



Community Heat Resilience

2023

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Purpose

The content contained in this report is intended to inform the Town of View Royal on the degree of heat related disaster risk, and options on how it can be reduced.

Revision History

Version #	Date	Description of Change	Approved by
0.1		Draft Copy	
1	2024 06 26	Approved Version 1	T.Mollin

Acknowledgements

Report Prepared By:



Logic League would like to thank everyone who contributed to this project. It would not have been possible without you.

Limitation of Liability

This project was prepared by Logic League Consulting Ltd. at the request of the Town of View Royal.

Information contained within is based on staff and community input, as well as research found in academic literature, grey literature, and the contributions of subject matter experts. Logic League has analyzed the information, in good faith, to the degree possible given the information available.

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Summary

While there are many contributors to extreme heat risk, climate change is a leading driver increasing our level of risk. While a warmer climate has already led to an increase in our extreme heat hazard, the total change that we will experience will be the result of our collective ability to curtail, or not, emissions that can bend the climate curve down from its upward trajectory.

Extreme heat risk and related risk reduction efforts are multifaceted and require the participation of all levels of government and civil society. This approach to extreme heat can feel overwhelming, however, the complexity of the issue should be viewed as desirable. Even when not fully functional this complex system of players and functions is stronger than any one siloed approach. The complex (not to be confused with complicated) nature of any system is a sign of maturity and resilience.

Acknowledging the central role that the climate and daily weather play in determining extreme heat risk, it should be recognized that there are other factors as well. These include the influence of our vulnerabilities (social, economic, political, technical, and environmental), our exposures to heat, and our respective capacities to cope with, and adapt to, a warmer climate.

Along with the slow onset “stressor” of climate change that is measured in degrees or partial degrees Celsius, there will also be the sudden onset “shocks” of heat wave or heat dome type events. The latter are not represented on the climate change temperature graphics that cover multiple decades and are normalized representations of the average of average temperatures.

Recent studies, especially of the 2021 Heat Dome event in British Columbia, have identified vulnerabilities and exposures within the community that help to predict who may be more impacted by a heat event. This includes certain mental health conditions, predominantly schizophrenia, as well as physical conditions such as age, and diabetes that are highly correlated with adverse health outcomes. Furthermore, we know that isolated individuals and those that live alone are more at risk than their counterparts.

Disaster risk management involves avoiding creating new risks, reducing the risks that are already present, and managing the residual risks that cannot be mitigated. In the case of extreme heat, the municipality must manage the long-term stressor of climate change, but also the short-term, sudden onset heat waves that will continue to occur. The Town of View Royal is already taking steps to reduce and adapt to climate change. There are also some efforts in place to manage the residual risks of heat waves. Additional heat risk reduction strategies and considerations have been captured and summarized in [Appendix B](#).

Heat risks will continue to increase for the foreseeable future. As we learn to navigate this reality, we will also need to be mindful that heat disasters do not occur in isolation. Heat waves are often accompanied by water scarcity, and health emergencies. Our seismic risks persist regardless of climate and weather patterns. We need to be prepared for compounding and cascading risks to occur. Lastly, despite the warming of our climate, we will continue to have a mix of warm seasons and cool seasons. Even as we continue to experience increased effects of climate change, annually, we will need to provide more days of supplemental heating than supplemental cooling in our built environment. Both temperature extremes can be dangerous, and needing to prepare for both adds a layer of complexity in designing interventions.

Defining Disaster Risk

Disaster risk can be defined as the potential loss of life, injury, or destroyed or damaged assets which could occur to a system, society, or a community in a specific period. Risk is determined in combination of the probability of the hazard to occur, exposure present to the risk, vulnerability and capacity of the system, society, or community (United Nations Disaster Risk Reduction, n.d.).

$$\mathbf{Disaster\ Risk} = \mathbf{Hazard} * \frac{\mathbf{Vulnerability} * \mathbf{Exposure}}{\mathbf{Capacity}}$$

Hazard	A process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption, or environmental degradation.
Vulnerability	The condition(s) determined by physical, social, economic, and environmental factors or processes which increase the susceptibility of an individual, a community, assets, or systems to the impacts of hazards.
Exposure	The situation of people, infrastructure, housing, production capacities, and other tangible human assets located in hazard-prone areas.
Capacity	The combination of all strengths, attributes, and resources available within an organization, community, or society. (United Nations International Strategy for Disaster Risk Reduction, 2016)

DISASTERS ARE NOT NATURAL

The above definitions reinforce the international consensus that while there are natural hazards, **disasters are not natural** (Chmutina & von Meding, 2019; Gould et al., 2016; O’Keefe et al., 1976). A hazard becomes a disaster because of the decisions that we, individually or collectively make. There are many levers that a local government has available to reduce the probability of a disaster. This can include land use and infrastructure planning, development applications and permits, taxation, provision of public services and more.

CHANGING NATURE OF RISK

Traditionally, disaster risk has looked at hazards and risks in isolation from one another. However, as our understanding of risks increases, and as our society becomes more interconnected, we now know that disasters are an interconnected web of risk factors. Three concepts can be used to better understand the changing nature of risk:

COMPOUNDING RISK

The combination of one or more hazards where the result is more extreme. For example, increased temperatures and decreased rainfall can lead to increased quantity and intensity of wildfires.

CASCADING RISK

A chain reaction of events, likened to the toppling of dominoes. For example, wildfires create hotter, dryer conditions, while also removing the plants' roots and other soil components. Combined these effects tend to make the ground more hydrophobic and unstable. Therefore, an area that has experienced a wildfire will also experience an increased risk of flooding and landslides.

SYSTEMIC RISK

Cascading impacts that spread within and across systems and sectors (e.g., ecosystems, health, critical infrastructure, and the food sector) via the movements of people, goods, money, and information within and across boundaries (e.g., regions, countries, and continents). For example, during the early part of the COVID-19 pandemic, restrictions on gatherings had significant impacts to several industries. Live events like sporting events and the arts were shut down with little to no notice, this impacted the players and artists, as well as the industries that support them.

Heat Risk Profile

HAZARD

Climate change will mean that the heat hazard will increase. This includes the maximum daily temperatures, but also the probability of extended heat waves. For extreme heat emergencies, the primary hazard is related to the temperatures that are experienced and the duration that they occur. Typically, this is measured as near surface temperatures (define), but a secondary indicator that helps predict negative health outcomes of a heat emergency is the concurrent humidity level when a heat event is occurring. There are several measures of temperature that are helpful, including the humidex which combines the temperature with the humidity level. A description of the indicators and their respective trends are summarized in Table 1. [Appendix A](#) provides an expanded explanation of heat hazards.

Indicator	Description	Trend (relative to 2020)		
		2020-2040	2040-2060	2060-2080
Hottest Day	(in a given timeframe),	moderate ↗	high ↑	high ↑
Maximum Temperature	in a 24-hour period	moderate ↗	high ↑	high ↑
Mean Temperature	average in a 24-hour period	moderate ↗	moderate ↗	moderate ↗
Tropical Nights	where nighttime low is warmer than 18°C	moderate ↗	moderate ↗	high ↑
Humidex		moderate ↗	moderate ↗	high ↑

(Interpreted from Climatedata.ca)

VULNERABILITY EXPOSURE & CAPACITY

Unlike hazards, vulnerabilities, exposures, and capacities are the elements of disaster risk that are relatively easier to make changes to or control. Vulnerabilities and exposures are one's conditions that increase the level of disaster risk. When a hazard (e.g., extreme heat) occurs, those that are more vulnerable and or exposed are more likely to be negatively impacted. For example, someone with underlying health conditions, who works outdoors will be more vulnerable and exposed to heat effects, and therefore more likely to experience negative effects. Vulnerabilities can be related to social, environmental, and political factors. Exposures can be related to time spent at home, at work, and while recreating.

As it relates to disaster risk, capacities are the conditions that reduce one's level of disaster risk. By increasing the ability to cope with, or adapt to a hazard, the impacts of a disaster will be lessened. For example, someone that has disposable income available, has greater ability to purchase cooling equipment like air conditioning or heat pump. The purchase of the equipment would be considered an adaptive capacity before a heat wave, and having access to a cool space is a coping capacity during a heat wave.

In 2023, the Capital Regional District developed a heat vulnerability index for the region. The index is displayed as an online dashboard (<https://heat.prepareyourself.ca/pages/regional-heat-map>). Different vulnerability maps are displayed, including demographic, building, heat exposures, and a building/demographic composite model.

ANALYSIS BASED ON CENSUS DATA FOR THE TOWN OF VIEW ROYAL

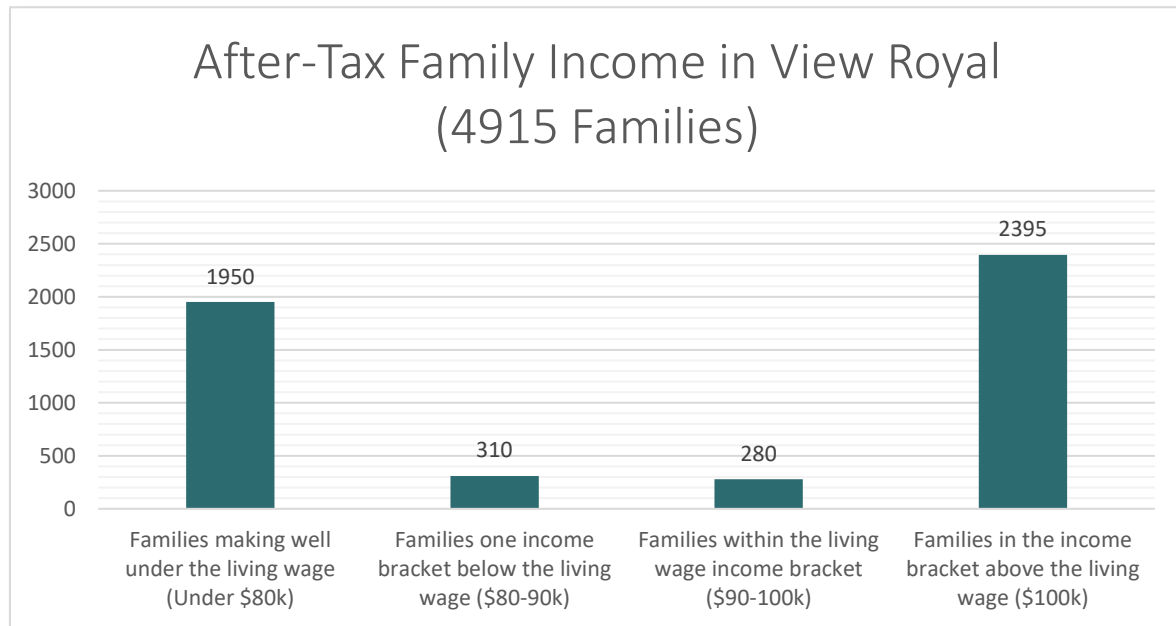
To gain an understanding of resident's capabilities and susceptibilities concerning readiness, as well as their ability to respond and adapt to escalating extreme heat incidents and temperature increases in the region, analysis was conducted using data sourced from Statistics Canada's census. Specifically, information regarding income, housing, and transportation modes within View Royal are useful proxies to illuminate the community's vulnerabilities and strengths.

While the elderly, disabled residents, individuals with limited English proficiency, tourists, and transient populations constitute a relatively small fraction of the population or remain unaccounted for in census data, it's essential to recognize that these vulnerable groups face increased risk of heat exposure and necessitate support in their emergency preparedness and the provision of specialized care during heat-related incidents.

Income:

Income is a helpful metric to determine residents access to air conditioning and cooling systems in their homes. To determine low income, the Living Wage for Families BC was used as a reference. The living wage is the hourly amount that each of two working parents with two young children must earn to meet their basic expenses (including rent, childcare, food, and transportation) once government taxes, credits, deductions, and subsidies are considered. It does not include debt repayment or savings for future. For Greater Victoria the 2023 living wage is \$25.40/hour or \$46,228 annually after tax, per parent for a total household income of at least \$92,456 per family annually.

There are certain limitations to the data used. Many unique circumstances impacting family's finances are not captured in the living wage number or the census data, such as having more than two children, or costs associated with disabilities. These salary ranges provide a general snapshot of resident's financial situation from which we can extrapolate on their potential for expendable income or ability to prepare for and adapt to extreme heat.



Census Canada 2021

Higher income earners are more likely to have:

- air conditioning, which reduces risk of heat related illnesses.
- better housing quality, including insulation and ventilation which can help regulate indoor temperatures, reducing the impact of outdoor heat.
- better access to information about impending heatwaves and how to prepare for them which can enable them to take necessary precautions.
- Higher levels of education and awareness about the risks associated with extreme heat. Those with higher incomes might be more informed about the potential dangers as well as preventive measures.

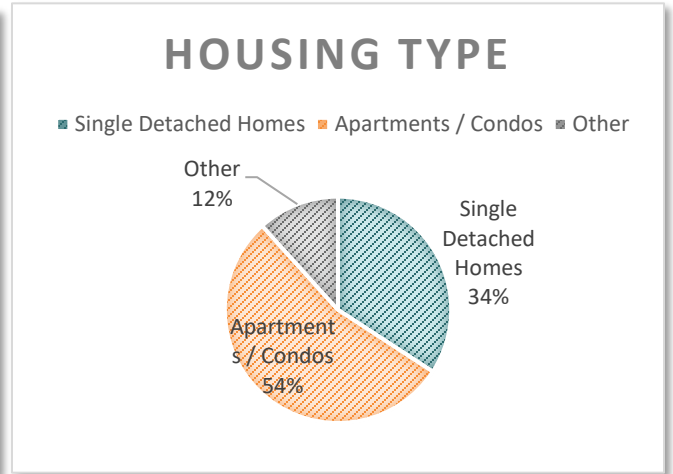
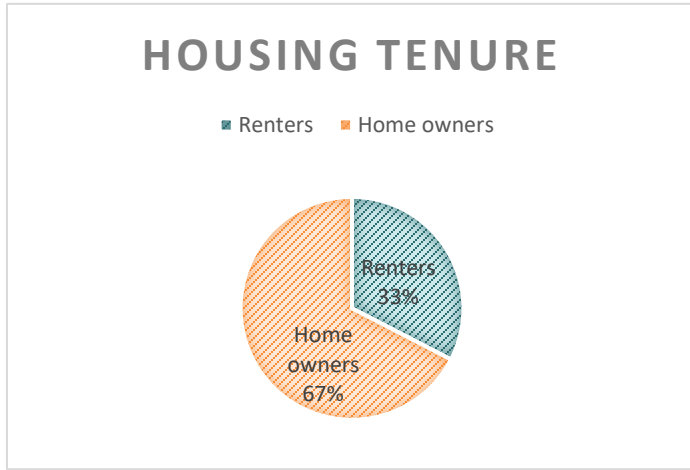
Furthermore, people with lower incomes are more likely to work in jobs that expose them to indoor or outdoor heat without proper climate control. These individuals may face increased heat exposure, potentially leading to heat-related health issues.

Housing:

Understanding the housing conditions and characteristics of a community can provide insights into the potential risks residents may face during extreme heat events. This information can guide public health interventions, urban planning, and community resilience strategies aimed at minimizing heat-related health impacts. For example, housing type and quality can impact indoor temperatures during extreme heat. Well-insulated homes with appropriate roofing and wall materials can help regulate indoor temperatures, reducing heat stress. Residents living in urban areas with extensive concrete and asphalt can experience the urban heat island effect, causing higher temperatures compared to

rural areas, therefore placing them at higher risk of heat related illness due to limited access to open spaces and ventilation.

Additionally, homeowners have greater ability to make upgrades and changes to their properties as needed, while renters and residents in condos and apartments may encounter restrictions imposed by strata associations or landlords on heat interventions

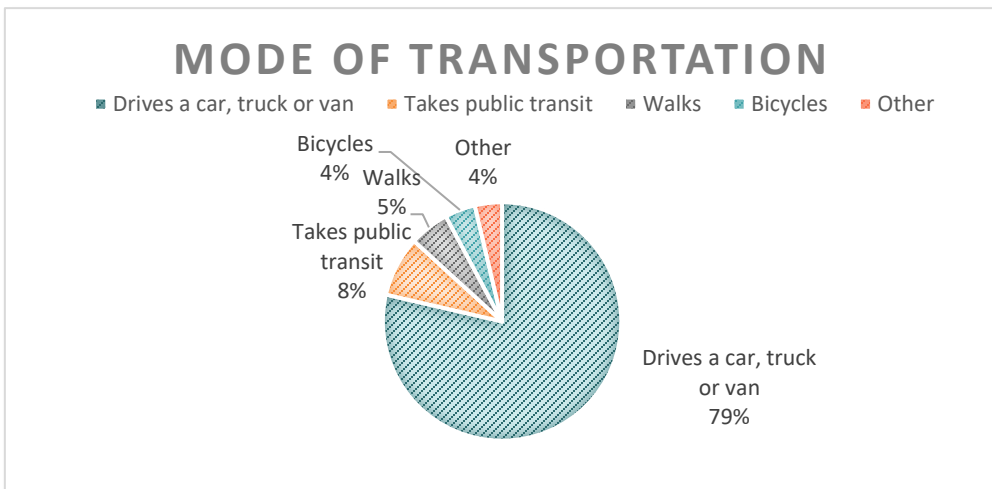


Census Canada 2021

There are 5175 dwelling units in View Royal, including 1770 single detached houses and 2800 apartments. (Census Canada 2021)

Transportation:

Transportation is an important indicator for understanding residents' risk in extreme heat events because it affects their ability to respond to and cope with the challenges posed by high temperatures. Lack of reliable or personal vehicles can hinder residents' ability to access resources, such as cooling centres during heat events. Additionally, high temperatures can make walking and cycling uncomfortable and even dangerous.



Census Canada 2021

HEAT SENSITIVITY

Sensitivity is a measure of a system's ability to adjust and respond. In the case of human health, not only can our bodies become acclimatized to certain heat ranges, our tolerance or sensitivity, can change seasonally. Furthermore, everyone's sensitivity is different. Two people in the same conditions may have very different reactions. For this reason, extreme heat events that occur earlier in the year can be more dangerous even at lower temperatures than later in the summer.

A heat warning is issued for the Southwest Region of BC – which includes Western Metro Vancouver including the North Shore, City of Vancouver and Richmond, Howe Sound, Whistler, Sunshine Coast, and Vancouver Island (except northern sections) - when two or more consecutive days of daytime maximum temperatures are expected to reach 29°C or warmer (Tmax) and nighttime minimum temperatures are expected to fall to 16°C or warmer (Tmin).

Warning	British Columbia – Southwest – Western Metro Vancouver including the North Shore, City of Vancouver and Richmond, Howe Sound, Whistler, Sunshine Coast, Vancouver Island (except northern sections)	Issued when two or more consecutive days of daytime maximum temperatures are expected to reach 29°C or warmer and nighttime minimum temperatures are expected to fall to 16°C or warmer.*
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(BC HARS, 2023)

As of May 2023 — After the first three heat events of the summer in a given forecast region, the BC HEAT Committee may recommend extending the minimum number of days for heat warning criteria in the region to be when three or more consecutive daytime high temperatures are expected to meet or exceed the regional Tmax value and the overnight low is expected to reach or exceed the regional Tmin value for two or more consecutive nights.

CASCADING & COMPOUNDING HAZARDS

When looking at extreme heat, it must be recognized that these events do not happen in isolation. Other factors may contribute to or exacerbate the level of risk. Hotter weather, especially when combined with dryer conditions, can also contribute to increased wildfire risk or decreased air quality. Aging infrastructure, and the continued affordability crisis can compound the level of risk experienced during a heat wave. Furthermore, staff were concerned that households without mechanical cooling may suffer during times of high heat that also have high levels of wildfire smoke. Mitigating the heat would require opening the window while mitigating the wildfire smoke would require the window to be closed.

Heat Risk Reduction Strategies

Understanding that heat risks will continue to increase, and that a whole of society approach is needed. Workshops were held to identify actions that were already occurring to reduce heat related risks, but also what else could be done. The results of the community organizations and staff workshops were combined with the results of two other municipalities who underwent similar workshops. The addition of other communities built a more diverse inventory of options and perspectives to pull from, ultimately strengthening the results.

A full list of the suggestions is available in Appendix [B](#), however only the suggestions that are at a community scale are included below. While municipalities do not have the primary responsibility for the other scales (individual, regional, provincial, national, and global), there are actions that a local government can take to effect change at these scales too. This includes participation in regional and provincial working groups like the Regional Emergency Management Partnership (REMP) and cooperative projects like the Capital Regional District's Heat Vulnerability Index project. Municipalities can also advocate and engage with policy including through the Union of British Columbia Municipalities, and with new legislation and regulation development (like the Emergency and Disaster Management Act's regulations).

Strategies will be divided into structural and non-structural interventions. "Structural measures are any physical construction to reduce or avoid possible impacts of hazards, or the application of engineering techniques or technology to achieve hazard resistance and resilience in structures or systems. Non-structural measures are measures not involving physical construction which use knowledge, practice or agreement to reduce disaster risks and impacts, in particular through policies and laws, public awareness raising, training and education" (UNDRR, n.d.).

There are three overarching categories of risk reduction strategies, based on whether the risk has already been created or can be mitigated. First, and preferable, is avoiding creating new risks, second is reducing what risks already exist, and thirdly, to manage the residual risks that cannot be mitigated. Each section below summarizes suggestions from community member and staff, workshops, as well as further research that was conducted. Workshop Data can be found in Appendix [F](#). For a table view summary of the risk reduction strategies, refer to Appendix [B](#).

NON-STRUCTURAL RISK REDUCTION

1. EDUCATION

- 1.1. Use simplified language when developing public information resources.
- 1.2. Create and distribute a preparedness newsletter.
- 1.3. Public Art as a means of raising awareness.
- 1.4. Host seasonal readiness sessions with organizational partners.
- 1.5. Develop a map of possible resources that can be accessed during a heat emergency.
- 1.6. Educate Strata Corporations, management companies and landlords regarding restrictive bylaws and rules and their impact (e.g., limitations of window coverings, installation of heat pumps and air conditioners).
- 1.7. Train people to recognize and treat heat stroke.

2. POLICY

- 2.1. Consider densification of the community through the official community plan and via rezoning and development permit applications.
- 2.2. Assume that everyone in the community is vulnerable to extreme heat and plan for that.
- 2.3. Adopt the “15 minute” community model of urban planning.
- 2.4. Advocate for continued incentives for building retrofits.

3. COMMUNICATIONS

- 3.1. Use trail networks as a place to post heat related information
- 3.2. Use electronic message boards to communicate heat risks
- 3.3. Use Occupation Health and Safety Committees as a target audience for heat related information (within the municipality, and within other organizations within the community)
- 3.4. Use multiple different modes of communicating to ensure coverage
- 3.5. Increase message coordination between stakeholders and partners.
- 3.6. Adopt tools and resources that meet the needs of and allow for individual messaging styles and content.

4. UNDERSTANDING RISK

- 4.1. Continue to invest in understanding the vulnerabilities, exposures, and capacities of the community.
- 4.2. Understand the extreme heat risk tolerance of the community and of the local government (i.e., what is an acceptable level of risk?).
- 4.3. Understand the triggers for action before, during, and after a heat emergency.

5. INCENTIVES

- 5.1. Increase access to building efficiency upgrade programs and top-ups.
- 5.2. Advocate for further investments and systemic changes to reduce climate change and increase extreme heat capacities.
- 5.3. Develop a carbon tax that is tied to business licencing and a company’s emission levels.
- 5.4. Understand what funding is available before, during, and after an extreme heat event.

6. COORDINATION

- 6.1. Support a Neighbour-Helping-Neighbour support system.

- 6.2. Partner with School Districts to co-fund cooling equipment installation or upgrades.
- 6.3. Better coordination between health responders and emergency response.
- 6.4. Build linkages with community organizations.
- 6.5. Find efficiencies between hazard programming.

7. SOCIAL CAPITAL

- 7.1. Increase the connections within the community- between individuals, between groups, and between groups and the government
- 7.2. Develop a more inclusive and effective system for “wellness checks.”
- 7.3. Establish and or support climate action task force (in community, or in schools) to increase awareness and engagement.
- 7.4. Develop a Community Wellness Strategy.
- 7.5. Host or support community events to build connections and therefore capacities

8. PERSONNEL

- 8.1. Engage community navigators to help individuals connect with resources.
- 8.2. Employ, dedicated emergency, and disaster managers, and climate adaptation specialist(s).
- 8.3. Staff resources at public places (like community centres), during disasters that help people navigate the various systems, programs, and information sources that are available.
- 8.4. Improve staff benefit packages to help address stress and climate anxiety.
- 8.5. Offer an option for staff and their families to sleep in municipal buildings that have mechanical cooling during heat emergencies. This would increase their ability to respond to extreme heat events.

STRUCTURAL RISK REDUCTION

9. BUILT ENVIRONMENT

- 9.1. Increase the physical connections between communities
- 9.2. Invest in higher performing buildings that can regulate temperature better.¹
- 9.3. Build a new municipal hall, which is more energy efficient, and higher performing.
- 9.4. Build or encourage more senior’s centres in the community.
- 9.5. Increase the number of buildings available as cooling centres during a heat emergency.
- 9.6. Identify spaces that can be used as overnight cooling centres during heat waves.
- 9.7. Consider splash parks as a resource to cool down.

10. GREEN INFRASTRUCTURE

- 10.1. Provide more green space for the community to use.
- 10.2. Plant more trees, choosing species well adapted to the current and future climates.

11. INFRASTRUCTURE

- 11.1. Provide transportation to cooling centres during heat waves.
- 11.2. Install more electric vehicle charging stations.
- 11.3. Install misting stations at high use, high risk locations.

¹ To meet and or exceed 2024 BC Building Code requirements for at least one room in a new residential unit to be able to maintain temperature below a maximum threshold.

Heat Planning Considerations

Below are several considerations for the Town as it relates to extreme heat. The context of these considerations begin with the assumptions that:

1. Outputs of climate models will be used to indicate climatic trends and avoid using absolute projections.
2. High emission models (e.g., RCP 8.5) will be accepted as the default scenarios used for planning purposes.
3. More intense and or longer duration events, which aren't depicted in averaged models, should be expected as outlier events, and considered in municipal policy, planning and operations.
4. Disaster risk reduction efforts focus on systemic changes, rather than individual hazards or events.

ROLES DURING A HEAT EMERGENCY

LOCAL AUTHORITY / FIRST NATION

Local government is the most accessible and responsive level of government, made up of permanent staff and elected officials. Local authorities shape the community through policies and land-use planning, providing and/or maintaining essential services, responding to the community's needs, and planning for the community's future. As part of a local government's legislative responsibility, to prepare and maintain emergency management plan(s), it is expected that during a heat emergency the Local Authority can share timely and reliable information with the public as well as, coordinating with community service providers and neighbouring authorities to respond to the emergency. Response may include providing opportunities for people experiencing heat related effects to cool down.

EMCR

The Ministry of Emergency Management and Climate Readiness is BC's lead coordinating agency for all emergency management activities, including preparedness, response, and recovery. The province is responsible for providing local authorities with heat warnings and alerts ahead of events, Coordinating stakeholders during emergencies, and funding eligible response and recovery activities.

HEALTH AUTHORITY

Regional health authorities are responsible for identifying population health needs and delivering health services and programs to meet the needs of the population within their respective geographic regions. The health authority prepares heat related resources that can be shared with the public and should be engaged with regularly during a heat emergency.

INDIVIDUALS

Individuals have the primary responsibility for their health and safety. It is expected that individuals and families will take steps to protect themselves from known hazards, including heat emergencies. Strong social connections within the community are correlated to higher individual capacity to cope with a disaster. Municipalities may help encourage these connections by offering support for "neighbour-helping-neighbour" peer to peer support networks.

ENVIRONMENT AND CLIMATE CHANGE CANADA (ECCC)

Responsible for: monitoring weather, water, air quality and climate conditions, providing forecasts, information, and warnings to the Canadian public, which are then provided to EMCR to share with local authorities. Before issuing a public-facing Heat Warning, the ECCC may send a "Weather Notification" via email to its health sector and emergency management partner distribution list once forecast guidance is certain enough to warrant elevated likelihood of a heat event. Following this internal notification process, ECCC will issue a public facing Heat Warning when the specific regional criteria triggers are met. ECCC Heat Warnings will be issued on the WeatherCAN app, and the ECCC weather alerts webpage.

TIERED RESPONSE TO HEAT EVENTS

Heat waves and heat emergencies may share some common elements, but ultimately each event is unique. Like all disasters, each heat emergency is a unique combination of hazard, vulnerability, exposure, and capacity categories. Likewise, the response to heat waves should not be binary-response or no response, there are more nuanced approaches. For a municipality a three-tiered approach can be considered to match the severity and need with appropriate levels of supports.

Stage 1	Public Messaging
Outcome	Enhanced public awareness of a forecast, or occurring extreme heat hazard
Activities	<ul style="list-style-type: none"> • Amplify messaging from official forecasting agencies • Amplify messaging from health partners • Provide personal preparedness messaging • Provide messaging on available resources
Potential Trigger	When temperatures are forecast to approach or exceed BCHARS triggers for Heat warning or Extreme heat Emergency in the Capital Regional District

Stage 2	Public Resources
Outcome	Inform public of places that are available to cool down during heat waves
Activities	<ul style="list-style-type: none"> • Confirm public cooling facilities are available • Communicate public facilities that have cooling (e.g., retail spaces, libraries, community centres, municipal hall, etc.) • Communicate public access to water (e.g., water parks, splash parks, misting stations, water fountains, etc.) • Communicate outdoor spaces that are naturally cooler (e.g., ocean, lakes, shady areas)
Potential Trigger	When temperatures reach the criteria for a Heat Warning in the Capital Regional District.

Stage 3	Dedicated Cooling Spaces
Outcome	Operate dedicated cooling centres for people who need to cool down
Activities	<ul style="list-style-type: none"> • Confirm location of cooling centre(s) • Confirm staffing for cooling centre(s) • Confirm resources available for cooling centre(s) • Communicate location and hours of cooling centre(s) • Operate Cooling Centre(s)
Potential Trigger)	When one or more of the following are met: <ol style="list-style-type: none"> When public facilities (Stage 2) are approaching capacity to support community members. When vulnerable populations are identified that cannot access Stage 2 facilities. When overnight cooling centres are required.

Checklists for each stage can be found in [Appendix C](#)

During and following every Stage 1, Stage 2, and Stage 3 activations, a monitoring and evaluation program should be conducted to ensure continuous learning can occur.

COOLING CENTRE CONSIDERATIONS

When determining appropriate cooling centers, several considerations are required to ensure the safety and well-being of their community members during hot weather events. The following list provides topics and specific considerations for each. A “Cooling Centre Action Plan” template has been developed and is included in Appendix [E](#).

Temperature Thresholds:

Define temperature thresholds that trigger the opening of cooling centers. These thresholds can be based on heat index, which considers both temperature and humidity. It is recommended that the “BC Heat Alert & Response System” be used as guidance for triggers.

Vulnerable Populations:

Identify and prioritize vulnerable populations, such as the elderly, young children, individuals with pre-existing medical conditions, and those experiencing homelessness. Build linkages with agencies and organizations who already have contacts with these populations.

Accessibility

Ensure that cooling centers are easily accessible to all members of the community, including those with disabilities. Choose locations that are well-connected by public transportation and have sufficient parking.

Proximity

Select locations that are strategically distributed across the community to minimize travel distances for residents. Consider areas with high population density who may also have limited access to air conditioning.

Capacity

Assess the capacity of potential cooling center locations in terms of the number of people they can accommodate. Ensure that there is sufficient space to maintain physical distancing if needed.

Amenities

Choose facilities with adequate amenities such as seating, restrooms, water fountains, Wi-Fi, and areas for relaxation. If possible, provide access to outlets for charging electronic devices.

Health and Safety

Ensure that cooling centers adhere to health and safety guidelines, including proper ventilation, sanitation, and cleanliness.

Emergency Services

Prioritize locations that are near emergency medical services if possible.

Public Awareness

Develop a rigorous communication/outreach plan to inform residents about the availability and location of cooling centers. Use various communication channels, including social media, local news, and community organizations.

Hours of Operation

Determine the operational hours of cooling centers. Considering the times of day when temperatures are at their highest, or overnight periods if residential units do not cool off. Be prepared to adjust hours based on changing weather conditions.

Staffing

Assign trained staff or volunteers to manage and supervise the cooling centers. Ensure they are well-versed in recognizing signs and symptoms of heat illness and heat related illness, aiding vulnerable populations, and that they are covered by insurance in case anyone is injured. At least one person on-site should have CPR/AED training. Excellent interpersonal skills combined with compassion, patience, and understanding is essential.

Staffing Options	Pro's	Con's	Additional Info
Municipal/Town Staff	Available, can train them up beforehand, covered by city liability insurance, easy to maintain communication.	Reduces capacity for regular operations.	
ESS	Trained, available, good at working with the public.	Difficulty sustaining cooling centre due to capacity.	Unclear whether ESS's liability will be covered for staffing cooling centres.
Temporary Hire	Increases capacity of the City/Town to respond to event.	Will likely need training and oversight.	Covered by Province as an eligible response claim.
Other Community Groups (e.g., Church staff, not-for-profits)	Work regularly with the public, may be able to operate out of their own space/facility.	May not be available to respond to the event.	
Firehall staff/volunteers	Good at working with the public, covered under city liability insurance.	Lowers capacity of Firehall to respond to other emergencies in the community.	

Supplies

Stock cooling centers with essential supplies such as drinking water, non-perishable snacks, first aid kits, heat-health education materials, any necessary medical equipment, harm reduction services, any relevant referral services.

Language and Cultural Considerations

Provide information in multiple languages commonly spoken in the community and consider cultural sensitivities to ensure inclusivity.

Find an Extreme Heat Preparedness Guide available here in English, French, Chinese, and Punjabi <https://www2.gov.bc.ca/gov/content/safety/emergency-management/preparedbc/guides-and-resources>

Consider Indigenous populations that live in community and whether a Community Navigator (see funding section below) would be helpful for members.

Pets/Livestock

Develop a plan for accommodating pets, as many people may be reluctant to leave their animals behind during a heatwave. Likewise, work with the Ministry of Agriculture to plan for livestock considerations.

Collaboration

Collaborate with local non-profit organizations, community groups, and businesses to gather resources, volunteers, and donations to support and promote cooling center operations.

Evaluation

Continuously assess the effectiveness of cooling centers through community feedback and data analysis. Use this information to make improvements for future heat events. (International Federation of the Red Cross has published a Monitoring and Evaluation Guide that can be very helpful <https://www.ifrc.org/document/projectprogramme-monitoring-and-evaluation-guide>)

Training & Exercises

Conduct drills and exercises to ensure that staff and volunteers are well-prepared to manage cooling centers efficiently during emergencies.

Funding

Allocate necessary funding for the operation, maintenance, and improvement of cooling centers to ensure their sustainability over time. Familiarize yourself with what is and isn't reimbursable by the Province through a task number and EAF's

Policy 5.14 Extreme Heat Emergency Task Number Eligibility <https://bit.ly/Policy514>

Policy 5.14 Eligibility Assessment Supplement <https://bit.ly/Policy514Suppliment>

Policy 2.14 Community Navigator <https://bit.ly/Policy214>

Consider hiring a **community navigator** to act as a liaison between the cooling centre(s) and the City. Eligible through an EAF, funded by the province during an emergency response. A Community Navigator is an individual identified by the community to act as a liaison between the EOC, ESS, support agencies, and evacuees, and advocated for evacuees and facilitates solutions to complex and/or unique needs

EXTREME HEAT RESOURCES

EXTREME HEAT VULNERABILITY INDEX

The Capital Regional District is producing a Regional Heat Vulnerability Guide. It is anticipated to be available in a map form, with the potential for background tabular data to be made available as well. It is anticipated that the product will be available before the end of Calendar year 2023.

EXTREME HEAT DASHBOARD

The Government of British Columbia, through GeoBC, has developed a *Community Response Locations – Extreme Temperature Portal*. Data added will be displayed on *Emergency Map BC*, an open access map of public resources. Local Authorities can add and maintain their respective resources to the map. Access to add and edit the dashboard is requested through your respective PREOC or Regional Manager.

DOCUMENTS & REPORTS

Type	Description	Link
Report	Lived Experience of Extreme Heat in B.C.	https://bit.ly/Lived_Experience_BC_Heat
Report	The Case for Adapting to Extreme Heat. Costs of the 2021 B.C. Heat Wave	https://climateinstitute.ca/wp-content/uploads/2023/06/The-case-for-adapting-to-extreme-heat-costs-of-the-BC-heat-wave.pdf
Report	National Collaborating Centre for Environmental Health: Extreme Heat	https://ncceh.ca/resources/subject-guides/extreme-heat
Report	The Case for Adapting to Extreme Heat	https://climateinstitute.ca/wp-content/uploads/2023/06/The-case-for-adapting-to-extreme-heat-costs-of-the-BC-heat-wave.pdf
Report	Climate Projections for the Capital Regional District	www.crd.bc.ca/docs/default-source/climate-action-pdf/reports/2017-07-17_climateprojectionsforthe-capital-region_final.pdf
Report	Irreversible Extreme Heat: Protecting Canadians and Communities from a Lethal Future	https://www.intactcentreclimateadaptation.ca/wp-content/uploads/2022/04/UoW_ICCA_2022_04-Irreversible-Extreme-Heat.pdf
Hazard data	Environment & Climate Change Canada (ECCC)	https://weather.gc.ca/mainmenu/alert_menu_e.html
Hazard data	Canadian Centre for Climate Modelling & Analysis	www.canada.ca/en/environment-climate-change/services/climate-change/science-research-data/modeling-projections-analysis/centre-modelling-analysis.html
Hazard data	Climate Data	www.ClimateData.ca
Hazard data	Windy	https://www.windy.com/?600h,49.743,-123.447,7
Hazard data	Earth Null School Modelling	https://earth.nullschool.net/about.html

Repository of information	Climate Ready BC	www.climatereadybc.gov.bc.ca/pages/extreme-heat
Hazard data	Pacific Climate Impacts Consortium	https://www.pacificclimate.org/
Health information	Health Emergency Management BC (HEMBC)	http://www.phsa.ca/our-services/programs-services/health-emergency-management-bc
Health Safety Information	Vancouver Island Health Authority (VIHA)	https://www.islandhealth.ca/learn-about-health/environment/heat-safety
Emergency Public Messaging	Emergency Management & Climate Readiness (EMCR)	https://www.emergencyinfobc.gov.bc.ca
Guidebook	IFRC: Monitoring and Evaluation Guide	https://www.ifrc.org/document/projectprogramme-monitoring-and-evaluation-guide

PUBLIC INFORMATION

Before and during extreme heat events, a local authority has three streams of public information that they should consider.

- 1) Amplify subject matter experts' messaging regarding the forecast and real-time hazards (temperature and humidity).
- 2) Publish messaging regarding the action that the local government is taking to cope with and help residents cope with and adapt to heat emergencies.
- 3) Amplify messaging of what community partners and other levels of government are doing to cope with and adapt to heat emergencies.

Extreme Heat social media content and recommendations available at <https://www2.gov.bc.ca/gov/content/safety/emergency-management/education-programs-toolkits/social-media-toolkits/extreme-heat>

Sources of messaging that can be reinforced and amplified:

Source	Twitter ("X") account
Environment and Climate Change Canada	ECCCWeatherBC
Health Emergency Management British Columbia	EmergencyInfoBC
Vancouver Island Health Authority	VanIslandHealth
Prepared BC	EmergencyInfoBC

FUNDING OPPORTUNITIES

Audience	Funding Type	Mitigation type	Program Name	Description	\$ Amount	Link
Multiple	Grant	Structural infrastructure	Community Buildings Retrofit Initiative	This initiative supports local governments and not-for-profit organizations in retrofitting public buildings to improve energy performance, lower operating and maintenance costs, and transition to cleaner energy solutions over time. The CBR funding offer supports all stages of project development, helping communities of all sizes to significantly reduce GHG emissions, while extending their asset's life cycle.		https://greenmunicipalfund.ca/community-buildings-retrofit-initiative
Multiple	Grant	Structural infrastructure	Community Efficiency Financing	Plan, implement and scale up home-energy upgrade financing programs for low-rise residential energy projects.		https://greenmunicipalfund.ca/community-efficiency-financing
Multiple	Grant	Structural infrastructure	Sustainable Affordable Housing	This initiative offers support to local affordable housing providers – including municipal, not-for-profit organizations and housing co-ops – to retrofit existing affordable housing units, or construct energy efficient new builds that emit lower GHG emissions.		https://greenmunicipalfund.ca/sustainable-affordable-housing
Local Authority	Loan	Structural infrastructure	Capital Project: Energy Recovery or district energy	Reduce local GHG emissions by using renewable thermal energy in new or existing municipal facilities. Finance an energy recovery or district energy capital project.	Regular loans and grants: Receive a low-interest loan of up to \$5 million and a grant worth up to 15% of the loan; cover up to 80% of your eligible costs.	https://greenmunicipalfund.ca/funding/capital-project-energy-recovery-or-district-energy
Local Authority	Grant		Complete Communities	The program supports communities in undertaking assessments to inform land use decision-making, considering housing need, supply, and location; providing transportation options including	The Complete Communities program can contribute a maximum of 100% of the cost	https://www.ubcm.ca/lgps/complete-communities

				increased walkability; and making connections to infrastructure investment and servicing decisions.	of eligible activities to a maximum of \$150,000.00.	
Homeowner	Grant	Structural infrastructure	Canada Greener Homes Grant	The grant covers eligible retrofits like home insulation, windows and doors, heat pumps and solar panels as well as resiliency measures.	Grants from \$125-\$5000 portion of your costs for eligible home retrofits.	https://natural-resources.canada.ca/energy-efficiency/homes/canada-greener-homes-initiative/canada-greener-homes-grant/24833
Homeowner	Grant	Structural infrastructure	Canada Greener Affordable Housing Program	This program provides contributions for pre-retrofit activities needed to plan, prepare, and apply for retrofit funding. It also offers forgivable and low-interest loans to help affordable housing providers complete deep energy retrofits on existing multi-unit residential buildings.	CMHC will fund 100% of eligible retrofit costs, up to \$170,000 per unit (low-interest repayable and forgivable loans combined). Forgivable loans will be the lesser of \$85,000 per unit, or 80% of eligible retrofit costs. Low-interest loans will be available to finance the rest.	https://www.cmhc-schl.gc.ca/professionals/project-funding-and-mortgage-financing/funding-programs/all-funding-programs/canada-greener-affordable-housing-program
Homeowner	Loan	Structural infrastructure	Canada Greener Homes Loan	Offers interest-free financing to help you complete some of the more major retrofits recommended by your energy advisor.	From \$5000-\$40000 interest-free loans with a repayment term of 10 years to help you undertake major home retrofits.	https://natural-resources.canada.ca/energy-efficiency/homes/canada-greener-homes-initiative/canada-greener-homes-loan/24286
Homeowner	Grant	Climate Adaptation	Oil and heat pump affordability program	The program helps households with median income or less who are currently heating their homes with oil make the transition to a better, more efficient option.	Up to \$10,000 to cover costs for changing oil heating system to a cold climate air source heat pump.	https://natural-resources.canada.ca/energy-efficiency/homes/canada-greener-homes-initiative/oil-heat-pump-affordability-program-part-the-canada-greener-homes-initiative/24775
Local Authority	Grant	Climate Adaptation	Disaster Risk Reduction - Climate Adaptation	The intent of the Disaster Risk Reduction-Climate Adaptation funding stream is to support eligible applicants to reduce risks from future disasters due to natural hazards and climate-related risks through the development and implementation of: Accurate foundational knowledge of the natural hazards they face and the risks associated	\$5.3M	https://www.ubcm.ca/cepf/disaster-risk-reduction-climate-adaptation

				with BC's changing climate, and Effective strategies to prepare for, mitigate, and adapt to those risks.		
Local Authority	Grant	Climate Adaptation	FireSmart Community Funding and Supports	The FireSmart Community Funding and Supports program provides funding to local governments and First Nations in BC to increase community resiliency by undertaking community based FireSmart planning and activities that reduce the community's risk from wildfire.	\$100,000 - \$200,000	https://www.ubcm.ca/cr/firesmart-community-funding-supports

Key Learnings

- 1 Planning for, and managing heat emergencies involves multiple municipal departments, levels of government, and parts of civil society.
- 2 Because different organizations, play distinct roles in extreme heat, they each play a role in public information. Local Governments can amplify and reinforce the messages of other subject matter experts, and do not need to recreate their own.
- 3 People's individual vulnerability is constantly in flux and can change from day to day, and from hazard event to hazard event.
- 4 Extreme Heat risk awareness is insufficient/inconsistent across the community and the region. It will require a variety of approaches to increase awareness.
- 5 Many of the most vulnerable people in the community are also hardest to reach (isolated). Local community service providers often hold these relationships and should be included in preparedness initiatives as well as in response.
- 6 Heat presents two different emergencies: Slow onset climate crisis and sudden onset heat waves. Both require unique approaches and solutions.
- 7 Our built environment was largely designed for a different hazard profile. Design criteria will increasingly not be appropriate and expected lifespans will decrease from increased heat stress.
- 8 Schools are often considered as buildings to use for reception centres (including cooling centres). However, few schools are mechanically cooled, and School District's funding formulas on BC's South Coast do not allow for the installation of mechanical cooling. Local Governments could consider advocacy, or cost sharing arrangements.

Appendix A: Hazard Insights: Extreme Heat

CONTEXT

Scientific evidence demonstrates that our climate is changing, and that human activity is a contributing factor. In Western Canada, and Southern Vancouver Island in particular, there is a growing trend towards hotter drier summers. While there are advanced predictive climate models that provide different greenhouse gas emission scenarios, the complexities and interconnected nature of climatic variables maintain a degree of subjectivity and uncertainty. These models make assumptions of how population, education, energy use, technology – and more – may change over the next century, and couple them with assumptions about the level of drive for mitigating climate change (*Climate Data for a Resilient Canada*, 2023). This limits the exactness to which we can rely on available predictive models.

A major challenge with using available climate modelling to understand a communities current and future risk of extreme heat, is that many of the models underestimate the extent of change or the time available to adapt, and furthermore often don't account for extreme or outlier events. Visually, the models often present an averaged line graph over time. This visual approach doesn't account for weather events such as the 2021 BC Heat dome, which fell well outside of the existing climate models and resulted in hundreds of casualties. In fact, across Canada, extreme heat events have become the leading weather-related cause of death (Tu et al., 2022).

It will be necessary to prepare for both outlier events (rapid onset acute shocks) as well as steady temperature rising trends (chronic stressor). Acute shock and chronic stress heat events are two very different climate related emergencies that take place on different timeframes, which require different approaches and plans. Acute shock events require an emergency response focus with an emphasis on preparedness, mobilization, collaboration, and communication. The chronic stress of gradual temperature rise requires systemic changes to adapting and mitigating for the long-term, and by assessing more than one possible future, planners and decision-makers can better prepare for a range of possible outcomes, with actions taken today.

Disaster risk from climate change is systemic and non-linear. It is comprised of cascading and compounding risk factors. To mitigate, adapt to, and prepare for climate change and increasing extreme heat events, the suite of associated hazards, vulnerabilities, and capacities that together make up the respective level of disaster risk must be investigated. Furthermore, determining how much the climate will change in the future strongly depends on how society grows and develops, metrics that are influenced by a host of factors, including the natural environment and human factors such as greenhouse gas reductions, political will, environmental, social and economic variables, and technological advancements (*Climate Data for a Resilient Canada*, 2023). With these factors included, we can understand the unique makeup of the community, it's strengths, areas of concern, and opportunities for change, with courses of action tailored specifically to these.

Regarding planning for extreme heat, it is recommended that:

2. Outputs of climate models be used to indicate climatic trends and avoid using absolute projections.
3. High emission models (e.g., RCP 8.5) be accepted as the scenarios used for planning purposes.
4. More intense and or longer duration events, which aren't depicted in averaged models, should be expected as outliers, and considered in municipal policy, planning and operations.
5. Disaster risk reduction efforts focus on system change, rather than individual hazards.

CLIMATE DATA SOURCES

The following are scientifically rigorous, user friendly sources of climate data.

PACIFIC CLIMATE IMPACTS CONSORTIUM (PCIC)

PacificClimate.org/

PCIC is a regional climate service centre at the University of Victoria that conducts quantitative studies on the impacts of climate change and climate variability in the Pacific and Yukon region. Results from this work provide regional climate stakeholders with the information they need to develop plans for reducing the risks associated with climate variability and change. In this way, PCIC plays an important bridging function between climate research and the practical application of that knowledge by decision makers. Specific to this region, PCIC has produced a 2024 report titled "[Climate Projections for the Capital Regional District](#)".

CLIMATE DATA CANADA

Climatedata.ca

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

TEMPERATURE

SUMMARY

Annual temperatures are projected to increase for our region regardless of mitigative actions. A certain amount of warming is already 'locked-in' however the degree of acceleration is highly variable depending on scale of intervention (Climate Data for a Resilient Canada, 2023). It should be expected that increased temperatures would be observed throughout the day and the night. A decreased ability to cool in the overnight period will impact human health and some infrastructure.

The number of heating degree days (a measurement used to quantify the demand for energy needed to heat a building) will decrease, while the number of cooling degree days (the amount of space cooling, i.e., air conditioning, which may be required to maintain comfortable conditions in a building during warmer months) will increase. The number of tropical nights above 18 degrees Celsius is expected to increase. The last spring freeze will be earlier, and the first fall freeze will be later. These changes in temperature may impact the way that buildings and infrastructure perform, alter the regional power consumption demands, shift the growing conditions and viable plant and animal species for the region. Above all, there are likely to be adverse human health impacts.

For the 1971-2000 period, the annual average temperature was 10.0 °C. Under a high emissions scenario, annual average temperatures are projected to be 11.7 °C for the 2021-2050 period, 13.4 °C for the 2051-2080 period and 14.4 °C for the last 30 years of this century (Climate Data for a Resilient Canada, 2023).

For Southwestern BC including Vancouver Island, the trigger for issuing a heat warning is when two or more consecutive days of daytime maximum temperatures are expected to reach 29°C or warmer, and nighttime minimum temperatures remain at 16°C or warmer (*BC Provincial Heat Alert and Response System (BC HARS): 2023, 2023*). Consecutive days and nights of above average heat greatly increase the danger to human and animal health, with expected increases in morbidity.

TREND

- Increased (daytime and nighttime) temperatures.
- Decreased heating degree days (days of heating homes)
- Increased cooling degree days (days of cooling homes)
- Increased number of tropical nights, at a level dangerous to human health
- Potential shifts in viable biodiversity

Graphs Legend:

Red line indicates high emission scenario

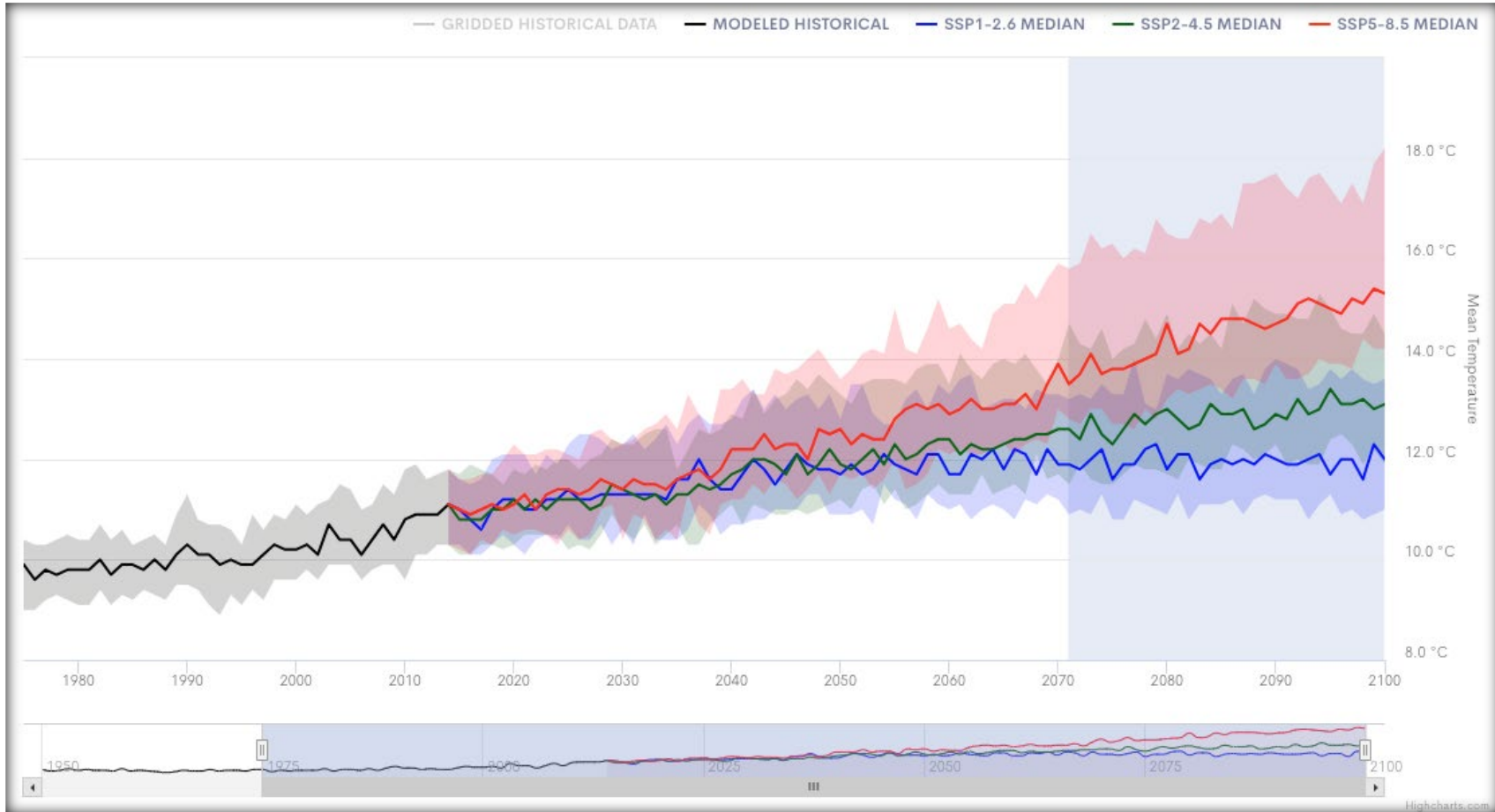
Green line indicates average emission scenario

Blue line indicates low emission scenario

VIEW ROYAL HEAT MODELING (1975-2100)

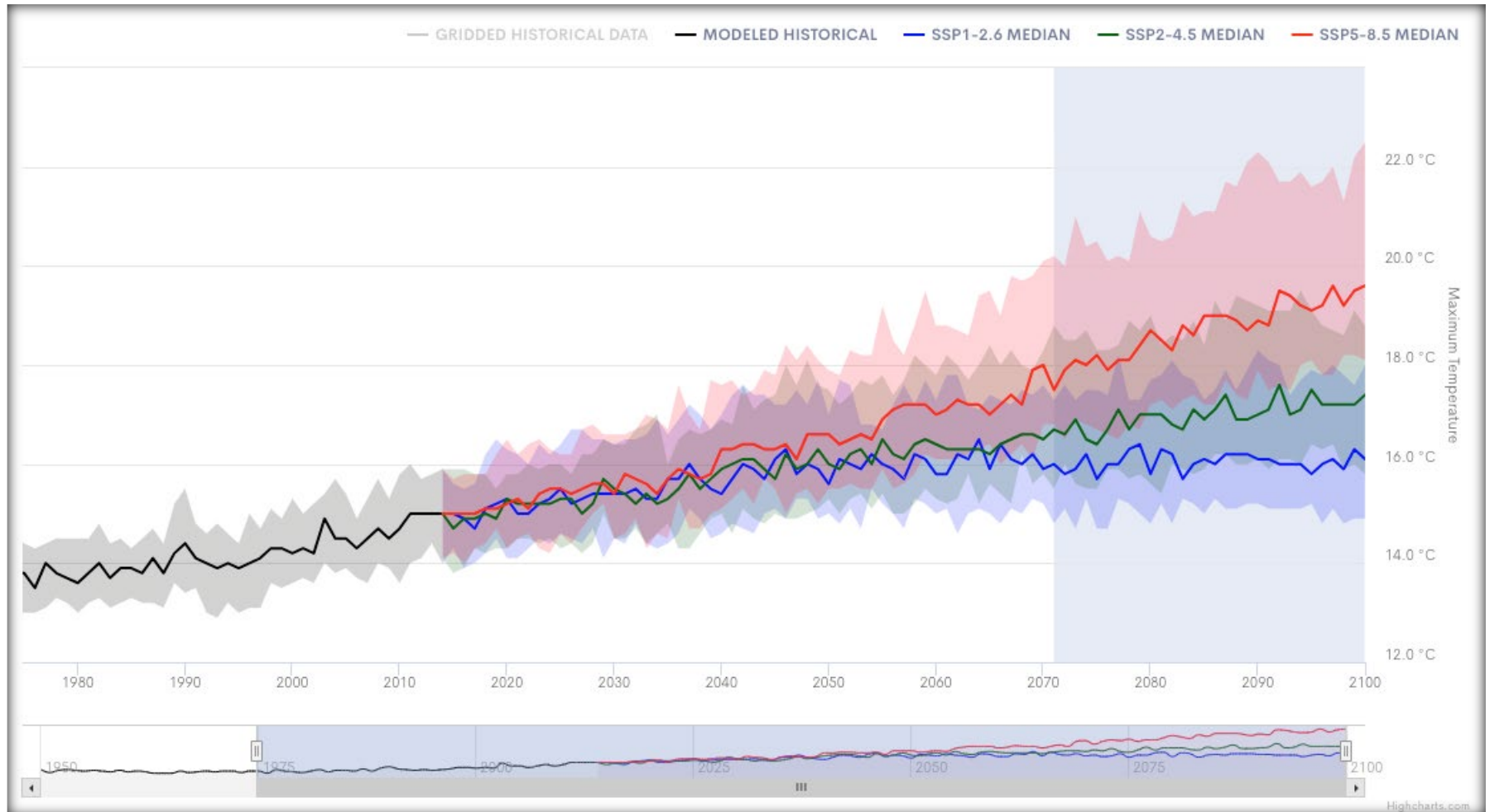
Mean Temperature

Mean temperature describes the average temperature for the 24-hour day. The average temperature is an environmental indicator with many applications in agriculture, engineering, health, energy management, recreation, and more (Climate Data for a Resilient Canada, 2023).



Maximum Temperature

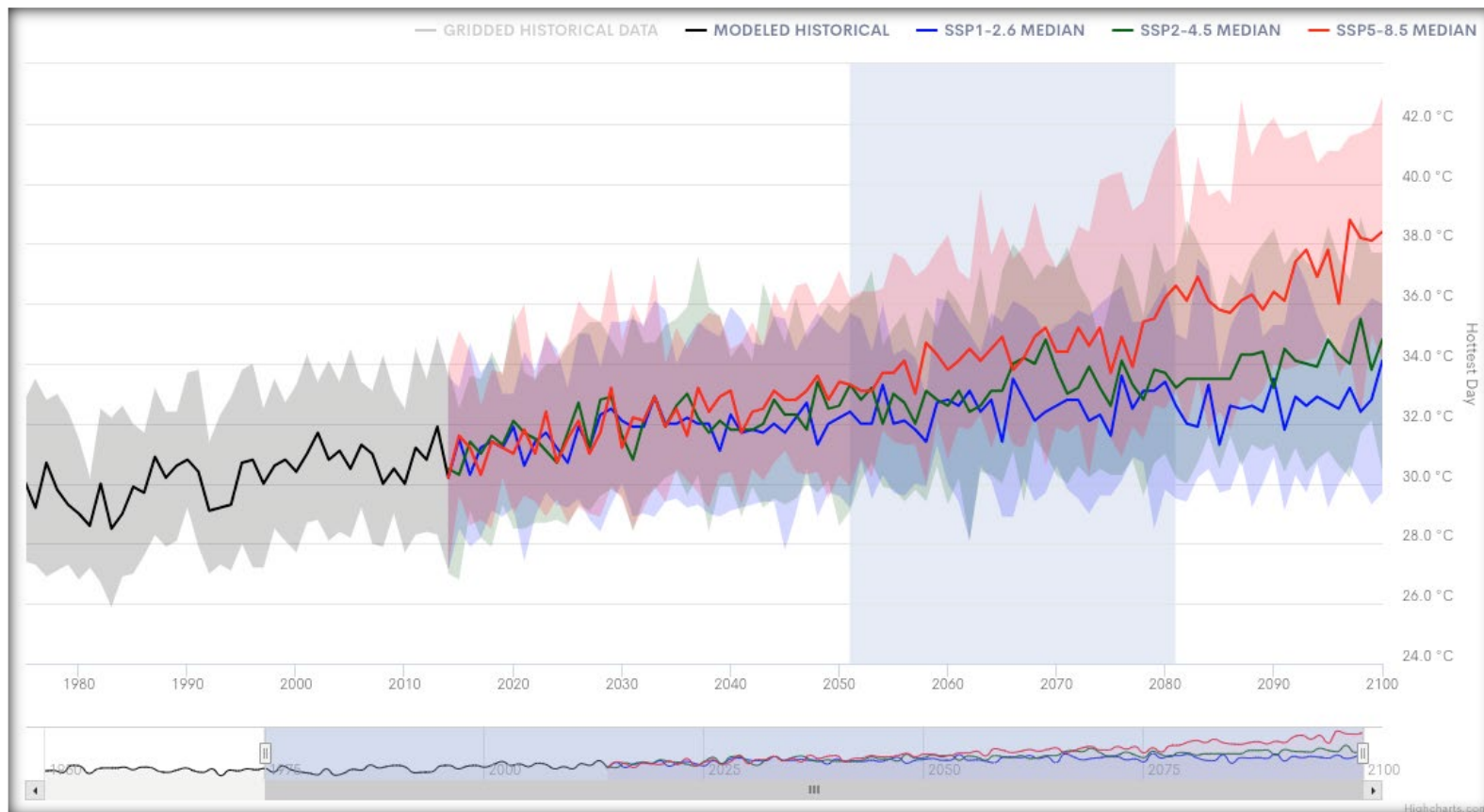
Maximum temperature describes the warmest temperature of the 24-hour day. Typically, but not always, the maximum temperatures occur during the day and so this variable is commonly referred to as the daytime high. The average highest temperature is an environmental indicator with many applications in agriculture, engineering, health, energy management, recreation, and more (Climate Data for a Resilient Canada, 2023).



Hottest Day

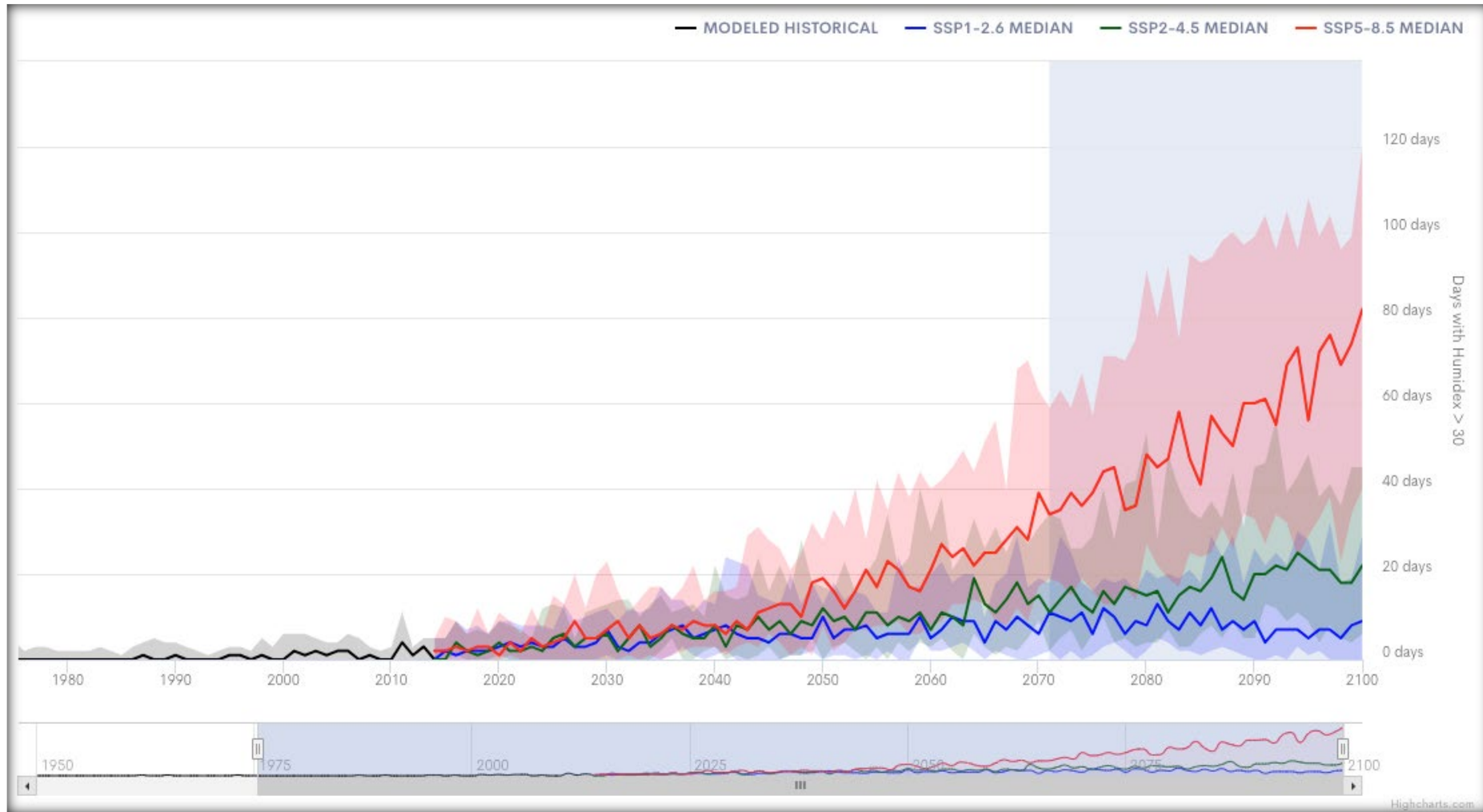
The *Hottest Day* describes the warmest daytime temperature in the selected time period. In general, the hottest day of the year occurs during the summer months.

High temperatures are important. They determine if plants and animals can thrive, they limit or enable outdoor activities, define how we design our buildings and vehicles, and shape our transportation and energy use. However, when temperatures are very hot, people – especially the elderly – are much more likely to suffer from heat exhaustion and heat stroke. Many outdoor activities become dangerous or impossible in very high temperatures (*Climate Data for a Resilient Canada, 2023*).



Days with Humidex > 30

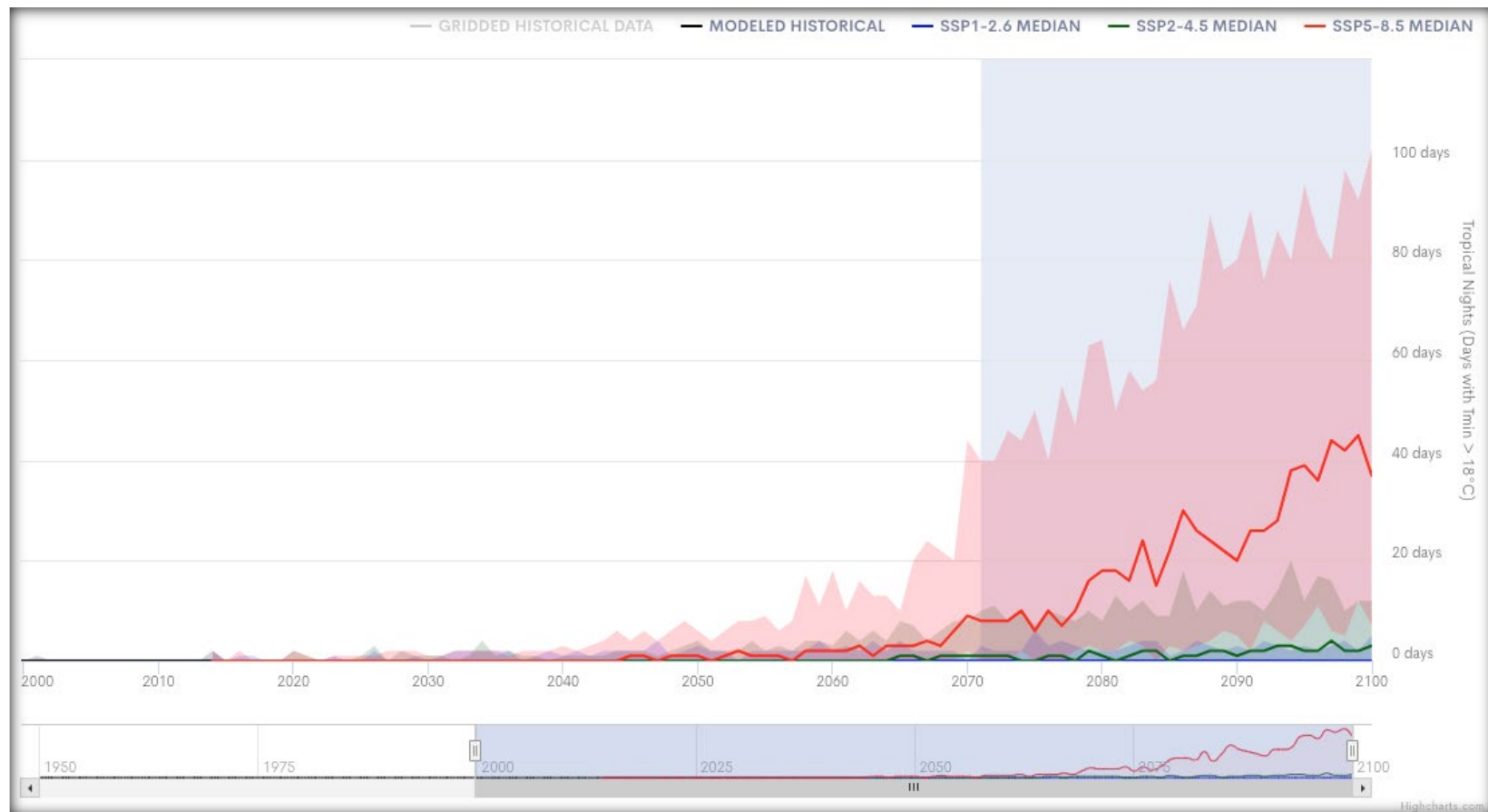
Humidex combines the temperature and humidity into one number to reflect the perceived temperature. Because it takes into account the two most important factors that affect summer comfort, it can be a better measure of how the weather affects the human body than either temperature or humidity alone. Generally, the Humidex decreases as latitude increases (*Climate Data for a Resilient Canada, 2023*).



Tropical Nights (Days with Tmin > 18 Degrees Celsius)

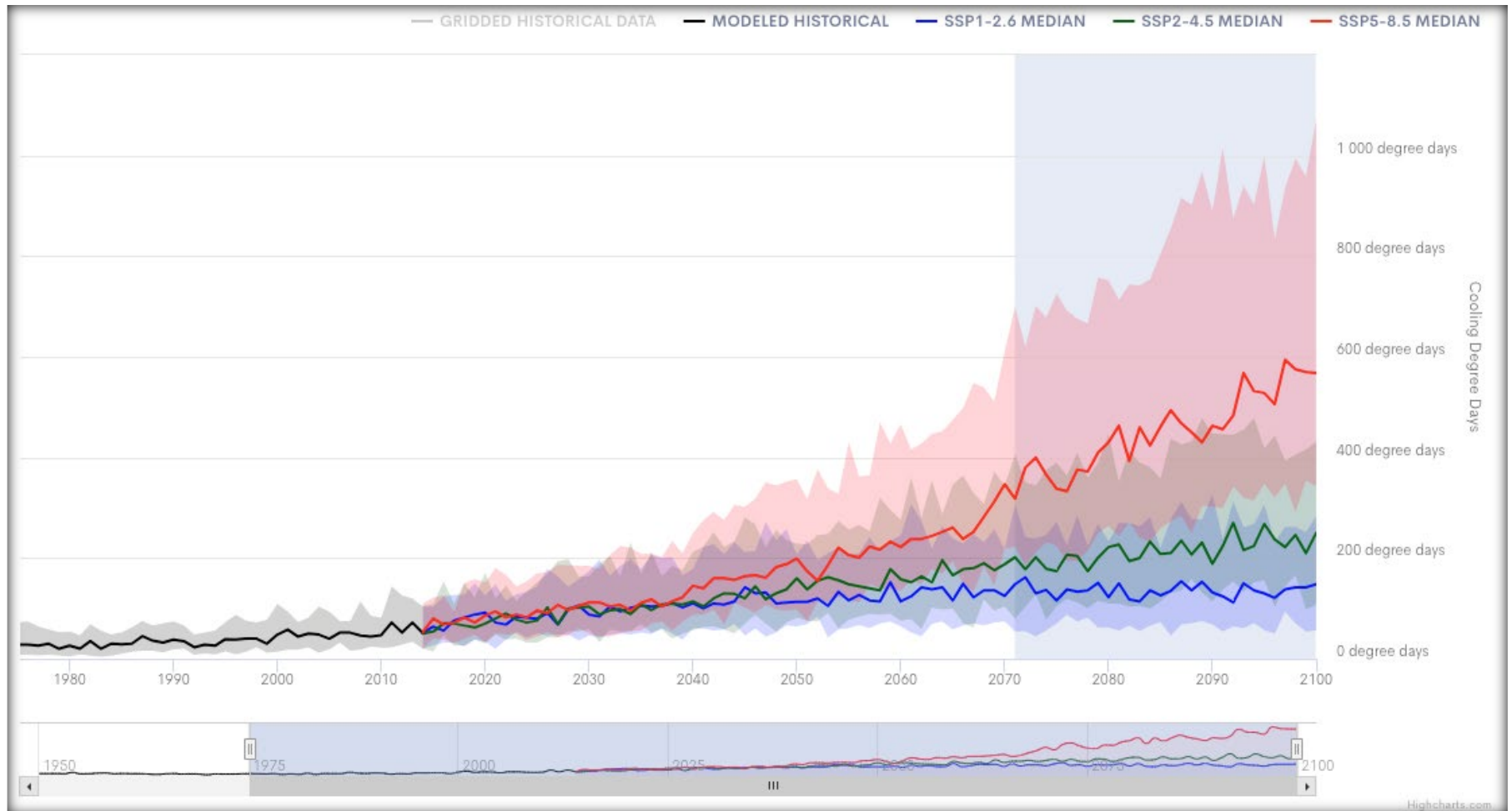
Tropical Nights (Days with Tmin > 18°C) describes the number of days where the nighttime low temperature is warmer than 18°C.

Hot summer days and heat waves become particularly stressful if overnight temperatures do not provide cooling relief. Tropical nights make it more difficult for the body to cool down and recover from hot days. Elderly people, the homeless, and those who live in houses or apartments without air conditioning are especially vulnerable during these heat events, particularly if they last for more than a few days (*Climate Data for a Resilient Canada, 2023*).



Cooling Degree Days

Cooling degree days (CDDs) give an indication of the amount of space cooling, i.e., air conditioning, which may be required to maintain comfortable conditions in a building during warmer months (*Climate Data for a Resilient Canada, 2023*).



SOURCES



BC Provincial Heat Alert and Response System (BC HARS): 2023. (2023).

Climate Data for a Resilient Canada. (2023). <https://Climatedata.ca/>.

Tu, A., Springinotic, C., Campbell, D., Foster, Q., & Panton, R. (2022). *Extreme Heat and Human Mortality: A Review of Heat-Related Deaths in B.C. in Summer 2021.*

Appendix B: Summary of Risk Reduction Strategies

Using the descriptions of the strategies provided during the workshops, further detail and estimates were developed to help scope, prioritize, and differentiate between the different strategies.

Legend	Probability: Provocative, Possible, Plausible, Probable	Level of Effort: 1, 2, 3, 4, 5
	Low  High	Low  High

Avoid new	Reduce Existing	Manage Residual	Theme	Description	Scale	Probability	Level of Effort	Cost	Status
		X	Understanding risk	Public cairns to highlight safer spaces	Local	Provocative	3	\$1,000s	Idea
x	x		Incentive	Carbon tax tied to business license and emission levels	Local	Provocative	4	\$100s	Idea
x	x	x	Policy	Alternative economic system- capitalism is hurting progress	Federal	Provocative	5		Idea
X	X	X	Non-Structural Mitigation	Community centre that helps people apply for resources	Local	Plausible	4	\$10,000s	Idea
X	X	X	Non-Structural Mitigation	Systemic change in how we approach disasters	All	Plausible	4	\$100,000s	Desired
X	X		Non-Structural Mitigation	Smart community planning / building / municipal plan	Local	Plausible	3		In-progress

X	X	X	Non-Structural Mitigation	Leadership that is aligned with seeing this as a problem, worthy of investment. (Proactive, not reactive)	All	(Community Dependant)	3		
X	X	X	Coordination	Need a combined effort. Does not make sense for each municipality to be going at it alone	Regional	Possible	4	\$1,000s	Desired
X	X	X	Comms	Better Communication	All	Plausible	3	None	Desired
X	X	X	Incentive	Incentivizing green infrastructure	Provincial & Federal	Probable	3	\$10,000s	Desired
X	X	X	Non-Structural Mitigation	Group buying programs	Individual	Probable	3		Idea
X	X	X	Structural mitigation	Install more electric vehicle charging stations	Local	Plausible	2	\$10,000s	Idea
X	X		Incentive	increase carbon gas tax	Provincial	Possible	4	None	Idea
X	X		Incentive	Incentivize electric vehicles	Provincial & Federal	Probable	2		In-progress
X	X	X	Non-Structural Mitigation	Consider what the impacts of decisions will be on future generations	All	Plausible	2		Desired
	X	X	Structural mitigation	Safe housing for the unhoused	Provincial	Provocative	3	\$100,000s	Desired
	X	X	Non-Structural Mitigation	Connectivity between neighbourhoods	Local	Possible	3		Idea
X	X	X		Densification of community	Local	Possible	4		Idea
X	X	X	Education	Manage expectations and change management processes	All	Plausible	3	\$1,000s	Desired

X	X		Policy	Plan further into the future	All	Possible	2		Desired
X	X	X	Non-Structural Mitigation	Be brave and make good decisions	All	Possible	2		
X	X	X	Understanding risk	Need to understand risk tolerance of community and of government	Local	Probable	2	\$1,000s	Desired
		X	Non-Structural Mitigation	Canadian Climate Disaster Corps	Federal	Provocative	4		Idea

Appendix C: Heat Response Checklists

On the following pages are three checklists, one for each stage of heat response.

Stage One: Public Information

Stage Two: Public resources

Stage Three: Dedicated Cooling Centres

They should be viewed as a starting point, and dynamic documents that are reviewed and added upon seasonally and following each activation.

STAGE ONE: PUBLIC INFORMATION

INPUTS

<input type="checkbox"/> Hazard	Environment & Climate Change Canada
<input type="checkbox"/> Plans / Triggers for Action	BCHARS, Local Extreme Heat Plan
<input type="checkbox"/> Subject Matter Expertise	VIHA, BCCDC, HEMBC, PreparedBC
<input type="checkbox"/> Local Direction	Local Crisis Communication Plan(s), Management, CAO, Mayor & Council
<input type="checkbox"/>	

ACTIVITIES

Build Situational Awareness

<input type="checkbox"/> Confirm triggers for action	BC Heat Alert & Response System
<input type="checkbox"/> Check weather forecasts for next 7 days (temperature and humidity)	Environment and Climate Change Canada
<input type="checkbox"/> Check messaging of subject matter experts	Hazard: VIHA, BCCDC, HEMBC,
<input type="checkbox"/> Personal preparedness	PreparedBC, BCCDC, VIHA
<input type="checkbox"/> Check internal messaging	Emergency Management, Climate Adaptation, CAO, Mayor and Council
<input type="checkbox"/>	

Build Public Information Strategy & Content

<input type="checkbox"/> Identifying messaging to amplify
<input type="checkbox"/> Identify internal messaging to be developed (including desired or anticipated interviews)
<input type="checkbox"/> Build release schedule and FAQs
<input type="checkbox"/> Prepare and pre-populate messaging and media releases
<input type="checkbox"/> Prepare spokespeople for interviews
<input type="checkbox"/> Provide all staff with FAQs
<input type="checkbox"/> Schedule & Release Public Information

OUTPUTS

- ⇒ Amplify messaging from subject matter experts
- ⇒ Distribute personal preparedness messaging

OUTCOME

- ⇒ Raise awareness of heat risks in the community
- ⇒ Increase the level of preparedness in the community

STAGE TWO: PUBLIC RESOURCES

INPUTS

- List of resources/buildings/businesses
- BCHARS
- Municipal Emergency Plans
- Municipal Communication plans
-

ACTIVITIES

- Confirm availability of public resources
- Update GeoBC map with public resource locations
- Develop public information
- Distribute public messaging
- Monitor any surges in use of public resources
-

OUTPUTS

- ⇒ Public messaging regarding public resources
- ⇒ Increased availability of public resources

OUTCOME

- ⇒ Increased awareness of public resources that are available to help community members stay cool.
- ⇒ Decreased disaster risk from extreme heat risks.

STAGE THREE: DEDICATED COOLING CENTRES

INPUTS

- BCHARS
- Feedback from Community and public resources
- Staffing plans
- List of cooling centre facilities
-

ACTIVITIES

- Plan for cooling centre operation
 - Facility
 - Staffing
 - Resources
- Activate cooling centre
- Distribute public information regarding cooling centres
- Setup spaces and resources (may include misting stations).

OUTPUTS

- ⇒ Cooling centre facility agreements.
- ⇒ Cooling centre staffing plan.
- ⇒ Cooling centre for public use.

OUTCOME

- ⇒ Public awareness of cooling centre options available.
- ⇒ Safe spaces for people to cool down during extreme heat emergencies.

Appendix D: Extreme Temperature Public Spaces

The below letter can be used as a template to help solicit community partners to participate as publicly available cooling (or warming) spaces.

To whom it may concern,

As part of the View Royal extreme temperature planning, we are assembling a list of facilities that community members can go to during times of extreme heat or cold to be safe and more comfortable.

These facilities are part of a three-stage approach to supporting community members. Stage 1 includes increased public messaging regarding imminent or occurring risks. Stage 2 involves communicating spaces that are available to the public that have air conditioning, or other cooling equipment. Stage 3 is where the District would open dedicated cooling spaces for the express purpose of providing people safe spaces to congregate.

If you are interested in being included in “Stage 2 safe spaces” please complete the below application form. Forms can be returned to (_____).

If you have any questions, please contact:

(name)

(title)

(Phone)

(Email)

Required features

- List hours of operation
- Accept all public, cannot discriminate
- List whether fee for service
- Mechanical heating or cooling (depending on whether it will be used as a heating or cooling centre)

Desirable features

- Accessible design
- Open 7 days a week, open in the day and evening
- Free to access

APPLICATION TO BE LISTED AS A PUBLIC COOLING/WARMING FACILITY?

Name of Facility	Click or tap here to enter text.
Address	Click or tap here to enter text.
Description of space available	Click or tap here to enter text.
Appropriate for	Cooling <input type="checkbox"/> Yes <input type="checkbox"/> No Heating <input type="checkbox"/> Yes <input type="checkbox"/> No
Accessibility	Stairs <input type="checkbox"/> Yes <input type="checkbox"/> No Wheelchair accessible <input type="checkbox"/> Yes <input type="checkbox"/> No Accessible washroom(s) <input type="checkbox"/> Yes <input type="checkbox"/> No Other considerations: Click or tap here to enter text.
Parking available	<input type="checkbox"/> Yes <input type="checkbox"/> No
Distance to bus stop	Within 50 metres <input type="checkbox"/> Yes <input type="checkbox"/> No Bus Routes:Click or tap here to enter text. Within 500 Metres <input type="checkbox"/> Yes <input type="checkbox"/> No Bus Routes:Click or tap here to enter text. Within 1 Km <input type="checkbox"/> Yes <input type="checkbox"/> No Bus Routes:Click or tap here to enter text.
Capacity (# of people)	Click or tap here to enter text.
Amenities	Mechanical heating <input type="checkbox"/> Yes <input type="checkbox"/> No Mechanical cooling <input type="checkbox"/> Yes <input type="checkbox"/> No Washrooms <input type="checkbox"/> Yes <input type="checkbox"/> No Device charging <input type="checkbox"/> Yes <input type="checkbox"/> No First aid provider <input type="checkbox"/> Yes <input type="checkbox"/> No Other Click or tap here to enter text.
Staffing	Paid <input type="checkbox"/> Yes <input type="checkbox"/> No Volunteer <input type="checkbox"/> Yes <input type="checkbox"/> No Paid on Call <input type="checkbox"/> Yes <input type="checkbox"/> No
Hours of operation	Regular Click or tap here to enter text. EmergencyClick or tap here to enter text.
Limitations	(facility, staffing, operating hours, etc.) Click or tap here to enter text.

Allow pets	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is there a fee or membership to access the facility?	<input type="checkbox"/> Yes <input type="checkbox"/> No Describe Click or tap here to enter text.
Other notes or considerations	Click or tap here to enter text.

Appendix E: Cooling Centre Action Plan

The following can be used to assist in planning the operation of a Cooling Centre. The expectation is that it remains a living document that is amended and updated regularly and following each activation.

Cooling Centre Action Plan

Part 1: Scope

<input type="checkbox"/>	Length of heat wave (days)	
<input type="checkbox"/>	Vulnerable populations expected:	
	<input type="checkbox"/> Health (Physical, Mental)	
	<input type="checkbox"/> Age	
	<input type="checkbox"/> Income	
	<input type="checkbox"/> Transportation	
<input type="checkbox"/>	Number of people expected at cooling centre (estimated)	
<input type="checkbox"/>	Location(s) of vulnerable people (neighbourhood names)	

Part 2: Management

<input type="checkbox"/>	Partners	<input type="checkbox"/> Town of View Royal	
		<input type="checkbox"/>	
		<input type="checkbox"/>	
		<input type="checkbox"/>	
<input type="checkbox"/>	Funding	<input type="checkbox"/> EMCR Response Costs	
		<input type="checkbox"/> Internal Operational Budgets	
		<input type="checkbox"/> In-Kind Contributions	
		<input type="checkbox"/>	
<input type="checkbox"/>	Supplies	<input type="checkbox"/> Water	
		<input type="checkbox"/> Snacks	
		<input type="checkbox"/> Misting Station	
		<input type="checkbox"/> 10x10 pop tent	
		<input type="checkbox"/> Chairs	
		<input type="checkbox"/> Tables	
		<input type="checkbox"/> Mats / Cots	
		<input type="checkbox"/>	

Part 3: Considerations

<input type="checkbox"/>	Language and cultural considerations	<input type="checkbox"/> Additional languages Required	
		<input type="checkbox"/> Cultural Safety Considerations	
		<input type="checkbox"/> Community Navigator Required	
<input type="checkbox"/>	Transportation	<input type="checkbox"/> Parking	
		<input type="checkbox"/> Public Transit	
<input type="checkbox"/>	Pets	<input type="checkbox"/> Pets allowed	
		<input type="checkbox"/> Supplies Available	
		<input type="checkbox"/> Trained Staff Available	

Part 4: Facility

<input type="checkbox"/> Accessibility <input type="checkbox"/> Wheelchair Access <input type="checkbox"/> Stairs <input type="checkbox"/>	
<input type="checkbox"/> Proximity <input type="checkbox"/> Distance from known populations in need <input type="checkbox"/> Proximity to public transportation <input type="checkbox"/>	
<input type="checkbox"/> Capacity <input type="checkbox"/> Number of people <input type="checkbox"/> Number of pets <input type="checkbox"/>	
<input type="checkbox"/> Amenities <input type="checkbox"/> Mechanical cooling <input type="checkbox"/> Restrooms <input type="checkbox"/> Water fountains <input type="checkbox"/> WiFi <input type="checkbox"/> Device charging <input type="checkbox"/> First Aid <input type="checkbox"/>	
<input type="checkbox"/> Hours of Operation <input type="checkbox"/> Morning <input type="checkbox"/> Afternoon <input type="checkbox"/> Evening <input type="checkbox"/> Overnight	
<input type="checkbox"/> Staffing <input type="checkbox"/> Municipal staff <input type="checkbox"/> Volunteer firefighters <input type="checkbox"/> ESS volunteers <input type="checkbox"/> Faith based orgs <input type="checkbox"/> St. John Ambulance <input type="checkbox"/> Rotary Club <input type="checkbox"/> Lions Club <input type="checkbox"/> BC Transit <input type="checkbox"/> <input type="checkbox"/>	

Appendix F: Workshop Summaries

Two workshops were held to gather information. The first for representatives of different vulnerable groups, the second for municipal staff. An online whiteboard was used to capture participant's comments during both and were subsequently summarized and organized into themes.

Below is the raw data that was collected during the Town of View Royal Workshops. For additional ideas and context, the responses of two other municipality's that participated in similar workshops are included afterwards (with identifying information removed)

View Royal Responses

Response	Theme
Physical brochures to hand out to hospital/home patients through island health.	Capacities
Transportation (cars are becoming less affordable)	Capacities
Splash parks for children	Capacities
health care providers available to assist	Capacities
ability to create neighbours helping neighbours	Capacities
some facilities have access to A/C etc.	Capacities
public spaces that are cooled	Capacities
cooling centres	Capacities
Neck/face fan	Capacities
Mist/spray bottles	Capacities
Personnel to help access these resources	Capacities
Program for those with compromised health to get AC... but not for children or low income. application is online etc. need time to be able to apply. (ministry of Health) (BC Hydro will send someone to install it)	Capacities
funding for building retrofits	Capacities
cooling centres set up in heat emergencies	Capacities
Cooling centres (rec centres, mall, library)	Capacities
Parks, shade	Capacities
low cost, low tech solutions	Capacities
Policy to limit outdoor work during heat waves	Capacities
Back up generator	Capacities
is the LA the right vehicle to respond- who are other partners?	Capacities
WorkSafe determines exposure.	Capacities
Neighbourhood groups, check on each other and build capacity.	Capacities
Use Colwood's cooling centre.	Capacities
Promote options on the website sooner and more proactively.	Capacities
Need to staff the comms role.	Capacities
Work with landlords to communicate with residents.	Capacities
Put on AC in car to cool.	Capacities
a lot of newer buildings, with A/C	Capacities
changes in what species to use	Capacities
Need to reallocate money.	Change in Capacities
Decision makers need to be in agreement that there is a problem!	Change in Capacities
FN communities are doing better at advocating, have wellness centres	Change in Capacities
need to normalize people asking for and receiving assistance	Change in Capacities

use existing knowledge, do not reinvent solutions	Change in Capacities
Access to resources	Change in Capacities
emergency kits need heat supplies	Change in Capacities
Make senior centres cooling centres.	Change in Capacities
Need more personnel. Cant rely on .5 of a person	Change in Capacities
need check-ins for isolated or vulnerable people	Change in Capacities
emergency health capacity increased	Change in Capacities
resources to hospital discharge nurses	Change in Capacities
Personnel. Community social workers, wellness check people	Change in Capacities
supports for vulnerable populations is dependant on funding. If long emergency and doom loop, may impact ability to care for vulnerable.	Change in Capacities
policies programming need to change to reflect heat risk already in place for rother areas, need to catch up	Change in Capacities
need policies to determine safe activities for different heat events	Change in Capacities
further education	Change in Capacities
fire and safety drills to include heat risk	Change in Capacities
Need to change accessibility through resources and money... which isn't looking good	Change in Capacities
Proactive society!	Change in Capacities
FN communities really lack resources, money personnel	Change in Exposures
Response is at an all-time high	Change in Exposures
No one will want to work outside in the extreme heat	Change in Exposures
changes in tree canopy can impact capacities, carbon capture	Change in Exposures
changing pest environments e.g. ticks, etc.	Change in Exposures
increased wildfire risk	Change in Exposures
increased public health risks	Change in Exposures
need to understand variations in the way that different people respond to heat	Change in Vulnerabilities
need to understand risk of different populations and activities	Change in Vulnerabilities
Communities need to work together... can't all be doing things separately	Change in Vulnerabilities
Need to share more resources	Change in Vulnerabilities
Harder to get volunteers	Change in Vulnerabilities
access to information is a challenge	Change in Vulnerabilities
heat packages- resources, printed, and online	Change in Vulnerabilities
cant rely on volunteers	Change in Vulnerabilities
Government websites are very hard to navigate.	Change in Vulnerabilities
Language barriers with new immigrants	Change in Vulnerabilities
Trust issues	Change in Vulnerabilities

Individualized. Everyone helping themselves, since no one is going to help them.	Change in Vulnerabilities
No one is coming.	Change in Vulnerabilities
Suspicious. conspiracy. less trust in the same truth	Change in Vulnerabilities
More social isolation, as people have to hide inside	Change in Vulnerabilities
Stuck in reactive, lack resources to be proactive	Change in Vulnerabilities
You can only use healthcare when you have a problem	Change in Vulnerabilities
demographic changes	Change in Vulnerabilities
loss of social connection (social capital)	Change in Vulnerabilities
migrations	Change in Vulnerabilities
species at risk, changing environments	Change in Vulnerabilities
Sand at the beaches is even hot	Exposures
decreased tree canopy	Exposures
removal of nature based solutions	Exposures
Sports (outdoors)	Exposures
those that are active on sports are more vulnerable	Exposures
misting stations are limited in efficiency	Exposures
design standards are not keeping up with changing risk	Exposures
Additional vulnerable population: outdoor workers, like traffic control, municipal workers, construction workers	Exposures
Not many homes or schools with AC	Exposures
high temperatures at night	Exposures
People show up at the hospital to cool down	Exposures
multi-unit building means less control over individual control.	Exposures
Traffic controller working in direct heat without shade	Exposures
different levels of vulnerability	Exposures
not everyone is impacted in the same way	Exposures
personal responsibility	Exposures
generating heat islands	Exposures
longer exposures to heat impacts	Exposures
Thetis lake warmer, more algae	Exposures
higher wildfire risk	Exposures
Apartments especially south facing couldn't regulate temperature	Exposures
Social isolation	Vulnerabilities
willful denial	Vulnerabilities
transportation issues	Vulnerabilities

Transportation /accessibility to the cooling centres. even handy dart can take too long, cost of cabs. few people have people that visit them at home.	Vulnerabilities
embarrassment to ask for help	Vulnerabilities
limitations created by by-laws, strata rules, rentals	Vulnerabilities
Lack of AC	Vulnerabilities
awareness of signs in general population of their own and of others responses	Vulnerabilities
access to cooling centre	Vulnerabilities
awareness of cooling centres limited. temporary knowledge is not high enough	Vulnerabilities
not Tech savvy so hard to find the information	Vulnerabilities
need more information distributed	Vulnerabilities
Hard to get the info to people that need it when an event is already happening. Need to put plans in place much earlier (spring)	Vulnerabilities
Restrictions on water garden, so people are cutting down their trees, but then less shade, adverse impacts.	Vulnerabilities
less ability to regulate heat	Vulnerabilities
Families (low income)	Vulnerabilities
health issues that are increased by heat	Vulnerabilities
communication challenges not direct (my ears hurt= am cold. aggressive=rainy and cold	Vulnerabilities
need to understand non-verbal cues	Vulnerabilities
do not want to drink lots of water because have to get up all night	Vulnerabilities
social isolation	Vulnerabilities
Those that don't have access to technology	Vulnerabilities
Social isolation	Vulnerabilities
Very small staff to serve a large population.	Vulnerabilities
over commit to non-emergency issues	Vulnerabilities
more response calls (fire, police, medical)	Vulnerabilities
need triggers to open centres, using resources effectively	Vulnerabilities
# of staff available	Vulnerabilities
cooling centres are resource heavy to operate	Vulnerabilities
do not have arts and culture facilities	Vulnerabilities
do not have lands use to support community building	Vulnerabilities
do not have a culture and arts core	Vulnerabilities
Public perception, negative. Dealing with complaints about idling in cars to cool down.	Vulnerabilities
Tourism may be down in heat events.	Vulnerabilities

Technology can be compromised due to power outages. Assets are vulnerable. Can respond quickly for people, but not technology.	Vulnerabilities
Worried about blackouts when there are heavy loads on the system	Vulnerabilities
Heat pump went down, hard to work.	Vulnerabilities
Pockets of low-income populations.	Vulnerabilities
Transportation to cooling centres/splash pads	What could be done?
Fulltime emergency personnel/ community support workers cant just be troy	What could be done?
A council that is aligned with seeing this is a problem, worthy of investment. Proactive not reactive.	What could be done?
community navigator (to help members navigate applications/resources)	What could be done?
better coordination and messaging between partners and stakeholders	What could be done?
understanding of role and responsibilities	What could be done?
better system for wellness checks	What could be done?
Dedicated parks, shade increase	What could be done?
Smart community planning/building/municipal plan	What could be done?
Incentivizing green infrastructure	What could be done?
Need systemic change	What could be done?
Increase capacity of hospitals to be able to take in more people	What could be done?
health has some resources, but not knowledge of who needs help	What could be done?
better coordination between health responders and emergency / municipal response	What could be done?
Less individualistic more collective understanding and release of liability. Good Samaritan act	What could be done?
reduce barriers to a/c heat pumps	What could be done?
heat risk vulnerability Index	What could be done?
Preparedness newsletter, post it publicly mail it to homes	What could be done?
Simplified language with resources	What could be done?
Need a combined effort. Doesn't make sense to have all regional municipalities doing all of this work	What could be done?
multi unit buildings have heating and cooling standards	What could be done?
Resource management/resource sharing	What could be done?
AC in all homes	What could be done?
Community centre to help people apply for resources	What could be done?

Grants for increased bills	What could be done?
one stop shop for info. local heat index. how long should you be outside, etc.? cross hazard	What could be done?
Combined buying/purchasing power	What could be done?
better communication	What could be done?
need regional approaches for issues that cross jurisdictions	What could be done?
smaller communities get caught in flurry of action or inaction, may not reflect local risk	What could be done?
advocate for investments and change	What could be done?
look further in the future--> planning for 20-50 years out	What could be done?
livability and quality of life	What could be done?
managing expectations and change management	What could be done?
how to enable self sufficiency/increase resilience	What could be done?
education	What could be done?
culture of preparedness.	What could be done?
public ed	What could be done?
conversations at the dining table	What could be done?
building social capital / Community	What could be done?
need collective response plans	What could be done?
More electric vehicle charging stations.	What could be done?
Tax gas users.	What could be done?
Incentivize electric cars.	What could be done?
Require triple pane windows.	What could be done?
Trees on the south side of buildings	What could be done?
Improve benefit package for staff to access help with stress/climate anxiety. more mental health supports.	What could be done?
need to understand risk tolerance of community and of the organization	What could be done?
build social connections. neighbours helping neighbours	What could be done?
Ovens are a bad use of space and energy use especially in small dwellings.	What could be done?
being brave and making good decisions	What could be done?
Densification of community	What could be done?
regular updates of heat vulnerability index	What could be done?
host community events to build community connections	What could be done?
connect fort vic to parks	What could be done?
need to control expectations	What could be done?
Incentivize retrofits, appliances.	What could be done?
Free Air conditioners for everyone.	What could be done?
Scottish Heritage Centre could be made into a cooling centre	What could be done?

Make JdF Rec Centre a cooling centre (right now they say no because they have programming)	What could be done?
Partner with other organizations, to help with funding.	What could be done?
increase information and communication	What could be done?
understand where the issue is, where are the vulnerabilities	What could be done?
15 minute communities (so people don't have to drive as far or spend so much time in cars)	What could be done?
Existing program but not in View Royal yet: CO2 action task force in schools to increase awareness in young populations.	What could be done?
Safe housing for the unhoused.	What could be done?
Behavioural changes on energy and water use.	What could be done?
community wellbeing strategy	What could be done?
Could improve access to water at road ends.	What could be done?
More accessible nature trails.	What could be done?
more park land	What could be done?
large treed boulevards	What could be done?
connectivity between neighbourhoods (active transportation)	What could be done?
support density and amenities for 15 minute cities	What could be done?
consider impacts of decisions on future generations	What could be done?
hire events coord, pub engagement person	What could be done?
Some outreach teams	What is already happening to reduce Heat Risk?
811	What is already happening to reduce Heat Risk?
limitations to this system	What is already happening to reduce Heat Risk?
air conditioner funding for vulnerable	What is already happening to reduce Heat Risk?
heat information being distributed as much as possible	What is already happening to reduce Heat Risk?
More integration with health authority and municipal staff	What is already happening to reduce Heat Risk?
Investment in splash parks, misting parks	What is already happening to reduce Heat Risk?
public information messaging and distribution plans	What is already happening to reduce Heat Risk?
Have a means of ranking risk of patients	What is already happening to reduce Heat Risk?
Families are sharing resources in neighbourhoods	What is already happening to reduce Heat Risk?
monitoring through BC HARS to inform people and earlier warning	What is already happening to reduce Heat Risk?
developed standard messaging and advice	What is already happening to reduce Heat Risk?
misting stations and cooling centres in some areas	What is already happening to reduce Heat Risk?
Heat is a topic at health and safety meetings	What is already happening to reduce Heat Risk?
rebate programs	What is already happening to reduce Heat Risk?
mitigation programs	What is already happening to reduce Heat Risk?
Hospitals- developing acute site heat response plan	What is already happening to reduce Heat Risk?

government planning	What is already happening to reduce Heat Risk?
home care practitioners as a distribution resource	What is already happening to reduce Heat Risk?
Cooling centres	What is already happening to reduce Heat Risk?
health authority gives out information in hospitals and doctors offices etc.	What is already happening to reduce Heat Risk?
health authority rolled out a heat screening tool with a phone number municipalities to share out.	What is already happening to reduce Heat Risk?
No splash parks is the consensus.	What is already happening to reduce Heat Risk?
Urban forest strategy to increase forest cover.	What is already happening to reduce Heat Risk?
Working with developers to reduce heat risk by less asphalt and more landscaping	What is already happening to reduce Heat Risk?
Implementation of zero carbon step code require buildings install heat pumps (new developments).	What is already happening to reduce Heat Risk?
FIRESMART design guidelines in the interface fire areas. On strat plan.	What is already happening to reduce Heat Risk?
cooling centres	What is already happening to reduce Heat Risk?
Increasing the awareness of heat risk. Comms on the website.	What is already happening to reduce Heat Risk?
install heat pumps at Muni hall	What is already happening to reduce Heat Risk?
town hall, fire hall have cooling	What is already happening to reduce Heat Risk?
Climate Action Plan	What is already happening to reduce Heat Risk?
Extreme Heat Project	What is already happening to reduce Heat Risk?
Regional District Heat Vulnerability Index	What is already happening to reduce Heat Risk?
"Shift beyond the car"	What is already happening to reduce Heat Risk?
zoning regulations re: heat island effect	What is already happening to reduce Heat Risk?
tree planting programs	What is already happening to reduce Heat Risk?
riparian area restoration through development permits. They have to improve the riparian area.	What is already happening to reduce Heat Risk?
notification policies to notify outside staff	What is already happening to reduce Heat Risk?
Muni vehicles have A/C	What is already happening to reduce Heat Risk?
Heat pump rebate program.	What is already happening to reduce Heat Risk?
new parks truck has smaller engine= less fuel	What is already happening to reduce Heat Risk?
moving towards electrification of fleet	What is already happening to reduce Heat Risk?
Work outside policy.	What is already happening to reduce Heat Risk?
Energy step code for new construction.	What is already happening to reduce Heat Risk?
guide to hosting a block party (build social connection)	What is already happening to reduce Heat Risk?
Electrify Transportation	What is already happening to reduce Heat Risk?
loss of independence and capacities	What is the same in every scenario?
online resources do not work. Need personnel connection, physical presence.	What is the same in every scenario?
Governments need to reallocate resource	What is the same in every scenario?
The vulnerability remain vulnerable. they are along for the ride regardless. just more of them in the complex scenario.	What is the same in every scenario?
Can't force change, have to help people help themselves	What is the same in every scenario?

Hard thing for a municipality to tackle.	What is the same in every scenario?
Proactive lens, that's a visible commodity, not just online resources.	What is the same in every scenario?
challenge of change management	What is the same in every scenario?
caution and cry wolf syndrome	What is the same in every scenario?
more personnel	What is the same in every scenario?
economic restraints	What is the same in every scenario?
those in poverty will be some of the most vulnerable	What is the same in every scenario?
reactive instead of proactive	What is the same in every scenario?
Squirrel syndrome	What is the same in every scenario?
will always be a vulnerable population in the community	What is the same in every scenario?
infrastructure breakdown	What is the same in every scenario?
parks shop and shed do not have cooling	What is the same in every scenario?
under resourced	What is the same in every scenario?
under resourced/over committed	What is the same in every scenario?
threshold for action will stay same	What is the same in every scenario?
economic hardship	What is the same in every scenario?
some businesses may close	What is the same in every scenario?
reduced taxes	What is the same in every scenario?
jobs	What is the same in every scenario?
harder to find people	What is the same in every scenario?
housing may become available with migration	What is the same in every scenario?

"Community A"

Response	Theme
Muni hall some A/C	Capacities
outreach and education	Capacities
water and misting stations	Capacities
cooling centres	Capacities
heat pumps	Capacities
provide options for cooling at public outdoor spaces	Capacities
shade structures	Capacities
understand numbers of vulnerable populations	Capacities
Seniors' centre	Capacities
turn on sprinklers for kids at schools	Capacities
PACs can fundraise for investment projects	Capacities
policy for closing schools if too hot	Capacities
possible invest in cultural centre	Capacities
Heat pump loan	Capacities
WorkSafe BC regs	Capacities
change working hours for outside staff	Capacities
essential workers' kid care	Capacities
leverage experience of other regions of the province	Capacities
heat pump loan	Capacities
some facilities cool equipment	Capacities
access to green spaces	Capacities
access to blue space	Capacities
strong asset management strategy for infrastructure	Capacities
step code- more efficient buildings (municipal and provincial)	Capacities
activate cooling centres	Capacities
neighborhood capacities	Capacities
community amenity spaces	Capacities
centralized spaces for cooling	Capacities
Saving for the future to save for aging infrastructure	Capacities
AC in buildings	Capacities
protective clothing for outside staff	Capacities
natural asset management plan	Capacities
flexibility in staff hours (shift away from hottest times)	Capacities
WorkSafeBC regulations	Capacities
Prov. dashboard sharing cooling centre/water fountains	Capacities
Regional District heat maps for the area	Capacities
tree bylaw	Capacities
tree canopy provides shade	Capacities
notification systems	Capacities
accessibility plan	Capacities
how to reach vulnerable populations	Capacities
ability to form partnerships with FNs	Capacities
Supportive council	Capacities
increasing tree canopy	Change in Capacities
new centre on veyanresse	Change in Capacities

more likely to be outside	Exposures
few places to escape when hot	Exposures
outside workers	Exposures
aging staff	Exposures
asset management does not consider climate change	Exposures
design standards have not caught up (high intensity)	Exposures
buildings without proper cooling abilities	Exposures
high water temperatures in ground water- health	Exposures
Impact of smoke and heat on outdoor workers	Exposures
Municipality supplies water to First Nations	Exposures
Senior community centre like unemployment centre	Exposures
few financial resources to invest	Vulnerabilities
don't know where vulnerable populations are	Vulnerabilities
medical conditions/interactions	Vulnerabilities
mobility	Vulnerabilities
need to be more aware of risks	Vulnerabilities
social isolation without supports	Vulnerabilities
Strata challenges with putting up blinds or AC units	Vulnerabilities
BC building code does not have safe cooling temperatures	Vulnerabilities
FN vulnerabilities in community	Vulnerabilities
mobility issues	Vulnerabilities
Added pressure on medical system	Vulnerabilities
Old infrastructure	Vulnerabilities
Older facilities	Vulnerabilities
Some buildings don't have adequate cooling	Vulnerabilities
Isolated populations, with social housing or rental	Vulnerabilities
Lack of accessing cool spaces	Vulnerabilities
may not be able to get to cooling centre	Vulnerabilities
access to public transport	Vulnerabilities
Agricultural vulnerabilities both in summer and winter	Vulnerabilities
Changing pest presence, weeds, insects etc.	Vulnerabilities
heat impacts to infrastructure	Vulnerabilities
renters and strata do not have ability to install equipment	Vulnerabilities
Provincial guidelines determine strata rules	Vulnerabilities
Demand on org from residents (impacts on cross-sector)	Vulnerabilities
municipality cannot control building requirements	Vulnerabilities
do not have standard triggers to restrict activities	Vulnerabilities
work	Vulnerabilities
recreation/play	Vulnerabilities
Compounding health and respiratory issues - mental health	Vulnerabilities
Lack of communication with vulnerable populations	Vulnerabilities
family safety	Vulnerabilities
how to communicate with vulnerable populations	Vulnerabilities
No asset mapping of what buildings or spaces are	Vulnerabilities
aging population	Vulnerabilities
Staffing issues	Vulnerabilities
mental health climate dread	Vulnerabilities

Budget limitations for programming	Vulnerabilities
Cold water temperature is rising so more likely	Vulnerabilities
Impacts to road and sewer system	Vulnerabilities
Don't supply the water to Central Saanich	Vulnerabilities
lack of depth in staffing to create resilient staff	Vulnerabilities
staff to operate cooling centers	Vulnerabilities
sand battery (heat sinks)	What could be done to Reduce Heat Risk
increase access (criteria) of heat pump program	What could be done to Reduce Heat Risk
increase access to other upgrades (windows etc)	What could be done to Reduce Heat Risk
increase step code to existing buildings (incenti	What could be done to Reduce Heat Risk
Additional funding	What could be done to Reduce Heat Risk
decision making- where are most appropriate	What could be done to Reduce Heat Risk
local values drive speed of change	What could be done to Reduce Heat Risk
local (individualistic, economic) interests can slow	What could be done to Reduce Heat Risk
access to home energy assessments	What could be done to Reduce Heat Risk
public education, awareness	What could be done to Reduce Heat Risk
public art	What could be done to Reduce Heat Risk
more public gathering spaces	What could be done to Reduce Heat Risk
community building social capital	What could be done to Reduce Heat Risk
green space	What could be done to Reduce Heat Risk
individual responsibility (isn't always gov't to save	What could be done to Reduce Heat Risk
but vulnerable populations may not have the capacity	What could be done to Reduce Heat Risk
electrification vehicles	What could be done to Reduce Heat Risk
business license tied to emissions outputs	What could be done to Reduce Heat Risk
"carbon tax" for business actions	What could be done to Reduce Heat Risk
better use of buildings. use for cooling	What could be done to Reduce Heat Risk
partner with school district to fund equipment for	What could be done to Reduce Heat Risk
everyone in municipality within 15 minute commu	What could be done to Reduce Heat Risk
more tree planting	What could be done to Reduce Heat Risk
different species of trees that are more adaptive	What could be done to Reduce Heat Risk
water supply capture in the winter for summer	What could be done to Reduce Heat Risk
water needs	What could be done to Reduce Heat Risk
different fuel type transitions	What could be done to Reduce Heat Risk
multi family buildings	What could be done to Reduce Heat Risk
educate stratas re: risks and limit restrictive rul	What could be done to Reduce Heat Risk
risk disclosure with property sales	What could be done to Reduce Heat Risk
new municipal hall	What could be done to Reduce Heat Risk
welfare checks/ using existing resource and spa	What could be done to Reduce Heat Risk
neighbour helping neighbour program	What could be done to Reduce Heat Risk
block watch	What could be done to Reduce Heat Risk
new economic system. capitalism hurting program	What could be done to Reduce Heat Risk
Hire a seasonal Community Disaster Risk Naviga	What could be done to Reduce Heat Risk
Train people to recognize and treat heat stroke	What could be done?
regional heat vulnerability index	What could be done?
research other areas that already have high heat	What could be done?
public art as a means of raising awareness	What could be done?
need multiple ways to reach people to make su	What could be done?

OHS committees as a way to have conversation	What could be done?
Regional approach- especially for orgs cross jur	What could be done?
need to clarify assumptions between organizati	What could be done?
educate re: disasters in schools, and also adults	What could be done?
carbon tax as an incentive to change behaviour	What could be done?
Regional District as a mechanism to coordinate	What could be done?
mechanical cooling in schools	What could be done?
incentivize mechanical investments	What could be done?
building code strengthen- energy efficiency	What could be done?
minimum cooling standards	What could be done?
step code	What could be done?
balance with affordable housing	What could be done?
funding to reduce GHG- ground source heat pu	What could be done?
alternative power generation and storage	What could be done?
carens to highlight safer spaces	What could be done?
increase tree canopy at schools	What is already happening to reduce Heat Risk?
park initiative to increase green spaces	What is already happening to reduce Heat Risk?
how to use blue spaces (ocean) as a cooling res	What is already happening to reduce Heat Risk?
Heat pump initiative (fed, prov, Muni)	What is already happening to reduce Heat Risk?
Reduce GHG (Muni, SD)	What is already happening to reduce Heat Risk?
electric school buses	What is already happening to reduce Heat Risk?
splash park	What is already happening to reduce Heat Risk?
cooling centres	What is already happening to reduce Heat Risk?
shelter at Island View Beach	What is already happening to reduce Heat Risk?
Regional District Heat Vulnerability Index	What is already happening to reduce Heat Risk?
emerg prep (general) education	What is already happening to reduce Heat Risk?
splash pad	What is already happening to reduce Heat Risk?
parks master plan	What is already happening to reduce Heat Risk?
Moving towards zero carbon buildings	What is already happening to reduce Heat Risk?
Increasing staff capacity	What is already happening to reduce Heat Risk?
investing in staffing for daily needs but also sur	What is already happening to reduce Heat Risk?
manage/ protect tree canopy	What is already happening to reduce Heat Risk?
fire smart	What is already happening to reduce Heat Risk?
fleet electrification	What is already happening to reduce Heat Risk?
staffing climate planner, EM specialist	What is already happening to reduce Heat Risk?
**** park well laid out for cooling natural infr	What is already happening to reduce Heat Risk?
Building relationships with community social se	What is already happening to reduce Heat Risk?
active transportation plan	What is already happening to reduce Heat Risk?
step code and design standards for built enviro	What is already happening to reduce Heat Risk?
encouraging basements	What is already happening to reduce Heat Risk?
Increased Public education	What is already happening to reduce Heat Risk?
developing partnerships	What is already happening to reduce Heat Risk?
build capacity	What is already happening to reduce Heat Risk?
climate leadership plan	What is already happening to reduce Heat Risk?
reviewing master plans	What is already happening to reduce Heat Risk?
OCP supports densification, and not build outsi	What is already happening to reduce Heat Risk?
limit urban sprawl	What is already happening to reduce Heat Risk?

Supporting affordability in rental housing	What is already happening to reduce Heat Risk?
"block parties"	What is already happening to reduce Heat Risk?
Heat response Plan and Comms plan	What is already happening to reduce Heat Risk?
community building	What is already happening to reduce Heat Risk?
education	What is already happening to reduce Heat Risk?
more heat waves/domes per hear	What is the same in every scenario?
need cooling centres because housing not safe	What is the same in every scenario?
need to upgrade building stock	What is the same in every scenario?
always going to have vulnerable populations	What is the same in every scenario?
population growing	What is the same in every scenario?
wait list for assisted care	What is the same in every scenario?
more seniors	What is the same in every scenario?
temperatures will increase	What is the same in every scenario?
aging housing stock	What is the same in every scenario?
if everyone electrifies, will the power grid supp	What is the same in every scenario?
cooling centres will be needed more frequently	What is the same in every scenario?
higher heat exposure	What is the same in every scenario?
need 15 minute communities	What is the same in every scenario?
passive design strategies	What is the same in every scenario?
green infrastructure, lighter coloured buildings,	What is the same in every scenario?
secondary impacts (health, community	What is the same in every scenario?
alternative sources of energy	What is the same in every scenario?
technologic advancement -increase effectiveness	What is the same in every scenario?
how to reach most vulnerable	What is the same in every scenario?
Need change management to adapt to a warme	What is the same in every scenario?
need behavioural and cultural change to know	What is the same in every scenario?
Need to support these behavioural adaptations	What is the same in every scenario?
vulnerable populations will always be around	What is the same in every scenario?
probable that there will be more vulnerable pe	What is the same in every scenario?
Population Growth.	What is the same in every scenario?
demand on infrastructure	What is the same in every scenario?
increased call volume (Fire Police, Ambulance)	What is the same in every scenario?
building capacities (housing opportunities)	What is the same in every scenario?
always going to have transportation needs	What is the same in every scenario?
active transportation networks	What is the same in every scenario?
food security and production may decrease (ins	What is the same in every scenario?
may need to shift types of crops	What is the same in every scenario?
lots of horse properties- can we shift to more p	What is the same in every scenario?

"Community B"

Response	Theme
cycle crews, shade tents	Capacities
pre-post vitals for all training systems	Capacities
hydration reminders	Capacities
flexible work environment	Capacities
some may stay home, some may come into work	Capacities
Business Continuity planning across the organization	Capacities
more heat pumps- retrofit assist, top up grants	Capacities
residential retrofits	Capacities
Fire Hall buildings are designed with additional capacities (power generation, a/c, heat, ...)	Capacities
plan for Rec Centre- fan coil units with air source heat pumps	Capacities
community that is hazard aware and a community/government that is well equipped	Capacities
council is progressive and forward looking	Capacities
installing A/C in pump stations etc.	Capacities
post vitals after structure fires	Capacities
staff have access to laptops to be mobile	Capacities
corporate facilities electrification	Capacities
strong socialization within organization that hazards are real	Capacities
easier to get support and response	Capacities
food delivery for isolated populations	Capacities
CBC Series on heat (education)	Capacities
print info and post on billboards and lobbies (weather forecasts, etc.)	Capacities
staff wellness checks	Capacities
phone calls to isolated clients	Capacities
Education and awareness with kids at school multiple hazards	Capacities
school facilities to use for ESS during emergencies	Capacities
GHG reduction	Capacities
adjust times that are outside (work, play) to avoid hot times	Capacities
school policy not to close schools	Capacities
WorkSafeBC guidelines (22 degrees is sweet spot)	Capacities
educate clients regarding risks	Capacities
outreach workers contacting clients	Capacities
fans, air source heat pump	Capacities
schools are not occupied in the worst heat seasons, but do experience the shoulder seasons	Capacities
portable air con systems, window coverings	Capacities
Able to learn good heat safety techniques	Capacities
more efficient buildings	Change in Capacities
become more affluent	Change in Capacities

new housing society- supportive and affordable housing	Change in Capacities
new splash park being built	Change in Capacities
recognition of "the problem"	Change in Capacities
understanding whole risk profile	Change in Capacities
increased awareness of heat risk since heat dome	Change in Capacities
interventions have changed (BCAS and general population)	Change in Capacities
amount of data re: heat emergencies	Change in Capacities
report of call volume and is heat related. change dispatching	Change in Capacities
allows for agility in staffing and dispatching	Change in Capacities
density increasing	Change in Exposures
alternative housing solutions (vans, tiny homes, tents)	Change in Exposures
development is decreasing green infrastructure (tree canopy), heat island effect	Change in Exposures
changes in population and demographics	Change in Vulnerabilities
aging population	Change in Vulnerabilities
more multigenerational housing	Change in Vulnerabilities
as temperature goes up will impact more people	Change in Vulnerabilities
more younger people experiencing food insecurity and homelessness	Change in Vulnerabilities
pressure on housing and homelessness	Change in Vulnerabilities
pump stations PRP stations without A/C. electrical equipment operating outside of safe working conditions	Exposures
fire crews doing Auto ex- wearing turnout gear is very hot and heavy. traps heat	Exposures
understanding exposures (e.g. sun stroke on lake)	Exposures
limited effect of cooling centers (once they leave the center)	Exposures
opening hours of cooling centres	Exposures
cooling centers are not welcoming to all populations (culturally, sensory)	Exposures
passive cooling techniques not as effective	Exposures
larger swings in temperature (cooler winters, and hotter summers)	Exposures
programming (day cares) running in schools during the summer are hard to maintain temperature	Exposures
ability to cool spaces and keep air quality (smoke)	Exposures
Play in park without shade	Exposures
electrical grid, reliance on elec grid	Vulnerabilities
need alternative power sources	Vulnerabilities
Hospital cooling systems overheating	Vulnerabilities
aging facilities, beyond lifespan	Vulnerabilities
community newcomers do not know the risks or tools to cope	Vulnerabilities
if staff unable to work b/c of heat; capacity of district ability to provide service decreases	Vulnerabilities

cognitive function	Vulnerabilities
handi-dart oversubscribed, cost issue	Vulnerabilities
bus slow, limited taxi, limited other options	Vulnerabilities
medical complexities	Vulnerabilities
renters/condo have less ability to make change	Vulnerabilities
geographic location- access to info and resource	Vulnerabilities
access to information- reliance on social media etc.	Vulnerabilities
funding for schools does not include for colling	Vulnerabilities
hard choices to choose where to spend limited funds	Vulnerabilities
old habits do not support new needs (close windows during the day)	Vulnerabilities
design and budgeting does not keep up with changes and needs	Vulnerabilities
Limitations in funding requirements	Vulnerabilities
competing for limited dollars with higher population density and growth	Vulnerabilities
Unable to control most of their environments	Vulnerabilities
cultural change of adapting to hotter climate	Vulnerabilities
homelessness	Vulnerabilities
school policy not to close schools	Vulnerabilities
mental illness, substance use	Vulnerabilities
isolated individuals	Vulnerabilities
Access to transport	Vulnerabilities
compliance with government recommendations	Vulnerabilities
language and cultural barriers	Vulnerabilities
more Muni facilities have cooling equipment	What could be done to Reduce Heat Risk
smart grid increasing resilience of power grid	What could be done to Reduce Heat Risk
increase efficiency of buildings	What could be done to Reduce Heat Risk
passive cooling solutions increase	What could be done to Reduce Heat Risk
incentivize mitigation	What could be done to Reduce Heat Risk
find efficiencies between hazard programs	What could be done to Reduce Heat Risk
non-home owners: knowledge of who is vulnerable. A program where they can be checked in on.	What could be done to Reduce Heat Risk
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How to stretch resources to keep community engaged???	What could be done to Reduce Heat Risk
library program, book club about preparedness, risk info	What could be done to Reduce Heat Risk
build linkages between orgs with community info, government resources, data	What could be done to Reduce Heat Risk
how to support organizations already doing the work	What could be done to Reduce Heat Risk
seasonal readiness workshops	What could be done to Reduce Heat Risk
community electronic messaging board(s)	What could be done to Reduce Heat Risk
use trail networks as a place to put information	What could be done to Reduce Heat Risk
understand what funding is available before, during and after a heat emergency	What could be done to Reduce Heat Risk

access to data (GIS) . remove financial barriers to data	What could be done to Reduce Heat Risk
know what the triggers are for action (BCHARS?)	What could be done to Reduce Heat Risk
Hard to get data: i.e. health	What could be done to Reduce Heat Risk
normalize talking about mental health	What could be done to Reduce Heat Risk
growing community- more \$ to invest	What could be done to Reduce Heat Risk
insurance breaks (house or health)	What could be done to Reduce Heat Risk
hazard resource borrowing library	What could be done to Reduce Heat Risk
systems and tools to meet demands of individual messaging	What could be done to Reduce Heat Risk
information, personnel, systems	What could be done to Reduce Heat Risk
need an overnight cooling center	What could be done to Reduce Heat Risk
needs to be inclusive and welcoming to all	What could be done to Reduce Heat Risk
popup cooling tents	What could be done to Reduce Heat Risk
every vulnerable person gets cooling equipment	What could be done to Reduce Heat Risk
everyone is housed	What could be done to Reduce Heat Risk
assume that everyone is vulnerable, plan for it.	What could be done to Reduce Heat Risk
messaging to individual houses and communities	What could be done to Reduce Heat Risk
Need a Canadian climate/disaster Corps	What could be done to Reduce Heat Risk
Make people more comfortable to share personal information	What could be done to Reduce Heat Risk
offer option for staff to sleep at fire hall to access cool space	What could be done to Reduce Heat Risk
expanded public transit	What could be done to Reduce Heat Risk
planning dept. looking at neighbourhood planning,	
landscaping, access to park space	What could be done to Reduce Heat Risk
how to reach different groups (rock and roll event	What could be done to Reduce Heat Risk
are print materials or resources at library	What could be done to Reduce Heat Risk
leverage library as a connection point	What could be done to Reduce Heat Risk
map of possible services are available	What could be done to Reduce Heat Risk
need cooling standards in buildings	What could be done to Reduce Heat Risk
fire smart type program for heat	What could be done to Reduce Heat Risk
use of green infrastructure for cooling	What could be done to Reduce Heat Risk
public education of heat risk and mitigation options	What could be done to Reduce Heat Risk
Education regarding risks and opportunities	What could be done?
shared responsibility	What could be done?
requires a cultural shift	What could be done?
use kids as a mechanism for change	What could be done?
policy for social programming -include language re: safety precautions	What could be done?
how to help programs and individuals navigate a heat event	What could be done?
there are examples that already exist	What could be done?
cooling into amenity spaces	What could be done?
BC hydro program to increase tree canopy??	What could be done?
programming similar to fire smart to enable neighborhood risk reduction	What could be done?
increase accessibility to water fountains	What could be done?

more partnerships, seasonal readiness workshops	What could be done?
working together to reach all populations	What could be done?
BCAS has no formal referral service to help those in need	What could be done?
break down barriers to information sharing	What could be done?
cooling solutions in buildings	What could be done?
mechanical Passive solutions	What could be done?
envelope and window upgrades to address heat load of schools	What could be done?
\$5M upgrade at Secondary- window and cladding. Did not include A/C	What could be done?
electrification of fleets	What could be done?
incentives for mitigation (hazard, vulnerable, exposure, capacity)	What could be done?
alternative energy sources	What could be done?
incentivize alternative energy sources (carbon tax)	What could be done?
backup generators for power	What could be done?
sunscreen, dispenser in parks etc.	What could be done?
competing demands to increase tree canopy and active trail networks	What could be done?
buddy check system... who?	What could be done?
build hope and agency	What could be done?
need to adjust funding to address new climate (schools)	What could be done?
Clean Air tourism (Finland) climate tourism	What could be done?
managed retreat	What could be done?
community resources "library" for cooling equipment (portable A/C, Fans, etc.)	What could be done?
workshops/ pub ed around preparedness, risk knowledge, preparedness how to build social capital	What could be done?
opportunities for youth to be involved (within the foundry). Leadership and education, etc.	What could be done?
same with Seniors (social lunches at low or no cost). bring in different speakers and supports	What could be done?
train the trainer	What could be done?
electrification of municipality fleet	What is already happening to reduce Heat Risk?
focus on active transportation	What is already happening to reduce Heat Risk?
step code	What is already happening to reduce Heat Risk?
community events- fire open house	What is already happening to reduce Heat Risk?
education	What is already happening to reduce Heat Risk?
fix it programs to repair equipment	What is already happening to reduce Heat Risk?
FireSmart programming	What is already happening to reduce Heat Risk?
neighbourhood programming are in their infancy	What is already happening to reduce Heat Risk?
urban centres are less connected	What is already happening to reduce Heat Risk?
distributing cooling cloths	What is already happening to reduce Heat Risk?
bag ice- distribute with food bank, access in affordable housing	What is already happening to reduce Heat Risk?
homeless count is an opportunity to work together	What is already happening to reduce Heat Risk?
Increased training for healthcare staff on heat effects	What is already happening to reduce Heat Risk?

Comms has improved between Environment & Climate change Canada to media outlets & partners to define level of heat emergency. Also better forecasting	What is already happening to reduce Heat Risk?
rebate programs	What is already happening to reduce Heat Risk?
reduce GHG	What is already happening to reduce Heat Risk?
does it reach the most vulnerable	What is already happening to reduce Heat Risk?
new buildings have cooling Housing	What is already happening to reduce Heat Risk?
Step code	What is already happening to reduce Heat Risk?
Rebate programs are sliding scale to more efficient equipment, so most vulnerable still cannot access.	What is already happening to reduce Heat Risk?
access to water as a cooling	What is the same in every scenario?
access to alpine, elevation to cool	What is the same in every scenario?
need for increased access to water etc. for public	What is the same in every scenario?
as population grows, will become more diverse	What is the same in every scenario?
diversity when leveraged is always a strength	What is the same in every scenario?
after 2034- potential for increase in the urban growth boundary	What is the same in every scenario?
ability to take time off work????	What is the same in every scenario?
potential loss of green infrastructure	What is the same in every scenario?
hard to justify large budget decisions into older building stock	What is the same in every scenario?
reliance on temporary equipment	What is the same in every scenario?
EMCR funding is good for covering extra costs. Have the funds available, but do not have the resources and capacity to act upon it. (where to find people on short notice)	What is the same in every scenario?
reliance on volunteer programs to provide social services	What is the same in every scenario?
ESS needs to be reimaged, rebuilt	What is the same in every scenario?
shouldn't take away "regular" programming to provide emergency services. Need to be additive for the community, not negative or zero sum gain	What is the same in every scenario?
opportunity to design new municipal facilities	What is the same in every scenario?
peoples vulnerability can change in the short and long term	What is the same in every scenario?
mental health impacts of heat events	What is the same in every scenario?
intersectionality of vulnerabilities, identities, etc.	What is the same in every scenario?
not getting sleep, etc.	What is the same in every scenario?
people do not think they are vulnerable until they are, or it is too late	What is the same in every scenario?
access to cooling space to get proper sleep. For staff, especially responders that need rest and sleep to process trauma	What is the same in every scenario?
vulnerability is more than physical...	What is the same in every scenario?
mental health impacts	What is the same in every scenario?
impacts to pets	What is the same in every scenario?
need to shift more into mitigation	What is the same in every scenario?

need to adapt how we design, heat, cool, etc. (how we do everything)

What is the same in every scenario?

treat heat emergencies as an inevitability

What is the same in every scenario?

bare minimum will not be enough

What is the same in every scenario?

designing for today's conditions will not be enough

What is the same in every scenario?

prioritize how to balance day-to-day versus future situations and realities

What is the same in every scenario?

"Community A"

Response	Theme
cycle crews, shade tents	Capacities
pre-post vitals for all training systems	Capacities
hydration reminders	Capacities
flexible work environment	Capacities
some may stay home, some may come into work	Capacities
Business Continuity planning across the organization	Capacities
more heat pumps- retrofit assist, top up grants	Capacities
residential retrofits	Capacities
Fire Hall buildings are designed with additional capacities (power generation, a/c, heat, ...)	Capacities
plan for Rec Centre- fan coil units with air source heat pumps	Capacities
community that is hazard aware and a community/government that is well equipped	Capacities
council is progressive and forward looking	Capacities
installing A/C in pump stations etc.	Capacities
post vitals after structure fires	Capacities
staff have access to laptops to be mobile	Capacities
corporate facilities electrification	Capacities
strong socialization within organization that hazards are real	Capacities
easier to get support and response	Capacities
food delivery for isolated populations	Capacities
CBC Series on heat (education)	Capacities
print info and post on billboards and lobbies (weather forecasts, etc.)	Capacities
staff wellness checks	Capacities
phone calls to isolated clients	Capacities
Education and awareness with kids at school multiple hazards	Capacities
school facilities to use for ESS during emergencies	Capacities
GHG reduction	Capacities
adjust times that are outside (work, play) to avoid hot times	Capacities
school policy not to close schools	Capacities
WorkSafeBC guidelines (22 degrees is sweet spot)	Capacities
educate clients regarding risks	Capacities
outreach workers contacting clients	Capacities
fans, air source heat pump	Capacities
schools are not occupied in the worst heat seasons, but do experience the shoulder seasons	Capacities
portable air con systems, window coverings	Capacities
Able to learn good heat safety techniques	Capacities
more efficient buildings	Change in Capacities
become more affluent	Change in Capacities

new housing society- supportive and affordable housing	Change in Capacities
new splash park being built	Change in Capacities
recognition of "the problem"	Change in Capacities
understanding whole risk profile	Change in Capacities
increased awareness of heat risk since heat dome	Change in Capacities
interventions have changed (BCAS and general population)	Change in Capacities
amount of data re: heat emergencies	Change in Capacities
report of call volume and is heat related. change dispatching	Change in Capacities
allows for agility in staffing and dispatching	Change in Capacities
density increasing	Change in Exposures
alternative housing solutions (vans, tiny homes, tents)	Change in Exposures
development is decreasing green infrastructure (tree canopy), heat island effect	Change in Exposures
changes in population and demographics	Change in Vulnerabilities
aging population	Change in Vulnerabilities
more multigenerational housing	Change in Vulnerabilities
as temperature goes up will impact more people	Change in Vulnerabilities
more younger people experiencing food insecurity and homelessness	Change in Vulnerabilities
pressure on housing and homelessness	Change in Vulnerabilities
pump stations PRP stations without A/C. electrical equipment operating outside of safe working conditions	Exposures
fire crews doing Auto ex- wearing turnout gear is very hot and heavy. traps heat	Exposures
understanding exposures (e.g. sun stroke on lake)	Exposures
limited effect of cooling centers (once they leave the center)	Exposures
opening hours of cooling centres	Exposures
cooling centers are not welcoming to all populations (culturally, sensory)	Exposures
passive cooling techniques not as effective	Exposures
larger swings in temperature (cooler winters, and hotter summers)	Exposures
programming (day cares) running in schools during the summer are hard to maintain temperature	Exposures
ability to cool spaces and keep air quality (smoke)	Exposures
Play in park without shade	Exposures
electrical grid, reliance on elec grid	Vulnerabilities
need alternative power sources	Vulnerabilities
Hospital cooling systems overheating	Vulnerabilities
aging facilities, beyond lifespan	Vulnerabilities
community newcomers do not know the risks or tools to cope	Vulnerabilities
if staff unable to work b/c of heat; capacity of district ability to provide service decreases	Vulnerabilities

cognitive function	Vulnerabilities
handi-dart oversubscribed, cost issue	Vulnerabilities
bus slow, limited taxi, limited other options	Vulnerabilities
medical complexities	Vulnerabilities
renters/condo have less ability to make change	Vulnerabilities
geographic location- access to info and resource	Vulnerabilities
access to information- reliance on social media etc.	Vulnerabilities
funding for schools does not include for colling	Vulnerabilities
hard choices to choose where to spend limited funds	Vulnerabilities
old habits do not support new needs (close windows during the day)	Vulnerabilities
design and budgeting does not keep up with changes and needs	Vulnerabilities
Limitations in funding requirements	Vulnerabilities
competing for limited dollars with higher population density and growth	Vulnerabilities
Unable to control most of their environments	Vulnerabilities
cultural change of adapting to hotter climate	Vulnerabilities
homelessness	Vulnerabilities
school policy not to close schools	Vulnerabilities
mental illness, substance use	Vulnerabilities
isolated individuals	Vulnerabilities
Access to transport	Vulnerabilities
compliance with government recommendations	Vulnerabilities
language and cultural barriers	Vulnerabilities
more Muni facilities have cooling equipment	What could be done to Reduce Heat Risk
smart grid increasing resilience of power grid	What could be done to Reduce Heat Risk
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use trail networks as a place to put information	What could be done to Reduce Heat Risk
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need an overnight cooling center	What could be done to Reduce Heat Risk
needs to be inclusive and welcoming to all	What could be done to Reduce Heat Risk
popup cooling tents	What could be done to Reduce Heat Risk
every vulnerable person gets cooling equipment	What could be done to Reduce Heat Risk
everyone is housed	What could be done to Reduce Heat Risk
assume that everyone is vulnerable, plan for it.	What could be done to Reduce Heat Risk
messaging to individual houses and communities	What could be done to Reduce Heat Risk
Need a Canadian climate/disaster Corps	What could be done to Reduce Heat Risk
Make people more comfortable to share personal information	What could be done to Reduce Heat Risk
offer option for staff to sleep at fire hall to access cool space	What could be done to Reduce Heat Risk
expanded public transit	What could be done to Reduce Heat Risk
planning dept. looking at neighbourhood planning,	
landscaping, access to park space	What could be done to Reduce Heat Risk
how to reach different groups (rock and roll event	What could be done to Reduce Heat Risk
are print materials or resources at library	What could be done to Reduce Heat Risk
leverage library as a connection point	What could be done to Reduce Heat Risk
map of possible services are available	What could be done to Reduce Heat Risk
need cooling standards in buildings	What could be done to Reduce Heat Risk
fire smart type program for heat	What could be done to Reduce Heat Risk
use of green infrastructure for cooling	What could be done to Reduce Heat Risk
public education of heat risk and mitigation options	What could be done to Reduce Heat Risk
Education regarding risks and opportunities	What could be done?
shared responsibility	What could be done?
requires a cultural shift	What could be done?
use kids as a mechanism for change	What could be done?
policy for social programming -include language re: safety precautions	What could be done?
how to help programs and individuals navigate a heat event	What could be done?
there are examples that already exist	What could be done?
cooling into amenity spaces	What could be done?
BC hydro program to increase tree canopy??	What could be done?
programming similar to fire smart to enable neighborhood risk reduction	What could be done?
increase accessibility to water fountains	What could be done?

more partnerships, seasonal readiness workshops	What could be done?
working together to reach all populations	What could be done?
BCAS has no formal referral service to help those in need	What could be done?
break down barriers to information sharing	What could be done?
cooling solutions in buildings	What could be done?
mechanical Passive solutions	What could be done?
envelope and window upgrades to address heat load of schools	What could be done?
\$5M upgrade at Secondary- window and cladding. Did not include A/C	What could be done?
electrification of fleets	What could be done?
incentives for mitigation (hazard, vulnerable, exposure, capacity)	What could be done?
alternative energy sources	What could be done?
incentivize alternative energy sources (carbon tax)	What could be done?
backup generators for power	What could be done?
sunscreen, dispenser in parks etc.	What could be done?
competing demands to increase tree canopy and active trail networks	What could be done?
buddy check system... who?	What could be done?
build hope and agency	What could be done?
need to adjust funding to address new climate (schools)	What could be done?
Clean Air tourism (Finland) climate tourism	What could be done?
managed retreat	What could be done?
community resources "library" for cooling equipment (portable A/C, Fans, etc.)	What could be done?
workshops/ pub ed around preparedness, risk knowledge, preparedness how to build social capital	What could be done?
opportunities for youth to be involved (within the foundry). Leadership and education, etc.	What could be done?
same with Seniors (social lunches at low or no cost). bring in different speakers and supports	What could be done?
train the trainer	What could be done?
electrification of municipality fleet	What is already happening to reduce Heat Risk?
focus on active transportation	What is already happening to reduce Heat Risk?
step code	What is already happening to reduce Heat Risk?
community events- fire open house	What is already happening to reduce Heat Risk?
education	What is already happening to reduce Heat Risk?
fix it programs to repair equipment	What is already happening to reduce Heat Risk?
FireSmart programming	What is already happening to reduce Heat Risk?
neighbourhood programming are in their infancy	What is already happening to reduce Heat Risk?
urban centres are less connected	What is already happening to reduce Heat Risk?
distributing cooling cloths	What is already happening to reduce Heat Risk?
bag ice- distribute with food bank, access in affordable housing	What is already happening to reduce Heat Risk?
homeless count is an opportunity to work together	What is already happening to reduce Heat Risk?
Increased training for healthcare staff on heat effects	What is already happening to reduce Heat Risk?

Comms has improved between Environment & Climate change Canada to media outlets & partners to define level of heat emergency. Also better forecasting	What is already happening to reduce Heat Risk?
rebate programs	What is already happening to reduce Heat Risk?
reduce GHG	What is already happening to reduce Heat Risk?
does it reach the most vulnerable	What is already happening to reduce Heat Risk?
new buildings have cooling Housing	What is already happening to reduce Heat Risk?
Step code	What is already happening to reduce Heat Risk?
Rebate programs are sliding scale to more efficient equipment, so most vulnerable still cannot access.	What is already happening to reduce Heat Risk?
access to water as a cooling	What is the same in every scenario?
access to alpine, elevation to cool	What is the same in every scenario?
need for increased access to water etc. for public	What is the same in every scenario?
as population grows, will become more diverse	What is the same in every scenario?
diversity when leveraged is always a strength	What is the same in every scenario?
after 2034- potential for increase in the urban growth boundary	What is the same in every scenario?
ability to take time off work????	What is the same in every scenario?
potential loss of green infrastructure	What is the same in every scenario?
hard to justify large budget decisions into older building stock	What is the same in every scenario?
reliance on temporary equipment	What is the same in every scenario?
EMCR funding is good for covering extra costs. Have the funds available, but do not have the resources and capacity to act upon it. (where to find people on short notice)	What is the same in every scenario?
reliance on volunteer programs to provide social services	What is the same in every scenario?
ESS needs to be reimaged, rebuilt	What is the same in every scenario?
shouldn't take away "regular" programming to provide emergency services. Need to be additive for the community, not negative or zero sum gain	What is the same in every scenario?
opportunity to design new municipal facilities	What is the same in every scenario?
peoples vulnerability can change in the short and long term	What is the same in every scenario?
mental health impacts of heat events	What is the same in every scenario?
intersectionality of vulnerabilities, identities, etc.	What is the same in every scenario?
not getting sleep, etc.	What is the same in every scenario?
people do not think they are vulnerable until they are, or it is too late	What is the same in every scenario?
access to cooling space to get proper sleep. For staff, especially responders that need rest and sleep to process trauma	What is the same in every scenario?
vulnerability is more than physical...	What is the same in every scenario?
mental health impacts	What is the same in every scenario?
impacts to pets	What is the same in every scenario?
need to shift more into mitigation	What is the same in every scenario?

need to adapt how we design, heat, cool, etc. (how we do everything)

What is the same in every scenario?

treat heat emergencies as an inevitability

What is the same in every scenario?

bare minimum will not be enough

What is the same in every scenario?

designing for today's conditions will not be enough

What is the same in every scenario?

prioritize how to balance day-to-day versus future situations and realities

What is the same in every scenario?

"Community B"

Response	Theme
Muni hall some A/C	Capacities
outreach and education	Capacities
water and misting stations	Capacities
cooling centres	Capacities
heat pumps	Capacities
provide options for cooling at public outdoor spaces	Capacities
shade structures	Capacities
understand numbers of vulnerable populations	Capacities
Seniors' centre	Capacities
turn on sprinklers for kids at schools	Capacities
PACs can fundraise for investment projects	Capacities
policy for closing schools if too hot	Capacities
possible invest in cultural centre	Capacities
Heat pump loan	Capacities
WorkSafe BC regs	Capacities
change working hours for outside staff	Capacities
essential workers' kid care	Capacities
leverage experience of other regions of the province	Capacities
heat pump loan	Capacities
some facilities cool equipment	Capacities
access to green spaces	Capacities
access to blue space	Capacities
strong asset management strategy for infrastructure	Capacities
step code- more efficient buildings (municipal and provincial)	Capacities
activate cooling centres	Capacities
neighborhood capacities	Capacities
community amenity spaces	Capacities
centralized spaces for cooling	Capacities
Saving for the future to save for aging infrastructure	Capacities
AC in buildings	Capacities
protective clothing for outside staff	Capacities
natural asset management plan	Capacities
flexibility in staff hours (shift away from hottest times)	Capacities
WorkSafeBC regulations	Capacities
Prov. dashboard sharing cooling centre/water fountains	Capacities
Regional District heat maps for the area	Capacities
tree bylaw	Capacities
tree canopy provides shade	Capacities
notification systems	Capacities
accessibility plan	Capacities
how to reach vulnerable populations	Capacities
ability to form partnerships with FNs	Capacities
Supportive council	Capacities
increasing tree canopy	Change in Capacities
new centre on veyanresse	Change in Capacities

more likely to be outside	Exposures
few places to escape when hot	Exposures
outside workers	Exposures
aging staff	Exposures
asset management does not consider climate change	Exposures
design standards have not caught up (high intensity)	Exposures
buildings without proper cooling abilities	Exposures
high water temperatures in ground water- health	Exposures
Impact of smoke and heat on outdoor workers	Exposures
Municipality supplies water to First Nations	Exposures
Senior community centre like unemployment centre	Exposures
few financial resources to invest	Vulnerabilities
don't know where vulnerable populations are	Vulnerabilities
medical conditions/interactions	Vulnerabilities
mobility	Vulnerabilities
need to be more aware of risks	Vulnerabilities
social isolation without supports	Vulnerabilities
Strata challenges with putting up blinds or AC units	Vulnerabilities
BC building code does not have safe cooling temperatures	Vulnerabilities
FN vulnerabilities in community	Vulnerabilities
mobility issues	Vulnerabilities
Added pressure on medical system	Vulnerabilities
Old infrastructure	Vulnerabilities
Older facilities	Vulnerabilities
Some buildings don't have adequate cooling	Vulnerabilities
Isolated populations, with social housing or rental	Vulnerabilities
Lack of accessing cool spaces	Vulnerabilities
may not be able to get to cooling centre	Vulnerabilities
access to public transport	Vulnerabilities
Agricultural vulnerabilities both in summer and winter	Vulnerabilities
Changing pest presence, weeds, insects etc.	Vulnerabilities
heat impacts to infrastructure	Vulnerabilities
renters and strata do not have ability to install equipment	Vulnerabilities
Provincial guidelines determine strata rules	Vulnerabilities
Demand on org from residents (impacts on cross-sector)	Vulnerabilities
municipality cannot control building requirements	Vulnerabilities
do not have standard triggers to restrict activities	Vulnerabilities
work	Vulnerabilities
recreation/play	Vulnerabilities
Compounding health and respiratory issues - mental health	Vulnerabilities
Lack of communication with vulnerable populations	Vulnerabilities
family safety	Vulnerabilities
how to communicate with vulnerable populations	Vulnerabilities
No asset mapping of what buildings or spaces are	Vulnerabilities
aging population	Vulnerabilities
Staffing issues	Vulnerabilities
mental health climate dread	Vulnerabilities

Budget limitations for programming	Vulnerabilities
Cold water temperature is rising so more likely	Vulnerabilities
Impacts to road and sewer system	Vulnerabilities
Don't supply the water to Central Saanich	Vulnerabilities
lack of depth in staffing to create resilient staff	Vulnerabilities
staff to operate cooling centers	Vulnerabilities
sand battery (heat sinks)	What could be done to Reduce Heat Risk
increase access (criteria) of heat pump program	What could be done to Reduce Heat Risk
increase access to other upgrades (windows etc)	What could be done to Reduce Heat Risk
increase step code to existing buildings (incenti	What could be done to Reduce Heat Risk
Additional funding	What could be done to Reduce Heat Risk
decision making- where are most appropriate	What could be done to Reduce Heat Risk
local values drive speed of change	What could be done to Reduce Heat Risk
local (individualistic, economic) interests can slow	What could be done to Reduce Heat Risk
access to home energy assessments	What could be done to Reduce Heat Risk
public education, awareness	What could be done to Reduce Heat Risk
public art	What could be done to Reduce Heat Risk
more public gathering spaces	What could be done to Reduce Heat Risk
community building social capital	What could be done to Reduce Heat Risk
green space	What could be done to Reduce Heat Risk
individual responsibility (isn't always gov't to save	What could be done to Reduce Heat Risk
but vulnerable populations may not have the capacity	What could be done to Reduce Heat Risk
electrification vehicles	What could be done to Reduce Heat Risk
business license tied to emissions outputs	What could be done to Reduce Heat Risk
"carbon tax" for business actions	What could be done to Reduce Heat Risk
better use of buildings. use for cooling	What could be done to Reduce Heat Risk
partner with school district to fund equipment for	What could be done to Reduce Heat Risk
everyone in municipality within 15 minute commu	What could be done to Reduce Heat Risk
more tree planting	What could be done to Reduce Heat Risk
different species of trees that are more adaptive	What could be done to Reduce Heat Risk
water supply capture in the winter for summer	What could be done to Reduce Heat Risk
water needs	What could be done to Reduce Heat Risk
different fuel type transitions	What could be done to Reduce Heat Risk
multi family buildings	What could be done to Reduce Heat Risk
educate stratas re: risks and limit restrictive rul	What could be done to Reduce Heat Risk
risk disclosure with property sales	What could be done to Reduce Heat Risk
new municipal hall	What could be done to Reduce Heat Risk
welfare checks/ using existing resource and spa	What could be done to Reduce Heat Risk
neighbour helping neighbour program	What could be done to Reduce Heat Risk
block watch	What could be done to Reduce Heat Risk
new economic system. capitalism hurting program	What could be done to Reduce Heat Risk
Hire a seasonal Community Disaster Risk Naviga	What could be done to Reduce Heat Risk
Train people to recognize and treat heat stroke	What could be done?
regional heat vulnerability index	What could be done?
research other areas that already have high heat	What could be done?
public art as a means of raising awareness	What could be done?
need multiple ways to reach people to make su	What could be done?

OHS committees as a way to have conversation	What could be done?
Regional approach- especially for orgs cross jur	What could be done?
need to clarify assumptions between organizati	What could be done?
educate re: disasters in schools, and also adults	What could be done?
carbon tax as an incentive to change behaviour	What could be done?
Regional District as a mechanism to coordinate	What could be done?
mechanical cooling in schools	What could be done?
incentivize mechanical investments	What could be done?
building code strengthen- energy efficiency	What could be done?
minimum cooling standards	What could be done?
step code	What could be done?
balance with affordable housing	What could be done?
funding to reduce GHG- ground source heat pu	What could be done?
alternative power generation and storage	What could be done?
carens to highlight safer spaces	What could be done?
increase tree canopy at schools	What is already happening to reduce Heat Risk?
park initiative to increase green spaces	What is already happening to reduce Heat Risk?
how to use blue spaces (ocean) as a cooling res	What is already happening to reduce Heat Risk?
Heat pump initiative (fed, prov, Muni)	What is already happening to reduce Heat Risk?
Reduce GHG (Muni, SD)	What is already happening to reduce Heat Risk?
electric school buses	What is already happening to reduce Heat Risk?
splash park	What is already happening to reduce Heat Risk?
cooling centres	What is already happening to reduce Heat Risk?
shelter at Island View Beach	What is already happening to reduce Heat Risk?
Regional District Heat Vulnerability Index	What is already happening to reduce Heat Risk?
emerg prep (general) education	What is already happening to reduce Heat Risk?
splash pad	What is already happening to reduce Heat Risk?
parks master plan	What is already happening to reduce Heat Risk?
Moving towards zero carbon buildings	What is already happening to reduce Heat Risk?
Increasing staff capacity	What is already happening to reduce Heat Risk?
investing in staffing for daily needs but also sur	What is already happening to reduce Heat Risk?
manage/ protect tree canopy	What is already happening to reduce Heat Risk?
fire smart	What is already happening to reduce Heat Risk?
fleet electrification	What is already happening to reduce Heat Risk?
staffing climate planner, EM specialist	What is already happening to reduce Heat Risk?
**** park well laid out for cooling natural infr	What is already happening to reduce Heat Risk?
Building relationships with community social se	What is already happening to reduce Heat Risk?
active transportation plan	What is already happening to reduce Heat Risk?
step code and design standards for built enviro	What is already happening to reduce Heat Risk?
encouraging basements	What is already happening to reduce Heat Risk?
Increased Public education	What is already happening to reduce Heat Risk?
developing partnerships	What is already happening to reduce Heat Risk?
build capacity	What is already happening to reduce Heat Risk?
climate leadership plan	What is already happening to reduce Heat Risk?
reviewing master plans	What is already happening to reduce Heat Risk?
OCP supports densification, and not build outsi	What is already happening to reduce Heat Risk?
limit urban sprawl	What is already happening to reduce Heat Risk?

Supporting affordability in rental housing	What is already happening to reduce Heat Risk?
"block parties"	What is already happening to reduce Heat Risk?
Heat response Plan and Comms plan	What is already happening to reduce Heat Risk?
community building	What is already happening to reduce Heat Risk?
education	What is already happening to reduce Heat Risk?
more heat waves/domes per hear	What is the same in every scenario?
need cooling centres because housing not safe	What is the same in every scenario?
need to upgrade building stock	What is the same in every scenario?
always going to have vulnerable populations	What is the same in every scenario?
population growing	What is the same in every scenario?
wait list for assisted care	What is the same in every scenario?
more seniors	What is the same in every scenario?
temperatures will increase	What is the same in every scenario?
aging housing stock	What is the same in every scenario?
if everyone electrifies, will the power grid supp	What is the same in every scenario?
cooling centres will be needed more frequently	What is the same in every scenario?
higher heat exposure	What is the same in every scenario?
need 15 minute communities	What is the same in every scenario?
passive design strategies	What is the same in every scenario?
green infrastructure, lighter coloured buildings,	What is the same in every scenario?
secondary impacts (health, community	What is the same in every scenario?
alternative sources of energy	What is the same in every scenario?
technologic advancement -increase effectiveness	What is the same in every scenario?
how to reach most vulnerable	What is the same in every scenario?
Need change management to adapt to a warme	What is the same in every scenario?
need behavioural and cultural change to know	What is the same in every scenario?
Need to support these behavioural adaptations	What is the same in every scenario?
vulnerable populations will always be around	What is the same in every scenario?
probable that there will be more vulnerable pe	What is the same in every scenario?
Population Growth.	What is the same in every scenario?
demand on infrastructure	What is the same in every scenario?
increased call volume (Fire Police, Ambulance)	What is the same in every scenario?
building capacities (housing opportunities)	What is the same in every scenario?
always going to have transportation needs	What is the same in every scenario?
active transportation networks	What is the same in every scenario?
food security and production may decrease (ins	What is the same in every scenario?
may need to shift types of crops	What is the same in every scenario?
lots of horse properties- can we shift to more p	What is the same in every scenario?