CANADIAN MOUNTAIN NETWORK

# RESEARCH PROJECT SUMMARY

## The mountain risk knowledge exchange – Building risk management capacity and resilience in mountain communities

The dynamic nature of the mountain landscape means that life in the mountains is inherently exposed to a wide range of natural hazards including landslides, snow avalanches, volcanoes, earthquakes, wildfires, and flooding. These mountain hazards affect all Canadians whether they live in the mountains or not. Because important Canadian industries are located in the mountains and critical infrastructure cross them, the Canadian economy is inherently tied to mountains. Effectively managing and mitigating the risks associated with mountain hazards is therefore critically important for the well-being of Canadians. Rapid environmental change has the potential to substantially alter the magnitude and frequency of many mountain hazards and affect Canadians in unprecedented ways.

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### Project Partners

Weir-Jones Group

SFU SIMON FRASER UNIVERSITY

BRITISH COLUMBIA Ministry of Forests, Lands, Natural Resource Operations and Rural Development

SQUAMISH - LILLOOET REGIONAL DISTRICT

TRE ALTAMIRA

Parks Canada Parcs Canada

McMaster University

# The mountain risk knowledge exchange – Building risk management capacity and resilience in mountain communities

## Objectives

To address this challenge, we aimed to develop a new approach to mountain risk management that is community-based, harnesses local knowledge and builds risk management capacity and resilience in mountain communities. Western geotechnical science perspectives would be integrated with Indigenous and non-Indigenous local knowledge, citizen-science monitoring initiatives and modern technology to develop a sustainable comprehensive and multifaceted perspective on Canadian mountain hazards. The strong collaborative research partnerships with Indigenous communities to which this proposal aspires will also further support Reconciliation. An interactive and dynamic Mountain Risk Knowledge Exchange aims to serve as a publicly accessible central data hub for mountain hazard information.

## Key Outcomes & Impact

The main outcome of this research, apart from the training of 12 Highly Qualified Personnel (HQP), was the implementation of what is now called the Canadian Natural Hazards Knowledge Portal (nathaz.ca). This knowledge portal continues to be developed and expanded thanks to support from the VP Research office at SFU.

An interesting finding from a Natural hazards survey of community preparedness in the Sea to Sky corridor (SW BC) is that the communities are in fact relatively well prepared compared to the broader population but that more work needs to be done to better communicate evacuation routes in an emergency.

The numerous components of this research, centred on the Knowledge Exchange Portal, are leading to new research projects (e.g., with Ministry of Forests; Ministry of Emergency Management and Climate Resilience, Natural Resources Canada), knowledge exchange opportunities (Sea to Sky Natural Hazards survey; Fire & Ice Aspiring UNESCO Geopark), and most importantly to the training of a large number of HQP. Further, the results of this project are being leveraged in a number of other stakeholders.

There is clearly a need for effective knowledge exchange (between the public, government and private sectors) regarding natural hazards information, particularly given the increased risk of climate-induced events. While government and private sector stakeholders have developed similar systems, there is benefit to an independent university-hosted platform which can be a bridge between other sectors as well as an avenue for community engagement and contribution. Nevertheless, building an open-access portal is non-trivial and requires significant institutional support to ensure that this portal is sustainable in the long term.

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