

Canada RiskProfiler Portal

Using knowledge to form and Empower
Disaster Risk Reduction

 Resident/
Business
Owner

 Community
Planner /
Emergency
Manager

 Domain
Expert


About RiskProfiler

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My Risk

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 Image /
Motion graphics

Community Risk

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Risk Metrics

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 Image /
Motion graphics

Open Data

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Browse by Hazard



Flood



Earthquake



Tsunami



Wind



Landslide



Wildfire

Need Help?

Search for a region and/or location of interest

User selects content to be displayed in the main map or chart frame. Chart and map features are interactive, referencing the same underlying data

Selections can be made using a variety of drop-down menus, accordion boxes, radio buttons and check boxes

Chart and/or table information for a selected region/theme of interest. Initial load will contain a default set of relevant 'indicator cards' for a given theme. However, we need an option for the user to select additional indicator cards to load into the page. This frame will need to be scrollable to accommodate additional content that the user chooses to add

Translucent side panel pull-out to allow user to select additional indicators to load into the view. Each indicator card would need to have an option to make visible, or to hide so that user has control over what content they are interacting with any any given part of their exploration

Clicking on a map feature returns a thumbnail sketch of relevant information

Map or Chart frame for displaying content for a given region and/or theme of interest.

Web maps are fully interactive. User can pan, zoom and add additional reference layers as in most web mapping interfaces. Can include button for printing the page content, and/or clipping out a portion of the map as an image for use in other graphics applications

Charts are the primary focus of the Risk Metrics tab. This is where users would go to interact with detailed statistical information for a region and theme of interest.

Translucent pop-up window provides access to map legend and short description of the information being presented in the map frame.

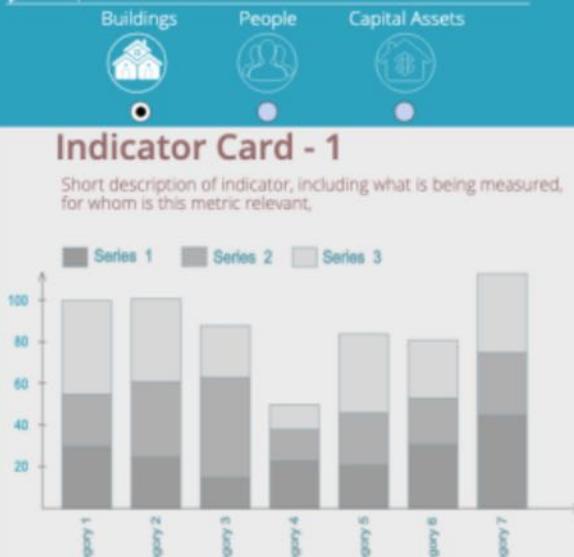


Earthquake Consequences



Neighbourhood Profile

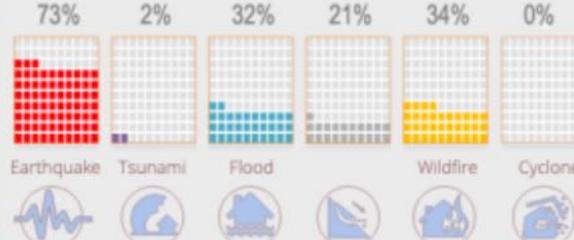
Buildings People Capital Assets



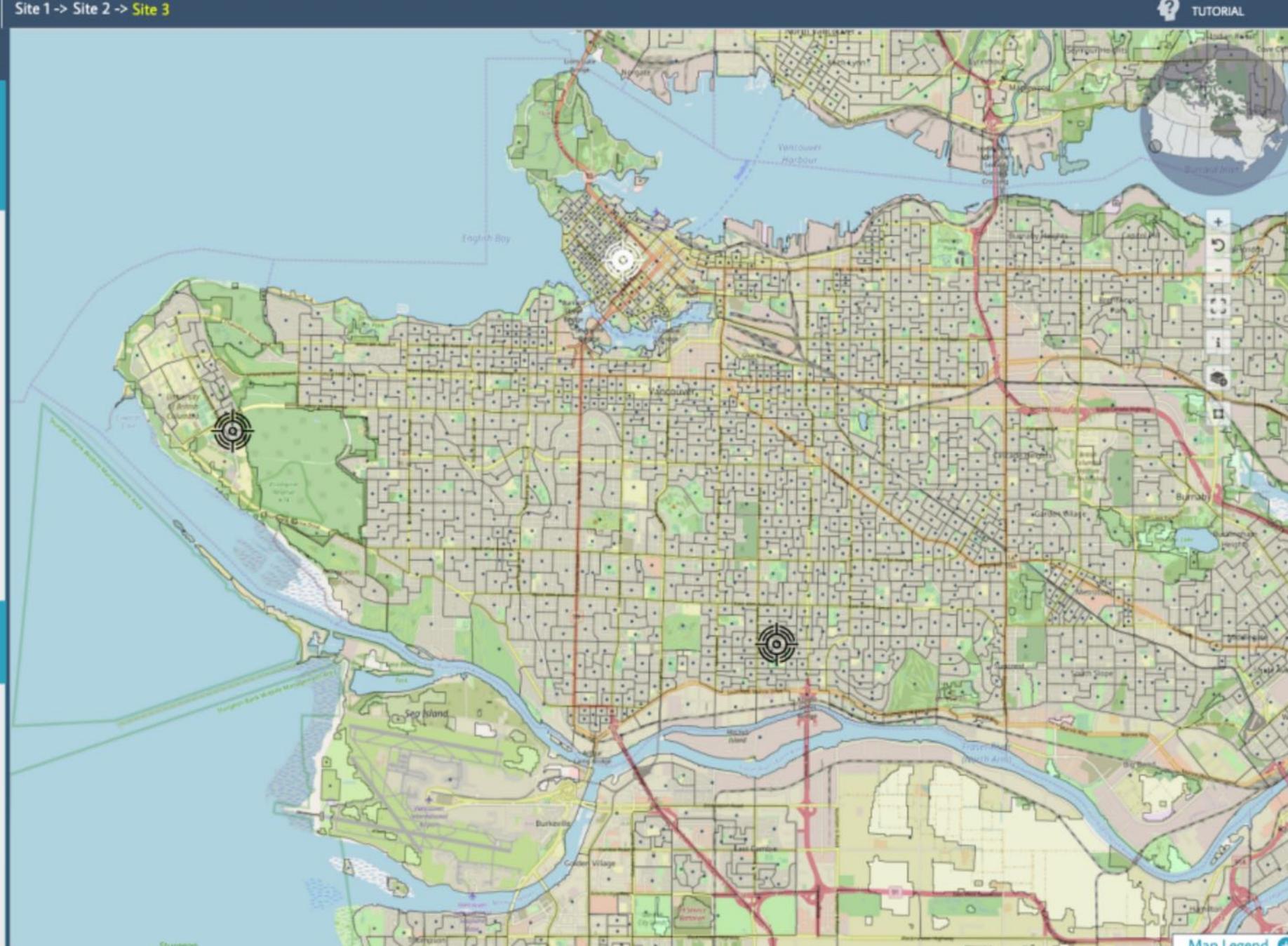
Natural Hazard Threat

Indicator Card - 2

Short description of indicator, including what is being measured for whom is this metric relevant.



Site 1 -> Site 2 -> Site





Enter Address or Location

Mark Site



Neighbourhood Profile



Earthquake Consequences



Hint: Click a location on the map, then filter the list of representative building types to select a match and retrieve information on anticipated earthquake impacts.

Functional Type

Construction Type

Year

Multi-Family Residential

Concrete Shear Walls

1975 - 1990

High-Rise

Mid-Rise

Low-Rise



<><><><><>

Risk Rating

Indicator

Risk Measure



Building Performance

Expected level of damage and related physical impacts to selected building type at this location.

Considerable

Damage State

Extensive

Moderate

50-year collapse potential

0.4%

High

Level of Functionality

Unsafe

Considerable

Estimated Downtime

40 weeks

Considerable

Volume of Disaster Debris

12 tons



Impacts on People

Expected level of injury and emergency shelter requirements associated with building damage at this location.

Low

Injury Level

Low

Considerable

Shelter requirements

Likely

Considerable

Anticipated household disruption time

25 weeks

Low

Anticipated business disruption



Economic Consequences and Opportunities

Expected costs associated with repair and/or replacement of building damage and opportunities to reduce future risk through

Considerable

Anticipated repair or replacement costs

\$6,250,000

Considerable

Building loss ratio

Likely



Average costs to retrofit a building of this type

\$85,000

Benefit/Cost ratio

3.5

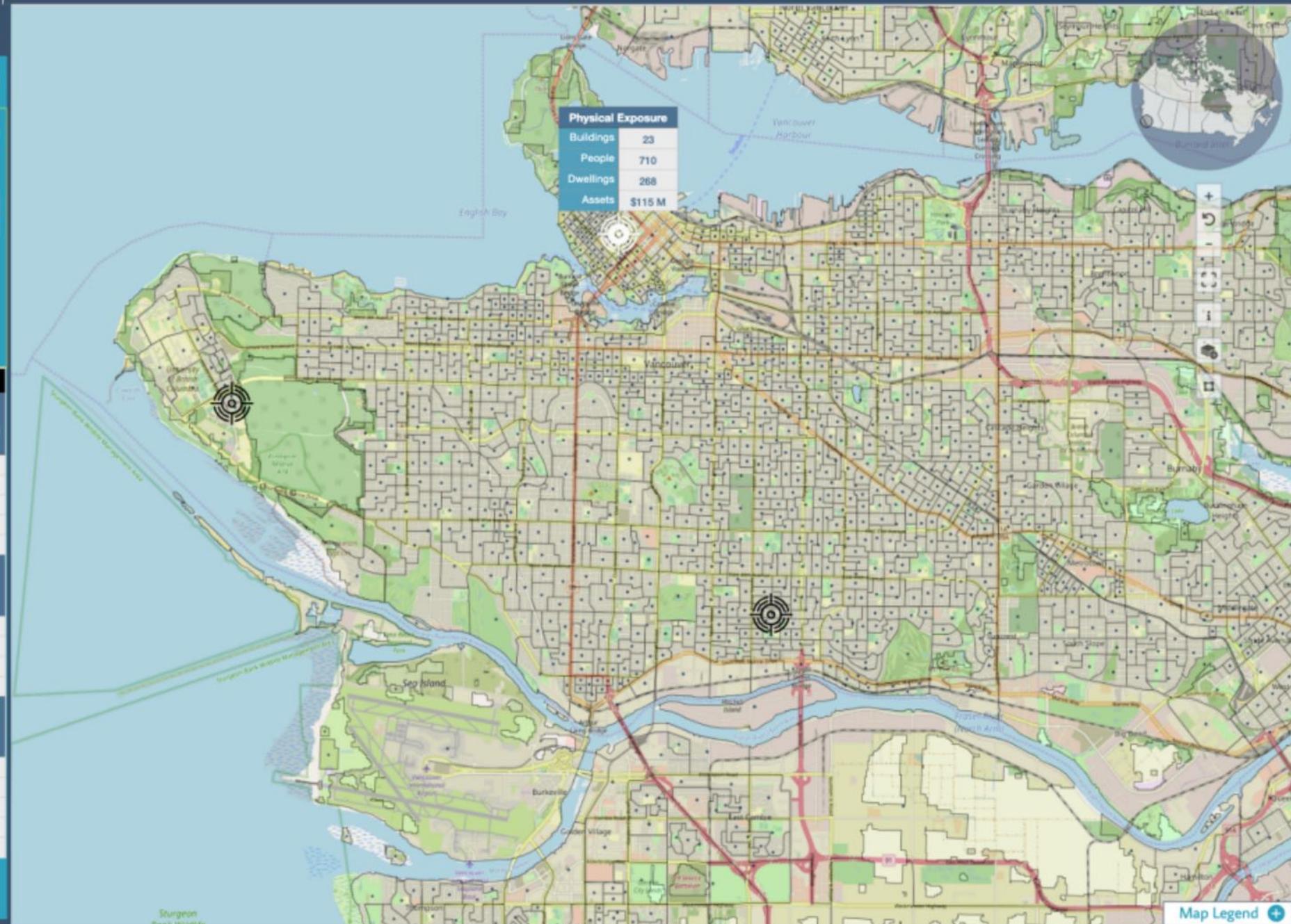
1.6



Anticipated return on mitigation investment

1.6

Retrofit Level full partial none





Physical Exposure



Functional Use

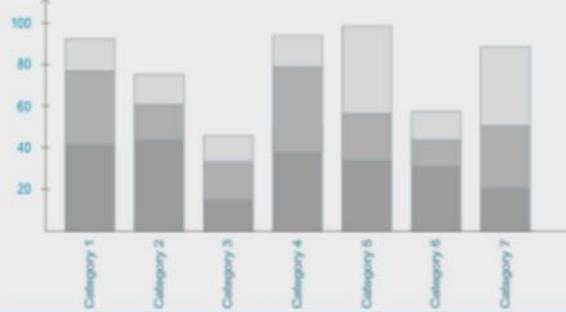
Construction Type



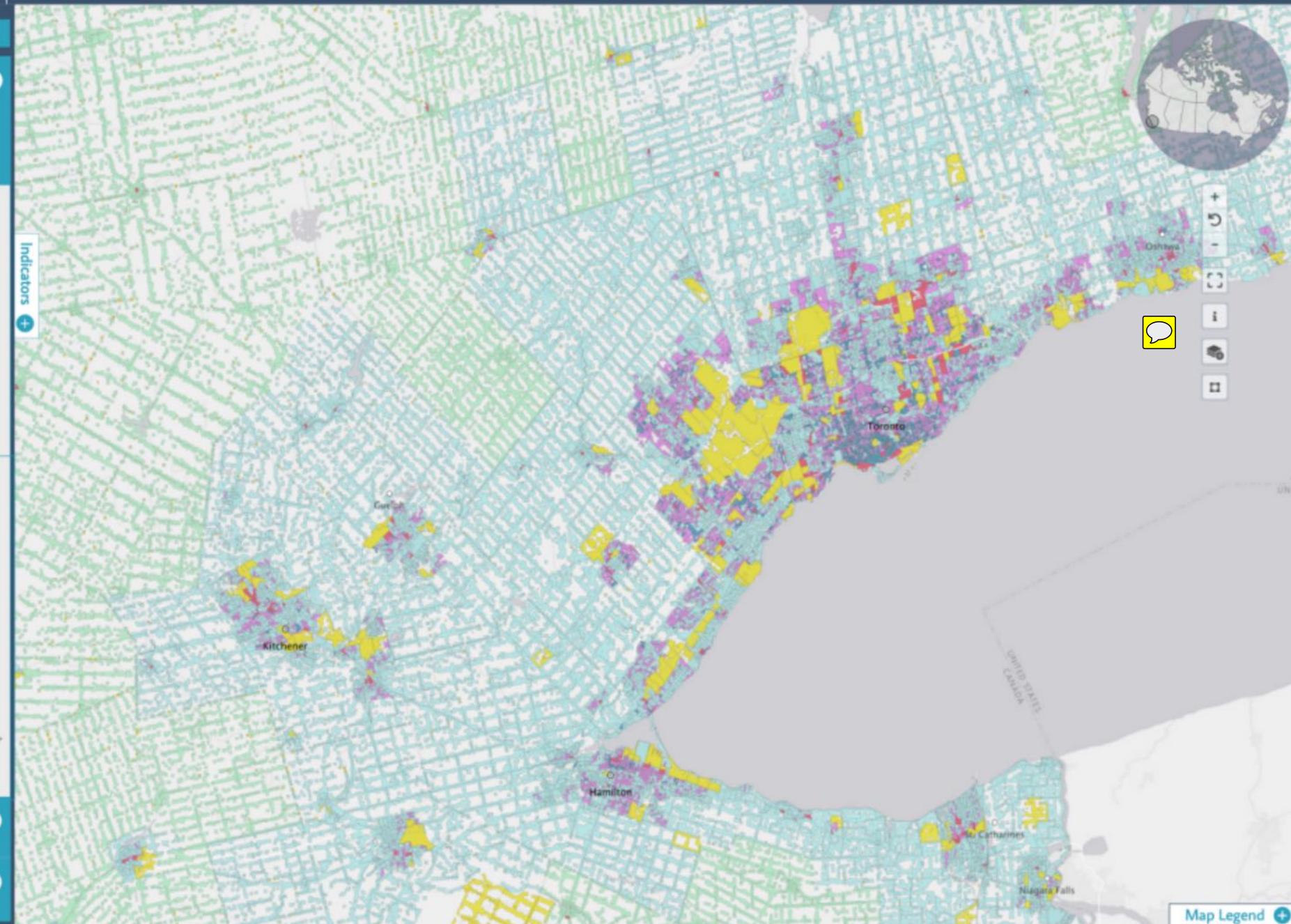
Indicator Card - 2

Short description of indicator, including what is being measured, for whom is this metric relevant, and opportunities for risk reduction

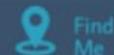
■ Series 1 ■ Series 2 ■ Series 3



Social Fabric & Vulnerabilities

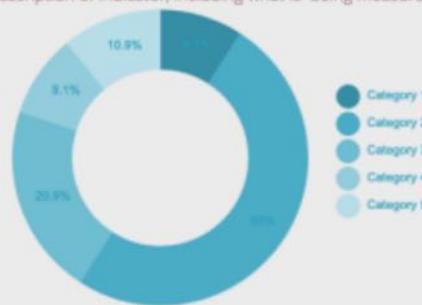


Natural Hazard Threat



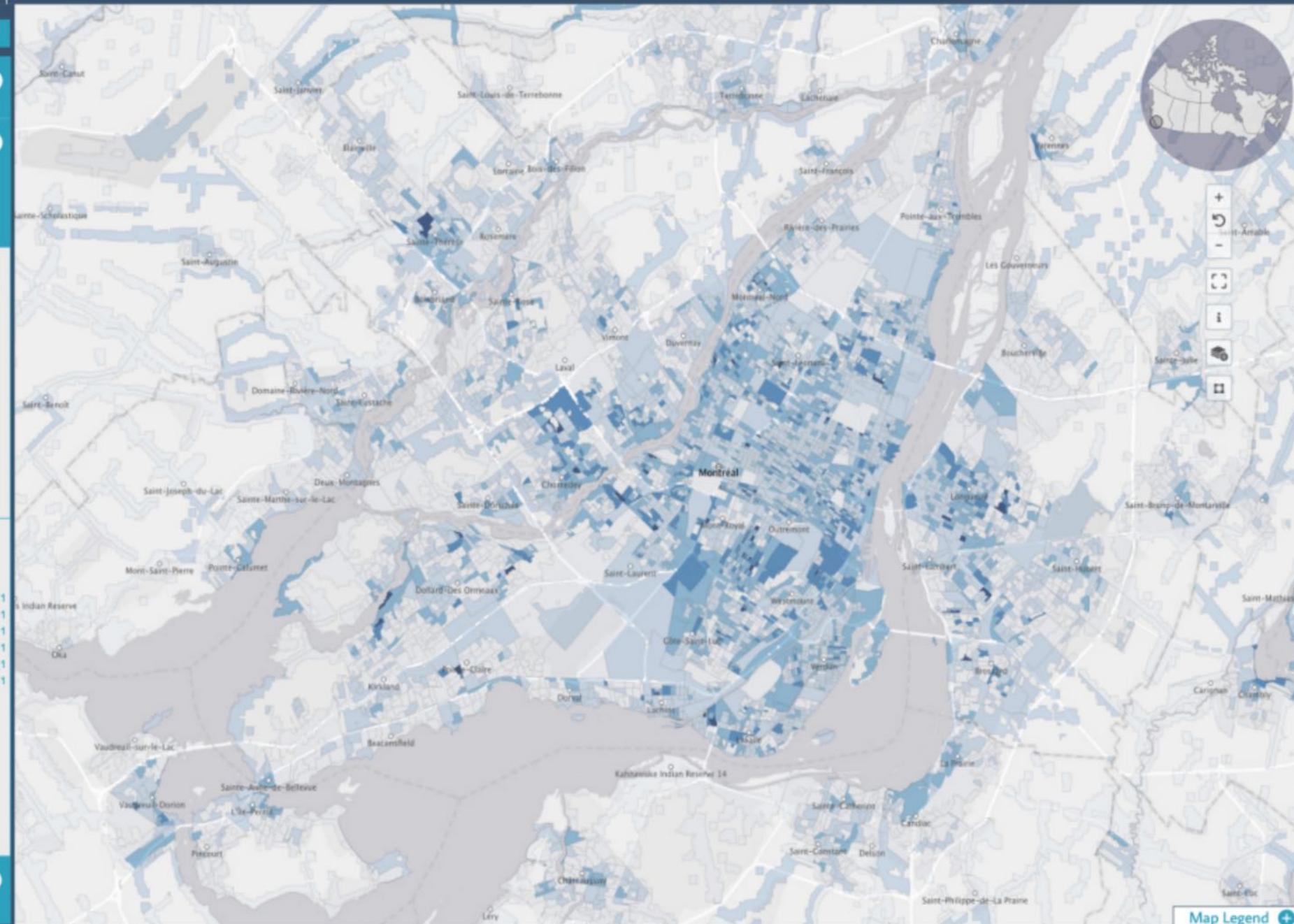
Indicator Card - 1

Short description of indicator, including what is being measured,



Indicator Card - 2

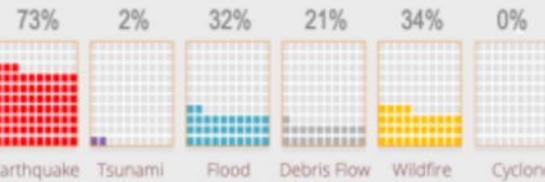
Short description of indicator, including what is being measured, for whom is this metric relevant, and opportunities for risk reduction





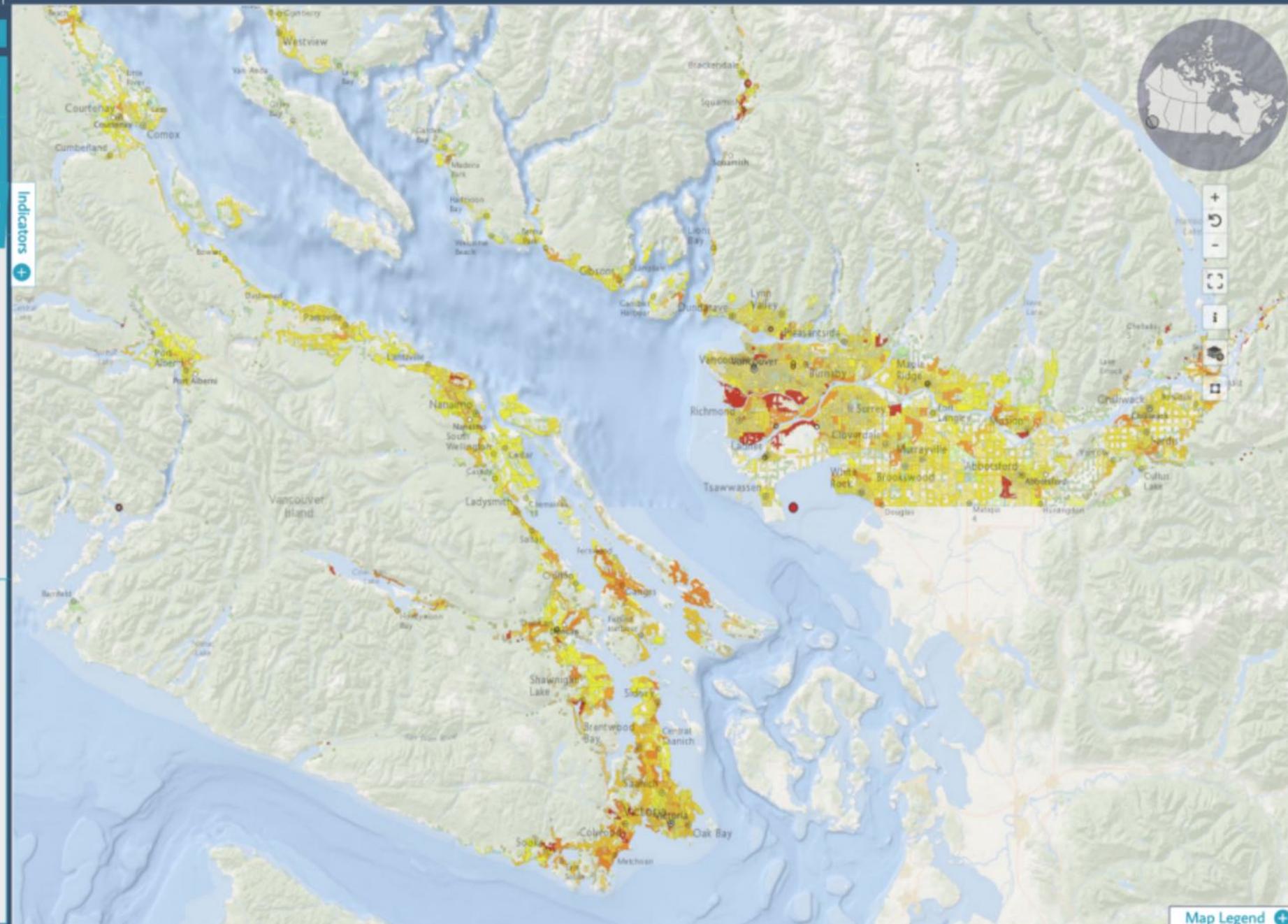
Indicator Card - 1

Short description of indicator, including what is being measured, for whom is this metric relevant, and opportunities for risk reduction



Indicator Card - 2

Short description of indicator, including what is being measured, for whom is this metric relevant, and opportunities for risk reduction





Find Me

Search by Region of Interest



Earthquake Hazard Potential

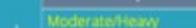
Hint: Click a location on the map, then filter the list of representative building types to select a match and retrieve information on anticipated earthquake impacts.

Rupture Type ►

Magnitude



Level of Impact ►



Shallow Crustal Fault

M 5.5 M 7.5

Moderate/Heavy

M 7.3, Offshore Vancouver



M 7.31 Offshore Victoria



M 7.1, Near Comox



M 7.3, Georgia Straight

Type: Shallow crustal fault rupture

Depth: 12.5 km

Injury Profile



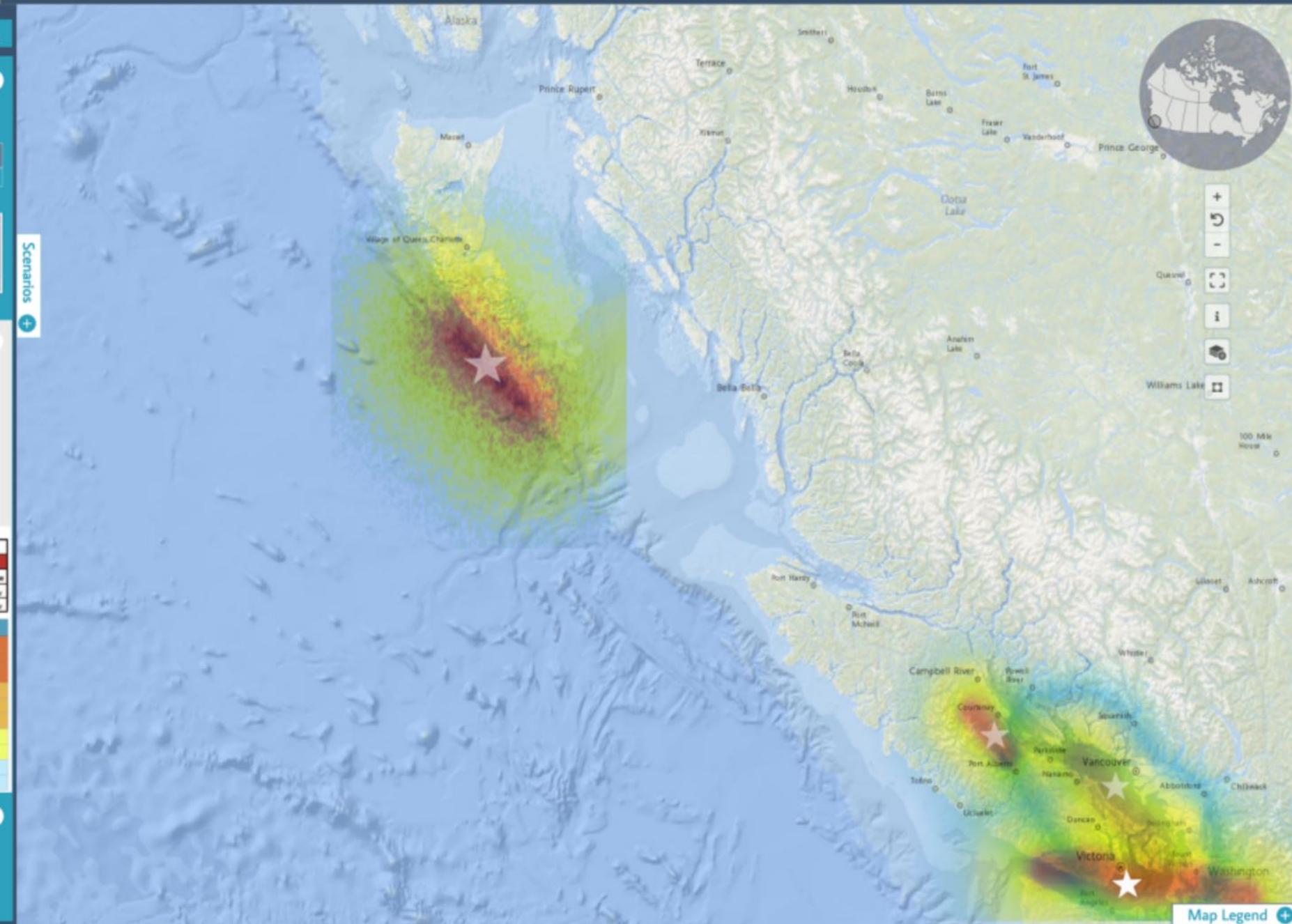
Loss Profile



Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION	I	II-III	IV	V	VI	VII	VIII	IX	X+
ESTIMATED INJURED MEDICAL ATTENDANCE	None	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	None	None	None	V. Light	Light	Moderate	Moderate/Heavy	Heavy	V. Heavy

MMI	MMI Location	Buildings	People	Assets
VII	City name XXXX, Census Division XXXX, XXXX	1,254	3,340.8	1,996,000
VII	City name XXXX, Census Division XXXX XXXX	2,354	7,354.8	4,440,000
VII	City name XXXX XXXX, Census Division XXXX XXXX	383	1,344.00	874,000
VII	City name XXXX XXXX, Census Division XXXX XXXX	3,517	9,389.00	5,395,000
VII	City name XXXX, Census Division XXXX XXXX	1,276	3,381.4	1,914,000
VII	City name XXXX, Census Division XXXX XXXX	820	1,305.95	784,500
VI	City name XXXX, Census Division XXXX XXXX	712	1,386.8	1,066,000
VI	City name XXXX, Census Division XXXX XXXX	1,845	4,880.05	2,767,000
IV	City name, Census Division XXXX XXXX	216	967.1	521,000
IV	City name XXXX XXXX, Census Division XXXX	1,485	3,892.25	2,197,000

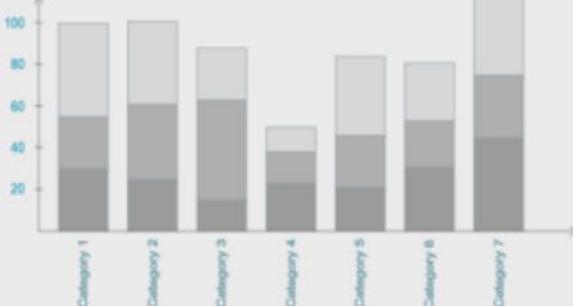




Indicator Card - 1

Short description of indicator, including what is being measured, for whom is this metric relevant, and opportunities for risk reduction

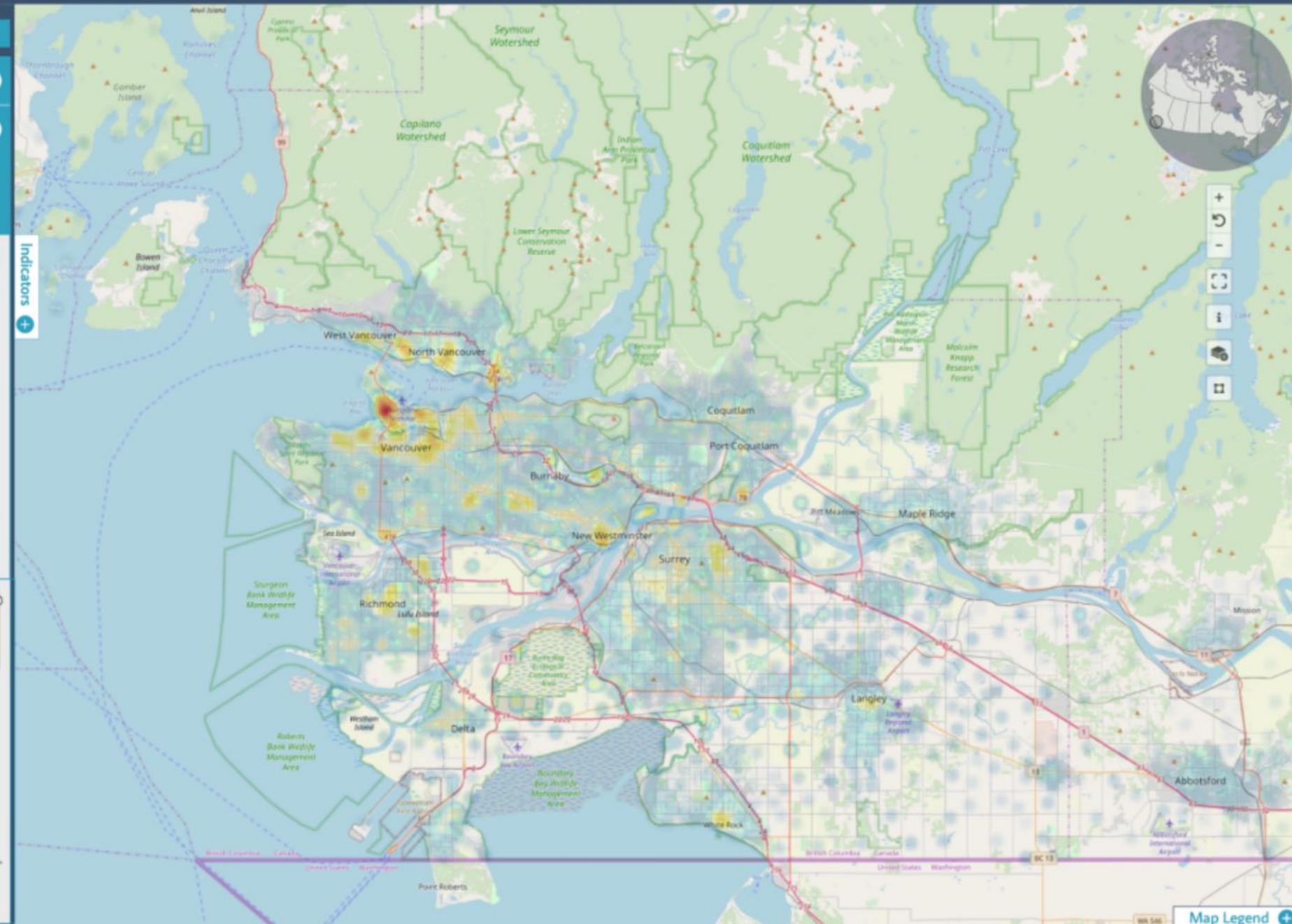
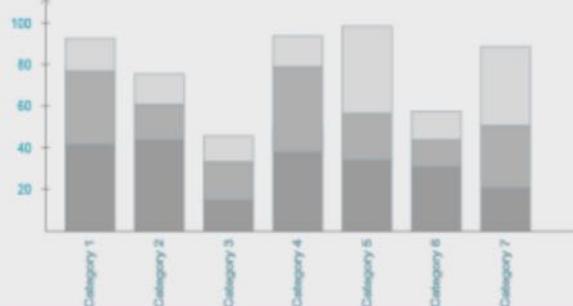
Series 1 Series 2 Series 3



Indicator Card - 2

Short description of indicator, including what is being measured, for whom is this metric relevant, and opportunities for risk reduction

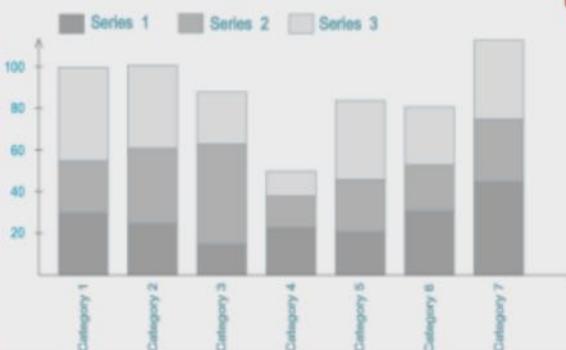
Series 1 Series 2 Series 3





Indicator Card - 1

Short description of indicator, including what is being measured, for whom is this metric relevant, and opportunities for risk reduction



Indicator Card-3

Short description of indicator, including what is being measured, for whom is this metric relevant, and opportunities for risk reduction

Indicator Card-4

Short description of indicator, including what is being measured, for whom is this metric relevant, and opportunities for risk reduction

Indicator Card-5

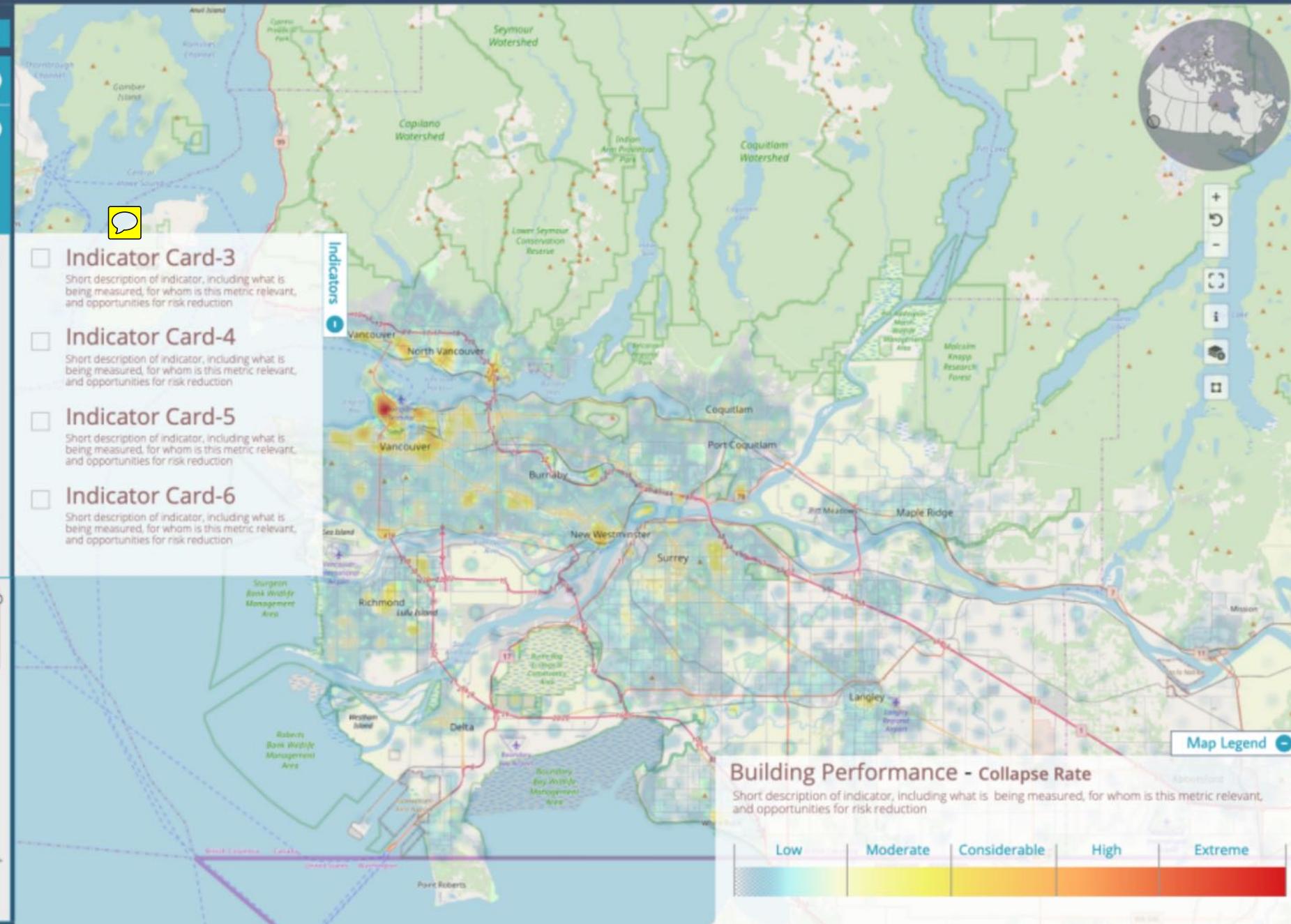
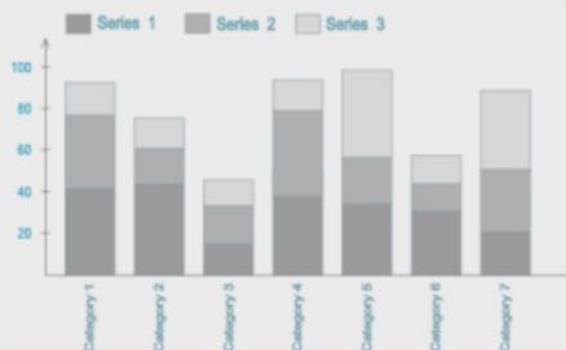
Short description of indicator, including what is being measured, for whom is this metric relevant, and opportunities for risk reduction

Indicator Card-6

Short description of indicator, including what is being measured, for whom is this metric relevant, and opportunities for risk reduction

Indicator Card - 2

Short description of indicator, including what is being measured, for whom is this metric relevant, and opportunities for risk reduction





Physical Exposure

Land Use Patterns

Buildings

People

Capital Assets



Social Fabric & Vulnerabilities ▶



Natural Hazard Threats ▶



National Earthquake Risk ▶

Seismic Hazard Potential

Building Performance

Public Safety

Affected People

Economic Security



Regional Scenario Earthquake Risk ▶

British Columbia

Settled Area: 25,533 km² / Buildings: 1,194,053 / Population: 4,640,289 / Capital Assets: \$ 1,479 billion CAD

Open Data

Map

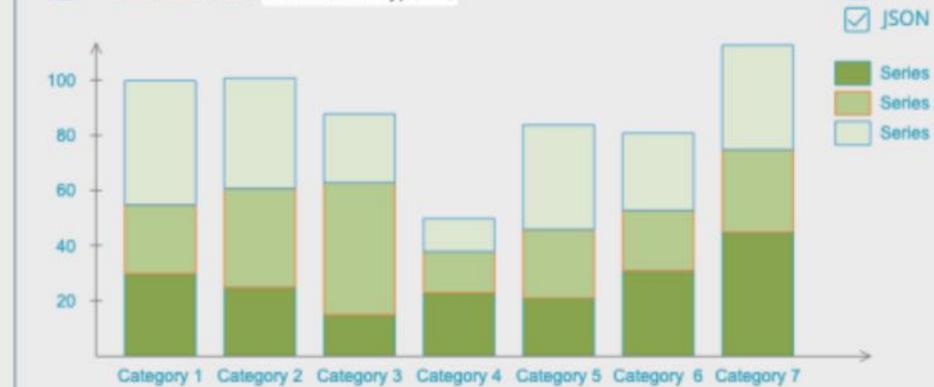
Chart

Table



Buildings

Choose Theme: Construction Type


 CSV
 JSON

 Series 1
 Series 2
 Series 3

Construction Type

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Map

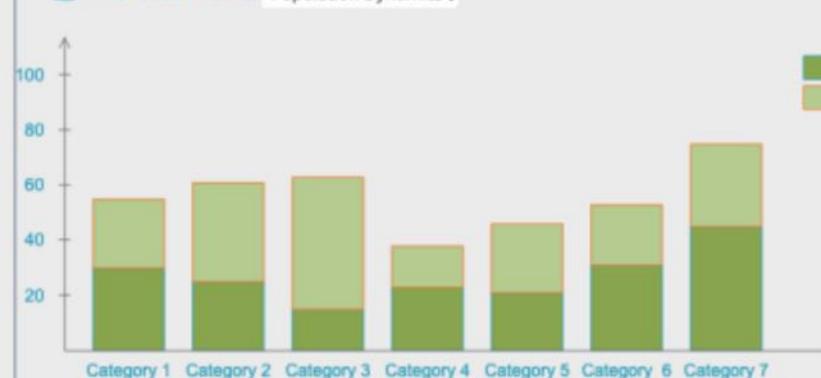
Chart

Table



People

Choose Theme: Population Dynamics


 CSV
 JSON

 Series 1
 Series 2

Population Dynamics

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Training

Training Materials

Download training materials in PowerPoint presentation format to use in your own training sessions. This presentation introduces the concept of climate information and its importance in decision-making. The slides provide the basic framework for a presentation and include detailed speaker notes.

This presentation is intended:

- For a beginner audience with little science or climate change background
- To serve as a base for a webinar or workshop presentation
- To be tailored to the audience's knowledge level, sector, region or profession
- To be supported by case studies, more climate information or exercises

After viewing the presentation, the audience should:

- Understand the importance of considering climate change in decision-making
- Be more familiar with key concepts regarding historical climate trends and future climate
- Understand the basics of climate projections and emissions scenarios
- Understand there is a range of possible climate futures
- Be aware of possible applications of climate information
- Know where to find climate information

Produced by the Canadian Centre for Climate Services (CCCS), Ouranos and the Pacific Climate Impacts Consortium (PCIC).

[Download presentation \(29 Mbs\)](#)





About

Climatedata.ca is a collaboration between Environment and Climate Change Canada, the Computer Research Institute of Montréal (CRIM), Ouranos, the Pacific Climate Impacts Consortium (PCIC), the Prairie Climate Centre (PCC), and HabitatSeven.



Better decisions

The climate has changed rapidly. [Canada's Changing Climate Report](#) confirms that Canada's climate will warm further due to additional global GHG emissions, with warming projected in all seasons. Other changes in climate are also projected to intensify with additional warming, such as increases in extreme heat, increases in total and extreme precipitation and declines in snow and ice cover. Hence, it is increasingly important for Canadians to incorporate climate change considerations in their decision-making processes. A common approach to ensure wide availability of climate data is through an online data portal. Without a data portal, developing climate change adaptation plans can be very tedious. Even for experts, tasks like accessing large amounts of reliable data, conducting a thorough analysis and computing key variables for a specific region can take months and cost several thousands of dollars. To support and enable Canada's climate change adaptation planning, and improve access to relevant climate data, we are proud to present ClimateData.ca.

A deeply collaborative approach

ClimateData.ca is a climate information portal that enables Canadians to access, visualize, and analyze climate data, and provides related information and tools to support adaptation planning and decision-making. Our collaborative approach to providing climate services to Canadians aims to foster the development of a network of national and regional climate services providers which will support the ongoing provision of specialized information tailored to specific industry sectors.

Each and every one of the various aspects of the development of Climatedata.ca were conducted in a collaborative, participative, transparent and neutral manner. This is the case for requirements gathering, user engagement, issue prioritization, content production, data quality control, project management, and so on. The partners of this project tackled each challenge as a Pan-Canadian, focused multidisciplinary team.



Glossary

[ALL](#) [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

Adaptation	Initiatives and measures to reduce the vulnerability of natural and human systems against actual or expected climate change impacts.
Adaptive capacity	A system's ability to implement adaptation measures to climate change (including climate variability and extremes).
Anomaly	Value that represents the difference between the value for a given year or season from the normal of the reference period.
ANUSPLIN	Gridded observational dataset produced by Natural Resources Canada (NRCan), available at 300 arc second spatial resolution (1/12° grids, ~10 km) over Canada. The bulk of the daily minimum and maximum temperature, and precipitation amounts for the period 1950–2012 were produced circa 2011 by Hopkinson et al. (2011) and McKenney et al. (2011) on behalf of the Canadian Forest Service (CFS), NRCan. The dataset was updated in 2013 to correct for issues in the Churchill River area. Gridding was accomplished with the Australian National University Spline (ANUSPLIN) implementation of the trivariate thin plate splines interpolation method (Hutchinson et al., 2009) with latitude, longitude and elevation as predictors. Precipitation occurrence and square-root transformed precipitation amounts were interpolated separately on each day, combined, and transformed back to original units. Quality-controlled, but unadjusted, station data from the National Climate Data Archive (NCDA) of Environment and Climate Change Canada data (Hutchinson et al., 2009) were interpolated onto the high-resolution grid using thin plate splines. Station density varies over time with changes in station availability, peaking in the 1970s with a general decrease towards the present day (Hutchinson et al., 2009). Thus, the number of stations active across Canada between 1950 and 2011 ranged from 2000 to 3000 for precipitation and 1500 to 3000 for air temperature (Hopkinson et al., 2011).
Average total precipitation during wet days	Average of precipitation total on wet days for a given time period.
BCCAQv2	BCCAQ is a method developed at the Pacific Climate Impacts Consortium for downscaling daily climate model projections of temperature and precipitation, including indices of extremes. This methodology, a hybrid of BCCA (Maurer et al. 2010) and QMAP (Gudmundsson et al. 2012), combines quantile-mapping bias correction with a constructed analogues approach using daily large-scale temperature and precipitation fields. The method was developed to correct the bias in daily precipitation series from climate models so that the distributional properties, e.g., means, variances and quantiles, more closely match those of the historical observations (provided in this case by the ANUSPLIN dataset). The robustness of the methodology was tested by examining three criteria: the day-to-day sequencing of precipitation events, the distribution characteristics, and spatial correlation. BCCAQv2 is a modification of BCCAQ which preserves the coarse-scale projected changes at each quantile during the quantile mapping step, which other quantile mapping methods have a tendency to amplify (the "inflation" problem), including the method used in BCCAQv1. Preserving the precipitation change signal is important for maintaining the physical scaling relationships with model-projected temperature changes. For more information see Cannon, A.J., S.R. Sobie, and T.Q. Murdock, 2015: Bias Correction of GCM Precipitation by Quantile Mapping: How Well Do Methods Preserve Changes in Quantiles and Extremes? <i>Journal of Climate</i> , 28(17), 6938–6959, doi:10.1175/JCLI-D-14-00754.1. Additional references: Gudmundsson, L., J. Bremnes, J. Haugen and T. Engen-Skaugen, 2012: Technical note: Downscaling RCM precipitation to the station scale using statistical transformations – A comparison of methods. <i>Hydrol. Earth Syst. Sci.</i> , 16, 3383–3390, doi:10.5194/hess-16-3383-2012. Maurer, E.P., H. Hidalgo, T. Das, M. Dettinger and D. Cayan, 2010: The utility of daily large-scale climate data in the assessment of climate change impacts on daily streamflow in California. <i>Hydrol. Earth Syst. Sci.</i> , 14, 1125–1138, doi:10.5194/hess-14-1125-2010.



Location ▾ Variable ▾ Sector ▾ Download

Training About Glossary

FEEDBACK

EN FR

Search for a City/Town

Minimum Temperature

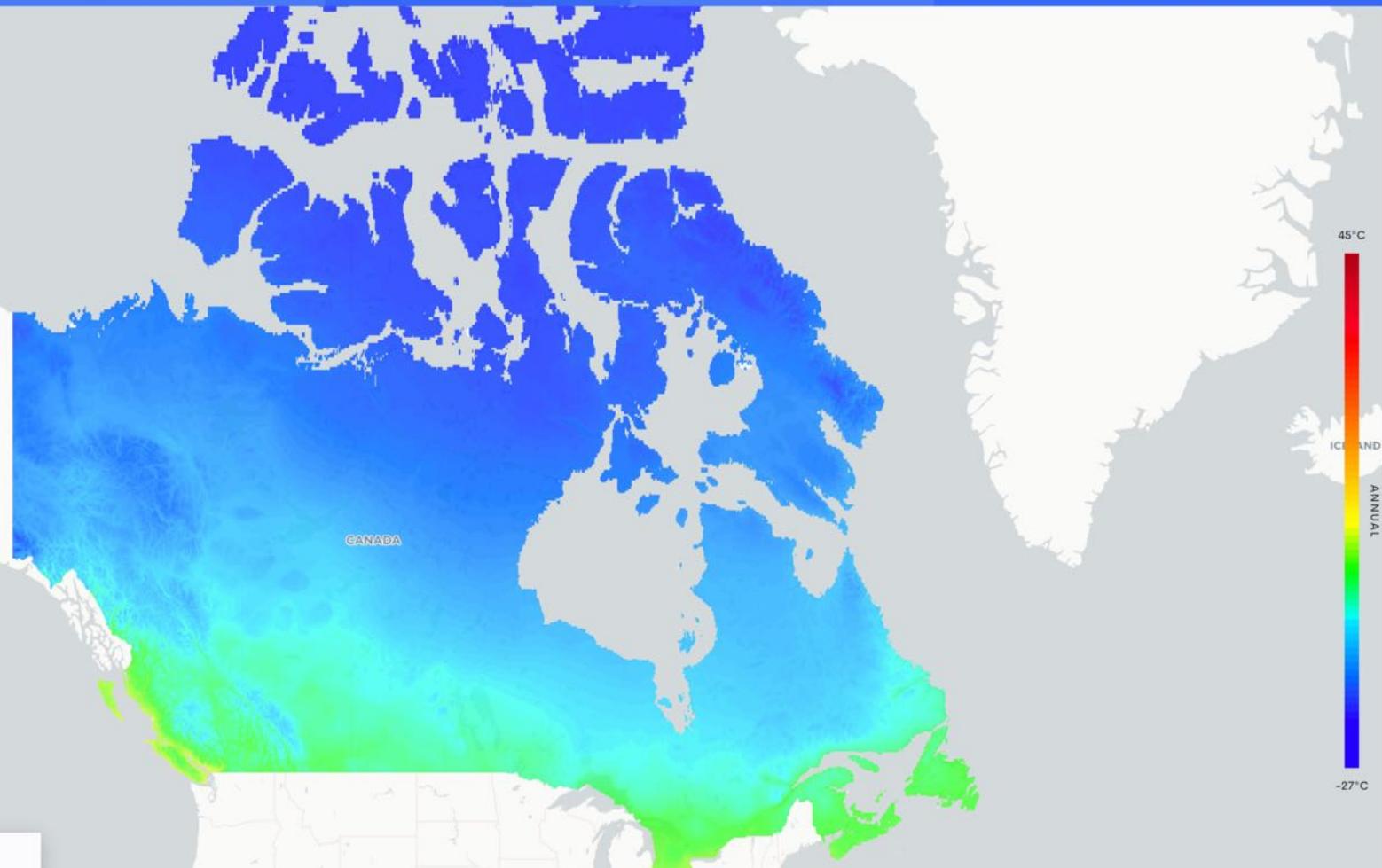


Annual

RCP 8.5

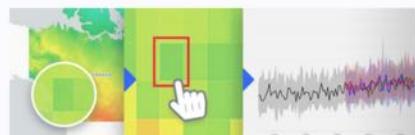


NEW HERE? TAKE A TOUR!



HOW TO USE THIS PAGE

Chart data is available at closer zoom levels. Use the zoom controls to explore different areas of the country and click on grids or stations to visualize data.



Don't show again

• • • •

NEXT >

OPACITY

