reported behaviour or experience. These risks are mitigated through anonymity assurances, neutral question phrasing, and transparent reporting of the analytic process.

Important to note that this list of limitations is not exhaustive, and the reader should consider the context and nature of the applied research project spearheaded by the association, in conjunction with the University of British Columbia, and carried out with member participants receiving support from the association.

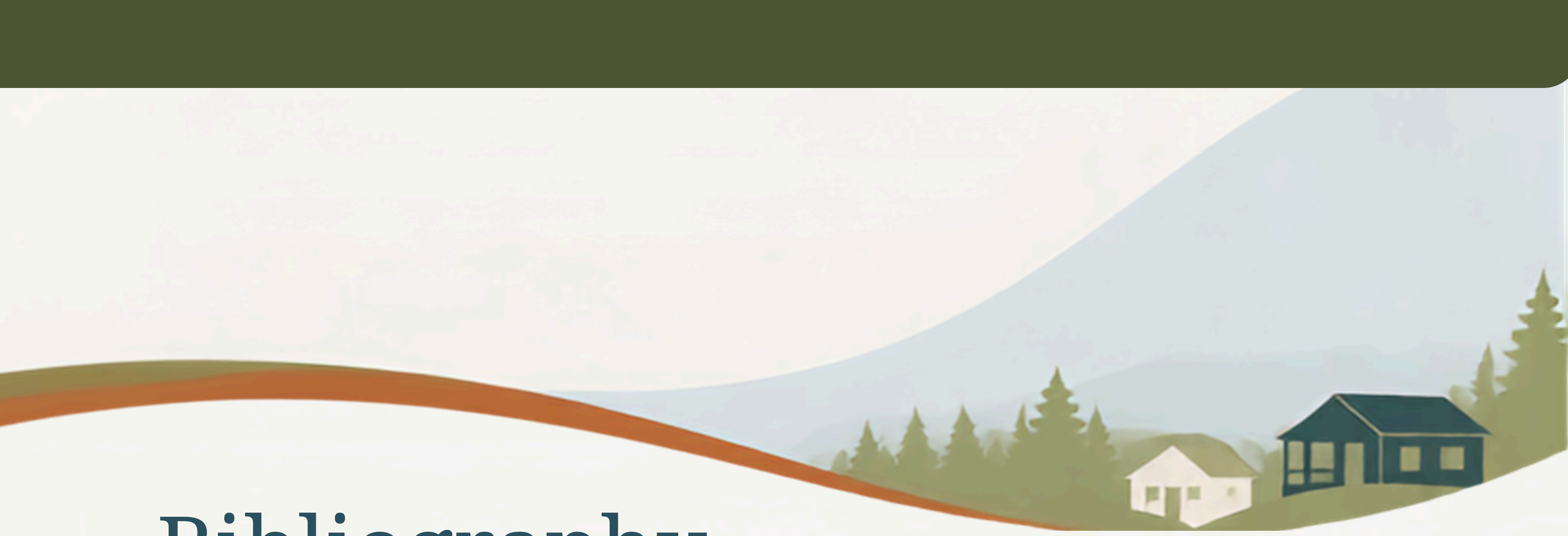
Appendix B: Research Positionality

The scholar carrying out this internal research project was selected amongst a pool of applicants through the UBC Sustainability Scholars Program and had no previous direct relationship with the association. They identify as South American Indigenous and have formed direct relationships with Indigenous peoples and groups of Treaty 1 territory in Canada, but none with Indigenous Peoples in British Columbia until this project. As an uninvited guest on unceded territory and land, the study design and interpretation were made to the best of their ability through a trauma-informed, culturally aware and sensitive lens.



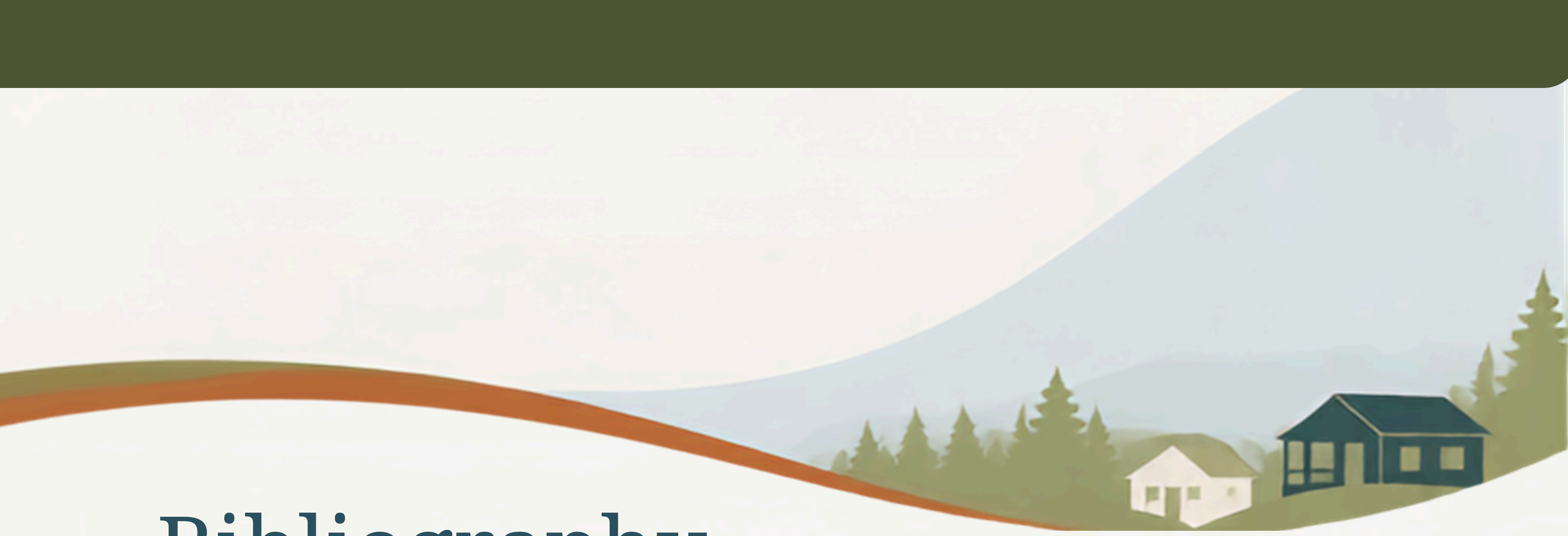
© 2025 Joaquin Valdez Guzman





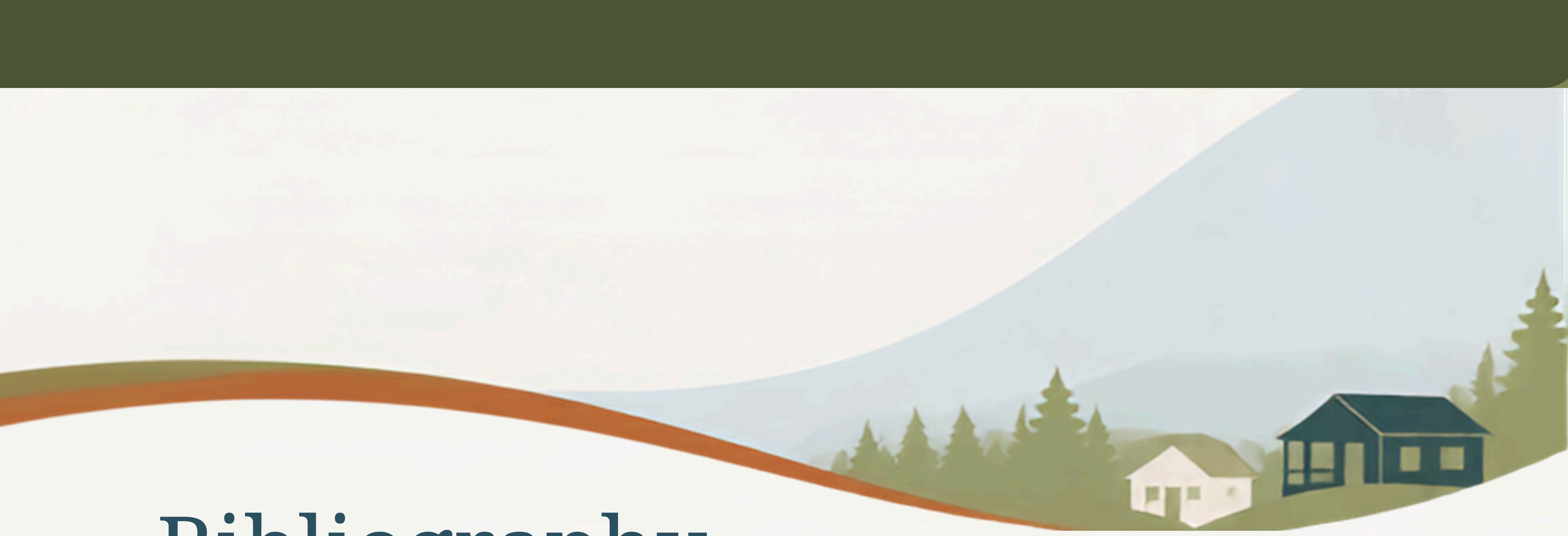
Bibliography

1. Aboriginal Housing Management Association. Environmental scan: land-based healing. Vancouver: Aboriginal Housing Management Association; 2024. Available from: <https://ahma-bc.org/wp-content/uploads/2024/05/Environmental-Scan-Land-Based-Healing.pdf>
2. Aboriginal Housing Management Association. Lived experience & stories of extreme heat among Indigenous households in British Columbia. Vancouver: Aboriginal Housing Management Association; 2024. Available from: <https://ahma-bc.org/wp-content/uploads/2024/04/CNA-Report-Final.pdf>
3. Amani K, Henderson SB, Lubik A, Jesse K, Kosatsky T, Schwandt M. Social connection as a public health adaptation to extreme heat events. *Can J Public Health*. 2020;111(6):876-9.
4. Ansah EW, Amoadu M, Obeng P, Sarfo JO. Health systems response to climate change adaptation: a scoping review of global evidence. *BMC Public Health*. 2024;24:1-23.
5. Ariffin A. Climate resilient buildings for urban Indigenous housing and service providers. Vancouver: University of British Columbia, UBC Sustainability Scholars; 2024. Available from: https://sustain.ubc.ca/sites/default/files/2024-018_Climate_Resilient_Buildings_for_Urban_Ariffin.pdf
6. Arrieta MI, Foreman RD, Crook ED, Icenogle ML. Insuring continuity of care for chronic disease patients after a disaster: key preparedness elements. *Am J Med Sci*. 2008;336(2):128-33.
7. Batdorf B, McGee TK. Wildfire smoke and protective actions in Canadian Indigenous communities. *Atmosphere*. 2023;14(8):1204.
8. Berg BL, Lune H. Qualitative research methods for the social sciences. 6th ed. Boston: Pearson; 2007.
9. British Columbia Geological Survey. Natural hazards geoscience [Internet]. Victoria: Province of British Columbia; [updated 2019 Mar 26]. Available from: <https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/british-columbia-geological-survey/geology/natural-hazards-geoscience>
10. British Columbia Ministry of Environment. Climate change science overview. Victoria: Province of British Columbia; 2017. Available from: https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/nrs-climate-change/mitigation/carbon-offsets/climate_change_science_page_dls.pdf
11. Carriere ZD, Lesnikowski A. The climate change adaptation readiness of co-operative housing in Nova Scotia, Canada. *Environ Policy Gov*. 2024;34(6):724-39.
12. Cartwright A, Khalatbari-Soltani S, Zhang Y. Housing conditions and the health and wellbeing impacts of climate change: a scoping review. *Environ Res*. 2025 Apr;270:120846.
13. Creswell JW, Poth CN. Qualitative inquiry and research design: choosing among five approaches. 5th ed. Thousand Oaks (CA): Sage; 2025.
14. Cutter SL, Ash KD, Emrich CT. The geographies of community disaster resilience. *Glob Environ Change*. 2014;29:65-77.
15. Daniels LD, Hoffman KM, Roeser D, Harvey JE, Dickson-Hoyle S, Flannigan MD, et al. The 2023 wildfires in British Columbia, Canada: impacts, drivers, and transformations to coexist with wildfire. *Can Geotech J*. 2025;55:1-18.
16. Dewi SP, Kasim R, Sutarsa IN, Dykgraaf SH. A scoping review of the impact of extreme weather events on health outcomes and healthcare utilization in rural and remote areas. *BMC Health Serv Res*. 2024;24:1-16.



Bibliography

17. Do M, Janzwood A, Pue K. Multilevel governance, climate (in)justice, and settler colonialism – evidence from First Nations disaster evacuations in so-called Canada. *Crit Policy Stud.* 2024;18(2):247-70.
18. Dorji T, Rinchen K, Morrison-Saunders A, Blake D, Banham V, Pelden S. Understanding how Indigenous knowledge contributes to climate change adaptation and resilience: a systematic literature review. *Environ Manage.* 2024;74(6):1101-23.
19. Dukes S. Phenomenological methodology in the human sciences. *J Relig Health.* 1984;23(3):197-203.
20. El-Baba M, Hertelendy AJ, Voskanyan A, Ciottone GR, Issa F. Gaps in disaster cost reporting and rising economic burdens in Canada, 1990-2020: retrospective database analysis. *Lancet Reg Health Am.* 2026 May;57:101445.
21. Every D, Richardson J, Osborn E. There's nowhere to go: counting the costs of extreme weather to the homeless community. *Disasters.* 2019;43(4):799-817.
22. Government of British Columbia, Ministry of Emergency Management and Climate Readiness, Climate Action Secretariat. British Columbia disaster and climate risk and resilience assessment: provincial report. Victoria: Government of British Columbia; 2025 Oct. Available from: https://nrs.objectstore.gov.bc.ca/xedyjn/Projects/2025/dcrca/DCRRA_report_oct_2025.pdf
23. Insurance Bureau of Canada. 2024 shatters record for costliest year for severe weather-related losses in Canadian history at \$8.5 billion [Internet]. Toronto: Insurance Bureau of Canada; 2025 Jan 13. Available from: <https://www.ibc.ca/news-insights/news/2024-shatters-record-for-costliest-year-for-severe-weather-related-losses-in-canadian-history-at-8-5-billion>
24. Jafari T, Joseph Y. Under one roof: (re)building climate resilient and affordable housing in Canada. *Signal49 Research*; 2026 May 29. Available from: https://www.signal49.ca/product/climate-resilient-and-affordable-housing_may2026/
25. James-Abra E. First Nations in British Columbia [Internet]. *Historica Canada: The Canadian Encyclopedia*; 2023 [updated 2025 Jan 30]. Available from: <https://thecanadianencyclopedia.ca/en/article/first-nations-in-british-columbia>
26. Kahlon R. 2025 BC housing mandate letter. Victoria: Government of British Columbia; 2025 May 23. Available from: https://www2.gov.bc.ca/assets/gov/british-columbians-our-governments/organizational-structure/crown-corporations/mandate-letters/bc_housing_2025.pdf?forcedownload=true
27. Marshall C, Rossman GB. *Designing qualitative research.* 6th ed. Los Angeles: SAGE; 2016.
28. Milofsky C. Resilient communities in disasters and emergencies: exploring their characteristics. *Societies.* 2023;13(8):188.
29. National Collaborating Centre for Determinants of Health. Glossary of essential health equity terms [Internet]. Antigonish (NS): NCCDH; [updated 2024 Dec; cited 2026 Jul 11]. Available from: <https://nccdh.ca/learn/glossary/>
30. National Collaborating Centre for Indigenous Health. Social determinants of health [Internet]. Prince George (BC): NCCIH; [cited 2026 Jul 11]. Available from: https://www.nccih.ca/28/Social_Determinants.nccah



Bibliography

31. Public Safety Canada. An emergency management framework for Canada. 3rd ed. Ottawa: Public Safety Canada; 2017. Available from: <https://www.publicsafety.gc.ca/cnt/rsrscs/pblctns/2017-mrgnc-mngmnt-frmwrk/index-en.aspx>
32. Robinson JL. Geography of British Columbia [Internet]. Historica Canada: The Canadian Encyclopedia; [updated 2015 Mar 4]. Available from: <https://thecanadianencyclopedia.ca/en/article/geography-of-british-columbia>
33. Russell-Smith J, James G, Dhamarrandji AM, et al. Empowering Indigenous natural hazards management in northern Australia. *Ambio*. 2022;51(11):2240-60.
34. Ruiz AM, Muñoz L, Walsh T, Hardy G, Ranjbari B, Mendoza Contreras M, et al. A scoping review of rapid-onset climate-related disasters and gender-based violence against women. *Climate Risk Manag*. 2026;52:100809.
35. Sandoval S, Bui J, Hopfer S. Wildfire and smoke risk communication: a systematic literature review from a health equity focus. *Int J Environ Res Public Health*. 2025;22(3):368.
36. Shellington EM, Nguyen PDM, Rideout K, Barn P, Lewis A, Baillie M, et al. Public health messaging for wildfire smoke: cast a wide net. *Front Public Health*. 2022;10:773428.
37. Small ML. 'How many cases do I need?' On science and the logic of case selection in field-based research. *Ethnography*. 2009;10(1):5-38.
38. Statistics Canada. Statistics on Indigenous peoples [Internet]. Ottawa: Statistics Canada; [updated 2026 May 27]. Available from: https://www.statcan.gc.ca/en/subjects-start/indigenous_peoples
39. Thapa S, Giri S, Ross AG. Extreme weather and climate-related adverse childhood experiences are a humanitarian crisis during the 21st century. *Commun Med*. 2025;5(1):357.
40. Zarin T, O'Connell E. Inclusive wildfire disaster communication and evacuation: addressing accessibility needs in British Columbia. *Can Geogr*. 2026;70(1):e70059.