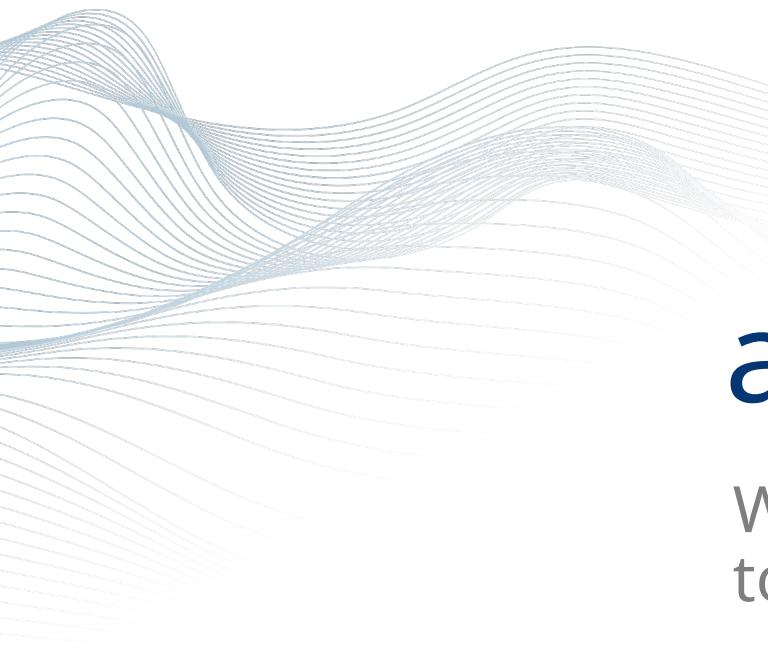




Ministry of
Emergency Management
and Climate Readiness

Disaster and Climate Risk and Resilience Assessment

Ministry of Emergency Management and Climate Readiness



Territorial acknowledgement

We are grateful for the opportunity
to live, work and learn on this land



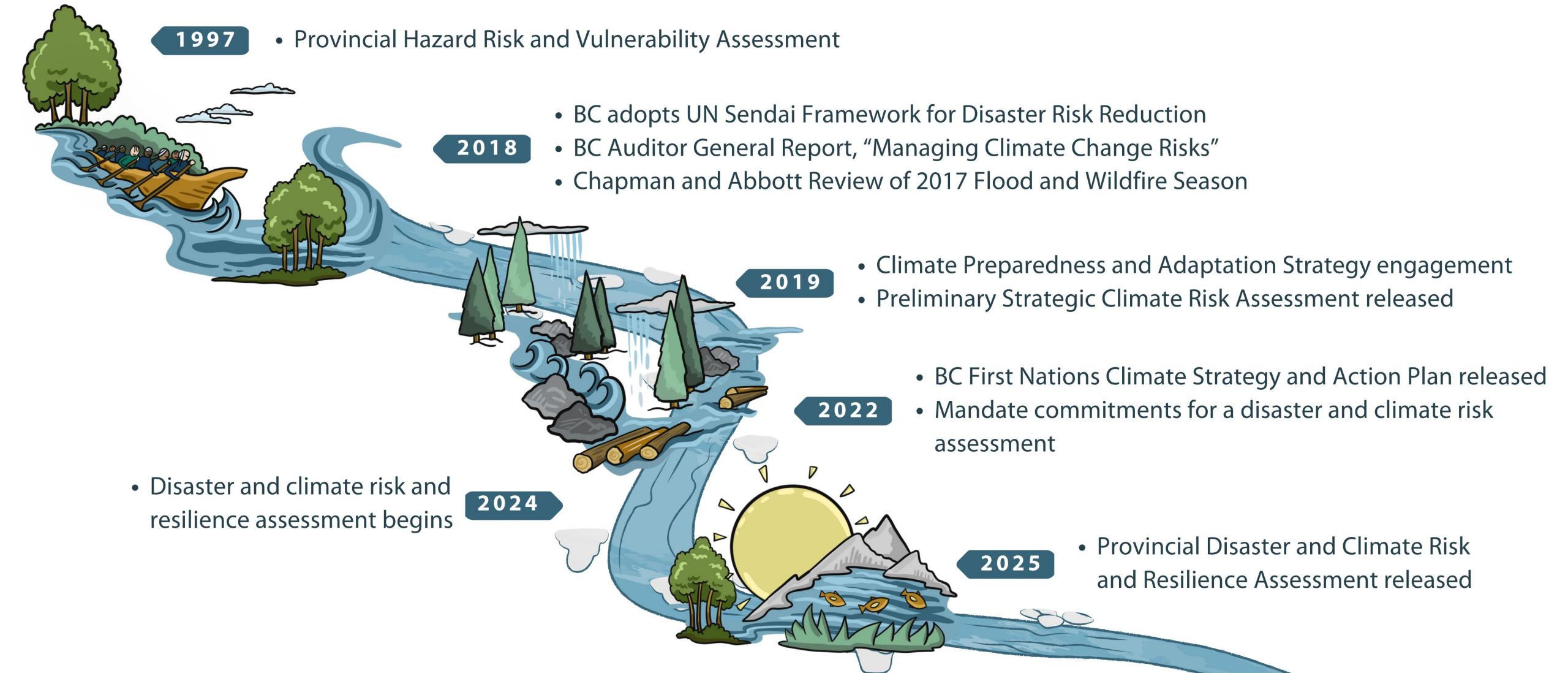
A scenic landscape featuring a range of mountains in the background, their peaks silhouetted against a bright, orange and yellow sky. In the middle ground, a dense forest of coniferous trees is visible, with a field of tall grass in the foreground. The overall atmosphere is serene and natural.

Agenda

1. Overview of Disaster and Climate Risk and Resilience Assessment
2. Overview of Resources and Tools
3. Next Steps

Timeline

This work builds on years of engagement, collaboration, and technical work



Context



Mandate letter:

- ✓ Develop hazard risk assessments
- ✓ Provide tools and information to inform community resilience planning and preparedness for



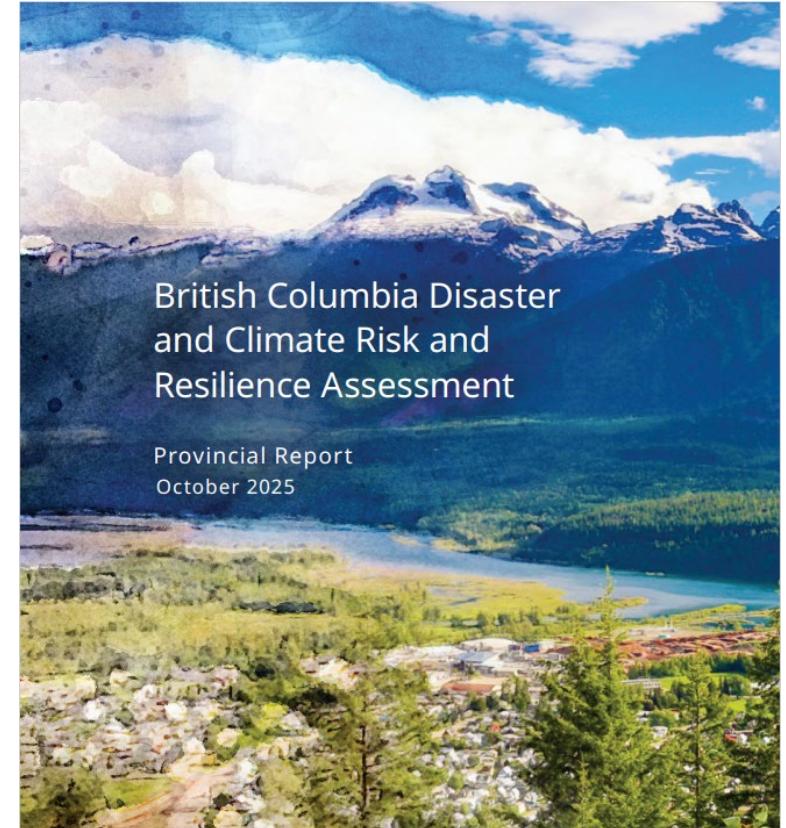
Guiding pillars:

- ✓ Collaborate with First Nations
- ✓ Take an equity-informed, strengths-based approach
- ✓ Uphold best available knowledge
- ✓ Support communities

Provincial DCRRA

Scale & Scope

- ✓ Provincial scale understanding of risk
- ✓ Provides **baseline** information; lays **foundation** for future work
- ✓ Based on **existing information, expert judgement, partner input, scenario analysis**
- ✓ Diverse **sources** of knowledge



DCRRA Hazards & Values

The Provincial DCRRA is guided by the question: how do hazards impact what we value?

The Provincial DCRRA Hazards



Riverine flood
Coastal flood



Extreme heat



Drought and
water scarcity



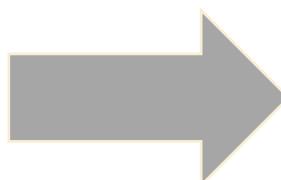
Wildfire



Earthquake



Multi-
hazard



Impacted Value Areas



Developing the DCRRA

Ministry of Emergency Management and Climate Readiness &
Ministry of Energy and Climate Solutions

First Nations Committee on Disaster and Climate Risk

Geospatial Analysis
Team

Equity, Diversity, and Inclusion
Advisory Committee

Disaster and Climate Risk and Resilience Assessment Technical Working Groups

Hazard Working Groups

Climate Change
Influence
Advisory Group

Wildfire

Coastal &
Riverine Flood

Water Scarcity
& Drought

Extreme Heat

Earthquake

Multi-hazard

Value Working Groups

Natural
Environment

Built
Environment

Health &
Wellbeing

Economy

Society, Cultures
& Relationality

Governance

Developing the DCRRRA

Disaster and Climate Risk and Resilience Assessment

Values-based assessment for selected hazards

Provincial Hazards Overview

Insights on riverine and coastal flood, earthquake, wildfire, extreme heat, water scarcity, and multi-hazards

Provincial Values Overview

Insights on the built environment, natural environment, society, cultures & relationality, health & wellbeing, economy, and governance

Extreme Event Scenarios

Exploring extreme event scenarios to communicate a story about hazards and their impacts

Climate Change Influence

Integrating climate change's influence on risk

Geospatial Analysis

Quantitative geospatial analysis shared on an open data platform with tools for analysis and interaction

EDI Considerations

Identifying the disproportionate impacts of hazards on certain groups

Designed in collaboration with First Nations

Engagement through design, assessment and implementation phases

A wide-angle photograph of a dense, misty forest. In the foreground, a rocky outcrop juts into a river with white, foaming rapids. Two people are standing on the rock, looking out over the water. The forest is filled with tall, green coniferous trees, and the air is thick with fog, creating a serene and somewhat mysterious atmosphere.

DCRRA Key Learnings

Key Learnings

- ✓ Risk and resilience assessments are values-based exercises
 - ✓ Consider how to **centre values** and **represent different worldviews** – move beyond built environment and infrastructure
- ✓ Local and Indigenous Knowledge and science are key to understanding risk and building resilience
 - ✓ Including **multiple perspectives** and **diverse knowledge** in assessments improves understanding
 - ✓ **Relationship-building** is integral



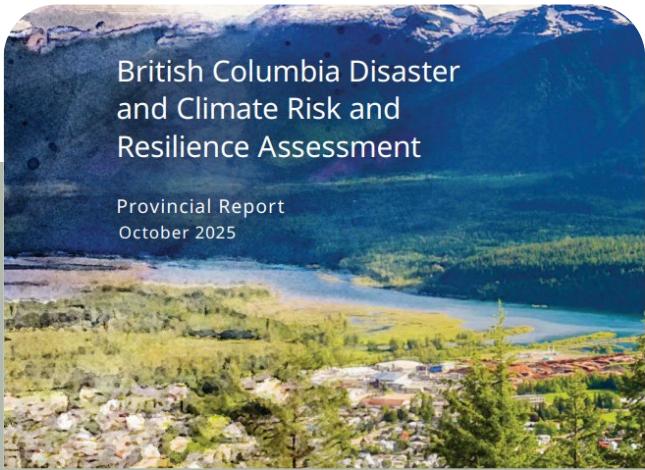
Key Learnings

- ✓ Systemic risk assessments add complexity
 - ✓ How to navigate that while meeting people where they are at will depend on the **desired outcome** and **context** of a given assessment
- ✓ An iterative approach makes space for on-going learning
 - ✓ We are all learning – **adjust along the way** as needed
- ✓ Build on existing knowledge, relationships, and processes
 - ✓ There is often a **wealth of existing knowledge** already out there and **processes** underway.
 - ✓ **Gathering and understanding the existing state** is essential, especially in resource-constrained environments

A wide-angle photograph of a dense, misty forest. In the foreground, a rocky outcrop juts into a river with white, foaming rapids. Two people are standing on the rock, looking out over the water. The forest is filled with tall, green coniferous trees, and the air is thick with fog, creating a serene and somewhat mysterious atmosphere.

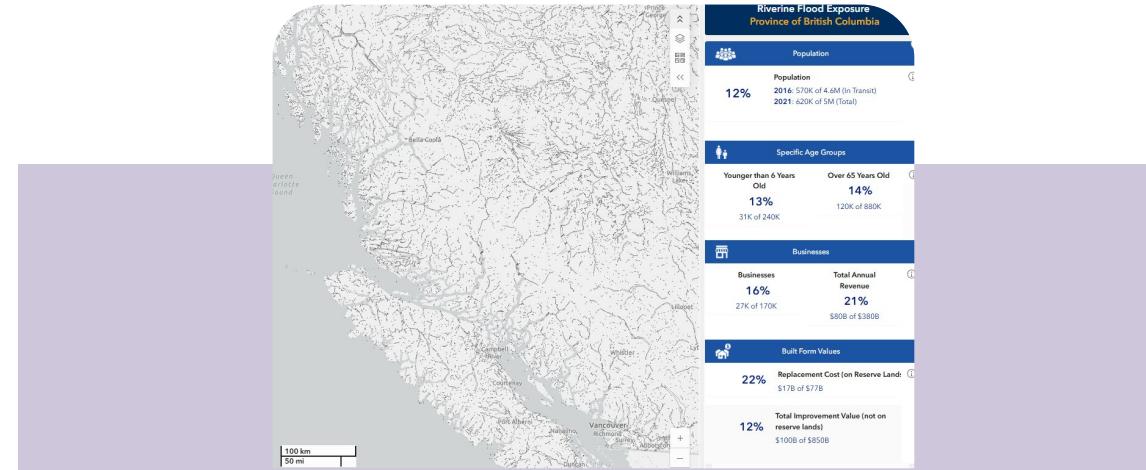
DCRRA Products

DCRRA Technical Resources



Technical Report

Process and methodology; full results by hazard and value; disproportionate impacts; extreme event scenarios by hazard; case studies



Hazard Insights Tool

Provincial-scale layer and hazard-exposure analysis for 6 hazards; downloadable data and scripts

DCRRA Summary Documents



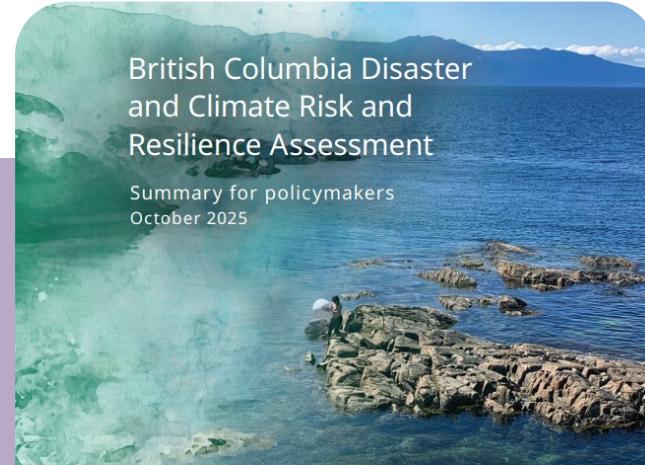
Executive summary

The Provincial Disaster and Climate Risk and Resilience Assessment (DCRRA) is an important step in understanding and addressing the diverse disaster and climate risks that British Columbians

assessment across interconnected systems and provides foundational risk information, laying the groundwork for strategic risk reduction and resilience-building efforts. This executive summary

Executive Summary

Short overview;
summary tables



Summary for Policymakers

Summary appropriate
for practitioners;
decision makers



Introduction

The British Columbia Disaster and Climate Risk and Resilience Assessment

October 2025

[What is the DCRRA?](#) [Key insights](#) [Questions & Answers](#) [Where do I go from here?](#)

Story map

Key findings
appropriate for the
public

Demo: Hazards Insights Tool

Riverine Flood

Filter to an area to explore →

Explore Hazard Exposure Analysis Results

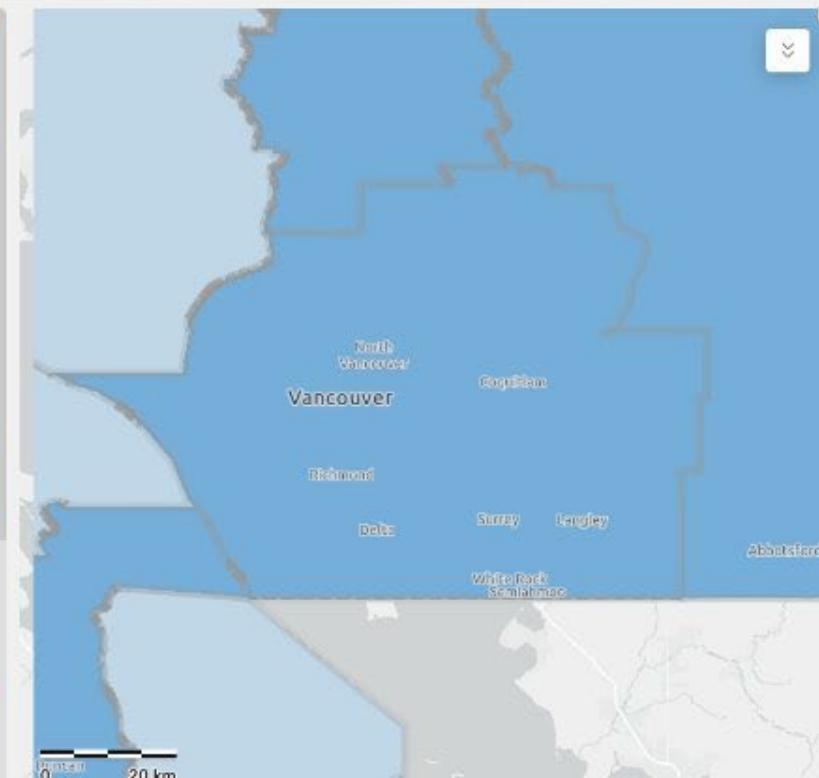
Use the tool to explore the results of the Provincial DCRA geospatial analysis. The information is intended to be used at a screening level and represents one part of the larger Provincial DCRA project.

Learn about the Hazard Exposure Analysis

Not all assets were assessed for every hazard. Review table to learn more.

Quick Start Guide

Explore the Map: Use the area filters at the top right to explore the map and



Hazard Thresholds

Navigation Tips

Disclaimer

Step 1 - Select Area Type
Regional Districts

Step 2 - Specify Area
Metro Vancouver Region.

Metro Vancouver Regional District

Exposure Summary Boundary

Total Population
15% 370,000 of 2,470,000 (2016)
400,000 of 2,690,000 (2021) ①

Population Exposure (%)

- > 95% - 100%
- > 50% - 95%
- > 10% - 50%
- > 0% - 10%
- 0%

Businesses
21% Businesses
16,000 of 78,000

Total Annual Revenue
29% \$58,000,000,000 of \$198,000,000,000

Built Form Values

Residential Assessed Value
12% \$31,000,000,000 of \$261,000,000,000

Commercial Assessed Value
27% \$19,000,000,000 of \$71,000,000,000

Replacement Cost
30% \$3,400,000,000 of \$11,300,000,000 - This value only applies to First Nations reserve lands.



Looking Ahead



Using the DCRRA

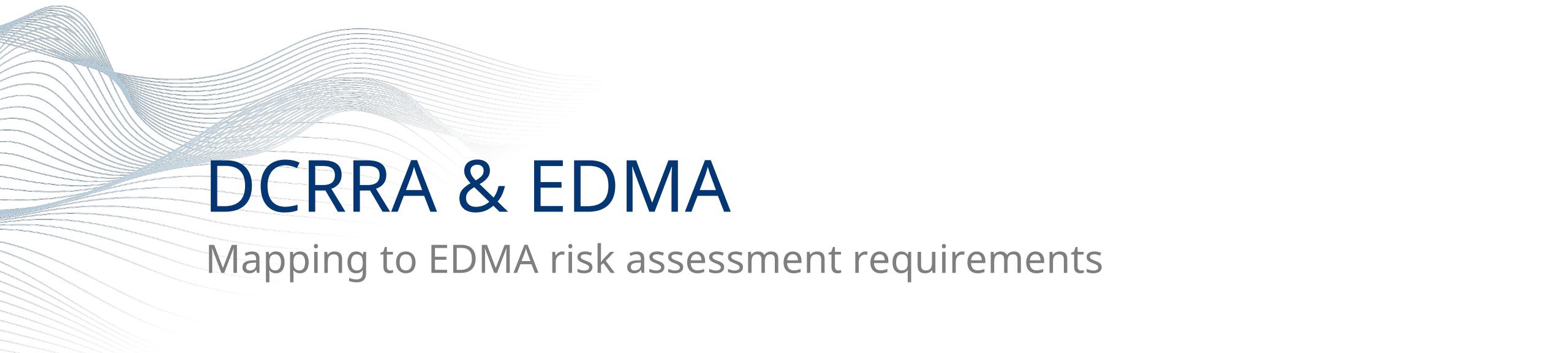
For practitioners and beyond

- ✓ Methodology

- ✓ Value areas & value-based approach
- ✓ Holistic assessment
- ✓ Scenario-based analysis
- ✓ Geospatial hazard and exposure analysis
- ✓ Global Warming Levels for climate considerations

- ✓ Concepts

- ✓ Key definitions & guiding concepts
- ✓ Data, science, and knowledge
 - ✓ Hazard Insights Tool
 - ✓ First Nations definitions & understandings
 - ✓ Foundational hazard and value info
 - ✓ Disproportionate impacts by hazard



DCRRA & EDMA

Mapping to EDMA risk assessment requirements

- ✓ CONTENT - Risk assessments must identify all reasonably foreseeable hazards and assess:
 - ✓ Extent of the risk (Ch 2, 3)
 - ✓ and the potential consequences for persons or property, or for objects or sites of heritage value—giving special consideration to: (Ch 2, 3, 4, 5)
 - ✓ Individuals who may experience intersectional disadvantage; and (Ch 4)
 - ✓ Vulnerable individuals, animals, places, or things (Ch 4)
- ✓ METHOD - Risk assessments must be based on:
 - ✓ Studies and surveys (Background lit review; recommendations from experts; geospatial work)
 - ✓ Available Indigenous & local knowledge (Expert knowledge; FNC)
 - ✓ Climate change considerations (PCIC climate experts)
 - ✓ Results of consultation with local authorities and Indigenous people (Engagement; FNC)

Risk assessment linkages

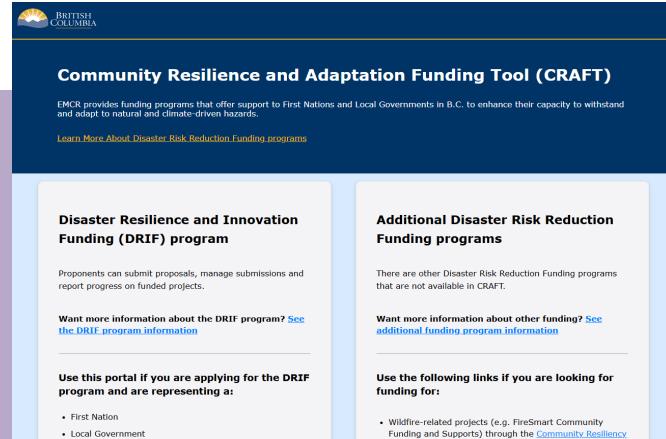
Related resource, projects, and work



The screenshot shows the ClimateReadyBC website. The header includes the British Columbia logo and the ClimateReadyBC logo. The main content features a large image of a totem pole and a coastal town. The text "ClimateReadyBC" and "How B.C. is rising to the challenge of disaster and climate risk" are displayed. Below this, a sub-section highlights "British Columbia is on the front lines of climate change in Canada." and includes a photo of a sunset. A note at the bottom states: "The challenges that B.C. faces are growing. Climate change is already affecting our communities, economy, infrastructure, and ecosystems."

Climate Ready BC

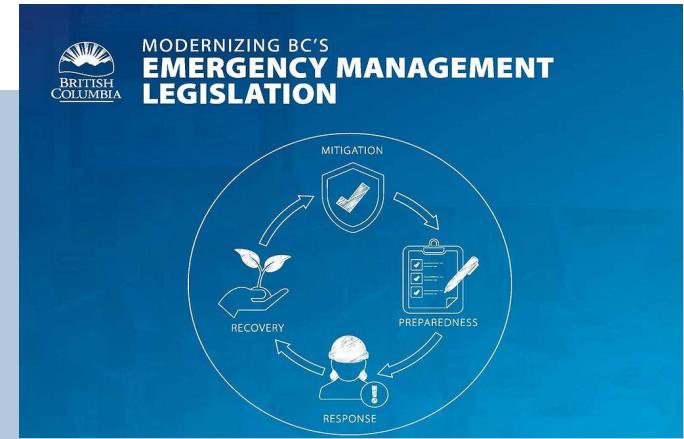
One-stop-shop for disaster risk reduction and climate adaptation resources



The screenshot shows the CRAFT (Community Resilience and Adaptation Funding Tool) website. The header includes the British Columbia logo. The main content features a section titled "Community Resilience and Adaptation Funding Tool (CRAFT)" with a sub-section for "Disaster Resilience and Innovation Funding (DRIF) program". It includes information on how to apply and links to other funding programs. A circular diagram at the bottom illustrates the four phases of emergency management: Mitigation, Preparedness, Response, and Recovery.

Funding Programs

Risk assessment funding available through provincial programs



The screenshot shows the "Modernizing BC's Emergency Management Legislation" website. The header includes the British Columbia logo. The main content features a circular diagram illustrating the four phases of emergency management: Mitigation, Preparedness, Response, and Recovery. The text "MODERNIZING BC'S EMERGENCY MANAGEMENT LEGISLATION" is prominently displayed.

EDMA Regulations

Regulations are under development, including risk assessment requirements

ClimateReadyBC

One-stop-shop for disaster risk reduction and climate adaptation resources

- ✓ Developed for practitioners
- ✓ Information and resources on hazards, data, tools, funding and resources
- ✓ URL: <https://climatereadybc.gov.bc.ca/>
- ✓ Email: ClimateReadyBC.gov.bc.ca



Hazards & mapping tools

Explore a unique collection of maps and tools created to help make data actionable.

Data

Search for provincial, regional, and community-level data to download and use locally.

Funding

Find funding opportunities for community preparedness, climate adaptation, and mitigation and risk reduction projects.

Resources

Browse a collection of reports, studies, data guidelines, reputable websites, and more.

Demo: ClimateReadyBC

<https://climatereadybc.gov.bc.ca/>



British Columbia is on the front lines of climate change in Canada.

The challenges that B.C. faces are growing. Climate change is already affecting our communities, economy, infrastructure, and ecosystems.

Related initiatives

PROFESSIONAL PRACTICE GUIDELINES
NATURAL HAZARDS
LANDSLIDE MAPPING

VERSION 1.0
PUBLISHED JULY 16, 2023

PROFESSIONAL PRACTICE GUIDELINE
FINAL DRAFT – JUNE 2025

ENGINEERS & GEOSCIENTISTS
BRITISH COLUMBIA

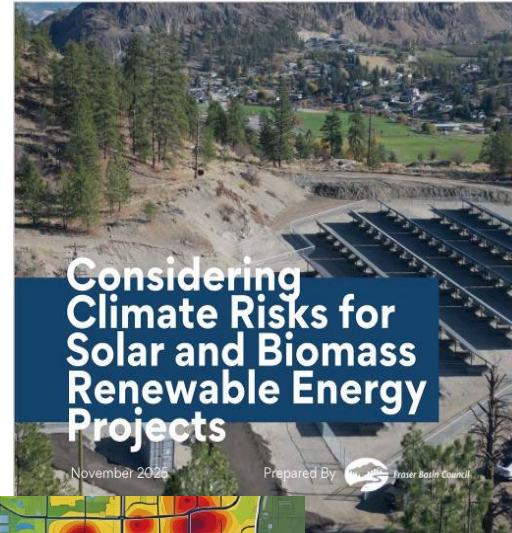
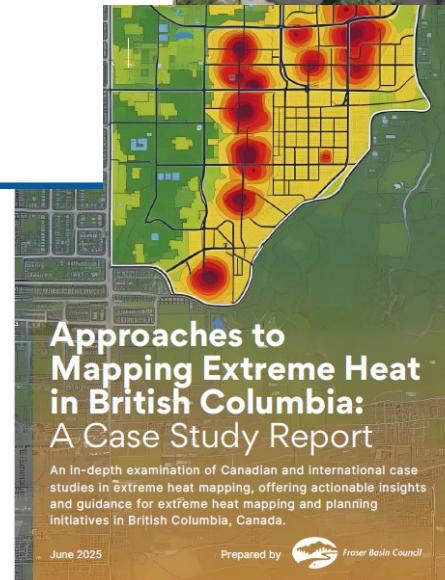
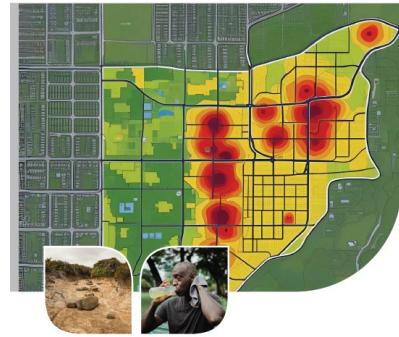
NATURAL HAZARDS

USE AND DEVELOPMENT
OF SEISMIC
MICROZONATION MAPS
IN BC

VERSION 1.0
PUBLISHED MAY 10, 2024

ENGINEERS & GEOSCIENTISTS
BRITISH COLUMBIA

Burrard Inlet, Vancouver, and surrounding areas are shown on the maps.



LidarBC

Better data for better decisions

[Find information](#) [Access data](#)

sparc bc

people. planning. positive change.

... and more.

Demo: Community Climate Funding Guide

<https://communityclimatefunding.gov.bc.ca/>



For Funders

News & Updates

Contact Us

How to Use This Site

[Home](#)

Indigenous Communities

Local Governments

Helpful Resources

Deadline Tracker

Regional Programs

Search for Funding

BC Community Climate Funding Guide
for Indigenous communities & local governments

An all-in-one guide of funding opportunities for climate action projects
in your community.

Subscribe
to email notifications

Subscribe

Next Steps

- ✓ Enhancements to ClimateReadyBC of existing resources
- ✓ Ministry-led risk assessments (e.g., tsunami, volcano, extreme weather)
- ✓ Addressing regional-scale needs (e.g. tools, data, partnerships, etc.)
- ✓ Guidance and tools for completing risk assessments requirements
 - ✓ Content (consequences; considering intersectional disadvantage)
 - ✓ Method (data sources; upholding Indigenous & local knowledge; climate change considerations)

Thank you!

For more information, please contact:

ClimateReadyBC@gov.bc.ca

Melissa Le Geyt, Senior Policy Analyst, Disaster Risk Assessment | Melissa.LeGeyt@gov.bc.ca

Amanda Broad, Manager, Disaster Mitigation & Adaptation Policy & Practice | Amanda.Broad@gov.bc.ca



Ministry of
Emergency Management
and Climate Readiness