



Extreme heat

Projections from global climate models can tell us what changes we might expect in the future as a result of climate change. These projections are based on a “business as usual” high emissions scenario, and show median values for expected conditions for the 2050s, relative to the baseline period of 1981-2010.

By the 2050s, Vancouver can expect

warmer temperatures

2.4°C

Temperatures will rise year round, with a 2.4°C average temperature increase

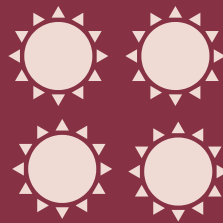


The hottest days will be hotter

9x as many days over 30°C

3x as many days over 25°C

more frequent & intense heatwaves



Heatwaves will be **4x more frequent**

On average, heatwaves will last

3-6 days

and involve warmer day and nighttime temperatures

Extreme heat has many impacts



Heat-related illness and mortality



Overheating and discomfort in older buildings



Negative mental health impacts and anxiety



Unsafe conditions in indoor and outdoor workplaces



Terrestrial and marine ecosystem stress

Vancouver is taking action

We're building a more resilient, equitable, and healthy city through our Climate Change Adaptation Strategy



Expanding the urban forest



Improving access to Cooling Centres



Supporting community programming



Providing resources for cooling at home



Enabling retrofits and upgrades for older buildings



Air quality

There is high confidence among climate scientists, public health, and air quality experts that increased temperatures and longer drier periods, particularly in summer, will increase wildfire frequency and intensity and cause more poor air quality days.

Climate change-related poor air quality has two main causes

wildfire smoke



Increasing wildfire frequency and intensity

Longer fire seasons cause more exposure to smoke

ground-level ozone



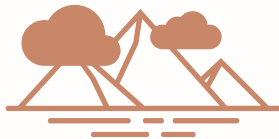
The main cause of this harmful gas is vehicle exhaust

Warmer and drier summers can lead to elevated levels

Poor air quality has many impacts



Acute and long-term health impacts



Decreased access to outdoor activities



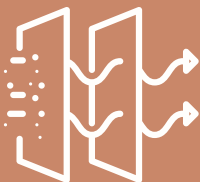
Unsafe outdoor work environments



Poor air quality in homes and business

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Continuing a DIY Air Cleaner (filter) pilot project



Expanding our local air quality monitoring network



Updating requirements for air filtration in buildings



Drought

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By the 2050s, Vancouver can expect

decreasing summer rainfall



A 4% decrease in average summer rainfall, to 140mm

longer rain-free dry spells



The length of an average dry spell will increase by 17% to 27 days

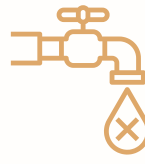
Drought has many impacts



Increased stress on trees and vegetation



Higher risk of wildfires in urban forests and greenspace



More frequent residential watering restrictions



Low stream levels endangering spawning fish

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Accelerating the installation of residential water meters



Exploring alternatives to drinking water for uses like irrigation



Piloting more climate-adapted tree species on public land



Extreme rainfall

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By the 2050s, Vancouver can expect

shifting precipitation patterns

Average fall rainfall is expected to increase by:

12%

and by the end of the century, some years may have more rain in fall than in winter



Annual average snowfall will decrease by 60%

more frequent and intense rainfall



One-in-twenty year rainfall events will double in frequency

The amount of rain in a single day extreme rainfall event will increase by 20% to:

86mm

Extreme rainfall has many impacts



Flood damage to buildings & infrastructure



Increases in sewer backups



Harm to marine ecosystems due to pollutant runoff



Rising flood insurance costs

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Continuing to construct green rainwater infrastructure



Expanding the Adopt A Catch Basin program



Piloting new overland flooding solutions for Still Creek

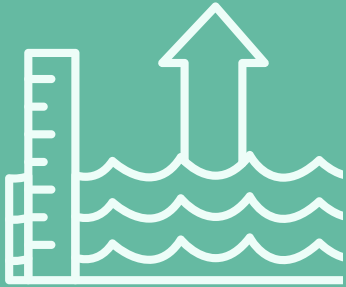


Learning more through an Extreme Rainfall Risk Assessment



Sea level rise

Globally, sea levels are rising due to a combination of melting glaciers and thermal expansion of sea water due to warmer temperatures. The Province of BC currently advises cities to plan for 50cm of sea level rise by 2050 and 1m by 2100, though projections past 2050 vary widely.



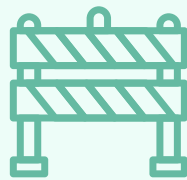
By 2050, Vancouver can expect half a meter of sea level rise

Vancouver is planning for one meter of sea level rise by 2100

Sea level rise has many impacts



Loss of access to culturally significant areas, parks and waterfront



Damage to shoreline infrastructure due to sea level rise, king tides and storm surge



Rising flood insurance costs and decreasing availability of insurance



Coastal squeeze of coastal habitats and low-lying land

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Piloting innovative nature-based solutions to adapt shorelines



Developing a city-wide Coastal Adaptation Policy



Learning more about vulnerable areas to inform future planning and policy