

Heat and Smoke Preparedness- Information and Supports for Community Leadership

Interior Health

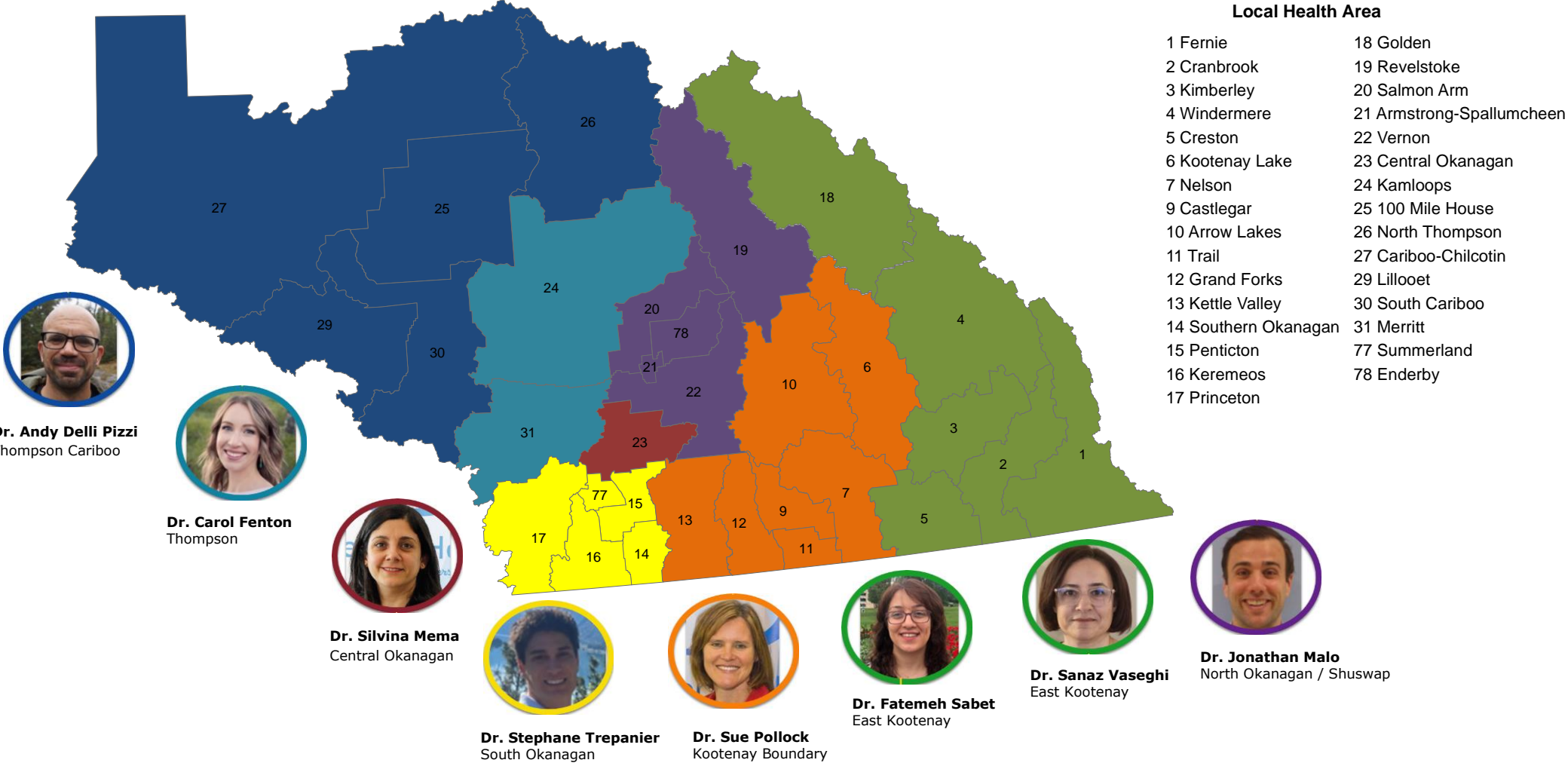
June 10, 2024

Land Acknowledgement

Interior Health would like to recognize and acknowledge the traditional, ancestral, and unceded territories of the Dãkelh Dené, Ktunaxa, Nlaka'pamux, Secwépemc, St'át'imc, Syilx, and T̓silhqot'in Nations where we live, learn, collaborate and work together.



IH Medical Health Officers' Geographic Area



Outline

- MHO Report: Climate Change, Health and Well-Being
- Seasonal Preparedness – Heat and Smoke
- Community Case Studies
- Funding Opportunities
- Takeaways



Medical Health Officer Report



Introduction | Case for Change | **Climate Hazards**
Extreme Heat | Cold Weather
Floods | Wildfires and Smoke | Drought | Co-benefits of Climate Action on Health and Well-being | Recommendations

Climate Hazards and Actions

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Wildfires and Smoke	35
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“We were away from our home for months first because of the wildfire in summer 2021 and then months later because of the floods. The loss of ceremonies affected our family and community, and we weren’t able to come together in a way we are used to.”

– *Nlaka’pamux Elder*



MHO Report Climate Hazards: What are we experiencing in the IH region?




- What is the hazard?
- How is the hazard affecting health & well-being?
- Who is being affected most?
- How do we take action?

- Extreme Heat
- Cold Weather
- Flooding
- Wildfires and Smoke
- Drought



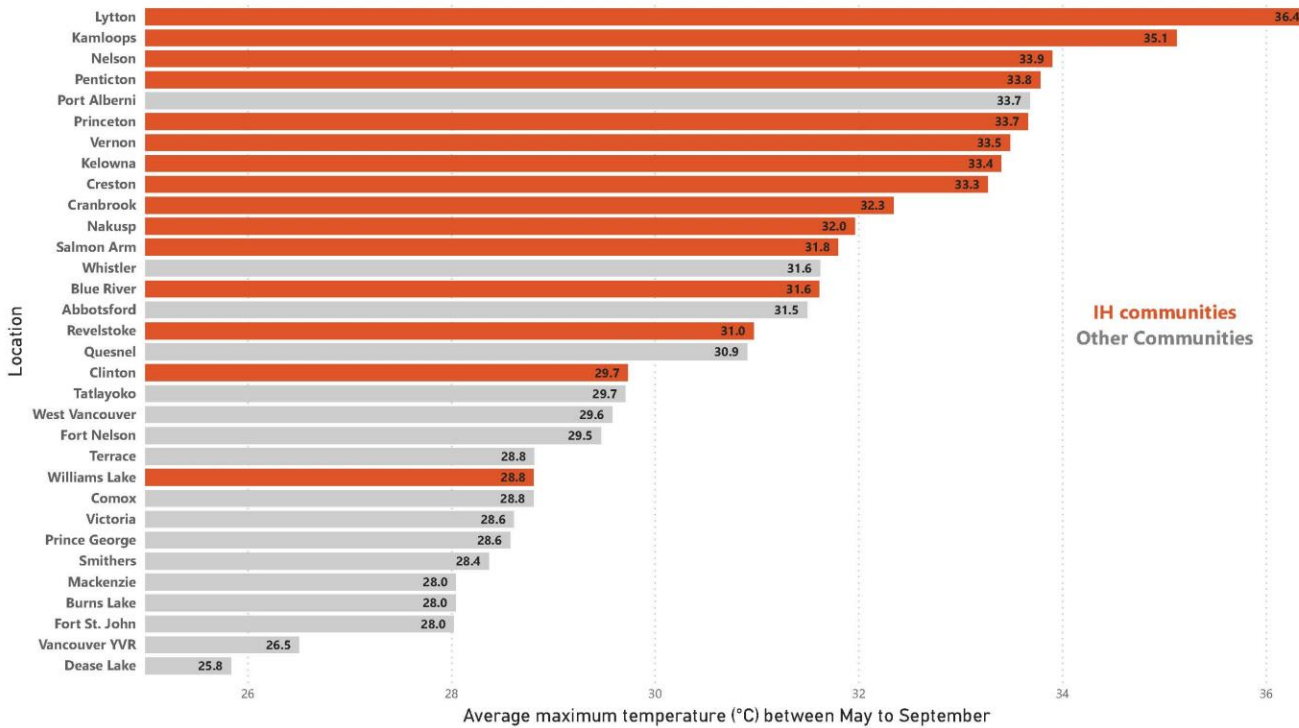
MHO Report: Recommendations

 Interior Health	 Community Partners	 Provincial Partners
<ul style="list-style-type: none"> • Fulfill commitments in the IH <i>Indigenous Health and Wellness Strategy 2022-2026</i> and the <i>Métis Nation BC-Interior Health Métis Health and Wellness Plan 2024-2028</i> • Implement the actions within the IH <i>Climate Change and Sustainability Roadmap 2023-2028</i> • Apply lessons from past climate-related events • Create and endorse policies and programs that promote the co-benefits of health system action on climate change 	<ul style="list-style-type: none"> • Support Indigenous-led actions • Partner with IH on climate change and health vulnerability and adaptation assessments • Work in partnership with IH and other partners on heat, cold, flooding, drought, wildfire and smoke preparedness and response • Endorse policies and programs that build on community assets and promote the co-benefits of climate action on health and well-being 	<ul style="list-style-type: none"> • Centre discussions in alignment with Indigenous perspectives and voices • Align vision and goals on climate change across provincial ministries • Strengthen provincial climate change and health governance structures and provide effective support for community-level actions • Ensure equitable allocation of resources to communities that are most impacted by climate change • Coordinate health assessments and surveillance in relation to climate change and health



Heat and Health

Figure 1: Communities in B.C. ranked from high to low for average maximum temperature recorded between May to September (2019-2023)



64

Heat-related deaths during the June 25- July 1, 2021 Heat Dome

50%

occurred in the Okanagan Health Services Delivery Area

38%

occurred in the Thompson Cariboo Shuswap Services Delivery Area

9/10

deaths occurred indoors



Heat and Health



People with chronic poor health, heart problems or breathing difficulties



Older adults (over 65 years of age)

- These populations are often less able to adapt physically and can lack protective factors such as independence and social connections
- Older adults can also have more pre-existing chronic conditions (e.g., diabetes, high blood pressure and cardiovascular disease)



First Nation people due to historic and ongoing systemic racism and colonialism



People who are insecurely housed



People on certain medications



People who live alone or are socially isolated



People with a disability



People experiencing a substance use disorder



People who are pregnant



Infants and children

- These populations are less able to acclimatize to heat



People who are physically active outdoors or work outdoors



People with low incomes



People living in urban heat islands, or neighbourhoods with limited green space and tree canopy coverage.

- Individuals with lower socio-economic status often live in these neighbourhoods
- Urban heat islands occur because of surfaces with low albedo (e.g., dark roofs and asphalt), little vegetation, and other characteristics such as heat from motor vehicles, appliances, industry and air conditioners

HEAT-RELATED ILLNESSES

WHAT TO LOOK FOR

WHAT TO DO

HEAT STROKE

- | | |
|--|--|
| <ul style="list-style-type: none"> • High body temperature (103°F or higher) • Hot, red, dry, or damp skin • Fast, strong pulse • Headache • Dizziness • Nausea • Confusion • Losing consciousness (passing out) | <ul style="list-style-type: none"> • Call 911 right away—heat stroke is a medical emergency • Move the person to a cooler place • Help lower the person's temperature with cool cloths or a cool bath • Do not give the person anything to drink |
|--|--|

HEAT EXHAUSTION

- | | |
|--|---|
| <ul style="list-style-type: none"> • Heavy sweating • Cold, pale, and clammy skin • Fast, weak pulse • Nausea or vomiting • Muscle cramps • Tiredness or weakness • Dizziness • Headache • Fainting (passing out) | <ul style="list-style-type: none"> • Move to a cool place • Loosen your clothes • Put cool, wet cloths on your body or take a cool bath • Sip water <p>Get medical help right away if:</p> <ul style="list-style-type: none"> • You are throwing up • Your symptoms get worse • Your symptoms last longer than 1 hour |
|--|---|

HEAT CRAMPS

- | | |
|---|--|
| <ul style="list-style-type: none"> • Heavy sweating during intense exercise • Muscle pain or spasms | <ul style="list-style-type: none"> • Stop physical activity and move to a cool place • Drink water or a sports drink • Wait for cramps to go away before you do any more physical activity <p>Get medical help right away if:</p> <ul style="list-style-type: none"> • Cramps last longer than 1 hour • You're on a low-sodium diet • You have heart problems |
|---|--|

SUNBURN

- | | |
|---|---|
| <ul style="list-style-type: none"> • Painful, red, and warm skin • Blisters on the skin | <ul style="list-style-type: none"> • Stay out of the sun until your sunburn heals • Put cool cloths on sunburned areas or take a cool bath • Put moisturizing lotion on sunburned areas • Do not break blisters |
|---|---|

HEAT RASH

- | | |
|--|--|
| <ul style="list-style-type: none"> • Red clusters of small blisters that look like pimples on the skin (usually on the neck, chest, groin, or in elbow creases) | <ul style="list-style-type: none"> • Stay in a cool, dry place • Keep the rash dry • Use powder (like baby powder) to soothe the rash |
|--|--|



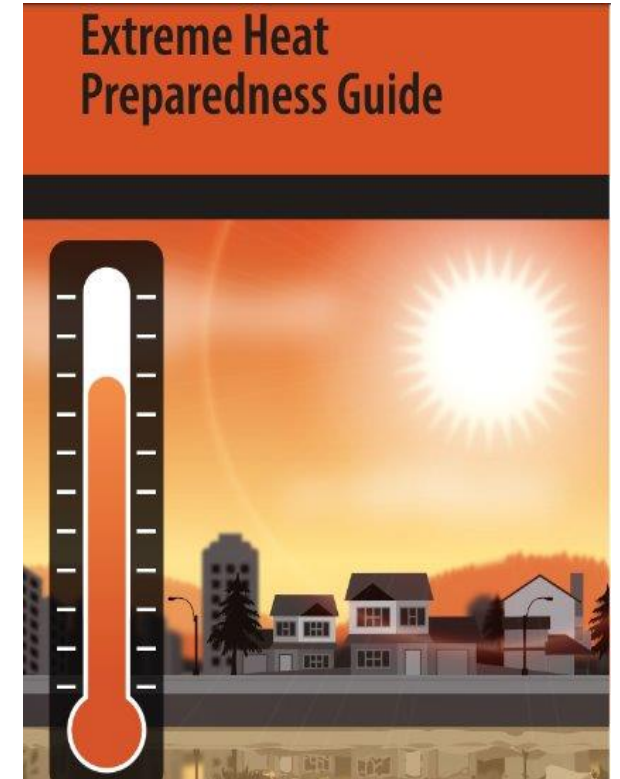
Heat and Health: Protecting yourself and others

Before Extreme Heat Events:

- Identify the coolest area of your home
- Be familiar with the signs and symptoms of heat-related illness
- Have a digital thermometer to measure the temperature of your home
- Pay attention to extreme weather alerts for heat warnings or heat emergencies

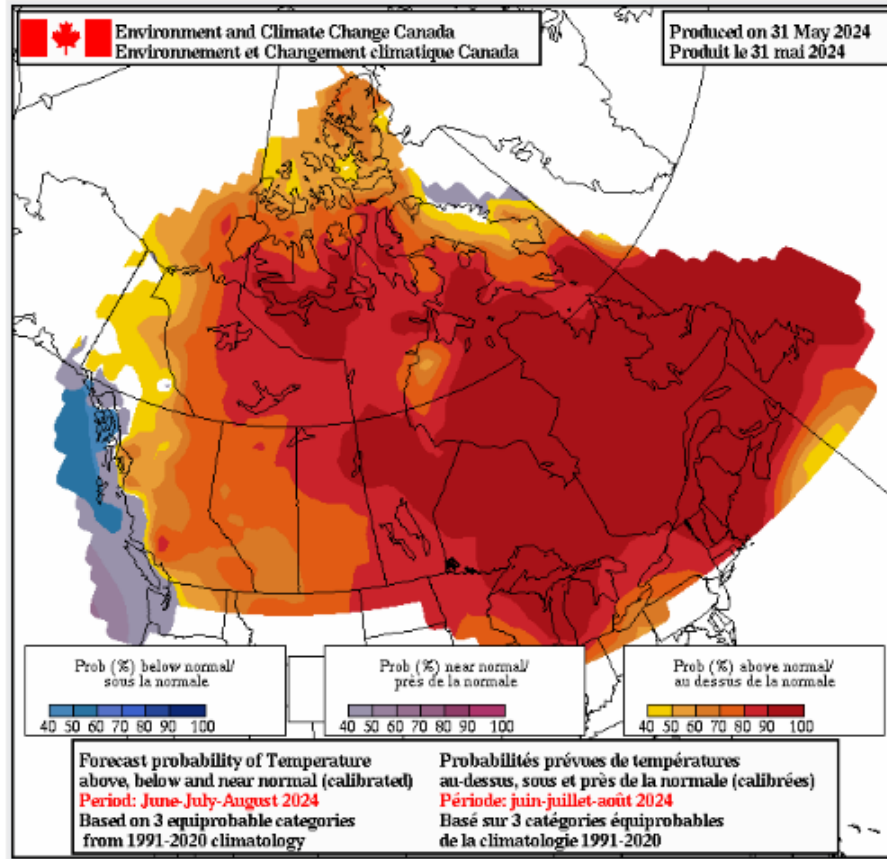
During Extreme Heat Events:

- Spend time in a cool indoor space
- Avoid direct sun when possible and seek shaded areas when outdoors
- Stay hydrated and drink water even if you may not feel thirsty
- Check in with someone who may be more susceptible to heat



Summer Heat Outlook

Temperature and Precipitation Probabilistic Forecasts



- Central, Northeast and Southeast regions of BC currently indicating highest probability of above normal Temperature conditions.
- All areas of BC except for a thin strip of coastal and Northwest probable for above normal temperatures June-August
- Precipitation difficult to forecast with certainty beyond 2 weeks

Source: Environment and Climate Change Canada



How are we doing?

June rains?

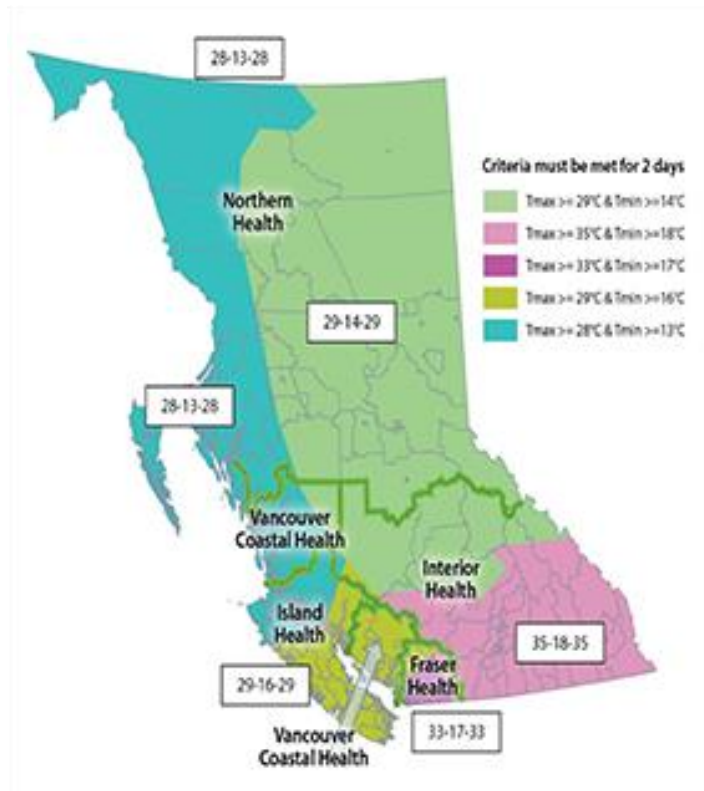
- Typically, May and June are the rainiest months for the B.C. Interior. The amount of rain received during this period heavily influences the duration and severity of the fire season.
- Long-range weather forecasts have limited skill, particularly for precipitation.
- Conditions could improve in 2024 if June brings semi-continuous, widespread rains.
- Meteorologists are leery that BC will see sufficient rainfall in June 2024 to alleviate the deep and persistent drought conditions.



BC Heat Alert Response System (BC HARS)

- Two tier alert system to stay safe during heat events

BC Regions

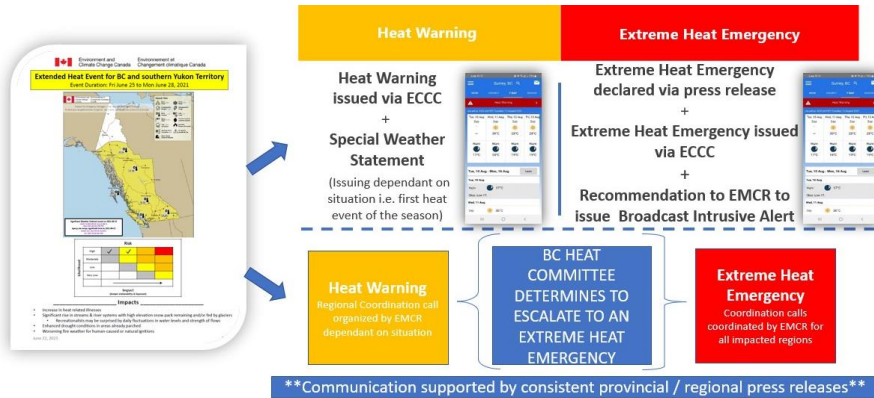


Alert level	Heat Warning	Extreme Heat Emergency
Public health risk	Moderate (5% increase in mortality)	Very high (20% or more increase in mortality)
Descriptor	Very hot	Dangerously hot
Historic frequency	1-3 per summer season	1-2 per decade
Criteria	Southwest = 29-16-29* Fraser = 33-17-33* Southeast = 35-18-35* Northeast = 29-14-29* Northwest = 28-13-28* *(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

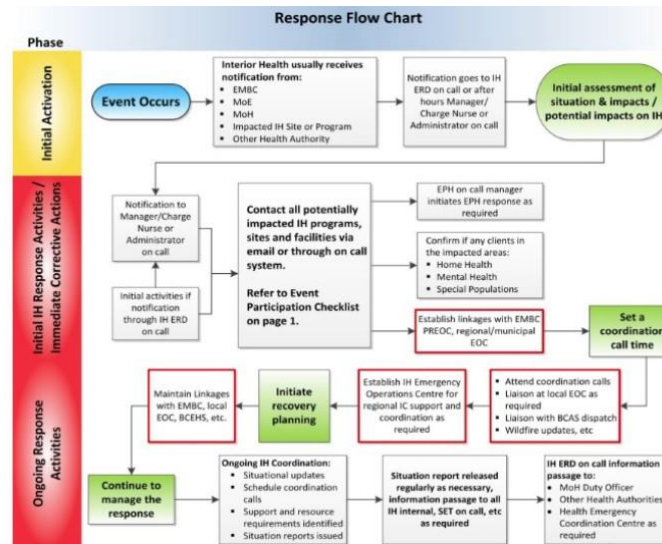


BC HARS - Notification and Activation

BC HARS Alerting Process



IHA Response Algorithm



EMCR Provincial Regional EOC



Actions to Prepare for Heat

Community Response Plans:

- Preparedness for pre, during, and post heat season
- Interior Health (IH) has a heat response toolkit with examples from IH communities

Cooling Spaces and Public Spaces:

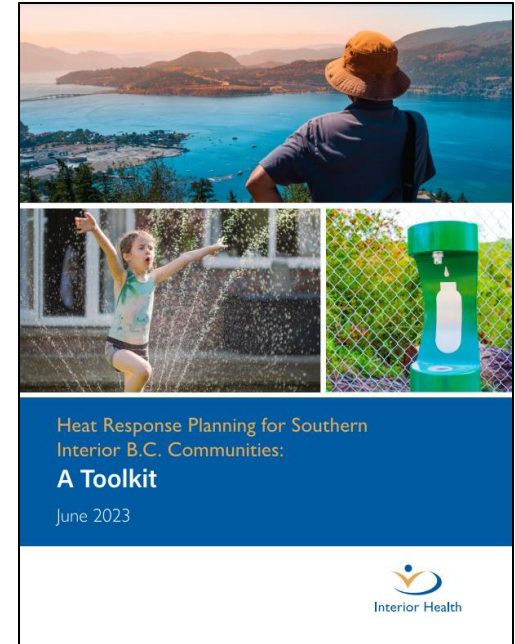
- Extend operating hours and utilize existing local assets

Focus on those in your communities who may be more susceptible to the effects of heat:


- Neighbourhood check ins and having a heat buddy
 - Promote check ins especially for those that are socially isolated, have pre-existing health concerns
- Those who are precariously housed within our communities

BC Hydro's Energy Conservation Assistance Program

- Individuals who meet pre-determined low income or Home Health criteria are eligible for a free portable air conditioning unit



Share



BC Hydro AC Offer

Through the Portable AC Offer of the Energy Conservation Assistance Program (ECAP), BC Hydro offers portable air conditioners for FREE. Check if you are eligible, receive a recommendation from IH staff, and apply online.

[Learn More](#)



Community Heat Resilience Actions



Xeni Gwet'in First Nation
Planning and actions to protect community members



City of Kamloops
Heat Communication Plan to share messages during heat events

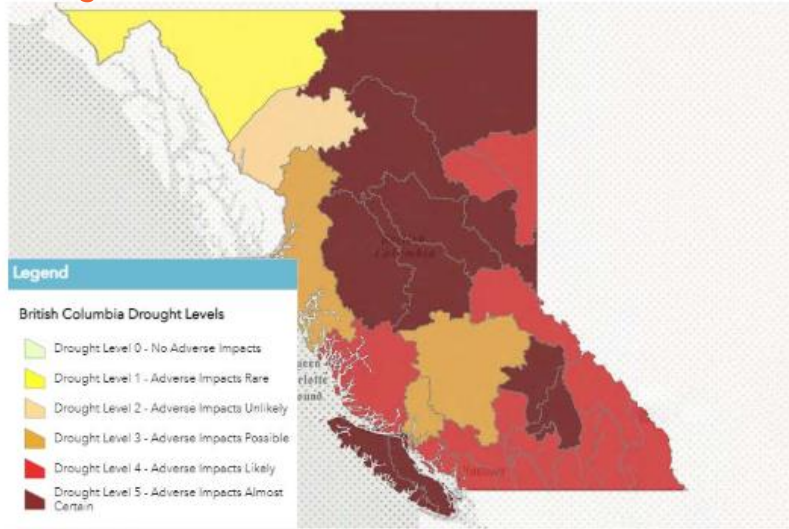


City of Penticton
CommuniTree Plan to Increase urban green canopy cover

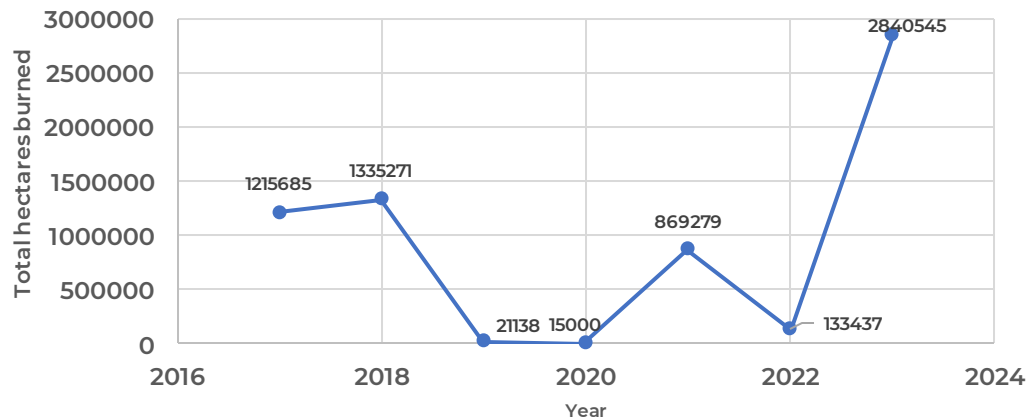


Wildfire Smoke and Health

Drought Levels for Interior Basin for 2023



Total Hectares of Land Burned in B.C. due to Wildfire



2023 Wildfire Impacts

988

Long-term care residents evacuated from 10 sites

7,100

IH staff hours worked related to wildfire response

6,000

Registered community evacuees

597

Daily maximum PM2.5 concentration reached

88

Drinking water systems were in areas subject to evacuation orders

*Reflects response activities between August- September 2023



Wildfire Smoke and Health



Older adults (over 65 years of age), infants and young children



People with respiratory conditions



People with chronic illness and underlying conditions



People with higher exposure to wildfire smoke



Those living or working near wildfire activity, including evacuees, emergency responders, frontline workers and outdoor workers



People who are unhoused



Those with lower socio-economic status or facing other inequities



First Nation communities

- Due to historic and ongoing systemic racism and colonialism, First Nations are overrepresented in the above factors and therefore are at more risk of the impacts of wildfires. Wildfires greatly impact traditional First Nations culture and their right to practices traditions and ceremonies on the land and waters which sustains their way of life.

WILDFIRE SMOKE 101

Wildfire smoke and your health

Learn how to protect yourself from wildfire smoke.

Wildfire smoke and pollution levels

In Canada, wildfires can significantly increase air pollution levels. Wildfire smoke is a complex mixture of gases, particles, and water vapour that contains:

- ozone
- sulphur dioxide
- nitrogen dioxide
- carbon monoxide
- volatile organic compounds
- fine particulate matter (PM_{2.5})

It is the fine particles (PM_{2.5}), not visible to the human eye, that get deep into our lungs and bloodstream. These fine particles are the main health risk from wildfire smoke.

There is no evidence of a safe level of exposure for most of these pollutants. This means that smoke can impact your health even at very low levels. As smoke levels increase, your health risks increase. Air quality may be decreased even if you can't see or smell smoke.

Symptoms of smoke exposure

Milder and more common symptoms of smoke exposure include:

- headaches
- a mild cough
- a runny nose
- production of phlegm
- eye, nose and throat irritation

These symptoms can typically be managed without medical intervention.

More serious symptoms include:

- dizziness
- chest pains
- severe cough
- shortness of breath
- heart palpitations (irregular heart beat)
- wheezing (including asthma attacks)

If you have any of these symptoms, talk to a health care provider or seek urgent medical attention. Less commonly, exposure to wildfire smoke can lead to heart attack, stroke and even premature death. If you think you are having a medical emergency, dial 911 and seek immediate medical assistance.

Health and well-being for all
Quality | Integrity | Compassion | Safety

Ref: Government of Canada

Reducing Exposure to Wildfire Smoke

- Visit indoor spaces that will have cool and cleaner air such as libraries, malls, and community centres
- Upgrade HVAC or furnace filters and utilize portable air cleaners that use HEPA filtration
- Consider rescheduling or reducing strenuous activities if you experience symptoms
- Create a medical management plan if you have a chronic disease
- Consider wearing a well-fitted respirator mask



Source: Castanet.net



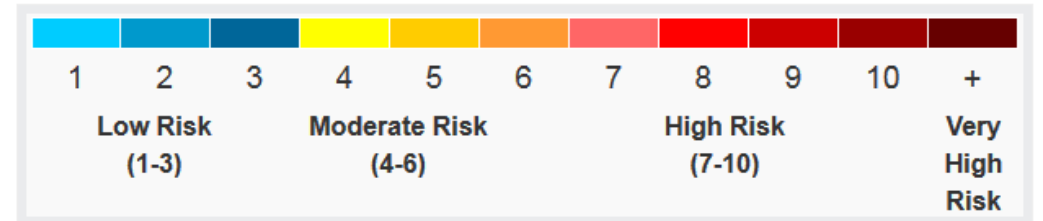
Actions to Prepare for Smoke and Poor Air Quality

Promote public communication about air quality

- Subscribe and publicly share air quality advisories, and information about air quality health index (AQHI) levels for your community

Support and promote cleaner air spaces

- Coordinate cleaner air spaces, improve and upgrade HVAC systems at public facilities



Actions to Prepare for Smoke and Poor Air Quality

Focus on those in your communities who may be more susceptible to the effects poor air quality:

- IH Extreme Heat-Smoke Grant (N95 Respirators)
 - Grant provides masks to non-profit partners to distribute to the unhoused
- Support community to create personal air cleaners
 - Build your own air cleaner through Do it Yourself (DIY) Air Cleaner Workshops



Source: Burnabynow.ca



First Nation-Led Action: ʔaq̓am Prescribed Burn



A member of the ʔaq̓am community of the Ktunaxa Nation lights a test fire ahead of a prescribed fire burn on the community's land.

Photograph by Jesse Winter, accessed from [The Globe and Mail](#)

- Ktunaxa Nation partnership with ʔaq̓am, the BC Wildfire Service, the Regional District of East Kootenay and Fire Departments from the City of Cranbrook and the City of Kimberley to conduct a major prescribed burn at ʔaq̓am
- Prescribed burn helped to significantly ease concern with respect to the directions that the July 2023 wildfire could grow and risk to homes in those areas

“ʔaq̓am has so much gratitude for partners like the Regional District of East Kootenay and BC Wildfire Service, and for our close relationships with our neighbours, the City of Cranbrook and the City of Kimberley. Those agencies truly care about our community. We feel that.”

– Michelle Shortridge, ʔaq̓am Community



Funding Resources for Heat and Smoke Planning



Community Emergency
Preparedness Fund



Local Government Climate
Action Program



Interior Health Actions



For Community Partners

- Support the development of heat and smoke response plans
- Broadcast public health messaging about heat and smoke-related illness prevention
- Provide public health advice to local governments

For IH Sites and Clients

- Update and distribution of heat awareness letters to clients and families
- Updates of preparedness checklists
- Reviewing and updating communication plans as needed



Takeaways

- Overheating is more dangerous than short term exposure to poor air
- Cool and clean indoor air helps us stay safe during heat and smoke events
- Preparation should focus on isolated and most at risk populations
- IH Medical Health Officers, Healthy Communities Team and Health Emergency Management staff can support local governments



Questions or Comments?

For questions and support related to heat and smoke preparedness please contact our team at:
healthycommunities@interiorhealth.ca

