

# Climate Preparedness and Adaptation Strategy

## Actions for 2022-2025





**We acknowledge with respect and gratitude** that this report was produced on the territory of the Ləkʷəŋən people, and recognize the Songhees and Esquimalt (Xwsepsum), and W̱SÁNEĆ Nations whose deep connections with this land continue to this day.

# CONTENTS

<b>A Message From Minister George Heyman</b>	<b>3</b>
<b>Executive Summary</b>	<b>4</b>
<b>1. Introduction</b>	<b>7</b>
An Urgent Need for Action.....	7
Building the Strategy.....	11
Guiding Principles.....	13
Partnering with Indigenous Peoples.....	14
A Cross-Government Approach.....	16
<b>2. B.C.'s Changing Climate</b>	<b>17</b>
<b>3. Pathways and Actions</b>	<b>21</b>
Pathway 1: Foundations for Success: Partnerships, Knowledge and Decision-Making.....	22
Priority Initiatives.....	24
Collaboration with Indigenous Peoples.....	24
Climate Data Monitoring and Forecasting .....	25
Understanding Climate Risks.....	27
Education on Climate Impacts and Adaptation.....	28
Climate Change in Governance and Decision-Making.....	29
Pathway 2: Safe and Healthy Communities.....	30
Priority Initiatives.....	32
Community Adaptation Planning and Implementation.....	32
Indigenous-led Climate Adaptation Knowledge and Capacity Building.....	33
Wildfire Prevention and Mitigation.....	34
Enhanced Flood Management.....	35
Health and Wellness.....	36

Pathway 3: Resilient Species and Ecosystems.....	38
Priority Initiatives.....	40
Healthy Waters.....	40
Resilient Species and Ecosystems.....	42
Pathway 4: Climate-Ready Economy and Infrastructure.....	44
Priority Initiatives.....	46
Climate-Ready Infrastructure and Buildings.....	46
Climate-Ready Industry.....	48
<b>4. Measuring and Reporting Our Progress</b>	<b>50</b>
<hr/>	
<b>5. Next Steps</b>	<b>51</b>
<hr/>	
<b>Appendix</b>	<b>53</b>
<hr/>	
1. Summary of Actions and Lead Ministries.....	53
2. Summary of Funding.....	58



## A MESSAGE FROM MINISTER GEORGE HEYMAN

British Columbia is on the front lines of the climate crisis. Last year's extreme weather events put any doubt about the reality, severity and immediacy of climate change to rest.

In some cases, scientists determined events like the summer's extreme heat were "virtually impossible" without the influence of climate change, lying far outside the historical range of observed temperatures. The event was so unprecedented, it is hard to quantify exactly how rare it was – a 1-in-1,000 year event being the closest approximation.

People and communities across the province were impacted like never before – and these impacts will continue to be felt for some time into the future. It underlines the need to act now – not only to recover from disasters – but to prepare and adapt for future events fueled by even more severe climate change.

That's what the Climate Preparedness and Adaptation Strategy aims to do. It builds on actions taken already across ministries, communities, First Nations, all levels governments and businesses. And it includes new actions to build community resiliency, improve our infrastructure, protect our economy, foster collaboration and coordinate efforts across society, and support diverse natural ecosystems.

Critically, it includes actions to support Indigenous communities and First Nations by working together as partners, recognizing and honouring the significance of Indigenous knowledge and the deep connection to the land that is so fundamental to cultural and spiritual

life. These actions, along with the latest scientific information, will be critical in moving forward together in a world marked by climate change.

The extreme weather disasters of last year required an unprecedented response from government. That's why we committed more than \$2.1 billion to help people and communities recover, rebuild and prepare for future impacts in Budget 2022. The Climate Preparedness and Adaptation Strategy is part of this larger pool of investments and will help guard against the potential of higher costs from climate damages in the future.

There is much work ahead that will require significant collaboration across all sectors of society over the longer term. The strategy outlined here puts the necessary pieces in place to help guide our work over the next three years.

Some of these actions will be implemented in the immediate term, while others will take longer to fully develop. Along the way, it's critical that we continue to work together to help build a better, more secure future for everyone.

The Climate Preparedness and Adaptation Strategy will help us build this path forward to a stronger, more resilient province that is ready for the future impacts of climate changes.

### **George Heyman**

Minister of Environment  
and Climate Change Strategy



## EXECUTIVE SUMMARY

Climate-driven changes are already having impacts on our communities, economy, infrastructure and ecosystems. After a year impacted by severe heatwaves, wildfires and unprecedented flooding that reached into all corners of the province, the need to take urgent action to prepare for and adapt to the impacts of climate change has never been clearer.

The Climate Preparedness and Adaptation Strategy strengthens our capacity to anticipate, reduce and manage climate risks. It involves actions to respond to sudden events like wildfires, floods and heatwaves, while also helping us to prepare for changes that happen more slowly like sea level rise, habitat loss, receding glaciers and water shortages. The strategy builds on over a decade of work by the provincial government, Indigenous Nations and communities across British Columbia to prepare for a changing climate.



### **Actions in the strategy are grouped into four key pathways:**

1. Foundations for success
2. Safe and healthy communities
3. Resilient species and ecosystems
4. Climate-ready economy and infrastructure.

The strategy addresses foundational needs for data, training and capacity, and presents targeted actions that support Indigenous Nations and communities, local governments, business and industry. It works to ensure the knowledge and priorities of Indigenous Peoples are brought into decision-making while enhancing data collection, monitoring and risk assessments to build a thorough understanding of climate impacts.

The strategy better prepares our communities for extreme climate events through such actions as a consistent approach to floodplain mapping, wildfire prevention and an extreme heat preparedness framework. Attending to species and ecosystems, it aims to protect and restore watersheds as well as address complex ecosystem changes through such initiatives as the Ecosystem Forecast Centre and development of strategies to protect the coast and respond to ocean acidification. Working to maintain a resilient economy, it provides support to key industries including forestry, agriculture and tourism, while strengthening our transportation and building infrastructure against climate impacts.

Actions prioritized for the strategy took into account feedback from public engagement on the draft Climate Preparedness and Adaptation Strategy and other factors such as the Preliminary Strategic Climate Risk Assessment for B.C. and the extreme weather events of 2021.

The strategy, to be implemented between 2022 to 2025, is part of broader investments by the provincial government to help people and communities recover from recent disasters and prepare for climate impacts in the future. Investing in climate resilience now can help avoid higher costs and limit hardships as a result of climate change down the road.

Together, we're working to ensure our communities, economy and infrastructure are ready for climate change while safeguarding the ecosystems that support us all.



# VISION

B.C. is a climate resilient society that is ready for the impacts of a changing climate

## GUIDING PRINCIPLES

Shared path with  
Indigenous Peoples

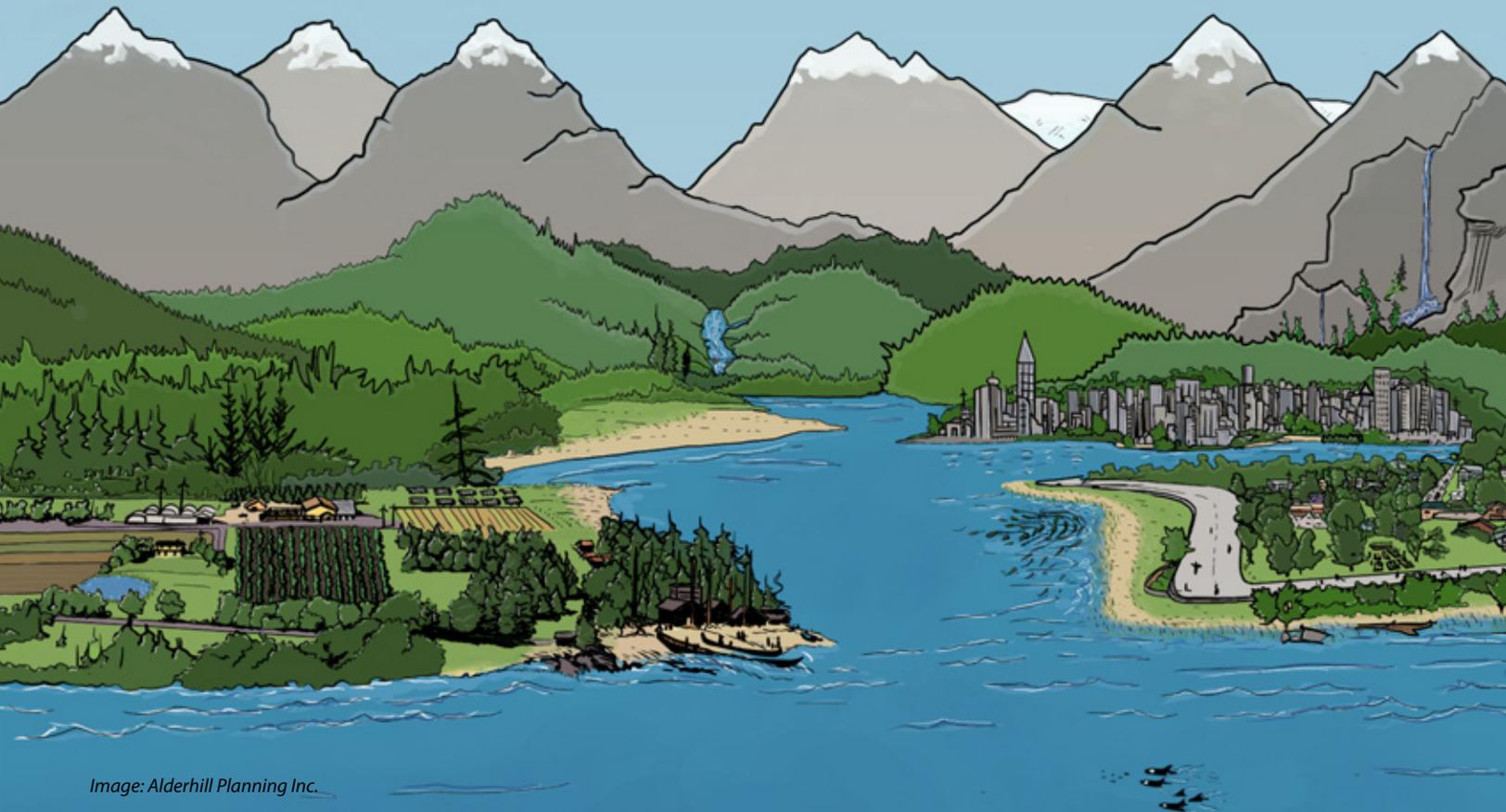
Equity-informed  
approach

Nature-based  
solutions

Health and  
wellbeing

Aligning adaptation  
& emissions reduction

Proactive  
business case





# 1. INTRODUCTION

## An Urgent Need for Action

An unprecedented year of severe heatwaves, wildfires and flooding has made exceedingly clear to people in B.C. the real and present impacts of the changing climate and the urgent need to prepare for them.

The Climate Preparedness and Adaptation Strategy provides the essential foundations for preparing for and adapting to the changing climate in B.C. The strategy strengthens our capacity to anticipate and respond to sudden events like wildfires, floods and heatwaves, while also helping us prepare and respond to changes that happen more slowly like receding glaciers, rising sea levels and shifting ecosystems.

In the summer of 2021, British Columbia experienced the deadliest climate-related disaster on record in Canada, and B.C.'s costliest.<sup>1</sup> An extreme heat event known as a heat dome was associated with 619 deaths across the province over a seven-day period.<sup>2</sup> Temperatures in the province set all-time records with the town of Lytton posting a high of 49.6°C – breaking the previous national record by almost 5°C. The heat dome event rolled over into one of the most damaging wildfire seasons on record that triggered a state of emergency lasting nearly two months.

Just a few months later, an atmospheric river hit the southwest region of B.C. after the rainiest autumn on record. Two days of intense precipitation led to extensive floods and landslides, cutting off southwestern B.C. and parts of Vancouver Island from the rest of Canada and isolating communities. Together, wildfires, floods and landslides destroyed homes, properties, highways and bridges, caused extensive damage in several Indigenous communities and had a significant impact on ecosystems.

- 1 While the full costs are still being assessed, the November 2021 floods are estimated to have caused \$7.5 billion in damage, which would make it the most expensive disaster in Canadian history. See Orton (2021). BMO says cost of flood disaster likely to exceed \$7.5b, cuts B.C.'s economic outlook. <https://biv.com/article/2021/11/rbc-says-cost-flood-disaster-likely-exceed-75b-cuts-bcs-economic-outlook>
- 2 British Columbia Coroners Service (2022). Extreme Heat and Human Mortality: A Review of Heat-Related Deaths in B.C. in summer 2021. [https://www2.gov.bc.ca/assets/gov/birth-adoption-death-marriage-and-divorce/deaths/coroners-service/death-review-panel/extreme\\_heat\\_death\\_review\\_panel\\_report.pdf](https://www2.gov.bc.ca/assets/gov/birth-adoption-death-marriage-and-divorce/deaths/coroners-service/death-review-panel/extreme_heat_death_review_panel_report.pdf)

The need to take urgent action to prepare and adapt to the impacts of climate change has never been clearer. Climate-driven changes have implications for our health and wellness, ecosystems, infrastructure and economy.

Guided in part by our experience with climate-related disasters over the past year and feedback received during Indigenous,<sup>3</sup> partner and public engagement, this strategy addresses foundational needs for data, training and capacity, and presents targeted actions that support Indigenous Nations and communities, local governments, business and industry. The strategy works to better prepare our province for extreme climate events through such actions as a consistent approach to floodplain mapping and wildfire prevention as well as adaptation support to farmers and improved agricultural water infrastructure. It enhances climate change modelling to assess climate risks more accurately, and strengthens our transportation and building infrastructure against climate impacts. It also begins to address slower onset changes through such initiatives as the Ecosystem Forecast Centre and development of strategies to respond to changes in ocean and coastal environments such as ocean acidification and the effects of sea level rise.

*Budget 2022* commits over \$500 million toward actions in this strategy. This includes more than \$83 million for essential foundations for climate preparedness and adaptation, informed by and prioritized from the 2021 [draft Climate Preparedness and Adaptation Strategy](#). It also includes parallel initiatives such as support for communities for emergency preparedness (disaster risk reduction and adaptation elements),



**Climate change adaptation** is about proactively understanding and preparing for the changing climate and reducing climate-related risks. Some climate impacts are related to sudden disaster events, such as flooding and wildfire, while others occur more slowly over time such as sea level rise, species and ecosystem shifts, and water shortages.

wildfire prevention projects and services, resilient transportation networks, investments to help protect and restore B.C.'s watersheds, as well as funding for a new Local Government Climate Action Program to support emissions reduction and adaptation to climate change. For a detailed breakdown, see funding tables in Appendix 2.

The investment of \$500 million in this strategy is part of a broader \$2.1 billion investment across four years to help people and communities recover from recent disasters.

<sup>3</sup> The term “Indigenous” is inclusive of First Nations, Métis and Inuit Peoples. References in this document to Indigenous Nations communities is used to reflect the diversity of Indigenous peoples across B.C., and the distinction-based approach to the Province’s unique relationships with First Nations, modern and historic treaty nations, Indigenous governing bodies, Métis peoples and off-reserve/urban peoples.

At the same time, it remains critical that we continue to take strong action to reduce greenhouse gas emissions. Through the [CleanBC Roadmap to 2030](#), the Province outlined a wide range of actions to reduce greenhouse gas emissions and meet B.C.'s 2030 emissions reduction target. *Budget 2022* builds on \$2.3 billion allocated to date for CleanBC and provides over \$1.2 billion in new funding to continue existing CleanBC measures and implement new initiatives identified in the Roadmap.

Efforts to cut climate pollution are critical to reducing future climate change. However, elevated levels of greenhouse gases already in the atmosphere will continue to impact our climate in the coming decades, even in the most ambitious pathway to zero emissions. The good news is that B.C.'s vulnerability to climate risks can be substantially reduced through proactive adaptation.

There is clear evidence that investing in climate resilience makes economic sense and can have very high rates of return through avoided damages. For example, a 2019 report from the Global Commission on Adaptation notes that every dollar spent on measures to improve climate resilience results in savings of 2 to 10 dollars in the future.<sup>4</sup> Proactive investments can help us avoid higher costs and limit hardships associated with both climate-related disasters and slow-onset climate changes. In other words, preparation pays off.

Across B.C., many Indigenous Nations, local governments, schools, hospitals, industries and businesses have already developed climate adaptation plans, while many others are initiating research and projects to prepare for our changing climate. Together, we are working to ensure our communities and economy are ready for changes that are expected in the coming years and decades.

By working together, we can reduce and manage the risks from climate change, while exploring new possibilities to build a better, more resilient and prosperous province.

#### RESILIENCE CAN BE DEFINED AS:

*“The capacity of interconnected social, economic, and ecological systems to cope with a hazardous event, trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity and structure.”<sup>5</sup>*



4 Global Commission on Adaptation (2019). Adapt now: a global call for leadership on climate resilience. <https://gca.org/reports/adapt-now-a-global-call-for-leadership-on-climate-resilience/>

5 IPCC, 2012: Glossary of terms. In: Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation [Field, C.B., et al. (eds.)]. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change (IPCC). Cambridge University Press, Cambridge, UK, and New York, NY, USA, pp. 555-564. [https://archive.ipcc.ch/pdf/special-reports/srex/SREX-Annex\\_Glossary.pdf](https://archive.ipcc.ch/pdf/special-reports/srex/SREX-Annex_Glossary.pdf)



## REDUCING EMISSIONS AND PREPARING FOR CLIMATE IMPACTS

Alongside preparing for climate impacts, we must take urgent action to reduce B.C.'s greenhouse gas emissions. The [CleanBC Roadmap to 2030](#) introduces new measures to meet B.C.'s 2030 emissions reduction target of 40% below 2007 levels, reaching net zero by 2050.

Highlights of the strategy include:

- making all new buildings zero-carbon by 2030
- making 90% of new cars zero-carbon by 2030 and 100% by 2035
- accelerating the shift toward public transit
- increasing fuel and energy efficiency requirements
- near elimination of industrial methane emissions
- requirements for new industry projects to have enforceable plans to reach B.C.'s legislated and sectoral targets and net zero by 2050
- comprehensive review of the oil and gas royalty system
- increasing the price on carbon pollution.

Nevertheless, even if our emissions dropped to zero tomorrow, the climate would continue to change for the coming decades due to elevated levels of emissions already in the atmosphere. While we can't undo the past and avoid the effects of climate change, we can be better prepared to adapt and reduce the impacts.

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## Building the Strategy

This strategy builds on over a decade of work by the provincial government and across communities to prepare for a changing climate. It draws on lessons from past experiences, risk assessments and reports such as the independent review of flooding and wildfire by Chief Maureen Chapman and George Abbott. It also responds to the 2018 Auditor General of B.C. report, [Managing Climate Change Risks: An Independent Audit](#).

In 2019, the Province completed a [Preliminary Strategic Climate Risk Assessment](#) to better understand climate-related risks in B.C. and help government develop appropriate measures to address them. The assessment examined 15 scenarios of climate risk events that could occur in B.C. by the 2050s and found the greatest risks were severe wildfire, seasonal and long-term water shortage, heat wave, ocean acidification and glacier mass loss. Other risks with significant consequences included severe river flooding and severe coastal storm surge. The report projected significant and costly impacts for B.C. – something we have clearly witnessed in 2021.

In June 2021, the Province released the draft Climate Preparedness and Adaptation Strategy. This draft strategy laid out actions to be taken in 2021 as the foundation for future work and presented a set of proposed actions for 2022-2025. Engagement on the strategy occurred between spring 2019 and summer 2021 and included engagement with Indigenous Nations, communities, organizations and two advisory groups; local governments, NGOs, academia, industry, the [Climate Solutions Council](#) and the public.

Actions prioritized for this strategy were influenced by feedback from engagement as well as other factors including the Preliminary Strategic Climate Risk Assessment, the extreme weather events of 2021 and a set of [guiding principles](#).

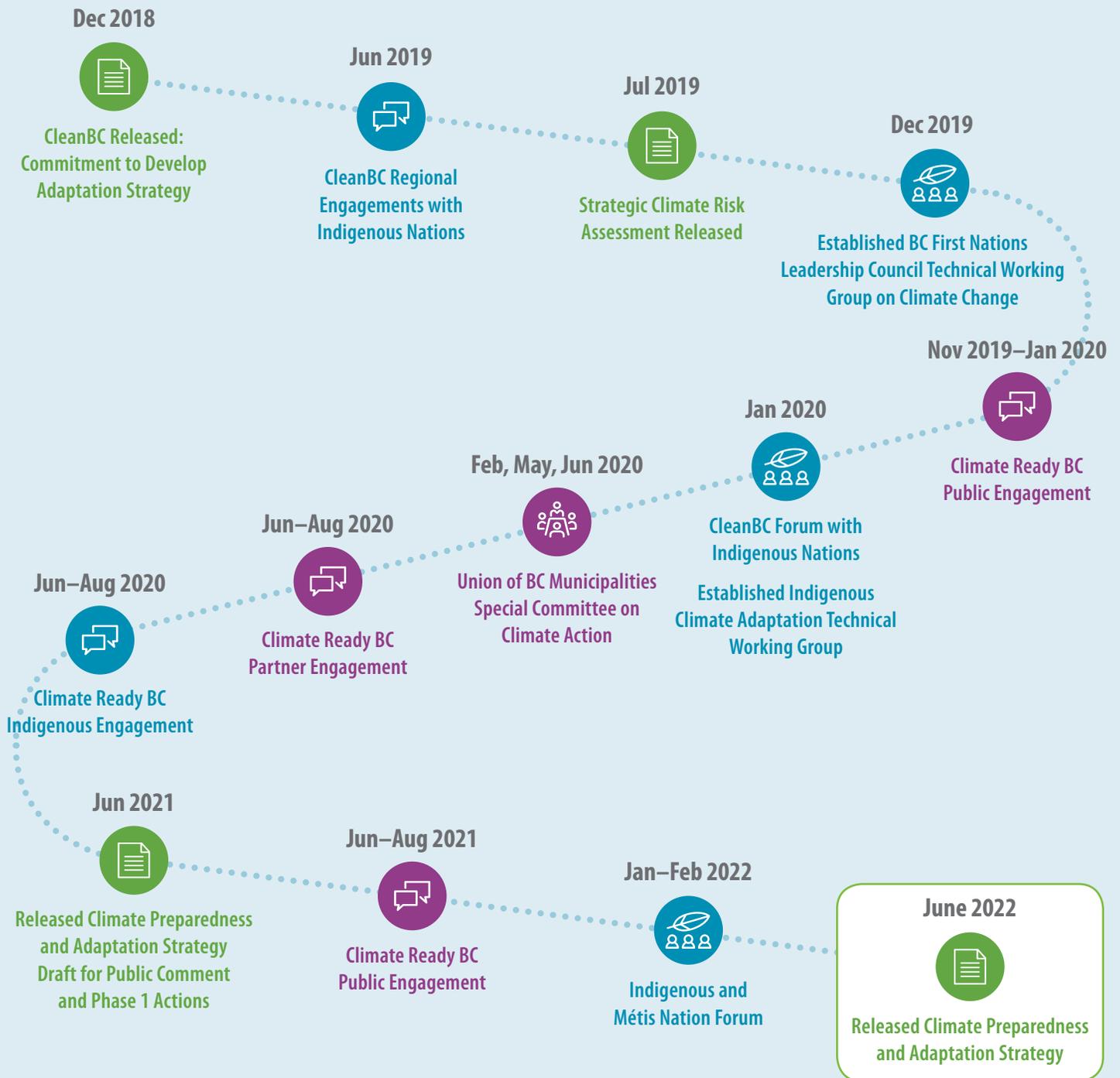
### ASSESSING CLIMATE RISKS

A climate risk assessment involves identifying potential adverse climate events (hazards) and assessing how likely they are to occur (probability) and what the impact would be if they did occur (consequence).

Climate risks can be reduced by preventing the cause of the hazard if possible, reducing the potential consequences, or developing a plan to address the impacts if it happens.



# Timeline for Climate Preparedness and Adaptation Strategy Engagement and Development



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## Guiding Principles

The following six draft principles helped guide the development of the Climate Preparedness and Adaptation Strategy and will continue to inform work going forward. The draft principles were developed with input from people across B.C. and were part of public engagement in 2021.

### 1. Build a Shared Path to Climate Resilience with Indigenous Peoples

The Province recognizes that our relationships with Indigenous Peoples need to evolve and we are committed to building a shared path to climate resilience in true partnership with Indigenous Peoples.

### 2. Take an Equity-Informed Approach

Enhancing climate resilience for everyone in B.C., regardless of where and how they live, requires an approach that integrates equity considerations into climate adaptation responses.<sup>6</sup>

### 3. Enhance Health and Well-being for All

There are many opportunities to choose adaptation actions that reduce health risks, like increased asthma and mental health issues, related to climate change while also improving community resilience and well-being.

### 4. Promote Nature-Based Solutions to Enhance Community Resilience

Nature-based solutions are actions that can protect, sustainably manage and restore ecosystems in ways that benefit people as well as biodiversity and ecosystem function.

### 5. Align Emissions Reduction with Climate Adaptation

Strategically aligning actions for climate adaptation and greenhouse gas emissions reduction can enhance the effectiveness of both while also avoiding risks and generating economic, ecological and social benefits.

### 6. Take a Proactive Approach: The Business Case for Adaptation

Managing climate risk is part of building an innovative and resilient economy and ensuring that B.C. maintains a competitive business environment in the climate of the future.

To read a full description of the principles please visit:  
[www2.gov.bc.ca/assets/gov/environment/climate-change/adaptation/  
guiding\\_principles\\_climate\\_preparedness\\_and\\_adaptation.pdf](http://www2.gov.bc.ca/assets/gov/environment/climate-change/adaptation/guiding_principles_climate_preparedness_and_adaptation.pdf)

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<sup>6</sup> The Province has used an approach known as “gender-based analysis plus” (GBA+) to examine how considerations of sex, gender, race, ethnicity, age and mental or physical ability (among other factors) intersect to influence how different populations in B.C. are affected by climate change. See the report *GBA +, Intersectionality and Climate Change in B.C.* to learn more.

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## Partnering with Indigenous Peoples

*“Every Indigenous community regardless of where they are has a story. One that predates contact. One that talks about being a sustainable, resilient community. People need to realize that we’ve done this before, and we can do it again.”*

– Kukpi7 Chief Patrick Michell, Kanaka Bar Band, Climate Solutions Council member

*“The people of Skidegate continue to actively seek locally led strategies to enhance community sustainability, resiliency and independence in the face of new challenges from climate change. This is where Indigenous people are so important: we are so closely connected to the land and sea, we are like an indicator species. We feel the changes first and respond first for protection and ensuring sustainability.”*

– Trent Moraes, Skidegate Band Council, Indigenous Climate Adaptation Working Group Chair

Indigenous Peoples are essential partners in our work to prepare for and adapt to climate change. While Indigenous Peoples are uniquely impacted by climate change, they also offer important insights and knowledge essential to effective climate adaptation. The importance of partnering with Indigenous Peoples has been reinforced in the B.C. Declaration on the Rights of Indigenous Peoples Act Action Plan. The Plan commits the Province to collaboratively develop and implement the Climate Preparedness and Adaptation Strategy with Indigenous Peoples, while supporting “changes in understandings, behaviours and systems to shift the status quo, address Indigenous-specific racism and establish new foundations of government that respect and uphold the human rights of Indigenous Peoples.”<sup>7</sup>

This is particularly important given that Indigenous Peoples and communities are more exposed to climate risks due to location of communities and many socio-economic

and political factors associated with the histories of colonization, forced displacement and marginalization that underscore existing inequities. At the same time, many Indigenous Nations, communities and organizations in B.C. are taking actions to address climate impacts and adaptation. For example, the First Nations Leadership Council, as mandated by First Nations Chiefs in B.C., has developed a [B.C. First Nation Climate Strategy and Action Plan](#) to help build capacity, understanding and resilience in First Nation communities, in alignment with First Nations’ rights, values, worldviews and priorities.

Throughout engagement, Indigenous Nations, communities and organizations in B.C. have emphasized the potential for climate change to adversely impact the ability for Indigenous Peoples to exercise their rights (both those recognized by federal and provincial laws, and asserted rights) – and the need to address these issues at a government-to-government

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<sup>7</sup> Government of British Columbia (2022). Declaration on the Rights of Indigenous Peoples Act Action Plan 2022-2027, p. 3. [https://www2.gov.bc.ca/assets/gov/government/ministries-organizations/ministries/indigenous-relations-reconciliation/declaration\\_act\\_action\\_plan.pdf](https://www2.gov.bc.ca/assets/gov/government/ministries-organizations/ministries/indigenous-relations-reconciliation/declaration_act_action_plan.pdf)

level. Indigenous Peoples have called for strong action to address the impacts of climate change, as well as the need to respect and care for all species and ecosystems. They have emphasized the importance of reducing impacts for those who are marginalized or face multiple barriers, including those living in poverty. And they have stressed the importance of including and valuing Indigenous knowledge in decision-making, especially when it comes to climate preparedness and adaptation.

The Province is working to ensure that our partnerships are based on recognition and respect for the inherent right of Indigenous Peoples to govern themselves. As part of development of this strategy, the Province has

engaged with Indigenous Nations, communities, organizations, Elders and youth through regional and provincial forums and one-on-one meetings to develop an approach to climate adaptation that aligns with the Declaration on the Rights of Indigenous Peoples Act. In addition, the Climate Action Secretariat has been working with the Indigenous Climate Adaptation Working Group, the B.C. First Nations Leadership Council Technical Working Group on Climate Change and various Indigenous organizations.

We will continue to work closely with Indigenous Peoples to strengthen our collaborative processes and deepen our partnerships as we prepare for a changing climate.

## DECLARATION ON THE RIGHTS OF INDIGENOUS PEOPLES ACT

The Province has committed to implement the [United Nations Declaration on the Rights of Indigenous Peoples](#) (the UN Declaration). The Province's [Declaration on the Rights of Indigenous Peoples Act](#) (2019) contributes to that implementation by requiring the B.C. government to take all measures necessary to ensure B.C. laws are consistent with the 46 articles of the UN Declaration, covering all facets of the rights of Indigenous Peoples such as culture, identity, religion, language, health, education and community.

Articles of the UN Declaration especially relevant to this strategy include those that address Indigenous Peoples' rights to self-determination, to maintain and develop their own Indigenous decision-making institutions, and to participate in decision-making in matters that would affect their rights. The UN Declaration recognizes the importance of cooperation and consultation in good faith in order to obtain free, prior and informed consent as the standard for consultation with Indigenous Peoples regarding the approval of projects affecting their territories or the adoption and implementation of legislative or administrative measures that may affect them.

To achieve objectives in the UN Declaration, the Province released the [Declaration on the Rights of Indigenous Peoples Act Action Plan](#) in May 2022. This plan includes goals, outcomes and tangible actions needed for meaningful progress in reconciliation, and includes a commitment to collaboratively develop and implement CleanBC and the Climate Preparedness and Adaptation Strategy.



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## A Cross-Government Approach

Alongside our engagements with Indigenous Peoples and input from local governments and the public, this strategy was developed with a cross-government working group (see the appendix for a list of ministries carrying out actions). The Climate Action Secretariat provides leadership and guidance to implement the strategy, ensures alignment across government and supports ministries to build capacity and expertise in their program areas. The Climate Action Secretariat will also be responsible for reporting annually on progress and outcomes.

The actions outlined in this strategy work hand-in-hand with related efforts on disaster risk reduction and emergency management. While climate change adaptation focuses on proactively understanding, preparing for and reducing climate impacts, disaster risk reduction looks more broadly at disasters and lessening their impacts when they do occur, and is guided in B.C. by the [United Nations Sendai Framework](#). Disaster risk reduction is complementary to emergency

management, which focuses on preparing for, responding to and recovering from emergencies and disasters. The Province is currently modernizing its emergency management legislation to help B.C. better prepare for climate impacts and other new risks such as COVID-19. The new legislation will align B.C. with the Sendai Framework, reflect the B.C. Declaration on the Rights of Indigenous Peoples Act, and draw on lessons learned from the COVID-19 pandemic and recent flood and wildfire seasons.



## 2. B.C.'S CHANGING CLIMATE

While last year's extreme weather disasters were a vivid illustration of the impact climate change can have on our province, they are part of a broader trend that is consistent with the science on climate-related impacts over time. In recent years, people across B.C. have witnessed more frequent and more severe extreme weather events. In addition to the heat wave and devastating flooding of 2021, the province also experienced three of the worst wildfire seasons on record in the last five years. Smoke from wildfires in 2017, 2018, 2020 and 2021, that burned in B.C. as well as the United States, contributed to poor air quality and associated health risks that lasted for weeks at a time in many communities across the province.<sup>8</sup>

Scientists have shown that these extreme events were made much more likely by climate change. The atmospheric river that caused widespread flooding in southwest B.C. in 2021 was made at least 60% more likely as a result of human-induced climate change,<sup>9</sup> and the heat dome event would have been 150 times less likely without human-induced climate change.<sup>10</sup> These events will become increasingly more likely and more intense as the climate continues to change.

### INDIGENOUS KNOWLEDGE AND CLIMATE CHANGE

Indigenous knowledge systems are critical to understanding how climate change will impact communities and natural systems, and support how communities adapt and prepare for these changes. This knowledge is often broad, holistic, place based, relational, intergenerational and can be embodied through tangible or less tangible forms. While there is no one definition of Indigenous knowledge as it is unique to each Nation and knowledge holder, it can refer to the understandings, skills and philosophies developed by societies with long histories of interaction with their natural surroundings.

For Indigenous Peoples, local knowledge informs decision-making about fundamental aspects of day-to-day life. These cumulative bodies of knowledge are integral to cultural systems that include language, systems of classification, resource use practices, social interactions, ritual and spirituality.

8 Government of Canada (2022). Canada in a Changing Climate: Regional Perspectives Report, British Columbia. <https://changingclimate.ca/Regional-Perspectives/chapter/5-0/>

9 Gillet et al. (2022). Human influence on the 2021 British Columbia floods. Weather and Climate Extremes. Volume 36, June 2022, 100441. <https://www.sciencedirect.com/science/article/pii/S2212094722000287>

10 Phillip et al. (2021). Rapid attribution analysis of the extraordinary heatwave on the Pacific Coast of the US and Canada June 2021. Earth System Dynamics. <https://esd.copernicus.org/preprints/esd-2021-90/>

In addition to these extreme weather events, we've also heard through public engagement from people who have witnessed significant changes over their lifetimes – from drier summers with less water in our rivers and lakes to warmer, wetter winters to changes in the timing of berries ripening, animals migrating and the decline of certain species, including culturally important salmon and western red cedar.

Indigenous Peoples in B.C., with collective knowledge of their territories built on generations of observing, relating to and living close to the land, offer valuable insights on the impacts of climate change. Although they have experienced and responded to changes throughout history, Indigenous Peoples are now observing signs of unprecedented climate change compared to those experienced in the past.

Recent surveys conducted by the First Nations Leadership Council and Métis Nation BC, combined with findings from engagement by the Province, provide important insights into the experiences and perspectives of Indigenous Peoples. Some of the key observations and concerns expressed include:

- An increase in intensity and frequency of extreme weather events including warmer winters, heat waves, wildfires, warming rivers and lakes, and coastal and riverine flooding;
- Damage, disappearance or loss of access to sacred and cultural sites due to extreme weather events and rising sea levels;
- Decline in the number of salmon, moose and other animals as well as changes in migration routes;

- Decline in the number of medicinal, ceremonial and land-based plants as well as an increase in the number of invasive plants, animals and insects;
- Warm water fish species appearing in places never seen before, and insect lifecycles occurring earlier;
- Decrease in water quality and generally lower water levels, with drastic periodic changes due to extreme weather;
- Displacement, property damage and loss due to extreme events like wildfire and flood; and
- Health impacts including stress and anxiety due to loss of traditional foods and extreme weather events, and respiratory disease due to wildfires and extreme heat events.<sup>11</sup>

#### PACIFIC CLIMATE IMPACTS CONSORTIUM

The Pacific Climate Impacts Consortium is a regional climate service centre that provides regional-scale data, modelling, tools, education and support to users in the Pacific and Yukon regions.

For information on climate projections for your region visit: Plan2Adapt.

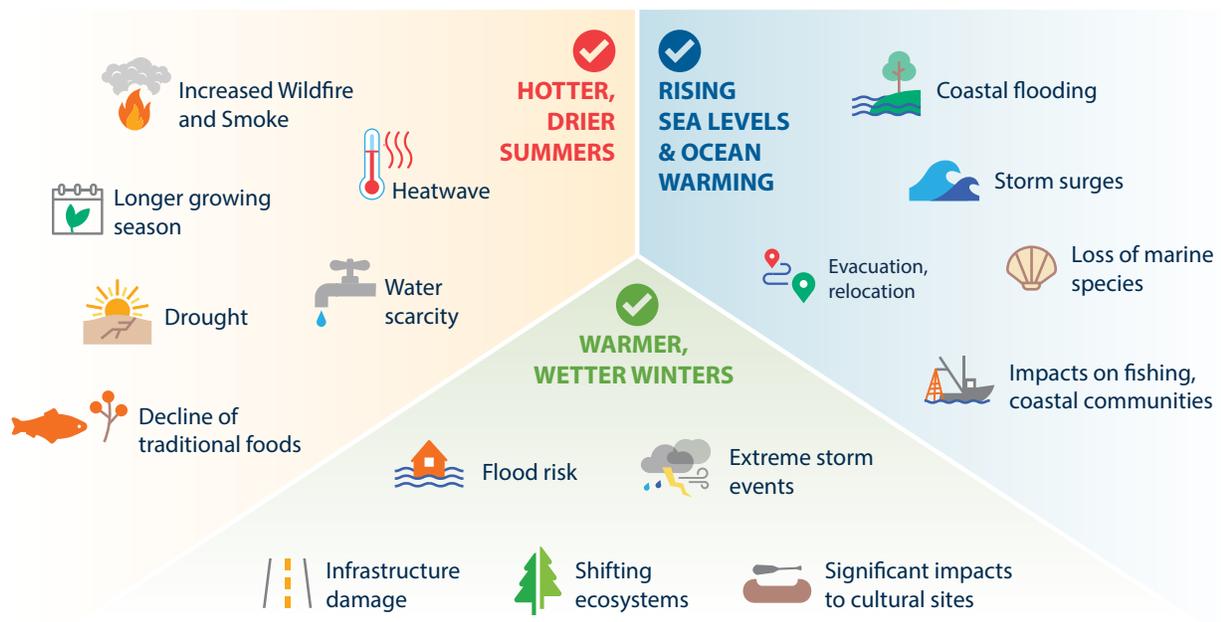
<sup>11</sup> First Nations Leadership Council (2020). Climate Emergency Survey. [https://www.bcafn.ca/sites/default/files/docs/reports-presentations/2020.27.05%20FNLC%20CE%20Survey%20Findings\\_Full%20doc.pdf](https://www.bcafn.ca/sites/default/files/docs/reports-presentations/2020.27.05%20FNLC%20CE%20Survey%20Findings_Full%20doc.pdf). Métis Nation BC (2019). Gaining a Métis Perspective on Climate Change in BC.

Recorded climate data for B.C. complements the lived experiences of Indigenous Peoples. Between 1948 and 2016, B.C.'s average annual temperature has increased by 1.9° C, with winter temperatures rising the most.<sup>12</sup> While on average that may not sound like much, the impact of that change can already be seen in the form of increased summer heatwaves and receding glaciers, with more changes expected over the coming decades. Province-wide average annual precipitation has already increased by an average of 12% (ranging from 10 to 21% by region) over the past century, with more heavy, sporadic rainfall events in the spring, and increases in extreme wet and extreme dry conditions in summer.<sup>13</sup>

Again, we are seeing this clearly in the longer wildfire seasons, increased frequency and severity of drought and wildfires, as well as unprecedented flooding from atmospheric river events.

In addition to the 15 climate-related risks examined by the provincial climate risk assessment, the report also considered how these individual risks can compound each other, making the cascading impacts greater than a single event. For example, extreme heat can make wildfire and drought conditions worse. Drought and wildfire in turn may make landslides more likely and severe after extreme rainfall due to the soil's reduced ability to absorb water.

## Impacts on our Communities, Economy, Health and Wellbeing

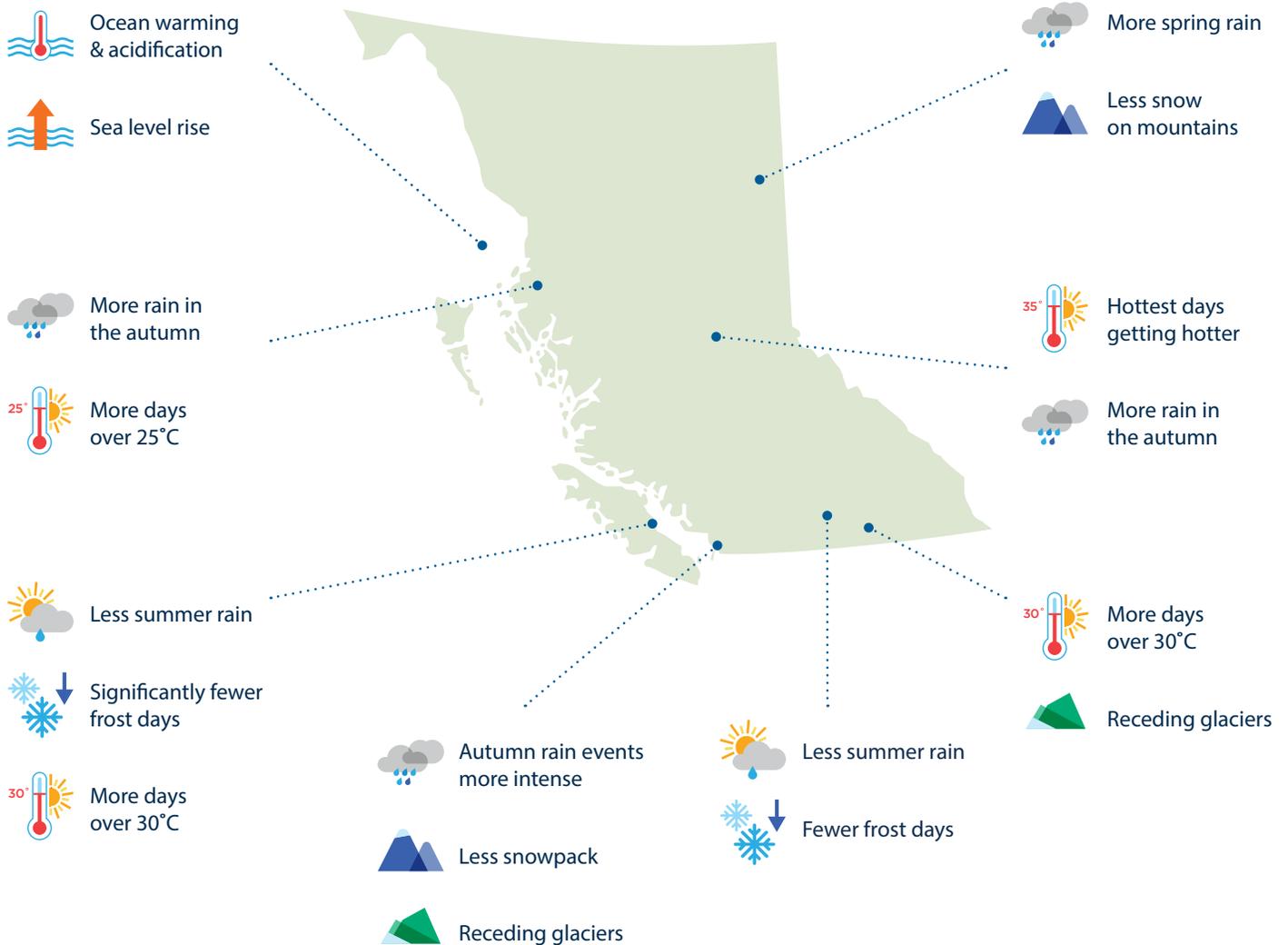


12 Zhang et al (2019). In: Canada's Changing Climate Report. <https://changingclimate.ca/CCCR2019/chapter/4-0/>.

13 B.C. Ministry of Environment (2016). Indicators of Climate Change for British Columbia 2016 Update. [https://www2.gov.bc.ca/assets/gov/environment/research-monitoring-and-reporting/reporting/envreportbc/archived-reports/climate-change/climatechangeindicators-13sept2016\\_final.pdf](https://www2.gov.bc.ca/assets/gov/environment/research-monitoring-and-reporting/reporting/envreportbc/archived-reports/climate-change/climatechangeindicators-13sept2016_final.pdf)

The following map illustrates some of the projected changes for B.C. by 2050. While many changes in climate will be similar across the province, others will vary in important ways from region to region. For example, winter rainfall is anticipated to increase throughout the province, but some places such as southern Vancouver Island will likely experience considerably less rain in the summer while others, such as the northeast regions of the province, will see more precipitation across all seasons.

As these projections and events of this past year have driven home, there is no time to waste – we must plan and act now to be ready for the challenges and new possibilities the changing climate may bring.



# 3. PATHWAYS AND ACTIONS

The Climate Preparedness and Adaptation Strategy outlines a broad range of actions to address climate impacts and build resilience across B.C. These actions are grouped into four key pathways:

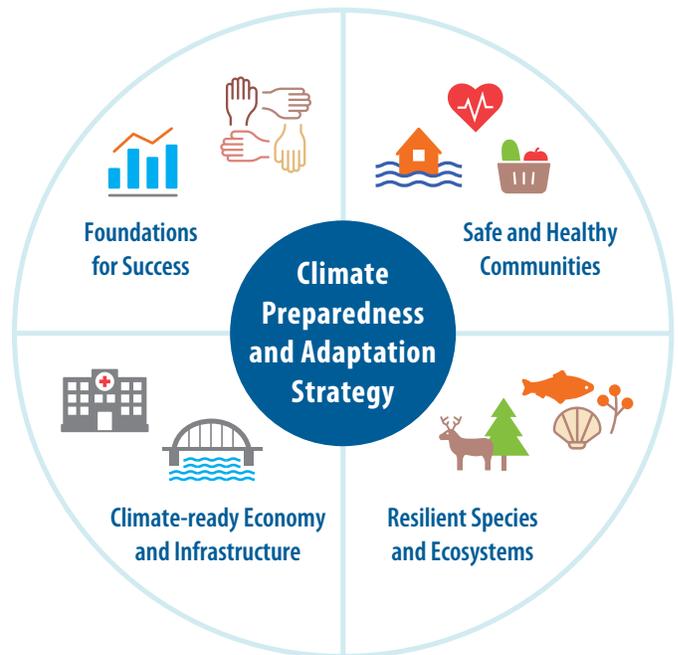
- 1. Foundations for success: partnerships, knowledge and decision-making
- 2. Safe and healthy communities
- 3. Resilient species and ecosystems
- 4. Climate-ready economy and infrastructure.

**Pathway 1** highlights foundations for our success including partnerships with Indigenous Peoples and our ongoing commitment to reconciliation. Actions also work to improve our understanding of climate change impacts through data collection and monitoring networks, integrate climate adaptation into decision-making across government and expand our outreach and education.

**Pathway 2** works to build safe and healthy communities through funding and resources to reduce the risks from heat waves, flooding and wildfires, as well as targeted initiatives such as cultural and prescribed burning, floodplain mapping and an extreme heat preparedness framework. Actions also work to improve food security and ensure our health system is resilient and ready for the future climate.

**Pathway 3** focuses on enhancing the resiliency of species and ecosystems through improved understanding of the impacts of climate change on key species, habitats and ecosystems as well as protecting and maintaining healthy watersheds and addressing the threats posed by ocean acidification and sea level rise.

**Pathway 4** highlights actions to build a resilient economy and climate-ready infrastructure by supporting key industries to prepare for a changing climate, and working to make our roads, highways and buildings resilient and able to keep people, goods and services moving safely in a changing climate.





## Pathway 1:

# Foundations for Success: Partnerships, Knowledge and Decision-Making

Meeting the challenges of a changing climate requires improving our collective understanding of climate impacts and how they translate to risks for Indigenous Peoples, communities and people across B.C. This pathway aims to lay the groundwork by building capacity, improving data and monitoring and enhancing training and education programs. It aims to bring climate knowledge into decision-making and create and strengthen partnerships to prepare for the changes that have already started to occur and will continue in the decades to come.

### Pathway 1 Goal

Deepening partnerships and ongoing integration of climate knowledge into decision-making will build our collective capacity to meet evolving climate challenges in ways that address equity and uphold Indigenous rights and resilience.

Investments in data, information, education and training enhance our understanding of how the climate is changing and its influence on our lives.



No one government, community or organization can do this alone, and comprehensive information and diverse knowledge systems are needed to understand climate impacts and how these translate to risks.

Essential to our approach for building this foundation is our ongoing commitment to reconciliation with Indigenous Peoples, and partnering with Indigenous Nations, communities and organizations to build resilience to the impacts of climate change. Many Indigenous communities are doing critical work to address the challenges of food security, wildfire and flood mitigation, and species protection. The Province will work to bring climate change resilience into ongoing relationships with Indigenous Nations, communities and organizations, including ensuring that future assessments of provincial climate risks align with our commitments under the Declaration of the Rights of Indigenous Peoples Act. We are also committed to finding responses to climate change that address the unique impacts to Indigenous territories and ways of life, and priorities identified by Indigenous Peoples.

Complementary to our work to create a shared path to climate resilience are our efforts to improve the scientific understanding of how climate is impacting B.C. The strategy includes investments to expand climate data, monitoring and forecasting services that provide the basis for effective decision-making and action. In anticipation of the growing need for climate information to inform decision-making across society, we are working with partners like the Pacific Climate Impacts Consortium, as we proactively invest in ensuring climate data and modelling services are available and accessible. The Province will also build climate adaptation capacity through new partnerships, training and education programs.

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## Priority Initiatives

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### Collaboration with Indigenous Peoples

#### Climate Change Resilience Partnerships

Upholding rich and diverse Indigenous knowledge systems is critical to building resilience to climate change. These knowledge systems, including practices, skills and philosophies, as well as chronological and landscape-specific data, are critical for identifying climate impacts and adapting to a changing climate.

It is essential that Indigenous Peoples' knowledge systems and priorities related to climate change are integrated consistently into ongoing relationships between the Province and Indigenous Nations, communities and organizations. The Province will work closely with Nations and organizations to collaboratively integrate Indigenous knowledge and perspectives on climate change, as well as climate risks and adaptive measures, into our work together, such as in stewardship forums and land use planning. Similarly, the approach taken in future assessments of climate risk will align with commitments made through the Declaration on the Rights of Indigenous Peoples Act, integrating Indigenous knowledge into the assessment process, and recognizing the unique impacts to Indigenous territories, values and ways of life.

#### Indigenous Climate Resilience Capacity-building Pilot Project

Community engagement and advisory group feedback identified that many Indigenous Nations, communities and organizations do not have the capacity to manage climate risks and pursue adaptation planning projects and funding. Regional Indigenous supports for communities and organizations along with mentorship, knowledge products, adaptation training and a learning network were prioritized as foundational to advance Indigenous climate resilience. The Province will explore ways to improve this critical gap by undertaking a one-year pilot project to support Indigenous climate resilience capacity and skill-building needs.

#### Indigenous Climate Engagement

Continual improvement of inclusive and diverse Indigenous engagement, including ensuring the rights of Indigenous Peoples are reflected in climate planning, policy and program delivery, is integral to respond to the challenges we face together. The Province, with leadership from the Climate Action Secretariat, will take a more coordinated, long-term and strategic approach to engagement with Indigenous Nations, communities and organizations in relation to the Climate Preparedness and Adaptation Strategy and the CleanBC Roadmap to 2030. This will include stable three-year funding for the B.C. First Nations Leadership Council Technical Working Group and the Indigenous Climate Adaptation Working Group, and work to enhance engagement with youth, Elders and off-reserve Indigenous Peoples. This work aims to ensure the strategic coordination of efforts and reduce the engagement burden on Indigenous Peoples, while strengthening relationships and reconciliation with Indigenous Nations, communities and organizations.

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## Climate Data Monitoring and Forecasting

### Hydroclimatological Program Expansion

The collection of hydroclimatological data – measurements of various weather- and water-related variables such as streamflow and temperature – is essential to understand current conditions, to accurately model and forecast climate and extreme weather events in the future, and to manage localized risks such as flooding and drought. Research has shown that the benefits of these investments in data networks outweigh costs by up to 19 to 1.<sup>14</sup> There are currently large areas of the province that need more monitoring stations to achieve a better understanding of long-term trends and better planning outcomes. To address this, the Province is coordinating and expanding hydroclimatological data collection and monitoring networks into underrepresented areas of the province to better inform our understanding of issues such as short- and long-term water shortage, the severity of wildfire seasons, extreme precipitation, landslides and flood risk. This will provide essential data to support emergency management decisions; land, water and resource management; manage climate-related hazards and inform infrastructure design across B.C.

### Forecasting and Real-Time Information on Flood and Drought

B.C.'s River Forecast Centre analyses snowpack, assesses seasonal water supply and flood hazards and uses real-time information to report on current and forecasted streamflow conditions. New investments in the River Forecast Centre will expand its capacity to play this important role in keeping communities and response agencies informed with the goal of improving our response to flood hazards. In addition, continued investment in the [StormSurgeBC](#) portal will provide timely information to coastal communities and emergency managers about potential coastal flood and storm surge events.

At the same time, communities and sectors are facing more frequent risk of summer drought conditions and need to plan for how to manage limited water supplies. The Province is strengthening drought forecasting capabilities, as well as drought response, through more coordinated provincial and regional approaches.



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14 BC Ministry of Sustainable Resource Management (2003). Water Quantity Monitoring in British Columbia – A Business Review of the BC Hydrometric Programs. Government of British Columbia, Victoria.

## Agricultural Weather Monitoring Network

An existing network of twenty-seven agricultural weather stations, maintained by the Ministry of Agriculture and Food, forms an important part of the provincial hydroclimatological network and provides agricultural producers with specific information to inform farm planning and practices. Building on recent research to better understand the weather information needs of agricultural producers, the Province will work with agricultural producers and experts to prototype and test a customized decision support tool to help use water for irrigation and crop growth more efficiently. This will inform a roadmap to expand the agricultural weather station network in priority areas and additional tools to support agricultural decision-making, therefore improving food production in a changing climate.

## Cross-Sector Climate Services

The Pacific Climate Impacts Consortium is a regional climate service centre established in 2005, which provides regional-scale data, modelling, tools, education and support to users in the Pacific and Yukon regions. The Province is increasing its investment in the Pacific Climate Impacts Consortium over the next three years so it can expand its ability to meet the growing needs of Indigenous Nations and organizations, local governments, academia, businesses and industry to understand their climate risks and inform adaptation planning and actions.



## ClimatEx Project

To understand climate impacts in B.C.'s rugged topography we need fine-scale climate data at the landscape level. Currently this type of climate data is only available as monthly averages and doesn't describe weather extremes, ecological drought (water shortages that impact species and ecosystems), fire weather, and many biologically relevant climate indices. The ClimatEx project will improve the availability of this urgently needed information.

Under this project, the Province is partnering with the Pacific Climate Impacts Consortium to develop long-term, fine-scale daily climate change projections and to synthesize data into user-friendly tools. ClimatEx is also supporting research at the University of British Columbia and University of Victoria on cutting edge approaches to producing high-resolution climate projections using machine learning and weather simulations. The outcomes of this project will improve the effectiveness of B.C.'s climate preparedness and adaptation initiatives, particularly with respect to the management of water, wildlife, wildfire, reforestation and ecosystems.

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## Understanding Climate Risks

### Provincial Climate Risk Assessment

The *Climate Change Accountability Act* requires the Province to report on climate change risks every five years, beginning in 2020. The Province released a [Preliminary Strategic Climate Risk Assessment](#) in 2019 which was summarised in the 2020 Climate Change Accountability Report, and will be reporting on climate risks for B.C. again in 2025 based on the latest information and understanding. Building on learning from the initial assessment we will enhance the risk assessment process to better include Indigenous values and experiences, consider differential impacts for diverse populations and regions, and ensure the approach can be adapted for use at a community or regional level to support adaptation planning.

### Provincial Hazard, Risk and Vulnerability Assessment

Emergency Management BC will lead the upcoming Provincial Hazard, Risk and Vulnerability Assessment, which will integrate climate-related risks with a disaster risk reduction perspective. This assessment will look at a wider range of hazards faced across the whole province, including climate-related risks and others such as earthquake or hazardous material spills. This will enable an integrated risk-based approach to response, recovery, mitigation and adaptation initiatives across B.C.

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## Education on Climate Impacts and Adaptation

### Climate Awareness for Educators, Students and Communities

The Province is working to ensure that kindergarten to grade 12 education remains aligned with provincial climate strategies and helps educators, students, families and communities to better understand our changing climate and its impacts, identify actions to prepare and adapt to climate change and build climate resilience. Working in partnership with the Ministry of Education and Child Care and the BC Teachers' Federation, we are exploring ways to enhance the existing curriculum and develop targeted resources that support both students and teachers. This includes outlining existing resources and programs of relevance to the classroom, developing teaching frameworks, as well as partnering with the Pacific Institute for Climate Solutions, Environmental Educators Provincial Specialist Association, Classroom 2 Communities and the Institute for Environmental Learning to develop learning resources for kindergarten to grade 12 learners.

The Province will also develop a CleanBC awareness campaign to build broader public understanding of climate action in B.C. including climate impacts and adaptation actions.

### Adaptation Skills for Professionals

The Province is making new investments in climate action workforce development, which includes education, training and resources for professionals as part of the Adaptation Learning Network hosted at Royal Roads University. New funding will support designing additional continuing studies courses, refining a framework for adaptation competencies and advancing a micro-credential certification to formally recognize core skills and competencies for adaptation professionals in B.C.

#### ADAPTATION LEARNING NETWORK

With climate change already impacting our communities and ecosystems, professionals in B.C. need new ways of thinking and acting to effectively integrate climate change adaptation into their work. The Adaptation Learning Network is helping professionals do just that through training, resources, and networking. Learn more at [adaptationlearningnetwork.com](https://adaptationlearningnetwork.com)

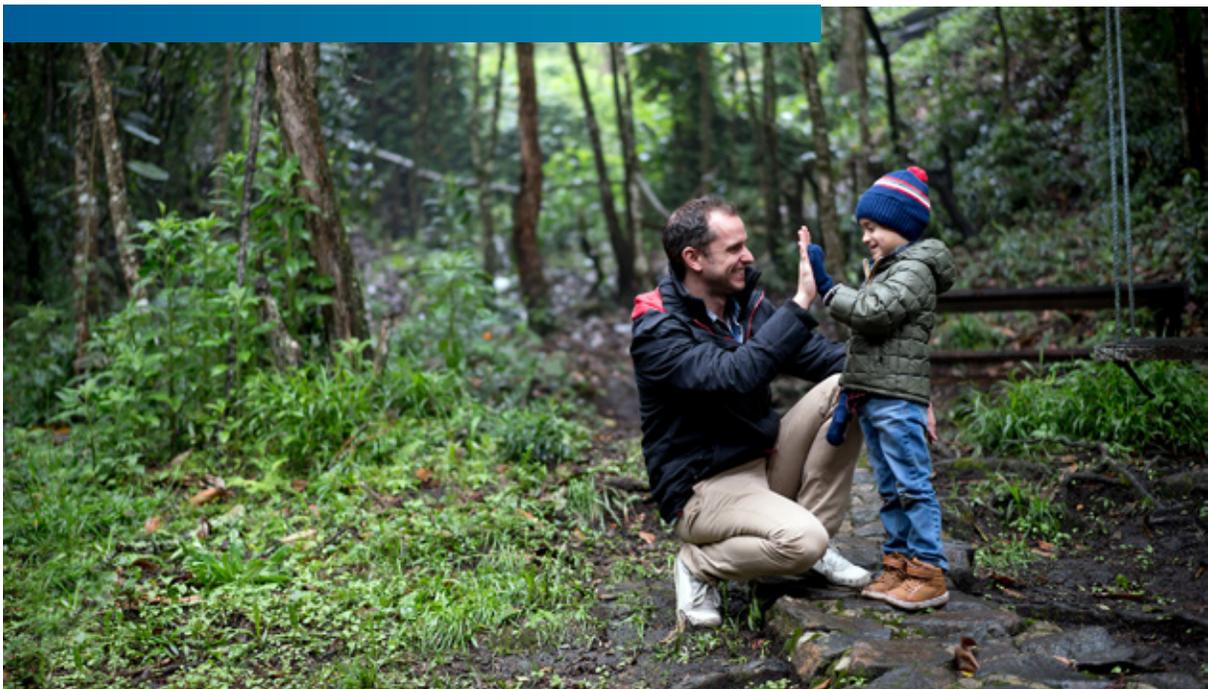
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## Climate Change in Governance and Decision-Making

Ministries across government are working to build climate adaptation capacity and expertise in their program areas and integrate climate change into their day-to-day business. This includes considering the changing climate in legislation, policy and program delivery. The Climate Action Secretariat will provide leadership and guidance to support this ongoing work.

Government applies an Environmental, Social and Governance Framework for Capital that guides the delivery of key government priorities through the development of provincial public sector projects. The Province is updating the framework to reaffirm and reinforce the vision of the framework throughout the lifecycle of public capital assets. It will support CleanBC objectives by developing clear requirements for capital expenditures to meet energy efficiency, emission standards, climate resiliency measures and CleanBC goals. New provincial assets will be prepared for the climate of the future and contribute less to the causes of climate change today. Similarly, the [CleanBC Communities Fund](#), which focuses on infrastructure projects that reduce emissions, applies a climate risk lens to all projects that it funds.

The Ministry of Forests provides a good example of proactive action taking place in ministries. The ministry considers and integrates climate change in their work, from day-to-day operations, changes to legislation and policy, to new approaches in foundational forest management systems for forest landscape planning and timber supply review. A climate adaptation policy framework will be developed to support this work. The Ministry is working together with regional offices and a network of researchers to increase the availability of climate science, adaptation tools and expertise to inform decision-making and operations.





## Pathway 2: Safe and Healthy Communities

In recent years, we have witnessed the early impacts of climate change for communities across the province. How we plan and live in our communities influences how resilient they are to the impacts of climate change. Communities play a critical role in strengthening climate resilience in B.C. through actions and policies that help reduce and manage climate risks. Investing in healthier, sustainable and more resilient communities will help our province to thrive in the climate of the future.

### Pathway 2 Goal

Communities have reduced their climate risks and enhanced resilience to climate-related extreme weather events, and our infrastructure, economy and health system are better prepared for a changing climate.

To address some of the most pressing climate risks already affecting communities in B.C., the Province is working together with Indigenous Nations and communities, local governments and other organizations to reduce risks from heatwaves, flooding and wildfires, as well as enhance the climate resilience of infrastructure that our economy and people across B.C. depend on. Indigenous Nations with collective knowledge of their territories built on generations of observing, relating to and living close to their lands and waters, hold invaluable insights on the impacts of climate change and adaptive solutions.

While some impacts of climate change will affect all communities across B.C., issues such as sea level rise, flooding, drought and wildfires pose different levels of risk based on where we live. At the same time, the needs and capacities of Indigenous, rural, remote and coastal communities can be different from those of urban centres. Communities are best positioned to understand their own unique strengths, values and capacities, and translate these into solutions that fit their situations. This is reflected in our ongoing commitment to provide a range of funding, tools and resources that are both targeted and flexible, to enable communities to plan and implement strategies and actions suited to their particular context.

The risk of flooding from severe rainfall events, spring thaw, coastal storm surges and rising sea levels is increasing with climate change. Major flooding events in the Grand Forks area in 2018, along with widespread flooding in the Nicola Valley, Princeton and Fraser Valley in 2021, have revealed challenges with the current system of flood governance in B.C. This underscores the need for greater coordination and a strategic approach to build greater safety and resilience of communities across B.C. in relation to flood risk. To address these needs, the Province is making

significant investments in flood planning, disaster mitigation and response across B.C.

As recent extreme weather events have shown, the impacts of climate change for health and wellness are direct and significant. Heatwaves are projected to become more frequent and severe due to climate change, which in turn increases the risk of heat-related mortality and morbidity, especially for people who are elderly, chronically ill, very young and/or socially isolated.

Another key risk identified in the Preliminary Strategic Climate Risk Assessment was wildfires, and B.C. has already experienced three of the worst wildfire seasons on record within the last five years. There are many actions we can take to increase the resilience and capacity of Indigenous and non-Indigenous communities, individuals and all other sectors to reduce wildfire impacts. In recognition of this, the Province is investing in an expanded, year-round operational model for the BC Wildfire Service, and is providing comprehensive funding for wildfire prevention and mitigation.

Over the next three years, the Province will move forward with adaptation actions that can reduce climate change-related risks and improve community resilience and well-being.



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## Priority Initiatives

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### Community Adaptation Planning and Implementation

#### Community Emergency Preparedness Fund

Since 2017, Emergency Management BC has provided \$79 million to the Union of BC Municipalities to coordinate the [Community Emergency Preparedness Fund](#) to help enhance the capacity of First Nations and local governments to reduce risk and respond effectively to adverse events. Additional funding of \$95 million provided in 2021/22 for disaster risk reduction and climate adaptation will ensure communities have accurate knowledge of climate risks and the hazards they face and are able to prepare and adapt to risks like flooding, debris flows and extreme heat made worse by climate change.

In 2022, the fund is expanding to better reflect community needs and the benefits of regional collaboration in a changing climate. A new funding stream has been added for Extreme Heat Risk Mapping, Assessment and Planning to support an understanding of the risks associated with extreme heat and how these risks will change over time, and to develop effective response plans and strategies to prepare, mitigate and adapt to those risks. Further work is underway to ensure disaster mitigation funding better reflects the growing risks posed by climate change.

#### Hazard, Risk and Vulnerability Analysis (HRVA) Toolkit Expansion

Over the next three years, the Province will support local communities to better understand and prepare for climate-related and other extreme events by expanding its existing Hazard, Risk and Vulnerability Analysis toolkit. The expanded toolkit will provide specific information for more than 50 identified hazards, including a range of climate-related issues facing communities across B.C. The toolkit will help local communities to put HRVA results into practice by providing guidance that could include public educational resources, bylaw and building code recommendations, incentive programs, narratives of effective community-led projects, and emergency response and recovery wise practices.

#### **B.C. COMMUNITY CLIMATE FUNDING GUIDE**

This web-based guide provides a comprehensive list of funding opportunities for Indigenous communities and local governments to reach their climate action goals.

Learn more at: [communityclimatefunding.gov.bc.ca](https://communityclimatefunding.gov.bc.ca)

## Local Government Climate Action Program

The Province is supporting local governments and Modern Treaty Nations with predictable, long-term funding for local climate action through the [Local Government Climate Action Program](#). Local governments are eligible to receive ongoing funding, without the need for a competitive application process for locally relevant actions to reduce greenhouse gas emissions and adapt to the impacts of climate change. The program is supported by \$76 million over three years from *Budget 2022*. More information about the program can be found in the [Local Government Climate Action Program Guide](#).

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## Indigenous-led Climate Adaptation Knowledge and Capacity Building

### Indigenous Climate Research and Data Portal

Led by the First Nations Emergency Services Society (FNESS) of B.C., this project will support climate preparedness planning in Indigenous communities through research and collection of climate change data and culturally appropriate climate change solutions. The climate change data will be integrated into an online data portal that can be accessed by Indigenous Nations, communities and organizations. Any data submitted to the Province as part of this project will be mutually agreed upon with FNESS to protect potentially culturally sensitive information. FNESS will also share lessons learned and wise practices with the Province on how to integrate climate change, Indigenous ways of knowing and cultural interests into First Nations emergency management.



### BUILDING RESILIENCE IN T'EQT'AQTN'MUX

Kanaka Bar Band or T'eqt'aqtn'mux, is located in "Canada's hot spot" in the Fraser Canyon, where extreme heat, wildfire and flooding are posing an increasing challenge to the community's resilience. In response, the Nation is taking a number of adaptation actions including producing a climate change vulnerability assessment based on traditional and scientific knowledge; initiating food security projects to grow their own food and adapt to the loss of Indigenous food species due to increasing heat and drought; and pursuing opportunities to rehabilitate sacred ecosystems and plants.

The Nation is also piloting a test study of climate resilient homes to be built in Kanaka Bar in response to the devastating Lytton wildfire of 2021. In partnership with researchers from Okanagan College, SAIT, Foresight Canada and Seko Homes, four to eight test homes will be built to withstand the impacts of wildfire, wind and floods, helping to increase community safety and wellbeing in a changing climate.

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## Wildfire Prevention and Mitigation

In recognition of the changing conditions leading to longer, more intense wildfire seasons, the BC Wildfire Service will receive funding to support the shift to a year-round wildfire management model. In addition to increased operational capacity, funding will be used to modernize tools and technology, enhance decision-making capabilities and advance whole of society participation and engagement in wildfire prevention, mitigation, preparedness, response and recovery.

### Community Resiliency Investment Program

The B.C. government has committed an additional \$90 million as part of *Budget 2022* for community-led and partnership-based wildfire risk reduction initiatives under the Community Resiliency Investment Program for wildfire risk reduction for Indigenous and non-Indigenous communities and on Crown land across B.C. The FireSmart Community Funding and Supports funding stream is available for regional districts, municipalities and First Nations to increase community resiliency by undertaking a range of FireSmart activities and includes funding to support resourcing these efforts. This funding is administered by the Union of B.C. Municipalities and is coordinated with the First Nations Emergency Services Society. Since the start of the program in 2018, 219 eligible applicants including 100 First Nations and 119 local governments have received funding.

### Wildfire Risk Reduction and Cultural and Prescribed Burning

The Province has allocated \$60 million over three years for wildfire risk reduction on Crown land. The wildfire risk reduction program is structured to increase wildfire resiliency on high-risk Crown land adjacent to communities and critical infrastructure. Since 2018, 47 projects have been coordinated throughout the province to deliver on wildfire risk reduction and prescribed fire targets for Crown land.

Provincial agencies have been working with First Nations Emergency Services Society, Indigenous Nations, and partners to establish the foundation for the expanded use of cultural and prescribed fire in B.C. This will improve climate adaptation, reduce wildfire risks and strengthen ecosystem resilience while advancing reconciliation. The commitment to the expanded use of cultural and prescribed fire is reflected in the Action Plan to implement the Declaration on the Rights of Indigenous Peoples Act and the Modernizing Forest Policy Intentions Paper. The Province is approaching this work through a two-pronged approach, ramping up the on-the-ground delivery of partnership-based cultural and prescribed fire projects while it works with Indigenous partners to develop the elements of a co-managed long-term program, inclusive of collaborative governance, integrated planning, policy and public education.

*Budget 2022* also provided a one-time contribution to the Forest Enhancement Society of BC to support the mitigation of wildfire risk, including enhanced fibre recovery.

#### INDIGENOUS FIRE STEWARDSHIP

For thousands of years, Indigenous Peoples have used fire to manage their landscapes. Indigenous communities have in many ways been leading in prevention and mitigation of wildland fire since time immemorial. To learn more visit: [prescribedfire.ca/cultural-burning](https://prescribedfire.ca/cultural-burning)

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## Enhanced Flood Management

### B.C. Flood Strategy and Resilience Plan

The Province committed to a Flood Strategy for B.C. in the [Government's Action Plan: Responding to Wildfire and Flood Risks \(2018\)](#), and is currently developing it in collaboration with local, federal and Indigenous governments and with input from people across B.C. This will set direction for flood policy in B.C., outlining the vision, principles and priorities for how we work together to build resilience to the growing risk of flood. This will be translated into action through the BC Flood Resilience Plan to support long-term implementation.

### Floodplain Mapping

The Province is working to provide communities with the background and real-time information they need to make well-informed choices to reduce flood risk and respond effectively to flood events. Increased investments will expand provincial floodplain mapping to address higher risk areas of the province, updating our shared understanding of flood hazards in a changing climate. This will equip communities with the baseline information needed to better inform flood management priorities and actions.



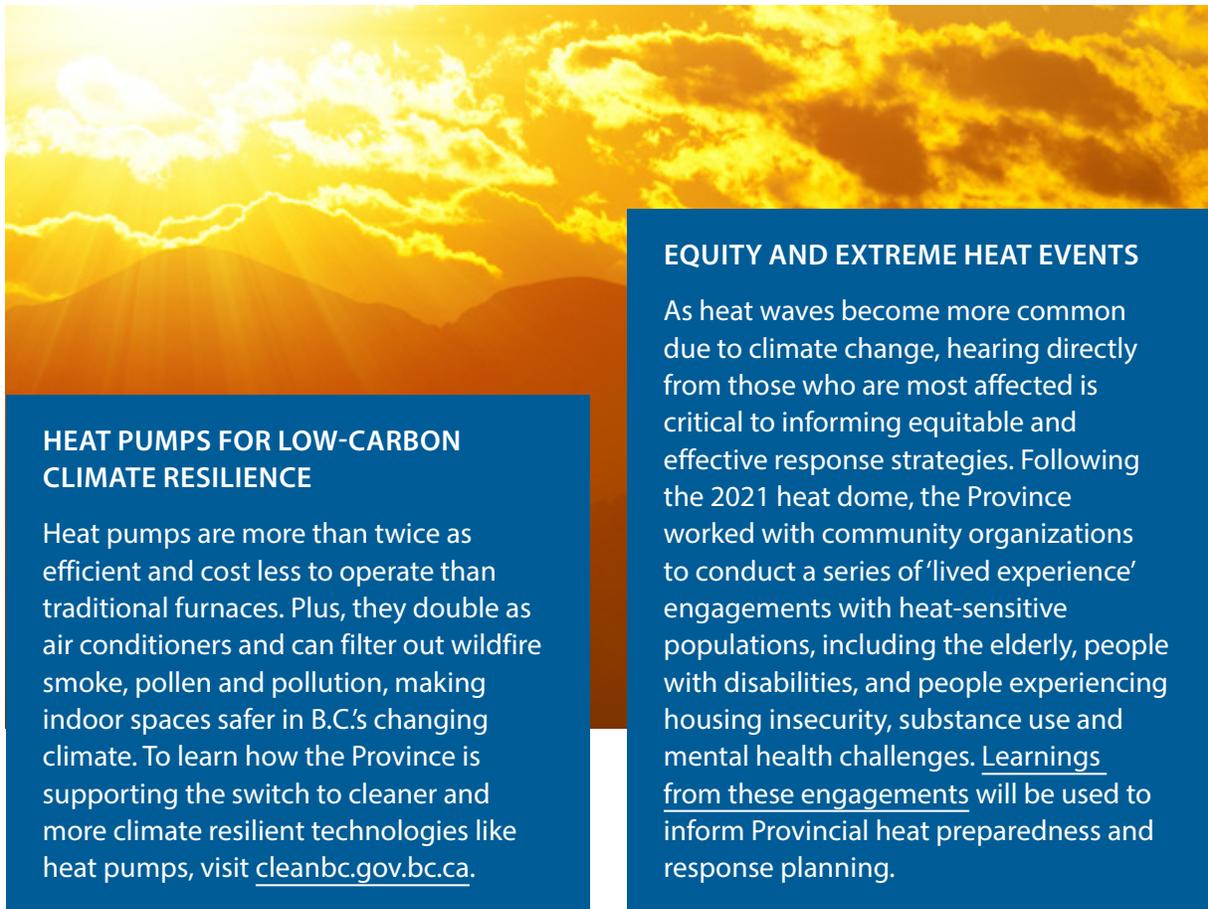
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## Health and Wellness

### Extreme Heat Preparedness

Climate change is projected to increase the number, intensity and duration of heat waves in B.C. We know that the effects of extreme heat are not experienced equally across the province, with some people being more exposed and at greater risk of life-threatening outcomes. This was made strikingly clear by the 2021 heat dome event, which is now the deadliest weather event in Canadian history.

A coordinated provincial approach is necessary to apply the lessons learned from the heat dome event and improve our coordination and response capacity. The Province has developed an extreme heat framework of related documents to inform and improve response capacity for the coming year. This framework includes the BC Heat Alert Response System: Pilot 2022, the [Prepared BC Extreme Heat Preparedness Guide](#), a Community Emergency Preparedness Fund extreme heat funding stream and an internal-to-government extreme heat preparedness guide for ministries and agencies. Together, these lay out a coordinated plan integrating early warning systems and recommended preparedness and response actions for heat-sensitive populations.



#### HEAT PUMPS FOR LOW-CARBON CLIMATE RESILIENCE

Heat pumps are more than twice as efficient and cost less to operate than traditional furnaces. Plus, they double as air conditioners and can filter out wildfire smoke, pollen and pollution, making indoor spaces safer in B.C.'s changing climate. To learn how the Province is supporting the switch to cleaner and more climate resilient technologies like heat pumps, visit [cleanbc.gov.bc.ca](https://cleanbc.gov.bc.ca).

#### EQUITY AND EXTREME HEAT EVENTS

As heat waves become more common due to climate change, hearing directly from those who are most affected is critical to informing equitable and effective response strategies. Following the 2021 heat dome, the Province worked with community organizations to conduct a series of 'lived experience' engagements with heat-sensitive populations, including the elderly, people with disabilities, and people experiencing housing insecurity, substance use and mental health challenges. [Learnings from these engagements](#) will be used to inform Provincial heat preparedness and response planning.

## Low Carbon Climate Resilient Health System

Climate change is increasingly challenging the resilience of B.C.'s health system and communities through compounding impacts on health and well-being, as well as pressures on health services and infrastructure. Protecting the health of people in B.C. while maintaining a high standard of health care in the context of a changing climate calls for cross-sectoral collaboration and transformative change to shift B.C. to a low-carbon, climate resilient health system.

A comprehensive review of climate actions across the health system found that B.C. is well positioned to be a leader in health system climate resilience. Building upon progress to date, the Province is investing in our collective capacity to anticipate, prevent, prepare for and manage climate-related health risks. Foundational actions will assess climate impacts, build knowledge and capacity to prepare and respond, and promote cross-sectoral collaboration on innovative, evidence-based solutions grounded in cultural safety and health equity.

## Food Security

Climate change directly impacts our food systems and food security leading to impacts on our health. The Province is developing a food security policy framework to guide food security planning and action in B.C. Two key objectives of the framework, targeted for 2023, are upholding Indigenous food sovereignty and responding to the threats of climate change to food security. The framework will incorporate input from engagements with Indigenous Peoples on food security and sovereignty in the context of a changing climate.





## Pathway 3: Resilient Species and Ecosystems

We all rely on healthy, resilient ecosystems for food and medicines, clean air and water, recreation and well being. Healthy species and ecosystems help moderate our climate, regulate disease, control pests, pollinate crops and can mitigate hazards like flooding and wildfires. They also store carbon, helping to reduce the causes of climate change.

### Pathway 3 Goal

Species and ecosystems are protected and adaptively managed to ensure preservation and enrichment of B.C.'s ecosystem diversity, water, natural resources and cultural values.



British Columbia is home to a rich diversity of ecosystems. These unique and varied landscapes – traditional territories that have been sustainably stewarded by Indigenous Peoples for thousands of years – form an intricate web of connections and relationships that support all of life.

As the climate changes, we are seeing shifts in the distribution, extent and composition of ecosystems as well as the potential degradation of watersheds and potable water supply. The projected speed and scale of climate change threatens to exceed the natural ability of many ecosystems to keep up. We have already witnessed this with the destructive effects of the Mountain Pine Beetle on forest ecosystems and the devastating impacts of the 2021 heat dome event on intertidal species and habitats. Coupled with increasing human activity and pressures on the oceans and land base, climate change is creating unprecedented challenges for our ecosystems.

We are increasing our understanding of climate impacts for key species, habitats and landscapes through a new Ecosystem Forecast Centre. The work of the Centre is complemented by ongoing work led by BC Parks to better understand the impacts of climate change on BC Parks' infrastructure and cultural sites.

Ocean acidification and the ongoing warming of the oceans are critical climate concerns that threaten the health of shellfish, salmon and other marine species, along with the well-being of coastal communities. There are no easy solutions, which is why we are working closely with Indigenous Nations and organizations to develop strategies to address these effects of climate change and work together towards healthy and resilient marine ecosystems and communities.

Protecting our watersheds creates a healthier and more resilient future for all living things. Healthy watersheds provide social, ecological and economic benefits to people in B.C. They contribute to community resilience by enhancing cultivated and natural food productivity and security, securing stable and clean water supplies, and moderating the impact of extreme weather events. Maintaining and restoring healthy watersheds is a pivotal part of the Province's Watershed Security Strategy for enhancing species and ecosystem resilience while ensuring long-term economic security and stability and contributing to the well-being of people in B.C. The strategy links to other ongoing work such as incorporation of climate change considerations in the management of contaminated sites and research on fish and environmental flow needs.

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## Priority Initiatives

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### Healthy Waters

#### Watershed Security Strategy and Fund

The [Watershed Security Strategy](#) and Fund will build on efforts inside and outside of government to ensure our water and watersheds are respected, valued, and remain healthy and resilient in a changing climate. The Strategy will contain a suite of policies and actions focused on improved management and stewardship of watersheds to promote healthy ecosystems, good quality drinking water and healthy economies. Healthy watersheds will also play an increasingly important role in moderating the impact of climate risks such as flood, drought and wildfire. Public engagement on a discussion paper occurred over winter 2022. A draft strategy is proposed for release for a second period of engagement later in 2022. The Watershed Security Strategy is anticipated to be released in 2023.

#### Healthy Watersheds

The [Healthy Watersheds Initiative](#) supports organizations working to help ensure resilient watersheds for all by restoring and maintaining watershed health and ecosystem services such as flood and drought mitigation. The Healthy Watersheds Initiative works with watershed stewards and advocates, land managers, environmental and conservation leaders, and Indigenous communities and organizations to advance watershed security through a wide array of projects. These include on-the-ground actions such as conserving and rehabilitating streams and wetlands, maintaining infrastructure, monitoring water quality and quantity and undertaking surveys and assessments. The Healthy Watersheds Initiative also builds capacity through education and outreach and by advancing watershed governance, partnerships and planning for the benefit of watersheds and the communities they support. Since the fall of 2020, the Province has invested close to \$27 million for more than 60 projects that are enhancing the health and functioning of watersheds under the Healthy Watersheds Initiative.

Under *Budget 2022*, a further \$30 million was provided for watershed security work which will support jobs that protect species, restore watersheds and help address climate change impacts. Projects are expected to begin in 2022 and 2023.

#### Protecting Our Coasts

The Province is currently embarking on a process to co-develop a coastal marine strategy together with interested coastal First Nations, through a series of leadership and technical sessions and establishing a joint writing team. An upcoming Intentions Paper will present areas of common interest and priorities for coastal marine values identified through these sessions, along with insight into coast-wide trends and issues relating to climate change. The intention of the strategy would be to set a clear direction for management of marine and coastal areas and values, and provide a well-defined roadmap into the future.

## Responding to Ocean Acidification and Hypoxia

Increased carbon dioxide in the atmosphere can cause oceans to become more acidic, while higher temperatures can decrease oxygen in water (hypoxia) which has impacts on marine life.

The Province is developing an ocean acidification and hypoxia action plan to determine the state of knowledge related to ocean acidification and hypoxia in coastal waters, with long-term goals for addressing knowledge gaps and developing adaptation and mitigation strategies to support the fisheries and aquaculture sectors, including food-fish harvesters. Guided by an advisory committee that includes all levels of government, First Nations, academia, industry and non-governmental organizations, and supported by the Tula Foundation and the Marine Environmental Observation, Prediction and Response Network, plan development aims to incorporate scientific expertise, policy and governance considerations as well as perspectives from coastal communities, harvesters and producers. Once finalized, the plan would support the health and resilience of our marine ecosystems and the communities and industries that depend on them.



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## Resilient Species and Ecosystems

### Ecosystem Forecast Centre

Understanding how climatic disruption will affect ecosystems is essential to responding to climate change. To build expertise and resources to translate technical climate change projections, the Province is supporting the establishment of an Ecosystem Forecast Centre within the Ministry of Forests. The Ecosystem Forecast Centre will translate global climate model simulations into multi-decadal forecasts of ecosystem change in B.C. This includes reforestation, forest health, species at risk, old growth, timber supply and wildfire. A core principle of the Ecosystem Forecast Centre is operational focus – the translation of research expertise into data and tools that can be used directly by planners and practitioners.

The Ecosystem Forecast Centre will follow a client service model, collaborating across government to incorporate climate change projections into ecology-related programs. The Ecosystem Forecast Centre will also work closely with the academic and consulting sectors on the challenges of climate change adaptation in B.C.'s ecosystems.

### Revitalizing Wild Salmon Populations

A key component of B.C.'s work on wild salmon is continuing to build on the success of the BC Salmon Restoration and Innovation Fund in partnership with the federal government. This fund has supported nearly 100 projects totaling over \$126 million, many of which relate to mitigating and researching the impacts of climate change on wild salmon and their habitats.

The Province is exploring new strategies to protect and revitalize B.C.'s wild salmon populations. Building on the work of the Wild Salmon Advisory Council, a new wild salmon strategy for B.C. would continue to develop partnerships with First Nations, the federal government and others. This would help to guide actions in restoring these species of spiritual importance. Given the significant impact of climate change on wild salmon in the freshwater and marine environments, the strategy would work to reduce risks and enhance climate change resilience for wild stocks.



## Climate Change Guidance for Land Use Planning

As part of an ongoing process of modernizing land use planning in B.C., the Province is partnering with Indigenous Nations to develop a guide on integrating climate change considerations into land use planning processes. The guide draws on insights and understandings from both Indigenous and Western science-based worldviews and knowledge to ensure current and future land use planning reflects climate change considerations. The guide, anticipated for release in fall of 2022, will provide recommended approaches for developing, implementing and monitoring adaptation and greenhouse gas mitigation actions for modernized land use planning projects. The primary audience for the guide is provincial and Indigenous planners undertaking land use planning in a partnership-based approach.

In 2022, the Province contributed funding to the University of Alberta to support the Climate Informed Conservation Planning Project. The project goals are to identify geographic places resilient to climate change, and corridors that connect habitat for species' migrations. The intended outcomes of this research are regional climate resilience landscape rankings that will allow modernized land use planning projects to actively plan for climate change.

## Natural Assets

Natural assets and infrastructure, such as wetlands, forests, parks, or rivers, provide services for communities and can be more resilient to climate events than engineered infrastructure while also reducing greenhouse gases emissions. The Province is working with the Municipal Natural Assets Initiative to identify barriers First Nations and local governments face to using nature-based solutions to provide services. An initial report will be completed in late 2022 that outlines barriers and potential solutions to explore further. The Province is also exploring how to better reflect the importance of natural assets and infrastructure in disaster mitigation funding.

### VANCOUVER'S RAIN CITY STRATEGY

*"Nature in the city has so many different values. We've been engineering systems for a long time and they are going to continue to be really important. But now is a chance to take nature-based solutions so we can meet our rainwater needs, our water quality needs and our resilience needs to make Vancouver a better place to live."*

- Melina Scholefield, Manager Green Infrastructure Implementation, City of Vancouver (2018)





## Pathway 4: Climate-Ready Economy and Infrastructure

Planning and preparing for a changing climate is not only smart business, it also helps to build a thriving economy that can meet the needs of future generations. To maintain a healthy, resilient economy in all parts of B.C., we need to proactively include climate impacts in business decisions and the way we design and build infrastructure – from roads and bridges to schools and hospitals. This will allow us to reduce risks while enhancing our economic resilience to climate impacts.

### Pathway 4 Goal

B.C.'s business and industry are prepared for both the risks and opportunities posed by a changing climate, while our infrastructure, including highways, schools and hospitals, is built to withstand climate impacts and extreme weather conditions.



As witnessed during the floods in late 2021, extreme weather events and the compounding impacts of climate change can cause significant damage and interruption to major transportation routes, community access roads, evacuation routes, and food and supply lines. Making things worse, wildfire activity in recent years has contributed to forest cover loss and water-repellent soils, making landslides, washouts and road closures more likely.

Investing proactively to prepare our road infrastructure for climate impacts will not only enhance public safety but also save on costs in the long run. At the same time, it will promote a more robust and reliable transportation system for the continued movement of people, goods and services.

Extreme weather and slower moving changes in climate can also cause critical impacts to facilities such as hospitals, schools and other provincial public sector buildings, leading to service disruptions, temporary evacuations and even closures at times when the facilities may

be needed most. Managing infrastructure in a changing climate requires understanding how climate-related events may impact a facility itself, along with the critical infrastructure that supports its operations (such as power, water and sewer services). The Province has led a series of pilot projects looking at climate vulnerabilities and risks to over 560 public sector buildings across the province, to help in planning and decision-making for a changing future.

Land-based industries like forestry, agriculture and tourism are critical to our economy and the well-being of communities and individuals, and already face significant impacts as the climate changes. To help address the challenges, we are enhancing climate data and information, practical guidance and leadership capacity to support integration of climate mitigation and adaptation into decision-making and practice in these key industries. This will help to ensure they can continue to address the risks of climate change while maintaining a resilient workforce, contributing to rural economies and building food security in a changing climate.

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## Priority Initiatives

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### Climate-Ready Infrastructure and Buildings

#### Highway Infrastructure Climate Adaptation Program

Climate resilience of highway infrastructure is essential for protecting our vehicle transportation routes from flooding. But with ongoing climate change, existing highway structures like culverts may no longer be adequate to deal with the higher level of flood waters and debris during storm events. Beginning in 2022, the Province will embark on a nine year, \$295 million climate adaptation program that will include replacement and rehabilitation of existing culverts, increasing reliability and resilience of the extensive provincial highway network to new climate conditions. While the Ministry of Transportation and Infrastructure currently requires all new and rehabilitated transportation engineering projects to design for future climate conditions, this represents a new phase of proactively upgrading existing highway infrastructure including culverts. This will enhance highway safety, reduce costs and prioritize upgrades based on factors such as risk levels, traffic volumes, community access and environmental sensitivity.

#### Climate Resilient Resource Roads

Resource roads, including the Forest Service Road network, are a highly valued part of B.C.'s transportation network. They provide essential access to many Indigenous, rural and remote communities who depend upon these routes for the movement of essential goods and services, economic development, health care, emergency access and evacuation routes. Resource roads are not built or maintained to the higher standards of paved public roadways and are more likely to be affected by severe weather events and compounding climate impacts. Rural and remote communities are disproportionately at risk of wildfires and other natural hazards so the Province is supporting priority forest service road maintenance to ensure egress roads are well maintained.

The Province is developing and implementing new standards and codes for design and construction of resource roads that include future climate considerations and will inform future maintenance and upgrade projects. New funding builds expertise and capacity so that all engineering activities take into consideration adaptation for climate change.

In addition, an array of climate-driven geohazard risks – such as landslides, debris flow and flooding – can disrupt transportation corridors and threaten public safety. The Province will be conducting geohazards research and assessment on resource roads throughout high priority areas in B.C. to develop tools for prediction, mapping and mitigation. This information will provide valuable insights that can be applied to other areas such as land use planning, ecosystem restoration and watershed protection.

## Low Carbon Resilient Public Sector Buildings

A climate-resilient building is sited, designed, built and operated with projected climate conditions and risk in mind to keep services, programs and businesses operating throughout the building's intended service life.<sup>15</sup> In addition to reducing greenhouse gas emissions, the [CleanBC Government Buildings Program](#) is taking steps to make provincial buildings more resilient, which will help to protect both people and critical public assets.

The Province is developing new climate resilience design standards and guidance to support provincial public sector organizations to prepare for and manage the risks climate change poses to public sector buildings, which includes hospitals and health care facilities, schools, post-secondary facilities and other government buildings. The new standards will be applied to major new buildings and renewals through the updated Environmental, Social and Governance Framework for Capital (pathway 1) and will address both the need to reduce the risk of climate impacts and to lower greenhouse gas emissions.

The project will include requirements, to be included during the project's planning stage, to use future-shifted climate data for energy modeling and to undertake a climate risk assessment to support the understanding of risks that could occur at the project site. The standards and guidance will help to ensure that public sector buildings can maintain services more reliably during adverse events, increase the longevity of the building, and improve building performance under future climate conditions while supporting the broader building sector to adopt climate resilient, low-carbon building standards and practices.



Architectural rendering of an MBAR pilot project

### BUILDING HOMES FOR A CHANGING CLIMATE

Mobilizing Building Adaptation and Resilience (MBAR) is a knowledge and capacity building project led by BC Housing. MBAR will support the residential construction industry in designing, building and renovating residential buildings to address and minimize the impacts of climate change on homes and the people living in them. By adapting building design and renovation to be climate resilient, MBAR is helping to make climate-ready communities.

<sup>15</sup> D. Swanson, D. Murphy, J. Temmer and T. Scaletta (2021). Advancing the Climate Resilience of Canadian Infrastructure. International Institute for Sustainable Development, Winnipeg.

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## Climate-Ready Industry

### Extreme Weather Preparedness and Water Infrastructure for Agriculture

British Columbia's agricultural producers are already facing more frequent floods, wildfires, drought and intense heat waves that pose immediate and significant challenges to water supplies, crops and livestock. As producers adapt to these challenges, climate change may also present opportunities such as longer growing seasons for agricultural expansion and rural economic development. However, farmers must be able to manage climate risks to realize these benefits.

The Province will support producers and agricultural operations, including Indigenous agricultural producers, to adapt to these changing conditions through the Extreme Weather Preparedness for Agriculture program and the Agricultural Water Infrastructure program. Funding provided through these programs will support initiatives including farm-level climate risk assessments and the adoption of practices that reduce a farm operation's vulnerabilities from extreme heat, wildfires and flooding. Agricultural water infrastructure investments will help agricultural producers capture some of the peak spring flow for use later in the summer when demand is highest, helping to mitigate both drought and flooding. The program will further evaluate climate impacts and the need for expanded water infrastructure at both a community and farm level to support food security and could be used to expand irrigation infrastructure now and in the future to areas where growing conditions may become more favourable as the climate warms.



#### PREPARING FARMERS AND RANCHERS FOR WILDFIRES

Wildfires are becoming bigger and more frequent due to climate change, and agricultural producers face unique challenges to manage the risks to infrastructure and livestock. The [Climate Change Adaptation Program](#) of the B.C. Ministry of Agriculture and Food created a [Farm/Ranch Wildfire Plan Guide](#) and [Workbook](#) that farmers and ranchers use to identify wildfire risks to their operations and the measures they can take to prepare for and reduce those risks.

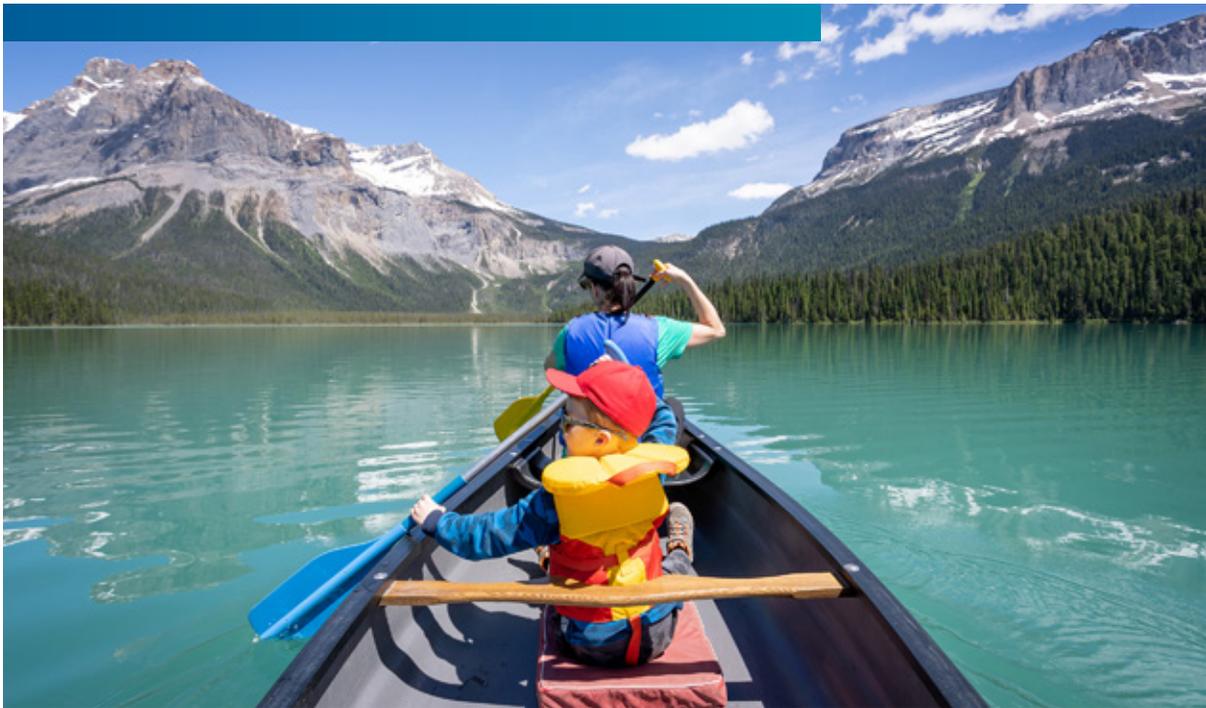
## Forest Landscape Planning

The Province is increasing climate science and adaptation expertise to support integration of climate change in key forest management and decision-making. This additional expertise will ensure that climate-relevant information is integrated and considered in foundational forest management systems such as planning and in the timber supply review – the process by which the province’s allowable annual cut is set – thereby strengthening the climate resilience of the forestry sector.

Forest Landscape Plans, newly created by recent amendments to the Forest and Range Practices Act, provide a new mechanism for land managers to plan for future forest ecosystem conditions and to carry out practices and stand-level investments that contribute to managing global carbon cycles and climate change risks.

## Strategic Framework for Tourism: A Plan for Recovery and Resiliency

A well-managed, thriving tourism industry is integral to the province’s economy, and features prominently in the StrongerBC Economic Plan. Climate impacts such as wildfires and smoke negatively impact tourism and the economy, because it deters domestic and international visitors from choosing B.C. The Province’s Strategic Framework for Tourism 2022–2024: A Plan for Recovery and Resiliency, is a three-year roadmap for rebuilding and revitalizing B.C.’s tourism industry, with a focus on working with partners to ensure the industry is cleaner, more resilient and prepared to adapt to climate change. To support this, the Framework includes actions to collaborate with partners to identify climate risks and develop tools to respond, and to invest in infrastructure to adapt to climate impacts.





## 4. MEASURING AND REPORTING OUR PROGRESS

The impacts of a changing climate on our communities, economy, infrastructure, ecosystems and health and wellness are complex and often interconnected. How we measure progress towards managing climate risks is equally complex and will require monitoring to assess where we are on track and where adjustments may be needed.

The Climate Action Secretariat is developing a comprehensive monitoring and evaluation framework to measure our progress on the actions laid out in this strategy. The framework is being developed in collaboration with program areas and our partners and include metrics to track actions within the four pathways. The Province will also work closely with the

federal government to seek alignment with the monitoring and evaluation framework for the National Adaptation Strategy, which is expected to be released at the end of 2022.

We will continue to report on our progress through the annual [Climate Change Accountability Report](#). The report will include an assessment of climate risks every five years and annual reporting on spending and action related to climate adaptation. Together, these measures will keep us open and transparent about the progress of our actions and areas where more focus is needed, holding government accountable for the commitments we make now and in the future.



## 5. NEXT STEPS

The actions in this strategy are a critical step to prepare for some of the most significant climate risks to B.C. and help us become more resilient to their impacts. As the climate continues to change and new risks are identified over time, this strategy can become the foundation for more comprehensive, long-term climate adaptation efforts for B.C.

Looking ahead our process will be iterative as we move toward our vision for British Columbia as a climate resilient society, guided by the six principles that ground this work. We will learn from the implementation of work laid out in this strategy and from the next provincial climate risk assessment. We will gain knowledge from the programs being carried out by Indigenous Nations and organizations, and local governments, and our experiences with recent and future climate events. These new insights and understandings will inform future initiatives to prepare for climate risks and improve our ability to adapt.

Progress and outcomes on all actions outlined in this strategy, together with actions funded in 2021, will be reported on in the annual [Climate Change Accountability Report](#).

Preparing for the changing climate will take an all-of-society approach to accomplish this significant work. Collaboration with Indigenous Nations and organizations, local governments, communities, and other partners is imperative. B.C. will continue to work closely with the federal government on shared priorities as Canada develops a National Adaptation Strategy. The Province will also continue to work with people across B.C. and explore opportunities for future actions.

We are working to prepare B.C. for the very real risks from climate change. This strategy is a significant stride toward ensuring public health and safety, protecting the economy and safeguarding the ecosystems that support us all.



# APPENDIX

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## 1. Summary of Actions and Lead Ministries

The Climate Preparedness and Adaptation Strategy is a cross government strategy with actions led by multiple ministries and organizations. Government is increasingly incorporating climate adaptation into planning and program delivery and, in many cases, ministries and agencies are undertaking adaptation actions as part of existing programs and within existing budgets.

Table 1 identifies actions in the strategy that are being undertaken within existing budgets, as well as actions being undertaken with new funding. Actions supported by new funding in Budget 2021 and 2022 are set out in Tables 2 and 3.

### Ministry and Organizations Acronym List

<b>AEST</b>	Ministry of Advanced Education and Skills Training
<b>AF</b>	Ministry of Agriculture and Food
<b>CITZ</b>	Ministry of Citizens' Services
<b>EDUC</b>	Ministry of Education and Child Care
<b>EMBC</b>	Emergency Management BC, Ministry of Public Safety and Solicitor General
<b>ENV</b>	Ministry of Environment and Climate Change Strategy
<b>FIN</b>	Ministry of Finance
<b>LWRS</b>	Ministry of Land, Water, and Resource Stewardship
<b>FOR</b>	Ministry of Forests <ul style="list-style-type: none"><li>• BCWS BC Wildfire Service</li></ul>
<b>HLTH</b>	Ministry of Health
<b>MUNI</b>	Ministry of Municipal Affairs
<b>TRAN</b>	Ministry of Transportation and Infrastructure
<b>TACS</b>	Ministry of Tourism, Arts, Culture and Sport

**Table 1: Summary of Strategy Actions**

THEMES	ACTIONS	LEAD MINISTRY	KEY MILESTONE
<b>PATHWAY 1: FOUNDATIONS FOR SUCCESS – PARTNERSHIPS, KNOWLEDGE AND DECISION-MAKING</b>			
<b>Collaboration with Indigenous Peoples</b>	Climate Change Resilience Partnerships	ENV	Ongoing
	Indigenous Climate Resilience Capacity-building Pilot Project	ENV	2023 (Pilot Completed)
	Indigenous Climate Engagement	ENV	Ongoing
<b>Climate Data Monitoring and Forecasting</b>	Hydroclimatological Program Expansion	ENV	Ongoing
	Forecasting and Real-Time Information on Flood and Drought	FOR	Ongoing
	Agricultural Weather Monitoring Network	AF	Ongoing
	Cross-Sector Climate Services	ENV	Ongoing
	ClimatEx Project	FOR	2025 (Launched)
<b>Understanding Climate Risks</b>	Provincial Climate Risk Assessment	ENV	2025 (Published)
	Provincial Hazard, Risk and Vulnerability Assessment	EMBC	2025 (Completed)
<b>Education on Climate Impacts and Adaptation</b>	Climate Awareness for Educators, Students and Communities	ENV, EDUC	2022 (Launched)
	Adaptation Skills for Professionals	ENV	Ongoing
<b>Climate Change Governance and Decision-making</b>	Cross-government coordination, strategy implementation oversight, coordination with other governments, etc.	ENV	Ongoing

THEMES	ACTIONS	LEAD MINISTRY	KEY MILESTONE
<b>PATHWAY 2: SAFE AND HEALTHY COMMUNITIES</b>			
<b>Community Adaptation Planning and Implementation</b>	Community Emergency Preparedness Fund	EMBC	Ongoing
	Local Government Climate Action Program	ENV	Ongoing
	Hazard, Risk and Vulnerability Analysis Toolkit Expansion	EMBC	2024 (Toolkit Completed)
<b>Indigenous-led Climate Adaptation Knowledge and Capacity Building</b>	Indigenous Climate Research and Data Portal	EMBC	2024 (Project Completed)
<b>Wildfire Prevention and Mitigation</b>	Community Resiliency Investment Program	BCWS	Ongoing
	Wildfire Risk Reduction and Cultural and Prescribed Burning	BCWS	Ongoing
<b>Enhanced Flood Management</b>	B.C. Flood Strategy and Resilience Plan	FOR	2022 (Engagement) 2023 (Flood Strategy Released) 2025 (Resilience Plan Launched)
	Floodplain Mapping	FOR	Ongoing
<b>Health and Wellness</b>	Extreme Heat Preparedness	EMBC, HLTH	2022 (Alerting Pilot Launched)
	Low Carbon Climate-Resilient Health System	HLTH	Ongoing
	Food Security	Multiple Ministries	2023 (Framework Developed)

THEMES	ACTIONS	LEAD MINISTRY	KEY MILESTONE
<b>PATHWAY 3: RESILIENT SPECIES AND ECOSYSTEMS</b>			
<b>Healthy Waters</b>	Watershed Security Strategy and Fund	LWRS	2023 (Launched)
	Healthy Watersheds	LWRS	2022 (Projects Funded)
	Protecting Our Coasts	LWRS	2021 (Development Initiated)
	Responding to Ocean Acidification and Hypoxia	AF	2022 (Report Completed)
<b>Resilient Species and Ecosystems</b>	Ecosystem Forecast Centre	FOR	2022 (Launched)
	Revitalizing Wild Salmon Populations	LWRS	2021 (Development Initiated)
	Climate Change Guidance for Land Use Planning	LWRS	2022 (Guide Released)
	Natural Assets	MUNI	2022 (Initial Report Completed)

THEMES	ACTIONS	LEAD MINISTRY	KEY MILESTONE
<b>PATHWAY 4: CLIMATE-READY ECONOMY AND INFRASTRUCTURE</b>			
<b>Climate-Ready Infrastructure and Buildings</b>	Highway Infrastructure Climate Adaptation Program	TRAN	2022 (Launched)
	Climate Resilient Resource Roads	FOR	Ongoing
	Low Carbon Resilient Public Sector Buildings	CITZ, ENV, FIN, HLTH, AEST, EDU	2022 (Initiated)
<b>Climate-Ready Industry</b>	Extreme Weather Preparedness and Water Infrastructure for Agriculture	AF	Ongoing
	Forest Landscape Planning	FOR	Ongoing
	Strategic Framework for Tourism: A Plan for Recovery and Resiliency	TACS	2024 (3 Year Plan)



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## 2. Summary of Funding

Tables 2 and 3 provide information on the funding for actions included in the Climate Preparedness and Adaptation Strategy.

Most of the funding included in Table 2 is highlighted in the *Budget 2022* document, *Stronger Together: Budget and Fiscal Plan 2022/23 – 2024/25* (Table 1.2.4 Investments to Support Communities Against Climate Events). Table 2 also includes information from the draft Climate Preparedness and Adaptation Strategy funding for 2021/2022.

Table 3 further breaks down the \$83 million line item in *Budget 2022* for the “Essential Foundations for Climate Preparedness and Adaptation” actions. Due to rounding in *Budget 2022*, there is a difference between the Table 3 total and the *Budget 2022* total.

**Table 2: Overview of Strategy Funding (operating and capital)**

FUNDING (\$ MILLION)						
INVESTMENT	MINISTRY/ AGENCY	2021/ 2022	2022/ 2023	2023/ 2024	2024/ 2025	TOTAL
<b>Supports to Communities – Emergency Preparedness (Community Emergency Preparedness Fund)</b>	EMBC	95 <sup>16</sup>	-	-	-	95
<b>Supports to Communities – Wildfire Prevention (Community Resiliency Investment Program)</b>	BCWS	90	-	-	-	90
<b>Wildfire Prevention Projects and Services (Wildfire Risk Reduction and Cultural and Prescribed Burning)</b>	BCWS	-	52	23	23	98
<b>Draft Climate Preparedness and Adaptation Strategy Phase 1 Actions (2021/22 Contingencies)</b>	ENV	6	-	-	-	6
<b>Essential Foundations for Climate Preparedness and Adaptation<sup>17</sup> (Budget 2022)</b>	ENV	30	13	20	20	83
<b>Climate Ready Transportation Networks (Highway Infrastructure Climate Adaptation Program)</b>	TRAN	-	15	20	30	65
<b>Local Government Climate Action Program (Budget 2022)</b>	ENV	-	26 <sup>18</sup>	25	25	76
<b>Total Per Fiscal Year</b>		<b>221</b>	<b>106</b>	<b>88</b>	<b>98</b>	
<b>Total</b>						<b>513</b>

16 Total *Budget 2022* funding for the Community Emergency Preparedness Fund is \$120 million of which \$95 million is available to fund adaptation-related actions.

17 This line item is comprised of actions which are informed by and prioritized from the 2021 draft Climate Preparedness and Adaptation Strategy. This line item is further broken down in Table 3. Table 1.2.4 of the *Budget 2022 – Stronger Together: Budget and Fiscal Plan 2022/23-2024/25* document identifies this line item as “Climate Preparedness and Adaptation Strategy.”

18 Funding from CleanBC Roadmap to 2030. See page 27 of *Budget 2022 – Stronger Together: Budget and Fiscal Plan 2022/23-2024/25*.

**Table 3: Breakdown of “Essential Foundations for Climate Preparedness and Adaptation” Line Item From Table 2 (operating and capital)**

MINISTRY AND ACTION GROUP	FUNDING (\$ MILLIONS) 2022/23-2024/25
<b>AGRICULTURE AND FOOD</b>	
Agricultural weather monitoring networks, extreme weather preparedness and water infrastructure for agriculture	11.0
<b>EMERGENCY MANAGEMENT BC, MINISTRY OF PUBLIC SAFETY AND SOLICITOR GENERAL</b>	
Provincial extreme heat framework; Provincial hazard, risk, vulnerability assessment	0.3
<b>ENVIRONMENT AND CLIMATE CHANGE STRATEGY</b>	
Strategy governance and corporate leadership	1.5
Climate risk assessment, cross-sector climate services, hydroclimatological program expansion	11.5
Collaboration with Indigenous Peoples: climate change resilience partnerships, Indigenous climate resilience capacity-building pilot project, Indigenous climate engagement	3.9
Healthy Watersheds (2021-2022 funding)	30.0
<b>FORESTS</b>	
Increasing climate change capacity and expertise: Climate change governance and decision-making, forest landscape planning, ClimatEx project, and establishment of an Ecosystem Forecast Centre	8.0
Enhanced flood and drought management: Forecasting and real-time information on flood and drought, B.C. flood strategy and resilience plan, floodplain mapping	3.0
Climate-resilient resource roads	2.1
<b>HEALTH</b>	
Low carbon climate-resilient health system	13.0
<b>Total</b>	<b>84.3<sup>19</sup></b>

<sup>19</sup> Due to rounding, this total does not match the \$83 M total for these actions shown in *Budget 2022* documentation and as noted in Table 2.





# Climate Preparedness and Adaptation Strategy Actions for 2022-2025



Learn more at:  
[www.gov.bc.ca/BC-Adapts](http://www.gov.bc.ca/BC-Adapts)