

An aerial photograph of the University of British Columbia campus. The image shows a central green walkway lined with trees in autumn colors, flanked by various modern and traditional university buildings. The sky is overcast with grey clouds. The text 'UBC Disaster Resilience Research Network' is overlaid in large, bold, dark blue letters across the upper half of the image.

UBC Disaster Resilience Research Network



THE UNIVERSITY OF BRITISH COLUMBIA

**Disaster Resilience Research Network
Research Excellence Cluster**

BC Climate Resilience Summit

March 4, 2025

Amy Kim, PhD

Ethan Raker, PhD

drrn.ubc.ca

WHO WE ARE



THE UNIVERSITY
OF BRITISH COLUMBIA

Disaster Resilience
Research Network
Research Excellence Cluster

The UBC Disaster Resilience Research Network is an interdisciplinary research excellence cluster at UBC that is...

... building **transdisciplinary connections**,

... identifying **shared research goals**, and

... informing disaster risk reduction **policy and decision-making** at community and governance levels.

The network aims to advance multi-hazard assessment and mitigation in support of **inclusive** and **equitable** development of **just** disaster risk management, with a focus on British Columbia, yet informed by international perspectives.

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Current Membership

- **74 total members**
 - 34 faculty
 - 26 graduate students
 - 14 post-docs and others
- **20 external partners**
 - Practitioners
 - Policy-makers
 - Independent professionals



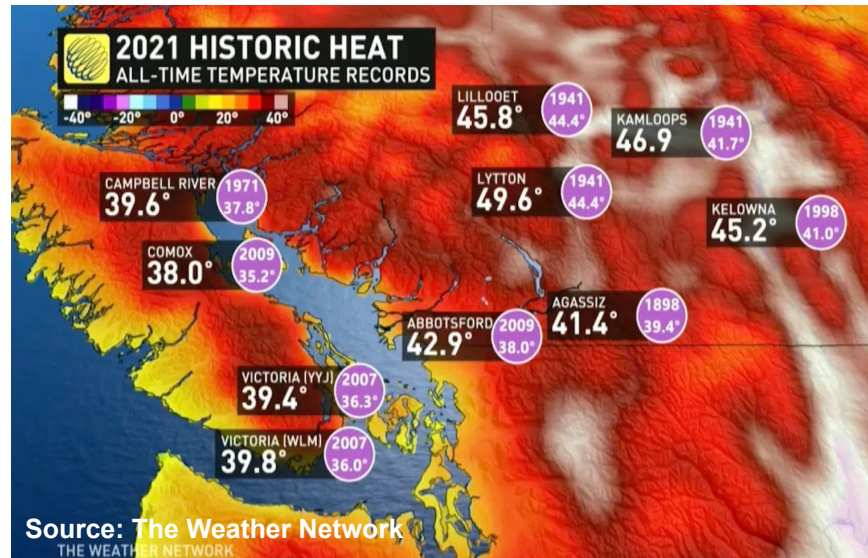
September 2023 workshop attendees

WHAT MOTIVATED THE FORMATION OF THE NETWORK?



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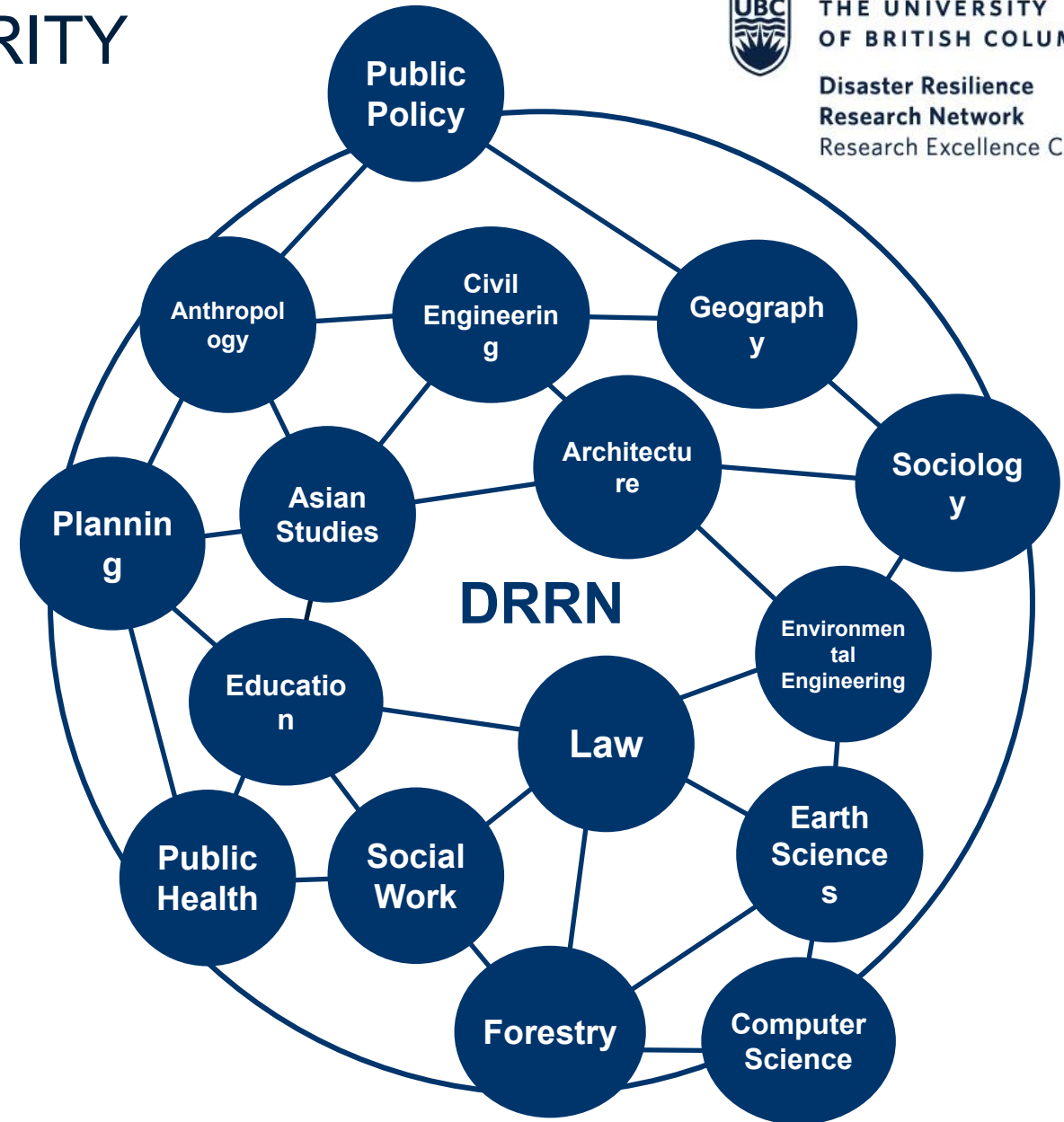
OUR WORK: INTERDISCIPLINARITY

Events:

- Workshops
- Research seminar series
- Social events

Activities/outcomes:

- Course mapping
- Proposal development
- Collaborative interdisciplinary research projects
- Atlas of Disaster / data-sharing



OUR WORK: ACADEMIC-GOVERNMENT COLLABORATIONS

Activities:

EMCR research collaboration:

- 12 projects and case studies
- Collaborative Research Agenda
- Academic Advisory Panel

City of Vancouver Emergency Management Agency (VEMA)

- Emergency preparedness survey and focus groups

draft: sept26A - 80% black

How prepared are you?



Vancouver can be impacted by various hazards such as earthquakes, extreme heat and windstorms.

Let us know how prepared you are and help shape the future of our emergency preparedness public education program.

DEADLINE: Wednesday, November 6, 2024

TAKE THE SURVEY: Scan the QR code or visit



shapeyourcity.ca/personal-preparedness



IMPORTANT INFORMATION
Please have this translated

معلومات مهمة لتقرأ وترجمتها
معلومات مهمة: البحث على الترجمة

اطلاعات مهم لتقرأ وترجمتها
که این اطلاعات را برای شما ترجمه کنند

RENSEIGNEMENTS IMPORTANTS
Prière de les faire traduire
重要資訊: 請找人為你翻譯
重要資訊: 請找人為你翻譯

중요정보: 번역해주세요

Favor solicitar tradução

INFORMACIÓN IMPORTANTE
Busque a alguien que le traduzca

MAHALAGANG IMPORMASYON
Mangyaring isalin ito
TIN TỨC QUAN TRỌNG
Xin hãy dịch sang tiếng Việt

OUR WORK: RESEARCH-PRACTICE PARTNERSHIPS



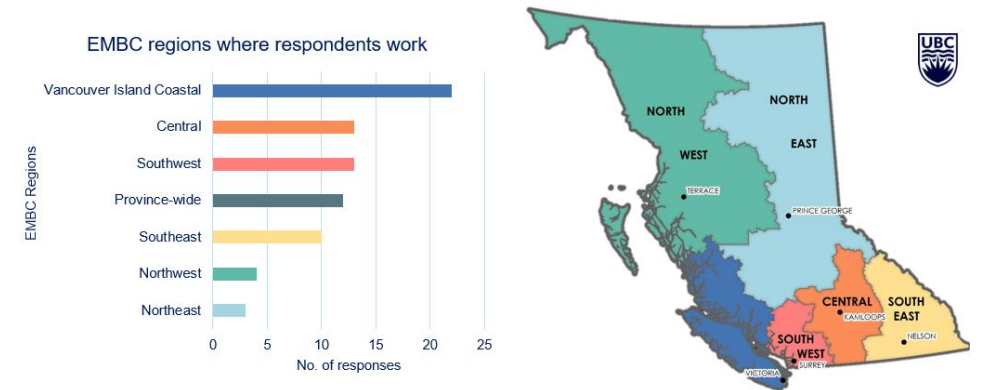
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Activities:

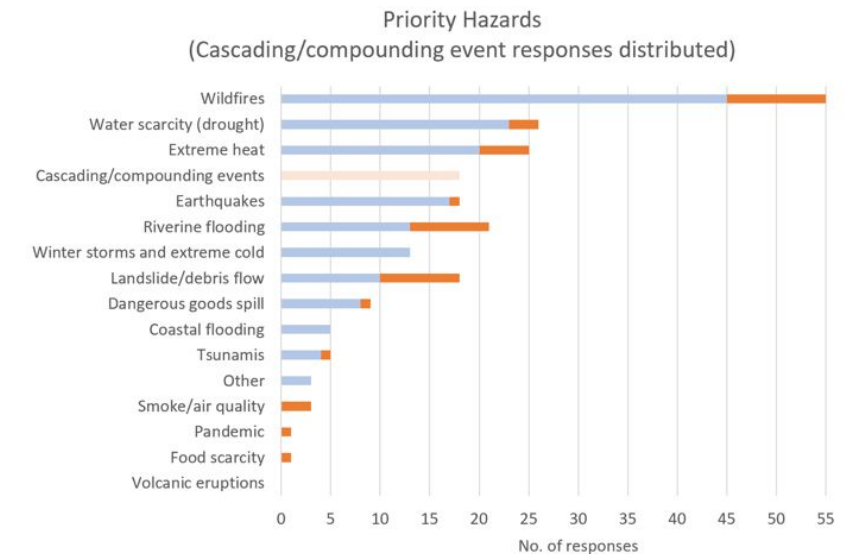
- Collaborative Research Agenda: survey of BC emergency planners and practitioners
- Disaster Support Hubs for UBC Campus Communities, in partnership with UBC Safety & Risk Services
- Outreach to First Nations Emergency Services Society (FNESS)

Online survey on disaster research needs in BC



*Note: Respondents could indicate more than one region.

Map source: <https://www2.gov.bc.ca/gov/content/safety/emergency-management/contact-us>



WAYS TO ENGAGE

- Mailing list / newsletter
- Join our events to meet network members, including graduate students
- Research collaboration
- Academic Advisory Panel



drn.ubc.ca/get-involved

FUNDING



THE UNIVERSITY
OF BRITISH COLUMBIA

**Disaster Resilience
Research Network**
Research Excellence Cluster

How is it funded?

- Internal competition at UBC titled “Grants for Catalyzing Research Clusters”
- Now with additional project-based funds from:
 - BC Ministry of Emergency Management and Climate Readiness (EMCR)
 - UBC Sustainability Hub – Campus as a Living Lab Grand Challenge

GRANTS FOR CATALYZING RESEARCH CLUSTERS

The Grants for Catalyzing Research Clusters (GCRC) competition was jointly created by the Offices of the Vice-President, Research & Innovation and the Provost & Vice-President, Academic, UBC Vancouver to enable the formation and growth of interdisciplinary research excellence clusters. Fostering collaboration is a central priority in UBC’s strategic plan ([Shaping UBC’s Next Century](#)).

Revisions to Grants for Catalyzing Research Clusters Program

Following recommendations from the GCRC external program review conducted in late 2022, and in consultation with the broader UBC research community, a number of revisions to the GCRC program have been made. Changes will be reflected in the next GCRC competition, which is anticipated in September 2023.

[READ MORE ABOUT THE PROGRAM REVISIONS](#) >

[VIEW SUMMARY REPORT OF THE EXTERNAL REVIEW \(CWL\)](#) >

UBC DISASTER RESILIENCE RESEARCH NETWORK



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Activities:

- Kick-off Workshop
- Research seminar series
- Recruited two graduate fellows
- Course mapping
- Proposal development
- Focal point for media requests

Disaster Resilience Research Network

CALL FOR APPLICATIONS

Calling UBC grad students with an interest in disaster studies!

UBC's new Disaster Resilience Research Network (DRRN) is seeking two highly motivated UBC graduate students for its inaugural Disaster Resilience Graduate Fellowship. The fellows will support the DRRN by analyzing the state of disaster research in British Columbia.

Duration:

- Jan - Dec 2023
- ~250 working hours

Pay & benefits:

- \$7,500 stipend, paid bi-weekly
- Flexible working hours
- Shared office space

Eligibility:

- Enrolled as a grad student at UBC
- Strong interest in disaster research
- Strong research and writing skills
- Able to work independently and as a member of a team

Deadline:

- Monday, November 14, 2022

For more info and to apply:  drn.ubc.ca/fellowship

 THE UNIVERSITY OF BRITISH COLUMBIA
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Disaster Resilience Research Network

SEMINAR SERIES

FALL 2022

WEDNESDAYS
3:30 - 5:00 PM

Room 121
Liu Institute for Global Issues
6476 NW Marine Drive
Vancouver

SEPT 28*
Carlos Molina Hutt
Dept. of Civil Engineering


OCT 12
Jocelyn Stacey
Peter A. Allard School of Law

OCT 26
David Edgington
Dept. of Geography

NOV 16
Network member TBD

NOV 30
Network member TBD

*Please note: The first seminar will start at 4:00pm. All remaining seminars will start at 3:30pm.

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Collaborative Research Agenda

1. Review of disaster research literature and policy landscape
2. Research themes identified by members of the DRRN
3. Online survey on disaster research needs in BC***
4. Analysis of strengths and gaps in current disaster research

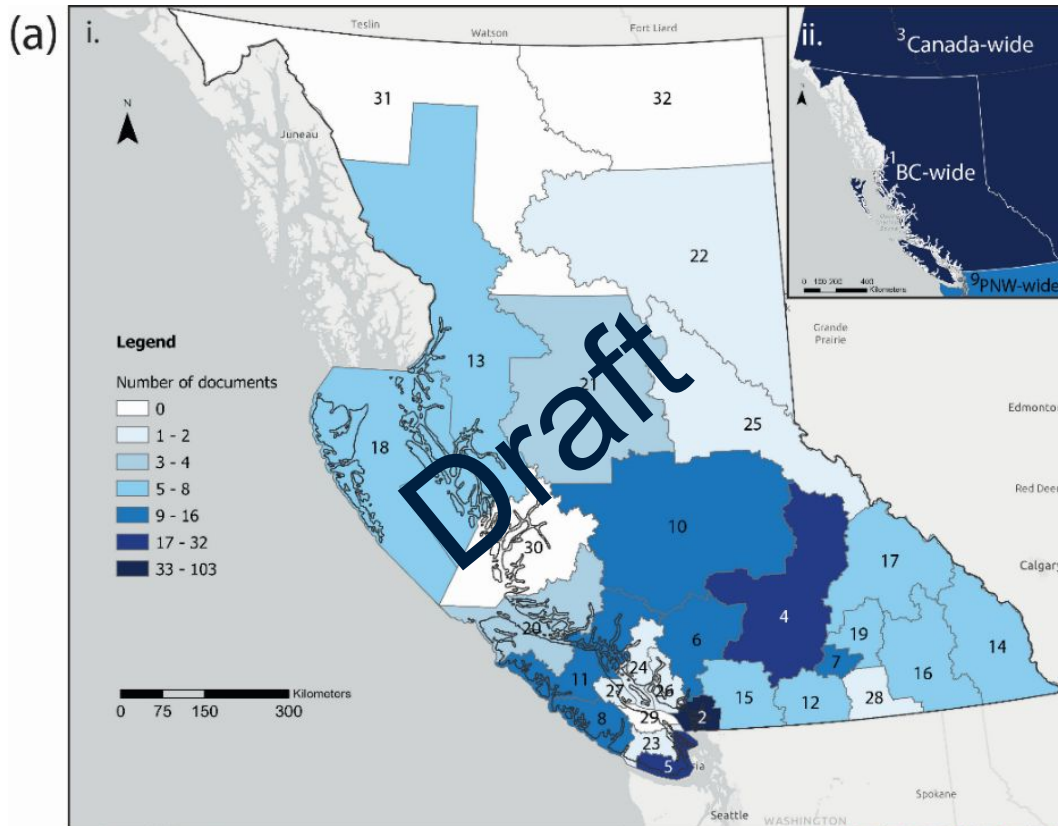
*** An integral part of the report is a survey to identify the needs for future disaster research in BC, targeted primarily towards emergency managers working for local government and First Nations. We have received ~60 responses thus far. The survey can be accessed in the link below.

https://ubc.ca1.qualtrics.com/jfe/form/SV_0rd3c8NOC48udYa

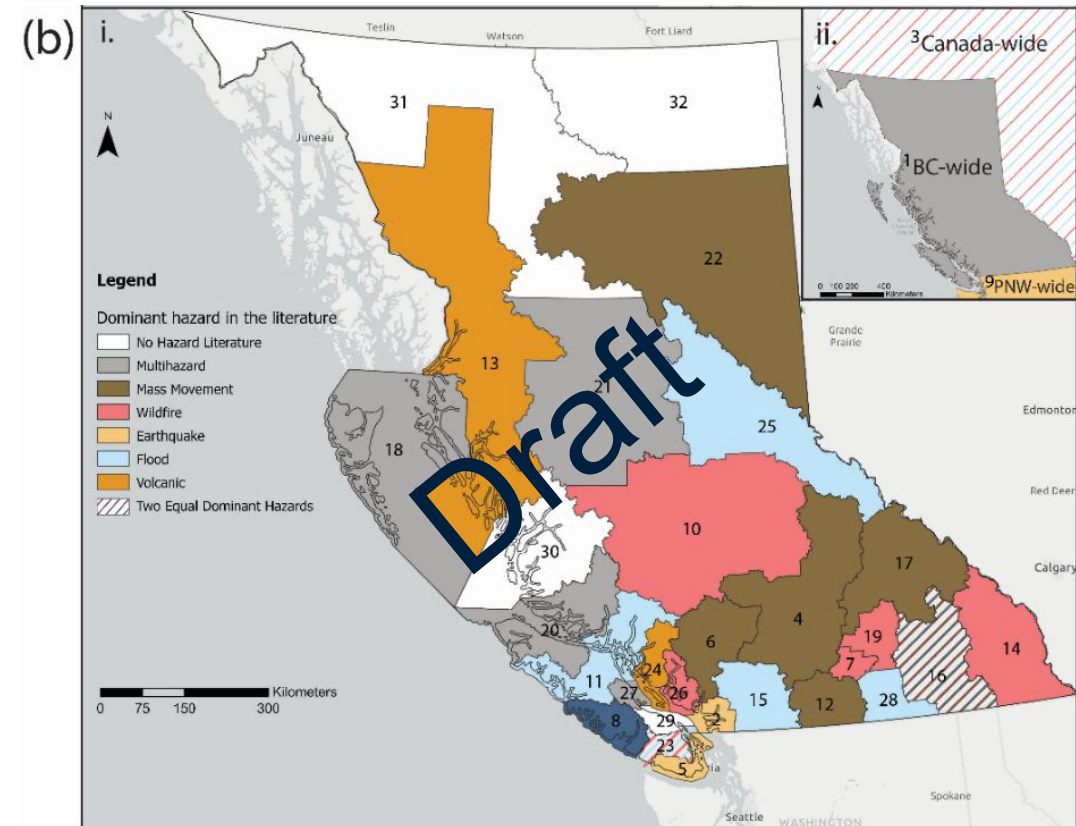
Literature Review – Preliminary Findings

- Systematic scoping literature review of the state of disaster and resilience literature in British Columbia, Canada.
- Disconnect between the natural hazards being published and those most frequently associated with disaster in BC.
- Geographic coverage of the reviewed literature followed the presence of urban areas more closely than the frequency of disaster events.
- Literature was dominated by STEM fields (especially engineering and earth sciences) and very few interdisciplinary studies.
- Few examples of studies working with Indigenous communities, despite a focus in BC upon reconciliatory action.
- Trend towards global accessibility of the literature, meaning much of the literature included no recommendations or conclusions on BC-specific disaster management, despite the study being set within the province.

Literature Review – Spatial Distribution (Preliminary)



(a) Map depicting the spatial spread of all 343 academic publications.



(b) Map depicting the dominant hazard type discussed in the literature that referenced specific hazards (n=297) within each geographic area.

Literature Review – Interactive Timeline (Preliminary)

2003

MCLURE FIRE

Cox, R. S., Long, B. C., Jones, M. I., & Handler, R. J. (2008). Sequestering of suffering: Critical discourse analysis of natural disaster media coverage. *Journal of health psychology*, 13(4), 469-480. doi.org/10.1177/13591053080885...

Larson, G., & Drolet, J. L. (2019). British CHAPTER 4 Columbia Wildfires. *Rebuilding Lives Post-Disaster*, 53. books.google.ca/books?hl=en&am...

Owens, P. N., Giles, T. R., Petticrew, E. L., Leggat, M. S., Moore, R. D., & Eaton, B. C. (2013). Muted responses of streamflow and suspended sediment flux in a wildfire-affected watershed. *Geomorphology (Amsterdam, Netherlands)*, 202, 128-139. doi.org/10.1016/j.geomorph.201...

Townshend, I., Awosoga, O., Kulig, J., & Fan, H. (2015). Social cohesion and resilience across communities that have experienced a disaster. *Natural Hazards (Dordrecht)*, 76(2), 913-938. doi.org/10.1007/s11069-014-152...



Snapshot of interactive timeline of academic research on hazard events in BC (in progress)

Lit Review led by C. Milne and T. Legere

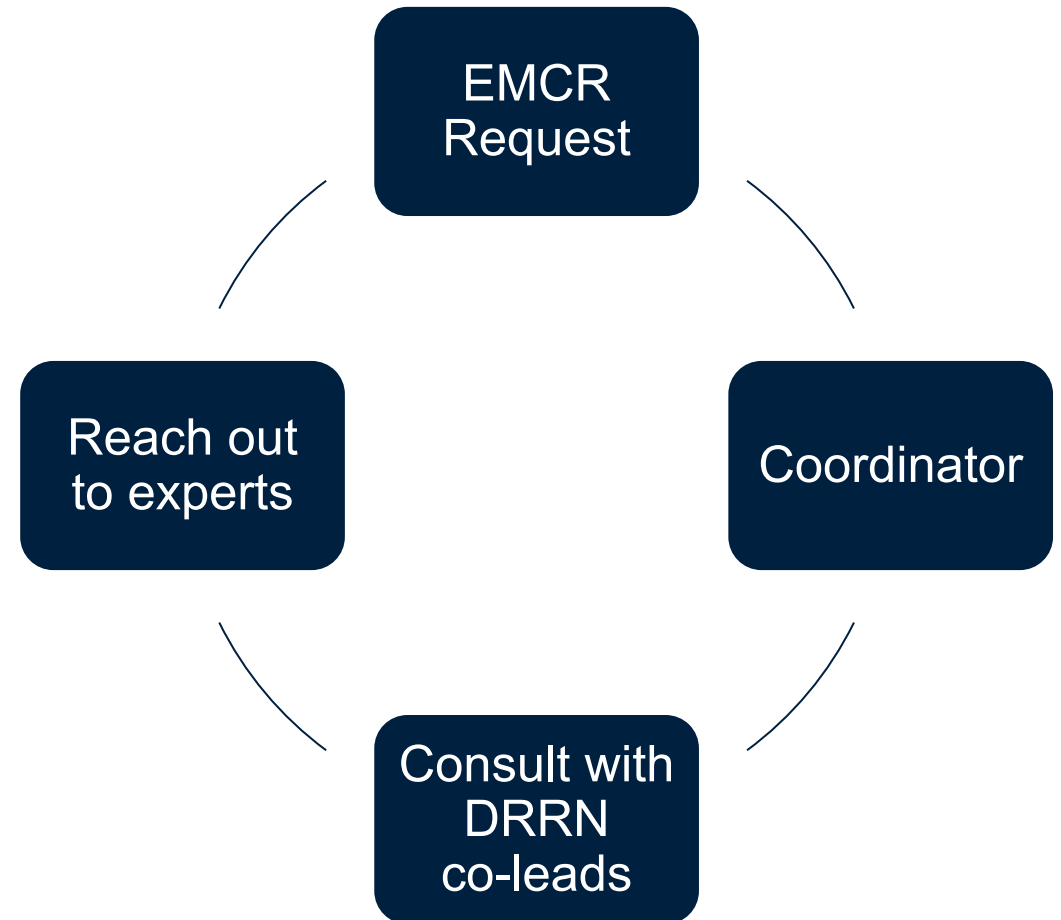
EMCR Academic Advisory Panel

- **Purpose**

Seek guidance from a diverse set of academic expertise to support the province-wide disaster climate risk and resilience assessment (DCRRA).

- **Objective**

Enable the ministry to seek expert input on a range of technical, policy, design, or equity diversity-inclusion topics.



Advisory Panel led by P. Kourehpaz

Individual Research Projects

1. Incorporating deep sedimentary basin effects on seismic hazard estimates (Dr. Carlos Molina Hutt, Civil Engineering)
2. Evaluating and minimizing impacts to geotechnical systems from a Cascadia subduction zone earthquake (Dr. Trevor Carey, Civil Engineering)
3. Machine learning for flood prediction in ungauged basins in B.C. (Dr. Steven Weijs, Civil Engineering)
4. Assessment of landslide-generated waves in metamorphic terrain above dams in BC (Dr. Dwayne Tannant, UBC Okanagan School of Engineering)

Individual Research Projects (continued)

5. Mitigation of debris flows in burnt watersheds - adapting to climate change and wildfires (Dr. Dwayne Tannant, UBC Okanagan School of Engineering)
6. Changing transportation access over time due to natural disaster events (Dr. Amy Kim, Civil Engineering)
7. Quantifying the seismic resilience of hospital infrastructure (Dr. Carlos Molina Hutt, Civil Engineering)
8. BC's local government actions to address coastal flooding, sea-level rise, and tsunami hazard (Dr. Stephanie Chang, School of Community and Regional Planning; Institute for Resources, Environment and Stability)

Individual Research Projects (continued)

9. Visualizing Building Back Better, Together principles along the Lower Fraser (Dr. Kees Lokman, School of Architecture and Landscape Architecture)
10. Assessing Disaster Risk and Community Capacity among LGBTQ2S+ Coastal Communities in BC: Participatory Resilience for an M9 Earthquake and Tsunami (Dr. Natasha Fox, Geography)
11. Preparing for a M9 Cascadia Subduction Zone Earthquake in British Columbia: Lessons from Global and Regional Cases (Dr. David Edgington, Geography)
12. Mapping BC's Disaster Governance for Communities: Crafting Social Policy for Resilience from a Multi-Hazard Perspective (Dr. Sara Shneiderman, Anthropology and School of Public Policy & Global Affairs)

OVERVIEW



THE UNIVERSITY
OF BRITISH COLUMBIA

**Disaster Resilience
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Research Excellence Cluster

- Who we are
- Framing of our work & looking for connection
 - Interdisciplinarity
 - Academic-government collaboration
 - Partnerships across research and practice