



BC | Climate Resilience
Summit 2025

Vancouver, Robson Square March 3rd/4th

Setting the Stage

Explore hazards



Floods



Wildfires



Extreme
heat



Tsunamis



Earthquakes



Drought and
water
scarcity



Extreme cold
and winter
storms

Climate Science



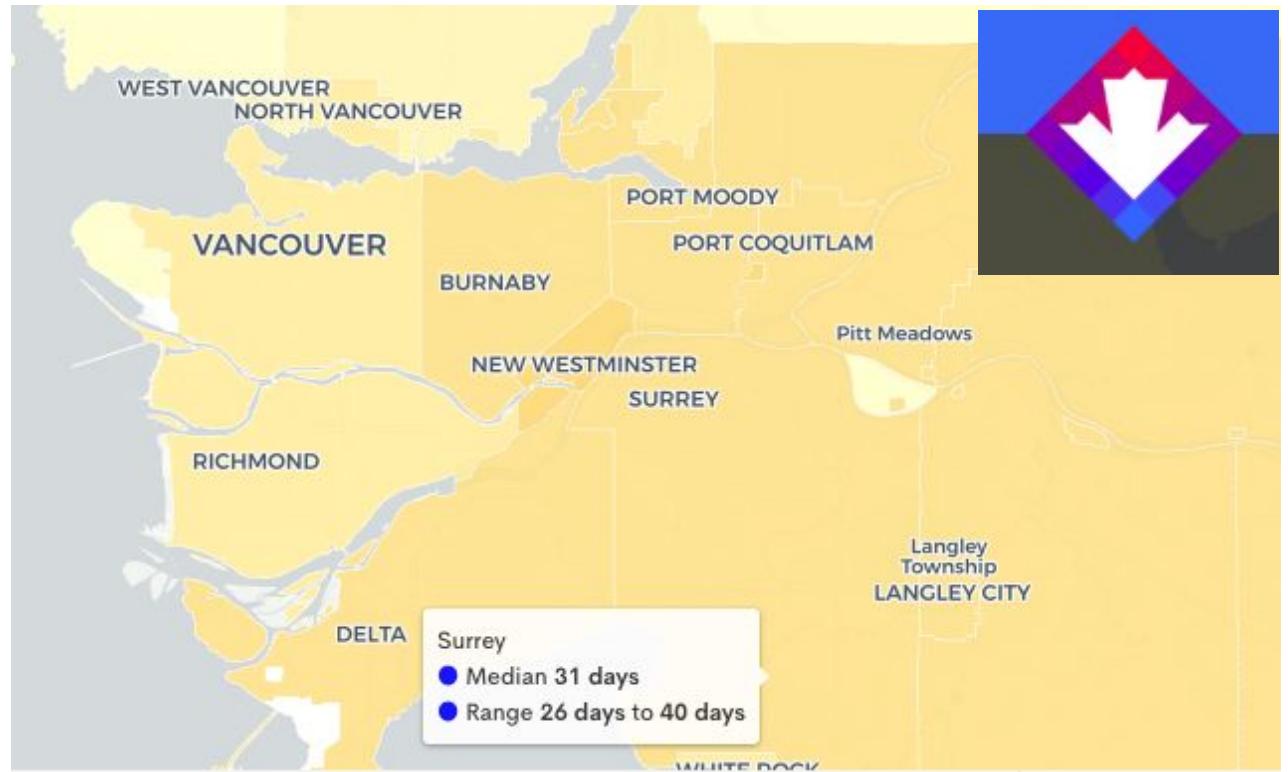
Table 1. Selected climate indices for past and future for City of Vancouver.

Index	Label	Past (1971-2000)	Anomalies (2050s)	Percent Change (2050s)
Warmest Summer Days	TXX	29°C	3.9 (2.2 to 4.8) °C	n/a
Coldest Winter Days	TNN	-9.4°C	4.7 (3.3 to 6.1) °C	n/a
Ice Days	ID	4 days	-2 (-1 to -3) days	-66 (-44 to -86) %
Summer Days	SU	18 days	43 (25 to 60) days	139 (38 to 233) %
Cooling Degree Days	CDD	58 DD	242 (106 to 374) DD	415% (230% to 640%)
Growing Degree Days	GDD	2120 DD	930 (550 to 1300) DD	44% (26% to 63%)
Heating Degree Days	HDD	2860 DD	-820 (-540 to -1170) DD	-29% (-37% to -19%)
Wet Day Precipitation	R95p	306 mm	98 (17 to 182) mm	33% (5% to 62%)
Extreme Precipitation	RP20p	89 mm	31 (8 to 51) mm	36 % (11% to 56%)
Dry Spells	CDryD	23 days	5 (0 to 11) days	21% (1% to 42%)

Climate Science



Impact Driver	1990s Median	High Emissions Scenario 2041-2070 ("2050s")		
		Low	Median	High
EXTREME HEAT				
Hottest summer day	29.7°C	32.2°C	32.9°C	36°C
Number of >30°C days per year	1	6	9	29
Number of >16°C nights per year	6	43	57	92
Longest annual heatwave (in days)	3	5	6	17
Number of heat wave days per year	1	9	16	46
DROUGHT				
Total summer rainfall	144mm	113mm (-21%)	138mm (-4%)	143mm (-0%)
Total annual snowfall	46mm	8mm (-84%)	19mm (-60%)	28mm (-45%)
FLOODING				
Number of days with heavy rainfall (>95p)	9	10	11	12
Maximum 1-day precipitation	46mm	51mm (+8%)	53mm (+15%)	58mm (+28%)
Total rainfall on the 1-in-20 wettest day	72mm	80mm (+11%)	86mm (+19%)	97mm (35%)

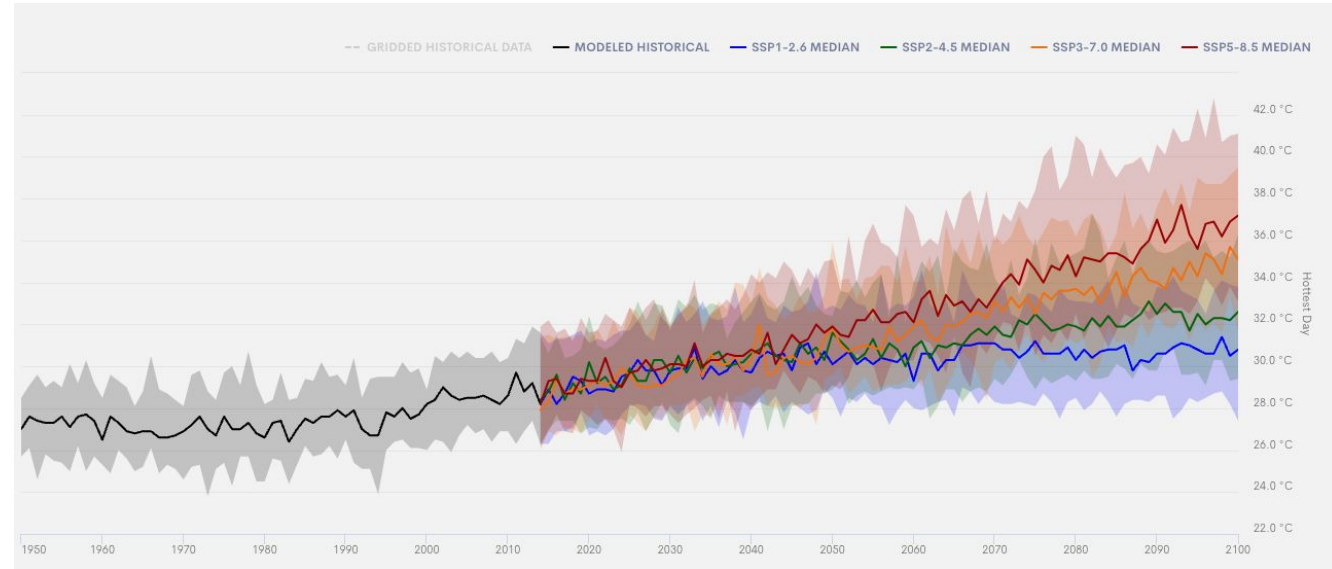
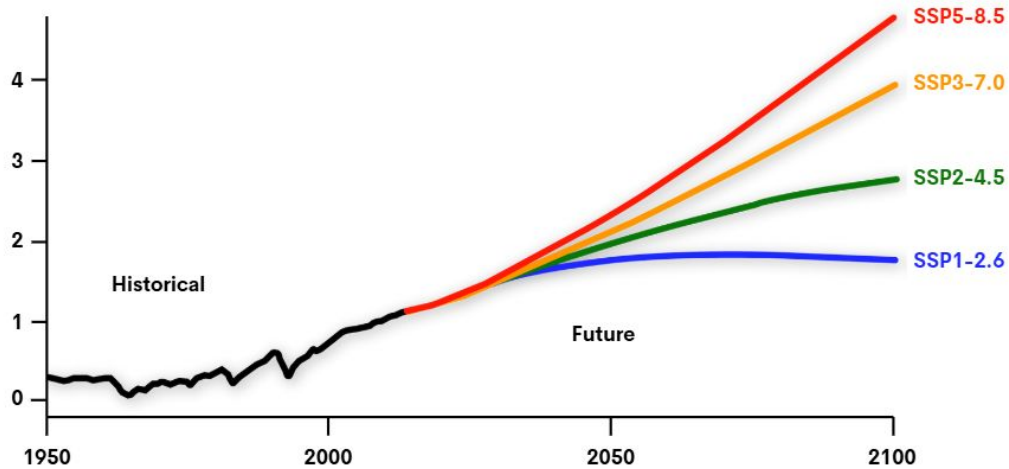


- Understanding Fire Weather and Climate Change
- IDF Curves and Climate Change learning and data
- Design Value Explorer and Future Building Design Value Summaries

Climate Science



Global Mean Surface Temperature Change (°C)



GWL (°C)	SSP1-2.6	SSP2-4.5	SSP3-7.0	SSP5-8.5
1.5	2023-2042 [2012-2031 to n.c.]	2021-2040 [2012-2031 to 2037-2056]	2021-2040 [2013-2032 to 2033-2052]	2018-2037 [2011-2030 to 2029-2048]
2.0	n.c. [2031-2050 to n.c.]	2043-2062 [2028-2047 to 2075-2094]	2037-2056 [2026-2045 to 2053-2072]	2032-2051 [2023-2042 to 2044-2063]
3.0	n.c. [n.c. to n.c.]	n.c. [2061-2080 to n.c.]	2066-2085 [2050-2069 to n.c.]	2055-2074 [2042-2061 to 2074-2093]
4.0	n.c. [n.c. to n.c.]	n.c. [n.c. to n.c.]	n.c. [2070-2089 to n.c.]	2075-2094 [2058-2077 to n.c.]

Plans at all Scales

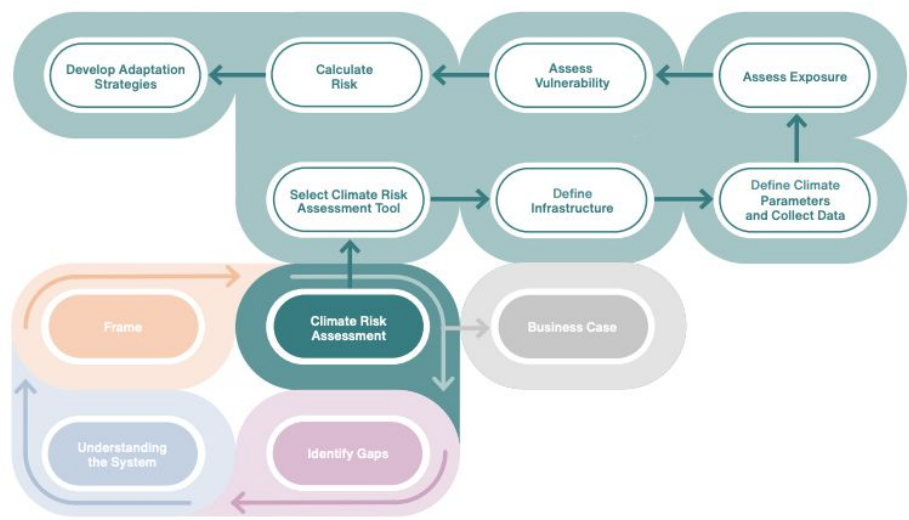
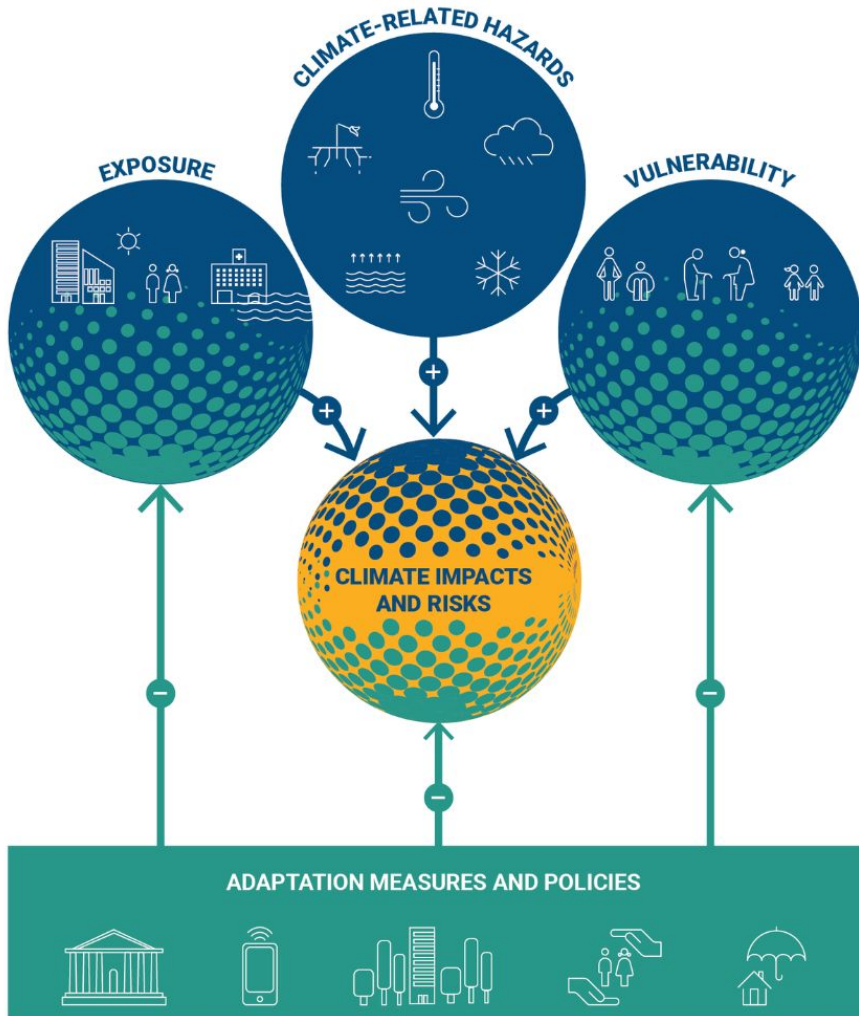


National Risk Profile

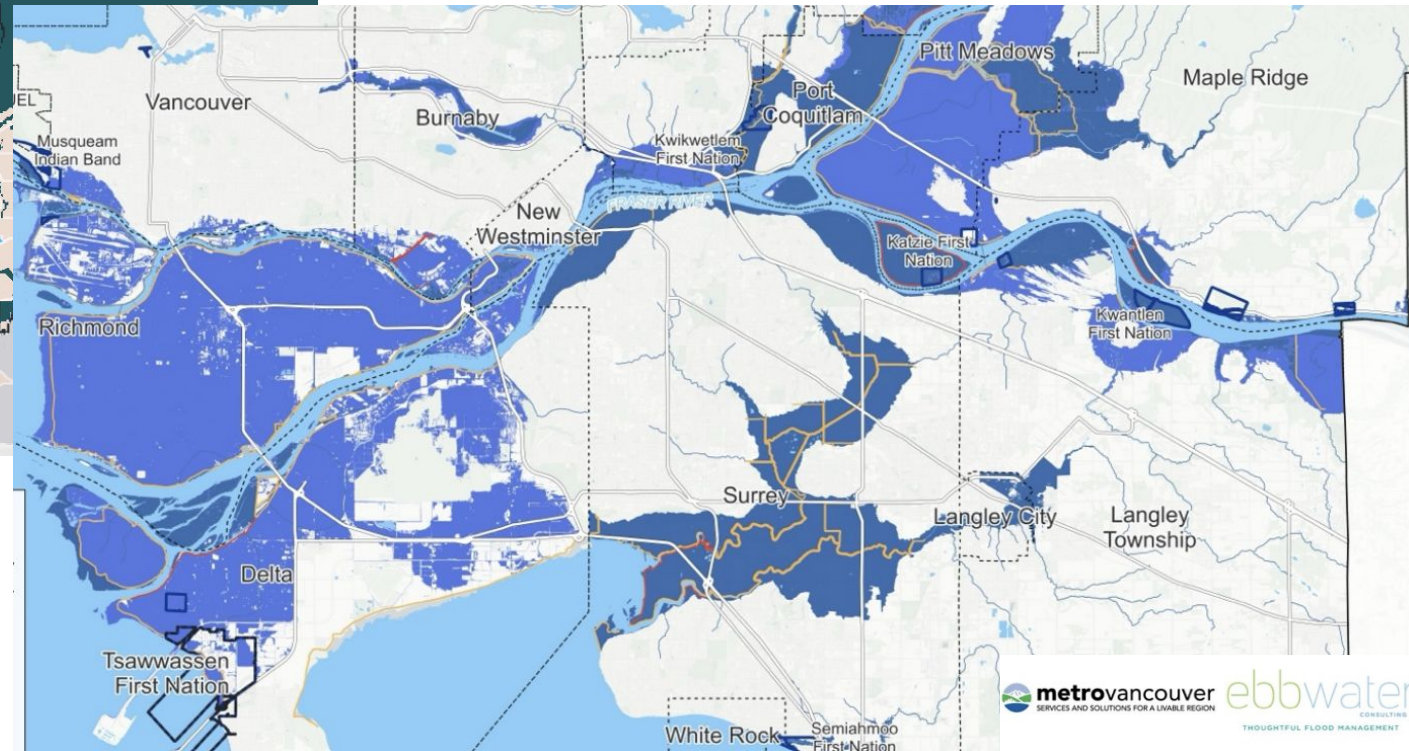
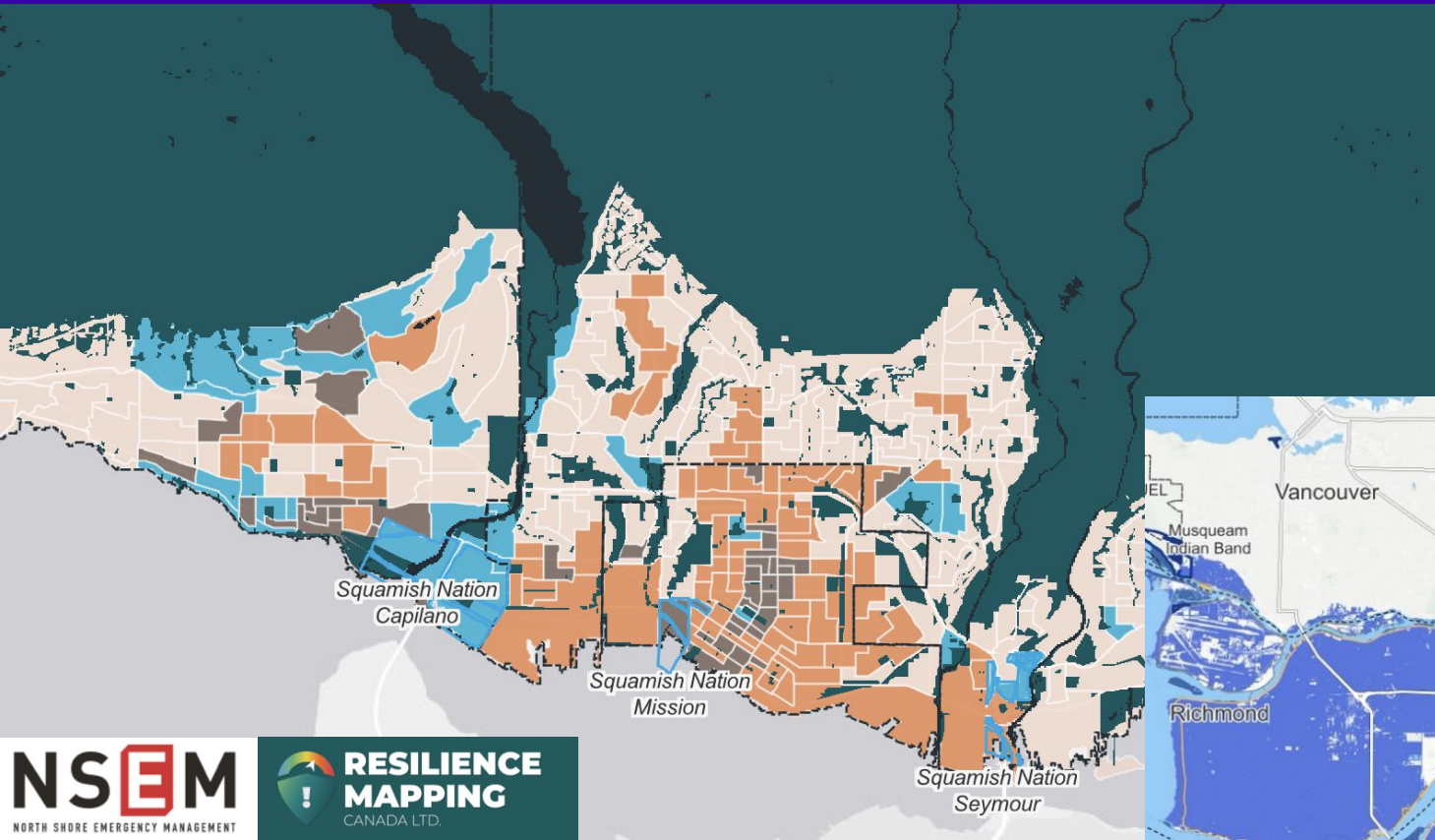
A national emergency preparedness and awareness tool

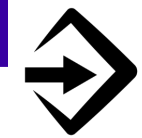
First Public Report – May 2023 (Revised in January 2024)

Risk Assessment

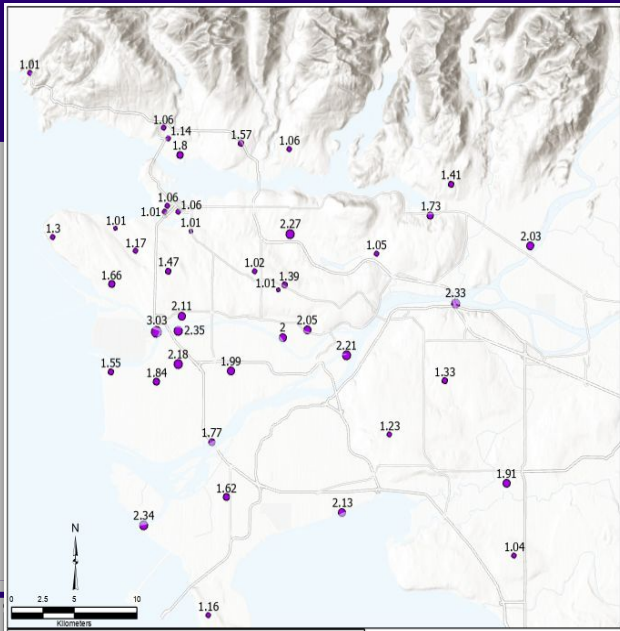


Data, Mapping and Information





INPUT



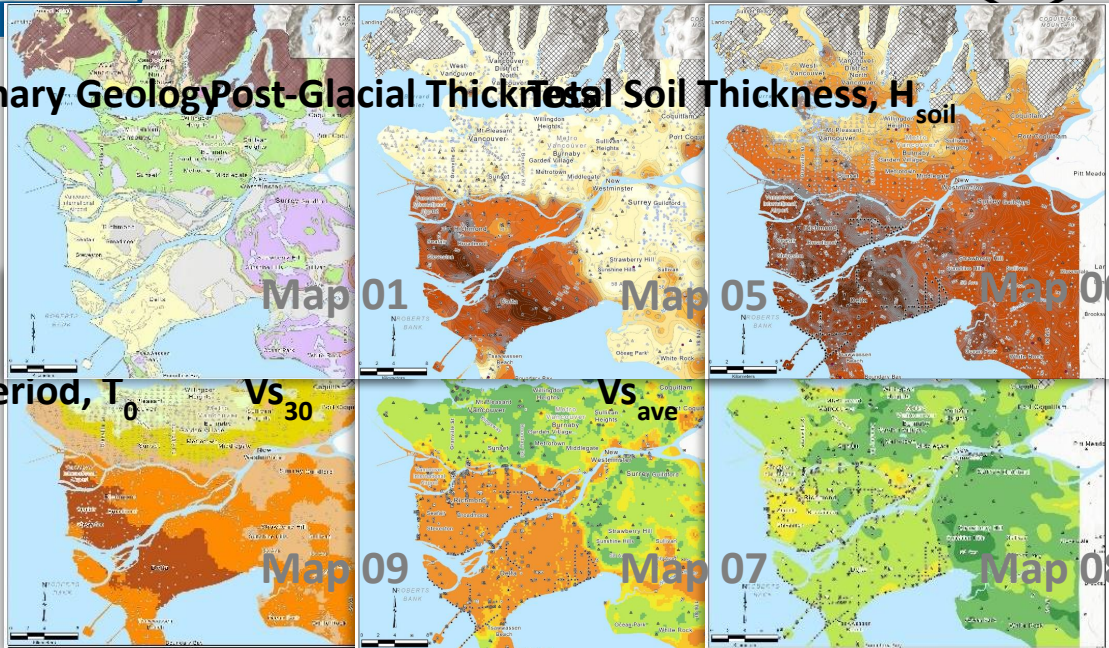
Amplification
50 Y, T = 1.0 s



2

Shak

Quaternary Geology Post-Glacial Thickness, H_{soil}



Site Period, T₀ Vs 30

Vs 30

Vs 30

Vs 30

Vs 30

Vs 30

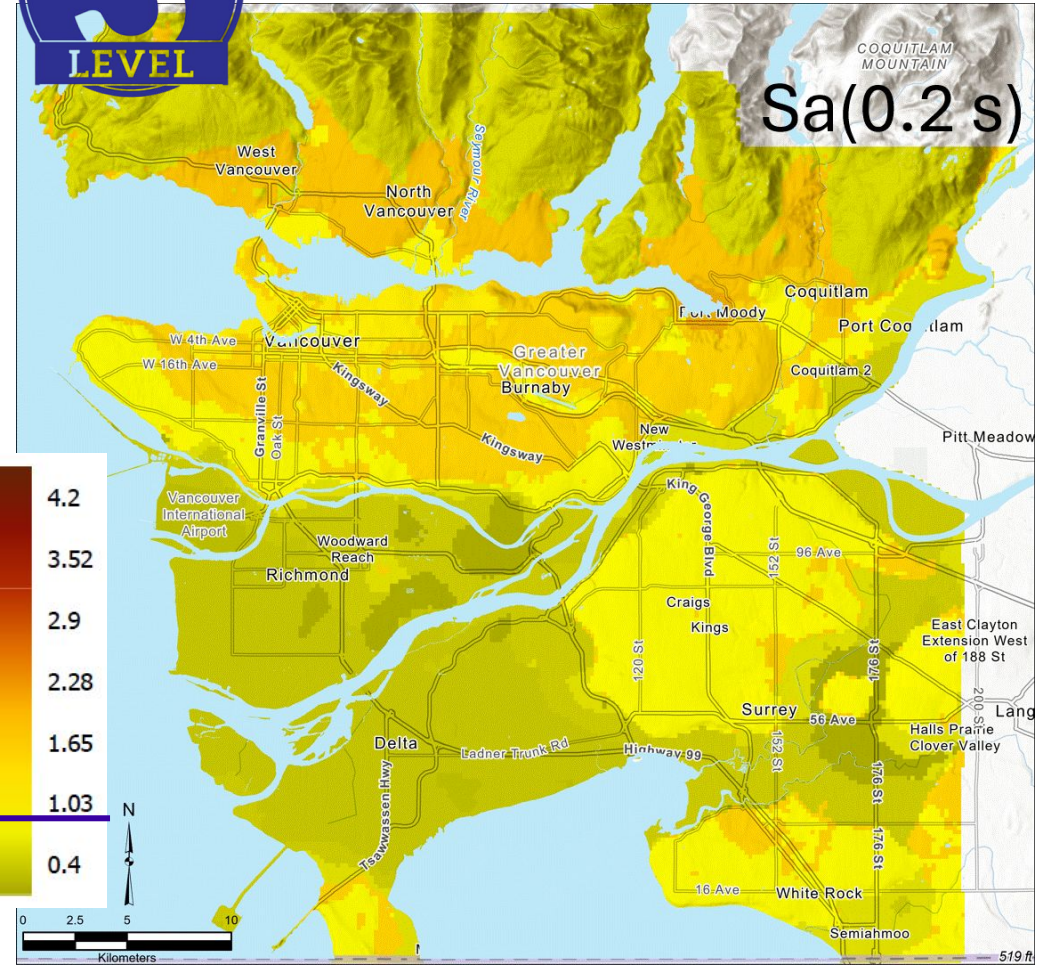
Vs 30

Vs 30

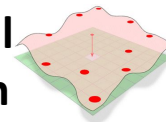
Vs 30

3
LEVEL

Amplification Hazard Mapping



Geostatistical
Interpolation



MVSMMP Maps
19, 21, 23, and 27

Tie Back to Land Use Planning

While **inland flooding** is a major source of damage nationwide, building new homes in **coastal flooding** zones is also an acute risk



Best-case scenario in 2030

% flood risk added by new homes per flood type

9%

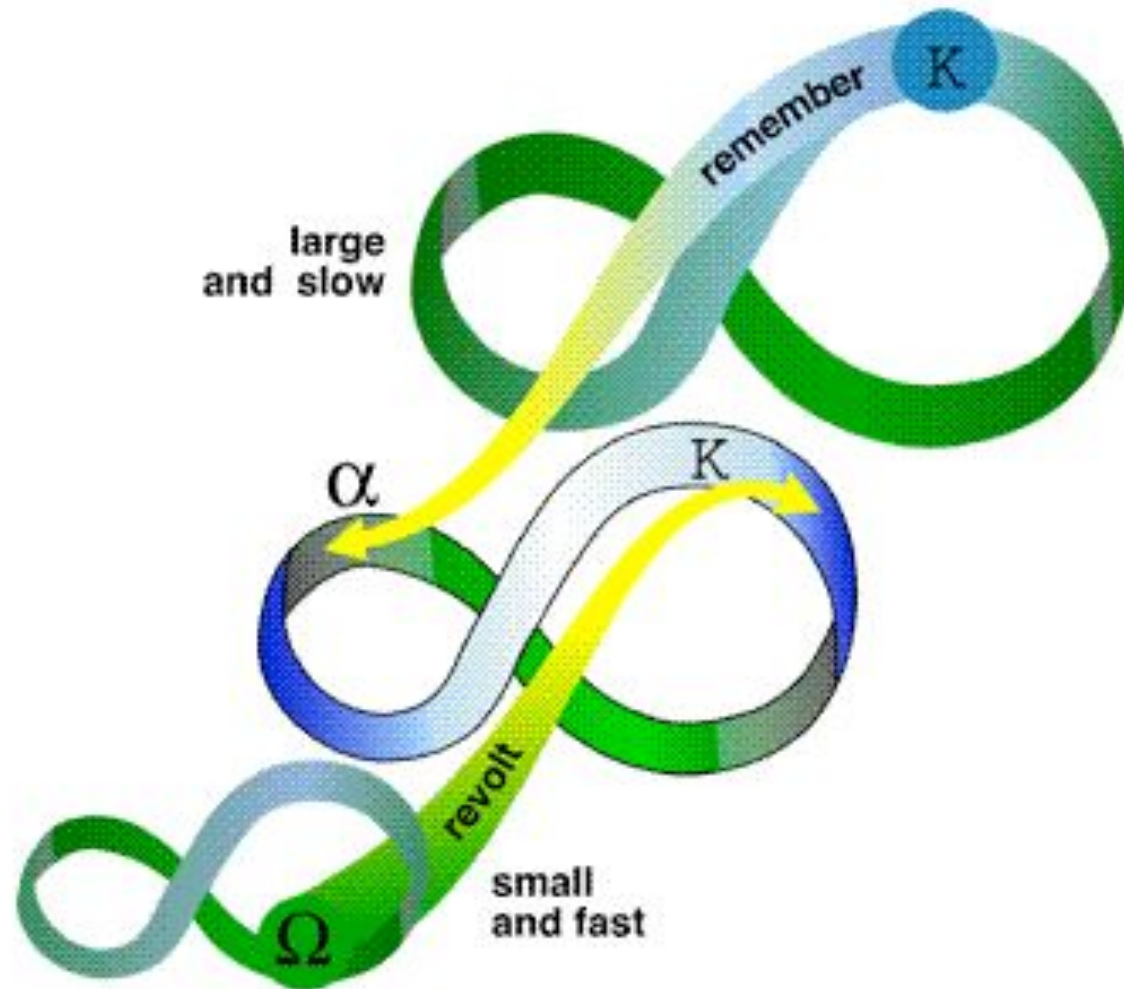
46%

Worst-case scenario in 2030

Canada

In the worst-case scenario, the risk from **coastal flooding** accounts for almost half of the national total

Interconnections, Relationality, Uncertainty



Upholding Indigenous Knowledge Systems

Jenna Wale and Brett
Huson, Yellowhead Institute



**Resilience is deeply rooted
in governance, ways of life,
and worldviews, emphasizing
interconnectedness,
reciprocity, and adaptability.**

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