May 6, 2025

Extreme Heat & Wildfire Smoke Response

Planning for Non-Profit Housing & Service Providers







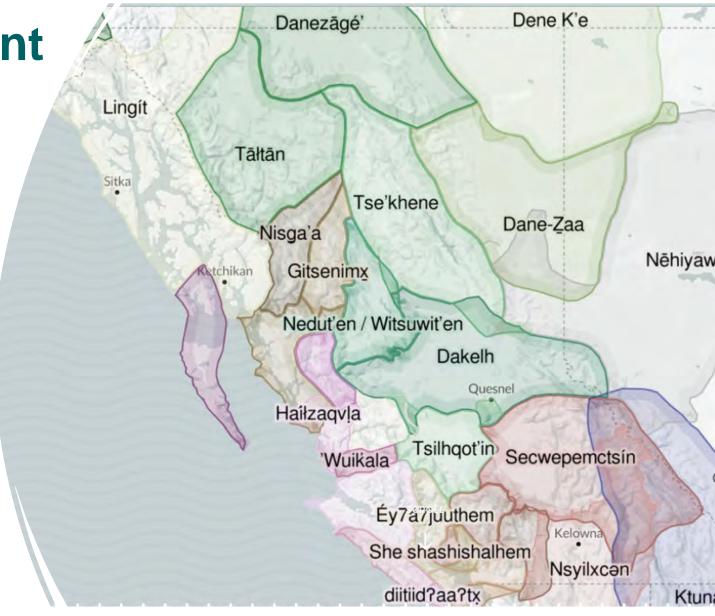




Land Acknowledgement

BC Housing gratefully acknowledges that we live and work on the unceded traditional and ancestral homelands of hundreds of Indigenous Peoples and Nations across British Columbia, each with their own unique traditions, history and culture.

We are committed to strong Indigenous partnerships and relationships based on principles of Reconciliation.





Agenda

- Health Effects, Preparation, and Response
 Dr. Michael Schwandt, Vancouver Coastal Health
- 2. Non-Profit Resources & Emergency Services
 Dwayne Russell, BC Housing
- 3. Responding to Extreme Heat
 Tanya Fader, PHS Community Services Society
- **4. Q&A** Dexter Charlebois-Holmes, BC Housing











Extreme Heat and Wildfire Smoke in BC: Health Effects, Preparation and Response

BCNPHA Webinar May 6, 2025

Dr. Michael Schwandt, Medical Health Officer
Meghan Straight, Analyst, Healthy Environments & Climate Change

With thanks to: Craig Brown, Iris Chan, Emily Peterson, Tyler Semler

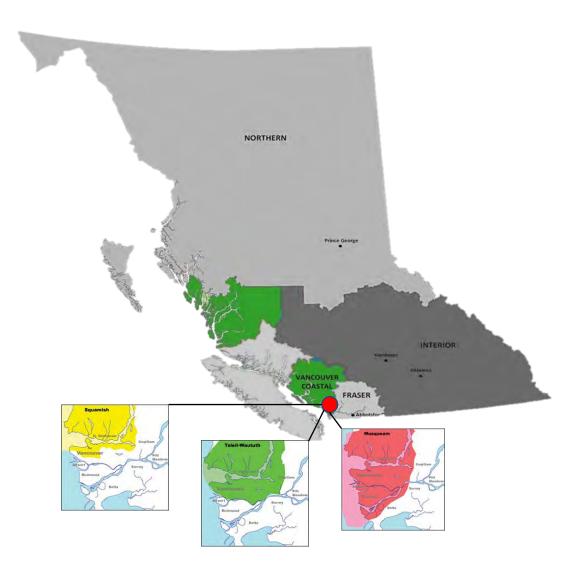




Territorial Acknowledgment

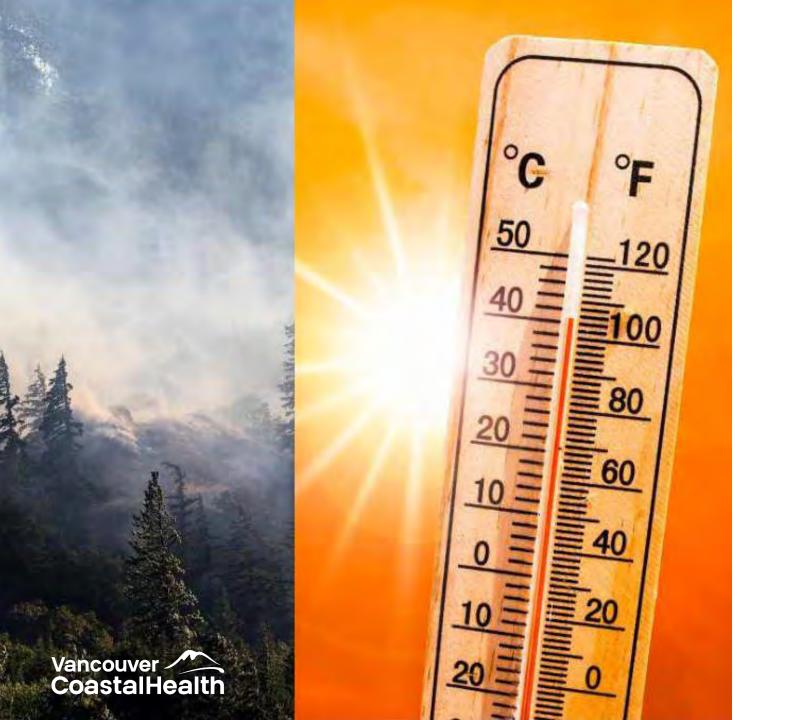
We wish to acknowledge that the land on which we gather is the traditional and unceded territory of the Coast Salish Peoples, including the Musqueam, Squamish, and Tsleil-Waututh Nations.

Vancouver Coastal Health is committed to delivering exceptional care to 1.25 million people, including the First Nations, Métis and Inuit, within the traditional territories of the Heiltsuk, Kitasoo-Xai'xais, Lil'wat, Musqueam, N'Quatqua, Nuxalk, Samahquam, shíshálh, Skatin, Squamish, Tla'amin, Tsleil-Waututh, Wuikinuxv, and Xa'xtsa.



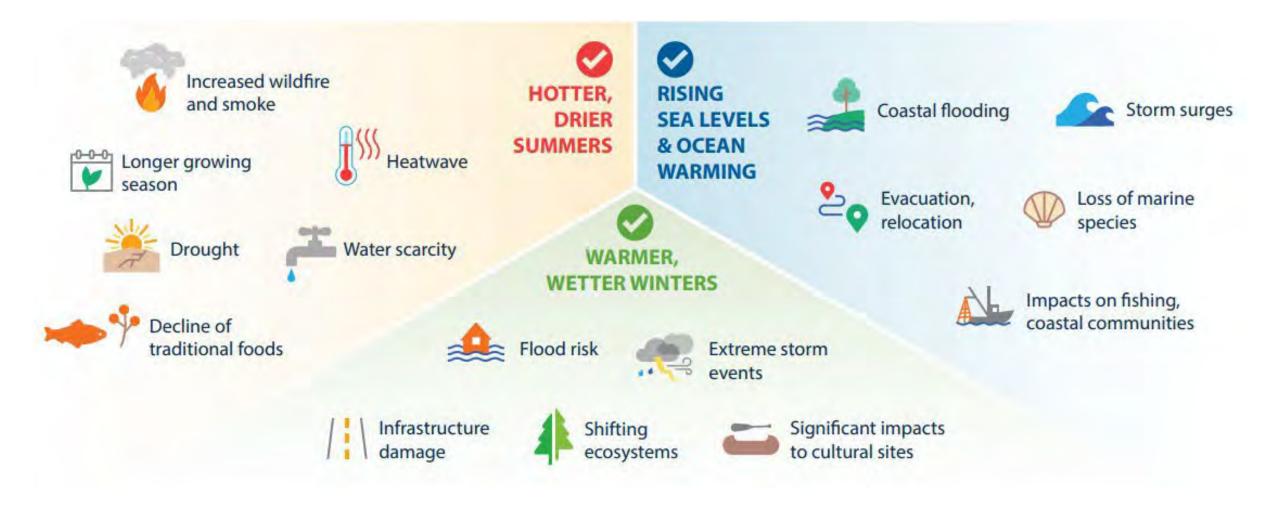






Outline

- Heat/wildfire smoke events and related illness
- Risks for health effects of heat and wildfire smoke
- Planning and action for extreme heat and wildfire smoke
- Resources



Climate impacts in BC...

<u>Climate Preparedness and</u> Adaptation, Government of BC, 2024.

EXTREME HEAT

Some people are impacted by the heat more than others. People over 60, people who live alone, people with certain health conditions or disabilities, people who use substances, people on certain medications, people who are pregnant, infants and young children may need extra care.











HEAT EXHAUSTION SYMPTOMS

- Skin rash
- Heavy sweating
- Dizziness
- Nausea or vomiting
- Rapid breathing & heartbeat

- Headache
- Difficulty concentrating
- Muscle cramps
- Extreme thirst
- Dark urine & decreased urination

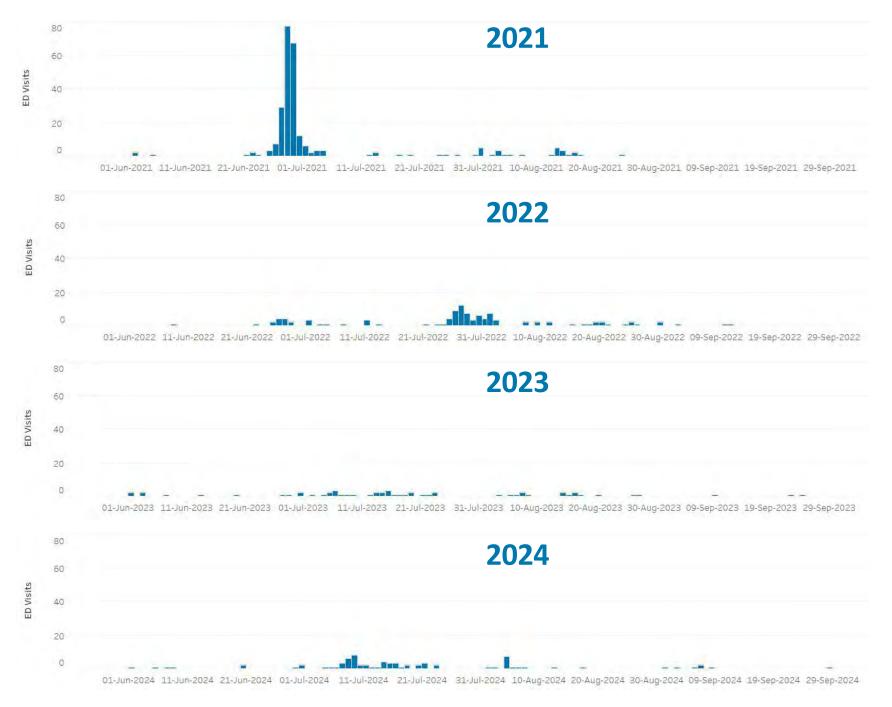
Anyone with these symptoms should be moved to a cool space, given plenty of water to drink, and cooled down with water applied to the skin (see "Cool Off" section below)"

HEAT STROKE SYMPTOMS

- High body temperature
- Fainting or decreased consciousness
- Confusion
- Lack of coordination
- Very hot and red skin

Seek medical attention, call 911 if necessary.

Submerge some or all of the body in cool water, remove clothes and apply wet towels.





Summers Compared: Heat-related VCH emergency department visits

Data from PHSU's VCH Environmental Health Emergency Department Visit Dashboard.

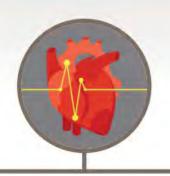
WILDFIRE SMOKE

Different people respond differently to smoke. People with chronic conditions, people who are pregnant, infants and small children, older adults and people with respiratory infections may need extra care.











SYMPTOMS

- Sore throat
- Eye irritation
- Runny nose
- Mild cough

- Phlegm/mucous production
- Wheezy breathing
- Headaches

MORE SEVERE SYMPTOMS

- Shortness of breath
- Chest pain

Severe cough

Heart palpitations

Dizziness

Anyone with these symptoms needs medical attention





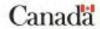
OF WILDFIRE SMOKE

Health effects

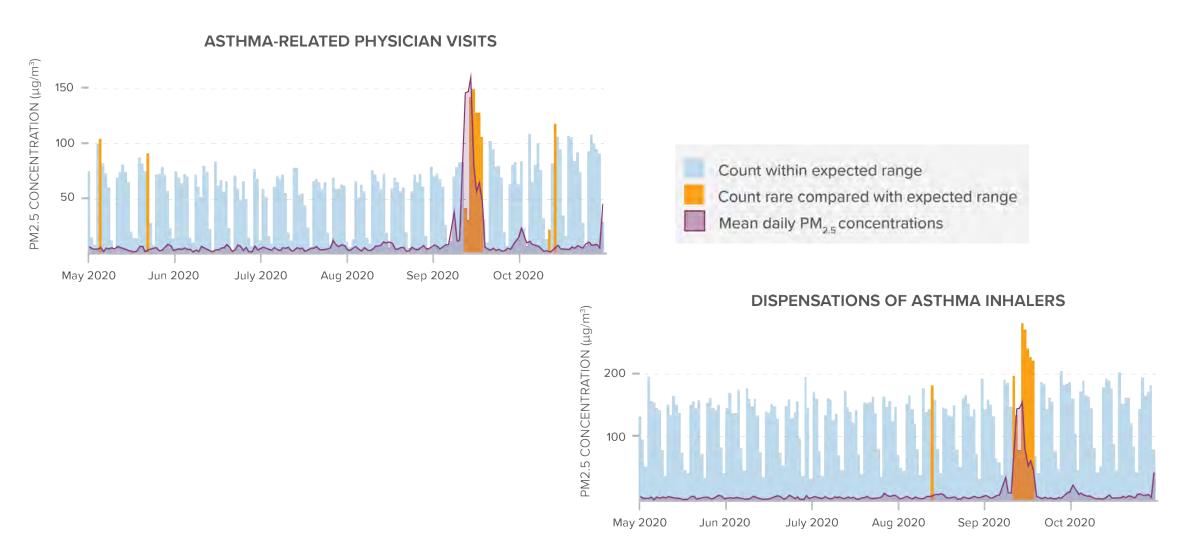
- Impacts on lung health (e.g. asthma)
- Stroke and heart attack
- Premature death
- Impacts on pregnancy and fetus
- Emerging evidence on: brain health (e.g., dementia), cancers, other conditions







Local fine particulate matter ($PM_{2.5}$) concentration and asthma-related health care measures (Vancouver, 2020)



Looking ahead to summer 2025 ...

Canada expects 'normal fire activity' to start the 2025 season





Unofficial data show B.C.'s snowpack near 'historic' average

Officials are also monitoring B.C.'s northeast for potential holdover, also known as 'zombie



B.C. Wildfire Service sees record number of applications for 2025 season: province

Understanding The 2025 Wildfire Season Outlook: Key Predictions And **Preparations For British Columbia**

Home > Wildfee Info > Understanding the 2025 Wildfee Season Dutlook: Key Predictions and Preparations for British Columbia

Connor O'Donovan Video Journalist, Alberta

VICTORIA — The British Columbia Wildfire Service has recorded its highest-ever number of applicants ahead of the 2025 season while expanding First Nations recruitment.



Outline

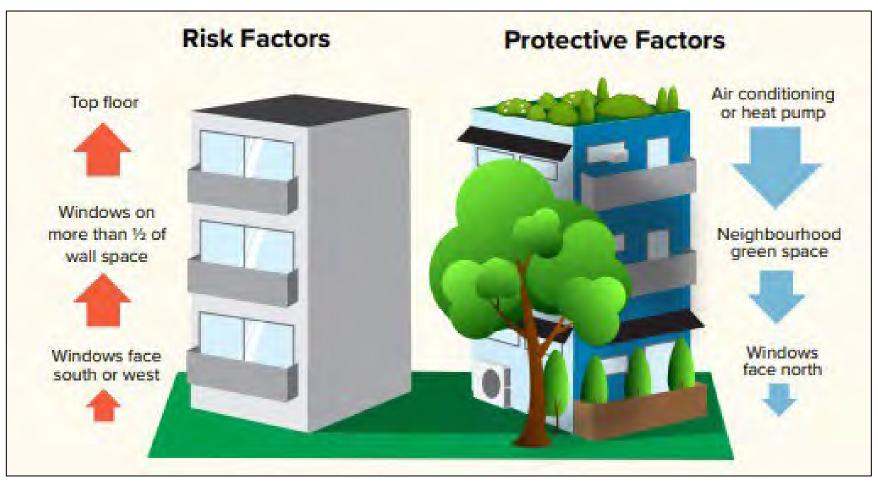
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People at higher risk from heat

- Older adults, aged 60 years or older
- People who live alone
- People with pre-existing health conditions
- People with mental illness, e.g. schizophrenia
- People who use substances, including alcohol
- People with limited mobility
- People experiencing homelessnesss or marginal housing
- People working in hot environments
- People who are pregnant
- Infants and young children

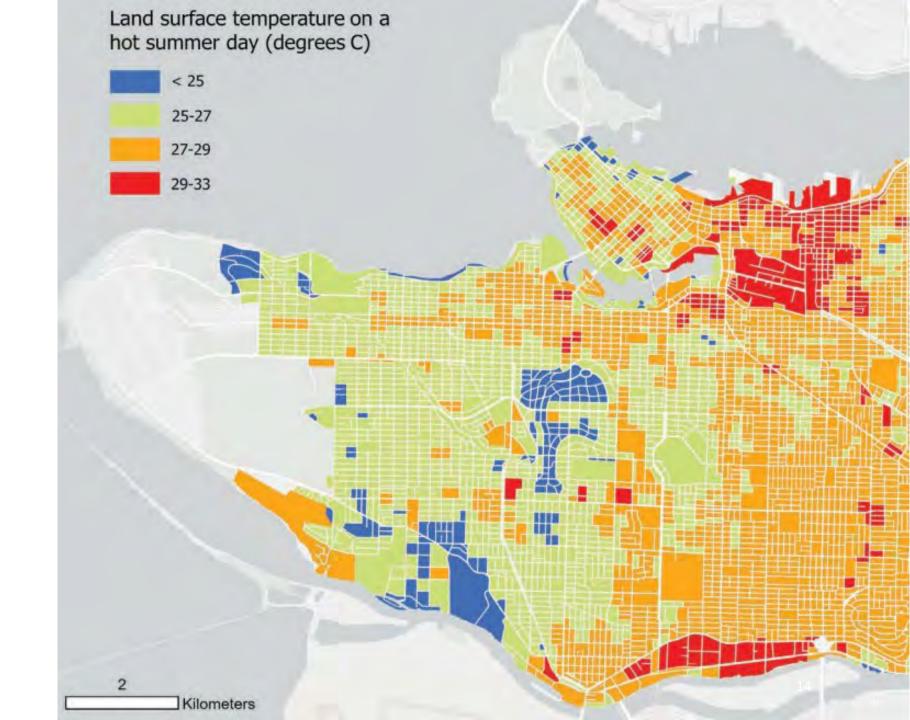


Environmental risks for extreme heat



Protecting population health in a climate emergency: Report of the Vancouver Coastal Health Chief Medical Health Officer, 2023

City of Vancouver: *Climate Change Adaptation Strategy Update, 2024-25 Update*



Smoke Vulnerability

More sensitive

- Unborn babies, infants, young children, and people who are pregnant
- People with pre-existing medical conditions such as asthma and cardiovascular disease
- Older adults
- Healthy Adults

More exposed

- People experiencing homelessness and underhousing
- People who live in spaces without mechanical ventilation, air filtration systems or portable air cleaners
- People who work or are active outdoors

THOSE MOST AFFECTED





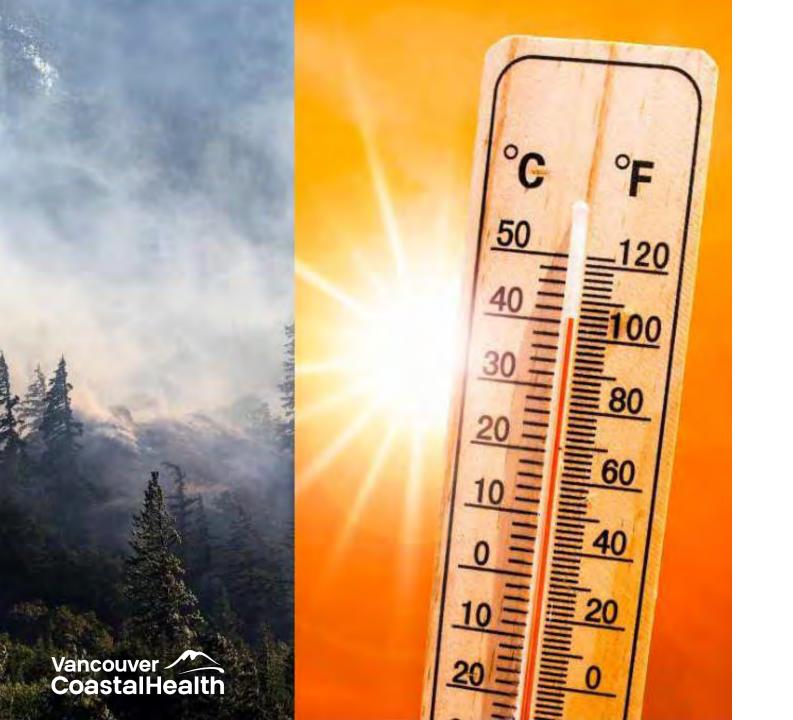




LUNG/HEART DISEASE



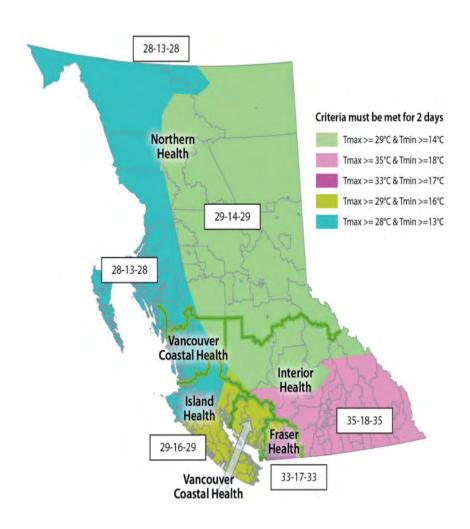
OLDER



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BC Heat Alert Response System



Alert level	Heat Warning	Extreme Heat Emergency
Public health risk	Moderate (5% increase in mortality)	Very high (20% or more increase in mortality)
Descriptor	Very hot	Dangerously hot
Historic frequency	1-3 per summer season	1-2 per decade
Criteria	Southwest = 29-16-29°C* Fraser = 33-17-33°C* Southeast = 35-18-35°C* Northeast = 29-14-29°C* Northwest = 28-13-28°C* *(Daytime high, nighttime high, daytime high)	Heat warning criteria have been met and forecast indicates that daily highs will substantively increase day-over-day for 3 or more consecutive days

Organizations doing heat response can request ECCC notification emails: meteopac@ec.gc.ca

Actions to cool people and spaces



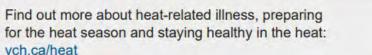
The best way to prevent a heat-related illness is to spend time in a **cool space**.

Cool Off

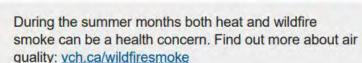
- Go somewhere with air conditioning such as a library, community centre, café, or someone else's home.
- Cool off with water. Take a cool shower.
 Sit in or put your feet and legs in a cool bath. Wear a wet shirt. Put damp towels on your skin.
- Never rely on fans as the only way of cooling your body during extreme heat.
 Fans cannot directly lower your body temperature or prevent heat illnesses.

Keep the space cool

- Keep shades and blinds closed during the day.
- If you have air conditioning, keep windows closed to trap cooler air inside.
- If you don't have air conditioning, open windows at night to let cooler air in.
 Use fans in front of open windows to pull cooler air from outside into your home.









- Notice how you feel and watch for signs of heat illness in those around you.
- Monitor the indoor temperature.
- At least 2 times a day, check in on those at risk for heat illness.



Dress for the heat

 Wear clothing that is loose-fitting, light-colored, and breathable.



- · Drink plenty of water.
- Offer water often to those in your care.



 Check the weather forecast and latest heat alert information. Take it easy during the hottest times of the day.













The views expressed herein do not necessarily represent the views of Health Canada.

Dangerous Indoor Temperatures

- Indoor temperatures over 26°C (79°F): Increasing risk of heat-related illness for heat-vulnerable people.
- Indoor temp over 31°C (88°F): Significant risk of heat-related illness for heat-vulnerable people.
- Passive cooling measures may only drop indoor temperatures by a few degrees (e.g. window covers).
- Residential Tenancy Act update: Building owners/landlords can prohibit use of air conditioning, but this may be determined to be unconscionable if it constitutes a health risk.





Air Quality Warnings



Metro Vancouver and Fraser Valley

Outside Metro Van /Fraser Valley

- Metro Vancouver issues Air
 Quality Updates (Listserv)
- Metro Vancouver issues Air Quality Warning
- 3. ECCC amplifies Warning through WeatherCAN App, HELLO Weather, and online.

- BC Air Quality (also called Smoky Skies Bulletin) issues
 Air Quality Warning
- 2. ECCC amplifies Warning through WeatherCAN App, HELLO Weather, and online.
- 3. Full-scale government air quality monitoring stations may be far away. Air quality can change quickly over space and time. Check **AQmap.ca** for low-cost sensors that provide accurate local air quality data.



Actions for wildfire smoke

Create or find clean air:

- Use a portable HEPA air cleaner (BCCDC)
- Make a do-it-yourself air cleaner (BREATHE)
- Visit public spaces with air conditioning,
 e.g. community centres, malls, libraries

Heat is a more immediate health concern for most people. Keep spaces cool if there is heat AND wildfire smoke at the same time.

WILDFIRE SMOKE AND YOUR HEALTH



Respiratory Protection for Wildfire Smoke

Wearing a respirator can help reduce exposure to the tiny particles in wildfire smoke, especially when you cannot access cleaner indoor air. A well-fitted respirator can remove more than 90% of smoke particles. It is important to understand how to use respirators safely and effectively.



Well-fitted respirators offer effective protection from fine particulate matter (PM_{2.5}).

- Respirators are marked with letter and number combinations, such as N95, KN95, and KF94. These products are very similar, but the markings indicate different standards used to test them.
- A good fit is the most important thing for reducing smoke particles. Inhaled air must pass through the material of the respirator, not around it.
- A well-fitted respirator will reduce PM₂₅ concentrations by more than 90%.
- Make sure your respirator is the right size and shape for your face.
- A 3-layer cloth or disposable procedure mask provides some protection against PM₂₅ but less effective than a respirator.
- Simple 1-layer cloth masks, bandanas, gaiters, scarves, or t-shirts offer no protection, whether wet or dry.

Know how to use respirators properly.



- It is NOT SAFE to wear any mask while sleeping.
- Most respirators and masks cannot protect against the gases in wildfire smoke, which may also cause irritation.
- Wearing a respirator may make breathing more difficult. Seek cleaner indoor air and remove your respirator if you are having trouble catching your breath.
- Respirators can be uncomfortable to wear for long periods, especially when it is hot.
- Respirators do not work as well when they are sweaty, wet, or dirty. Put on a new respirator when needed.
- People with limited upper body mobility may need help using respirators.
- If you move around a lot, the fit of a respirator might be affected. Make sure to check the fit often if you are bending, lifting, or running (see next page).
- Even when you are wearing a respirator, listen to your body at all times, and stop or reduce activities if you feel unwell.

Actions for smoke continued...

Consider postponing or limiting outdoor activities, especially people at risk. If outdoor activities cannot be avoided, take it easy and take frequent breaks.

If outdoor activities cannot be avoided, consider a mask:

- Most protection: well-fitted mask labeled with letters and numbers like N95, KB95, or KF94.
- **Some protection**: Cloth mask with three layers or a disposable medical mask
- No protection: Masks with one layer, bandanas, scarves, or t-shirt

CCDC Face Masks for Wildfire Smoke

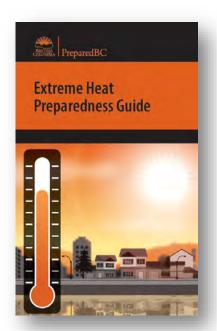
FOR MORE INFORMATION beede, ca/wildfire-smoke



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PreparedBC Plan for Heat



Heat Poster (translated)

Key Heat Resources

www.vch.ca/heat







Smoke Poster (translated)



Smoke Posters and Postcards



DIY Air Cleaner Guide (translated)



How to check air quality postcard

Key Wildfire Smoke Resources

www.vch.ca/wildfire-smoke



BCCDC Wildfire Smoke Fact Sheets (translated)



People with Schizophrenia



Older Adults



People Who Use Substances



Community Care Facilities

Frontline Resources

VCH provides free presentations and training.



Childcare and Schools



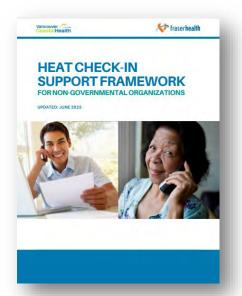
WorkSafe BC Smoke and Heat



Social Media Toolkits



Outdoor Gatherings



Heat Check-Ins



Cooler Spaces & Cleaner Air Spaces

Operational Resources

FHA and VCH can provide health data, letters of support, and free consultations.





Extreme Heat and Smoke Planning

Building Owners/ Operators

Weather Resources

Environment and Climate Change Canada:

Online: Weather alerts

Smart Phones: WeatherCan App

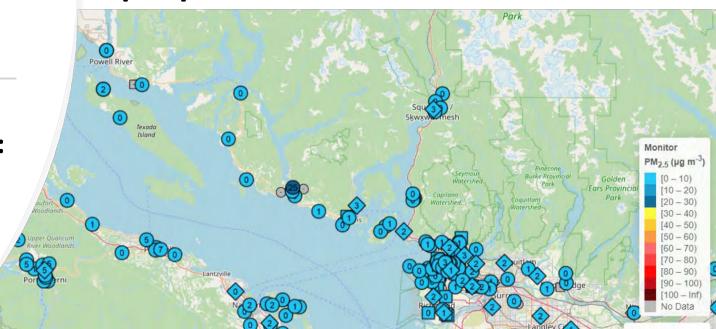
• Telephone: <u>Hello Weather</u>

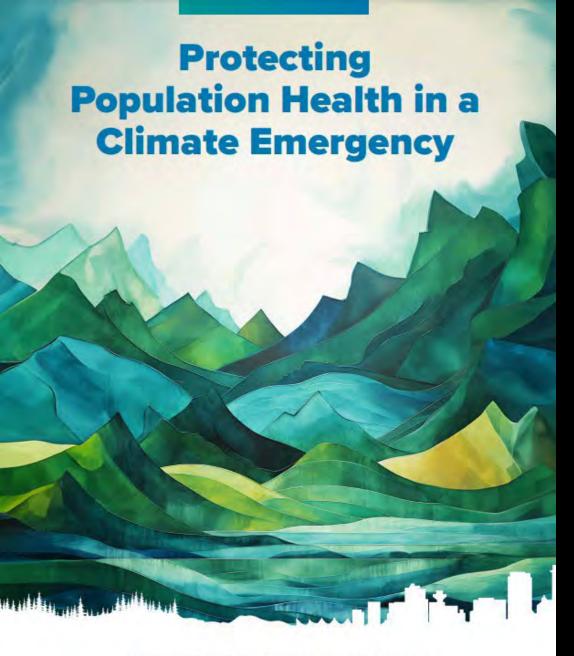


WEATHER APP



Aqmap.ca - wildfire smoke data outside urban areas





Thank You

vch.ca/heat vch.ca/wildfire-smoke vch.ca/climatechange

Michael.Schwandt@vch.ca

Meghan.Straight@vch.ca

Healthy.Environments@vch.ca

Report of the Vancouver Coastal Health Chief Medical Health Officer, 2023





Presentation Outline



BC HOUSING EXTREME HEAT RESPONSE: AREAS OF ACTIVITY



CHANGES TO HOW NEW BUILDINGS ARE BUILT AND EXISTING BUILDINGS ARE RENOVATED



KEY ELEMENTS OF A GOOD EMERGENCY RESPONSE PLAN



TOOLS & RESOURCES



Areas of Activity

- Increasing capacity within the non-profit housing sector
- Building organizational capacity within BC Housing
- 3. Reducing risk of overheating in new construction and existing buildings
- 4. Research and engagement
- 5. Collaborating with stakeholders





Changes to New Buildings

BC Housing Design Guidelines and Construction Standards

(Technical Bulletin No.3)



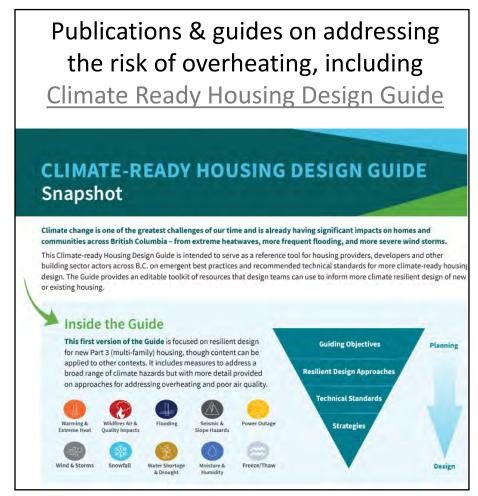
Overheating sensitivity analysis using future climate files



Recommendations for passive cooling measures



Indoor air filtration adequate for wildfire smoke (MERV 13 or HEPA)







BC Building Code

Update: Effective March 2024

"Cooling requirements in one living space per home, not to exceed 26°C"





Emergency Management In B.C. (EMCR)



Planning and Mitigation

Response to a disaster



State of Local Emergency



Evacuation Alert vs. Evacuation Order



Provincial State of Emergency



Key Elements of a Response Plan



Know your hazards



Make a plan



Build a kit



Available Information

bchousing.org/projects-partners/extreme-heat

BC HOUSING

Extreme Heat and Wildfire Smoke





Tenants can make use of <u>dedicated extreme heat information</u> to keep safe during hot weather.

If you are a non-profit housing provider in B.C. in need of extreme heat and wildfire smoke related equipment, see sourcing equipment.

Quick Links

Public Weather Alerts for BC LA HealthLinkBC - Beat the Heat LA BC CDC Wildfire Smoke LA PreparedBC - Extreme Heat LA

PreparedBC - Extreme Heat Guide ☑

Useful Documents

<u>Tips to Beat the Heat - Poster</u>
<u>Tenant Extreme Heat Check-In Card</u>



Health Impacts

Everyone is at risk of heat and wildfire smoke illnesses in the summer, and social housing tenants are at increased risk because they often have fewer resources.

Prepare a EHWS Response Plan

A guide to help non-profit housing providers develop an Extreme Heat and Wildfire Smoke Response Plan for their organization.

Planning and Communicating with Tenants

Building managers and housing providers should communicate with tenants and building staff about the risks of extreme heat and poor air quality, the signs and symptoms of related illnesses, and how to stay safe.

How to Cool a Space

There are different actions building operators, staff and tenants can take to cool a space.

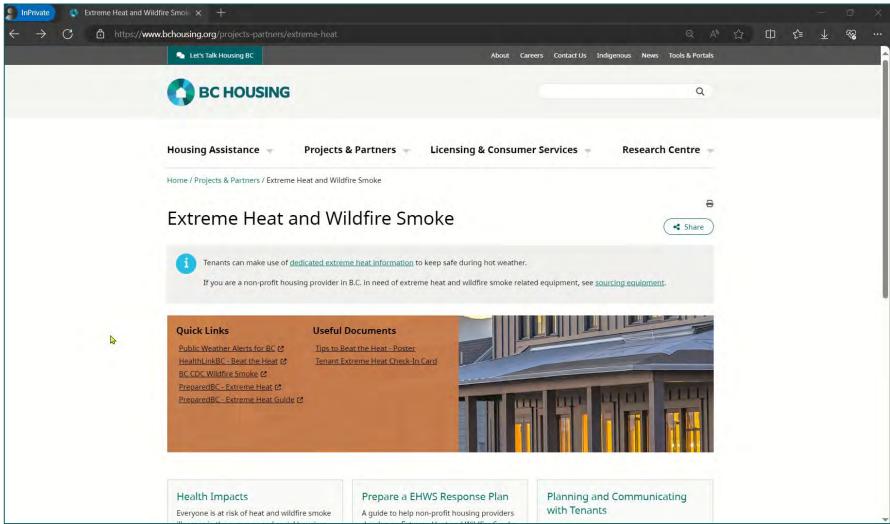
Resources and Webinars

The following resources and webinars will help you stay informed and prepared during extreme heat and wildfire smoke in BC.

Extreme Heat Information for Tenants

Find information on cooling centres, tips to beat the heat, and when to seek help.

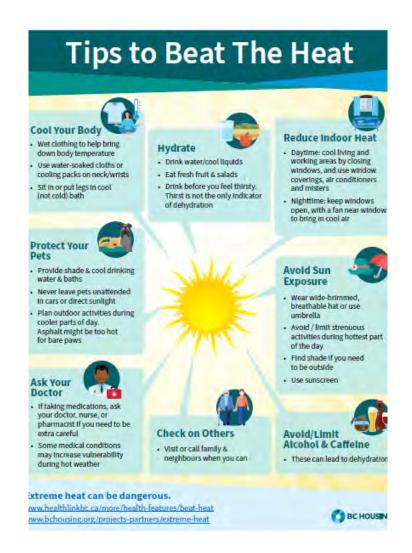
Tools





Resources (Poster & Leaflets)







Resources (Poster & Leaflets)

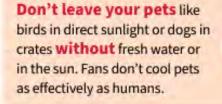
KEEP PETS COOL DURING EXTREME HEAT



Cool down your pets by

giving cool treats / cold food / chilled wet food. Use a cooling body wrap, cooling vest or cooling mat.

Keep pets indoors during the hottest times of the day. Plan walks for morning or evening hours, play on grassy areas, take breaks and bring water.







Don't walk your pets midday or let them walk on asphalt for long periods of time.



Preparedness of Non-profits

How can BC Housing support you?



Check your Extreme Heat and Wildfire Smoke inventory



Identify inventory items that need to be restocked – if you need additional funding contact your Portfolio Manager (NPPM/SHA)



Monitor Heat Alert updates from Ministry of Health and our Partner Bulletin

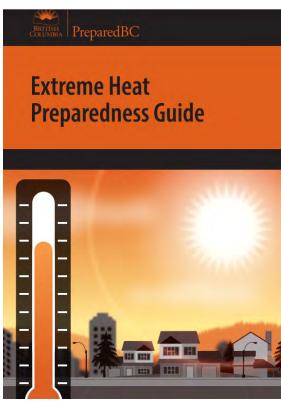


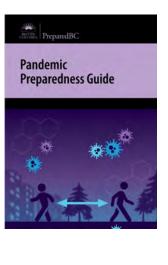
When a Heat Alert is announced – If your region is facing supply shortages contact extremeheat@bchousing.org



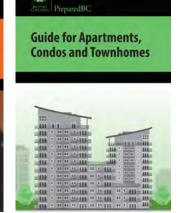
Prepared B.C.







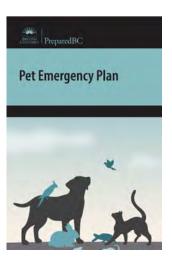






Emergency Ready Planner

The Emergency Ready Planner is an interactive, online alternative to the Home Emergency Plan that can be completed and saved to your computer or mobile device.





Cool Kit Suggestions



Thermometer



Gel Compress



Small Tote



Water Bottle



Towel



Spray Bottle



Supplies

BC Housing continues to support reasonable requests to provide cooling spaces in common areas, this includes:

- Air conditioners
- Fans
- Air purifiers
- Tents
- Water
- Misters

- Cooling kit supplies (tote, cooling towel, ice pack, water bottle, spray bottle thermometer)
- Sunscreen (for outreach/homeless)
- N95/K95 masks

Identify inventory items that need to be restocked – if you need additional funding contact your Portfolio Manager (NPPM/SHA)



Clarification

1. Risk Assessment and Planning

2. Evacuation and ESS

3. Building Damages



Resources

- 1. www.bchousing.org/projects-partners/extreme-heat
- 2. <u>PreparedBC emergency guides and resources -</u> Province of British Columbia
- 3. <u>Emergency evacuee guidance for the public -</u> Province of British Columbia

Remember: Please connect with your respective municipality for planning and response support





Responding to Extreme Heat

PHS' response to the 2021 Heat Dome – what we learned and applied as an ongoing practice in Supportive Housing, Shelters, and Program sites

Recognizing the elevated risk for the communities we serve

- Multiple vulnerabilities require attention
- Managing structural deficits, particularly in SROs





Mobilization based on other operational practices

Drawing on experience while contemplating associated risks

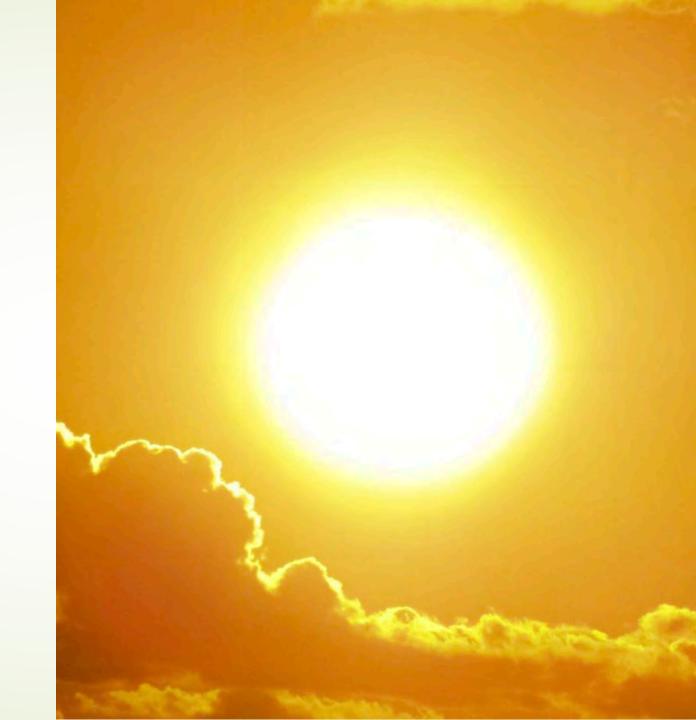




Keeping Staff, Residents, and Community Informed

The Results and Planning for the Future

Working with funders for longer term solutions, collaborations, and ongoing vigilance



Resource Links

BC Housing

- www.bchousing.org/projectspartners/extreme-heat
- extremeheat@bchousing.org

Vancouver Coastal Health

- www.VCH.ca/heat
 - www.VCH.ca/wildfiresmoke







