Climate Preparedness and Adaptation Strategy

Phase 1 - 2021-2022

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

Message from the Minister

Executive Summary

Throughout B.C., people are experiencing the effects of climate change – from increasing wildfires, changes to ecosystems and loss of species to more frequent flooding, longer summer droughts and heatwaves.

Preparing for climate change means improving our ability to anticipate, respond to and recover from extreme weather events and emergencies, as well as dealing with more gradual changes like water shortages, changes in growing seasons and sea level rise. It involves building our capacity to reduce and manage risks from climate change to protect our buildings and infrastructure, restore habitat and strengthen ecosystems, maintain community health and wellbeing, decrease costs associated with climate impacts and ensure B.C.'s economy continues to thrive.

While extreme weather events often garner the most attention, the climate influences everything – from the types of plants and animals that make up an ecosystem, to the temperature in our homes and the kind of foods we can grow, to the design of our sewers and roads. The relative stability of our climate has also been a critical part of maintaining the biodiversity and resilience of ecosystems.

For centuries, the climate has changed at a pace slow enough to allow people, species and landscapes to change along with it. Governments, engineers and others have used the assumption that historical weather patterns will continue in the future to design our buildings and infrastructure, manage natural resources, plan communities, and deliver services. But today that assumption is no longer true. The climate is changing, the impacts are significant, and we need to be ready for the climate of the future.

Our response to the COVID-19 pandemic has shown the value of acting early at a scale that matches the potential consequences. Similarly, by planning and taking action now, we can help ensure that people will have the support they need to stay safe and respond effectively in a changing climate. That's why the Province committed $90 million for climate preparedness and adaptation in B.C.'s economic recovery plan, called Stronger BC, including investments to reduce wildfire risk, improve roads and highways, conserve wetlands and ecosystems, and support adaptation on farms. These investments build on the substantial work that is already underway to help B.C. prepare for climate change and provide good jobs for people across the province.

The Climate Preparedness and Adaptation Strategy is our next step in this direction and is an important part of our CleanBC plan. It builds on the 2019 Preliminary Strategic Climate Risk Assessment, which examined some of the greatest risks to B.C. as a result of climate change. This strategy explores actions needed to prepare for these risks.

The strategy highlights our overall direction and the actions we're taking in 2021 to help prepare B.C. for the impacts of climate change. It also presents a suite of proposed actions for

implementation in 2022-25. Taking this two-step approach allows us to get to work on actions that are needed now, while continuing to engage on and refine actions for the future. It also allows the Province to align our climate adaptation actions with the federal government as they work toward developing a national climate adaptation plan.

Actions in the strategy are grouped into four key pathways:

- Strengthen foundations for success, including expanding data, monitoring, education and partnerships
- Enhance community climate resilience
- Foster resilience of species and ecosystems in a changing climate
- Advance a climate-ready economy and infrastructure.

In 2021 we are moving forward with a range of initiatives including:

- Increasing understanding of climate risks through improved data, monitoring and forecasting
- Conducting initial work on a B.C. Flood Strategy in collaboration with other levels of government
- Improving the provincial response to Extreme Heat and Wildfire Smoke for unhoused and housing insecure populations.
- Identifying opportunities for using nature-based solutions for climate adaptation and greenhouse gas emissions reductions
- Promote reliable transportation networks by assessing climate impacts on vulnerable highway culverts and resource roads.

We are also inviting the public to provide input on proposed actions for 2022-25. Public comment will be open until July 30, 2021. Input will be used to finalize actions and inform the implementation plan for 2022-2025, which is expected to be released in 2022.

Please email your comments to ClimateReadyBC@gov.bc.ca or visit engage.gov.bc.ca/climatereadybc/ for more information.

The actions in this strategy were developed together with people and organizations throughout B.C., including Indigenous governments, communities and organizations, and builds on the extensive climate adaptation work done to date. The strategy is also based on a set of guiding principles, outlined on p. x, that help ensure we are taking into consideration existing social conditions and challenges as we prepare for climate change.

All actions will be coordinated with other government priorities to ensure we use resources wisely. The Province is committed to being transparent, accountable, and fiscally responsible as we work together to build resilience to the changes to come.

Taking a whole-of-government approach, this strategy aims to protect people in B.C. from the threats posed by a changing climate while also caring for the ecosystems we all depend on.

Visual: Ecosystem graphic (vision, principles, and pathways)

Guiding Principles

The following six principles have guided our choice of actions in the strategy and will continue to inform our work going forward. The principles were developed with input from people across B.C.

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 a just approach that integrates equity considerations into climate adaptation responses.

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 offer low-cost 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 and provide comment, please visit: https://engage.gov.bc.ca/climatereadybc/.

1. Introduction: Building a Climate Ready B.C.

The changes in climate we are experiencing today are driven by higher levels of greenhouse gases in the atmosphere, created by many decades of activities such as burning fossil fuels and clearing land. 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. The actions in this strategy strengthen our capacity to anticipate and respond to sudden events like wildfires, floods and heatwaves, while also helping us to respond to changes that happen more slowly like loss of habitat and rising sea levels. By planning ahead and acting early, we can be ready for the challenges and new possibilities the changing climate may bring.

Many in B.C. remember the summer of 2018 when much of the province was blanketed in smoke as a result of nearly 600 wildfires. Reports of medical issues climbed as air quality advisories persisted, in some areas for more than 40 days. Thousands were forced to evacuate, while thousands more were put on alert to leave at a moment's notice. This was the worst wildfire season on record, surpassing the previous record set in 2017.

While the province has always had events like wildfires, floods and droughts, climate change will make them worse. That's why preparing now for a changing climate is so important to help protect us from future shocks and strengthen the resilience of our communities, ecosystems and economy.

There's also a strong business case for preparing for climate change. A 2019 report from the Global Commission on Adaptation notes that every dollar spent on measures to prepare for climate impacts results saving of 2 to 10 dollars in the future.[1]

We all have a role to play and by working together, we can reduce and manage the risks from climate change, while also finding opportunities in the changes ahead.

The Province's CleanBC plan provides a pathway to reduce our greenhouse gas emissions and build a cleaner future for everyone in B.C. But reducing emissions is only part of addressing climate change.

The Climate Preparedness and Adaptation Strategy addresses the need to prepare for, respond to and recover from the unavoidable impacts of climate change – like record-breaking wildfires and heat waves, extended droughts, floods, loss of biodiversity and habitat, ocean acidification and rising sea levels. This is because elevated levels of greenhouse gases already in the atmosphere will continue to cause changes for many years to come.

Across B.C., many Indigenous governments, municipalities, regional districts, public sector organizations, industries and businesses have already developed climate adaptation plans, while others are initiating research and projects to prepare for our changing climate. Together, these groups are working to ensure our communities and economy are ready for changes that are expected in the coming years and decades.

[1] Global Commission on Adaptation, 2019. Adapt now: a global call for leadership on climate resilience. https://cdn.gca.org/assets/2019-09/GlobalCommission_Report_FINAL.pdf.

The Province is committed to advancing climate adaptation by partnering with Indigenous governments and organizations, and collaborating with local governments and other groups, to support their efforts to prepare for climate change. We will continue to support development of climate knowledge and work with partners to advance adaptation in B.C. through planning, research and capacity building, as well as by making training and resources on adaptation available and accessible. We will move forward with a range of initiatives including conducting initial work on a flood strategy, promoting reliable transportation networks and secure water infrastructure, developing an ocean acidification plan and addressing climate risks in health services.

Partnering with Indigenous peoples

Indigenous peoples are essential partners in adapting to climate change. 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.

The Province has engaged with Indigenous governments, 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 Province has been working with the Indigenous Climate Adaptation Technical Working Group and the B.C. First Nations Leadership Council Technical Working Group on Climate Change.

We will continue to work closely with Indigenous peoples to strengthen our engagement processes and deepen our partnerships as we prepare for a changing climate. Nothing less will enable a truly effective response to the challenges we face together.

Information Pop-out box:

The Province has committed to the implementation of the United Nations Declaration on the Rights of Indigenous Peoples (the UN Declaration). The Province's *Declaration on the Rights of Indigenous Peoples Act* contributes to that implementation by requiring the B.C. government to take all measures necessary to ensure BC 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

A number of the articles of the UN Declaration are especially relevant to this strategy, including 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 which 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.

Building on Our Progress

This strategy builds on over a decade of work within government and across communities to prepare the province for a changing climate. It draws on lessons learned from past experience, and reports such as the independent review of flooding and wildfire in 2017 by Chief Maureen Chapman and George Abbott. It is also a direct response to the 2018 Auditor General of B.C. report, which recommended that the B.C. government complete a province-wide climate risk assessment and develop a more comprehensive adaptation strategy.

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. Findings suggest that of those risks assessed, the greatest risks to B.C. are severe wildfire, seasonal water shortage, heat wave, ocean acidification, glacier mass loss and long-term water shortage events. Additional risks with significant consequences include severe river flooding and severe coastal storm surge.

The preliminary risk assessment is based on scientific studies and the contributions of experts across provincial ministries and outside of government. It relies on a Western knowledge approach and is intended for use at a provincial scale.[2] As a high-level assessment, it does not examine risks at local or regional scales or within specific sectors. Through continuing work, the Province is exploring options to build more inclusive approaches to assess and manage climate risks. This includes balancing Indigenous values and knowledge with Western approaches, ensuring an equity lens is applied to the process, supporting community-led risk assessments and adapting the process for different contexts.

***Information Pop-out Box**: The Province is currently modernizing its emergency management legislation to help B.C. reduce, prepare for, respond to and recover from new and growing risks such as COVID-19 and climate-related hazards, and better meet society's changing needs. In October 2018, B.C. took a major step to become the first Canadian province to adopt the Sendai Framework, a set of international best practices for disaster risk reduction. This international framework recognizes that climate change increases the frequency and severity of disasters, and that both emergencies and gradual changes, like sea-level rise, must be addressed through up-front risk reduction. The new Act will formally align B.C. with this leading-edge approach, and will reflect the B.C. Declaration on the Rights of Indigenous Peoples Act, as well as lessons learned from the COVID-19 pandemic and recent flood and wildfire seasons.*

[2] Western knowledge is based on a European worldview and has been the foundation for current Canadian and provincial legislation, policy, regulation and institutions (Kapell, 2019)

The actions proposed in the Climate Preparedness and Adaptation Strategy will expand on a number of existing programs and initiatives to prepare for climate change across government, such as:

- The Community Resiliency Investment Program, which provides $60 million to assist Indigenous communities and local governments to mitigate local wildfire threats;
- Up-to-date funding amounts for flood mitigation projects will be added before release.
- Investments in wildfire risk reduction, reforestation, forest rehabilitation, and other efforts through the Forest Enhancement Society of B.C.;
- The Climate & Agriculture Initiative BC, which supports the development of regional agricultural climate adaptation plans;
- Guidance on sea dike design and coastal development to help coastal communities prepare for future sea-level rise, developing a BC Flood Strategy and modernizing the emergency management legislation;
- Requirements that future climate be incorporated into the design of transportation infrastructure, such as roads and bridges;
- Working with partners like the Pacific Climate Impacts Consortium and UBC's ClimateBC to make climate information and tools more widely accessible; and
- Master of Disaster, a free classroom program for grades 4 to 8 that teaches about hazards in B.C., including floods, wildfires and severe weather and how climate change is influencing their severity and frequency.

The strategy also builds on investment from B.C.'s COVID-19 economic recovery plan, including $90 million to help B.C. prepare for climate change. This includes investments to:

- Conserve wetlands and ecosystems to protect our beautiful natural spaces and build nature-based climate solutions, while also creating more than 1,000 jobs for people in hard-hit sectors such as tourism and hospitality;
- Support upgrades to provincial highways and roads to make them more resilient to increased flooding from climate change;
- Reduce the risk of wildfires on Crown land; and
- Help farmers adapt by boosting support for the Beneficial Management Practices Program that encourages farm practices that protect the air, land and water and prepare for the impacts of climate change.

More examples of work already underway to develop resilience across the province can be found on our website.

The Climate Preparedness and Adaptation Strategy builds on these investments, starting with investments in 2021 to begin scoping studies, pilot projects and high-priority research that will set us up for success in our next phase of implementation. The strategy also outlines a suite of proposed actions for 2022-25 covering areas from data, education and partnerships, to resilient communities and ecosystems, to a climate-ready economy and infrastructure.

We are inviting the public to provide input on the proposed actions for 2022-25. The comment period will be open until July 30, 2021. We will use the feedback to finalize actions and inform the implementation plan for 2022-25.

Please email your comments to ClimateReadyBC@gov.bc.ca or visit engage.gov.bc.ca/climatereadybc/ for more information.

Actions will be phased in over time and aligned with economic recovery from COVID-19 and other priorities to ensure that we use resources wisely. The Province is committed to being transparent, accountable, and fiscally responsible as we work together to build resilience to the changes to come. Under the *Climate Change Accountability Act*, the government is required to produce an annual report that includes information on progress and spending on actions to date as well as future planned actions to achieve B.C.'s carbon emissions targets and prepare for climate impacts. The legislation also requires the most current information on climate risks to be shared every year and a new assessment of climate risks to be done every five years to inform ongoing action.

The Climate Preparedness and Adaptation Strategy was developed through a broad approach to engagement, so that it would be well-informed by the experiences and aspirations of a diverse cross-section of communities, sectors and populations in B.C. Between spring 2019 and summer 2020, the Province held regional engagement sessions with Indigenous communities and organizations as well as one-on-one meetings with Indigenous nations and other partners. The Province also worked closely with the two Indigenous advisory groups, the Indigenous Climate Adaptation Technical Working Group and the B.C. First Nation Leaders Council Technical Working Group on Climate Change. We conducted virtual workshops with Indigenous peoples and many other partners including local government, industry, academia, labour, youth and non-governmental organizations. We also conducted online public engagement including a series of discussion forums and two rounds of surveys in addition to written submissions.

To learn more about the engagement process and read summary reports of what we heard, please visit: https://engage.gov.bc.ca/climatereadybc/.

Visual timeline

Understanding B.C.'s Changing Climate

Highlighted Quote: *"Indigenous Peoples have a proven expertise that spans millennia. Our knowledge and relationships connected to our Ancestral homelands, passed from generation to generation through songs, ceremony, lived experiences, and Ancestral tellings ensured the sustainable and long-term well-being of our homelands and All Our Relations who live in them."*
~ Sunny LeBourdais, Secwepemc Nation

Across B.C., we've heard from people who have witnessed significant changes in their lifetimes – from hotter summers with increased wildfire smoke and warmer, wetter winters to changes in the timing of berries ripening, animals migrating and the decline of certain tree species, including culturally important trees like 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. Their distinct knowledge systems, including practices, skills and philosophies, as well as chronological and landscape-specific data, are critical for identifying and adapting to a changing climate. Indigenous knowledge systems cannot be integrated into Western science, but the two can work together to create knowledge that leads to more resilient and adaptive responses, while also supporting the inherent rights and interests of Indigenous peoples.

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:

What is Indigenous knowledge?

Indigenous knowledge systems are critical to understanding how climate change will impact communities and natural systems. 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.

Add footnote: Adapted from EAO's Guide to Indigenous Knowledge

- 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;
- 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.[3]

Recorded climate data for B.C. complements the lived experiences of Indigenous peoples. Over the past century, B.C.'s average annual temperature has increased by 1.2°C, with winter temperatures rising the most. 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 melting snowpacks, 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) from 1900 to 2013, with more heavy, sporadic rainfall events in the spring, and increases in extreme wet and extreme dry conditions in summer.[4] Research has also shown that climate change amplifies extreme events like heat waves, floods, and wildfires. For example, a recent study showed that the 2017 wildfires in B.C. were made more likely, and covered a much greater area, because of the catalyzing effects of climate change.[5]

To understand the possible futures ahead and develop effective adaptation strategies, we need to both understand, strengthen and protect Indigenous knowledge systems, as well as look to climate data and science. We have heard from Indigenous communities about the critical role knowledge holders play in recognizing changes on the land and identifying what future warming will mean to ecosystems and species, as well as how traditional governance systems are designed in ways that support climate adaptation.

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[3] First Nations Leadership Council (2020). Climate Emergency Survey. Métis Nation BC (2019). Gaining a Métis Perspective on Climate Change in BC

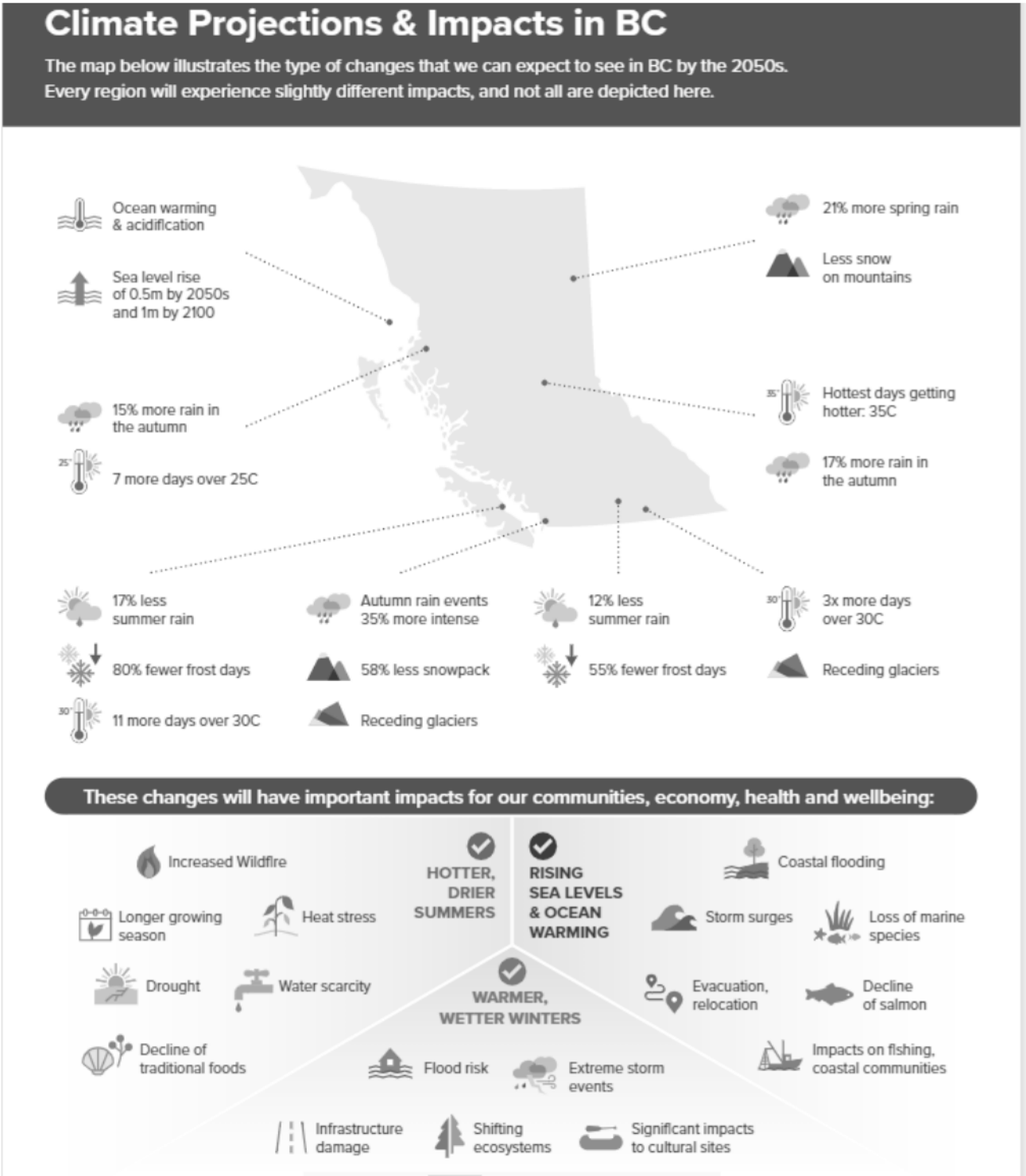
[4] Indicators of Climate Change for British Columbia 2016 Update

[5] Kirchmeier-Young, M. C., Gillett, N. P., Zwiers, F. W., Cannon, A. J., & Anslow, F. S. (2019). Attribution of the influence of human-induced climate change on an extreme fire season. Earth's Future, 7, 2–10.

Pop-out box: The Marine Plan Partnership for the North Pacific Coast (MaPP) initiative is a collaboration between the Province and 17 coastal First Nations that is applying an ecosystem-based management approach to resource stewardship. The MaPP plans are now being implemented across the Northern Shelf Bioregion and aim to support healthy marine ecosystems and the well-being of coastal communities in the face of a changing climate. Among other priorities, the MaPP initiative is bringing together Indigenous knowledge and Western science approaches to identify important ecological and cultural values and interests, and to document observations of nearshore habitats and climate variables over time to prioritize areas for conservation and restoration.

In addition, we have resources such as regionalclimate modelling for B.C., produced by the Pacific Climate Impacts Consortium and other research institutions, that describe a range of possible futures. Climate information like this can also help to inform good decision-making. The following map illustrates some of the projected changes for B.C. 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 north-east regions of the province, will see more precipitation across all seasons.

Visual: Map of BC with some of the changes (temperature, precipitation, etc) and impacts/risks.



2. Pathways and Actions

The Province has identified four pathways to build climate resilience for B.C.:

1. Strengthen foundations for success, including expanding data, monitoring, education and partnerships;
2. Enhance community climate resilience;
3. Foster resilience of species and ecosystems in a changing climate; and
4. Advance a climate-ready economy and infrastructure.

This strategy outlines the role of the Province in support of, and partnership with, many other governments, organizations and people across B.C. who are at the centre of actions and decisions for enhancing our collective resilience.

For each pathway, we outline a broad suite of proposed actions for 2022-2025, and highlight specific actions that will be implemented in 2021 .

We are inviting the public to provide input on the proposed actions until July 30, 2021. We will use the feedback to finalize these actions and inform the implementation plan for the next phase of the strategy.

Please email your comments to ClimateReadyBC@gov.bc.ca or visit engage.gov.bc.ca/climatereadybc/ for more information.

Pathway 1: Strengthen Foundations: Data, Monitoring, Education and Partnerships

While many communities, groups and sectors have been working to prepare for climate impacts for some time now, building future climate and resilience into the way we do things is new for many people. To meet the challenges ahead, this strategy works to improve our understanding of the changing climate and how it will influence our lives. It aims to build our capacity through, training and education programs; bring climate knowledge into decision-making; and create partnerships to plan for the changes that will happen in the decades to come.

A foundation of our approach is our ongoing commitment to partnering with Indigenous governments. We will work to create a shared path to climate resilience in a manner that addresses the unique impacts to Indigenous territories and ways of life. We are also committed to working respectfully in partnership with Indigenous communities, organizations and peoples to find responses to climate change that address priorities identified by them.

No one government, community or organization can do climate adaptation alone. We need to coordinate our work and strengthen our relationships across all governments and the business

community so we can meet these challenges together. Our strategy will need to include processes to bring climate knowledge into decision-making, and invest in targeted resources including data, information, education and training that enhances everyone's capacity to meet these evolving challenges. We will pay close attention to regional differences and existing inequalities, as different communities and groups will experience the impacts of climate change, and actions to build resilience, differently.

A robust strategy to prepare for the impacts of climate change requires good data and science. The Province, Indigenous Nations, municipalities, regional districts, utility operators and academics already have networks in place to collect data on stream flow, water quality, snowpack, weather, fish stocks, wildlife and habitats across the province. We will expand these networks and use the data to better understand how the climate and ecosystems have changed, as well as develop models to explore how they are likely to change in the future.

ACTION HIGHLIGHTS FOR 2021

- Work with Indigenous Nations and organizations to increase community resilience to climate change.
- Increase understanding of climate risks through improved data, monitoring and forecasting.
- Improve public understanding of wildfire threats and B.C.'s changing climate.

PROPOSED ACTIONS FOR 2022-25

Integrate the Changing Climate into Governance and Decision Making

Continue to bring the changing climate into relationships between the Province and Indigenous governments. For example, by planning for a resilient future together through stewardship forums like the Marine Plan Partnerships initiative and a modernized approach to land use planning. *(18.4)*
Work in partnership with Indigenous communities and organizations to identify priorities and find responses to our changing climate grounded in Indigenous ways of knowing. *(18.1, 18.4, 18.5)*
Improve and promote understanding of the disproportionate effects that climate change has on distinct human populations, including the potential for displacement, and integrate this knowledge into government initiatives, including climate risk assessments and adaptation plans. *(26, 67)*
Consider the changing climate in the B.C. government's relevant decisions including legislation, policy and program delivery across provincial ministries and sectors. This includes continuing to develop approaches to climate risk assessment that consider Indigenous experiences and values and can be applied in diverse contexts *(8, 20.1, 26, 30, 35, 36, 38, 77.1, 80, 81, 82, 96, 101)*

Explore Opportunities for Community-based Climate Resilience

Explore additional opportunities for Indigenous communities, municipalities, regional districts and organizations to understand, monitor, manage and reduce climate risks. These will consider the unique needs of rural, remote and Indigenous communities, including protection and inclusion of Indigenous knowledge. *(9, 18.2, 57)*
Consider climate risks in existing infrastructure funding programs so that projects are more likely to perform reliably in a changing climate. *(26)*

Expand Education on Climate Impacts and Adaptation

Expand climate resilience education by: • Developing learning resources for K-12 schools and other educational institutions to enhance student learning about important topics like our changing climate, adaptation, stewardship, and local Indigenous values and epistemologies; • Continuing to develop learning resources, professional development materials and guidelines for practicing professionals on bringing the future climate and resilience principles into resource management, planning and engineering; and • Exploring opportunities to raise public awareness about B.C.'s changing climate. (22.1, 79, 87)

Enhance Climate Data Monitoring and Forecasting

Expand provincial, Indigenous and local monitoring networks for stream flow, groundwater, snow, glaciated areas, agricultural areas, climate, ocean conditions, ocean acidification, and ecosystems. *(42, 62, 86)*
Support the Pacific Climate Impacts Consortium, ClimateBC and other research organizations to expand their climate data, research, modeling and training services to meet local, regional and provincial needs. This includes services for provincial government agencies, Indigenous communities, public sector organizations, local governments, businesses and industry. *(25, 95)*
Enhance predictive services and early warning capacity, including the B.C. River Forecast Centre, to bring the future climate into forecasting floods, water scarcity, and wildfires. *(42*)

Pathway 2: Enhance Community Climate Resilience

Communities across B.C. are directly affected by the impacts of climate change and are the first line of response to severe weather events and disasters. Communities play a critical role in applying policies and strategies to help prevent, reduce and manage climate risks as they work to strengthen community resilience and reduce losses.

As part of this strategy, the Province will partner with Indigenous Nations and organizations as well as municipalities, regional districts and non-governmental organizations to identify opportunities to address and adapt to our changing climate. This includes taking action to reduce risks from heatwaves, flooding and wildfires, and enhancing the climate resilience of infrastructure that communities and our economy depend on. We will also take action to advance food security, nature-based solutions, shared learning and mental health and wellness in our communities to help strengthen our resilience to the changes ahead.

UBCM Climate Resilient Recommendations
The Union of BC Municipalities (UBCM) provides a common voice for local governments. In 2020, their Special Committee on Climate Action released a set of recommendations to help build low-carbon and climate resilient communities The Province will continue to work with UBCM and local governments to better understand the tools and resources needed to address these recommendations, including developing resources that enable local governments to conduct risk assessments and develop related long-term capital plans by 2030.

While some of the 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 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. The Province is examining its role in supporting the development of information, tools, coordination and capacity to strengthen communities' ability to manage their risks from a changing climate.

The Province is using Gender-Based Analysis Plus (GBA+) to inform all stages of the development, implementation and evaluation process for policy, legislation, programs and services.

GBA+, Intersectionality and Climate Change Impacts in BC is one example of work being done to better understand how diverse populations in BC are disproportionately impacted by climate change in order to implement adaptive actions that result in better outcomes for all people in B.C.

Beyond this support, an equity-informed approach is also important to address the drivers of systemic inequality in order to support climate-resilient communities. For example, research shows that housing is a key determinant for how people are impacted by climate-related events such as heatwaves, floods or wildfires. If an individual is already housing insecure, they will be at greater risk of being impacted and will often face significant challenges recovering and adapting to future events. These

heightened risks apply more generally to those living in poverty.

ACTION HIGHLIGHTS FOR 2021
• Conduct initial work on a B.C. Flood Strategy in collaboration with other levels of government. • Expand community planning and disaster risk management through enhanced use of climate data. • Improve the provincial response to Extreme Heat and Wildfire Smoke for unhoused and housing insecure populations. • Increase understanding of climate impacts on health infrastructure. • Broaden the Province's understanding of food security within the context of a changing climate.

PROPOSED ACTIONS FOR 2022-25

Support Resilient Community Planning and Disaster Risk Management

Build climate resilience into community planning, disaster risk management and recovery by making data accessible, developing new tools and guidance, and ensuring equity is addressed. *(19.1, 19.2.1,19.2.2)*
Release and implement the B.C. Flood Strategy that could include actions such as working with other levels of government to establish a provincial floodplain mapping program that will inform and modernize flood management in a changing climate. *(42 & 44)*
Partner with Indigenous and non-Indigenous communities to expand the use of cultural and prescribed burning to reduce wildfire risks, create resilient natural ecosystems and preserve cultural practices. (48)

Strengthen Individual and Community Health and Wellness

Support B.C. Housing to lead development of a provincial extreme heat and wildfire smoke response plan for populations disproportionately impacted by climate change. *(69.1)*
Work with health authorities to address climate risks in health service delivery. *(53)*
Respond to food security needs in a changing climate based on what was heard through engagement with Indigenous and community partners. (66)

Facilitate Collaboration and Shared Learning

Facilitate collaborative, multi-partner approaches to climate change and disaster planning initiatives at a regional level. This could include providing regional coordinators and technical support. *(19.2)*
Work with an Indigenous organization to develop a community learning network for Indigenous communities and organizations to share approaches that enhance climate resilience. This could include regional Indigenous climate adaptation coordinators. *(18.3)*
Establish a community climate resilience program with Indigenous communities, friendship centres, local governments and non-profit organizations that is place-based, equity-informed, and youth driven. *(100)*

Pathway 3: Foster Resilient Species and Ecosystems in a Changing Climate

B.C. 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. Healthy, resilient ecosystems provide food and medicines, clean air and clean water, and contribute to our emotional well-being. They 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 and its impacts.

While ecosystems have always had to adapt, the projected speed and scale of future climate change threatens to exceed the natural ability of many ecosystems to keep up, as we are seeing with the Mountain Pine Beetle and ocean acidification. Coupled with increasing human activity and pressures on the oceans and land base, climate change is creating unprecedented challenges for our ecosystems.

To address these challenges, the Province will work with Indigenous nations, including Indigenous knowledge holders, and others to ensure our landscapes and ecosystems in B.C. are managed to promote resilience and connectivity, helping species and their habitats to adapt and change with the changing climate. We will also work to strengthen the resilience of our marine environment and enhance B.C.'s watershed security.

Already some land and water species are shifting their home ranges in areas like the Peace region and the most southern parts of B.C., where people on the land are starting to see new ecosystems emerge. Climate change is also creating more openings for invasive species that displace native plants and animals and can harm entire ecosystems.

"We take care of the land and it takes care of us" – Indigenous engagement participant.

Internationally, research shows that lands controlled and managed by Indigenous peoples can have higher biodiversity than protected areas . Stewardship, when approached collaboratively and bringing Indigenous knowledge systems and Western science together can create resilient systems that continue to support abundant diversity and values.

Existing stewardship initiatives and policies can be updated to consider a changing climate and apply an adaptation lens. This includes prioritizing landscapes that can withstand changing climate conditions and enhancing connections or "corridors" between healthy habitats and ecosystems to support these natural processes as much as possible. This strategy presents ways for us to better understand the climate impacts for key species, habitat and protected areas to support ecological and cultural processes of adaptation. This includes using practices like cultural and prescribed burning to establish a healthy relationship between fire and forest ecosystems. BC and Canada have also recently launched the development of a new Nature Agreement to strengthen conservation province-wide, and are committed to working with

Indigenous peoples on these efforts. This includes exploring new ways to protect and restore habitat and strengthen ecosystem resilience to climate change.

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. B.C. is already a founding member of the International Alliance to Combat Ocean Acidification, which works to increase awareness, understanding and action on ocean acidification and other climate-related changes in ocean conditions. The Province intends to develop an ocean acidification plan in the coming years to further address the impacts of changing ocean conditions on communities, marine ecosystems and the economy.

We also need to take a long-term approach that finds ways to balance the changing availability and distribution of water with the needs of human activity and ecosystems. To address this, the Province is looking at developing new planning initiatives that will help secure our water supplies, now and for generations to come.

Protected Areas as Living Labs
B.C. Park's Living Lab Program promotes B.C.'s protected areas as places to learn about the effects of climate change and how to manage for them. Working in partnership with B.C. academic institutions, including collaboration with the broader conservation community, Indigenous communities and knowledge holders, this research considers such things as how connectivity between parks can build resilience for species and ecosystems as the climate changes, and informs decision making on adaptative actions that can be taken both inside and outside parks.

ACTION HIGHLIGHTS FOR 2021

- Identify opportunities for using nature-based solutions for climate adaptation and GHG reductions, in collaboration with partners.
- Assess climate risks and vulnerabilities to B.C. fisheries and aquaculture.
- Conduct initial work on a watershed security strategy and assess risks in priority watersheds.
- Improve understanding of climate impacts on BC Parks' infrastructure and operations.

PROPOSED ACTION FOR 2022-25

Enhance Watershed Security and Strengthen Marine Resilience

Create a Watershed Security Strategy and begin development of an associated fund to protect clean water.

Develop an ocean acidification action plan, including research and partnerships to support marine resilience, healthy ecosystems and communities. *(6)*
Work with partners to pilot the development of water supply and demand management plans for priority watersheds where climate change is likely to result in greater water scarcity. *(37, 38)*

Enhance Tools and Approaches for Managing Ecosystems, Parks and Protected Areas

Develop and implement tools and approaches for integrating climate change knowledge into the assessment, stewardship and management of species, ecosystems, and natural resources. This includes working with Indigenous communities and knowledge holders; identifying, protecting and restoring areas important for maintaining species at risk and biodiversity in a changing climate; and monitoring and managing invasive species. (*4.2, 4.3, 12)*
Through the Together for Wildlife strategy, complete review land designations under the *Land Act, Wildlife Act, Oil and Gas Activities Act, and Forest and Range Practices Act* that contribute to conservation to ensure they effectively target the intended habitats, now and in the future, and in light of climate change impacts and habitat alterations. (103)
Explore climate change resilience in policy and management options during implementation of the independent panel report A New Future for Old Forests.
Promote and enhance the use of nature-based solutions for strengthening community and ecosystem resilience and managing climate-related hazards, such as extreme heat and flooding. *(21.2)*
Explore ways to protect and preserve cultural heritage in a changing climate, including working with the First Peoples' Cultural Council on a program to better understand climate change impacts on Indigenous cultural heritage resources. (*98)*
Understand and address climate impacts to parks and protected areas including on cultural heritage sites, trails, campgrounds and infrastructure. *(39)*

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Pathway 4: Advance a Climate-Ready Economy and Infrastructure

Climate change has significant impacts on B.C.'s business and industrial sectors, as well as the infrastructure we all rely on – from roads and bridges to communication and energy systems to schools and hospitals. In some sectors, such as agriculture and forestry, work has been happening for several decades to anticipate and adapt to a changing climate, while for other sectors this is a newer consideration.

Planning and preparing for a changing climate is not only smart business, but helps ensure we have a healthy, innovative and resilient economy in the future. This strategy will help to ensure that B.C. business and industry can address the risks of climate change, while also helping to maintain a resilient workforce and build food security in a changing climate. We are putting in place training and programs to make our buildings, highways and other infrastructure ready for extreme weather - and moving forward with climate-proofing our schools, hospitals and other public sector buildings to make sure they're ready when we need them most.

B.C.'s economy continues to rely on natural resources, which account for a significant proportion of the province's economic base. Forestry and forest products alone account for 33% of our international exports. We are already seeing disruptions to local economies and workers in some parts of B.C. This is especially evident where climate change is contributing to closures of forestry operations through a combination of recent extreme wildfire seasons and the longer-term impacts of Mountain Pine Beetle. As we look at ways to prepare and adapt to the changing climate, we need to ensure that workers and others who are impacted are supported.

To help maintain a healthy, resilient economy in all parts of B.C., we need to proactively include climate impacts and information in business decisions and the way we build infrastructure. This will allow us to significantly reduce some risks, while enhancing our readiness and capacity to deal with those risks we can't avoid. It will also allow us to take advantage of changes in climate for new business opportunities. The finance, investment, and insurance sectors also have a role to play in supporting businesses to identify and disclose climate-related risks, providing greater certainty and security for investors. And we need to provide resources to small and medium businesses to prepare for the changing climate.

Building Resilience in Agriculture

The Climate & Agriculture Initiative BC (CAI) works with the agriculture and research sectors, as well as all levels of government, to increase the resilience of B.C. agriculture to the impacts of climate change such as wildfire, drought, flooding, and pests.

Delivering the B.C. Ministry of Agriculture, Food and Fisheries' climate adaptation programs, CAI works with partners to develop and implement regional adaptation plans in key agricultural areas of the province, as well as demonstrate and evaluate adaptation practices on B.C. farms and ranches.

Pull out Quote:
"Over the past five decades, the costs of weather-related disasters like floods, storms, and wildfires have risen from tens of millions of dollars to billions of dollars annually in Canada. Insured losses for catastrophic weather events totaled over $18 billion between 2010 and 2019, and the number of catastrophic events was over three times higher than in the 1980s."

– Canadian Institute for Climate Choices[6]

The Province has heard how climate change is already affecting the livelihoods of Indigenous peoples, including both cash and subsistence economies. For example, wildfire is restricting the potential for forestry and is impacting tourism. Rising water temperatures are affecting commercial and subsistence fisheries. And traditional foods and medicines are becoming more difficult to access as timing, health and abundance of species changes. With this strategy, we will work with Indigenous enterprises to identify climate risks and develop tools to respond.

We are also taking steps to make climate resilience the new "business as usual" for B.C.'s public sector. This will help to protect the health and safety of the two million people who work, learn and visit public sector buildings each year, increase the longevity of our public sector assets, and ensure that quality services are maintained in a changing climate. This approach provides leadership to support broader market transformation towards climate resilient buildings in B.C.

Climate Resilience Guidelines for BC Health Facility Planning & Design
B.C.'s health authorities collaborated with building experts to develop overarching guidelines that support building climate resilient health facilities across the province. The guidelines amplify and accelerate their ongoing work to reduce climate risks, build resilience at the site and community levels, and meet greenhouse gas emissions reduction targets. These guidelines provide practical advice on integrating climate science and climate risk assessments to the multidisciplinary teams responsible for planning and designing health facilities in B.C.

[6] Canadian Institute for Climate Choices, 2020. *Tip of the Iceberg: Navigating the Known and Unknown Costs of Climate Change for Canada*, p. iii.

ACTION HIGHLIGHTS FOR 2021
Promote reliable transportation networks by assessing climate impacts on vulnerable highway culverts and resource roads. • Improve the Province's understanding of agricultural water infrastructure and climate risks to mining and energy industries. • Enhance use of the Climate Change Informed Species Selection Tool by decision makers. • Expand the Province's understanding of climate risks to coastal communities and economies. • Promote a climate-ready public sector through assessing climate risks on government buildings.

PROPOSED ACTIONS FOR 2022-25

Increase the Resilience of our Buildings and Infrastructure

Strengthen the climate resilience of our transportation infrastructure to better prepare for extreme weather and ensure community and business lifelines are reliable in the changing climate. *(63 & 80.1)*
Explore opportunities to increase resilience of buildings in B.C. by: • Working with the National Research Council to develop and adopt building codes that include future climate design factors, such as the BC Energy Step Code; • Providing training to the public sector and building industry on the use of future climate information to support market transformation; and • Creating a climate resilient public sector buildings policy that could include: ○ assessing current and future climate risks to public sector buildings ○ requiring future climate be considered in capital planning ○ demonstrating and sharing best practices among public sector organizations on climate resilient buildings. *(17, 28, 58)*
Explore integrating resilience considerations with existing and proposed energy efficiency programs for buildings. (102)

Support Business and Industry to Respond to Climate Risks

Collaborate with business and industry, including Indigenous enterprises, tourism, small businesses, industry sectors and labour organizations, to identify climate risks and develop tools to respond. This includes supporting the private sector to adopt climate risk assessment and adaptation practices and supporting workers and employers to create a climate-resilient workforce and jobs. (20.2, 61, 84).
Continue to work with farmers and the agriculture sector to strengthen resilience to climate risks. This includes assessing climate-related risks to food supply security and promoting

innovative solutions, such as supporting water infrastructure and on-farm adaptation. *(1, 3, 5)*
Continue to support a resilient forest economy through integration of climate change mitigation and adaptation measures such as climate change-informed tree species selection and management, stand and landscape management, and harvesting strategies (77.1).

3. Measuring and Reporting our Progress

We are acting now to help ensure that B.C. is prepared for the climate of the future. We also recognize that building climate resilience through adaptation is an ongoing process that takes place over years and decades. As we learn from experience here in B.C. and in other jurisdictions, we will adjust course as needed to ensure our actions are as effective as possible.

To support this intention and keep us on track, the Province's Climate Change Accountability Act requires detailed annual reporting on actions taken, expected outcomes and future plans. The Climate Action Secretariat will continue to report on provincial actions to manage climate change risks in the Minister of Environment and Climate Change Strategy's annual Climate Change Accountability Report. To ensure that the people of B.C. have access to current information, the annual report will include the most recent information on climate change risks. In addition, a comprehensive assessment of climate risks will be undertaken every five years. Putting the accountability framework into law means that future governments will also be accountable for managing climate risks.

We will be developing a monitoring and evaluation framework over the coming year with our partners including Indigenous governments and organizations, municipalities, and regional districts. The Province will also work with public sector organizations, such as school districts and health authorities to build and implement requirements for reporting on climate risk. This will support the Province in accurately reporting on known climate risks, actions to manage climate risks, and public sector progress to prepare for a changing climate.

Together, these measures will keep us open and transparent about the effectiveness of our actions and areas where more focus is needed, holding government accountable for the commitments we make now and in the future.

APPENDICES

Climate Preparedness and Adaptation Strategy

Draft Strategy for Public Comment and Phase 1 Actions for 2021-2022

V 17 May 3, 2021 for ADM, DM, MGH approval for public release

Reviewed by:

- Premier's Office
- ENV GCPE
- GCPE Strategic Communications Div.
- Legal Services Branch
- CPAS Inter-Agency Working Group and ED Steering Committee
- Climate Solutions Council Adaptation Sub-Committee
- Indigenous Climate Adaptation Technical Working Group
- FNLC Technical Working Group on Climate Change
- Métis Nation of BC
- Treasury Board Staff

Table of Contents

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

Message from the Minister

In development – will be sent separately to CAS ADM and MO for approval

Message from B.C.'s Provincial Health Officer

Our physical, social, economic and mental health and well-being are inextricably connected to our climate. Life on earth is dependent on a healthy environment and is sustained by a complex and delicate balance of interactions between the environment, the fauna and flora, and people. Climate change has started to alter that balance.

Clean air, safe water, sufficient and safe food, access to care and certainty knowing that our communities and homes are safe from extreme weather events, extreme temperatures, or water shortages, to name a few: this is what is required for healthy thriving communities and healthy, productive and happy people.

We can now look back and clearly witness the current climate trajectory and are better equipped to understand key factors behind these changes, and the measures needed to modify that trajectory. It is imperative that we think beyond next month or next year, and work to actively shape a brighter, more sustainable and resilient future for all of us.

Dr. Bonnie Henry
BC's Provincial Health Officer

Executive Summary

Throughout B.C., people are experiencing the effects of climate change – from increasing wildfires, changes to ecosystems and loss of species to more frequent flooding, longer summer droughts and heatwaves.

Preparing for climate change means improving our ability to anticipate, respond to and recover from extreme weather events and emergencies, as well as dealing with more gradual changes like water shortages, changes in growing seasons and sea level rise. It involves building our capacity to reduce and manage risks from climate change to protect our buildings and infrastructure, restore habitat and strengthen ecosystems, maintain community health and wellbeing, decrease costs associated with climate impacts and ensure B.C.'s economy continues to thrive.

While extreme weather events often garner the most attention, the climate influences everything – from the types of plants and animals that make up an ecosystem, to the temperature in our homes and the kind of foods we can grow, to the design of our sewers and roads. The relative stability of our climate has also been a critical part of maintaining the biodiversity and resilience of ecosystems.

For centuries, the climate has changed at a pace slow enough to allow people, species and landscapes to change along with it. Governments, engineers and others have used the assumption that historical weather patterns will continue in the future to design our buildings and infrastructure, manage natural resources, plan communities, and deliver services. But today that assumption is no longer true. The climate is changing, the impacts are significant, and we need to be ready for the climate of the future.

Our response to the COVID-19 pandemic has shown the value of acting early at a scale that matches the potential consequences. Similarly, by planning and taking action now, we can help ensure that people will have the support they need to stay safe and respond effectively in a changing climate. That's why the Province committed $90 million for climate preparedness and adaptation in B.C.'s economic recovery plan, called Stronger BC, including investments to reduce wildfire risk, improve roads and highways, conserve wetlands and ecosystems, and support adaptation on farms. These investments build on the substantial work that is already underway to help B.C. prepare for climate change and provide good jobs for people across the province.

The draft Climate Preparedness and Adaptation Strategy is our next step in this direction and is an important part of our CleanBC plan. It builds on the 2019 Preliminary Strategic Climate Risk Assessment, which examined some of the greatest risks to B.C. as a result of climate change. Informed by the assessment, the strategy outlines actions needed to prepare for these risks.

The strategy highlights our overall direction and the actions we're taking in 2021 to help prepare B.C. for the impacts of climate change. It also presents a suite of proposed actions for

2022-25. Taking this two-step approach allows us to get to work on actions that are needed now, while continuing to engage on and refine actions for the future. It also allows the Province to align our climate adaptation actions with the federal government as they work toward developing a national climate adaptation plan.

Actions in the strategy are grouped into four key pathways:

- Strengthen foundations for success, including expanding data, monitoring, education and partnerships;
- Enhance community climate resilience;
- Foster resilience of species and ecosystems in a changing climate; and
- Advance a climate-ready economy and infrastructure.

In 2021 we are moving forward with a range of initiatives such as:

- Increasing understanding of climate risks through improved data, monitoring and forecasting;
- Conducting initial work on a B.C. Flood Strategy in collaboration with other levels of government;
- Improving the provincial response to extreme heat and wildfire smoke for unhoused and housing insecure populations;
- Identifying opportunities for using nature-based solutions for climate adaptation and greenhouse gas emissions reductions; and
- Promoting reliable transportation networks by assessing climate impacts on vulnerable highway culverts and resource roads.

In addition, we are inviting the public to provide input on a set of proposed actions for 2022-25. The comment period will be open until July 30, 2021. Input will be used to finalize actions and inform the final strategy, which is expected to be released in 2022.

Please email your comments to ClimateReadyBC@gov.bc.ca or visit engage.gov.bc.ca/climatereadybc/ for more information.

The actions in this strategy were developed together with people and organizations throughout B.C., including Indigenous Nations, communities and organizations, and builds on the extensive climate adaptation work done to date. The strategy is also based on a set of guiding principles, outlined on p. x, that help ensure we are taking into consideration existing social conditions and challenges as we prepare for climate change.

All actions will be coordinated with other government priorities to ensure we use resources wisely. The Province is committed to being transparent, accountable, and fiscally responsible as we work together to build resilience to the changes to come.

Taking a whole-of-government approach, this strategy aims to protect people in B.C. from the threats posed by a changing climate while also caring for the ecosystems we all depend on.

Visual: Ecosystem graphic (vision, principles, and pathways)

Draft Guiding Principles

The following six principles have guided our choice of actions in the draft strategy and will continue to inform our work going forward. The principles were developed with input from people across B.C.

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 a just approach that integrates equity considerations into climate adaptation responses.

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 offer low-cost 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 and provide comment, please visit: https://engage.gov.bc.ca/climatereadybc/.

1. Introduction: Building a Climate Ready B.C.

The changes in climate we are experiencing today are driven by higher levels of greenhouse gases in the atmosphere, created by many decades of activities such as burning fossil fuels and clearing land. 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. The actions in this draft strategy strengthen our capacity to anticipate and respond to sudden events like wildfires, floods and heatwaves, while also helping us to respond to changes that happen more slowly like loss of habitat and rising sea levels. By planning ahead and acting early, we can be ready for the challenges and new possibilities the changing climate may bring.

Many in B.C. remember the summer of 2018 when much of the province was blanketed in smoke as a result of nearly 600 wildfires. Reports of medical issues climbed as air quality advisories persisted, in some areas for more than 40 days. Thousands were forced to evacuate, while thousands more were put on alert to leave at a moment's notice. This was the worst wildfire season on record, surpassing the previous record set in 2017.

While the province has always had events like wildfires, floods and droughts, climate change will make them worse. That's why preparing now for a changing climate is so important to help protect us from future shocks and strengthen the resilience of our communities, ecosystems and economy.

There's also a strong business case for preparing for climate change. A 2019 report from the Global Commission on Adaptation notes that every dollar spent on measures to prepare for climate impacts results in savings of 2 to 10 dollars in the future.[1]

We all have a role to play and by working together, we can reduce and manage the risks from climate change, while also finding opportunities in the changes ahead.

The Province's CleanBC plan provides a pathway to reduce our greenhouse gas emissions and build a cleaner future for everyone in B.C. But reducing emissions is only part of addressing climate change.

The Climate Preparedness and Adaptation Strategy addresses the need to prepare for, respond to and recover from the unavoidable impacts of climate change – like record-breaking wildfires and heat waves, extended droughts, floods, loss of biodiversity and habitat, ocean acidification and rising sea levels. This is because elevated levels of greenhouse gases already in the atmosphere will continue to cause changes for many years to come.

Across B.C., many Indigenous Nations, municipalities, regional districts, public sector organizations, industries and businesses have already developed climate adaptation plans, while others are initiating research and projects to prepare for our changing climate. Together,

[1] Global Commission on Adaptation, 2019. Adapt now: a global call for leadership on climate resilience. https://cdn.gca.org/assets/2019-09/GlobalCommission_Report_FINAL.pdf.

these groups are working to ensure our communities and economy are ready for changes that are expected in the coming years and decades.

The Province is committed to advancing climate adaptation by partnering with Indigenous Nations and organizations, and collaborating with local governments and other groups, to support their efforts to prepare for climate change. We will continue to support development of climate knowledge and work with partners to advance adaptation in B.C. through planning, research and capacity building, as well as by making training and resources on adaptation available and accessible. We will move forward with a range of initiatives including conducting initial work on a flood strategy, promoting reliable transportation networks and secure water infrastructure, developing an ocean acidification plan and addressing climate risks in health services.

Partnering with Indigenous peoples

Indigenous peoples are essential partners in adapting to climate change. 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.

The Province has engaged with Indigenous Nations, 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 Province has been working with the Indigenous Climate Adaptation Technical Working Group and the B.C. First Nations Leadership Council Technical Working Group on Climate Change.

We will continue to work closely with Indigenous peoples to strengthen our engagement processes and deepen our partnerships as we prepare for a changing climate. Nothing less will enable a truly effective response to the challenges we face together.

Information Pop-out box:

The Province has committed to the implementation of the United Nations Declaration on the Rights of Indigenous Peoples (the UN Declaration). The Province's *Declaration on the Rights of Indigenous Peoples Act* contributes to that implementation by requiring the B.C. government to take all measures necessary to ensure BC 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.

A number of the articles of the UN Declaration are especially relevant to this strategy, including 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 which 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.

Building on Our Progress

This draft strategy builds on over a decade of work within government and across communities to prepare the province for a changing climate. It draws on lessons learned from past experience, and reports such as the independent review of flooding and wildfire in 2017 by Chief Maureen Chapman and George Abbott. It is also a direct response to the 2018 Auditor General of B.C. report, which recommended that the B.C. government complete a province-wide climate risk assessment and develop a more comprehensive adaptation strategy.

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. Findings suggest that of those risks assessed, the greatest risks to B.C. are severe wildfire, seasonal water shortage, heat wave, ocean acidification, glacier mass loss and long-term water shortage events. Other risks with significant consequences include severe river flooding and severe coastal storm surge. All of these risks would result in significant and costly impacts for B.C.

The preliminary risk assessment is based on scientific studies and the contributions of experts across provincial ministries and outside of government. It relies on a Western knowledge approach and is intended for use at a provincial scale.[2] As a high-level assessment, it does not examine risks at local or regional scales or within specific sectors. Through continuing work, the Province is exploring options to build more inclusive approaches to assess and manage climate risks. This includes balancing Indigenous values and knowledge with Western approaches, ensuring an equity lens is applied to the process, supporting community-led risk assessments and adapting the process for different contexts.

***Information Pop-out Box**: The Province is currently modernizing its emergency management legislation to help B.C. reduce, prepare for, respond to and recover from new and growing risks such as COVID-19 and climate-related hazards, and better meet society's changing needs. In October 2018, B.C. took a major step to become the first Canadian province to adopt the Sendai Framework, a set of international best practices for disaster risk reduction. This international framework recognizes that climate change increases the frequency and severity of disasters, and that both emergencies and gradual changes, like sea-level rise, must be addressed through up-front risk reduction. The new Act will formally align B.C. with this leading-edge approach, and will reflect the B.C. Declaration on the Rights of Indigenous Peoples Act, as well as lessons learned from the COVID-19 pandemic and recent flood and wildfire seasons.*

[2] Western knowledge is based on a European worldview and has been the foundation for current Canadian and provincial legislation, policy, regulation and institutions (Kapell, 2019)

The actions proposed in the Climate Preparedness and Adaptation Strategy will expand on a number of existing programs and initiatives to prepare for climate change across government, such as:

- The Community Resiliency Investment Program, which provides $60 million to assist Indigenous communities and local governments to reduce local wildfire threats through FireSmart disciplines and Crown Land Wildfire Risk Reduction;
- A robust Cultural and Prescribed Fire program to promote healthy forests and reduce wildfire risk;
- Investments in wildfire risk reduction, reforestation, forest rehabilitation, and other efforts through the Forest Enhancement Society of B.C.;
- Investments of more than $103 million in 248 flood risk reduction projects across the province through Emergency Management B.C. including the Community Emergency Preparedness Fund which helps local governments and First Nations build resilience in response to emergencies, as well as joint investments with the federal government for the Adaptation, Resilience and Disaster Mitigation program, and the National Disaster Mitigation Program;
- The Climate & Agriculture Initiative BC, which supports the development of regional agricultural climate adaptation plans;
- Guidance on sea dike design and coastal development to help coastal communities prepare for future sea-level rise, developing a BC Flood Strategy and modernizing the emergency management legislation;
- Requirements that future climate be incorporated into the design of transportation infrastructure, such as roads and bridges;
- Working with partners like the Pacific Climate Impacts Consortium and UBC's ClimateBC to make climate information and tools more widely accessible; and
- Master of Disaster, a free classroom program for grades 4 to 8 that teaches about hazards in B.C., including floods, wildfires and severe weather and how climate change is influencing their severity and frequency.

The strategy also builds on investment from B.C.'s COVID-19 economic recovery plan, including $90 million to help B.C. prepare for climate change. This includes investments to:

- Conserve wetlands and ecosystems to protect our beautiful natural spaces and build nature-based climate solutions, while also creating more than 1,000 jobs for people in hard-hit sectors such as tourism and hospitality;
- Support upgrades to provincial highways and roads to make them more resilient to increased flooding from climate change;
- Invest in projects that will reduce the risk of wildfires on Crown land while creating more than 500 jobs in rural communities. Funding initiatives include the FireSmart Economic Recovery Fund, BC Community Forest Association, Columbia Basin Trust, among others; and

- Help farmers adapt by boosting support for the Beneficial Management Practices Program that encourages farm practices that protect the air, land and water and prepare for the impacts of climate change.

More examples of work already underway to develop resilience across the province can be found on our website.

The draft Climate Preparedness and Adaptation Strategy builds on these investments, starting with investments in 2021 to begin scoping studies, pilot projects and high-priority research that will set us up for success in our next phase of implementation. The strategy also outlines proposed actions for 2022-25 covering areas from data, education and partnerships, to resilient communities and ecosystems, to a climate-ready economy and infrastructure.

Public Engagement

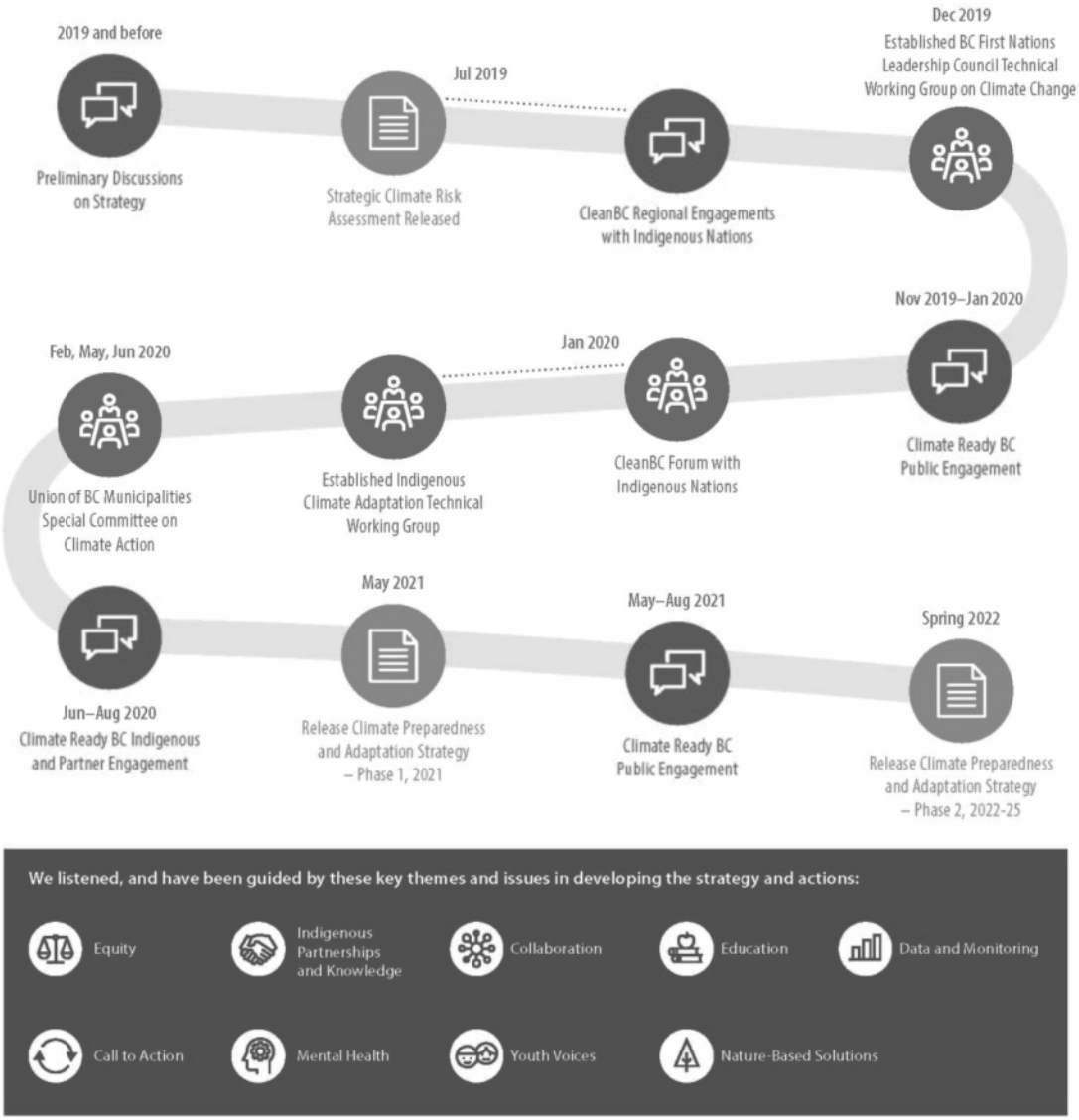
We are inviting the public to comment on the proposed actions for 2022-25. The comment period will be open until July 30, 2021. We will use the feedback to finalize actions and inform the final strategy.

Please email your comments to ClimateReadyBC@gov.bc.ca or visit engage.gov.bc.ca/climatereadybc/ for more information.

Actions will be phased in over time and aligned with economic recovery from COVID-19 and other priorities to ensure that we use resources wisely. The Province is committed to being transparent, accountable, and fiscally responsible as we work together to build resilience to the changes to come. Under the *Climate Change Accountability Act*, the government is required to produce an annual report that includes information on progress and spending on actions to date as well as future planned actions to achieve B.C.'s carbon emissions targets and prepare for climate impacts. The legislation also requires the most current information on climate risks to be shared every year and a new assessment of climate risks to be done every five years to inform ongoing action.

The draft Climate Preparedness and Adaptation Strategy was developed through a broad approach to engagement, so that it would be well-informed by the experiences and aspirations of a diverse cross-section of communities, sectors and populations in B.C. Between spring 2019 and summer 2020, the Province held regional engagement sessions with Indigenous Nations and organizations as well as one-on-one meetings with Indigenous nations and other partners. The Province also worked closely with the two Indigenous advisory groups, the Indigenous Climate Adaptation Technical Working Group and the B.C. First Nation Leaders Council Technical Working Group on Climate Change. We conducted virtual workshops with Indigenous peoples and many other partners including local government, industry, academia, labour, youth and non-governmental organizations. We also conducted online public engagement including a series of discussion forums and two rounds of surveys in addition to written submissions.

To learn more about the engagement process and read summary reports of what we heard, please visit: https://engage.gov.bc.ca/climatereadybc/.



Understanding B.C.'s Changing Climate

Highlighted Quote: *"Indigenous Peoples have a proven expertise that spans millennia. Our knowledge and relationships connected to our Ancestral homelands, passed from generation to generation through songs, ceremony, lived experiences, and Ancestral tellings ensured the sustainable and long-term well-being of our homelands and All Our Relations who live in them."*
~ Sunny LeBourdais, Secwepemc Nation

Across B.C., we've heard from people who have witnessed significant changes in their lifetimes – from hotter summers with increased wildfire smoke and warmer, wetter winters to changes in the timing of berries ripening, animals migrating and the decline of certain tree species, including culturally important trees like 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. Their distinct knowledge systems, including practices, skills and philosophies, as well as chronological and landscape-specific data, are critical for identifying and adapting to a changing climate. Indigenous knowledge systems cannot be integrated into Western science, but the two can work together to create knowledge that leads to more resilient and adaptive responses, while also supporting the inherent rights and interests of Indigenous peoples.

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:

What is Indigenous knowledge?

Indigenous knowledge systems are critical to understanding how climate change will impact communities and natural systems. 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.

Add footnote: Adapted from EAO's Guide to Indigenous Knowledge

- 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;
- 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.[3]

Recorded climate data for B.C. complements the lived experiences of Indigenous peoples. Over the past century, B.C.'s average annual temperature has increased by 1.2°C, with winter temperatures rising the most. 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) from 1900 to 2013, with more heavy, sporadic rainfall events in the spring, and increases in extreme wet and extreme dry conditions in summer.[4] Research has also shown that climate change amplifies extreme events like heat waves, floods, and wildfires. For example, a recent study showed that the 2017 wildfires in B.C. were made more likely, and covered a much greater area, because of the catalyzing effects of climate change.[5]

To understand the possible futures ahead and develop effective adaptation strategies, we need to both understand, strengthen and protect Indigenous knowledge systems, as well as look to climate data and science. We have heard from Indigenous Nations about the critical role knowledge holders play in recognizing changes on the land and identifying what future warming will mean to ecosystems and species, as well as how traditional governance systems are designed in ways that support climate adaptation.

Pop-out box: The Marine Plan Partnership for the North Pacific Coast (MaPP) initiative is a collaboration between the Province and 17 coastal First Nations that is applying an ecosystem-based management approach to resource stewardship. The MaPP plans are now being implemented across the Northern Shelf Bioregion and aim to support healthy marine

[3] First Nations Leadership Council (2020). Climate Emergency Survey. Métis Nation BC (2019). Gaining a Métis Perspective on Climate Change in BC

[4] Indicators of Climate Change for British Columbia 2016 Update

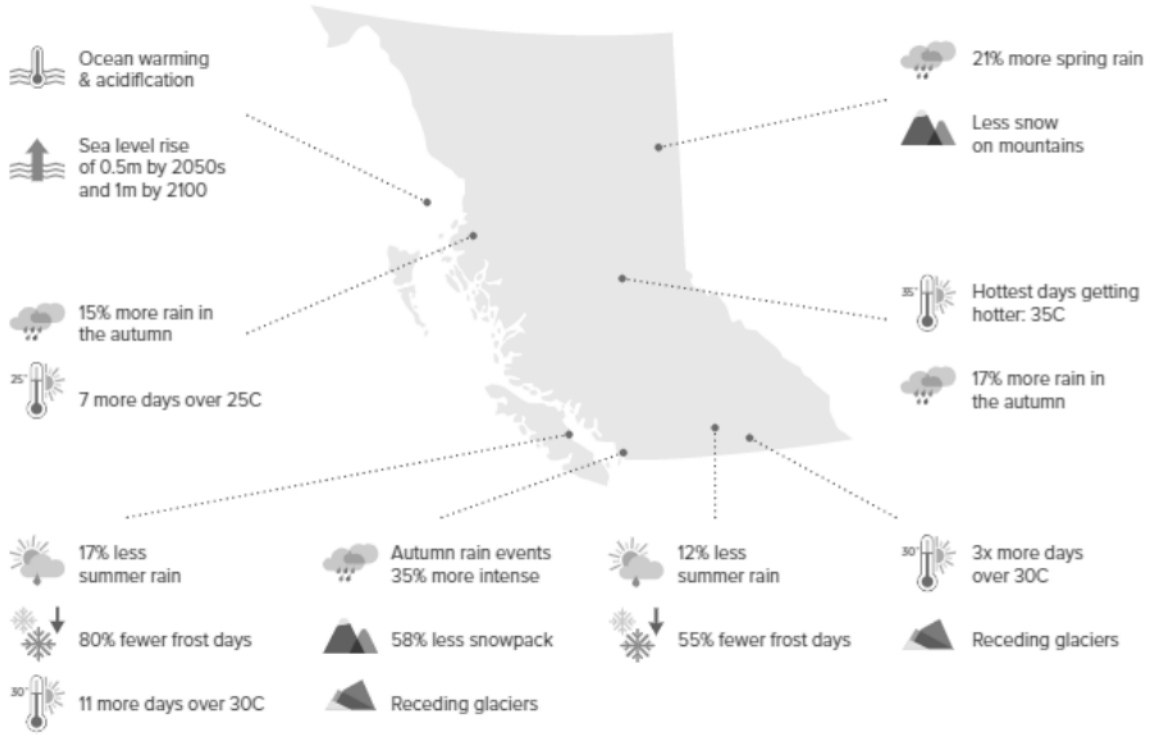
[5] Kirchmeier-Young, M. C., Gillett, N. P., Zwiers, F. W., Cannon, A. J., & Anslow, F. S. (2019). Attribution of the influence of human-induced climate change on an extreme fire season. Earth's Future, 7, 2–10.

ecosystems and the well-being of coastal communities in the face of a changing climate. Among other priorities, the MaPP initiative is bringing together Indigenous knowledge and Western science approaches to identify important ecological and cultural values and interests, and to document observations of nearshore habitats and climate variables over time to prioritize areas for conservation and restoration.

In addition, we have resources such as regional climate modelling for B.C., produced by the Pacific Climate Impacts Consortium and other research institutions, that describe a range of possible futures. Climate information like this can also help to inform good decision-making. The following map illustrates some of the projected changes for B.C. 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 north-east regions of the province, will see more precipitation across all seasons.

Climate Projections & Impacts in BC

The map below illustrates the type of changes that we can expect to see in BC by the 2050s. Every region will experience slightly different impacts, and not all are depicted here.



These changes will have important impacts for our communities, economy, health and wellbeing:

2. Pathways and Actions

The Province has identified four pathways to build climate resilience for B.C.:

1. Strengthen foundations for success, including expanding data, monitoring, education and partnerships;
2. Enhance community climate resilience;
3. Foster resilience of species and ecosystems in a changing climate; and
4. Advance a climate-ready economy and infrastructure.

This draft strategy outlines the role of the Province in support of, and partnership with, many other governments, organizations and people across B.C. who are at the centre of actions and decisions for enhancing our collective resilience.

For each pathway, we highlight actions to be implemented in 2021 as well as outline a broad suite of proposed actions for 2022-2025.

We are inviting the public to provide input on the proposed actions until July 30, 2021. We will use the feedback to finalize these actions and inform the final strategy.

Please email your comments to ClimateReadyBC@gov.bc.ca or visit engage.gov.bc.ca/climatereadybc/ for more information.

Pathway 1: Strengthen Foundations: Data, Monitoring, Education and Partnerships

While many communities, groups and sectors have been working to prepare for climate impacts for some time now, building future climate and resilience into the way we do things is new for many people. To meet the challenges ahead, this pathway works to improve our understanding of the changing climate and how it will influence our lives. It aims to build our capacity through training and education programs; bring climate knowledge into decision-making; and create partnerships to plan for the changes that will happen in the decades to come.

A foundation of our approach is our ongoing commitment to partnering with Indigenous Nations. We will work to create a shared path to climate resilience in a manner that addresses the unique impacts to Indigenous territories and ways of life. We are also committed to working respectfully in partnership with Indigenous communities, organizations and peoples to find responses to climate change that address priorities identified by them.

No one government, community or organization can do climate adaptation alone. We need to coordinate our work and strengthen our relationships across all governments and the business community so we can meet these challenges together. Our strategy will need to include processes to bring climate knowledge into decision-making, and invest in targeted resources

including data, information, education and training that enhances everyone's capacity to meet these evolving challenges. We will pay close attention to regional differences and existing inequalities, as different communities and groups will experience the impacts of climate change, and actions to build resilience, differently.

A robust strategy to prepare for the impacts of climate change requires good data and science. The Province, Indigenous Nations, municipalities, regional districts, utility operators and academics already have networks in place to collect data on stream flow, water quality, snowpack, weather, fish stocks, wildlife and habitats across the province. We will expand these networks and use the data to better understand how the climate and ecosystems have changed, as well as develop models to explore how they are likely to change in the future.

ACTION HIGHLIGHTS FOR 2021

- Work with Indigenous Nations and organizations to increase community resilience to climate change.
- Increase understanding of climate risks through improved data, monitoring and forecasting.
- Improve public understanding of wildfire threats and B.C.'s changing climate.

PROPOSED ACTIONS FOR 2022-25

Integrate the Changing Climate into Governance and Decision Making

Continue to bring the changing climate into relationships between the Province and Indigenous Nations. For example, by planning for a resilient future together through stewardship forums like the Marine Plan Partnerships initiative and a modernized approach to land use planning.
Work in partnership with Indigenous Nations and organizations to identify priorities and find responses to our changing climate grounded in Indigenous ways of knowing.
Improve and promote understanding of the disproportionate effects that climate change has on distinct human populations, including the potential for displacement, and integrate this knowledge into government initiatives, including climate risk assessments and adaptation plans.
Consider the changing climate in the B.C. government's relevant decisions including legislation, policy and program delivery across provincial ministries and sectors. This includes continuing to develop approaches to climate risk assessment that consider Indigenous experiences and values and can be applied in diverse contexts.

Explore Opportunities for Community-based Climate Resilience

Explore additional opportunities for Indigenous Nations, municipalities, regional districts and organizations to understand, monitor, manage and reduce climate risks. These will consider

the unique needs of rural, remote and Indigenous communities, including protection and inclusion of Indigenous knowledge.
Consider climate risks in existing infrastructure funding programs so that projects are more likely to perform reliably in a changing climate.

Expand Education on Climate Impacts and Adaptation

Expand climate resilience education by: • Developing learning resources for K-12 schools and other educational institutions to enhance student learning about important topics like our changing climate, adaptation, stewardship, and local Indigenous values and epistemologies; • Continuing to develop learning resources, professional development materials and guidelines for practicing professionals on bringing the future climate and resilience principles into resource management, planning and engineering; and • Exploring opportunities to raise public awareness about B.C.'s changing climate.

Enhance Climate Data Monitoring and Forecasting

Expand provincial, Indigenous and local monitoring networks for stream flow, groundwater, snow, glaciated areas, agricultural areas, climate, ocean conditions, ocean acidification, and ecosystems.
Support the Pacific Climate Impacts Consortium, ClimateBC and other research organizations to expand their climate data, research, modeling and training services to meet local, regional and provincial needs. This includes services for provincial government agencies, Indigenous communities, public sector organizations, local governments, businesses and industry.
Enhance predictive services and early warning capacity, including the B.C. River Forecast Centre, to bring the future climate into forecasting floods, water scarcity, and wildfires.

Pathway 2: Enhance Community Climate Resilience

Communities across B.C. are directly affected by the impacts of climate change and are the first line of response to severe weather events and disasters. Communities play a critical role in applying policies and strategies to help prevent, reduce and manage climate risks as they work to strengthen community resilience and reduce losses.

As part of this pathway the Province will partner with Indigenous Nations and organizations as well as municipalities, regional districts and non-governmental organizations to identify opportunities to address and adapt to our changing climate. This includes taking action to reduce risks from heatwaves, flooding and wildfires, and enhancing the climate resilience of infrastructure that communities and our economy depend on. We will also work to advance food security, nature-based solutions, shared learning and mental health and wellness in our communities to help strengthen our resilience to the changes ahead.

UBCM Climate Resilience Recommendations

The Union of BC Municipalities (UBCM) provides a common voice for local governments. In 2020, their Special Committee on Climate Action released a set of recommendations to help build low-carbon and climate resilient communities The Province will continue to work with UBCM and local governments to better understand the tools and resources needed to address these recommendations, including developing resources that enable local governments to conduct risk assessments and develop related long-term

Gender Based Analysis Plus (GBA+)
GBA+ is an analytical tool for assessing how diverse groups of men, women and gender-diverse people may experience policies, programs and initiatives.

The Province uses GBA+ to inform all stages of the development, implementation and evaluation process for policy, legislation, programs and services.

Climate Change, Intersectionality and GBA+ in British Columbia is one example of work being done to better understand how diverse populations in B.C. are disproportionately impacted by climate change. This work helps ensure that actions to adapt to climate change result in better outcomes for all people in B.C.

While some of the 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 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. The Province is examining its role in supporting the development of information, tools, coordination and capacity to strengthen communities' ability to manage their risks from a changing climate.

Beyond this support, an equity-informed approach is also important to address the drivers of systemic inequality in order to support climate-resilient communities. For example, research shows that housing is a key determinant for how people are impacted by climate-related events such as heatwaves, floods or wildfires. If an individual is already housing insecure, they will be at greater risk of being impacted and will often face significant challenges recovering and adapting to future events. These heightened risks apply more generally to those living in poverty.

ACTION HIGHLIGHTS FOR 2021

- Conduct initial work on a B.C. Flood Strategy in collaboration with other levels of government.
- Expand community planning and disaster risk management through enhanced use of climate data.
- Improve the provincial response to extreme heat and wildfire smoke for unhoused and housing insecure populations.
- Increase understanding of climate impacts on health infrastructure.
- Broaden the Province's understanding of food security within the context of a changing climate.

PROPOSED ACTIONS FOR 2022-2025

Support Resilient Community Planning and Disaster Risk Management

Build climate resilience into community planning, disaster risk management and recovery by making data accessible, developing new tools and guidance, and ensuring equity is addressed.
Release and implement a B.C. Flood Strategy that could include such actions as working with other levels of government to establish a provincial floodplain mapping program that will inform and modernize flood management in a changing climate.
Partner with Indigenous and non-Indigenous communities to expand the use of cultural and prescribed burning to reduce wildfire risks, create resilient natural ecosystems and preserve cultural practices.

Strengthen Individual and Community Health and Wellness

Support B.C. Housing to lead development of a provincial extreme heat and wildfire smoke response plan for populations disproportionately impacted by climate change.
Work with health authorities to address climate risks in health service delivery.
Respond to food security needs in a changing climate based on what was heard through engagement with Indigenous and community partners.

Facilitate Collaboration and Shared Learning

Facilitate collaborative, multi-partner approaches to climate change and disaster planning initiatives at a regional level. This could include providing regional coordinators and technical support.
Work with an Indigenous organization to develop a community learning network for Indigenous communities and organizations to share approaches that enhance climate resilience. This could include regional Indigenous climate adaptation coordinators.
Establish a community climate resilience program with Indigenous communities, friendship centres, local governments and non-profit organizations that is place-based, equity-informed, and youth driven.

Pathway 3: Foster Resilient Species and Ecosystems in a Changing Climate

B.C. 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. Healthy, resilient ecosystems provide food and medicines, clean air and clean water, and contribute to our emotional well-being. They 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 and its impacts.

While ecosystems have always had to adapt, the projected speed and scale of future climate change threatens to exceed the natural ability of many ecosystems to keep up, as we are seeing with the Mountain Pine Beetle and ocean acidification. Coupled with increasing human activity and pressures on the oceans and land base, climate change is creating unprecedented challenges for our ecosystems.

To address these challenges, the Province will work with Indigenous nations, including Indigenous knowledge holders, and others to ensure our landscapes and ecosystems in B.C. are managed to promote resilience and connectivity, helping species and their habitats to adapt and change with the changing climate. We will also work to strengthen the resilience of our marine environment and enhance B.C.'s watershed security.

Already some land and water species are shifting their home ranges in areas like the Peace region and the most southern parts of B.C., where people on the land are starting to see new ecosystems emerge. Climate change is also creating more openings for invasive species that displace native plants and animals and can harm entire ecosystems.

"We take care of the land and it takes care of us" – Indigenous engagement participant.

Internationally, research shows that lands controlled and managed by Indigenous peoples can have higher biodiversity than protected areas . Stewardship, when approached collaboratively and bringing Indigenous knowledge systems and Western science together can create resilient systems that continue to support abundant diversity and values.

Existing stewardship initiatives and policies can be updated to consider a changing climate and apply an adaptation lens. This includes prioritizing landscapes that can withstand changing climate conditions and enhancing connections or "corridors" between healthy habitats and ecosystems to support these natural processes as much as possible. This pathway presents ways for us to better understand the climate impacts for key species, habitat, and protected areas to support ecological and cultural processes of adaptation. This includes using practices like cultural and prescribed burning to establish a healthy relationship between fire and forest ecosystems. BC and Canada have also recently launched the development of a new Nature Agreement to strengthen conservation province-wide, and are committed to working with

Indigenous peoples on these efforts. This includes exploring new ways to protect and restore habitat and strengthen ecosystem resilience to climate change.

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. B.C. is already a founding member of the International Alliance to Combat Ocean Acidification, which works to increase awareness, understanding and action on ocean acidification and other climate-related changes in ocean conditions. The Province intends to develop an ocean acidification plan in the coming years to further address the impacts of changing ocean conditions on communities, marine ecosystems, and the economy.

We also need to take a long-term approach that finds ways to balance the changing availability and distribution of water with the needs of human activity and ecosystems. To address this, the Province is looking at developing new planning initiatives that will help secure our water supplies, now and for generations to come.

Protected Areas as Living Labs
B.C. Park's Living Lab Program promotes B.C.'s protected areas as places to learn about the effects of climate change and how to manage for them. Working in partnership with B.C. academic institutions, including collaboration with the broader conservation community, Indigenous communities and knowledge holders, this research considers such things as how connectivity between parks can build resilience for species and ecosystems as the climate changes, and informs decision making on adaptative actions that can be taken both inside and outside parks.

ACTION HIGHLIGHTS FOR 2021

- Identify opportunities for using nature-based solutions for climate adaptation and GHG reductions, in collaboration with partners.
- Assess climate risks and vulnerabilities to B.C. fisheries and aquaculture.
- Conduct initial work on a watershed security strategy and assess risks in priority watersheds.
- Improve understanding of climate impacts on BC Parks' infrastructure and operations.

PROPOSED ACTIONS FOR 2022-25

Enhance Watershed Security and Strengthen Marine Resilience

Create a Watershed Security Strategy and begin development of an associated fund to help improve the health of B.C.'s watersheds.

Develop an ocean acidification action plan, including research and partnerships to support marine resilience, healthy ecosystems and communities.
Work with partners to pilot the development of water supply and demand management plans for priority watersheds where climate change is likely to result in greater water scarcity.

Enhance Tools and Approaches for Managing Ecosystems, Parks and Protected Areas

Develop and implement tools and approaches for integrating climate change knowledge into the assessment, stewardship and management of species, ecosystems, and natural resources. This includes working with Indigenous communities and knowledge holders; identifying, protecting and restoring areas important for maintaining species at risk and biodiversity in a changing climate; and monitoring and managing invasive species.
Through the Together for Wildlife strategy, complete a review of land designations under the *Land Act, Wildlife Act, Oil and Gas Activities Act*, and *Forest and Range Practices Act* that contribute to conservation to ensure they effectively target the intended habitats, now and in the future, and in light of climate change impacts and habitat alterations.
Explore climate change resilience in policy and management options during implementation of the independent panel report "A New Future for Old Forests."
Promote and enhance the use of nature-based solutions for strengthening community and ecosystem resilience and managing climate-related hazards, such as extreme heat and flooding.
Explore ways to protect and preserve cultural heritage in a changing climate, including working with the First Peoples' Cultural Council on a program to better understand climate change impacts on Indigenous cultural heritage resources.
Understand and address climate impacts to parks and protected areas including on cultural heritage sites, trails, campgrounds and infrastructure.

Pathway 4: Advance a Climate-Ready Economy and Infrastructure

Climate change has significant impacts on B.C.'s business and industrial sectors, as well as the infrastructure we all rely on – from roads and bridges to communication and energy systems to schools and hospitals. In some sectors, such as agriculture and forestry, work has been happening for several decades to anticipate and adapt to a changing climate, while for other sectors this is a newer consideration.

Planning and preparing for a changing climate is not only smart business, but helps ensure we have a healthy, innovative and resilient economy in the future. This pathway helps to ensure that B.C. business and industry can address the risks of climate change, while also helping to maintain a resilient workforce and build food security in a changing climate. We are putting in place training and programs to make our buildings, highways and other infrastructure ready for extreme weather - and moving forward with climate-proofing our schools, hospitals and other public sector buildings to make sure they're ready when we need them most.

B.C.'s economy continues to rely on natural resources, which account for a significant proportion of the province's economic base. Forestry and forest products alone account for 33% of our international exports. We are already seeing disruptions to local economies and workers in some parts of B.C. This is especially evident where climate change is contributing to closures of forestry operations through a combination of recent extreme wildfire seasons and the longer-term impacts of Mountain Pine Beetle. As we look at ways to prepare and adapt to the changing climate, we need to ensure that workers and others who are impacted are supported.

To help maintain a healthy, resilient economy in all parts of B.C., we need to proactively include climate impacts and information in business decisions and the way we build infrastructure. This will allow us to significantly reduce some risks, while enhancing our readiness and capacity to deal with those risks we can't avoid. It will also allow us to take advantage of changes in climate for new business opportunities. The finance, investment, and insurance sectors also have a role to play in supporting businesses to identify and disclose climate-related risks, providing greater certainty and security for investors. And we need to provide resources to small and medium businesses to prepare for the changing climate.

Building Resilience in Agriculture

The Climate & Agriculture Initiative BC (CAI) works with the agriculture and research sectors, as well as all levels of government, to increase the resilience of B.C. agriculture to the impacts of climate change such as wildfire, drought, flooding, and pests.

Delivering the B.C. Ministry of Agriculture, Food and Fisheries' climate adaptation programs, CAI works with partners to develop and implement regional adaptation plans in key agricultural areas of the province, as well as demonstrate and evaluate adaptation practices on B.C. farms and ranches.

Pull out Quote:
"Over the past five decades, the costs of weather-related disasters like floods, storms, and wildfires have risen from tens of millions of dollars to billions of dollars annually in Canada. Insured losses for catastrophic weather events totaled over $18 billion between 2010 and 2019, and the number of catastrophic events was over three times higher than in the 1980s."

– Canadian Institute for Climate Choices[6]

The Province has heard how climate change is already affecting the livelihoods of Indigenous peoples, including both cash and subsistence economies. For example, wildfire is restricting the potential for forestry and is impacting tourism. Rising water temperatures are affecting commercial and subsistence fisheries. And traditional foods and medicines are becoming more difficult to access as timing, health and abundance of species changes. With this strategy, we will work with Indigenous enterprises to identify climate risks and develop tools to respond.

We are also taking steps to make climate resilience the new "business as usual" for B.C.'s public sector. This will help to protect the health and safety of the two million people who work, learn and visit public sector buildings each year, increase the longevity of our public sector assets, and ensure that quality services are maintained in a changing climate. This approach provides leadership to support broader market transformation towards climate resilient buildings in B.C.

Climate Resilience Guidelines for BC Health Facility Planning & Design
B.C.'s health authorities collaborated with building experts to develop overarching guidelines that support building climate resilient health facilities across the province. The guidelines amplify and accelerate their ongoing work to reduce climate risks, build resilience at the site and community levels, and meet greenhouse gas emissions reduction targets. These guidelines provide practical advice on integrating climate science and climate risk assessments to support the multidisciplinary teams responsible for planning and designing health facilities in B.C.

[6] Canadian Institute for Climate Choices, 2020. *Tip of the Iceberg: Navigating the Known and Unknown Costs of Climate Change for Canada*, p. iii.

ACTION HIGHLIGHTS FOR 2021

- Promote reliable transportation networks by assessing climate impacts on vulnerable highway culverts and resource roads.
- Improve the Province's understanding of agricultural water infrastructure and climate risks to mining and energy industries.
- Enhance use of the Climate Change Informed Species Selection Tool by decision makers.
- Expand the Province's understanding of climate risks to coastal communities and economies.
- Promote a climate-ready public sector through assessing climate risks on government buildings.

PROPOSED ACTIONS FOR 2022-25

Increase the Resilience of our Buildings and Infrastructure

Strengthen the climate resilience of our transportation infrastructure to better prepare for extreme weather and ensure community and business lifelines are reliable in the changing climate.
Explore opportunities to increase resilience of buildings in B.C. by: • Working with the National Research Council to develop and adopt building codes that include future climate design factors, such as the BC Energy Step Code; • Providing training to the public sector and building industry on the use of future climate information to support market transformation; and • Creating a climate resilient public sector buildings policy that could include: o assessing current and future climate risks to public sector buildings o requiring future climate be considered in capital planning o demonstrating and sharing best practices among public sector organizations on climate resilient buildings.
Explore integrating resilience considerations with existing and proposed energy efficiency programs for buildings.

Support Business and Industry to Respond to Climate Risks

Collaborate with business and industry, including Indigenous enterprises, tourism, small businesses, industry sectors and labour organizations, to identify climate risks and develop tools to respond. This includes supporting the private sector to adopt climate risk assessment and adaptation practices and supporting workers and employers to create a climate-resilient workforce and jobs.
Continue to work with farmers and the agriculture sector to strengthen resilience to climate risks. This includes assessing climate-related risks to food supply security and promoting innovative solutions, such as supporting water infrastructure and on-farm adaptation.

Continue to support a resilient forest economy through integration of climate change mitigation and adaptation measures such as climate change-informed tree species selection and management, stand and landscape management, and harvesting strategies.

3. Measuring and Reporting our Progress

We are acting now to help ensure that B.C. is prepared for the climate of the future. We also recognize that building climate resilience through adaptation is an ongoing process that takes place over years and decades. As we learn from experience here in B.C. and in other jurisdictions, we will adjust course as needed to ensure our actions are as effective as possible.

To support this intention and keep us on track, the Province's Climate Change Accountability Act requires annual reporting on actions taken, expected outcomes and future plans. The Climate Action Secretariat will continue to report on provincial actions to manage climate change risks in the Minister of Environment and Climate Change Strategy's annual Climate Change Accountability Report. To ensure that the people of B.C. have access to current information, the annual report will include the most recent information on climate change risks. In addition, a comprehensive assessment of climate risks will be undertaken every five years. Putting the accountability framework into law means that future governments will also be accountable for managing climate risks.

We will be developing a monitoring and evaluation framework over the coming year with our partners including Indigenous Nations and organizations, municipalities, and regional districts. The Province will also work with public sector organizations, such as school districts and health authorities to build and implement requirements for reporting on climate risk. This will support the Province in accurately reporting on known climate risks, actions to manage climate risks, and public sector progress to prepare for a changing climate.

Together, these measures will keep us open and transparent about the effectiveness of our actions and areas where more focus is needed, holding government accountable for the commitments we make now and in the future.

APPENDICES

Appendix 1 – Summary of Action Highlights for 2021

Appendix 2 - Summary of Proposed Actions for 2022-2025

Climate Preparedness and Adaptation Strategy

Draft Strategy for Public Comment and Phase 1 Actions for 2021-2022

V 17 May 3, 2021 for ADM, DM, MGH approval for public release

Reviewed by:

- Premier's Office, Planning and Priorities Secretariat
- ENV GCPE
- GCPE Strategic Communications Div.
- Legal Services Branch
- CPAS Inter-Agency Working Group and ED Steering Committee
- Climate Solutions Council Adaptation Sub-Committee
- Indigenous Climate Adaptation Technical Working Group
- FNLC Technical Working Group on Climate Change
- Métis Nation of BC
- Treasury Board Staff

Table of Contents

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

Message from the Minister

In development – will be sent separately to CAS ADM and MO for approval

Will clearly note that, with the exception of the actions that received funding in Budget 2021, this is a draft strategy for comment.

Message from B.C.'s Provincial Health Officer

Our physical, social, economic and mental health and well-being are inextricably connected to our climate. Life on earth is dependent on a healthy environment and is sustained by a complex and delicate balance of interactions between the environment, the fauna and flora, and people. Climate change has started to alter that balance.

Clean air, safe water, sufficient and safe food, access to care and certainty knowing that our communities and homes are safe from extreme weather events, extreme temperatures, or water shortages, to name a few: this is what is required for healthy thriving communities and healthy, productive and happy people.

We can now look back and clearly witness the current climate trajectory and are better equipped to understand key factors behind these changes, and the measures needed to modify that trajectory. It is imperative that we think beyond next month or next year, and work to actively shape a brighter, more sustainable and resilient future for all of us.

Dr. Bonnie Henry
BC's Provincial Health Officer

Executive Summary

Throughout B.C., people are experiencing the effects of climate change – from increasing wildfires, changes to ecosystems and loss of species to more frequent flooding, longer summer droughts and heatwaves.

Preparing for climate change means improving our ability to anticipate, respond to and recover from extreme weather events and emergencies, as well as dealing with more gradual changes like water shortages, changes in growing seasons and sea level rise. It involves building our capacity to reduce and manage risks from climate change to protect our buildings and infrastructure, restore habitat and strengthen ecosystems, maintain community health and wellbeing, decrease costs associated with climate impacts and ensure B.C.'s economy continues to thrive.

While extreme weather events often garner the most attention, the climate influences everything – from the types of plants and animals that make up an ecosystem, to the temperature in our homes and the kind of foods we can grow, to the design of our sewers and roads. The relative stability of our climate has also been a critical part of maintaining the biodiversity and resilience of ecosystems.

For centuries, the climate has changed at a pace slow enough to allow people, species and landscapes to change along with it. Governments, engineers and others have used the assumption that historical weather patterns will continue in the future to design our buildings and infrastructure, manage natural resources, plan communities, and deliver services. But today that assumption is no longer true. The climate is changing, the impacts are significant, and we need to be ready for the climate of the future.

Our response to the COVID-19 pandemic has shown the value of acting early at a scale that matches the potential risk. Similarly, by planning and taking action now, we can help ensure that people will have the support they need to stay safe and respond effectively in a changing climate. That's why the Province committed $90 million for climate preparedness and adaptation in B.C.'s economic recovery plan, called Stronger BC, including investments to reduce wildfire risk, improve roads and highways, conserve wetlands and ecosystems, and support adaptation on farms. These investments build on the substantial work that is already underway to help B.C. prepare for climate change and provide good jobs for people across the province.

The draft Climate Preparedness and Adaptation Strategy is our next step in this direction and is an important part of our CleanBC plan. It builds on work already underway across several ministries and the 2019 Preliminary Strategic Climate Risk Assessment, which examined some of the greatest risks to B.C. as a result of climate change. Informed by the assessment, the strategy outlines actions needed to prepare for these risks.

The strategy highlights our overall direction and the actions we're taking in 2021-22 to help prepare B.C. for the impacts of climate change. It also presents a suite of proposed actions for 2022-25. Taking this two-step approach allows us to get to work on actions that are needed now, while continuing to engage on and refine actions for the future. It also allows the Province to align our climate adaptation actions with the federal government as they work toward developing a national climate adaptation plan.

Actions in the strategy are grouped into four key pathways:

- Strengthen foundations for success, including expanding data, monitoring, education and partnerships;
- Enhance community climate resilience;
- Foster resilience of species and ecosystems in a changing climate; and
- Advance a climate-ready economy and infrastructure.

In 2021-22 we are moving forward with a range of initiatives such as:

- Increasing understanding of climate risks through improved data, monitoring and forecasting;
- Conducting initial work on a B.C. Flood Strategy in collaboration with other levels of government;
- Improving the provincial response to extreme heat and wildfire smoke for unhoused and housing insecure populations;
- Identifying opportunities for using nature-based solutions for climate adaptation and greenhouse gas emissions reductions; and
- Promoting reliable transportation networks by assessing climate impacts on vulnerable highway culverts and resource roads.

In addition, we are inviting the public to provide input on a set of proposed actions for 2022-25. The comment period will be open until August X, 2021. Input will be used to finalize actions and inform the final strategy, which is expected to be released in 2022.

Please email your comments to ClimateReadyBC@gov.bc.ca or visit engage.gov.bc.ca/climatereadybc/ for more information.

The actions in this strategy were developed together with people and organizations throughout B.C., including Indigenous Nations, communities and organizations, and builds on the extensive climate adaptation work done to date. The strategy is also based on a set of guiding principles, outlined on p. x, that help ensure we are taking into consideration existing social conditions and challenges as we prepare for climate change.

All actions will be coordinated with other government priorities to ensure we use resources wisely. The Province is committed to being transparent, accountable, and fiscally responsible as we work together to build resilience to the changes to come.

Taking a whole-of-society approach, this strategy aims to protect people in B.C. from the threats posed by a changing climate while also caring for the ecosystems we all depend on.

Summary of Action Highlights for 2021-2022

Pathway	Actions
Strengthen foundations: data, monitoring, education and partnerships	• Work with Indigenous Nations and organizations to increase community resilience to climate change
	• Increase understanding of climate risks through improved data, monitoring and forecasting
	• Improve public understanding of wildfire threats and B.C.'s changing climate
Enhance community climate resilience	• Conduct initial work on a B.C. Flood Strategy in collaboration with other levels of government
	• Expand community planning and disaster risk management through enhanced use of climate data
	• Improve the provincial response to extreme heat and wildfire smoke for unhoused and housing insecure populations
	• Increase understanding of climate impacts on health infrastructure
	• Broaden the Province's understanding of food security within the context of a changing climate
Foster resilience of species and ecosystems in a changing climate	• Identify opportunities for using nature-based solutions for climate adaptation and greenhouse gas reductions, in collaboration with partners
	• Assess climate risks and vulnerabilities to B.C. fisheries and aquaculture
	• Conduct initial work on a watershed security strategy and assess risks to water quality from contaminated sites under future climates.
	• Improve understanding of climate impacts on BC Parks' infrastructure and operations
Advance a climate-ready economy and infrastructure	• Promote reliable transportation networks by assessing climate impacts on vulnerable highway culverts and resource roads
	• Improve the Province's understanding of agricultural water infrastructure and climate risks to mining and energy industries
	• Advance use of the Climate Change Informed Species Selection Tool by decision makers in the forest sector
	• Expand the Province's understanding of climate risks to coastal communities and economies to inform a provincial coastal strategy
	• Promote a climate-ready public sector through assessing climate risks on government buildings

Visual: Ecosystem graphic (vision, principles, and pathways)

Draft Guiding Principles

The following six principles have guided our choice of actions in the draft strategy and will continue to inform our work going forward. The principles were developed with input from people across B.C.

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 a just approach that integrates equity considerations into climate adaptation responses.

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 and provide comment, please visit: https://engage.gov.bc.ca/climatereadybc/.

1. Introduction: Building a Climate Ready B.C.

The changes in climate we are experiencing today are driven by higher levels of greenhouse gases in the atmosphere, created by many decades of activities such as burning fossil fuels and clearing land. 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. The actions in this draft strategy strengthen our capacity to anticipate and respond to sudden events like wildfires, floods and heatwaves, while also helping us to respond to changes that happen more slowly like loss of habitat and rising sea levels. By planning ahead and acting early, we can be ready for the challenges and new possibilities the changing climate may bring.

Many in B.C. remember the summer of 2018 when much of the province was blanketed in smoke as a result of nearly 600 wildfires. Reports of medical issues climbed as air quality advisories persisted, in some areas for more than 40 days. Thousands were forced to evacuate, while thousands more were put on alert to leave at a moment's notice. This was the worst wildfire season on record, surpassing the previous record set in 2017.

While the province has always had events like wildfires, floods and droughts, climate change will make them worse. That's why preparing now for a changing climate is so important to help protect us from future shocks and strengthen the resilience of our communities, ecosystems and economy.

There's also a strong business case for preparing for climate change. A 2019 report from the Global Commission on Adaptation notes that every dollar spent on measures to prepare for climate impacts results in savings of 2 to 10 dollars in the future.[1]

We all have a role to play and by working together, we can reduce and manage the risks from climate change, while also finding opportunities in the changes ahead.

The Province's CleanBC plan provides a pathway to reduce our greenhouse gas emissions and build a cleaner future for everyone in B.C. But reducing emissions is only part of addressing climate change.

The Climate Preparedness and Adaptation Strategy addresses the need to prepare for, respond to and recover from the unavoidable impacts of climate change – like record-breaking wildfires and heat waves, extended droughts, floods, loss of biodiversity and habitat, ocean acidification and rising sea levels. This is because elevated levels of greenhouse gases already in the atmosphere will continue to cause changes for many years to come.

Across B.C., many Indigenous Nations, municipalities, regional districts, public sector organizations, industries and businesses have already developed climate adaptation plans, while others are initiating research and projects to prepare for our changing climate. Together,

[1] Global Commission on Adaptation, 2019. Adapt now: a global call for leadership on climate resilience. https://cdn.gca.org/assets/2019-09/GlobalCommission_Report_FINAL.pdf.

these groups are working to ensure our communities and economy are ready for changes that are expected in the coming years and decades.

The Province is committed to advancing climate adaptation by partnering with Indigenous Nations and organizations, and collaborating with local governments and other groups, to support their efforts to prepare for climate change. We will continue to support development of climate knowledge and work with partners to advance adaptation in B.C. through planning, research and capacity building, as well as by making training and resources on adaptation available and accessible. We will move forward with a range of initiatives including conducting initial work on a flood strategy, promoting reliable transportation networks and secure water infrastructure, developing an ocean acidification plan and addressing climate risks in health services.

Partnering with Indigenous peoples

Indigenous peoples are essential partners in adapting to climate change. 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.

The Province has engaged with Indigenous Nations, 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 Province has been working with the Indigenous Climate Adaptation Technical Working Group and the B.C. First Nations Leadership Council Technical Working Group on Climate Change.

We will continue to work closely with Indigenous peoples to strengthen our engagement processes and deepen our partnerships as we prepare for a changing climate. Nothing less will enable a truly effective response to the challenges we face together.

Information Pop-out box:

The Province has committed to the implementation of the United Nations Declaration on the Rights of Indigenous Peoples (the UN Declaration). The Province's *Declaration on the Rights of Indigenous Peoples Act* contributes to that implementation by requiring the B.C. government to take all measures necessary to ensure BC 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.

A number of the articles of the UN Declaration are especially relevant to this strategy, including 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 which 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.

Building on Our Progress

This draft strategy builds on over a decade of work within government and across communities to prepare the province for a changing climate. It draws on lessons learned from past experience, and reports such as the independent review of flooding and wildfire in 2017 by Chief Maureen Chapman and George Abbott. It is also a direct response to the 2018 Auditor General of B.C. report, which recommended that the B.C. government complete a province-wide climate risk assessment and develop a more comprehensive adaptation strategy.

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. Findings suggest that of those risks assessed, the greatest risks to B.C. are severe wildfire, seasonal water shortage, heat wave, ocean acidification, glacier mass loss and long-term water shortage events. Other risks with significant consequences include severe river flooding and severe coastal storm surge. All of these risks would result in significant and costly impacts for B.C.

The preliminary risk assessment is based on scientific studies and the contributions of experts across provincial ministries and outside of government. It relies on a Western knowledge approach and is intended for use at a provincial scale.[2] As a high-level assessment, it does not examine risks at local or regional scales or within specific sectors. Through continuing work, the Province is exploring options to build more inclusive approaches to assess and manage climate risks. This includes balancing Indigenous values and knowledge with Western approaches, ensuring an equity lens is applied to the process, supporting community-led risk assessments and adapting the process for different contexts.

***Information Pop-out Box**: The Province is currently modernizing its emergency management legislation to help B.C. reduce, prepare for, respond to and recover from new and growing risks such as COVID-19 and climate-related hazards, and better meet society's changing needs. In October 2018, B.C. took a major step to become the first Canadian province to adopt the Sendai Framework, a set of international best practices for disaster risk reduction. This international framework recognizes that climate change increases the frequency and severity of disasters, and that both emergencies and gradual changes, like sea-level rise, must be addressed through up-front risk reduction. The new Act will formally align B.C. with this leading-edge approach, and will reflect the B.C. Declaration on the Rights of Indigenous Peoples Act, as well as lessons learned from the COVID-19 pandemic and recent flood and wildfire seasons.*

[2] Western knowledge is based on a European worldview and has been the foundation for current Canadian and provincial legislation, policy, regulation and institutions (Kapell, 2019)

The actions proposed in the Climate Preparedness and Adaptation Strategy will expand on a number of existing programs and initiatives to prepare for climate change across government, such as:

- The Community Resiliency Investment Program, which provides $60 million to assist Indigenous communities and local governments to reduce local wildfire threats through FireSmart disciplines and Crown Land Wildfire Risk Reduction;
- A robust Cultural and Prescribed Fire program to promote healthy forests and reduce wildfire risk;
- Investments in wildfire risk reduction, reforestation, forest rehabilitation, and other efforts through the Forest Enhancement Society of B.C. and Forest Carbon Initiative;
- Investments of more than $103 million in 248 flood risk reduction projects across the province through Emergency Management B.C. including the Community Emergency Preparedness Fund which helps local governments and First Nations build resilience in response to emergencies, as well as joint investments with the federal government for the Adaptation, Resilience and Disaster Mitigation program, and the National Disaster Mitigation Program;
- The Climate & Agriculture Initiative BC, which supports the development of regional agricultural climate adaptation plans;
- Guidance on sea dike design and coastal development to help coastal communities prepare for future sea-level rise, developing a BC Flood Strategy and modernizing the emergency management legislation;
- Requirements that future climate be incorporated into the design of transportation infrastructure, such as roads and bridges;
- Working with partners like the Pacific Climate Impacts Consortium and UBC's ClimateBC to make climate information and tools more widely accessible; and
- Master of Disaster, a free classroom program for grades 4 to 8 that teaches about hazards in B.C., including floods, wildfires and severe weather and how climate change is influencing their severity and frequency.

The strategy also builds on investment from B.C.'s COVID-19 economic recovery plan, including $90 million to help B.C. prepare for climate change. This includes investments to:

- Conserve wetlands and ecosystems to protect our beautiful natural spaces and build nature-based climate solutions, while also creating more than 1,000 jobs for people in hard-hit sectors such as tourism and hospitality;
- Support upgrades to provincial highways and roads to make them more resilient to increased flooding from climate change;
- Invest in projects that will reduce the risk of wildfires on Crown land while creating more than 500 jobs in rural communities. Funding initiatives include the FireSmart Economic Recovery Fund, BC Community Forest Association, Columbia Basin Trust, among others; and

- Help farmers adapt by boosting support for the Beneficial Management Practices Program that encourages farm practices that protect the air, land and water and prepare for the impacts of climate change.

More examples of work already underway to develop resilience across the province can be found on our website.

The draft Climate Preparedness and Adaptation Strategy builds on these investments, starting with investments in 2021 to begin scoping studies, pilot projects and high-priority research that will strengthen the Province's ability to prepare and adapt to climate change. The strategy also outlines proposed actions for 2022-25 covering areas from data, education and partnerships, to resilient communities and ecosystems, to a climate-ready economy and infrastructure.

Public Engagement

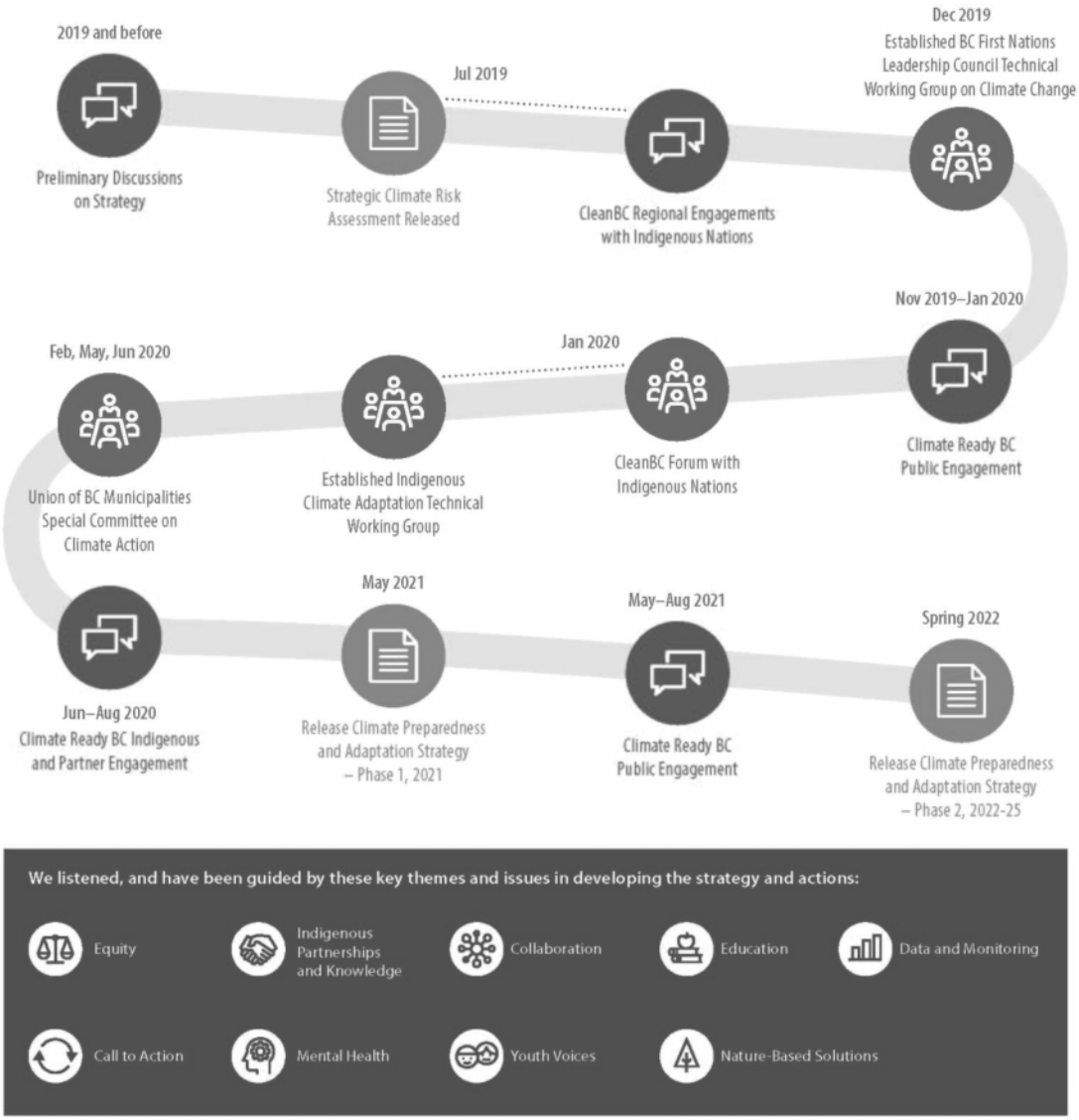
We are inviting the public to comment on the proposed actions for 2022-25. The comment period will be open until August X, 2021. We will use the feedback to finalize actions and inform the final strategy.

Please email your comments to ClimateReadyBC@gov.bc.ca or visit engage.gov.bc.ca/climatereadybc/ for more information.

Actions will be phased in over time and aligned with economic recovery from COVID-19 and other priorities to ensure that we use resources wisely. The Province is committed to being transparent, accountable, and fiscally responsible as we work together to build resilience to the changes to come. Under the *Climate Change Accountability Act*, the government is required to produce an annual report that includes information on progress and spending on actions to date as well as future planned actions to achieve B.C.'s carbon emissions targets and prepare for climate impacts. The legislation also requires the most current information on climate risks to be shared every year and a new assessment of climate risks to be done every five years to inform ongoing action.

The draft Climate Preparedness and Adaptation Strategy was developed through a broad approach to engagement, so that it would be well-informed by the experiences and aspirations of a diverse cross-section of communities, sectors and populations in B.C. Between spring 2019 and summer 2020, the Province held regional engagement sessions with Indigenous Nations and organizations as well as one-on-one meetings with Indigenous nations and other partners. The Province also worked closely with the two Indigenous advisory groups, the Indigenous Climate Adaptation Technical Working Group and the B.C. First Nation Leaders Council Technical Working Group on Climate Change. We conducted virtual workshops with Indigenous peoples and many other partners including local government, industry, academia, labour, youth and non-governmental organizations. We also conducted online public engagement including a series of discussion forums and two rounds of surveys in addition to written submissions.

To learn more about the engagement process and read summary reports of what we heard, please visit: https://engage.gov.bc.ca/climatereadybc/.



Understanding B.C.'s Changing Climate

Highlighted Quote: *"Indigenous Peoples have a proven expertise that spans millennia. Our knowledge and relationships connected to our Ancestral homelands, passed from generation to generation through songs, ceremony, lived experiences, and Ancestral tellings ensured the sustainable and long-term well-being of our homelands and All Our Relations who live in them."*
~ Sunny LeBourdais, Secwepemc Nation

Across B.C., we've heard from people who have witnessed significant changes in their lifetimes – from hotter summers with increased wildfire smoke and warmer, wetter winters to changes in the timing of berries ripening, animals migrating and the decline of certain tree species, including culturally important trees like 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. Their distinct knowledge systems, including practices, skills and philosophies, as well as chronological and landscape-specific data, are critical for identifying and adapting to a changing climate. Indigenous knowledge systems cannot be integrated into Western science, but the two can work together to create knowledge that leads to more resilient and adaptive responses, while also supporting the inherent rights and interests of Indigenous peoples.

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:

What is Indigenous knowledge?

Indigenous knowledge systems are critical to understanding how climate change will impact communities and natural systems. 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.

Add footnote: Adapted from EAO's Guide to Indigenous Knowledge

- 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;
- 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.[3]

Recorded climate data for B.C. complements the lived experiences of Indigenous peoples. Over the past century, B.C.'s average annual temperature has increased by 1.2°C, with winter temperatures rising the most. 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) from 1900 to 2013, with more heavy, sporadic rainfall events in the spring, and increases in extreme wet and extreme dry conditions in summer.[4] Research has also shown that climate change amplifies extreme events like heat waves, floods, and wildfires. For example, a recent study showed that the 2017 wildfires in B.C. were made more likely, and covered a much greater area, because of the catalyzing effects of climate change.[5]

To understand the possible futures ahead and develop effective adaptation strategies, we need to both understand, strengthen and protect Indigenous knowledge systems, as well as look to climate data and science. We have heard from Indigenous Nations about the critical role knowledge holders play in recognizing changes on the land and identifying what future warming will mean to ecosystems and species, as well as how traditional governance systems are designed in ways that support climate adaptation.

Pop-out box: The Marine Plan Partnership for the North Pacific Coast (MaPP) initiative is a collaboration between the Province and 17 coastal First Nations that is applying an ecosystem-based management approach to resource stewardship. The MaPP plans are now being implemented across the Northern Shelf Bioregion and aim to support healthy marine

[3] First Nations Leadership Council (2020). Climate Emergency Survey. Métis Nation BC (2019). Gaining a Métis Perspective on Climate Change in BC

[4] Indicators of Climate Change for British Columbia 2016 Update

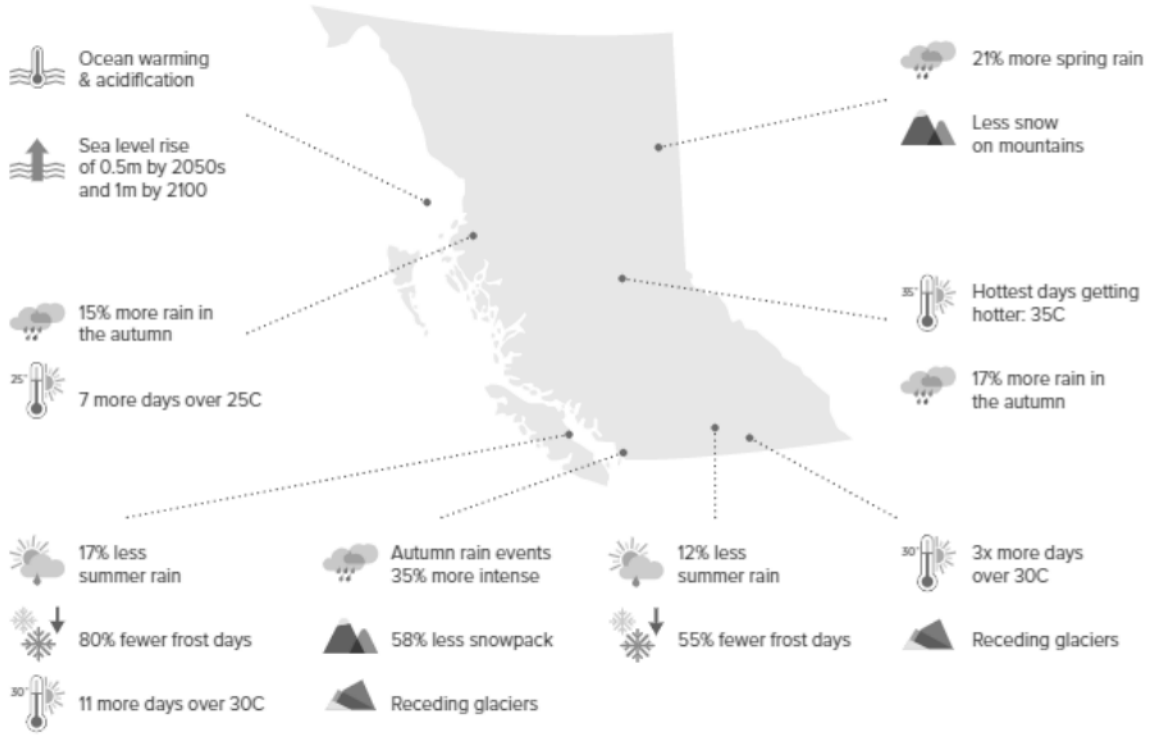
[5] Kirchmeier-Young, M. C., Gillett, N. P., Zwiers, F. W., Cannon, A. J., & Anslow, F. S. (2019). Attribution of the influence of human-induced climate change on an extreme fire season. Earth's Future, 7, 2–10.

ecosystems and the well-being of coastal communities in the face of a changing climate. Among other priorities, the MaPP initiative is bringing together Indigenous knowledge and Western science approaches to identify important ecological and cultural values and interests, and to document observations of nearshore habitats and climate variables over time to prioritize areas for conservation and restoration.

In addition, we have resources such as regional climate modelling for B.C., produced by the Pacific Climate Impacts Consortium and other research institutions, that describe a range of possible futures. Climate information like this can also help to inform good decision-making. The following map illustrates some of the projected changes for B.C. 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 north-east regions of the province, will see more precipitation across all seasons.

Climate Projections & Impacts in BC

The map below illustrates the type of changes that we can expect to see in BC by the 2050s. Every region will experience slightly different impacts, and not all are depicted here.



These changes will have important impacts for our communities, economy, health and wellbeing:

2. Pathways and Actions

The Province has identified four pathways to build climate resilience for B.C.:

1. Strengthen foundations for success, including expanding data, monitoring, education and partnerships;
2. Enhance community climate resilience;
3. Foster resilience of species and ecosystems in a changing climate; and
4. Advance a climate-ready economy and infrastructure.

This draft strategy outlines the role of the Province in support of, and partnership with, many other governments, organizations and people across B.C. who are at the centre of actions and decisions for enhancing our collective resilience.

For each pathway, we highlight actions to be implemented in 2021-22 as well as outline a broad suite of proposed actions for 2022-2025.

We are inviting the public to provide input on the proposed actions until August X, 2021. We will use the feedback to finalize these actions and inform the final strategy.

Please email your comments to ClimateReadyBC@gov.bc.ca or visit engage.gov.bc.ca/climatereadybc/ for more information.

Pathway 1: Strengthen Foundations: Data, Monitoring, Education and Partnerships

While many communities, groups and sectors have been working to prepare for climate impacts for some time now, building future climate and resilience into the way we do things is new for many people. To meet the challenges ahead, this pathway works to improve our understanding of the changing climate and how it will influence our lives. It aims to build our capacity through training and education programs; bring climate knowledge into decision-making; and create partnerships to plan for the changes that will happen in the decades to come.

A foundation of our approach is our ongoing commitment to partnering with Indigenous Nations. We will work to create a shared path to climate resilience in a manner that addresses the unique impacts to Indigenous territories and ways of life. We are also committed to working respectfully in partnership with Indigenous communities, organizations and peoples to find responses to climate change that address priorities identified by them.

No one government, community or organization can do climate adaptation alone. We need to coordinate our work and strengthen our relationships across all governments and the business community so we can meet these challenges together. Our strategy will need to include processes to bring climate knowledge into decision-making, and invest in targeted resources

including data, information, education and training that enhances everyone's capacity to meet these evolving challenges. We will pay close attention to regional differences and existing inequalities, as different communities and groups will experience the impacts of climate change, and actions to build resilience, differently.

A robust strategy to prepare for the impacts of climate change requires good data and science. The Province, Indigenous Nations, municipalities, regional districts, utility operators and academics already have networks in place to collect data on stream flow, water quality, snowpack, weather, fish stocks, wildlife and habitats across the province. We will expand these networks and use the data to better understand how the climate and ecosystems have changed, as well as develop models to explore how they are likely to change in the future.

ACTION HIGHLIGHTS FOR 2021-2022

- Work with Indigenous Nations and organizations to increase community resilience to climate change.
- Increase understanding of climate risks through improved data, monitoring and forecasting.
- Improve public understanding of wildfire threats and B.C.'s changing climate.

PROPOSED ACTIONS FOR 2022-25

Integrate the Changing Climate into Governance and Decision Making

Continue to bring the changing climate into relationships between the Province and Indigenous Nations. For example, by planning for a resilient future together through stewardship forums like the Marine Plan Partnerships initiative and a modernized approach to land use planning.
Work in partnership with Indigenous Nations and organizations to identify priorities and find responses to our changing climate grounded in Indigenous ways of knowing.
Improve and promote understanding of the disproportionate effects that climate change has on distinct human populations, including the potential for displacement, and integrate this knowledge into government initiatives, including climate risk assessments and adaptation plans.
Consider the changing climate in the B.C. government's relevant decisions including legislation, policy and program delivery across provincial ministries and sectors. This includes continuing to develop approaches to climate risk assessment that consider Indigenous experiences and values and can be applied in diverse contexts.

Explore Opportunities for Community-based Climate Resilience

Explore additional opportunities for Indigenous Nations, municipalities, regional districts and organizations to understand, monitor, manage and reduce climate risks. These will consider

the unique needs of rural, remote and Indigenous communities, including protection and inclusion of Indigenous knowledge.
Consider climate risks in existing infrastructure funding programs so that projects are more likely to perform reliably in a changing climate.

Expand Education on Climate Impacts and Adaptation

Expand climate resilience education by: • Developing learning resources for K-12 schools and other educational institutions to enhance student learning about important topics like our changing climate, adaptation, stewardship, and local Indigenous values and epistemologies (ways of knowing); • Continuing to develop learning resources, professional development materials and guidelines for practicing professionals on bringing the future climate and resilience principles into resource management, planning and engineering; and • Exploring opportunities to raise public awareness about B.C.'s changing climate.

Enhance Climate Data Monitoring and Forecasting

Expand provincial, Indigenous and local monitoring networks for stream flow, groundwater, snow, glaciated areas, agricultural areas, climate, ocean conditions, ocean acidification, and ecosystems.
Support the Pacific Climate Impacts Consortium, and other research and service organizations to expand their climate data, research, modeling and training services to meet local, regional and provincial needs. This includes services for provincial government agencies, Indigenous communities, public sector organizations, local governments, businesses and industry.
Enhance predictive services and early warning capacity, including the B.C. River Forecast Centre, to bring the future climate into forecasting floods, water scarcity, and wildfires.

Pathway 2: Enhance Community Climate Resilience

Communities across B.C. are directly affected by the impacts of climate change and are the first line of response to severe weather events and disasters. Communities play a critical role in applying policies and strategies to help prevent, reduce and manage climate risks as they work to strengthen community resilience and reduce losses.

As part of this pathway the Province will partner with Indigenous Nations and organizations as well as municipalities, regional districts and non-governmental organizations to identify opportunities to address and adapt to our changing climate. This includes taking action to reduce risks from heatwaves, flooding and wildfires, and enhancing the climate resilience of infrastructure that communities and our economy depend on. We will also work to advance food security, nature-based solutions, shared learning and mental health and wellness in our communities to help strengthen our resilience to the changes ahead.

UBCM Climate Resilience Recommendations

The Union of BC Municipalities (UBCM) provides a common voice for local governments. In 2020, their Special Committee on Climate Action released a set of recommendations to help build low-carbon and climate resilient communities The Province will continue to work with UBCM and local governments to better understand the tools and resources needed to address these recommendations, including developing resources that enable local governments to conduct risk assessments and develop related long-term

Gender Based Analysis Plus (GBA+)
GBA+ is an analytical tool for assessing how diverse groups of men, women and non-binary people may experience policies, programs and initiatives.

The Province uses GBA+ to inform all stages of the development, implementation and evaluation process for policy, legislation, programs and services.

Climate Change, Intersectionality and GBA+ in British Columbia is one example of work being done to better understand how diverse populations in B.C. are disproportionately impacted by climate change. This work helps ensure that actions to adapt to climate change result in better outcomes for all people in B.C.

While some of the 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 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. The Province is examining its role in supporting the development of information, tools, coordination and capacity to strengthen communities' ability to manage their risks from a changing climate.

Beyond this support, an equity-informed approach is also important to address the drivers of systemic inequality in order to support climate-resilient communities. For example, research shows that housing is a key determinant for how people are impacted by climate-related events such as heatwaves, floods or wildfires. If an individual is already housing insecure, they will be at greater risk of being impacted and will often face significant challenges recovering and adapting to future events. These heightened risks apply more generally to those living in poverty.

ACTION HIGHLIGHTS FOR 2021-2022

- Conduct initial work on a B.C. Flood Strategy in collaboration with other levels of government.
- Expand community planning and disaster risk management through enhanced use of climate data.
- Improve the provincial response to extreme heat and wildfire smoke for unhoused and housing insecure populations.
- Increase understanding of climate impacts on health infrastructure.
- Broaden the Province's understanding of food security within the context of a changing climate.

PROPOSED ACTIONS FOR 2022-2025

Support Resilient Community Planning and Disaster Risk Management

Build climate resilience into community planning, disaster risk management and recovery by making data accessible, developing new tools and guidance, and ensuring equity is addressed.
Release and implement a B.C. Flood Strategy that could include such actions as working with other levels of government to establish a provincial floodplain mapping program that will inform and modernize flood management in a changing climate.
Partner with Indigenous and non-Indigenous communities to expand the use of cultural and prescribed burning to reduce wildfire risks, create resilient natural ecosystems and preserve cultural practices.

Strengthen Individual and Community Health and Wellness

Support B.C. Housing to lead development of a provincial extreme heat and wildfire smoke response plan for populations disproportionately impacted by climate change.
Promote the resilience of families and communities to the health and social impacts of climate change through collaborative partnerships.
Respond to food security needs in a changing climate based on what was heard through engagement with Indigenous and community partners.

Facilitate Collaboration and Shared Learning

Facilitate collaborative, multi-partner approaches to climate change and disaster planning initiatives at a regional level. This could include providing regional coordinators and technical support.
Work with an Indigenous organization to develop a community learning network for Indigenous communities and organizations to share approaches that enhance climate resilience. This could include regional Indigenous climate adaptation coordinators.
Establish a community climate resilience program with Indigenous communities, friendship centres, local governments and non-profit organizations that is place-based, equity-informed, and youth driven.

Pathway 3: Foster Resilient Species and Ecosystems in a Changing Climate

B.C. 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. Healthy, resilient ecosystems provide food and medicines, clean air and clean water, and contribute to our emotional well-being. They 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 and its impacts.

While ecosystems have always had to adapt, the projected speed and scale of future climate change threatens to exceed the natural ability of many ecosystems to keep up, as we are seeing with the Mountain Pine Beetle and ocean acidification. Coupled with increasing human activity and pressures on the oceans and land base, climate change is creating unprecedented challenges for our ecosystems.

To address these challenges, the Province will work with Indigenous nations, including Indigenous knowledge holders, and others to ensure our landscapes and ecosystems in B.C. are managed to promote resilience and connectivity, helping species and their habitats to adapt and change with the changing climate. We will also work to strengthen the resilience of our marine environment and enhance B.C.'s watershed security.

Already some land and water species are shifting their home ranges in areas like the Peace region and the most southern parts of B.C., where people on the land are starting to see new ecosystems emerge. Climate change is also creating more openings for invasive species that displace native plants and animals and can harm entire ecosystems.

"We take care of the land and it takes care of us" – Indigenous engagement participant.

Internationally, research shows that lands controlled and managed by Indigenous peoples can have higher biodiversity than protected areas . Stewardship, when approached collaboratively and bringing Indigenous knowledge systems and Western science together can create resilient systems that continue to support abundant diversity and values.

Existing stewardship initiatives and policies can be updated to consider a changing climate and apply an adaptation lens. This includes prioritizing landscapes that can withstand changing climate conditions and enhancing connections or "corridors" between healthy habitats and ecosystems to support these natural processes as much as possible. This pathway presents ways for us to better understand the climate impacts for key species, habitat, and protected areas to support ecological and cultural processes of adaptation. This includes using practices like cultural and prescribed burning to establish a healthy relationship between fire and forest ecosystems. B.C. and Canada have also recently launched the development of a new Nature Agreement to strengthen conservation province-wide, and are committed to working with

Indigenous peoples on these efforts. This includes exploring new ways to protect and restore habitat and strengthen ecosystem resilience to climate change.

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. B.C. is already a founding member of the International Alliance to Combat Ocean Acidification, which works to increase awareness, understanding and action on ocean acidification and other climate-related changes in ocean conditions. The Province intends to develop an ocean acidification plan in the coming years to further address the impacts of changing ocean conditions on communities, marine ecosystems, and the economy.

We also need to take a long-term approach that finds ways to balance the changing availability and distribution of water with the needs of human activity and ecosystems. To address this, the Province is looking at developing new planning initiatives could help secure our water supplies, now and for generations to come.

Protected Areas as Living Labs
B.C. Park's Living Lab Program promotes B.C.'s protected areas as places to learn about the effects of climate change and how to manage for them. Working in partnership with B.C. academic institutions, including collaboration with the broader conservation community, Indigenous communities and knowledge holders, this research considers such things as how connectivity between parks can build resilience for species and ecosystems as the climate changes, and informs decision making on adaptative actions that can be taken both inside and outside parks.

ACTION HIGHLIGHTS FOR 2021-2022

- Identify opportunities for using nature-based solutions for climate adaptation and GHG reductions, in collaboration with partners.
- Assess climate risks and vulnerabilities to B.C. fisheries and aquaculture.
- Conduct initial work on a watershed security strategy and assess risks to water quality from contaminated sites under future climates.
- Improve understanding of climate impacts on BC Parks' infrastructure and operations.

PROPOSED ACTIONS FOR 2022-25

Enhance Watershed Security and Strengthen Marine Resilience

Create a Watershed Security Strategy and begin development of an associated fund to help improve the health of B.C.'s watersheds.

Develop an ocean acidification action plan, including research and partnerships to support marine resilience, healthy ecosystems and communities.
Work with partners to pilot the development of water supply and demand management plans for priority watersheds where climate change is likely to result in greater water scarcity.

Enhance Tools and Approaches for Managing Ecosystems, Parks and Protected Areas

Develop and implement tools and approaches for integrating climate change knowledge into the assessment, stewardship and management of species, ecosystems, and natural resources. This includes working with Indigenous communities and knowledge holders; identifying, protecting and restoring areas important for maintaining species at risk and biodiversity in a changing climate; and monitoring and managing invasive species.
Through the Together for Wildlife strategy, complete a review of land designations under the *Land Act, Wildlife Act, Oil and Gas Activities Act*, and *Forest and Range Practices Act* that contribute to conservation in light of climate change impacts and habitat alterations.
Explore climate change resilience in policy and management options informed by the independent panel report "A New Future for Old Forests."
Promote and enhance the use of nature-based solutions for strengthening community and ecosystem resilience and managing climate-related hazards, such as extreme heat and flooding.
Explore ways to protect and preserve cultural heritage in a changing climate, including working with the First Peoples' Cultural Council on a program to better understand climate change impacts on Indigenous cultural heritage resources.
Understand and address climate impacts to parks and protected areas including on cultural heritage sites, trails, campgrounds and infrastructure.

Pathway 4: Advance a Climate-Ready Economy and Infrastructure

Climate change has significant impacts on B.C.'s business and industrial sectors, as well as the infrastructure we all rely on – from roads and bridges to communication and energy systems to schools and hospitals. In some sectors, such as agriculture and forestry, work has been happening for several decades to anticipate and adapt to a changing climate, while for other sectors this is a newer consideration.

Planning and preparing for a changing climate is not only smart business, but helps ensure we have a healthy, innovative and resilient economy in the future. This pathway helps to ensure that B.C. business and industry can address the risks of climate change, while also helping to maintain a resilient workforce and build food security in a changing climate. We are putting in place training and programs to make our buildings, highways and other infrastructure ready for extreme weather - and moving forward with climate-proofing our schools, hospitals and other public sector buildings to make sure they're ready when we need them most.

B.C.'s economy relies on natural resources, which account for a significant proportion of the province's economic base. Forestry and forest products alone account for 33% of our international exports. We are already seeing disruptions to local economies and workers in some parts of B.C. This is especially evident where climate change has contributed to closures of forestry operations through a combination of recent extreme wildfire seasons and the longer-term impacts of Mountain Pine Beetle. As we look at ways to prepare and adapt to the changing climate, we need to ensure that workers and others who are impacted are supported.

To help maintain a healthy, resilient economy in all parts of B.C., we need to proactively include climate impacts and information in business decisions and the way we build infrastructure. This will allow us to significantly reduce some risks, while enhancing our readiness and capacity to deal with those risks we can't avoid. It will also allow us to take advantage of changes in climate for new business opportunities. The finance, investment, and insurance sectors also have a role to play in supporting businesses to identify and disclose climate-related risks, providing greater certainty and security for investors. And we need to provide resources to small and medium businesses to prepare for the changing climate.

Building Resilience in Agriculture

The Climate & Agriculture Initiative BC (CAI) works with the agriculture and research sectors, as well as all levels of government, to increase the resilience of B.C. agriculture to the impacts of climate change such as wildfire, drought, flooding, and pests.

Delivering the B.C. Ministry of Agriculture, Food and Fisheries' climate adaptation programs, CAI works with partners to develop and implement regional adaptation plans in key agricultural areas of the province, as well as demonstrate and evaluate adaptation practices on B.C. farms and ranches.

Pull out Quote:

"Over the past five decades, the costs of weather-related disasters like floods, storms, and wildfires have risen from tens of millions of dollars to billions of dollars annually in Canada. Insured losses for catastrophic weather events totaled over $18 billion between 2010 and 2019, and the number of catastrophic events was over three times higher than in the 1980s."

– Canadian Institute for Climate Choices[6]

The Province has heard how climate change is already affecting the livelihoods of Indigenous peoples, including both cash and subsistence economies. For example, wildfire is restricting the potential for forestry and is impacting tourism. Rising water temperatures are affecting commercial and subsistence fisheries. And traditional foods and medicines are becoming more difficult to access as timing, health and abundance of species changes. With this strategy, we will work with Indigenous enterprises to identify climate risks and develop tools to respond.

We are also taking steps to make climate resilience the new "business as usual" for B.C.'s public sector. This will help to protect the health and safety of the two million people who work, learn and visit public sector buildings each year, increase the longevity of our public sector assets, and ensure that quality services are maintained in a changing climate. This approach provides leadership to support broader market transformation towards climate resilient buildings in B.C.

Climate Resilience Guidelines for BC Health Facility Planning & Design

B.C.'s health authorities collaborated with building experts to develop overarching guidelines that support building climate resilient health facilities across the province. The guidelines amplify and accelerate their ongoing work to reduce climate risks, build resilience at the site and community levels, and meet greenhouse gas emissions reduction targets. These guidelines provide practical advice on integrating climate science and climate risk assessments to support the multidisciplinary teams responsible for planning and designing health facilities in B.C.

[6] Canadian Institute for Climate Choices, 2020. *Tip of the Iceberg: Navigating the Known and Unknown Costs of Climate Change for Canada*, p. iii.

ACTION HIGHLIGHTS FOR 2021-2022

- Promote reliable transportation networks by assessing climate impacts on vulnerable highway culverts and resource roads.
- Improve the Province's understanding of agricultural water infrastructure and climate risks to mining and energy industries.
- Advance use of the Climate Change Informed Species Selection Tool by decision makers in the forest sector.
- Expand the Province's understanding of climate risks to coastal communities and economies to inform a provincial coastal strategy.
- Promote a climate-ready public sector through assessing climate risks on government buildings.

PROPOSED ACTIONS FOR 2022-25

Increase the Resilience of our Buildings and Infrastructure

Strengthen the climate resilience of our transportation infrastructure to better prepare for extreme weather and ensure community and business lifelines are reliable in the changing climate.

Explore opportunities to increase resilience of buildings in B.C. which could include:
• Working with the National Research Council to develop and adopt building codes that include future climate design factors, such as the BC Energy Step Code;
• Providing training to the public sector and building industry on the use of future climate information to support market transformation; and
• Creating a climate resilient public sector buildings policy that could include:
  ○ assessing current and future climate risks to public sector buildings
  ○ requiring future climate be considered in capital planning
  ○ demonstrating and sharing best practices among public sector organizations on climate resilient buildings.

Explore integrating resilience considerations with existing and proposed energy efficiency programs for buildings.

Support Business and Industry to Respond to Climate Risks

Collaborate with business and industry, including Indigenous enterprises, tourism, small businesses, industry sectors and labour organizations, to identify climate risks and develop tools to respond. This includes supporting the private sector to adopt climate risk assessment and adaptation practices and supporting workers and employers to create a climate-resilient workforce and jobs.

Continue to work with farmers and the agriculture sector to strengthen resilience to climate risks. This includes assessing climate-related risks to food supply security and promoting innovative solutions, such as supporting water infrastructure and on-farm adaptation.
Continue to support a resilient forest economy through integration of climate change mitigation and adaptation measures such as climate change-informed tree species selection and management, stand and landscape management, and harvesting strategies.

3. Measuring and Reporting our Progress

We are acting now to help ensure that B.C. is prepared for the climate of the future. We also recognize that building climate resilience through adaptation is an ongoing process that takes place over years and decades. As we learn from experience here in B.C. and in other jurisdictions, we will adjust course as needed to ensure our actions are as effective as possible.

To support this intention and keep us on track, the Province's Climate Change Accountability Act requires annual reporting on actions taken, expected outcomes and future plans. The Climate Action Secretariat will continue to report on provincial actions to manage climate change risks in the Minister of Environment and Climate Change Strategy's annual Climate Change Accountability Report. To ensure that the people of B.C. have access to current information, the annual report will include the most recent information on climate change risks. In addition, a comprehensive assessment of climate risks will be undertaken every five years. Putting the accountability framework into law means that future governments will also be accountable for managing climate risks.

We will be developing a monitoring and evaluation framework over the coming year with our partners including Indigenous Nations and organizations, municipalities, and regional districts. The Province will also work with public sector organizations, such as school districts and health authorities to build and implement requirements for reporting on climate risk. This will support the Province in accurately reporting on known climate risks, actions to manage climate risks, and public sector progress to prepare for a changing climate.

Together, these measures will keep us open and transparent about the effectiveness of our actions and areas where more focus is needed, holding government accountable for the commitments we make now and in the future.

APPENDICES

Appendix 1 - Summary of Proposed Actions for 2022-2025

Climate Preparedness and Adaptation Strategy

Draft Strategy and Phase 1 Actions for 2021-2022

BRITISH COLUMBIA | cleanBC

our nature. our power. our future.

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

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MESSAGE FROM THE MINISTER

People in British Columbia have increasing, direct and local knowledge of climate change impacts. Many of us have been affected by record forest fires, extreme droughts and dangerous flooding in our communities. We have seen the effects on our homes, livelihoods, physical health and mental wellbeing. It's why we need to work together to build a better future so that everyone and every community has the supports they need to be resilient in the face of new climate-related risks.

We know that investing in this future now makes good financial sense, reducing costs in the long run and substantially improving outcomes for everyone. Developing a comprehensive plan to prepare and adapt to climate change will require learning from one another, considering a range of perspectives, and finding strength in diversity to ensure our responses are fair and effective.

That is exactly what we set out to do with B.C.'s Climate Preparedness and Adaptation Strategy. It is a plan that has benefitted from the substantial input and expertise of people, communities, businesses, organizations, and institutions from across the province – all providing important insights that will strengthen our response to climate change.

Indigenous peoples, in particular, have been central partners in developing the strategy. Climate change is already having a profound impact on Indigenous peoples' relationships with the land, air and water, including by changing the availability of traditional foods and medicines like salmon, moose, berries, cedar and many others. Many Indigenous communities are doing critical work to address the challenges of food security, wildfire and flood mitigation, species protection and energy resilience. Upholding rich and diverse Indigenous knowledge systems is critical to building resilience together.

We're committed to continuing our partnership with Indigenous peoples, in line with the *B.C. Declaration on the Rights of Indigenous Peoples Act*, to improve our responses to climate change.

The Climate Preparedness and Adaptation Strategy details actions that we are taking in 2021. It also includes a list of potential actions for which we are seeking public input, that could be implemented starting in 2022 and in the three years following. This feedback will be valuable to the strategy and I encourage everyone to take the time to provide comments.

The actions included here build on the significant commitments already underway – from investments to reduce wildfires and flooding risks and impacts in our communities to supports for better science and risk assessments. StrongerBC alone is investing $90 million to help B.C. prepare for a changing climate while supporting jobs for people affected by the COVID-19 downturn.

We recognize this challenge can't be addressed all at once. It will take many years of work from governments, businesses, and all corners of society to be truly prepared for the changes ahead. But it is critical that we increase our ambition now and work together to address this challenge head on. It's a tall order that requires leadership and collaboration but we know it's necessary, and we're ready to get to work.

George Heyman
Minister of Environment and Climate Change Strategy

MESSAGE FROM B.C.'S PROVINCIAL HEALTH OFFICER

Our physical, social, economic and mental health and well-being are inextricably connected to our climate. Life on earth is dependent on a healthy environment and is sustained by a complex and delicate balance of interactions between the environment, the fauna and flora, and people. Climate change has started to alter that balance.

Clean air, safe water, sufficient and safe food, access to care and certainty knowing that our communities and homes are safe from extreme weather events, extreme temperatures, or water shortages, to name a few: this is what is required for healthy thriving communities and healthy, productive and happy people.

We can now look back and clearly witness the current climate trajectory and are better equipped to understand key factors behind these changes, and the measures needed to modify that trajectory. It is imperative that we think beyond next month or next year, and work to actively shape a brighter, more sustainable and resilient future for all of us.

Dr. Bonnie Henry
Provincial Health Officer of British Columbia

EXECUTIVE SUMMARY

Throughout B.C., people are experiencing the effects of climate change – from increasing wildfires, changes to ecosystems and loss of species to more frequent flooding, longer summer droughts and heatwaves.

Preparing for climate change means improving our ability to anticipate, respond to and recover from extreme weather events and emergencies, as well as dealing with more gradual changes like water shortages, changes in growing seasons and sea level rise. It involves building our capacity to reduce and manage risks from climate change to protect our buildings and infrastructure, restore habitat and strengthen ecosystems, maintain community health and wellbeing, decrease costs associated with climate impacts and ensure B.C.'s economy continues to thrive.

While extreme weather events often garner the most attention, the climate influences everything – from the types of plants and animals that make up an ecosystem, to the temperature in our homes and the kind of foods we can grow, to the design of our sewers and roads. The relative stability of our climate has also been a critical part of maintaining the biodiversity and resilience of ecosystems.

For centuries, the climate has changed at a pace slow enough to allow people, species and landscapes to change along with it. Governments, engineers and others have used the assumption that historical weather patterns will continue in the future to design our buildings and infrastructure, manage natural resources, plan communities, and deliver services. But today that assumption is no longer true. The climate is changing, the impacts are significant, and we need to be ready for the climate of the future.

Our response to the COVID-19 pandemic has shown the value of acting early at a scale that matches the potential risk. Similarly, by planning and taking action now, we can help ensure that people will have the support they need to stay safe and respond effectively in a changing climate. That's why the Province committed $90 million for climate preparedness and adaptation in B.C.'s economic recovery plan, called StrongerBC, including investments to reduce wildfire risk, improve roads and highways, conserve wetlands and ecosystems, and support adaptation on farms. These investments build on the substantial work that is already underway to help B.C. prepare for climate change and provide good jobs for people across the province.

The draft Climate Preparedness and Adaptation Strategy is our next step in this direction and is an important part of our CleanBC plan. It builds on work already underway across several ministries and the 2019 Preliminary Strategic Climate Risk Assessment, which examined some of the greatest risks to B.C. as a result of climate change. Informed by the assessment, the strategy outlines actions needed to prepare for these risks.

The strategy highlights our overall direction and the actions we're taking in 2021-22 to help prepare B.C. for the impacts of climate change. It also presents a suite of proposed actions for 2022-25, which are open for public comment. Taking this two-step approach allows us to get to work on actions that are needed now, while continuing to engage on and refine actions for the future. It also allows the Province to align our climate adaptation actions with the federal government as they work toward developing a national climate adaptation plan.

SHARE YOU THOUGHTS
on proposed actions for 2022-25

Email your comments to:
ClimateReadyBC@gov.bc.ca

For more information visit:
engage.gov.bc.ca/climatereadybc

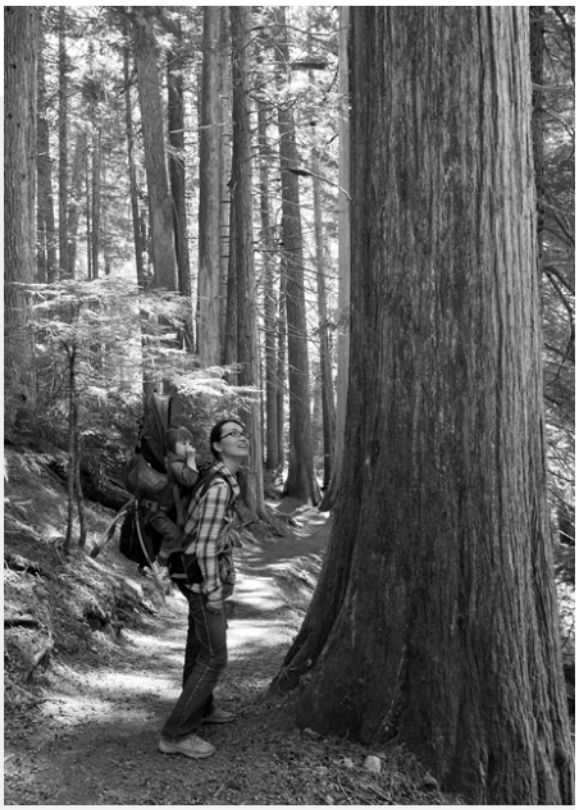
The comment period will be open until August 12, 2021.

Actions in the strategy are grouped into four key pathways:

- Strengthen foundations for success, including expanding data, monitoring, education and partnerships;
- Enhance community climate resilience;
- Foster resilience of species and ecosystems in a changing climate; and
- Advance a climate-ready economy and infrastructure.

In 2021-22 we are moving forward with a range of initiatives such as:

- Increasing understanding of climate risks through improved data, monitoring and forecasting;
- Conducting initial work on a B.C. Flood Strategy in collaboration with other levels of government;
- Improving the provincial response to extreme heat and wildfire smoke for unhoused and housing insecure populations;
- Identifying opportunities for using nature-based solutions for climate adaptation and greenhouse gas emissions reductions; and
- Promoting reliable transportation networks by assessing climate impacts on vulnerable highway culverts and resource roads.



In addition, we are inviting the public to provide input on a set of proposed actions for 2022-25. The comment period will be open until August 12, 2021. Input will be used to finalize actions and inform the next phase of the strategy starting in 2022.

Please email your comments to ClimateReadyBC@gov.bc.ca or visit engage.gov.bc.ca/climatereadybc for more information.

The actions in this strategy were developed together with people and organizations throughout B.C., including Indigenous Nations, communities and organizations, and builds on the extensive climate adaptation work done to date. The strategy is also based on a set of guiding principles that help ensure we are taking into consideration existing social conditions and challenges as we prepare for climate change.

All actions will be coordinated with other government priorities to ensure we use resources wisely. The Province is committed to being transparent, accountable, and fiscally responsible as we work together to build resilience to the changes to come.

Taking a whole-of-society approach, this strategy aims to protect people in B.C. from the threats posed by a changing climate while also caring for the ecosystems we all depend on.

ACTION HIGHLIGHTS FOR 2021-2022

PATHWAY	ACTIONS
Strengthen foundations –data, monitoring, education and partnerships	▪ Work with Indigenous Nations and organizations to increase community resilience to climate change ▪ Increase understanding of climate risks through improved data, monitoring and forecasting ▪ Improve public understanding of wildfire threats and B.C.'s changing climate
Enhance community climate resilience	▪ Conduct initial work on a B.C. Flood Strategy in collaboration with other levels of government ▪ Expand community planning and disaster risk management through enhanced use of climate data ▪ Improve the provincial response to extreme heat and wildfire smoke for unhoused and housing insecure populations ▪ Increase understanding of climate impacts on health infrastructure ▪ Broaden the Province's understanding of food security within the context of a changing climate
Foster resilience of species and ecosystems in a changing climate	▪ Identify opportunities for using nature-based solutions for climate adaptation and greenhouse gas reductions, in collaboration with partners ▪ Assess climate risks and vulnerabilities to B.C. fisheries and aquaculture ▪ Conduct initial work on a watershed security strategy and assess risks to water quality from contaminated sites under future climates ▪ Improve understanding of climate impacts on BC Parks' infrastructure and operations
Advance a climate-ready economy and infrastructure	▪ Promote reliable transportation networks by assessing climate impacts on vulnerable highway culverts and resource roads ▪ Improve the Province's understanding of agricultural water infrastructure and climate risks to mining and energy industries ▪ Enhance use of the Climate Change Informed Species Selection Tool by decision makers in the forest sector ▪ Expand the Province's understanding of climate risks to coastal communities and economies ▪ Promote a climate-ready public sector through assessing climate risks on government buildings

VISION

B.C. is a climate resilient society prepared for, and adapting to, 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

Image: Alderhill Planning Inc.

DRAFT GUIDING PRINCIPLES

The following six principles have guided our choice of actions in the draft strategy and will continue to inform our work going forward. The principles were developed with input from people across B.C.

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 a just approach that integrates equity considerations into climate adaptation responses.

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 and provide comment, please visit: engage.gov.bc.ca/climatereadybc.

1. INTRODUCTION: BUILDING A CLIMATE READY B.C.

The changes in climate we are experiencing today are driven by higher levels of greenhouse gases in the atmosphere, resulting from many decades of activities such as burning fossil fuels and clearing land. 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. The actions in this draft strategy strengthen our capacity to anticipate and respond to sudden events like wildfires, floods and heatwaves, while also helping us to respond to changes that happen more slowly like loss of habitat and rising sea levels. By planning ahead and acting early, we can be ready for the challenges and new possibilities the changing climate may bring.

Many in B.C. remember the summer of 2018 when much of the province was blanketed in smoke as a result of nearly 600 wildfires. Reports of medical issues climbed as air quality advisories persisted, in some areas for more than 40 days. Thousands were forced to evacuate, while thousands more were put on alert to leave at a moment's notice. This was the worst wildfire season on record, surpassing the previous record set in 2017.

While the province has always had events like wildfires, floods and droughts, climate change will continue to make them worse. That's why preparing now for a changing climate is so important to help protect us from future shocks and strengthen the resilience of our communities, ecosystems and economy.

There is also a strong business case for preparing for climate change. A 2019 report from the Global Commission on Adaptation notes that every dollar spent on measures to prepare for climate impacts results in savings of 2 to 10 dollars in the future.[1]

We all have a role to play and by working together, we can reduce and manage the risks from climate change, while also finding opportunities in the changes ahead.

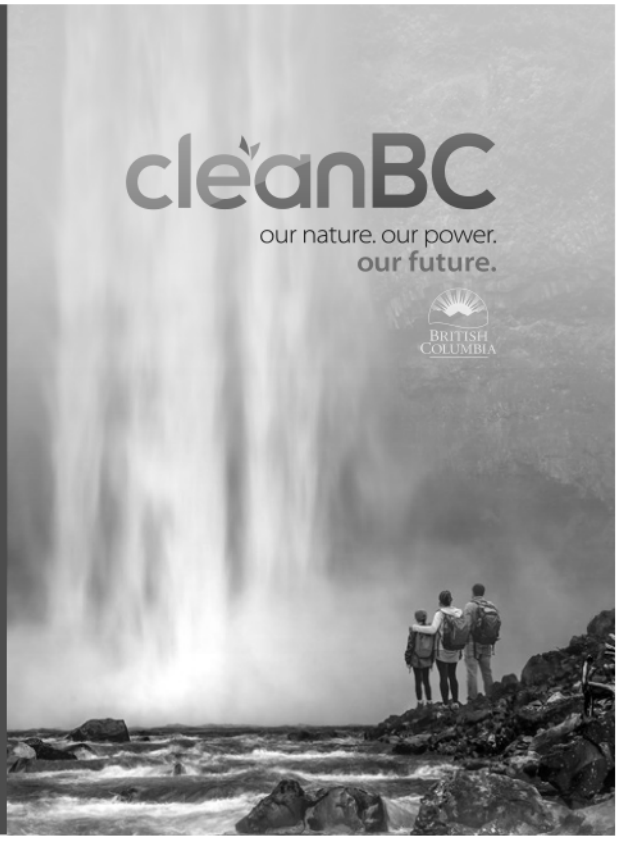
1 Global Commission on Adaptation, 2019. Adapt now: a global call for leadership on climate resilience. gca.org/reports/adapt-now-a-global-call-for-leadership-on-climate-resilience.

Across B.C., many Indigenous Nations, municipalities, regional districts, public sector organizations, industries and businesses have already developed climate adaptation plans, while others are initiating research and projects to prepare for our changing climate. Together, these groups are working to ensure our communities and economy are ready for changes that are expected in the coming years and decades.

The Province is committed to advancing climate adaptation by partnering with Indigenous Nations and organizations, and collaborating with local governments and other groups, to support their efforts to prepare for climate change. We will continue to support development of climate knowledge and work with partners to advance adaptation in B.C. through planning, research and capacity building, as well as by making training and resources on adaptation available and accessible. We will move forward with a range of initiatives including conducting initial work on a flood strategy, strengthening transportation infrastructure, promoting water security, developing an ocean acidification plan and addressing climate risks in health services.

The Province's CleanBC plan provides a pathway to reduce our greenhouse gas emissions and build a cleaner future for everyone in B.C. But reducing emissions is only part of addressing climate change.

The Climate Preparedness and Adaptation Strategy addresses the need to prepare for, respond to and recover from the unavoidable impacts of climate change – like record-breaking wildfires and heat waves, extended droughts, floods, loss of biodiversity and habitat, ocean acidification and rising sea levels. This is because elevated levels of greenhouse gases already in the atmosphere will continue to cause changes for many years to come.



Partnering with Indigenous peoples

Indigenous peoples are essential partners in adapting to climate change. 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.

The Province has engaged with Indigenous Nations, 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 Province has been working with the Indigenous Climate Adaptation Technical Working Group, the B.C. First Nations Leadership Council Technical Working Group on Climate Change and other Indigenous organizations.

We will continue to work closely with Indigenous peoples to strengthen our engagement processes and deepen our partnerships as we prepare for a changing climate. Nothing less will enable a truly effective response to the challenges we face together.

The Province has committed to the implementation of the United Nations Declaration on the Rights of Indigenous Peoples (the UN Declaration). The Province's *Declaration on the Rights of Indigenous Peoples Act* contributes to that implementation by requiring the B.C. government to take all measures necessary to ensure BC 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.

A number of the articles of the UN Declaration are especially relevant to this strategy, including 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 which 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.

Building on Our Progress

This draft strategy builds on over a decade of work within government and across communities to prepare the province for a changing climate. It draws on lessons learned from past experience, and reports such as the independent review of flooding and wildfire in 2017 by Chief Maureen Chapman and George Abbott. It is also a direct response to the 2018 Auditor General of B.C. report, which recommended that the B.C. government complete a province-wide climate risk assessment and develop a more comprehensive adaptation strategy.

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. Findings suggest that of those risks assessed, the greatest risks to B.C. are severe wildfire, seasonal water shortage, heat wave, ocean acidification, glacier mass loss and long-term water shortage events. Other risks with significant consequences include severe river flooding and severe coastal storm surge. All of these risks would result in significant and costly impacts for B.C.

The preliminary risk assessment is based on scientific studies and the contributions of experts across provincial ministries and outside of government. It relies on a Western knowledge approach and is intended for use at a provincial scale.[2] As a high-level assessment, it does not examine risks at local or regional scales or within specific sectors. Through continuing work, the Province is exploring options to build more inclusive approaches to assess and manage climate risks. This includes balancing Indigenous values and knowledge with Western approaches, ensuring an equity lens is applied to the process, supporting community-led risk assessments and adapting the process for different contexts.

> The Province is currently modernizing its emergency management legislation to help B.C. reduce, prepare for, respond to and recover from new and growing risks such as COVID-19 and climate-related hazards, and better meet society's changing needs. In October 2018, B.C. took a major step to become the first Canadian province to adopt the Sendai Framework, a set of international best practices for disaster risk reduction. This international framework recognizes that climate change increases the frequency and severity of disasters, and that both emergencies and gradual changes, like sea-level rise, must be addressed through up-front risk reduction. The new Act will formally align B.C. with this leading-edge approach, and will reflect the B.C. Declaration on the Rights of Indigenous Peoples Act, as well as lessons learned from the COVID-19 pandemic and recent flood and wildfire seasons.

2 Western knowledge is based on a European worldview and has been the foundation for current Canadian and provincial legislation, policy, regulation and institutions (Kapell, 2019)

Image: Tina Neale

The actions proposed in the Climate Preparedness and Adaptation Strategy will expand on a number of existing programs and initiatives to prepare for climate change across government, such as:

- The Community Resiliency Investment Program, introduced in 2018, which provides $60 million to assist Indigenous communities and local governments to reduce local wildfire threats through FireSmart disciplines and Crown Land Wildfire Risk Reduction;
- A robust Cultural and Prescribed Fire program to promote healthy forests and reduce wildfire risk;
- Investments in wildfire risk reduction, reforestation, forest rehabilitation, and other efforts through the Forest Enhancement Society of B.C. and Forest Carbon Initiative;
- Investments of more than $103 million in 248 flood risk reduction projects across the province through Emergency Management B.C. including the Community Emergency Preparedness Fund, which helps local governments and First Nations build resilience in response to emergencies, as well as joint investments with the federal government for the Adaptation, Resilience and Disaster Mitigation program, and the National Disaster Mitigation Program;
- The Climate & Agriculture Initiative BC, which supports the development of regional agricultural climate adaptation plans;
- Guidance on sea dike design and coastal development to help coastal communities prepare for future sea-level rise, developing a B.C. Flood Strategy and modernizing the emergency management legislation;
- Requirements that future climate be incorporated into the design of transportation infrastructure, such as roads and bridges;
- Working with partners like the Pacific Climate Impacts Consortium and UBC's ClimateBC to make climate information and tools more widely accessible; and
- Master of Disaster, a free classroom program for grades 4 to 8 that teaches about hazards in B.C., including floods, wildfires and severe weather and how climate change is influencing their severity and frequency.

The strategy also builds on investment from B.C.'s COVID-19 economic recovery plan, including $90 million to help B.C. prepare for climate change. This includes investments to:

- Conserve wetlands and ecosystems to protect our natural spaces and build nature-based climate solutions, while also creating more than 1,000 jobs for people in hard-hit sectors such as tourism and hospitality;
- Support upgrades to provincial highways and roads to make them more resilient to increased flooding from climate change;
- Reduce the risk of wildfires on Crown land and create more than 500 jobs in rural communities, with funding initiatives including the FireSmart Economic Recovery Fund, BC Community Forest Association, Columbia Basin Trust, among others; and
- Help farmers by boosting support for the Beneficial Management Practices Program that encourages farm practices that protect the air, land and water and prepare for the impacts of climate change.

More examples of work already underway to develop climate resilience across the province can be found on B.C.'s climate preparedness and adaptation website.

The draft Climate Preparedness and Adaptation Strategy builds on these investments, starting with investments in 2021 to begin scoping studies, pilot projects and high-priority research that will strengthen the Province's ability to prepare and adapt to climate risks. The strategy also outlines proposed actions for 2022-25 covering areas including data, education and partnerships, resilient communities and ecosystems, and climate-ready economy and infrastructure.


Image: McKeown Miyoko

Public Engagement

The public is invited to comment on the proposed actions for 2022-25. The comment period will be open until August 12, 2021. We will use the feedback to finalize actions and inform the next phase of the strategy.

Please email your comments to ClimateReadyBC@gov.bc.ca or visit engage.gov.bc.ca/climatereadybc for more information.

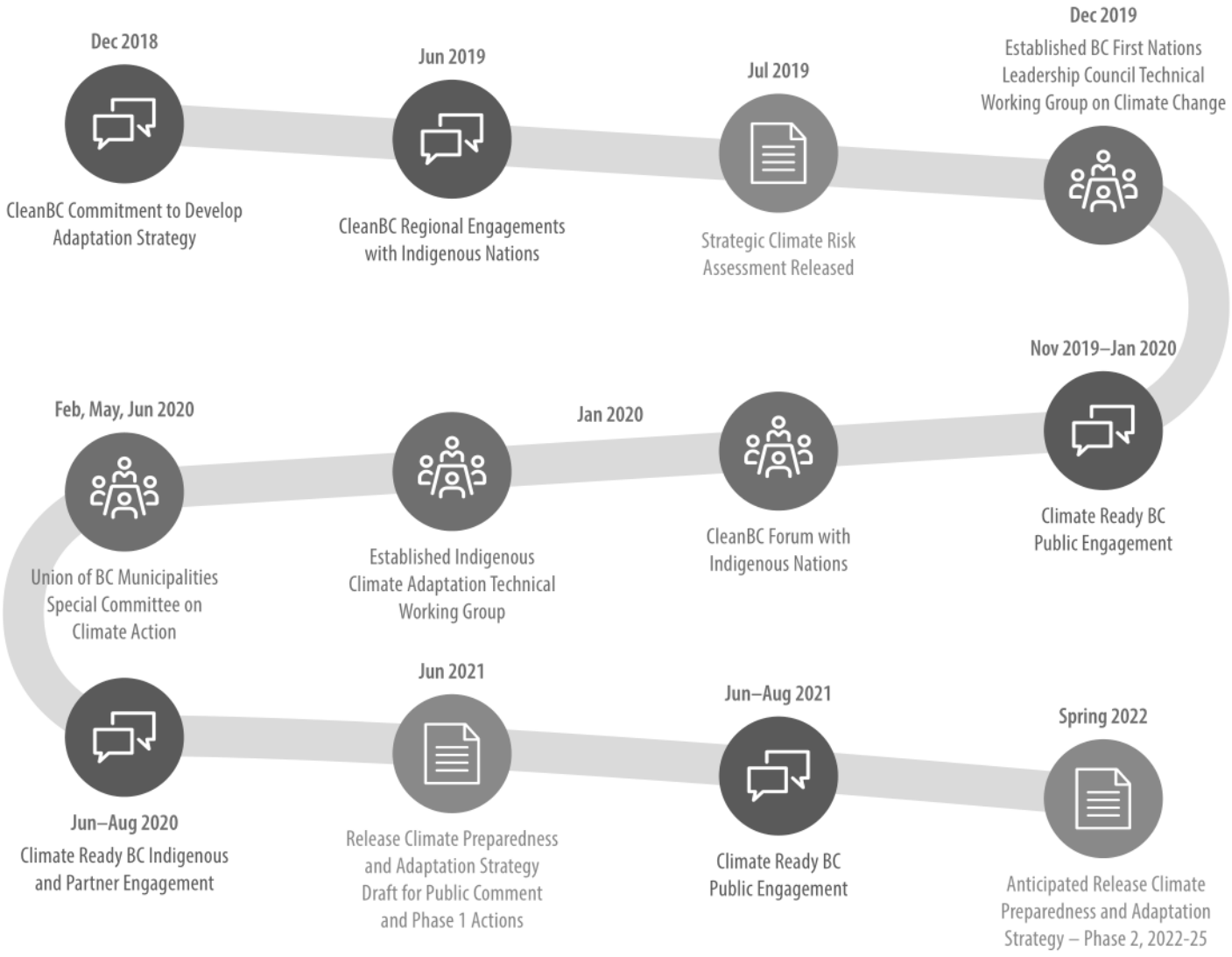
Actions will be phased in over time and aligned with economic recovery from COVID-19 and other priorities to ensure that we use resources wisely. The Province is committed to being transparent, accountable, and fiscally responsible as we work together to build resilience to the changes to come. Under the *Climate Change Accountability Act*, the government is required to produce an annual report that includes information on progress and spending on actions to date as well as future planned actions to achieve B.C.'s carbon emissions targets and prepare for climate impacts. The legislation also requires the most current information on climate risks to be shared every year and a new assessment of climate risks to be done every five years to inform ongoing action.

The draft Climate Preparedness and Adaptation Strategy was developed through a broad approach to engagement, so that it would be well-informed by the experiences and aspirations of a diverse cross-section of communities, sectors and populations in B.C. Between spring 2019 and summer 2020, the Province held regional engagement sessions with Indigenous Nations and organizations as well as one-on-one meetings with Indigenous Nations and other partners. The Province also worked closely with two Indigenous advisory groups, the Indigenous Climate Adaptation Technical Working Group and the B.C. First Nation Leaders Council Technical Working Group on Climate Change. We conducted virtual workshops with Indigenous peoples and many other partners including local government, industry, academia, labour, youth and non-governmental organizations. We also conducted online public engagement including a series of discussion forums and two rounds of surveys in addition to written submissions.

To learn more about the engagement process and read summary reports of what we heard, please visit: engage.gov.bc.ca/climatereadybc.

Image: Ian Reid

TIMELINE FOR CLIMATE PREPAREDNESS AND ADAPTATION STRATEGY ENGAGEMENT AND DEVELOPMENT



We listened, and have been guided by these key themes and issues in developing the strategy and actions:

- Equity
- Indigenous Partnerships and Knowledge
- Collaboration
- Education
- Data and Monitoring
- Call to Action
- Mental Health
- Youth Voices
- Nature-Based Solutions

Understanding B.C.'s Changing Climate

"Indigenous Peoples have a proven expertise that spans millennia. Our knowledge and relationships connected to our Ancestral homelands, passed from generation to generation through songs, ceremony, lived experiences, and Ancestral tellings ensured the sustainable and long-term well-being of our homelands and All Our Relations who live in them."

– Sunny LeBourdais, Secwepemc Nation

Across B.C., we've heard from people who have witnessed significant changes in their lifetimes – from hotter summers with increased wildfire smoke and warmer, wetter winters to changes in the timing of berries ripening, animals migrating and the decline of certain tree species, including culturally important trees like western red cedar.

Image: Alderhill Planning Inc.

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. Their distinct knowledge systems, including practices, skills and philosophies, as well as chronological and landscape-specific data, are critical for identifying and adapting to a changing climate. Indigenous knowledge systems cannot be integrated into Western science, but the two can work together to create knowledge that leads to more resilient and adaptive responses, while also supporting the inherent rights and interests of Indigenous peoples.

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.

WHAT IS INDIGENOUS KNOWLEDGE?

Indigenous knowledge systems are critical to understanding how climate change will impact communities and natural systems. 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.

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; 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.[3]

Recorded climate data for B.C. complements the lived experiences of Indigenous peoples. Over the past century, B.C.'s average annual temperature has increased by 1.2°C, with winter temperatures rising the most. 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.

3 First Nations Leadership Council (2020). Climate Emergency Survey. Métis Nation BC (2019). Gaining a Métis Perspective on Climate Change in BC.

Province-wide average annual precipitation has already increased by an average of 12% (ranging from 10 to 21% by region) from 1900 to 2013, with more heavy, sporadic rainfall events in the spring, and increases in extreme wet and extreme dry conditions in summer.[4] Research has also shown that climate change amplifies extreme events like heat waves, floods, and wildfires. For example, a recent study showed that the 2017 wildfires in B.C. were made more likely, and covered a much greater area, because of the catalyzing effects of climate change.[5]

To understand the possible futures ahead and develop effective adaptation strategies, we need to both understand, strengthen and protect Indigenous knowledge systems, as well as look to climate data and science. We have heard from Indigenous Nations about the critical role knowledge holders play in recognizing changes on the land and identifying what future warming will mean to ecosystems and species, as well as how traditional governance systems are designed in ways that support climate adaptation.

In addition, we have resources such as regional climate modelling for B.C., produced by the Pacific Climate Impacts Consortium and other research institutions, that describe a range of possible futures. Climate information like this can help inform good decision-making.

The following map illustrates some of the projected changes for B.C. 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 north-east regions of the province, will see more precipitation across all seasons.

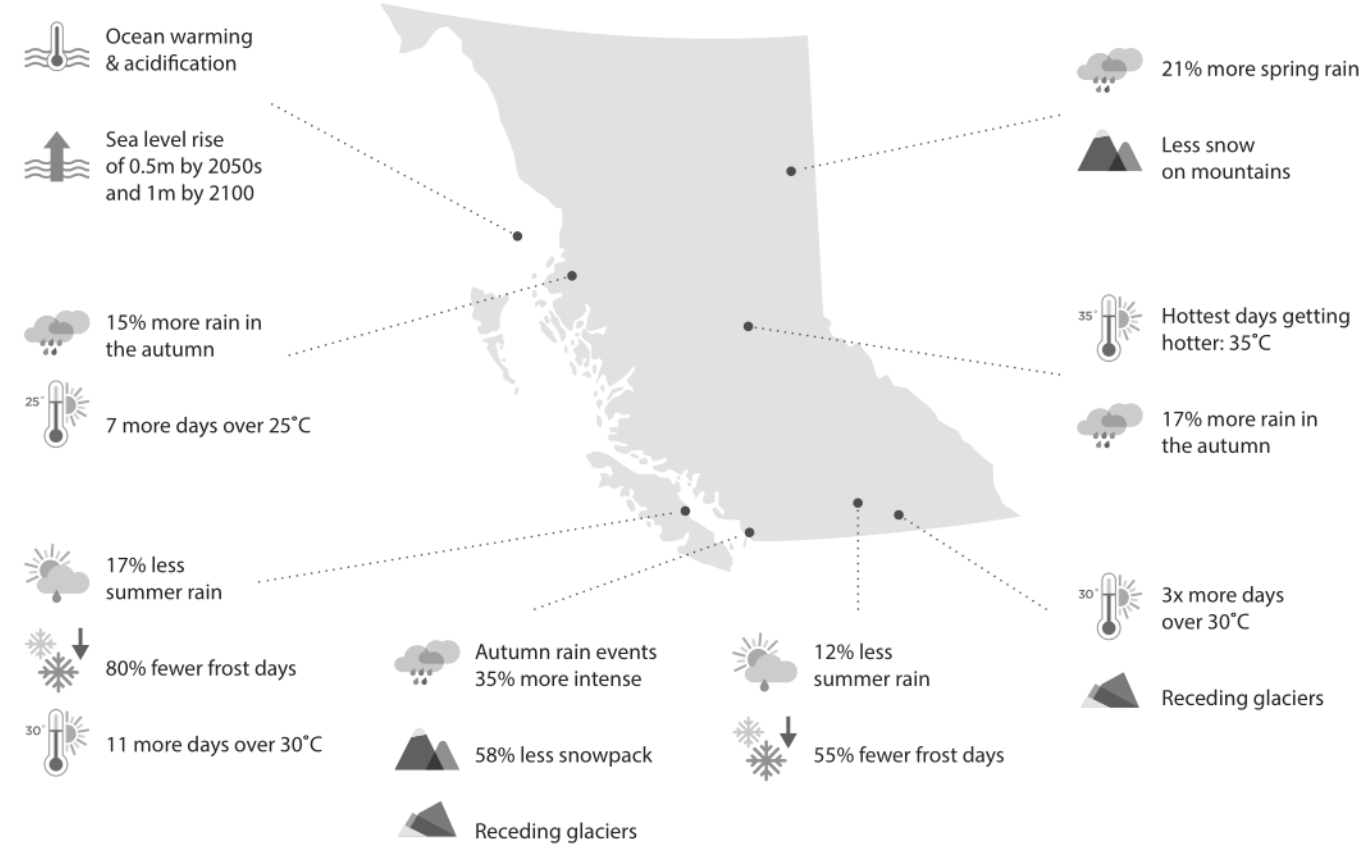
Image: Jessica Hawryshyn

The Marine Plan Partnership for the North Pacific Coast (MaPP) initiative is a collaboration between the Province and 17 coastal First Nations that is applying an ecosystem-based management approach to resource stewardship. The MaPP plans are now being implemented across the Northern Shelf Bioregion and aim to support healthy marine ecosystems and the well-being of coastal communities in the face of a changing climate. Among other priorities, the MaPP Initiative is bringing together Indigenous knowledge and Western science approaches to identify important ecological and cultural values and interests. It is also documenting observations of nearshore habitats and climate variables over time to prioritize areas for conservation and restoration and inform decision making on use of marine resources.

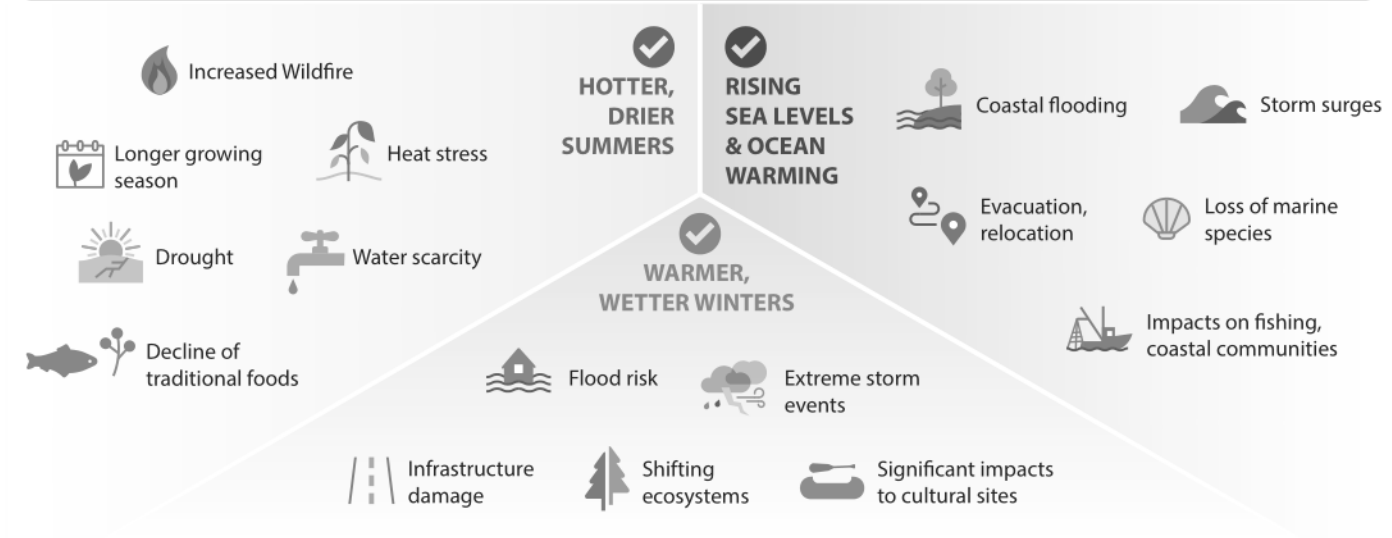
4 Indicators of Climate Change for British Columbia 2016 Update

5 Kirchmeier-Young, M. C., Gillett, N. P., Zwiers, F. W., Cannon, A. J., & Anslow, F. S. (2019). Attribution of the influence of human-induced climate change on an extreme fire season. Earth's Future, 7, 2–10.

CLIMATE PROJECTIONS & IMPACTS IN B.C.



These changes will have important impacts for our communities, economy, health and wellbeing:



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

2. PATHWAYS AND ACTIONS

Image: Melina Scholefield

The Province has identified four pathways to build climate resilience for B.C.:

1. Strengthen foundations for success, including expanding data, monitoring, education and partnerships;
2. Enhance community climate resilience;
3. Foster resilience of species and ecosystems in a changing climate; and
4. Advance a climate-ready economy and infrastructure.

This draft strategy outlines the role of the Province in support of, and partnership with, many other governments, organizations and people across B.C. who are at the centre of actions and decisions for enhancing our collective resilience.

For each pathway, we highlight actions to be implemented in 2021-22 as well as outline a broad suite of proposed actions for 2022-2025.

We are inviting the public to provide input on the proposed actions until August 12, 2021. We will use the feedback to finalize these actions and inform the next phase of the strategy starting in 2022.

Please email your comments to ClimateReadyBC@gov.bc.ca or visit engage.gov.bc.ca/climatereadybc for more information.

Pathway 1: Strengthen Foundations – Data, Monitoring, Education and Partnerships

While many communities, groups and sectors have been working to prepare for climate impacts for some time now, building future climate and resilience into the way we do things is new for many people. To meet the challenges ahead, this pathway works to improve our understanding of the changing climate and how it will influence our lives. It aims to build our capacity through training and education programs; bring climate knowledge into decision-making; and create partnerships to plan for the changes that will happen in the decades to come.

A foundation of our approach is our ongoing commitment to partnering with Indigenous Nations. We will work to create a shared path to climate resilience in a manner that addresses the unique impacts to Indigenous territories and ways of life. We are also committed to working respectfully in partnership with Indigenous communities, organizations and peoples to find responses to climate change that address priorities identified by them.

No one government, community or organization can do climate adaptation alone. We need to coordinate our work and strengthen our relationships across all governments and the business community so we can meet these challenges together. Our strategy will need to include processes to bring climate knowledge into decision-making, and invest in targeted resources including data, information, education and training that enhances everyone's capacity to meet these evolving challenges. We will pay close attention to regional differences and existing inequalities, as different communities and groups will experience the impacts of climate change, and actions to build resilience, differently.

A robust strategy to prepare for the impacts of climate change requires good data and science. The Province, Indigenous Nations, municipalities, regional districts, utility operators and academics already have networks in place to collect data on stream flow, water quality, snowpack, weather, fish stocks, wildlife and habitats across the province. We will expand these networks and use the data to better understand how the climate and ecosystems have changed, as well as develop models to explore how they are likely to change in the future.

ACTION HIGHLIGHTS FOR 2021-2022

- Work with Indigenous Nations and organizations to increase community resilience to climate change.
- Increase understanding of climate risks through improved data, monitoring and forecasting.
- Improve public understanding of wildfire threats and B.C.'s changing climate.

PROPOSED ACTIONS FOR 2022-2025

Integrate the Changing Climate into Governance and Decision Making

- Continue to bring the changing climate into relationships between the Province and Indigenous Nations, for example, by planning for a resilient future together through stewardship forums like the Marine Plan Partnerships initiative and a modernized approach to land use planning.
- Work in partnership with Indigenous Nations and organizations to identify priorities and find responses to our changing climate grounded in Indigenous ways of knowing.
- Improve and promote understanding of the disproportionate effects that climate change has on distinct human populations, including the potential for displacement, and integrate this knowledge into government initiatives, including climate risk assessments and adaptation plans.
- Consider the changing climate in the B.C. government's relevant decisions including legislation, policy and program delivery across provincial ministries and sectors. This includes continuing to develop approaches to climate risk assessment that consider Indigenous experiences and values and can be applied in diverse contexts.

Explore Opportunities for Community-based Climate Resilience

- Explore additional opportunities for Indigenous Nations, municipalities, regional districts and organizations to understand, monitor, manage and reduce climate risks. These will consider the unique needs of rural, remote and Indigenous communities, including protection and inclusion of Indigenous knowledge.

- Consider climate risks in existing infrastructure funding programs so that projects are more likely to be reliable in a changing climate.

Expand Education on Climate Impacts and Adaptation

- Expand climate resilience education by:

  - Developing learning resources for K-12 schools and other educational institutions to enhance student learning about important topics like our changing climate, adaptation, stewardship, and local Indigenous values and epistemologies (ways of knowing);

  - Continuing to develop learning resources, professional development materials and guidelines for practicing professionals on bringing the future climate and resilience principles into resource management, planning and engineering; and

  - Exploring opportunities to raise public awareness about B.C.'s changing climate.

Enhance Climate Data Monitoring and Forecasting

- Expand provincial, Indigenous and local monitoring networks for stream flow, groundwater, snow, glaciated areas, agricultural areas, climate, ocean conditions, ocean acidification, and ecosystems.
- Support the Pacific Climate Impacts Consortium and other research organizations to expand their climate data, research, modeling and training services to meet local, regional and provincial needs. This includes services for provincial government agencies, Indigenous communities, public sector organizations, local governments, businesses and industry.
- Enhance predictive services and early warning capacity, including the B.C. River Forecast Centre, to bring the future climate into forecasting floods, water scarcity, and wildfires.

Pathway 2: Enhance Community Climate Resilience

Communities across B.C. are directly affected by the impacts of climate change and are the first line of response to severe weather events and disasters. Communities play a critical role in applying policies and strategies to help prevent, reduce and manage climate risks as they work to strengthen community resilience and reduce losses.

As part of this pathway the Province will partner with Indigenous Nations and organizations as well as municipalities, regional districts and non-governmental organizations to identify opportunities to address and adapt to our changing climate. This includes taking action to reduce risks from heatwaves, flooding and wildfires, and enhancing the climate resilience of infrastructure that communities and our economy depend on. We will also work to advance food security, nature-based solutions, shared learning and mental health and wellness in our communities to help strengthen our resilience to the changes ahead.

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 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. The Province is examining its role in supporting the development of information, tools, coordination and capacity to strengthen communities' ability to manage their risks from a changing climate.

UBCM CLIMATE RESILIENCE RECOMMENDATIONS

The Union of BC Municipalities (UBCM) provides a common voice for local governments. In 2020, their Special Committee on Climate Action released a set of recommendations to help build low-carbon and climate resilient communities. The Province will continue to work with UBCM and local governments to better understand the tools and resources needed to address these recommendations, including developing resources that enable local governments to conduct risk assessments and develop related long-term capital plans by 2030.

Beyond this support, an equity-informed approach is also important to address the drivers of systemic inequality to support climate-resilient communities. For example, research shows that housing is a key determinant for how people are impacted by climate-related events such as heatwaves, floods or wildfires. If an individual lacks housing security, they will be at greater risk of being impacted and will often face significant challenges recovering and adapting to future events. These heightened risks apply more generally to those living in poverty.

GENDER BASED ANALYSIS PLUS (GBA+)

GBA+ is an analytical tool for assessing how diverse groups of men, women and non-binary people may experience policies, programs and initiatives.

The Province uses GBA+ to inform all stages of the development, implementation and evaluation process for policy, legislation, programs and services.

Climate Change, Intersectionality and GBA+ in British Columbia is one example of work being done to better understand how diverse populations in B.C. are disproportionately impacted by climate change. This work helps ensure that actions to adapt to climate change result in better outcomes for all people in B.C.

ACTION HIGHLIGHTS FOR 2021-2022

- Conduct initial work on a B.C. Flood Strategy in collaboration with other levels of government.
- Expand community planning and disaster risk management through enhanced use of climate data.
- Improve the provincial response to extreme heat and wildfire smoke for unhoused and housing insecure populations.
- Increase understanding of climate impacts on health infrastructure.
- Broaden the Province's understanding of food security within the context of a changing climate.

PROPOSED ACTIONS FOR 2022-2025

Support Resilient Community Planning and Disaster Risk Management

- Build climate resilience into community planning, disaster risk management and recovery by making data more accessible, developing new tools and guidance, and ensuring equity is addressed.
- Release and implement a B.C. Flood Strategy that could include such actions as working with other levels of government to establish a provincial floodplain mapping program that will inform and modernize flood management in a changing climate.
- Partner with Indigenous and non-Indigenous communities to expand the use of cultural and prescribed burning to reduce wildfire risks, create resilient natural ecosystems and preserve cultural practices.

Strengthen Individual and Community Health and Wellness

- Support B.C. Housing to lead development of a provincial extreme heat and wildfire smoke response plan for populations disproportionately impacted by climate change.
- Promote the resilience of families and communities to the health and social impacts of climate change through collaborative partnerships.
- Respond to food security needs in a changing climate based on what was heard through engagement with Indigenous and community partners.

Facilitate Collaboration and Shared Learning

- Facilitate collaborative, multi-partner approaches to climate change and disaster planning initiatives at a regional level. This could include providing regional coordinators and technical support.
- Work with an Indigenous organization to develop a community learning network for Indigenous communities and organizations to share approaches that enhance climate resilience. This could include regional Indigenous climate adaptation coordinators.
- Establish a community climate resilience program with Indigenous communities, friendship centres, local governments and non-profit organizations that is place-based, equity-informed, and youth-driven.

Pathway 3: Foster Resilient Species and Ecosystems in a Changing Climate

"We take care of the land and it takes care of us"

– Indigenous engagement participant.

B.C. 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. Healthy, resilient ecosystems provide food and medicines, clean air and clean water, and contribute to our emotional well-being. They 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 and its impacts.

While ecosystems have always had to adapt, the projected speed and scale of future climate change threatens to exceed the natural ability of many ecosystems to keep up, as we are seeing with the Mountain Pine Beetle and ocean acidification. Coupled with increasing human activity and pressures on the oceans and land base, climate change is creating unprecedented challenges for our ecosystems.

Internationally, research shows that lands controlled and managed by Indigenous peoples can have higher biodiversity than protected areas. Stewardship, when approached collaboratively, and bringing Indigenous knowledge systems and Western science together, can create resilient systems that continue to support abundant diversity and values.

To address these challenges, the Province will work with Indigenous Nations, including Indigenous knowledge holders, and others to ensure our landscapes and ecosystems in B.C. are managed to promote resilience and connectivity, helping species and their habitats to adapt and change with the changing climate. We will also work to strengthen the resilience of our marine environment and enhance B.C.'s watershed security.

Already some land and water species are shifting their home ranges in areas like the Peace region and the most southern parts of B.C., where people on the land are starting to see new ecosystems emerge. Climate change is also creating more openings for invasive species that displace native plants and animals and can harm entire ecosystems.

Existing stewardship initiatives and policies can be updated to consider a changing climate and apply an adaptation lens. This includes prioritizing landscapes that can withstand changing climate conditions and enhancing connections or "corridors" between healthy habitats and ecosystems to

support these natural processes as much as possible. This pathway presents ways for us to better understand the climate impacts for key species, habitats, and protected areas to support ecological and cultural processes of adaptation. This includes using practices like cultural and prescribed burning to establish a healthy relationship between fire and forest ecosystems. B.C. and Canada have also recently launched the development of a new Nature Agreement to strengthen conservation province-wide, and are committed to working with Indigenous peoples on these efforts. This includes exploring new ways to protect and restore habitat and strengthen ecosystem resilience to climate change.

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. B.C. is a founding member of the International Alliance to Combat Ocean Acidification, which works to increase awareness, understanding and action on ocean acidification and other climate-related changes in ocean conditions. The Province intends to develop an ocean acidification plan in the coming years to further address the impacts of changing ocean conditions on communities, marine ecosystems, and the economy.

We also need to take a long-term approach that finds ways to balance the changing availability and distribution of water with the needs of human activity and ecosystems. To address this, the Province is looking at developing new planning initiatives to help secure our water supplies, now and for generations to come.

PROTECTED AREAS AS LIVING LABS

B.C. Park's Living Lab Program promotes B.C.'s protected areas as places to learn about the effects of climate change and how to manage for them. Working in partnership with B.C. academic institutions, including collaboration with the broader conservation community, Indigenous communities and knowledge holders, this research considers such things as how connectivity between parks can build resilience for species and ecosystems as the climate changes, and informs decision making on adaptative actions that can be taken both inside and outside parks.


Image: Jessie Hemphill

ACTION HIGHLIGHTS FOR 2021-2022

- Identify opportunities for using nature-based solutions for climate adaptation and greenhouse gas reductions, in collaboration with partners.
- Assess climate risks and vulnerabilities to B.C. fisheries and aquaculture.
- Conduct initial work on a watershed security strategy and assess risks to water quality from contaminated sites under future climates.
- Improve understanding of climate impacts on BC Parks' infrastructure and operations.

PROPOSED ACTIONS FOR 2022-2025

Enhance Watershed Security and Strengthen Marine Resilience

- Create a Watershed Security Strategy and begin development of an associated fund to help improve the health of B.C.'s watersheds.
- Develop an ocean acidification action plan, including research and partnerships to support marine resilience, healthy ecosystems and communities.
- Work with partners to pilot the development of water supply and demand management plans for priority watersheds where climate change is likely to result in greater water scarcity.

Enhance Tools and Approaches for Managing Ecosystems, Parks and Protected Areas

- Develop and implement tools and approaches for integrating climate change knowledge into the assessment, stewardship and management of species, ecosystems, and natural resources. This includes working with Indigenous communities and knowledge holders; identifying, protecting and restoring areas important for maintaining species at risk and biodiversity in a changing climate; and monitoring and managing invasive species.

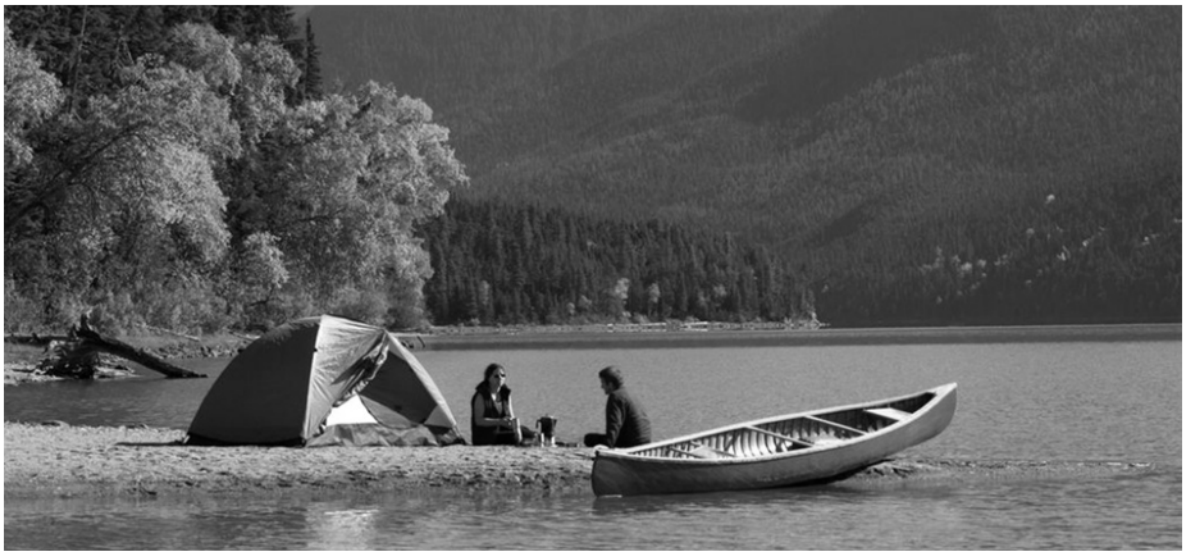
- Through the Together for Wildlife strategy, complete a review of land designations under the *Land Act, Wildlife Act, Oil and Gas Activities Act*, and *Forest and Range Practices Act* that contribute to conservation to ensure they effectively target the intended habitats in light of climate change impacts and habitat alterations.

- Explore climate change resilience in policy and management options informed by the independent panel report, A New Future for Old Forests.

- Promote and enhance the use of nature-based solutions for strengthening community and ecosystem resilience and managing climate-related hazards, such as extreme heat and flooding.

- Explore ways to protect and preserve cultural heritage in a changing climate, including working with the First Peoples' Cultural Council on a program to better understand climate change impacts on Indigenous cultural heritage resources.

- Understand and address climate impacts to parks and protected areas including on cultural heritage sites, trails, campgrounds and infrastructure.



Pathway 4: Advance a Climate-Ready Economy and Infrastructure

Climate change has significant impacts on B.C.'s business and industrial sectors, as well as the infrastructure we all rely on – from roads and bridges to communication and energy systems to schools and hospitals. In some sectors, such as agriculture and forestry, work has been happening for several decades to anticipate and adapt to a changing climate, while for other sectors this is a newer consideration.

Planning and preparing for a changing climate is not only smart business, but helps ensure we have a healthy, innovative and resilient economy in the future. This pathway helps to ensure that B.C. business and industry can address the risks of climate change, while also helping to maintain a resilient workforce and build food security in a changing climate. We are putting in place training and programs to make our buildings, highways and other infrastructure ready for extreme weather - and moving forward with climate-proofing our schools, hospitals and other public sector buildings to make sure they're ready when we need them most.

B.C.'s economy relies on natural resources, which account for a significant proportion of the province's economic base. Forestry and forest products alone account for 33% of our international exports. We are already seeing disruptions to local economies and workers in some parts of B.C. This is especially evident where climate change has contributed to closures of forestry operations through a combination of recent extreme wildfire seasons and the longer-term impacts of Mountain Pine Beetle. As we look at ways to prepare and adapt to the changing climate, we need to ensure that workers and others who are impacted are supported.

To help maintain a healthy, resilient economy in all parts of B.C., we need to proactively include climate impacts and information in business decisions and the way we build infrastructure. This will allow us to reduce risks, while enhancing our readiness and capacity to deal with those risks we can't avoid. It will also allow us to take advantage of changes in climate for new business opportunities. The finance, investment, and

BUILDING RESILIENCE IN AGRICULTURE

The Climate & Agriculture Initiative BC (CAI) works with the agriculture and research sectors, as well as all levels of government, to increase the resilience of B.C. agriculture to the impacts of climate change such as wildfire, drought, flooding, and pests.

Delivering the B.C. Ministry of Agriculture, Food and Fisheries' climate adaptation programs, CAI works with partners to develop and implement regional adaptation plans in key agricultural areas of the province, as well as demonstrate and evaluate adaptation practices on B.C. farms and ranches.

insurance sectors also have a role to play in supporting businesses to identify and disclose climate-related risks, providing greater certainty and security for investors. And we need to provide resources to small and medium businesses to prepare for a changing climate.

"Over the past five decades, the costs of weather-related disasters like floods, storms, and wildfires have risen from tens of millions of dollars to billions of dollars annually in Canada. Insured losses for catastrophic weather events totaled over $18 billion between 2010 and 2019, and the number of catastrophic events was over three times higher than in the 1980s."

– Canadian Institute for Climate Choices[6]

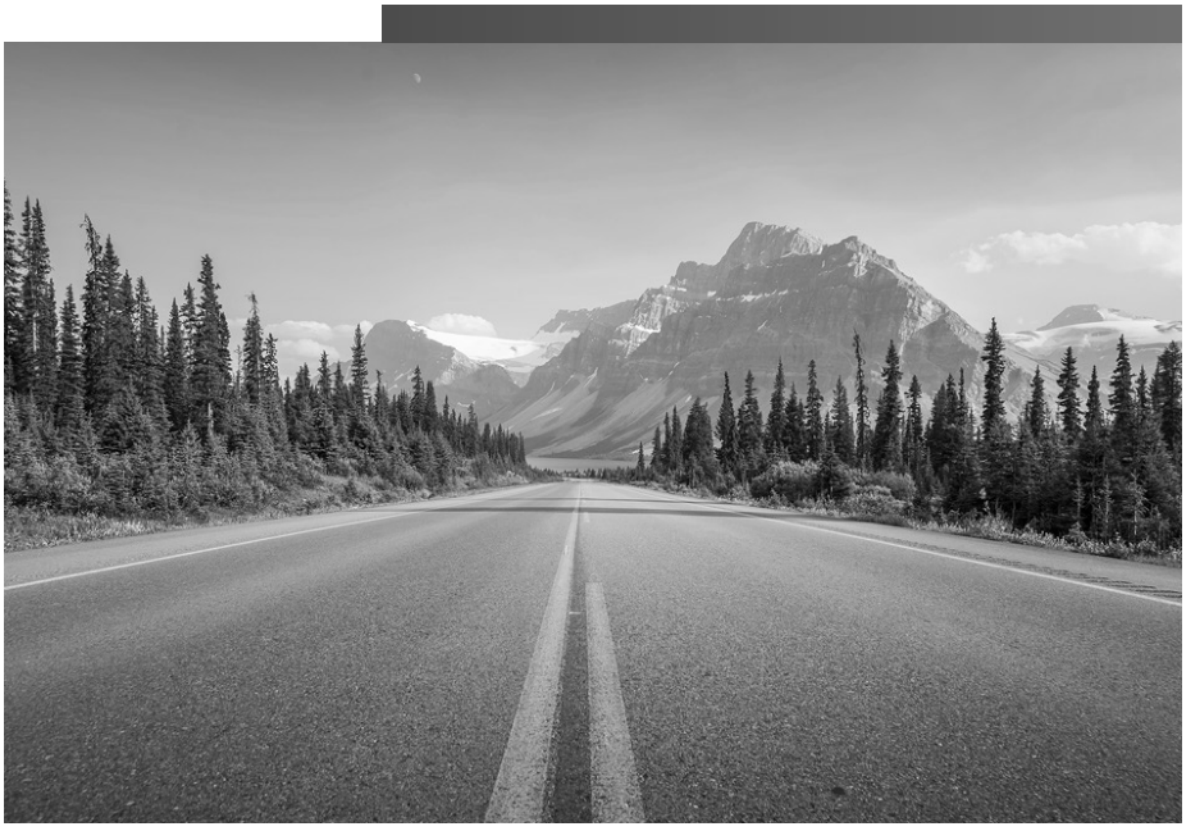
The Province has heard how climate change is already affecting the livelihoods of Indigenous peoples. For example, wildfire is restricting forestry activities and impacting tourism opportunities. Rising water temperatures are affecting commercial and subsistence fisheries. And traditional foods and medicines are becoming more difficult to access as timing, health and abundance of species changes. With this strategy, we will work with Indigenous enterprises to identify climate risks and develop tools to respond.

We are also taking steps to make climate resilience the new "business as usual" for B.C.'s public sector. This will help to protect the health and safety of the two million people who use and visit public sector buildings each year, increase the longevity of our public sector assets, and ensure that quality services are maintained in a changing climate. This approach provides leadership to support broader market transformation towards climate resilient buildings in B.C.

CLIMATE RESILIENCE GUIDELINES FOR BC HEALTH FACILITY PLANNING & DESIGN

B.C.'s health authorities collaborated with building experts to develop guidelines that support building climate resilient health facilities across the province. The guidelines amplify and accelerate ongoing work to reduce climate risks, build resilience at the site and community levels, and meet greenhouse gas reduction targets. These guidelines provide practical advice on integrating climate science and climate risk assessments to support the multidisciplinary teams responsible for planning and designing health facilities in B.C.

6 Canadian Institute for Climate Choices, 2020. *Tip of the Iceberg: Navigating the Known and Unknown Costs of Climate Change for Canada*, p. iii.



ACTION HIGHLIGHTS FOR 2021-2022

- Promote reliable transportation networks by assessing climate impacts on vulnerable highway culverts and resource roads.
- Improve the Province's understanding of agricultural water infrastructure and climate risks to mining and energy industries.
- Advance use of the Climate Change Informed Species Selection Tool by decision makers in the forest sector.
- Expand the Province's understanding of climate risks to coastal communities and economies to inform a provincial coastal strategy.
- Promote a climate-ready public sector through assessing climate risks on government buildings.

PROPOSED ACTIONS FOR 2022-2025

Increase the Resilience of our Buildings and Infrastructure

- Strengthen the climate resilience of our transportation infrastructure to better prepare for extreme weather and ensure community and business lifelines are reliable in the changing climate.
- Explore opportunities to increase resilience of buildings in B.C. which could include:
  - Working with the National Research Council to develop and adopt building codes that include future climate design factors, such as the BC Energy Step Code;
  - Providing training to the public sector and building industry on the use of future climate information to support market transformation; and
  - Creating a climate resilient public sector buildings policy that could include:
    - » assessing current and future climate risks to public sector buildings.
    - » requiring future climate be considered in capital planning.
    - » demonstrating and sharing best practices among public sector organizations on climate resilient buildings.
- Explore integrating resilience considerations with existing and proposed energy efficiency programs for buildings.

Image: Andrew Latrielle, courtesy naturallywood.com

Support Business and Industry to Respond to Climate Risks

- Collaborate with business and industry, including Indigenous enterprises, tourism, small businesses, industry sectors and labour organizations to identify climate risks and develop tools to respond. This includes supporting the private sector to adopt climate risk assessment and adaptation practices and supporting workers and employers to create a climate-resilient workforce and jobs.

- Continue to work with farmers and the agriculture sector to strengthen resilience to climate risks. This includes assessing climate-related risks to food supply security and promoting innovative solutions, such as supporting water infrastructure and on-farm adaptation.

- Continue to support a resilient forest economy through integration of climate change mitigation and adaptation measures such as climate change-informed tree species selection and management, stand and landscape management, and harvesting strategies.

Image: BC Farmers' Market Trail & Aaron Whitfield

3. MEASURING AND REPORTING OUR PROGRESS

We are acting now to help ensure that B.C. is prepared for the climate of the future. We also recognize that building climate resilience through adaptation is an ongoing process that takes place over years and decades. As we learn from experience here in B.C. and in other jurisdictions, we will adjust course as needed to ensure our actions are as effective as possible.

To support this intention and keep us on track, the Province's *Climate Change Accountability Act* requires annual reporting on actions taken, expected outcomes and future plans to manage climate change risks. The Climate Action Secretariat will continue to report on provincial actions in the Minister of Environment and Climate Change Strategy's annual Climate Change Accountability Report. To ensure that the people of B.C. have access to current information, the annual report will include the most recent information on climate change risks. In addition, a comprehensive assessment of climate risks will be undertaken every five years. Putting the accountability framework into law means that future governments will also be accountable for managing climate risks.

We will be developing a monitoring and evaluation framework over the coming year with our partners including Indigenous Nations and organizations, municipalities, and regional districts. The Province will also work with public sector organizations, such as school districts and health authorities to build and implement requirements for reporting on climate risk. This will support the Province in accurately reporting on known climate risks, actions to manage climate risks, and public sector progress to prepare for a changing climate.

Together, these measures will keep us open and transparent about the effectiveness of our actions and areas where more focus is needed, holding government accountable for the commitments we make now and in the future.

APPENDIX

Summary of Proposed Actions for 2022-2025

THEMES	ACTIONS
PATHWAY 1: Strengthen Foundations – Data, Monitoring, Education and Partnerships	
Integrate the Changing Climate into Governance and Decision Making	Continue to bring the changing climate into relationships between the Province and Indigenous Nations, for example, by planning for a resilient future together through stewardship forums like the Marine Plan Partnerships initiative and a modernized approach to land use planning.
	Work in partnership with Indigenous Nations and organizations to identify priorities and find responses to our changing climate grounded in Indigenous ways of knowing.
	Improve and promote understanding of the disproportionate effects that climate change has on distinct human populations, including the potential for displacement, and integrate this knowledge into government initiatives, including climate risk assessments and adaptation plans.
	Consider the changing climate in the B.C. government's relevant decisions including legislation, policy and program delivery across provincial ministries and sectors. This includes continuing to develop approaches to climate risk assessment that consider Indigenous experiences and values and can be applied in diverse contexts.
Explore Opportunities for Community-based Climate Resilience	Explore additional opportunities for Indigenous Nations, municipalities, regional districts and organizations to understand, monitor, manage and reduce climate risks. These will consider the unique needs of rural, remote and Indigenous communities, including protection and inclusion of Indigenous knowledge.
	Consider climate risks in existing infrastructure funding programs so that projects are more likely to be reliable in a changing climate.

THEMES	ACTIONS
Expand Education on Climate Impacts and Adaptation	Expand climate resilience education by: ▪ Developing learning resources for K-12 schools and other educational institutions to enhance student learning about important topics like our changing climate, adaptation, stewardship, and local Indigenous values and epistemologies (ways of knowing); ▪ Continuing to develop learning resources, professional development materials and guidelines for practicing professionals on bringing the future climate and resilience principles into resource management, planning and engineering; and ▪ Exploring opportunities to raise public awareness about B.C.'s changing climate.
Enhance Climate Data Monitoring and Forecasting	Expand provincial, Indigenous and local monitoring networks for stream flow, groundwater, snow, glaciated areas, agricultural areas, climate, ocean conditions, ocean acidification, and ecosystems.
	Support the Pacific Climate Impacts Consortium, and other research and service organizations to expand their climate data, research, modeling and training services to meet local, regional and provincial needs. This includes services for provincial government agencies, Indigenous communities, public sector organizations, local governments, businesses and industry.
	Enhance predictive services and early warning capacity, including the B.C. River Forecast Centre, to bring the future climate into forecasting floods, water scarcity, and wildfires.

THEMES	ACTIONS
PATHWAY 2: Enhance Community Climate Resilience	
Support Resilient Community Planning and Disaster Risk Management	Build climate resilience into community planning, disaster risk management and recovery by making data more accessible, developing new tools and guidance, and ensuring equity is addressed.
	Release and implement a B.C. Flood Strategy that could include such actions as working with other levels of government to establish a provincial floodplain mapping program that will inform and modernize flood management in a changing climate.
	Partner with Indigenous and non-Indigenous communities to expand the use of cultural and prescribed burning to reduce wildfire risks, create resilient natural ecosystems and preserve cultural practices.
Strengthen Individual and Community Health and Wellness	Support B.C. Housing to lead development of a provincial extreme heat and wildfire smoke response plan for populations disproportionately impacted by climate change.
	Promote the resilience of families and communities to the health and social impacts of climate change through collaborative partnerships.
	Respond to food security needs in a changing climate based on what was heard through engagement with Indigenous and community partners.
Facilitate Collaboration and Shared Learning	Facilitate collaborative, multi-partner approaches to climate change and disaster planning initiatives at a regional level. This could include providing regional coordinators and technical support.
	Work with an Indigenous organization to develop a community learning network for Indigenous communities and organizations to share approaches that enhance climate resilience. This could include regional Indigenous climate adaptation coordinators.
	Establish a community climate resilience program with Indigenous communities, friendship centres, local governments and non-profit organizations that is place-based, equity-informed and youth-driven.

THEMES	ACTIONS
PATHWAY 3: Foster Resilient Species and Ecosystems in a Changing Climate	
Enhance Watershed Security and Strengthen Marine Resilience	Create a Watershed Security Strategy and begin development of an associated fund to help improve the health of B.C.'s watersheds.
	Develop an ocean acidification action plan, including research and partnerships to support marine resilience, healthy ecosystems and communities.
	Work with partners to pilot the development of water supply and demand management plans for priority watersheds where climate change is likely to result in greater water scarcity.
Enhance Tools and Approaches for Managing Ecosystems, Parks and Protected Areas	Develop and implement tools and approaches for integrating climate change knowledge into the assessment, stewardship and management of species, ecosystems, and natural resources. This includes working with Indigenous communities and knowledge holders; identifying, protecting and restoring areas important for maintaining species at risk and biodiversity in a changing climate; and monitoring and managing invasive species.
	Through the Together for Wildlife strategy, complete a review of land designations under the *Land Act, Wildlife Act, Oil and Gas Activities Act*, and *Forest and Range Practices Act* that contribute to conservation in light of climate change impacts and habitat alterations.
	Explore climate change resilience in policy and management options informed by the independent panel report, A New Future for Old Forests.
	Promote and enhance the use of nature-based solutions for strengthening community and ecosystem resilience and managing climate-related hazards, such as extreme heat and flooding.
	Explore ways to protect and preserve cultural heritage in a changing climate, including working with the First Peoples' Cultural Council on a program to better understand climate change impacts on Indigenous cultural heritage resources.
	Understand and address climate impacts to parks and protected areas including on cultural heritage sites, trails, campgrounds and infrastructure.

THEMES	ACTIONS
PATHWAY 4: Advance a Climate-Ready Economy and Infrastructure	
Increase the Resilience of our Buildings and Infrastructure	Strengthen the climate resilience of our transportation infrastructure to better prepare for extreme weather and ensure community and business lifelines are reliable in the changing climate.
	Explore opportunities to increase resilience of buildings in B.C. which could include: ▪ Working with the National Research Council to develop and adopt building codes that include future climate design factors, such as the BC Energy Step Code; ▪ Providing training to the public sector and building industry on the use of future climate information to support market transformation; and ▪ Creating a climate resilient public sector buildings policy that could include: • assessing current and future climate risks to public sector buildings • requiring future climate be considered in capital planning • demonstrating and sharing best practices among public sector organizations on climate resilient buildings.
	Explore integrating resilience considerations with existing and proposed energy efficiency programs for buildings.
Support Business and Industry to Respond to Climate Risks	Collaborate with business and industry, including Indigenous enterprises, tourism, small businesses, industry sectors and labour organizations, to identify climate risks and develop tools to respond. This includes supporting the private sector to adopt climate risk assessment and adaptation practices and supporting workers and employers to create a climate-resilient workforce and jobs.
	Continue to work with farmers and the agriculture sector to strengthen resilience to climate risks. This includes assessing climate-related risks to food supply security and promoting innovative solutions, such as supporting water infrastructure and on-farm adaptation.
	Continue to support a resilient forest economy through integration of climate change mitigation and adaptation measures such as climate change-informed tree species selection and management, stand and landscape management, and harvesting strategies.

Share Your Thoughts

Please email your comments to **ClimateReadyBC@gov.bc.ca**
or visit **engage.gov.bc.ca/climatereadybc** for more information.

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Climate Preparedness and Adaptation Strategy

Draft Strategy and Phase 1 Actions for 2021-2022

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our nature. our power. our future.

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

CONTENTS

MESSAGE FROM THE MINISTER

People in British Columbia have increasing, direct and local knowledge of climate change impacts. Many of us have been affected by record forest fires, extreme droughts and dangerous flooding in our communities. We have seen the effects on our homes, livelihoods, physical health and mental wellbeing. It's why we need to work together to build a better future so that everyone and every community has the supports they need to be resilient in the face of new climate-related risks.

We know that investing in this future now makes good financial sense, reducing costs in the long run and substantially improving outcomes for everyone. Developing a comprehensive plan to prepare and adapt to climate change will require learning from one another, considering a range of perspectives, and finding strength in diversity to ensure our responses are fair and effective.

That is exactly what we set out to do with B.C.'s Climate Preparedness and Adaptation Strategy. It is a plan that has benefitted from the substantial input and expertise of people, communities, businesses, organizations, and institutions from across the province – all providing important insights that will strengthen our response to climate change.

Indigenous peoples, in particular, have been central partners in developing the strategy. Climate change is already having a profound impact on Indigenous peoples' relationships with the land, air and water, including by changing the availability of traditional foods and medicines like salmon, moose, berries, cedar and many others. Many Indigenous communities are doing critical work to address the challenges of food security, wildfire and flood mitigation, species protection and energy resilience. Upholding rich and diverse Indigenous knowledge systems is critical to building resilience together.

We're committed to continuing our partnership with Indigenous peoples, in line with the *B.C. Declaration on the Rights of Indigenous Peoples Act*, to improve our responses to climate change.

The Climate Preparedness and Adaptation Strategy details actions that we are taking in 2021. It also includes a list of potential actions for which we are seeking public input, that could be implemented starting in 2022 and in the three years following. This feedback will be valuable to the strategy and I encourage everyone to take the time to provide comments.

The actions included here build on the significant commitments already underway – from investments to reduce wildfires and flooding risks and impacts in our communities to supports for better science and risk assessments. StrongerBC alone is investing $90 million to help B.C. prepare for a changing climate while supporting jobs for people affected by the COVID-19 downturn.

We recognize this challenge can't be addressed all at once. It will take many years of work from governments, businesses, and all corners of society to be truly prepared for the changes ahead. But it is critical that we increase our ambition now and work together to address this challenge head on. It's a tall order that requires leadership and collaboration but we know it's necessary, and we're ready to get to work.

George Heyman
Minister of Environment and Climate Change Strategy

MESSAGE FROM B.C.'S PROVINCIAL HEALTH OFFICER

Our physical, social, economic and mental health and well-being are inextricably connected to our climate. Life on earth is dependent on a healthy environment and is sustained by a complex and delicate balance of interactions between the environment, the fauna and flora, and people. Climate change has started to alter that balance.

Clean air, safe water, sufficient and safe food, access to care and certainty knowing that our communities and homes are safe from extreme weather events, extreme temperatures, or water shortages, to name a few: this is what is required for healthy thriving communities and healthy, productive and happy people.

We can now look back and clearly witness the current climate trajectory and are better equipped to understand key factors behind these changes, and the measures needed to modify that trajectory. It is imperative that we think beyond next month or next year, and work to actively shape a brighter, more sustainable and resilient future for all of us.

Dr. Bonnie Henry
Provincial Health Officer of British Columbia

EXECUTIVE SUMMARY

Throughout B.C., people are experiencing the effects of climate change – from increasing wildfires, changes to ecosystems and loss of species to more frequent flooding, longer summer droughts and heatwaves.

Preparing for climate change means improving our ability to anticipate, respond to and recover from extreme weather events and emergencies, as well as dealing with more gradual changes like water shortages, changes in growing seasons and sea level rise. It involves building our capacity to reduce and manage risks from climate change to protect our buildings and infrastructure, restore habitat and strengthen ecosystems, maintain community health and wellbeing, decrease costs associated with climate impacts and ensure B.C.'s economy continues to thrive.

While extreme weather events often garner the most attention, the climate influences everything – from the types of plants and animals that make up an ecosystem, to the temperature in our homes and the kind of foods we can grow, to the design of our sewers and roads. The relative stability of our climate has also been a critical part of maintaining the biodiversity and resilience of ecosystems.

For centuries, the climate has changed at a pace slow enough to allow people, species and landscapes to change along with it. Governments, engineers and others have used the assumption that historical weather patterns will continue in the future to design our buildings and infrastructure, manage natural resources, plan communities, and deliver services. But today that assumption is no longer true. The climate is changing, the impacts are significant, and we need to be ready for the climate of the future.

Our response to the COVID-19 pandemic has shown the value of acting early at a scale that matches the potential risk. Similarly, by planning and taking action now, we can help ensure that people will have the support they need to stay safe and respond effectively in a changing climate. That's why the Province committed $90 million for climate preparedness and adaptation in B.C.'s economic recovery plan, called StrongerBC, including investments to reduce wildfire risk, improve roads and highways, conserve wetlands and ecosystems, and support adaptation on farms. These investments build on the substantial work that is already underway to help B.C. prepare for climate change and provide good jobs for people across the province.

The draft Climate Preparedness and Adaptation Strategy is our next step in this direction and is an important part of our CleanBC plan. It builds on work already underway across several ministries and the 2019 Preliminary Strategic Climate Risk Assessment, which examined some of the greatest risks to B.C. as a result of climate change. Informed by the assessment, the strategy outlines actions needed to prepare for these risks.

The strategy highlights our overall direction and the actions we're taking in 2021-22 to help prepare B.C. for the impacts of climate change. It also presents a suite of proposed actions for 2022-25, which are open for public comment. Taking this two-step approach allows us to get to work on actions that are needed now, while continuing to engage on and refine actions for the future. It also allows the Province to align our climate adaptation actions with the federal government as they work toward developing a national climate adaptation plan.

SHARE YOU THOUGHTS
on proposed actions for 2022-25

Email your comments to:
ClimateReadyBC@gov.bc.ca

For more information visit:
engage.gov.bc.ca/climatereadybc

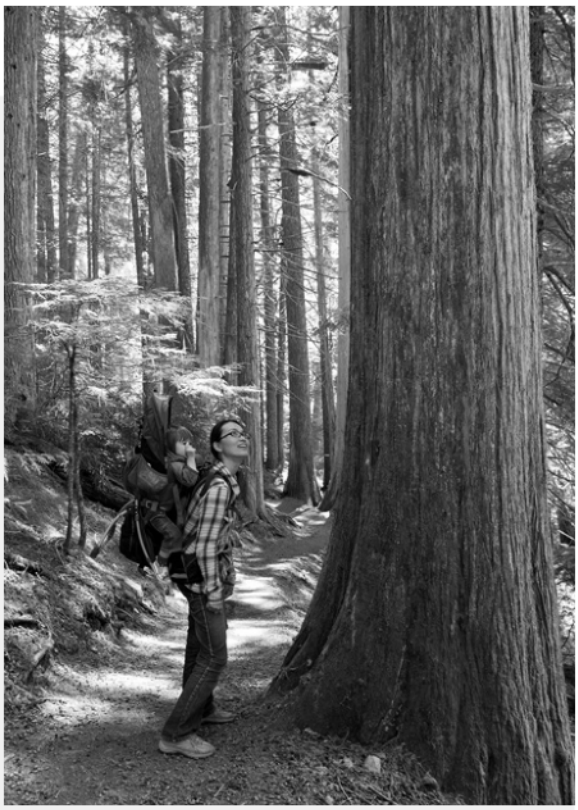
The comment period will be open until August 12, 2021.

Actions in the strategy are grouped into four key pathways:

- Strengthen foundations for success, including expanding data, monitoring, education and partnerships;
- Enhance community climate resilience;
- Foster resilience of species and ecosystems in a changing climate; and
- Advance a climate-ready economy and infrastructure.

In 2021-22 we are moving forward with a range of initiatives such as:

- Increasing understanding of climate risks through improved data, monitoring and forecasting;
- Conducting initial work on a B.C. Flood Strategy in collaboration with other levels of government;
- Improving the provincial response to extreme heat and wildfire smoke for unhoused and housing insecure populations;
- Identifying opportunities for using nature-based solutions for climate adaptation and greenhouse gas emissions reductions; and
- Promoting reliable transportation networks by assessing climate impacts on vulnerable highway culverts and resource roads.



In addition, we are inviting the public to provide input on a set of proposed actions for 2022-25. The comment period will be open until August 12, 2021. Input will be used to finalize actions and inform the next phase of the strategy starting in 2022.

Please email your comments to ClimateReadyBC@gov.bc.ca or visit engage.gov.bc.ca/climatereadybc for more information.

The actions in this strategy were developed together with people and organizations throughout B.C., including Indigenous Nations, communities and organizations, and builds on the extensive climate adaptation work done to date. The strategy is also based on a set of guiding principles that help ensure we are taking into consideration existing social conditions and challenges as we prepare for climate change.

All actions will be coordinated with other government priorities to ensure we use resources wisely. The Province is committed to being transparent, accountable, and fiscally responsible as we work together to build resilience to the changes to come.

Taking a whole-of-society approach, this strategy aims to protect people in B.C. from the threats posed by a changing climate while also caring for the ecosystems we all depend on.

ACTION HIGHLIGHTS FOR 2021-2022

PATHWAY	ACTIONS
Strengthen foundations –data, monitoring, education and partnerships	▪ Work with Indigenous Nations and organizations to increase community resilience to climate change ▪ Increase understanding of climate risks through improved data, monitoring and forecasting ▪ Improve public understanding of wildfire threats and B.C.'s changing climate
Enhance community climate resilience	▪ Conduct initial work on a B.C. Flood Strategy in collaboration with other levels of government ▪ Expand community planning and disaster risk management through enhanced use of climate data ▪ Improve the provincial response to extreme heat and wildfire smoke for unhoused and housing insecure populations ▪ Increase understanding of climate impacts on health infrastructure ▪ Broaden the Province's understanding of food security within the context of a changing climate
Foster resilience of species and ecosystems in a changing climate	▪ Identify opportunities for using nature-based solutions for climate adaptation and greenhouse gas reductions, in collaboration with partners ▪ Assess climate risks and vulnerabilities to B.C. fisheries and aquaculture ▪ Conduct initial work on a watershed security strategy and assess risks to water quality from contaminated sites under future climates ▪ Improve understanding of climate impacts on BC Parks' infrastructure and operations
Advance a climate-ready economy and infrastructure	▪ Promote reliable transportation networks by assessing climate impacts on vulnerable highway culverts and resource roads ▪ Improve the Province's understanding of agricultural water infrastructure and climate risks to mining and energy industries ▪ Enhance use of the Climate Change Informed Species Selection Tool by decision makers in the forest sector ▪ Expand the Province's understanding of climate risks to coastal communities and economies ▪ Promote a climate-ready public sector through assessing climate risks on government buildings

VISION

B.C. is a climate resilient society prepared for, and adapting to, 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

Image: Alderhill Planning Inc.

DRAFT GUIDING PRINCIPLES

The following six principles have guided our choice of actions in the draft strategy and will continue to inform our work going forward. The principles were developed with input from people across B.C.

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 a just approach that integrates equity considerations into climate adaptation responses.

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 and provide comment, please visit: engage.gov.bc.ca/climatereadybc.

1. INTRODUCTION: BUILDING A CLIMATE READY B.C.

The changes in climate we are experiencing today are driven by higher levels of greenhouse gases in the atmosphere, resulting from many decades of activities such as burning fossil fuels and clearing land. 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. The actions in this draft strategy strengthen our capacity to anticipate and respond to sudden events like wildfires, floods and heatwaves, while also helping us to respond to changes that happen more slowly like loss of habitat and rising sea levels. By planning ahead and acting early, we can be ready for the challenges and new possibilities the changing climate may bring.

Many in B.C. remember the summer of 2018 when much of the province was blanketed in smoke as a result of nearly 600 wildfires. Reports of medical issues climbed as air quality advisories persisted, in some areas for more than 40 days. Thousands were forced to evacuate, while thousands more were put on alert to leave at a moment's notice. This was the worst wildfire season on record, surpassing the previous record set in 2017.

While the province has always had events like wildfires, floods and droughts, climate change will continue to make them worse. That's why preparing now for a changing climate is so important to help protect us from future shocks and strengthen the resilience of our communities, ecosystems and economy.

There is also a strong business case for preparing for climate change. A 2019 report from the Global Commission on Adaptation notes that every dollar spent on measures to prepare for climate impacts results in savings of 2 to 10 dollars in the future.[1]

We all have a role to play and by working together, we can reduce and manage the risks from climate change, while also finding opportunities in the changes ahead.

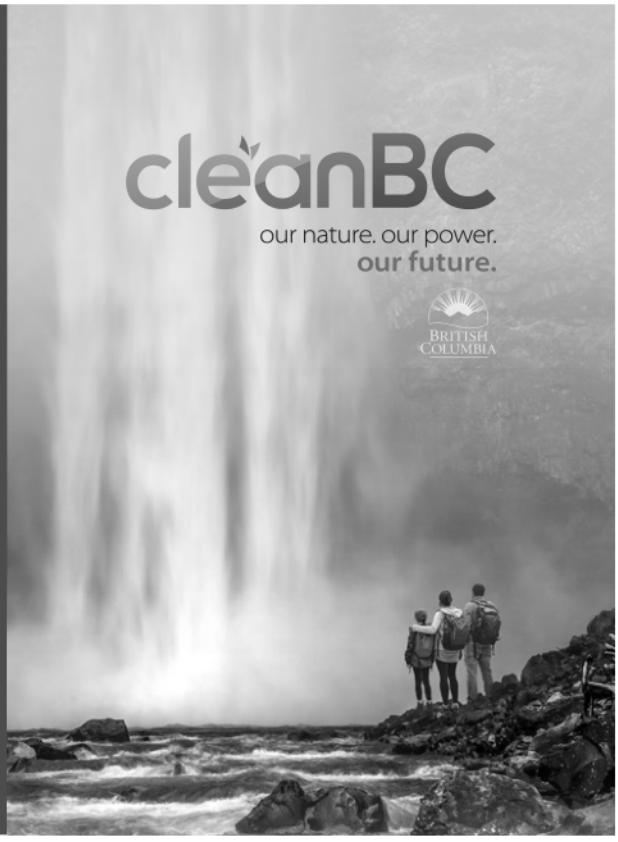
1 Global Commission on Adaptation, 2019. Adapt now: a global call for leadership on climate resilience. gca.org/reports/adapt-now-a-global-call-for-leadership-on-climate-resilience.

Across B.C., many Indigenous Nations, municipalities, regional districts, public sector organizations, industries and businesses have already developed climate adaptation plans, while others are initiating research and projects to prepare for our changing climate. Together, these groups are working to ensure our communities and economy are ready for changes that are expected in the coming years and decades.

The Province is committed to advancing climate adaptation by partnering with Indigenous Nations and organizations, and collaborating with local governments and other groups, to support their efforts to prepare for climate change. We will continue to support development of climate knowledge and work with partners to advance adaptation in B.C. through planning, research and capacity building, as well as by making training and resources on adaptation available and accessible. We will move forward with a range of initiatives including conducting initial work on a flood strategy, strengthening transportation infrastructure, promoting water security, developing an ocean acidification plan and addressing climate risks in health services.

The Province's CleanBC plan provides a pathway to reduce our greenhouse gas emissions and build a cleaner future for everyone in B.C. But reducing emissions is only part of addressing climate change.

The Climate Preparedness and Adaptation Strategy addresses the need to prepare for, respond to and recover from the unavoidable impacts of climate change – like record-breaking wildfires and heat waves, extended droughts, floods, loss of biodiversity and habitat, ocean acidification and rising sea levels. This is because elevated levels of greenhouse gases already in the atmosphere will continue to cause changes for many years to come.



Partnering with Indigenous peoples

Indigenous peoples are essential partners in adapting to climate change. 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.

The Province has engaged with Indigenous Nations, 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 Province has been working with the Indigenous Climate Adaptation Technical Working Group, the B.C. First Nations Leadership Council Technical Working Group on Climate Change and other Indigenous organizations.

We will continue to work closely with Indigenous peoples to strengthen our engagement processes and deepen our partnerships as we prepare for a changing climate. Nothing less will enable a truly effective response to the challenges we face together.

The Province has committed to the implementation of the United Nations Declaration on the Rights of Indigenous Peoples (the UN Declaration). The Province's *Declaration on the Rights of Indigenous Peoples Act* contributes to that implementation by requiring the B.C. government to take all measures necessary to ensure BC 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.

A number of the articles of the UN Declaration are especially relevant to this strategy, including 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 which 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.

Building on Our Progress

This draft strategy builds on over a decade of work within government and across communities to prepare the province for a changing climate. It draws on lessons learned from past experience, and reports such as the independent review of flooding and wildfire in 2017 by Chief Maureen Chapman and George Abbott. It is also a direct response to the 2018 Auditor General of B.C. report, which recommended that the B.C. government complete a province-wide climate risk assessment and develop a more comprehensive adaptation strategy.

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. Findings suggest that of those risks assessed, the greatest risks to B.C. are severe wildfire, seasonal water shortage, heat wave, ocean acidification, glacier mass loss and long-term water shortage events. Other risks with significant consequences include severe river flooding and severe coastal storm surge. All of these risks would result in significant and costly impacts for B.C.

The preliminary risk assessment is based on scientific studies and the contributions of experts across provincial ministries and outside of government. It relies on a Western knowledge approach and is intended for use at a provincial scale.[2] As a high-level assessment, it does not examine risks at local or regional scales or within specific sectors. Through continuing work, the Province is exploring options to build more inclusive approaches to assess and manage climate risks. This includes balancing Indigenous values and knowledge with Western approaches, ensuring an equity lens is applied to the process, supporting community-led risk assessments and adapting the process for different contexts.

> The Province is currently modernizing its emergency management legislation to help B.C. reduce, prepare for, respond to and recover from new and growing risks such as COVID-19 and climate-related hazards, and better meet society's changing needs. In October 2018, B.C. took a major step to become the first Canadian province to adopt the Sendai Framework, a set of international best practices for disaster risk reduction. This international framework recognizes that climate change increases the frequency and severity of disasters, and that both emergencies and gradual changes, like sea-level rise, must be addressed through up-front risk reduction. The new Act will formally align B.C. with this leading-edge approach, and will reflect the B.C. Declaration on the Rights of Indigenous Peoples Act, as well as lessons learned from the COVID-19 pandemic and recent flood and wildfire seasons.

2 Western knowledge is based on a European worldview and has been the foundation for current Canadian and provincial legislation, policy, regulation and institutions (Kapell, 2019)

Image: Tina Neale

The actions proposed in the Climate Preparedness and Adaptation Strategy will expand on a number of existing programs and initiatives to prepare for climate change across government, such as:

- The Community Resiliency Investment Program, introduced in 2018, which provides $60 million to assist Indigenous communities and local governments to reduce local wildfire threats through FireSmart disciplines and Crown Land Wildfire Risk Reduction;
- A robust Cultural and Prescribed Fire program to promote healthy forests and reduce wildfire risk;
- Investments in wildfire risk reduction, reforestation, forest rehabilitation, and other efforts through the Forest Enhancement Society of B.C. and Forest Carbon Initiative;
- Investments of more than $103 million in 248 flood risk reduction projects across the province through Emergency Management B.C. including the Community Emergency Preparedness Fund, which helps local governments and First Nations build resilience in response to emergencies, as well as joint investments with the federal government for the Adaptation, Resilience and Disaster Mitigation program, and the National Disaster Mitigation Program;
- The Climate & Agriculture Initiative BC, which supports the development of regional agricultural climate adaptation plans;
- Guidance on sea dike design and coastal development to help coastal communities prepare for future sea-level rise, developing a B.C. Flood Strategy and modernizing the emergency management legislation;
- Requirements that future climate be incorporated into the design of transportation infrastructure, such as roads and bridges;
- Working with partners like the Pacific Climate Impacts Consortium and UBC's ClimateBC to make climate information and tools more widely accessible; and
- Master of Disaster, a free classroom program for grades 4 to 8 that teaches about hazards in B.C., including floods, wildfires and severe weather and how climate change is influencing their severity and frequency.

The strategy also builds on investment from B.C.'s COVID-19 economic recovery plan, including $90 million to help B.C. prepare for climate change. This includes investments to:

- Conserve wetlands and ecosystems to protect our natural spaces and build nature-based climate solutions, while also creating more than 1,000 jobs for people in hard-hit sectors such as tourism and hospitality;
- Support upgrades to provincial highways and roads to make them more resilient to increased flooding from climate change;
- Reduce the risk of wildfires on Crown land and create more than 500 jobs in rural communities, with funding initiatives including the FireSmart Economic Recovery Fund, BC Community Forest Association, Columbia Basin Trust, among others; and
- Help farmers by boosting support for the Beneficial Management Practices Program that encourages farm practices that protect the air, land and water and prepare for the impacts of climate change.

More examples of work already underway to develop climate resilience across the province can be found on B.C.'s climate preparedness and adaptation website.

The draft Climate Preparedness and Adaptation Strategy builds on these investments, starting with investments in 2021 to begin scoping studies, pilot projects and high-priority research that will strengthen the Province's ability to prepare and adapt to climate risks. The strategy also outlines proposed actions for 2022-25 covering areas including data, education and partnerships, resilient communities and ecosystems, and climate-ready economy and infrastructure.


Image: McKeown Miyoko

Public Engagement

The public is invited to comment on the proposed actions for 2022-25. The comment period will be open until August 12, 2021. We will use the feedback to finalize actions and inform the next phase of the strategy.

Please email your comments to ClimateReadyBC@gov.bc.ca or visit engage.gov.bc.ca/climatereadybc for more information.

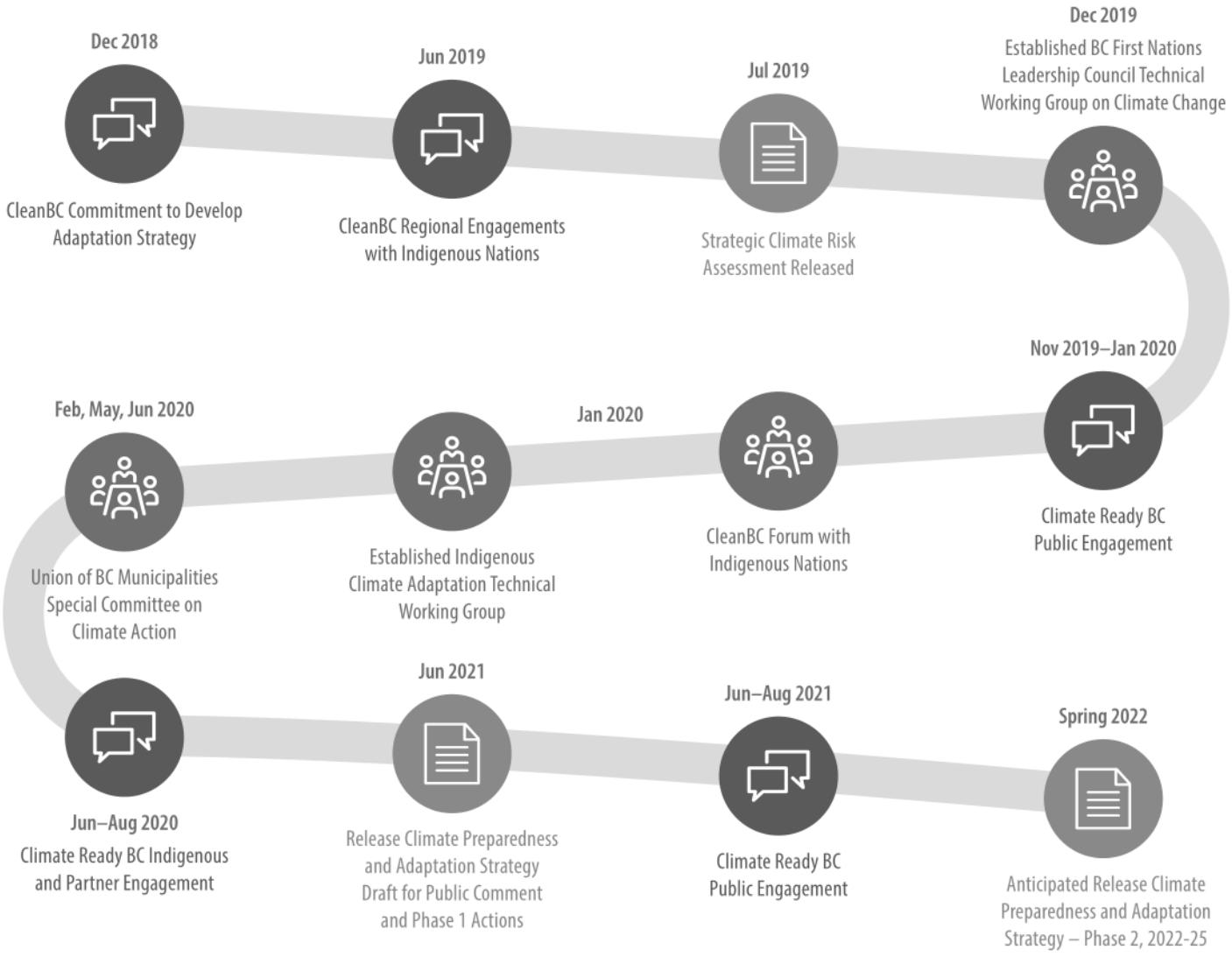
Actions will be phased in over time and aligned with economic recovery from COVID-19 and other priorities to ensure that we use resources wisely. The Province is committed to being transparent, accountable, and fiscally responsible as we work together to build resilience to the changes to come. Under the *Climate Change Accountability Act*, the government is required to produce an annual report that includes information on progress and spending on actions to date as well as future planned actions to achieve B.C.'s carbon emissions targets and prepare for climate impacts. The legislation also requires the most current information on climate risks to be shared every year and a new assessment of climate risks to be done every five years to inform ongoing action.

The draft Climate Preparedness and Adaptation Strategy was developed through a broad approach to engagement, so that it would be well-informed by the experiences and aspirations of a diverse cross-section of communities, sectors and populations in B.C. Between spring 2019 and summer 2020, the Province held regional engagement sessions with Indigenous Nations and organizations as well as one-on-one meetings with Indigenous Nations and other partners. The Province also worked closely with two Indigenous advisory groups, the Indigenous Climate Adaptation Technical Working Group and the B.C. First Nation Leaders Council Technical Working Group on Climate Change. We conducted virtual workshops with Indigenous peoples and many other partners including local government, industry, academia, labour, youth and non-governmental organizations. We also conducted online public engagement including a series of discussion forums and two rounds of surveys in addition to written submissions.

To learn more about the engagement process and read summary reports of what we heard, please visit: engage.gov.bc.ca/climatereadybc.

Image: Ian Reid

TIMELINE FOR CLIMATE PREPAREDNESS AND ADAPTATION STRATEGY ENGAGEMENT AND DEVELOPMENT



We listened, and have been guided by these key themes and issues in developing the strategy and actions:

- Equity
- Indigenous Partnerships and Knowledge
- Collaboration
- Education
- Data and Monitoring
- Call to Action
- Mental Health
- Youth Voices
- Nature-Based Solutions

Understanding B.C.'s Changing Climate

"Indigenous Peoples have a proven expertise that spans millennia. Our knowledge and relationships connected to our Ancestral homelands, passed from generation to generation through songs, ceremony, lived experiences, and Ancestral tellings ensured the sustainable and long-term well-being of our homelands and All Our Relations who live in them."

– Sunny LeBourdais, Secwepemc Nation

Across B.C., we've heard from people who have witnessed significant changes in their lifetimes – from hotter summers with increased wildfire smoke and warmer, wetter winters to changes in the timing of berries ripening, animals migrating and the decline of certain tree species, including culturally important trees like western red cedar.

Image: Alderhill Planning Inc.

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. Their distinct knowledge systems, including practices, skills and philosophies, as well as chronological and landscape-specific data, are critical for identifying and adapting to a changing climate. Indigenous knowledge systems cannot be integrated into Western science, but the two can work together to create knowledge that leads to more resilient and adaptive responses, while also supporting the inherent rights and interests of Indigenous peoples.

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.

WHAT IS INDIGENOUS KNOWLEDGE?

Indigenous knowledge systems are critical to understanding how climate change will impact communities and natural systems. 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.

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; 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.[3]

Recorded climate data for B.C. complements the lived experiences of Indigenous peoples. Over the past century, B.C.'s average annual temperature has increased by 1.2°C, with winter temperatures rising the most. 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.

3 First Nations Leadership Council (2020). Climate Emergency Survey. Métis Nation BC (2019). Gaining a Métis Perspective on Climate Change in BC.

Province-wide average annual precipitation has already increased by an average of 12% (ranging from 10 to 21% by region) from 1900 to 2013, with more heavy, sporadic rainfall events in the spring, and increases in extreme wet and extreme dry conditions in summer.[4] Research has also shown that climate change amplifies extreme events like heat waves, floods, and wildfires. For example, a recent study showed that the 2017 wildfires in B.C. were made more likely, and covered a much greater area, because of the catalyzing effects of climate change.[5]

To understand the possible futures ahead and develop effective adaptation strategies, we need to both understand, strengthen and protect Indigenous knowledge systems, as well as look to climate data and science. We have heard from Indigenous Nations about the critical role knowledge holders play in recognizing changes on the land and identifying what future warming will mean to ecosystems and species, as well as how traditional governance systems are designed in ways that support climate adaptation.

In addition, we have resources such as regional climate modelling for B.C., produced by the Pacific Climate Impacts Consortium and other research institutions, that describe a range of possible futures. Climate information like this can help inform good decision-making.

The following map illustrates some of the projected changes for B.C. 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 north-east regions of the province, will see more precipitation across all seasons.

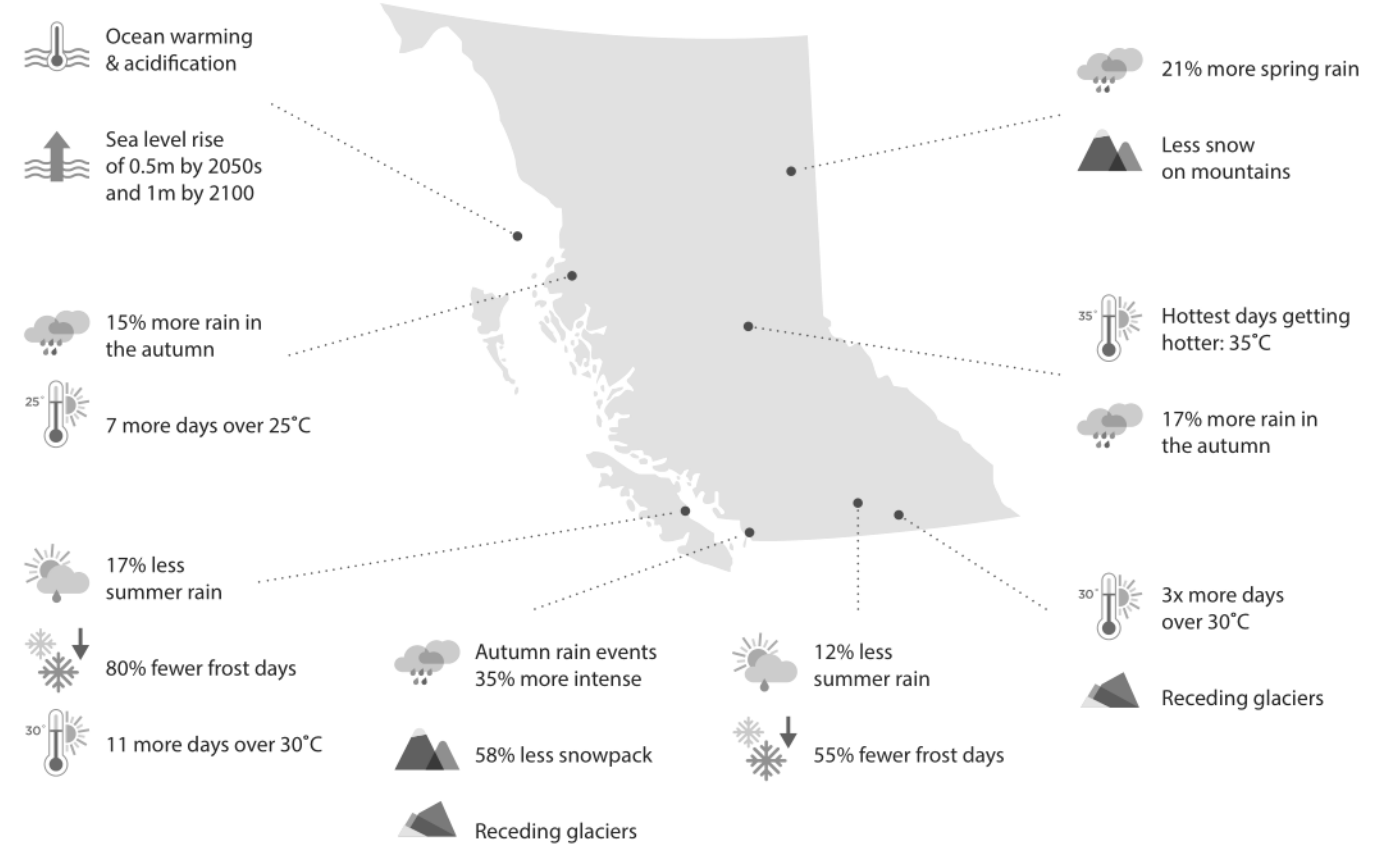
Image: Jessica Hawryshyn

The Marine Plan Partnership for the North Pacific Coast (MaPP) initiative is a collaboration between the Province and 17 coastal First Nations that is applying an ecosystem-based management approach to resource stewardship. The MaPP plans are now being implemented across the Northern Shelf Bioregion and aim to support healthy marine ecosystems and the well-being of coastal communities in the face of a changing climate. Among other priorities, the MaPP Initiative is bringing together Indigenous knowledge and Western science approaches to identify important ecological and cultural values and interests. It is also documenting observations of nearshore habitats and climate variables over time to prioritize areas for conservation and restoration and inform decision making on use of marine resources.

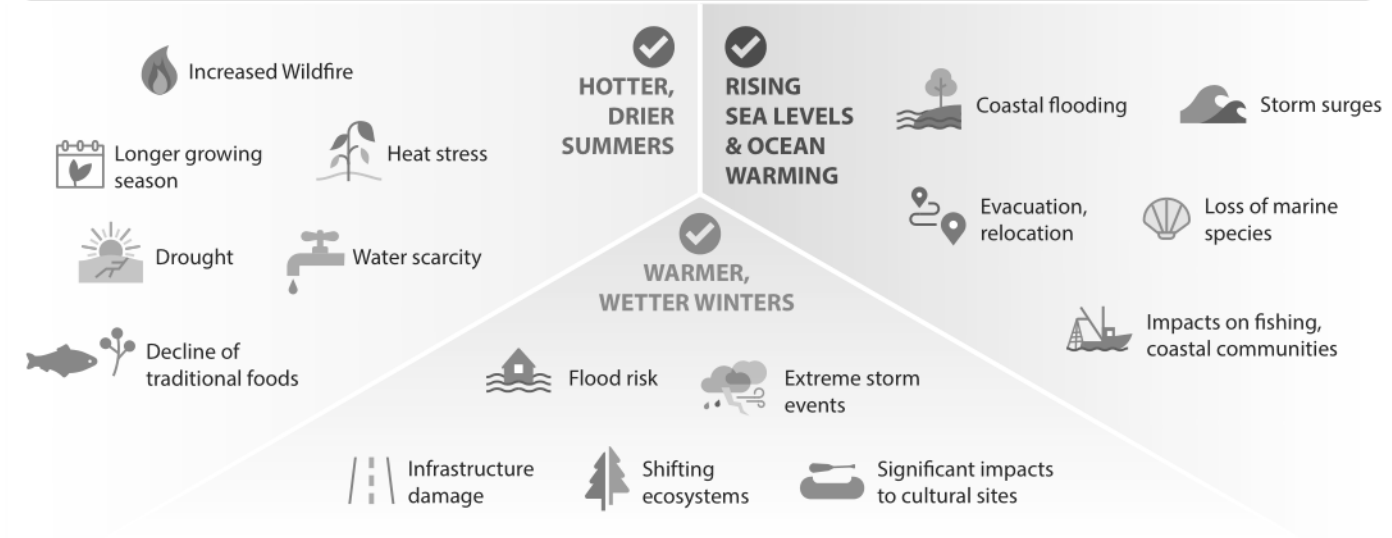
4 Indicators of Climate Change for British Columbia 2016 Update

5 Kirchmeier-Young, M. C., Gillett, N. P., Zwiers, F. W., Cannon, A. J., & Anslow, F. S. (2019). Attribution of the influence of human-induced climate change on an extreme fire season. Earth's Future, 7, 2–10.

CLIMATE PROJECTIONS & IMPACTS IN B.C.



These changes will have important impacts for our communities, economy, health and wellbeing:



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

2. PATHWAYS AND ACTIONS

Image: Melina Scholefield

The Province has identified four pathways to build climate resilience for B.C.:

1. Strengthen foundations for success, including expanding data, monitoring, education and partnerships;
2. Enhance community climate resilience;
3. Foster resilience of species and ecosystems in a changing climate; and
4. Advance a climate-ready economy and infrastructure.

This draft strategy outlines the role of the Province in support of, and partnership with, many other governments, organizations and people across B.C. who are at the centre of actions and decisions for enhancing our collective resilience.

For each pathway, we highlight actions to be implemented in 2021-22 as well as outline a broad suite of proposed actions for 2022-2025.

We are inviting the public to provide input on the proposed actions until August 12, 2021. We will use the feedback to finalize these actions and inform the next phase of the strategy starting in 2022.

Please email your comments to ClimateReadyBC@gov.bc.ca or visit engage.gov.bc.ca/climatereadybc for more information.

Pathway 1: Strengthen Foundations – Data, Monitoring, Education and Partnerships

While many communities, groups and sectors have been working to prepare for climate impacts for some time now, building future climate and resilience into the way we do things is new for many people. To meet the challenges ahead, this pathway works to improve our understanding of the changing climate and how it will influence our lives. It aims to build our capacity through training and education programs; bring climate knowledge into decision-making; and create partnerships to plan for the changes that will happen in the decades to come.

A foundation of our approach is our ongoing commitment to partnering with Indigenous Nations. We will work to create a shared path to climate resilience in a manner that addresses the unique impacts to Indigenous territories and ways of life. We are also committed to working respectfully in partnership with Indigenous communities, organizations and peoples to find responses to climate change that address priorities identified by them.

No one government, community or organization can do climate adaptation alone. We need to coordinate our work and strengthen our relationships across all governments and the business community so we can meet these challenges together. Our strategy will need to include processes to bring climate knowledge into decision-making, and invest in targeted resources including data, information, education and training that enhances everyone's capacity to meet these evolving challenges. We will pay close attention to regional differences and existing inequalities, as different communities and groups will experience the impacts of climate change, and actions to build resilience, differently.

A robust strategy to prepare for the impacts of climate change requires good data and science. The Province, Indigenous Nations, municipalities, regional districts, utility operators and academics already have networks in place to collect data on stream flow, water quality, snowpack, weather, fish stocks, wildlife and habitats across the province. We will expand these networks and use the data to better understand how the climate and ecosystems have changed, as well as develop models to explore how they are likely to change in the future.

ACTION HIGHLIGHTS FOR 2021-2022

- Work with Indigenous Nations and organizations to increase community resilience to climate change.
- Increase understanding of climate risks through improved data, monitoring and forecasting.
- Improve public understanding of wildfire threats and B.C.'s changing climate.

PROPOSED ACTIONS FOR 2022-2025

Integrate the Changing Climate into Governance and Decision Making

- Continue to bring the changing climate into relationships between the Province and Indigenous Nations, for example, by planning for a resilient future together through stewardship forums like the Marine Plan Partnerships initiative and a modernized approach to land use planning.
- Work in partnership with Indigenous Nations and organizations to identify priorities and find responses to our changing climate grounded in Indigenous ways of knowing.
- Improve and promote understanding of the disproportionate effects that climate change has on distinct human populations, including the potential for displacement, and integrate this knowledge into government initiatives, including climate risk assessments and adaptation plans.
- Consider the changing climate in the B.C. government's relevant decisions including legislation, policy and program delivery across provincial ministries and sectors. This includes continuing to develop approaches to climate risk assessment that consider Indigenous experiences and values and can be applied in diverse contexts.

Explore Opportunities for Community-based Climate Resilience

- Explore additional opportunities for Indigenous Nations, municipalities, regional districts and organizations to understand, monitor, manage and reduce climate risks. These will consider the unique needs of rural, remote and Indigenous communities, including protection and inclusion of Indigenous knowledge.

- Consider climate risks in existing infrastructure funding programs so that projects are more likely to be reliable in a changing climate.

Expand Education on Climate Impacts and Adaptation

- Expand climate resilience education by:

  - Developing learning resources for K-12 schools and other educational institutions to enhance student learning about important topics like our changing climate, adaptation, stewardship, and local Indigenous values and epistemologies (ways of knowing);

  - Continuing to develop learning resources, professional development materials and guidelines for practicing professionals on bringing the future climate and resilience principles into resource management, planning and engineering; and

  - Exploring opportunities to raise public awareness about B.C.'s changing climate.

Enhance Climate Data Monitoring and Forecasting

- Expand provincial, Indigenous and local monitoring networks for stream flow, groundwater, snow, glaciated areas, agricultural areas, climate, ocean conditions, ocean acidification, and ecosystems.
- Support the Pacific Climate Impacts Consortium and other research organizations to expand their climate data, research, modeling and training services to meet local, regional and provincial needs. This includes services for provincial government agencies, Indigenous communities, public sector organizations, local governments, businesses and industry.
- Enhance predictive services and early warning capacity, including the B.C. River Forecast Centre, to bring the future climate into forecasting floods, water scarcity, and wildfires.

Pathway 2: Enhance Community Climate Resilience

Communities across B.C. are directly affected by the impacts of climate change and are the first line of response to severe weather events and disasters. Communities play a critical role in applying policies and strategies to help prevent, reduce and manage climate risks as they work to strengthen community resilience and reduce losses.

As part of this pathway the Province will partner with Indigenous Nations and organizations as well as municipalities, regional districts and non-governmental organizations to identify opportunities to address and adapt to our changing climate. This includes taking action to reduce risks from heatwaves, flooding and wildfires, and enhancing the climate resilience of infrastructure that communities and our economy depend on. We will also work to advance food security, nature-based solutions, shared learning and mental health and wellness in our communities to help strengthen our resilience to the changes ahead.

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 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. The Province is examining its role in supporting the development of information, tools, coordination and capacity to strengthen communities' ability to manage their risks from a changing climate.

UBCM CLIMATE RESILIENCE RECOMMENDATIONS

The Union of BC Municipalities (UBCM) provides a common voice for local governments. In 2020, their Special Committee on Climate Action released a set of recommendations to help build low-carbon and climate resilient communities. The Province will continue to work with UBCM and local governments to better understand the tools and resources needed to address these recommendations, including developing resources that enable local governments to conduct risk assessments and develop related long-term capital plans by 2030.

Beyond this support, an equity-informed approach is also important to address the drivers of systemic inequality to support climate-resilient communities. For example, research shows that housing is a key determinant for how people are impacted by climate-related events such as heatwaves, floods or wildfires. If an individual lacks housing security, they will be at greater risk of being impacted and will often face significant challenges recovering and adapting to future events. These heightened risks apply more generally to those living in poverty.

GENDER BASED ANALYSIS PLUS (GBA+)

GBA+ is an analytical tool for assessing how diverse groups of men, women and non-binary people may experience policies, programs and initiatives.

The Province uses GBA+ to inform all stages of the development, implementation and evaluation process for policy, legislation, programs and services.

Climate Change, Intersectionality and GBA+ in British Columbia is one example of work being done to better understand how diverse populations in B.C. are disproportionately impacted by climate change. This work helps ensure that actions to adapt to climate change result in better outcomes for all people in B.C.

ACTION HIGHLIGHTS FOR 2021-2022

- Conduct initial work on a B.C. Flood Strategy in collaboration with other levels of government.
- Expand community planning and disaster risk management through enhanced use of climate data.
- Improve the provincial response to extreme heat and wildfire smoke for unhoused and housing insecure populations.
- Increase understanding of climate impacts on health infrastructure.
- Broaden the Province's understanding of food security within the context of a changing climate.

PROPOSED ACTIONS FOR 2022-2025

Support Resilient Community Planning and Disaster Risk Management

- Build climate resilience into community planning, disaster risk management and recovery by making data more accessible, developing new tools and guidance, and ensuring equity is addressed.
- Release and implement a B.C. Flood Strategy that could include such actions as working with other levels of government to establish a provincial floodplain mapping program that will inform and modernize flood management in a changing climate.
- Partner with Indigenous and non-Indigenous communities to expand the use of cultural and prescribed burning to reduce wildfire risks, create resilient natural ecosystems and preserve cultural practices.

Strengthen Individual and Community Health and Wellness

- Support B.C. Housing to lead development of a provincial extreme heat and wildfire smoke response plan for populations disproportionately impacted by climate change.
- Promote the resilience of families and communities to the health and social impacts of climate change through collaborative partnerships.
- Respond to food security needs in a changing climate based on what was heard through engagement with Indigenous and community partners.

Facilitate Collaboration and Shared Learning

- Facilitate collaborative, multi-partner approaches to climate change and disaster planning initiatives at a regional level. This could include providing regional coordinators and technical support.
- Work with an Indigenous organization to develop a community learning network for Indigenous communities and organizations to share approaches that enhance climate resilience. This could include regional Indigenous climate adaptation coordinators.
- Establish a community climate resilience program with Indigenous communities, friendship centres, local governments and non-profit organizations that is place-based, equity-informed, and youth-driven.

Pathway 3: Foster Resilient Species and Ecosystems in a Changing Climate

"We take care of the land and it takes care of us"

– Indigenous engagement participant.

B.C. 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. Healthy, resilient ecosystems provide food and medicines, clean air and clean water, and contribute to our emotional well-being. They 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 and its impacts.

While ecosystems have always had to adapt, the projected speed and scale of future climate change threatens to exceed the natural ability of many ecosystems to keep up, as we are seeing with the Mountain Pine Beetle and ocean acidification. Coupled with increasing human activity and pressures on the oceans and land base, climate change is creating unprecedented challenges for our ecosystems.

Internationally, research shows that lands controlled and managed by Indigenous peoples can have higher biodiversity than protected areas. Stewardship, when approached collaboratively, and bringing Indigenous knowledge systems and Western science together, can create resilient systems that continue to support abundant diversity and values.

To address these challenges, the Province will work with Indigenous Nations, including Indigenous knowledge holders, and others to ensure our landscapes and ecosystems in B.C. are managed to promote resilience and connectivity, helping species and their habitats to adapt and change with the changing climate. We will also work to strengthen the resilience of our marine environment and enhance B.C.'s watershed security.

Already some land and water species are shifting their home ranges in areas like the Peace region and the most southern parts of B.C., where people on the land are starting to see new ecosystems emerge. Climate change is also creating more openings for invasive species that displace native plants and animals and can harm entire ecosystems.

Existing stewardship initiatives and policies can be updated to consider a changing climate and apply an adaptation lens. This includes prioritizing landscapes that can withstand changing climate conditions and enhancing connections or "corridors" between healthy habitats and ecosystems to

support these natural processes as much as possible. This pathway presents ways for us to better understand the climate impacts for key species, habitats, and protected areas to support ecological and cultural processes of adaptation. This includes using practices like cultural and prescribed burning to establish a healthy relationship between fire and forest ecosystems. B.C. and Canada have also recently launched the development of a new Nature Agreement to strengthen conservation province-wide, and are committed to working with Indigenous peoples on these efforts. This includes exploring new ways to protect and restore habitat and strengthen ecosystem resilience to climate change.

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. B.C. is a founding member of the International Alliance to Combat Ocean Acidification, which works to increase awareness, understanding and action on ocean acidification and other climate-related changes in ocean conditions. The Province intends to develop an ocean acidification plan in the coming years to further address the impacts of changing ocean conditions on communities, marine ecosystems, and the economy.

We also need to take a long-term approach that finds ways to balance the changing availability and distribution of water with the needs of human activity and ecosystems. To address this, the Province is looking at developing new planning initiatives to help secure our water supplies, now and for generations to come.

PROTECTED AREAS AS LIVING LABS

B.C. Park's Living Lab Program promotes B.C.'s protected areas as places to learn about the effects of climate change and how to manage for them. Working in partnership with B.C. academic institutions, including collaboration with the broader conservation community, Indigenous communities and knowledge holders, this research considers such things as how connectivity between parks can build resilience for species and ecosystems as the climate changes, and informs decision making on adaptative actions that can be taken both inside and outside parks.


Image: Jessie Hemphill

ACTION HIGHLIGHTS FOR 2021-2022

- Identify opportunities for using nature-based solutions for climate adaptation and greenhouse gas reductions, in collaboration with partners.
- Assess climate risks and vulnerabilities to B.C. fisheries and aquaculture.
- Conduct initial work on a watershed security strategy and assess risks to water quality from contaminated sites under future climates.
- Improve understanding of climate impacts on BC Parks' infrastructure and operations.

PROPOSED ACTIONS FOR 2022-2025

Enhance Watershed Security and Strengthen Marine Resilience

- Create a Watershed Security Strategy and begin development of an associated fund to help improve the health of B.C.'s watersheds.
- Develop an ocean acidification action plan, including research and partnerships to support marine resilience, healthy ecosystems and communities.
- Work with partners to pilot the development of water supply and demand management plans for priority watersheds where climate change is likely to result in greater water scarcity.

Enhance Tools and Approaches for Managing Ecosystems, Parks and Protected Areas

- Develop and implement tools and approaches for integrating climate change knowledge into the assessment, stewardship and management of species, ecosystems, and natural resources. This includes working with Indigenous communities and knowledge holders; identifying, protecting and restoring areas important for maintaining species at risk and biodiversity in a changing climate; and monitoring and managing invasive species.

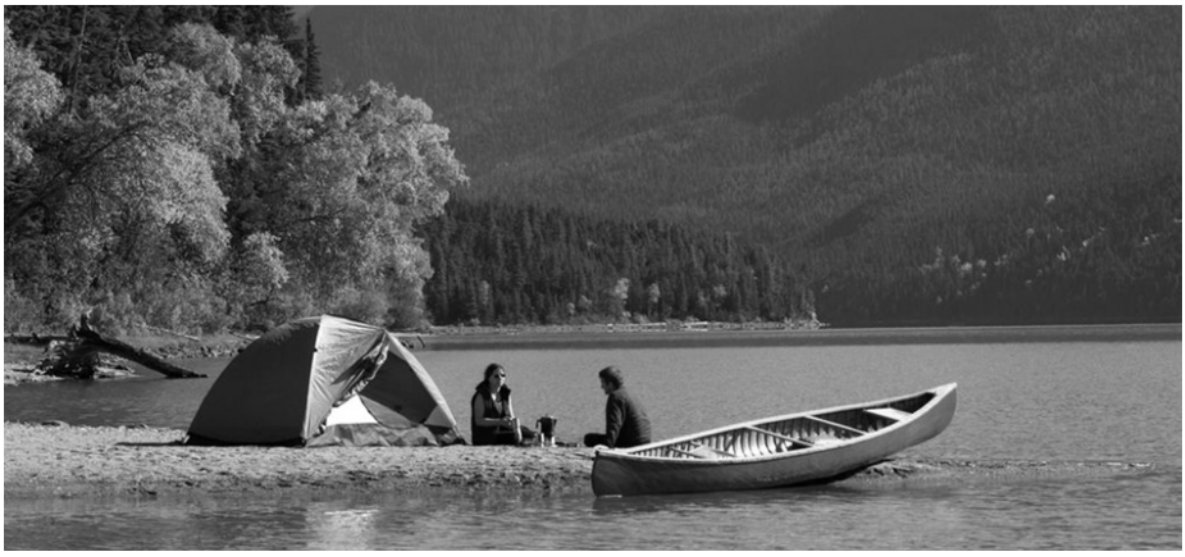
- Through the Together for Wildlife strategy, complete a review of land designations under the *Land Act, Wildlife Act, Oil and Gas Activities Act*, and *Forest and Range Practices Act* that contribute to conservation to ensure they effectively target the intended habitats in light of climate change impacts and habitat alterations.

- Explore climate change resilience in policy and management options informed by the independent panel report, A New Future for Old Forests.

- Promote and enhance the use of nature-based solutions for strengthening community and ecosystem resilience and managing climate-related hazards, such as extreme heat and flooding.

- Explore ways to protect and preserve cultural heritage in a changing climate, including working with the First Peoples' Cultural Council on a program to better understand climate change impacts on Indigenous cultural heritage resources.

- Understand and address climate impacts to parks and protected areas including on cultural heritage sites, trails, campgrounds and infrastructure.



Pathway 4: Advance a Climate-Ready Economy and Infrastructure

Climate change has significant impacts on B.C.'s business and industrial sectors, as well as the infrastructure we all rely on – from roads and bridges to communication and energy systems to schools and hospitals. In some sectors, such as agriculture and forestry, work has been happening for several decades to anticipate and adapt to a changing climate, while for other sectors this is a newer consideration.

Planning and preparing for a changing climate is not only smart business, but helps ensure we have a healthy, innovative and resilient economy in the future. This pathway helps to ensure that B.C. business and industry can address the risks of climate change, while also helping to maintain a resilient workforce and build food security in a changing climate. We are putting in place training and programs to make our buildings, highways and other infrastructure ready for extreme weather - and moving forward with climate-proofing our schools, hospitals and other public sector buildings to make sure they're ready when we need them most.

B.C.'s economy relies on natural resources, which account for a significant proportion of the province's economic base. Forestry and forest products alone account for 33% of our international exports. We are already seeing disruptions to local economies and workers in some parts of B.C. This is especially evident where climate change has contributed to closures of forestry operations through a combination of recent extreme wildfire seasons and the longer-term impacts of Mountain Pine Beetle. As we look at ways to prepare and adapt to the changing climate, we need to ensure that workers and others who are impacted are supported.

To help maintain a healthy, resilient economy in all parts of B.C., we need to proactively include climate impacts and information in business decisions and the way we build infrastructure. This will allow us to reduce risks, while enhancing our readiness and capacity to deal with those risks we can't avoid. It will also allow us to take advantage of changes in climate for new business opportunities. The finance, investment, and

BUILDING RESILIENCE IN AGRICULTURE

The Climate & Agriculture Initiative BC (CAI) works with the agriculture and research sectors, as well as all levels of government, to increase the resilience of B.C. agriculture to the impacts of climate change such as wildfire, drought, flooding, and pests.

Delivering the B.C. Ministry of Agriculture, Food and Fisheries' climate adaptation programs, CAI works with partners to develop and implement regional adaptation plans in key agricultural areas of the province, as well as demonstrate and evaluate adaptation practices on B.C. farms and ranches.

insurance sectors also have a role to play in supporting businesses to identify and disclose climate-related risks, providing greater certainty and security for investors. And we need to provide resources to small and medium businesses to prepare for a changing climate.

"Over the past five decades, the costs of weather-related disasters like floods, storms, and wildfires have risen from tens of millions of dollars to billions of dollars annually in Canada. Insured losses for catastrophic weather events totaled over $18 billion between 2010 and 2019, and the number of catastrophic events was over three times higher than in the 1980s."

– Canadian Institute for Climate Choices[6]

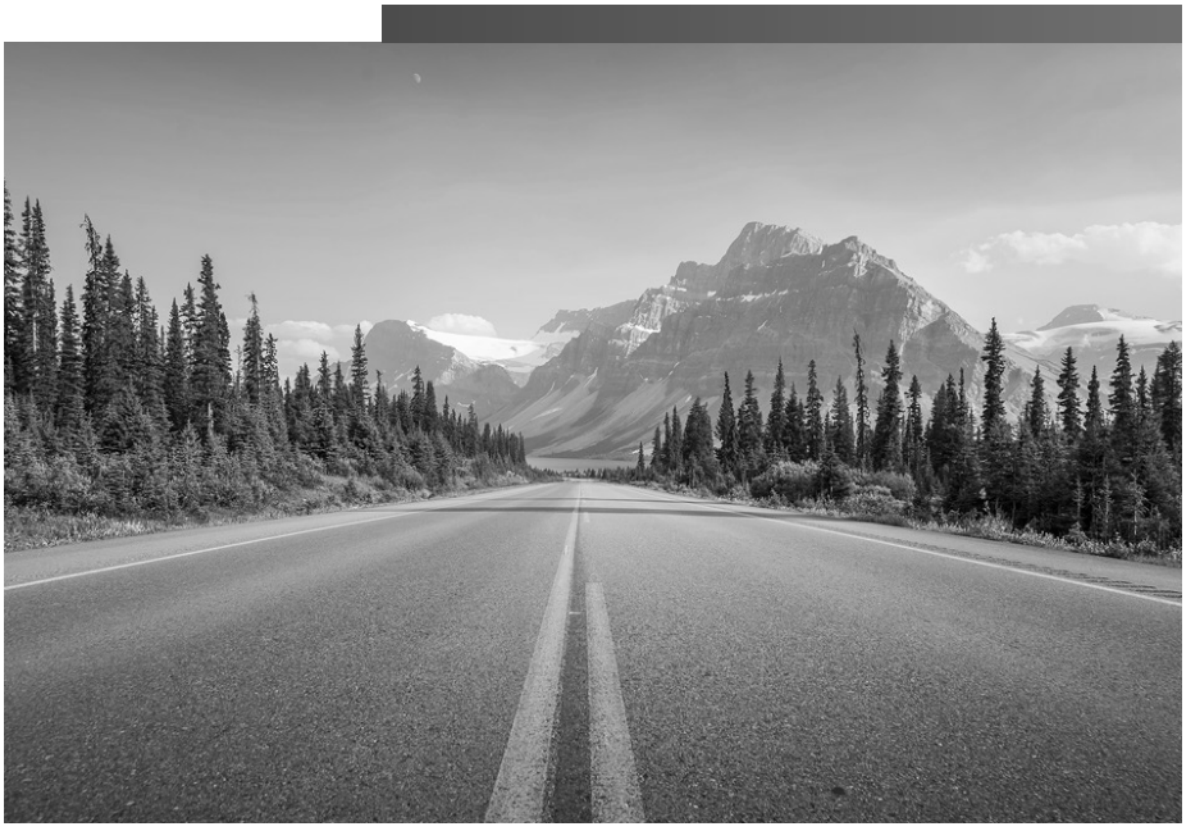
The Province has heard how climate change is already affecting the livelihoods of Indigenous peoples. For example, wildfire is restricting forestry activities and impacting tourism opportunities. Rising water temperatures are affecting commercial and subsistence fisheries. And traditional foods and medicines are becoming more difficult to access as timing, health and abundance of species changes. With this strategy, we will work with Indigenous enterprises to identify climate risks and develop tools to respond.

We are also taking steps to make climate resilience the new "business as usual" for B.C.'s public sector. This will help to protect the health and safety of the two million people who use and visit public sector buildings each year, increase the longevity of our public sector assets, and ensure that quality services are maintained in a changing climate. This approach provides leadership to support broader market transformation towards climate resilient buildings in B.C.

CLIMATE RESILIENCE GUIDELINES FOR BC HEALTH FACILITY PLANNING & DESIGN

B.C.'s health authorities collaborated with building experts to develop guidelines that support building climate resilient health facilities across the province. The guidelines amplify and accelerate ongoing work to reduce climate risks, build resilience at the site and community levels, and meet greenhouse gas reduction targets. These guidelines provide practical advice on integrating climate science and climate risk assessments to support the multidisciplinary teams responsible for planning and designing health facilities in B.C.

6 Canadian Institute for Climate Choices, 2020. *Tip of the Iceberg: Navigating the Known and Unknown Costs of Climate Change for Canada*, p. iii.



ACTION HIGHLIGHTS FOR 2021-2022

- Promote reliable transportation networks by assessing climate impacts on vulnerable highway culverts and resource roads.
- Improve the Province's understanding of agricultural water infrastructure and climate risks to mining and energy industries.
- Advance use of the Climate Change Informed Species Selection Tool by decision makers in the forest sector.
- Expand the Province's understanding of climate risks to coastal communities and economies to inform a provincial coastal strategy.
- Promote a climate-ready public sector through assessing climate risks on government buildings.

PROPOSED ACTIONS FOR 2022-2025

Increase the Resilience of our Buildings and Infrastructure

- Strengthen the climate resilience of our transportation infrastructure to better prepare for extreme weather and ensure community and business lifelines are reliable in the changing climate.
- Explore opportunities to increase resilience of buildings in B.C. which could include:
  - Working with the National Research Council to develop and adopt building codes that include future climate design factors, such as the BC Energy Step Code;
  - Providing training to the public sector and building industry on the use of future climate information to support market transformation; and
  - Creating a climate resilient public sector buildings policy that could include:
    - » assessing current and future climate risks to public sector buildings.
    - » requiring future climate be considered in capital planning.
    - » demonstrating and sharing best practices among public sector organizations on climate resilient buildings.
- Explore integrating resilience considerations with existing and proposed energy efficiency programs for buildings.

Image: Andrew Latrielle, courtesy naturallywood.com

Support Business and Industry to Respond to Climate Risks

- Collaborate with business and industry, including Indigenous enterprises, tourism, small businesses, industry sectors and labour organizations to identify climate risks and develop tools to respond. This includes supporting the private sector to adopt climate risk assessment and adaptation practices and supporting workers and employers to create a climate-resilient workforce and jobs.

- Continue to work with farmers and the agriculture sector to strengthen resilience to climate risks. This includes assessing climate-related risks to food supply security and promoting innovative solutions, such as supporting water infrastructure and on-farm adaptation.

- Continue to support a resilient forest economy through integration of climate change mitigation and adaptation measures such as climate change-informed tree species selection and management, stand and landscape management, and harvesting strategies.

Image: BC Farmers' Market Trail & Aaron Whitfield

3. MEASURING AND REPORTING OUR PROGRESS

We are acting now to help ensure that B.C. is prepared for the climate of the future. We also recognize that building climate resilience through adaptation is an ongoing process that takes place over years and decades. As we learn from experience here in B.C. and in other jurisdictions, we will adjust course as needed to ensure our actions are as effective as possible.

To support this intention and keep us on track, the Province's *Climate Change Accountability Act* requires annual reporting on actions taken, expected outcomes and future plans to manage climate change risks. The Climate Action Secretariat will continue to report on provincial actions in the Minister of Environment and Climate Change Strategy's annual Climate Change Accountability Report. To ensure that the people of B.C. have access to current information, the annual report will include the most recent information on climate change risks. In addition, a comprehensive assessment of climate risks will be undertaken every five years. Putting the accountability framework into law means that future governments will also be accountable for managing climate risks.

We will be developing a monitoring and evaluation framework over the coming year with our partners including Indigenous Nations and organizations, municipalities, and regional districts. The Province will also work with public sector organizations, such as school districts and health authorities to build and implement requirements for reporting on climate risk. This will support the Province in accurately reporting on known climate risks, actions to manage climate risks, and public sector progress to prepare for a changing climate.

Together, these measures will keep us open and transparent about the effectiveness of our actions and areas where more focus is needed, holding government accountable for the commitments we make now and in the future.

APPENDIX

Summary of Proposed Actions for 2022-2025

THEMES	ACTIONS
PATHWAY 1: Strengthen Foundations – Data, Monitoring, Education and Partnerships	
Integrate the Changing Climate into Governance and Decision Making	Continue to bring the changing climate into relationships between the Province and Indigenous Nations, for example, by planning for a resilient future together through stewardship forums like the Marine Plan Partnerships initiative and a modernized approach to land use planning.
	Work in partnership with Indigenous Nations and organizations to identify priorities and find responses to our changing climate grounded in Indigenous ways of knowing.
	Improve and promote understanding of the disproportionate effects that climate change has on distinct human populations, including the potential for displacement, and integrate this knowledge into government initiatives, including climate risk assessments and adaptation plans.
	Consider the changing climate in the B.C. government's relevant decisions including legislation, policy and program delivery across provincial ministries and sectors. This includes continuing to develop approaches to climate risk assessment that consider Indigenous experiences and values and can be applied in diverse contexts.
Explore Opportunities for Community-based Climate Resilience	Explore additional opportunities for Indigenous Nations, municipalities, regional districts and organizations to understand, monitor, manage and reduce climate risks. These will consider the unique needs of rural, remote and Indigenous communities, including protection and inclusion of Indigenous knowledge.
	Consider climate risks in existing infrastructure funding programs so that projects are more likely to be reliable in a changing climate.

THEMES	ACTIONS
Expand Education on Climate Impacts and Adaptation	Expand climate resilience education by: ▪ Developing learning resources for K-12 schools and other educational institutions to enhance student learning about important topics like our changing climate, adaptation, stewardship, and local Indigenous values and epistemologies (ways of knowing); ▪ Continuing to develop learning resources, professional development materials and guidelines for practicing professionals on bringing the future climate and resilience principles into resource management, planning and engineering; and ▪ Exploring opportunities to raise public awareness about B.C.'s changing climate.
Enhance Climate Data Monitoring and Forecasting	Expand provincial, Indigenous and local monitoring networks for stream flow, groundwater, snow, glaciated areas, agricultural areas, climate, ocean conditions, ocean acidification, and ecosystems.
	Support the Pacific Climate Impacts Consortium, and other research and service organizations to expand their climate data, research, modeling and training services to meet local, regional and provincial needs. This includes services for provincial government agencies, Indigenous communities, public sector organizations, local governments, businesses and industry.
	Enhance predictive services and early warning capacity, including the B.C. River Forecast Centre, to bring the future climate into forecasting floods, water scarcity, and wildfires.

THEMES	ACTIONS
PATHWAY 2: Enhance Community Climate Resilience	
Support Resilient Community Planning and Disaster Risk Management	Build climate resilience into community planning, disaster risk management and recovery by making data more accessible, developing new tools and guidance, and ensuring equity is addressed.
	Release and implement a B.C. Flood Strategy that could include such actions as working with other levels of government to establish a provincial floodplain mapping program that will inform and modernize flood management in a changing climate.
	Partner with Indigenous and non-Indigenous communities to expand the use of cultural and prescribed burning to reduce wildfire risks, create resilient natural ecosystems and preserve cultural practices.
Strengthen Individual and Community Health and Wellness	Support B.C. Housing to lead development of a provincial extreme heat and wildfire smoke response plan for populations disproportionately impacted by climate change.
	Promote the resilience of families and communities to the health and social impacts of climate change through collaborative partnerships.
	Respond to food security needs in a changing climate based on what was heard through engagement with Indigenous and community partners.
Facilitate Collaboration and Shared Learning	Facilitate collaborative, multi-partner approaches to climate change and disaster planning initiatives at a regional level. This could include providing regional coordinators and technical support.
	Work with an Indigenous organization to develop a community learning network for Indigenous communities and organizations to share approaches that enhance climate resilience. This could include regional Indigenous climate adaptation coordinators.
	Establish a community climate resilience program with Indigenous communities, friendship centres, local governments and non-profit organizations that is place-based, equity-informed and youth-driven.

THEMES	ACTIONS
PATHWAY 3: Foster Resilient Species and Ecosystems in a Changing Climate	
Enhance Watershed Security and Strengthen Marine Resilience	Create a Watershed Security Strategy and begin development of an associated fund to help improve the health of B.C.'s watersheds.
	Develop an ocean acidification action plan, including research and partnerships to support marine resilience, healthy ecosystems and communities.
	Work with partners to pilot the development of water supply and demand management plans for priority watersheds where climate change is likely to result in greater water scarcity.
Enhance Tools and Approaches for Managing Ecosystems, Parks and Protected Areas	Develop and implement tools and approaches for integrating climate change knowledge into the assessment, stewardship and management of species, ecosystems, and natural resources. This includes working with Indigenous communities and knowledge holders; identifying, protecting and restoring areas important for maintaining species at risk and biodiversity in a changing climate; and monitoring and managing invasive species.
	Through the Together for Wildlife strategy, complete a review of land designations under the *Land Act, Wildlife Act, Oil and Gas Activities Act*, and *Forest and Range Practices Act* that contribute to conservation in light of climate change impacts and habitat alterations.
	Explore climate change resilience in policy and management options informed by the independent panel report, A New Future for Old Forests.
	Promote and enhance the use of nature-based solutions for strengthening community and ecosystem resilience and managing climate-related hazards, such as extreme heat and flooding.
	Explore ways to protect and preserve cultural heritage in a changing climate, including working with the First Peoples' Cultural Council on a program to better understand climate change impacts on Indigenous cultural heritage resources.
	Understand and address climate impacts to parks and protected areas including on cultural heritage sites, trails, campgrounds and infrastructure.

THEMES	ACTIONS
PATHWAY 4: Advance a Climate-Ready Economy and Infrastructure	
Increase the Resilience of our Buildings and Infrastructure	Strengthen the climate resilience of our transportation infrastructure to better prepare for extreme weather and ensure community and business lifelines are reliable in the changing climate.
	Explore opportunities to increase resilience of buildings in B.C. which could include: ▪ Working with the National Research Council to develop and adopt building codes that include future climate design factors, such as the BC Energy Step Code; ▪ Providing training to the public sector and building industry on the use of future climate information to support market transformation; and ▪ Creating a climate resilient public sector buildings policy that could include: • assessing current and future climate risks to public sector buildings • requiring future climate be considered in capital planning • demonstrating and sharing best practices among public sector organizations on climate resilient buildings.
	Explore integrating resilience considerations with existing and proposed energy efficiency programs for buildings.
Support Business and Industry to Respond to Climate Risks	Collaborate with business and industry, including Indigenous enterprises, tourism, small businesses, industry sectors and labour organizations, to identify climate risks and develop tools to respond. This includes supporting the private sector to adopt climate risk assessment and adaptation practices and supporting workers and employers to create a climate-resilient workforce and jobs.
	Continue to work with farmers and the agriculture sector to strengthen resilience to climate risks. This includes assessing climate-related risks to food supply security and promoting innovative solutions, such as supporting water infrastructure and on-farm adaptation.
	Continue to support a resilient forest economy through integration of climate change mitigation and adaptation measures such as climate change-informed tree species selection and management, stand and landscape management, and harvesting strategies.

Share Your Thoughts

Please email your comments to **ClimateReadyBC@gov.bc.ca**
or visit **engage.gov.bc.ca/climatereadybc** for more information.

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Climate Preparedness and Adaptation Strategy

Draft Strategy and Phase 1 Actions for 2021-2022

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our nature. our power. our future.

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

CONTENTS

MESSAGE FROM THE MINISTER

People in British Columbia have increasing, direct and local knowledge of climate change impacts. Many of us have been affected by record forest fires, extreme droughts and dangerous flooding in our communities. We have seen the effects on our homes, livelihoods, physical health and mental wellbeing. It's why we need to work together to build a better future so that everyone and every community has the supports they need to be resilient in the face of new climate-related risks.

We know that investing in this future now makes good financial sense, reducing costs in the long run and substantially improving outcomes for everyone. Developing a comprehensive plan to prepare and adapt to climate change will require learning from one another, considering a range of perspectives, and finding strength in diversity to ensure our responses are fair and effective.

That is exactly what we set out to do with B.C.'s Climate Preparedness and Adaptation Strategy. It is a plan that has benefitted from the substantial input and expertise of people, communities, businesses, organizations, and institutions from across the province – all providing important insights that will strengthen our response to climate change.

Indigenous peoples, in particular, have been central partners in developing the strategy. Climate change is already having a profound impact on Indigenous peoples' relationships with the land, air and water, including by changing the availability of traditional foods and medicines like salmon, moose, berries, cedar and many others. Many Indigenous communities are doing critical work to address the challenges of food security, wildfire and flood mitigation, species protection and energy resilience. Upholding rich and diverse Indigenous knowledge systems is critical to building resilience together.

We're committed to continuing our partnership with Indigenous peoples, in line with the *B.C. Declaration on the Rights of Indigenous Peoples Act*, to improve our responses to climate change.

The Climate Preparedness and Adaptation Strategy details actions that we are taking in 2021. It also includes a list of potential actions for which we are seeking public input, that could be implemented starting in 2022 and in the three years following. This feedback will be valuable to the strategy and I encourage everyone to take the time to provide comments.

The actions included here build on the significant commitments already underway – from investments to reduce wildfires and flooding risks and impacts in our communities to supports for better science and risk assessments. StrongerBC alone is investing $90 million to help B.C. prepare for a changing climate while supporting jobs for people affected by the COVID-19 downturn.

We recognize this challenge can't be addressed all at once. It will take many years of work from governments, businesses, and all corners of society to be truly prepared for the changes ahead. But it is critical that we increase our ambition now and work together to address this challenge head on. It's a tall order that requires leadership and collaboration but we know it's necessary, and we're ready to get to work.

George Heyman
Minister of Environment and Climate Change Strategy

MESSAGE FROM B.C.'S PROVINCIAL HEALTH OFFICER

Our physical, social, economic and mental health and well-being are inextricably connected to our climate. Life on earth is dependent on a healthy environment and is sustained by a complex and delicate balance of interactions between the environment, the fauna and flora, and people. Climate change has started to alter that balance.

Clean air, safe water, sufficient and safe food, access to care and certainty knowing that our communities and homes are safe from extreme weather events, extreme temperatures, or water shortages, to name a few: this is what is required for healthy thriving communities and healthy, productive and happy people.

We can now look back and clearly witness the current climate trajectory and are better equipped to understand key factors behind these changes, and the measures needed to modify that trajectory. It is imperative that we think beyond next month or next year, and work to actively shape a brighter, more sustainable and resilient future for all of us.

Dr. Bonnie Henry
Provincial Health Officer of British Columbia

EXECUTIVE SUMMARY

Throughout B.C., people are experiencing the effects of climate change – from increasing wildfires, changes to ecosystems and loss of species to more frequent flooding, longer summer droughts and heatwaves.

Preparing for climate change means improving our ability to anticipate, respond to and recover from extreme weather events and emergencies, as well as dealing with more gradual changes like water shortages, changes in growing seasons and sea level rise. It involves building our capacity to reduce and manage risks from climate change to protect our buildings and infrastructure, restore habitat and strengthen ecosystems, maintain community health and wellbeing, decrease costs associated with climate impacts and ensure B.C.'s economy continues to thrive.

While extreme weather events often garner the most attention, the climate influences everything – from the types of plants and animals that make up an ecosystem, to the temperature in our homes and the kind of foods we can grow, to the design of our sewers and roads. The relative stability of our climate has also been a critical part of maintaining the biodiversity and resilience of ecosystems.

For centuries, the climate has changed at a pace slow enough to allow people, species and landscapes to change along with it. Governments, engineers and others have used the assumption that historical weather patterns will continue in the future to design our buildings and infrastructure, manage natural resources, plan communities, and deliver services. But today that assumption is no longer true. The climate is changing, the impacts are significant, and we need to be ready for the climate of the future.

Our response to the COVID-19 pandemic has shown the value of acting early at a scale that matches the potential risk. Similarly, by planning and taking action now, we can help ensure that people will have the support they need to stay safe and respond effectively in a changing climate. That's why the Province committed $90 million for climate preparedness and adaptation in B.C.'s economic recovery plan, called StrongerBC, including investments to reduce wildfire risk, improve roads and highways, conserve wetlands and ecosystems, and support adaptation on farms. These investments build on the substantial work that is already underway to help B.C. prepare for climate change and provide good jobs for people across the province.

The draft Climate Preparedness and Adaptation Strategy is our next step in this direction and is an important part of our CleanBC plan. It builds on work already underway across several ministries and the 2019 Preliminary Strategic Climate Risk Assessment, which examined some of the greatest risks to B.C. as a result of climate change. Informed by the assessment, the strategy outlines actions needed to prepare for these risks.

The strategy highlights our overall direction and the actions we're taking in 2021-22 to help prepare B.C. for the impacts of climate change. It also presents a suite of proposed actions for 2022-25, which are open for public comment. Taking this two-step approach allows us to get to work on actions that are needed now, while continuing to engage on and refine actions for the future. It also allows the Province to align our climate adaptation actions with the federal government as they work toward developing a national climate adaptation plan.

SHARE YOU THOUGHTS
on proposed actions for 2022-25

Email your comments to:
ClimateReadyBC@gov.bc.ca

For more information visit:
engage.gov.bc.ca/climatereadybc

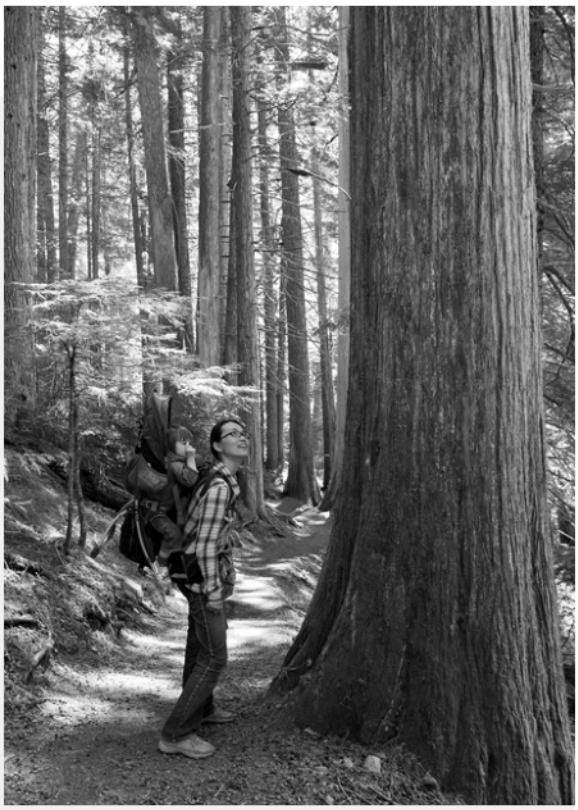
The comment period will be open until August 12, 2021.

Actions in the strategy are grouped into four key pathways:

- Strengthen foundations for success, including expanding data, monitoring, education and partnerships;
- Enhance community climate resilience;
- Foster resilience of species and ecosystems in a changing climate; and
- Advance a climate-ready economy and infrastructure.

In 2021-22 we are moving forward with a range of initiatives such as:

- Increasing understanding of climate risks through improved data, monitoring and forecasting;
- Conducting initial work on a B.C. Flood Strategy in collaboration with other levels of government;
- Improving the provincial response to extreme heat and wildfire smoke for unhoused and housing insecure populations;
- Identifying opportunities for using nature-based solutions for climate adaptation and greenhouse gas emissions reductions; and
- Promoting reliable transportation networks by assessing climate impacts on vulnerable highway culverts and resource roads.



In addition, we are inviting the public to provide input on a set of proposed actions for 2022-25. The comment period will be open until August 12, 2021. Input will be used to finalize actions and inform the next phase of the strategy starting in 2022.

Please email your comments to ClimateReadyBC@gov.bc.ca or visit engage.gov.bc.ca/climatereadybc for more information.

The actions in this strategy were developed together with people and organizations throughout B.C., including Indigenous Nations, communities and organizations, and builds on the extensive climate adaptation work done to date. The strategy is also based on a set of guiding principles that help ensure we are taking into consideration existing social conditions and challenges as we prepare for climate change.

All actions will be coordinated with other government priorities to ensure we use resources wisely. The Province is committed to being transparent, accountable, and fiscally responsible as we work together to build resilience to the changes to come.

Taking a whole-of-society approach, this strategy aims to protect people in B.C. from the threats posed by a changing climate while also caring for the ecosystems we all depend on.

ACTION HIGHLIGHTS FOR 2021-2022

PATHWAY	ACTIONS
Strengthen foundations –data, monitoring, education and partnerships	▪ Work with Indigenous Nations and organizations to increase community resilience to climate change ▪ Increase understanding of climate risks through improved data, monitoring and forecasting ▪ Improve public understanding of wildfire threats and B.C.'s changing climate
Enhance community climate resilience	▪ Conduct initial work on a B.C. Flood Strategy in collaboration with other levels of government ▪ Expand community planning and disaster risk management through enhanced use of climate data ▪ Improve the provincial response to extreme heat and wildfire smoke for unhoused and housing insecure populations ▪ Increase understanding of climate impacts on health infrastructure ▪ Broaden the Province's understanding of food security within the context of a changing climate
Foster resilience of species and ecosystems in a changing climate	▪ Identify opportunities for using nature-based solutions for climate adaptation and greenhouse gas reductions, in collaboration with partners ▪ Assess climate risks and vulnerabilities to B.C. fisheries and aquaculture ▪ Conduct initial work on a watershed security strategy and assess risks to water quality from contaminated sites under future climates ▪ Improve understanding of climate impacts on BC Parks' infrastructure and operations
Advance a climate-ready economy and infrastructure	▪ Promote reliable transportation networks by assessing climate impacts on vulnerable highway culverts and resource roads ▪ Improve the Province's understanding of agricultural water infrastructure and climate risks to mining and energy industries ▪ Enhance use of the Climate Change Informed Species Selection Tool by decision makers in the forest sector ▪ Expand the Province's understanding of climate risks to coastal communities and economies ▪ Promote a climate-ready public sector through assessing climate risks on government buildings

VISION

B.C. is a climate resilient society prepared for, and adapting to, 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

Image: Alderhill Planning Inc.

DRAFT GUIDING PRINCIPLES

The following six principles have guided our choice of actions in the draft strategy and will continue to inform our work going forward. The principles were developed with input from people across B.C.

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 a just approach that integrates equity considerations into climate adaptation responses.

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 and provide comment, please visit: engage.gov.bc.ca/climatereadybc.

1. INTRODUCTION: BUILDING A CLIMATE READY B.C.

The changes in climate we are experiencing today are driven by higher levels of greenhouse gases in the atmosphere, resulting from many decades of activities such as burning fossil fuels and clearing land. 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. The actions in this draft strategy strengthen our capacity to anticipate and respond to sudden events like wildfires, floods and heatwaves, while also helping us to respond to changes that happen more slowly like loss of habitat and rising sea levels. By planning ahead and acting early, we can be ready for the challenges and new possibilities the changing climate may bring.

Many in B.C. remember the summer of 2018 when much of the province was blanketed in smoke as a result of nearly 600 wildfires. Reports of medical issues climbed as air quality advisories persisted, in some areas for more than 40 days. Thousands were forced to evacuate, while thousands more were put on alert to leave at a moment's notice. This was the worst wildfire season on record, surpassing the previous record set in 2017.

While the province has always had events like wildfires, floods and droughts, climate change will continue to make them worse. That's why preparing now for a changing climate is so important to help protect us from future shocks and strengthen the resilience of our communities, ecosystems and economy.

There is also a strong business case for preparing for climate change. A 2019 report from the Global Commission on Adaptation notes that every dollar spent on measures to prepare for climate impacts results in savings of 2 to 10 dollars in the future.[1]

We all have a role to play and by working together, we can reduce and manage the risks from climate change, while also finding opportunities in the changes ahead.

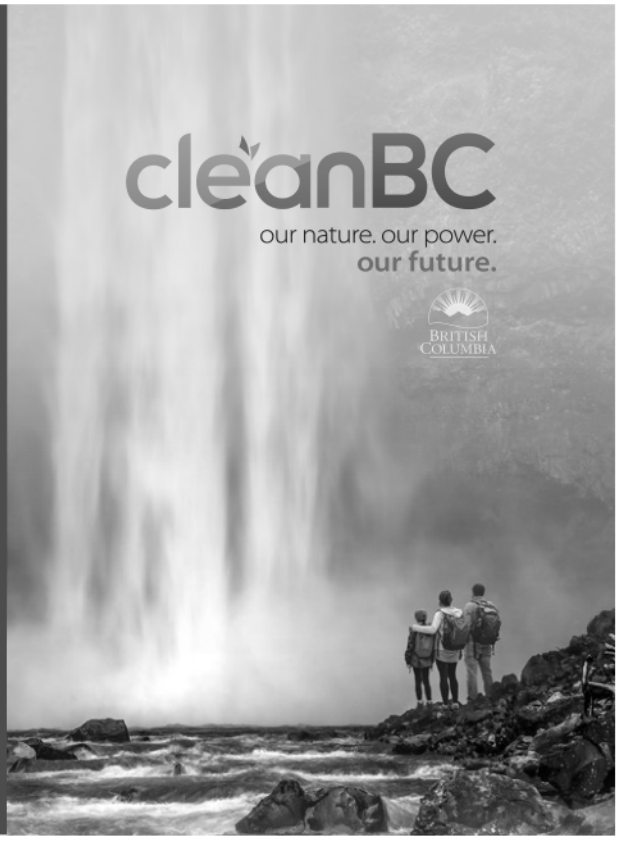
1 Global Commission on Adaptation, 2019. Adapt now: a global call for leadership on climate resilience. gca.org/reports/adapt-now-a-global-call-for-leadership-on-climate-resilience.

Across B.C., many Indigenous Nations, municipalities, regional districts, public sector organizations, industries and businesses have already developed climate adaptation plans, while others are initiating research and projects to prepare for our changing climate. Together, these groups are working to ensure our communities and economy are ready for changes that are expected in the coming years and decades.

The Province is committed to advancing climate adaptation by partnering with Indigenous Nations and organizations, and collaborating with local governments and other groups, to support their efforts to prepare for climate change. We will continue to support development of climate knowledge and work with partners to advance adaptation in B.C. through planning, research and capacity building, as well as by making training and resources on adaptation available and accessible. We will move forward with a range of initiatives including conducting initial work on a flood strategy, strengthening transportation infrastructure, promoting water security, developing an ocean acidification plan and addressing climate risks in health services.

The Province's CleanBC plan provides a pathway to reduce our greenhouse gas emissions and build a cleaner future for everyone in B.C. But reducing emissions is only part of addressing climate change.

The Climate Preparedness and Adaptation Strategy addresses the need to prepare for, respond to and recover from the unavoidable impacts of climate change – like record-breaking wildfires and heat waves, extended droughts, floods, loss of biodiversity and habitat, ocean acidification and rising sea levels. This is because elevated levels of greenhouse gases already in the atmosphere will continue to cause changes for many years to come.



Partnering with Indigenous peoples

Indigenous peoples are essential partners in adapting to climate change. 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.

The Province has engaged with Indigenous Nations, 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 Province has been working with the Indigenous Climate Adaptation Technical Working Group, the B.C. First Nations Leadership Council Technical Working Group on Climate Change and other Indigenous organizations.

We will continue to work closely with Indigenous peoples to strengthen our engagement processes and deepen our partnerships as we prepare for a changing climate. Nothing less will enable a truly effective response to the challenges we face together.

The Province has committed to the implementation of the United Nations Declaration on the Rights of Indigenous Peoples (the UN Declaration). The Province's *Declaration on the Rights of Indigenous Peoples Act* contributes to that implementation by requiring the B.C. government to take all measures necessary to ensure BC 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.

A number of the articles of the UN Declaration are especially relevant to this strategy, including 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 which 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.

Building on Our Progress

This draft strategy builds on over a decade of work within government and across communities to prepare the province for a changing climate. It draws on lessons learned from past experience, and reports such as the independent review of flooding and wildfire in 2017 by Chief Maureen Chapman and George Abbott. It is also a direct response to the 2018 Auditor General of B.C. report, which recommended that the B.C. government complete a province-wide climate risk assessment and develop a more comprehensive adaptation strategy.

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. Findings suggest that of those risks assessed, the greatest risks to B.C. are severe wildfire, seasonal water shortage, heat wave, ocean acidification, glacier mass loss and long-term water shortage events. Other risks with significant consequences include severe river flooding and severe coastal storm surge. All of these risks would result in significant and costly impacts for B.C.

The preliminary risk assessment is based on scientific studies and the contributions of experts across provincial ministries and outside of government. It relies on a Western knowledge approach and is intended for use at a provincial scale.[2] As a high-level assessment, it does not examine risks at local or regional scales or within specific sectors. Through continuing work, the Province is exploring options to build more inclusive approaches to assess and manage climate risks. This includes balancing Indigenous values and knowledge with Western approaches, ensuring an equity lens is applied to the process, supporting community-led risk assessments and adapting the process for different contexts.

> The Province is currently modernizing its emergency management legislation to help B.C. reduce, prepare for, respond to and recover from new and growing risks such as COVID-19 and climate-related hazards, and better meet society's changing needs. In October 2018, B.C. took a major step to become the first Canadian province to adopt the Sendai Framework, a set of international best practices for disaster risk reduction. This international framework recognizes that climate change increases the frequency and severity of disasters, and that both emergencies and gradual changes, like sea-level rise, must be addressed through up-front risk reduction. The new Act will formally align B.C. with this leading-edge approach, and will reflect the B.C. Declaration on the Rights of Indigenous Peoples Act, as well as lessons learned from the COVID-19 pandemic and recent flood and wildfire seasons.

2 Western knowledge is based on a European worldview and has been the foundation for current Canadian and provincial legislation, policy, regulation and institutions (Kapell, 2019)

Image: Tina Neale

The actions proposed in the Climate Preparedness and Adaptation Strategy will expand on a number of existing programs and initiatives to prepare for climate change across government, such as:

- The Community Resiliency Investment Program, introduced in 2018, which provides $60 million to assist Indigenous communities and local governments to reduce local wildfire threats through FireSmart disciplines and Crown Land Wildfire Risk Reduction;
- A robust Cultural and Prescribed Fire program to promote healthy forests and reduce wildfire risk;
- Investments in wildfire risk reduction, reforestation, forest rehabilitation, and other efforts through the Forest Enhancement Society of B.C. and Forest Carbon Initiative;
- Investments of more than $103 million in 248 flood risk reduction projects across the province through Emergency Management B.C. including the Community Emergency Preparedness Fund, which helps local governments and First Nations build resilience in response to emergencies, as well as joint investments with the federal government for the Adaptation, Resilience and Disaster Mitigation program, and the National Disaster Mitigation Program;
- The Climate & Agriculture Initiative BC, which supports the development of regional agricultural climate adaptation plans;
- Guidance on sea dike design and coastal development to help coastal communities prepare for future sea-level rise, developing a B.C. Flood Strategy and modernizing the emergency management legislation;
- Requirements that future climate be incorporated into the design of transportation infrastructure, such as roads and bridges;
- Working with partners like the Pacific Climate Impacts Consortium and UBC's ClimateBC to make climate information and tools more widely accessible; and
- Master of Disaster, a free classroom program for grades 4 to 8 that teaches about hazards in B.C., including floods, wildfires and severe weather and how climate change is influencing their severity and frequency.

The strategy also builds on investment from B.C.'s COVID-19 economic recovery plan, including $90 million to help B.C. prepare for climate change. This includes investments to:

- Conserve wetlands and ecosystems to protect our natural spaces and build nature-based climate solutions, while also creating more than 1,000 jobs for people in hard-hit sectors such as tourism and hospitality;
- Support upgrades to provincial highways and roads to make them more resilient to increased flooding from climate change;
- Reduce the risk of wildfires on Crown land and create more than 500 jobs in rural communities, with funding initiatives including the FireSmart Economic Recovery Fund, BC Community Forest Association, Columbia Basin Trust, among others; and
- Help farmers by boosting support for the Beneficial Management Practices Program that encourages farm practices that protect the air, land and water and prepare for the impacts of climate change.

More examples of work already underway to develop climate resilience across the province can be found on B.C.'s climate preparedness and adaptation website.

The draft Climate Preparedness and Adaptation Strategy builds on these investments, starting with investments in 2021 to begin scoping studies, pilot projects and high-priority research that will strengthen the Province's ability to prepare and adapt to climate risks. The strategy also outlines proposed actions for 2022-25 covering areas including data, education and partnerships, resilient communities and ecosystems, and climate-ready economy and infrastructure.


Image: McKeown Miyoko

Public Engagement

The public is invited to comment on the proposed actions for 2022-25. The comment period will be open until August 12, 2021. We will use the feedback to finalize actions and inform the next phase of the strategy.

Please email your comments to ClimateReadyBC@gov.bc.ca or visit engage.gov.bc.ca/climatereadybc for more information.

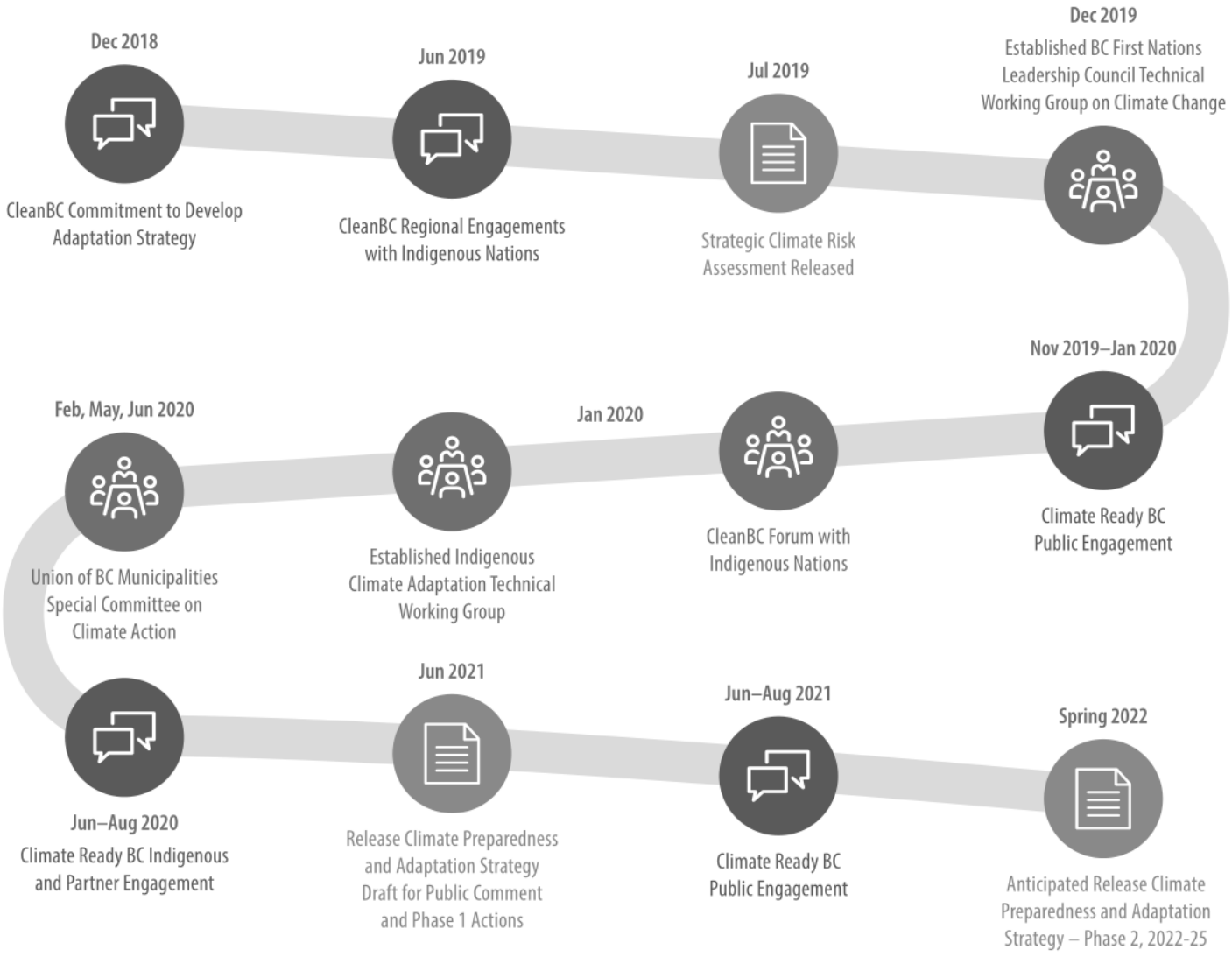
Actions will be phased in over time and aligned with economic recovery from COVID-19 and other priorities to ensure that we use resources wisely. The Province is committed to being transparent, accountable, and fiscally responsible as we work together to build resilience to the changes to come. Under the *Climate Change Accountability Act*, the government is required to produce an annual report that includes information on progress and spending on actions to date as well as future planned actions to achieve B.C.'s carbon emissions targets and prepare for climate impacts. The legislation also requires the most current information on climate risks to be shared every year and a new assessment of climate risks to be done every five years to inform ongoing action.

The draft Climate Preparedness and Adaptation Strategy was developed through a broad approach to engagement, so that it would be well-informed by the experiences and aspirations of a diverse cross-section of communities, sectors and populations in B.C. Between spring 2019 and summer 2020, the Province held regional engagement sessions with Indigenous Nations and organizations as well as one-on-one meetings with Indigenous Nations and other partners. The Province also worked closely with two Indigenous advisory groups, the Indigenous Climate Adaptation Technical Working Group and the B.C. First Nation Leaders Council Technical Working Group on Climate Change. We conducted virtual workshops with Indigenous peoples and many other partners including local government, industry, academia, labour, youth and non-governmental organizations. We also conducted online public engagement including a series of discussion forums and two rounds of surveys in addition to written submissions.

To learn more about the engagement process and read summary reports of what we heard, please visit: engage.gov.bc.ca/climatereadybc.

Image: Ian Reid

TIMELINE FOR CLIMATE PREPAREDNESS AND ADAPTATION STRATEGY ENGAGEMENT AND DEVELOPMENT



We listened, and have been guided by these key themes and issues in developing the strategy and actions:

- Equity
- Indigenous Partnerships and Knowledge
- Collaboration
- Education
- Data and Monitoring
- Call to Action
- Mental Health
- Youth Voices
- Nature-Based Solutions

Understanding B.C.'s Changing Climate

"Indigenous Peoples have a proven expertise that spans millennia. Our knowledge and relationships connected to our Ancestral homelands, passed from generation to generation through songs, ceremony, lived experiences, and Ancestral tellings ensured the sustainable and long-term well-being of our homelands and All Our Relations who live in them."

– Sunny LeBourdais, Secwepemc Nation

Across B.C., we've heard from people who have witnessed significant changes in their lifetimes – from hotter summers with increased wildfire smoke and warmer, wetter winters to changes in the timing of berries ripening, animals migrating and the decline of certain tree species, including culturally important trees like western red cedar.

Image: Alderhill Planning Inc.

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. Their distinct knowledge systems, including practices, skills and philosophies, as well as chronological and landscape-specific data, are critical for identifying and adapting to a changing climate. Indigenous knowledge systems cannot be integrated into Western science, but the two can work together to create knowledge that leads to more resilient and adaptive responses, while also supporting the inherent rights and interests of Indigenous peoples.

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.

WHAT IS INDIGENOUS KNOWLEDGE?

Indigenous knowledge systems are critical to understanding how climate change will impact communities and natural systems. 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.

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; 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.[3]

Recorded climate data for B.C. complements the lived experiences of Indigenous peoples. Over the past century, B.C.'s average annual temperature has increased by 1.2°C, with winter temperatures rising the most. 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.

3 First Nations Leadership Council (2020). Climate Emergency Survey. Métis Nation BC (2019). Gaining a Métis Perspective on Climate Change in BC.

Province-wide average annual precipitation has already increased by an average of 12% (ranging from 10 to 21% by region) from 1900 to 2013, with more heavy, sporadic rainfall events in the spring, and increases in extreme wet and extreme dry conditions in summer.[4] Research has also shown that climate change amplifies extreme events like heat waves, floods, and wildfires. For example, a recent study showed that the 2017 wildfires in B.C. were made more likely, and covered a much greater area, because of the catalyzing effects of climate change.[5]

To understand the possible futures ahead and develop effective adaptation strategies, we need to both understand, strengthen and protect Indigenous knowledge systems, as well as look to climate data and science. We have heard from Indigenous Nations about the critical role knowledge holders play in recognizing changes on the land and identifying what future warming will mean to ecosystems and species, as well as how traditional governance systems are designed in ways that support climate adaptation.

In addition, we have resources such as regional climate modelling for B.C., produced by the Pacific Climate Impacts Consortium and other research institutions, that describe a range of possible futures. Climate information like this can help inform good decision-making.

The following map illustrates some of the projected changes for B.C. 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 north-east regions of the province, will see more precipitation across all seasons.

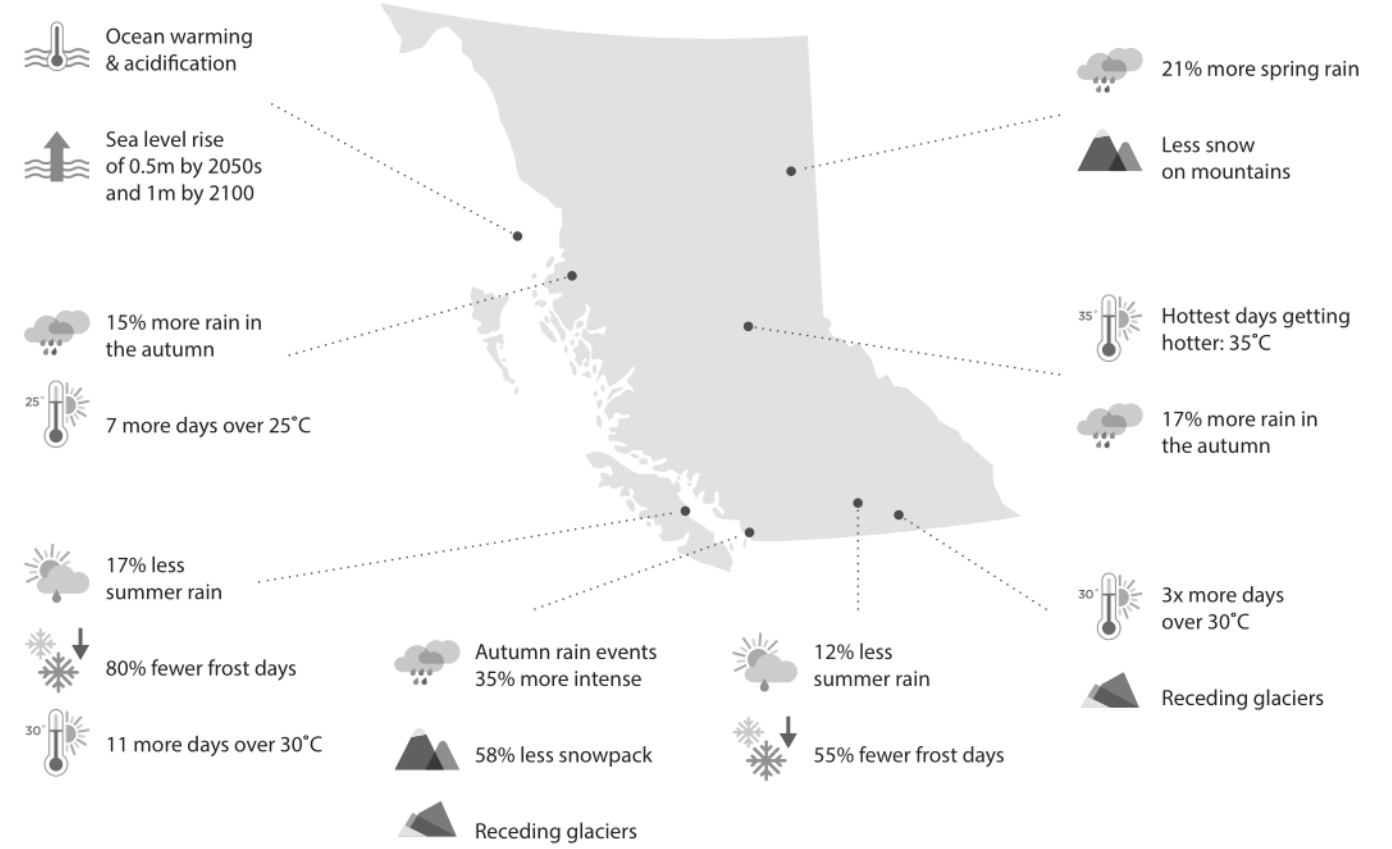
Image: Jessica Hawryshyn

The Marine Plan Partnership for the North Pacific Coast (MaPP) initiative is a collaboration between the Province and 17 coastal First Nations that is applying an ecosystem-based management approach to resource stewardship. The MaPP plans are now being implemented across the Northern Shelf Bioregion and aim to support healthy marine ecosystems and the well-being of coastal communities in the face of a changing climate. Among other priorities, the MaPP Initiative is bringing together Indigenous knowledge and Western science approaches to identify important ecological and cultural values and interests. It is also documenting observations of nearshore habitats and climate variables over time to prioritize areas for conservation and restoration and inform decision making on use of marine resources.

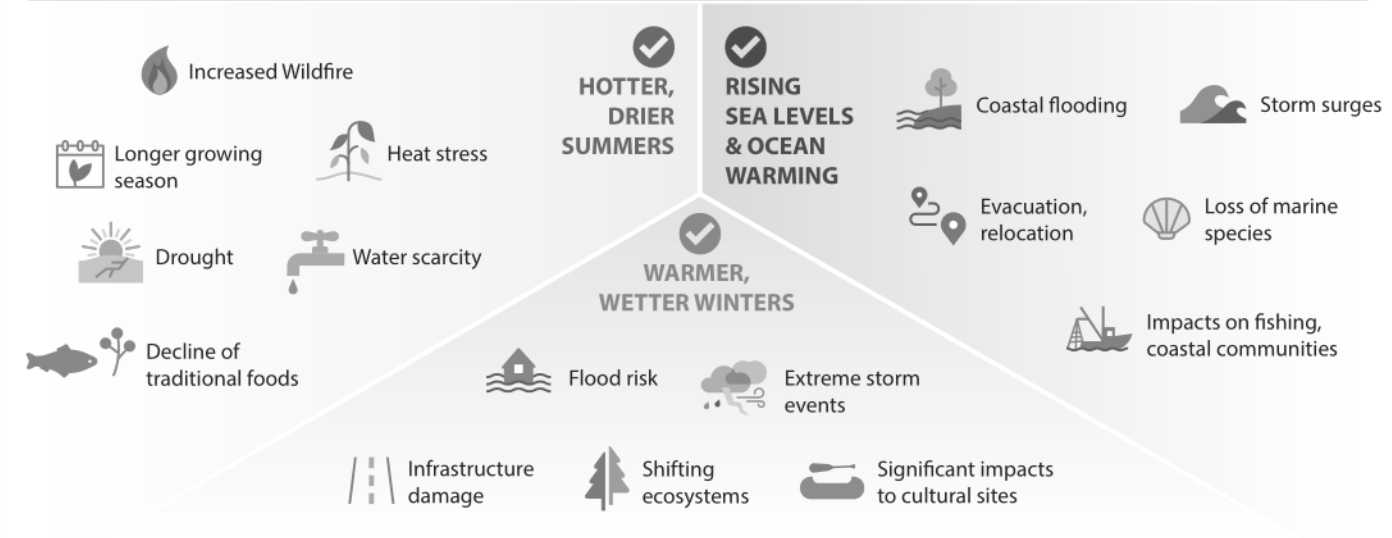
4 Indicators of Climate Change for British Columbia 2016 Update

5 Kirchmeier-Young, M. C., Gillett, N. P., Zwiers, F. W., Cannon, A. J., & Anslow, F. S. (2019). Attribution of the influence of human-induced climate change on an extreme fire season. Earth's Future, 7, 2–10.

CLIMATE PROJECTIONS & IMPACTS IN B.C.



These changes will have important impacts for our communities, economy, health and wellbeing:



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

2. PATHWAYS AND ACTIONS

Image: Melina Scholefield

The Province has identified four pathways to build climate resilience for B.C.:

1. Strengthen foundations for success, including expanding data, monitoring, education and partnerships;
2. Enhance community climate resilience;
3. Foster resilience of species and ecosystems in a changing climate; and
4. Advance a climate-ready economy and infrastructure.

This draft strategy outlines the role of the Province in support of, and partnership with, many other governments, organizations and people across B.C. who are at the centre of actions and decisions for enhancing our collective resilience.

For each pathway, we highlight actions to be implemented in 2021-22 as well as outline a broad suite of proposed actions for 2022-2025.

We are inviting the public to provide input on the proposed actions until August 12, 2021. We will use the feedback to finalize these actions and inform the next phase of the strategy starting in 2022.

Please email your comments to ClimateReadyBC@gov.bc.ca or visit engage.gov.bc.ca/climatereadybc for more information.

Pathway 1: Strengthen Foundations – Data, Monitoring, Education and Partnerships

While many communities, groups and sectors have been working to prepare for climate impacts for some time now, building future climate and resilience into the way we do things is new for many people. To meet the challenges ahead, this pathway works to improve our understanding of the changing climate and how it will influence our lives. It aims to build our capacity through training and education programs; bring climate knowledge into decision-making; and create partnerships to plan for the changes that will happen in the decades to come.

A foundation of our approach is our ongoing commitment to partnering with Indigenous Nations. We will work to create a shared path to climate resilience in a manner that addresses the unique impacts to Indigenous territories and ways of life. We are also committed to working respectfully in partnership with Indigenous communities, organizations and peoples to find responses to climate change that address priorities identified by them.

No one government, community or organization can do climate adaptation alone. We need to coordinate our work and strengthen our relationships across all governments and the business community so we can meet these challenges together. Our strategy will need to include processes to bring climate knowledge into decision-making, and invest in targeted resources including data, information, education and training that enhances everyone's capacity to meet these evolving challenges. We will pay close attention to regional differences and existing inequalities, as different communities and groups will experience the impacts of climate change, and actions to build resilience, differently.

A robust strategy to prepare for the impacts of climate change requires good data and science. The Province, Indigenous Nations, municipalities, regional districts, utility operators and academics already have networks in place to collect data on stream flow, water quality, snowpack, weather, fish stocks, wildlife and habitats across the province. We will expand these networks and use the data to better understand how the climate and ecosystems have changed, as well as develop models to explore how they are likely to change in the future.

ACTION HIGHLIGHTS FOR 2021-2022

- Work with Indigenous Nations and organizations to increase community resilience to climate change.
- Increase understanding of climate risks through improved data, monitoring and forecasting.
- Improve public understanding of wildfire threats and B.C.'s changing climate.

PROPOSED ACTIONS FOR 2022-2025

Integrate the Changing Climate into Governance and Decision Making

- Continue to bring the changing climate into relationships between the Province and Indigenous Nations, for example, by planning for a resilient future together through stewardship forums like the Marine Plan Partnerships initiative and a modernized approach to land use planning.
- Work in partnership with Indigenous Nations and organizations to identify priorities and find responses to our changing climate grounded in Indigenous ways of knowing.
- Improve and promote understanding of the disproportionate effects that climate change has on distinct human populations, including the potential for displacement, and integrate this knowledge into government initiatives, including climate risk assessments and adaptation plans.
- Consider the changing climate in the B.C. government's relevant decisions including legislation, policy and program delivery across provincial ministries and sectors. This includes continuing to develop approaches to climate risk assessment that consider Indigenous experiences and values and can be applied in diverse contexts.

Explore Opportunities for Community-based Climate Resilience

- Explore additional opportunities for Indigenous Nations, municipalities, regional districts and organizations to understand, monitor, manage and reduce climate risks. These will consider the unique needs of rural, remote and Indigenous communities, including protection and inclusion of Indigenous knowledge.

- Consider climate risks in existing infrastructure funding programs so that projects are more likely to be reliable in a changing climate.

Expand Education on Climate Impacts and Adaptation

- Expand climate resilience education by:

  - Developing learning resources for K-12 schools and other educational institutions to enhance student learning about important topics like our changing climate, adaptation, stewardship, and local Indigenous values and epistemologies (ways of knowing);

  - Continuing to develop learning resources, professional development materials and guidelines for practicing professionals on bringing the future climate and resilience principles into resource management, planning and engineering; and

  - Exploring opportunities to raise public awareness about B.C.'s changing climate.

Enhance Climate Data Monitoring and Forecasting

- Expand provincial, Indigenous and local monitoring networks for stream flow, groundwater, snow, glaciated areas, agricultural areas, climate, ocean conditions, ocean acidification, and ecosystems.
- Support the Pacific Climate Impacts Consortium and other research organizations to expand their climate data, research, modeling and training services to meet local, regional and provincial needs. This includes services for provincial government agencies, Indigenous communities, public sector organizations, local governments, businesses and industry.
- Enhance predictive services and early warning capacity, including the B.C. River Forecast Centre, to bring the future climate into forecasting floods, water scarcity, and wildfires.

Pathway 2: Enhance Community Climate Resilience

Communities across B.C. are directly affected by the impacts of climate change and are the first line of response to severe weather events and disasters. Communities play a critical role in applying policies and strategies to help prevent, reduce and manage climate risks as they work to strengthen community resilience and reduce losses.

As part of this pathway the Province will partner with Indigenous Nations and organizations as well as municipalities, regional districts and non-governmental organizations to identify opportunities to address and adapt to our changing climate. This includes taking action to reduce risks from heatwaves, flooding and wildfires, and enhancing the climate resilience of infrastructure that communities and our economy depend on. We will also work to advance food security, nature-based solutions, shared learning and mental health and wellness in our communities to help strengthen our resilience to the changes ahead.

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 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. The Province is examining its role in supporting the development of information, tools, coordination and capacity to strengthen communities' ability to manage their risks from a changing climate.

UBCM CLIMATE RESILIENCE RECOMMENDATIONS

The Union of BC Municipalities (UBCM) provides a common voice for local governments. In 2020, their Special Committee on Climate Action released a set of recommendations to help build low-carbon and climate resilient communities. The Province will continue to work with UBCM and local governments to better understand the tools and resources needed to address these recommendations, including developing resources that enable local governments to conduct risk assessments and develop related long-term capital plans by 2030.

Beyond this support, an equity-informed approach is also important to address the drivers of systemic inequality to support climate-resilient communities. For example, research shows that housing is a key determinant for how people are impacted by climate-related events such as heatwaves, floods or wildfires. If an individual lacks housing security, they will be at greater risk of being impacted and will often face significant challenges recovering and adapting to future events. These heightened risks apply more generally to those living in poverty.

GENDER BASED ANALYSIS PLUS (GBA+)

GBA+ is an analytical tool for assessing how diverse groups of men, women and non-binary people may experience policies, programs and initiatives.

The Province uses GBA+ to inform all stages of the development, implementation and evaluation process for policy, legislation, programs and services.

Climate Change, Intersectionality and GBA+ in British Columbia is one example of work being done to better understand how diverse populations in B.C. are disproportionately impacted by climate change. This work helps ensure that actions to adapt to climate change result in better outcomes for all people in B.C.

ACTION HIGHLIGHTS FOR 2021-2022

- Conduct initial work on a B.C. Flood Strategy in collaboration with other levels of government.
- Expand community planning and disaster risk management through enhanced use of climate data.
- Improve the provincial response to extreme heat and wildfire smoke for unhoused and housing insecure populations.
- Increase understanding of climate impacts on health infrastructure.
- Broaden the Province's understanding of food security within the context of a changing climate.

PROPOSED ACTIONS FOR 2022-2025

Support Resilient Community Planning and Disaster Risk Management

- Build climate resilience into community planning, disaster risk management and recovery by making data more accessible, developing new tools and guidance, and ensuring equity is addressed.
- Release and implement a B.C. Flood Strategy that could include such actions as working with other levels of government to establish a provincial floodplain mapping program that will inform and modernize flood management in a changing climate.
- Partner with Indigenous and non-Indigenous communities to expand the use of cultural and prescribed burning to reduce wildfire risks, create resilient natural ecosystems and preserve cultural practices.

Strengthen Individual and Community Health and Wellness

- Support B.C. Housing to lead development of a provincial extreme heat and wildfire smoke response plan for populations disproportionately impacted by climate change.
- Promote the resilience of families and communities to the health and social impacts of climate change through collaborative partnerships.
- Respond to food security needs in a changing climate based on what was heard through engagement with Indigenous and community partners.

Facilitate Collaboration and Shared Learning

- Facilitate collaborative, multi-partner approaches to climate change and disaster planning initiatives at a regional level. This could include providing regional coordinators and technical support.
- Work with an Indigenous organization to develop a community learning network for Indigenous communities and organizations to share approaches that enhance climate resilience. This could include regional Indigenous climate adaptation coordinators.
- Establish a community climate resilience program with Indigenous communities, friendship centres, local governments and non-profit organizations that is place-based, equity-informed, and youth-driven.

Pathway 3: Foster Resilient Species and Ecosystems in a Changing Climate

"We take care of the land and it takes care of us"

– Indigenous engagement participant.

B.C. 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. Healthy, resilient ecosystems provide food and medicines, clean air and clean water, and contribute to our emotional well-being. They 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 and its impacts.

While ecosystems have always had to adapt, the projected speed and scale of future climate change threatens to exceed the natural ability of many ecosystems to keep up, as we are seeing with the Mountain Pine Beetle and ocean acidification. Coupled with increasing human activity and pressures on the oceans and land base, climate change is creating unprecedented challenges for our ecosystems.

Internationally, research shows that lands controlled and managed by Indigenous peoples can have higher biodiversity than protected areas. Stewardship, when approached collaboratively, and bringing Indigenous knowledge systems and Western science together, can create resilient systems that continue to support abundant diversity and values.

To address these challenges, the Province will work with Indigenous Nations, including Indigenous knowledge holders, and others to ensure our landscapes and ecosystems in B.C. are managed to promote resilience and connectivity, helping species and their habitats to adapt and change with the changing climate. We will also work to strengthen the resilience of our marine environment and enhance B.C.'s watershed security.

Already some land and water species are shifting their home ranges in areas like the Peace region and the most southern parts of B.C., where people on the land are starting to see new ecosystems emerge. Climate change is also creating more openings for invasive species that displace native plants and animals and can harm entire ecosystems.

Existing stewardship initiatives and policies can be updated to consider a changing climate and apply an adaptation lens. This includes prioritizing landscapes that can withstand changing climate conditions and enhancing connections or "corridors" between healthy habitats and ecosystems to

support these natural processes as much as possible. This pathway presents ways for us to better understand the climate impacts for key species, habitats, and protected areas to support ecological and cultural processes of adaptation. This includes using practices like cultural and prescribed burning to establish a healthy relationship between fire and forest ecosystems. B.C. and Canada have also recently launched the development of a new Nature Agreement to strengthen conservation province-wide, and are committed to working with Indigenous peoples on these efforts. This includes exploring new ways to protect and restore habitat and strengthen ecosystem resilience to climate change.

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. B.C. is a founding member of the International Alliance to Combat Ocean Acidification, which works to increase awareness, understanding and action on ocean acidification and other climate-related changes in ocean conditions. The Province intends to develop an ocean acidification plan in the coming years to further address the impacts of changing ocean conditions on communities, marine ecosystems, and the economy.

We also need to take a long-term approach that finds ways to balance the changing availability and distribution of water with the needs of human activity and ecosystems. To address this, the Province is looking at developing new planning initiatives to help secure our water supplies, now and for generations to come.

PROTECTED AREAS AS LIVING LABS

B.C. Park's Living Lab Program promotes B.C.'s protected areas as places to learn about the effects of climate change and how to manage for them. Working in partnership with B.C. academic institutions, including collaboration with the broader conservation community, Indigenous communities and knowledge holders, this research considers such things as how connectivity between parks can build resilience for species and ecosystems as the climate changes, and informs decision making on adaptative actions that can be taken both inside and outside parks.


Image: Jessie Hemphill

ACTION HIGHLIGHTS FOR 2021-2022

- Identify opportunities for using nature-based solutions for climate adaptation and greenhouse gas reductions, in collaboration with partners.
- Assess climate risks and vulnerabilities to B.C. fisheries and aquaculture.
- Conduct initial work on a watershed security strategy and assess risks to water quality from contaminated sites under future climates.
- Improve understanding of climate impacts on BC Parks' infrastructure and operations.

PROPOSED ACTIONS FOR 2022-2025

Enhance Watershed Security and Strengthen Marine Resilience

- Create a Watershed Security Strategy and begin development of an associated fund to help improve the health of B.C.'s watersheds.
- Develop an ocean acidification action plan, including research and partnerships to support marine resilience, healthy ecosystems and communities.
- Work with partners to pilot the development of water supply and demand management plans for priority watersheds where climate change is likely to result in greater water scarcity.

Enhance Tools and Approaches for Managing Ecosystems, Parks and Protected Areas

- Develop and implement tools and approaches for integrating climate change knowledge into the assessment, stewardship and management of species, ecosystems, and natural resources. This includes working with Indigenous communities and knowledge holders; identifying, protecting and restoring areas important for maintaining species at risk and biodiversity in a changing climate; and monitoring and managing invasive species.

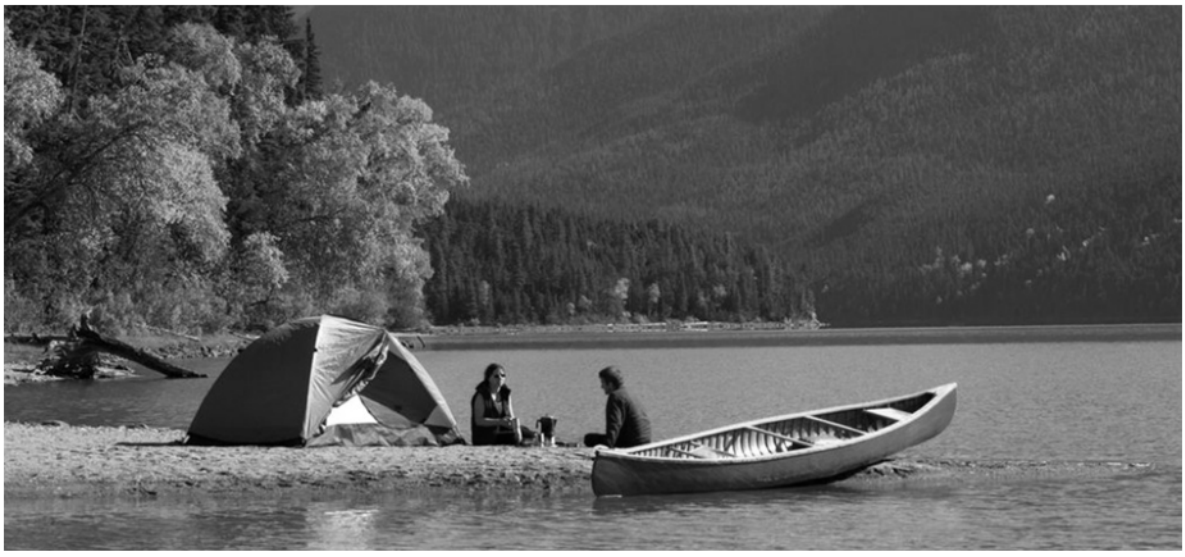
- Through the Together for Wildlife strategy, complete a review of land designations under the *Land Act*, *Wildlife Act*, *Oil and Gas Activities Act*, and *Forest and Range Practices Act* that contribute to conservation to ensure they effectively target the intended habitats in light of climate change impacts and habitat alterations.

- Explore climate change resilience in policy and management options informed by the independent panel report, A New Future for Old Forests.

- Promote and enhance the use of nature-based solutions for strengthening community and ecosystem resilience and managing climate-related hazards, such as extreme heat and flooding.

- Explore ways to protect and preserve cultural heritage in a changing climate, including working with the First Peoples' Cultural Council on a program to better understand climate change impacts on Indigenous cultural heritage resources.

- Understand and address climate impacts to parks and protected areas including on cultural heritage sites, trails, campgrounds and infrastructure.



Pathway 4: Advance a Climate-Ready Economy and Infrastructure

Climate change has significant impacts on B.C.'s business and industrial sectors, as well as the infrastructure we all rely on – from roads and bridges to communication and energy systems to schools and hospitals. In some sectors, such as agriculture and forestry, work has been happening for several decades to anticipate and adapt to a changing climate, while for other sectors this is a newer consideration.

Planning and preparing for a changing climate is not only smart business, but helps ensure we have a healthy, innovative and resilient economy in the future. This pathway helps to ensure that B.C. business and industry can address the risks of climate change, while also helping to maintain a resilient workforce and build food security in a changing climate. We are putting in place training and programs to make our buildings, highways and other infrastructure ready for extreme weather - and moving forward with climate-proofing our schools, hospitals and other public sector buildings to make sure they're ready when we need them most.

B.C.'s economy relies on natural resources, which account for a significant proportion of the province's economic base. Forestry and forest products alone account for 33% of our international exports. We are already seeing disruptions to local economies and workers in some parts of B.C. This is especially evident where climate change has contributed to closures of forestry operations through a combination of recent extreme wildfire seasons and the longer-term impacts of Mountain Pine Beetle. As we look at ways to prepare and adapt to the changing climate, we need to ensure that workers and others who are impacted are supported.

To help maintain a healthy, resilient economy in all parts of B.C., we need to proactively include climate impacts and information in business decisions and the way we build infrastructure. This will allow us to reduce risks, while enhancing our readiness and capacity to deal with those risks we can't avoid. It will also allow us to take advantage of changes in climate for new business opportunities. The finance, investment, and

BUILDING RESILIENCE IN AGRICULTURE

The Climate & Agriculture Initiative BC (CAI) works with the agriculture and research sectors, as well as all levels of government, to increase the resilience of B.C. agriculture to the impacts of climate change such as wildfire, drought, flooding, and pests.

Delivering the B.C. Ministry of Agriculture, Food and Fisheries' climate adaptation programs, CAI works with partners to develop and implement regional adaptation plans in key agricultural areas of the province, as well as demonstrate and evaluate adaptation practices on B.C. farms and ranches.

insurance sectors also have a role to play in supporting businesses to identify and disclose climate-related risks, providing greater certainty and security for investors. And we need to provide resources to small and medium businesses to prepare for a changing climate.

"Over the past five decades, the costs of weather-related disasters like floods, storms, and wildfires have risen from tens of millions of dollars to billions of dollars annually in Canada. Insured losses for catastrophic weather events totaled over $18 billion between 2010 and 2019, and the number of catastrophic events was over three times higher than in the 1980s."

– Canadian Institute for Climate Choices[6]

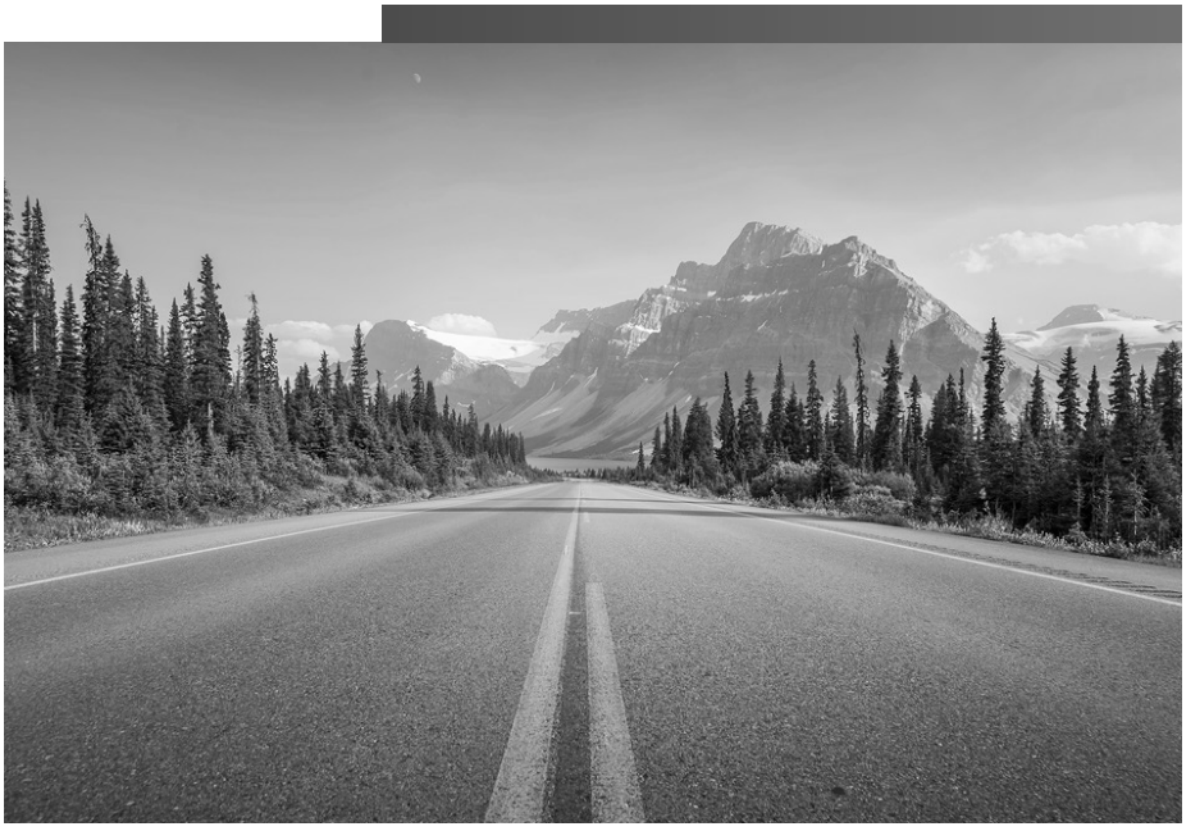
The Province has heard how climate change is already affecting the livelihoods of Indigenous peoples. For example, wildfire is restricting forestry activities and impacting tourism opportunities. Rising water temperatures are affecting commercial and subsistence fisheries. And traditional foods and medicines are becoming more difficult to access as timing, health and abundance of species changes. With this strategy, we will work with Indigenous enterprises to identify climate risks and develop tools to respond.

We are also taking steps to make climate resilience the new "business as usual" for B.C.'s public sector. This will help to protect the health and safety of the two million people who use and visit public sector buildings each year, increase the longevity of our public sector assets, and ensure that quality services are maintained in a changing climate. This approach provides leadership to support broader market transformation towards climate resilient buildings in B.C.

CLIMATE RESILIENCE GUIDELINES FOR BC HEALTH FACILITY PLANNING & DESIGN

B.C.'s health authorities collaborated with building experts to develop guidelines that support building climate resilient health facilities across the province. The guidelines amplify and accelerate ongoing work to reduce climate risks, build resilience at the site and community levels, and meet greenhouse gas reduction targets. These guidelines provide practical advice on integrating climate science and climate risk assessments to support the multidisciplinary teams responsible for planning and designing health facilities in B.C.

6 Canadian Institute for Climate Choices, 2020. *Tip of the Iceberg: Navigating the Known and Unknown Costs of Climate Change for Canada*, p. iii.



ACTION HIGHLIGHTS FOR 2021-2022

- Promote reliable transportation networks by assessing climate impacts on vulnerable highway culverts and resource roads.
- Improve the Province's understanding of agricultural water infrastructure and climate risks to mining and energy industries.
- Advance use of the Climate Change Informed Species Selection Tool by decision makers in the forest sector.
- Expand the Province's understanding of climate risks to coastal communities and economies to inform a provincial coastal strategy.
- Promote a climate-ready public sector through assessing climate risks on government buildings.

PROPOSED ACTIONS FOR 2022-2025

Increase the Resilience of our Buildings and Infrastructure

- Strengthen the climate resilience of our transportation infrastructure to better prepare for extreme weather and ensure community and business lifelines are reliable in the changing climate.
- Explore opportunities to increase resilience of buildings in B.C. which could include:
  - Working with the National Research Council to develop and adopt building codes that include future climate design factors, such as the BC Energy Step Code;
  - Providing training to the public sector and building industry on the use of future climate information to support market transformation; and
  - Creating a climate resilient public sector buildings policy that could include:
    - » assessing current and future climate risks to public sector buildings.
    - » requiring future climate be considered in capital planning.
    - » demonstrating and sharing best practices among public sector organizations on climate resilient buildings.
- Explore integrating resilience considerations with existing and proposed energy efficiency programs for buildings.

Image: Andrew Latrielle, courtesy naturallywood.com

Support Business and Industry to Respond to Climate Risks

- Collaborate with business and industry, including Indigenous enterprises, tourism, small businesses, industry sectors and labour organizations to identify climate risks and develop tools to respond. This includes supporting the private sector to adopt climate risk assessment and adaptation practices and supporting workers and employers to create a climate-resilient workforce and jobs.

- Continue to work with farmers and the agriculture sector to strengthen resilience to climate risks. This includes assessing climate-related risks to food supply security and promoting innovative solutions, such as supporting water infrastructure and on-farm adaptation.

- Continue to support a resilient forest economy through integration of climate change mitigation and adaptation measures such as climate change-informed tree species selection and management, stand and landscape management, and harvesting strategies.

Image: BC Farmers' Market Trail & Aaron Whitfield

3. MEASURING AND REPORTING OUR PROGRESS

We are acting now to help ensure that B.C. is prepared for the climate of the future. We also recognize that building climate resilience through adaptation is an ongoing process that takes place over years and decades. As we learn from experience here in B.C. and in other jurisdictions, we will adjust course as needed to ensure our actions are as effective as possible.

To support this intention and keep us on track, the Province's *Climate Change Accountability Act* requires annual reporting on actions taken, expected outcomes and future plans to manage climate change risks. The Climate Action Secretariat will continue to report on provincial actions in the Minister of Environment and Climate Change Strategy's annual Climate Change Accountability Report. To ensure that the people of B.C. have access to current information, the annual report will include the most recent information on climate change risks. In addition, a comprehensive assessment of climate risks will be undertaken every five years. Putting the accountability framework into law means that future governments will also be accountable for managing climate risks.

We will be developing a monitoring and evaluation framework over the coming year with our partners including Indigenous Nations and organizations, municipalities, and regional districts. The Province will also work with public sector organizations, such as school districts and health authorities to build and implement requirements for reporting on climate risk. This will support the Province in accurately reporting on known climate risks, actions to manage climate risks, and public sector progress to prepare for a changing climate.

Together, these measures will keep us open and transparent about the effectiveness of our actions and areas where more focus is needed, holding government accountable for the commitments we make now and in the future.

APPENDIX

Summary of Proposed Actions for 2022-2025

THEMES	ACTIONS
PATHWAY 1: Strengthen Foundations – Data, Monitoring, Education and Partnerships	
Integrate the Changing Climate into Governance and Decision Making	Continue to bring the changing climate into relationships between the Province and Indigenous Nations, for example, by planning for a resilient future together through stewardship forums like the Marine Plan Partnerships initiative and a modernized approach to land use planning.
	Work in partnership with Indigenous Nations and organizations to identify priorities and find responses to our changing climate grounded in Indigenous ways of knowing.
	Improve and promote understanding of the disproportionate effects that climate change has on distinct human populations, including the potential for displacement, and integrate this knowledge into government initiatives, including climate risk assessments and adaptation plans.
	Consider the changing climate in the B.C. government's relevant decisions including legislation, policy and program delivery across provincial ministries and sectors. This includes continuing to develop approaches to climate risk assessment that consider Indigenous experiences and values and can be applied in diverse contexts.
Explore Opportunities for Community-based Climate Resilience	Explore additional opportunities for Indigenous Nations, municipalities, regional districts and organizations to understand, monitor, manage and reduce climate risks. These will consider the unique needs of rural, remote and Indigenous communities, including protection and inclusion of Indigenous knowledge.
	Consider climate risks in existing infrastructure funding programs so that projects are more likely to be reliable in a changing climate.

THEMES	ACTIONS
Expand Education on Climate Impacts and Adaptation	Expand climate resilience education by: ▪ Developing learning resources for K-12 schools and other educational institutions to enhance student learning about important topics like our changing climate, adaptation, stewardship, and local Indigenous values and epistemologies (ways of knowing); ▪ Continuing to develop learning resources, professional development materials and guidelines for practicing professionals on bringing the future climate and resilience principles into resource management, planning and engineering; and ▪ Exploring opportunities to raise public awareness about B.C.'s changing climate.
Enhance Climate Data Monitoring and Forecasting	Expand provincial, Indigenous and local monitoring networks for stream flow, groundwater, snow, glaciated areas, agricultural areas, climate, ocean conditions, ocean acidification, and ecosystems.
	Support the Pacific Climate Impacts Consortium, and other research and service organizations to expand their climate data, research, modeling and training services to meet local, regional and provincial needs. This includes services for provincial government agencies, Indigenous communities, public sector organizations, local governments, businesses and industry.
	Enhance predictive services and early warning capacity, including the B.C. River Forecast Centre, to bring the future climate into forecasting floods, water scarcity, and wildfires.

THEMES	ACTIONS
PATHWAY 2: Enhance Community Climate Resilience	
Support Resilient Community Planning and Disaster Risk Management	Build climate resilience into community planning, disaster risk management and recovery by making data more accessible, developing new tools and guidance, and ensuring equity is addressed.
	Release and implement a B.C. Flood Strategy that could include such actions as working with other levels of government to establish a provincial floodplain mapping program that will inform and modernize flood management in a changing climate.
	Partner with Indigenous and non-Indigenous communities to expand the use of cultural and prescribed burning to reduce wildfire risks, create resilient natural ecosystems and preserve cultural practices.
Strengthen Individual and Community Health and Wellness	Support B.C. Housing to lead development of a provincial extreme heat and wildfire smoke response plan for populations disproportionately impacted by climate change.
	Promote the resilience of families and communities to the health and social impacts of climate change through collaborative partnerships.
	Respond to food security needs in a changing climate based on what was heard through engagement with Indigenous and community partners.
Facilitate Collaboration and Shared Learning	Facilitate collaborative, multi-partner approaches to climate change and disaster planning initiatives at a regional level. This could include providing regional coordinators and technical support.
	Work with an Indigenous organization to develop a community learning network for Indigenous communities and organizations to share approaches that enhance climate resilience. This could include regional Indigenous climate adaptation coordinators.
	Establish a community climate resilience program with Indigenous communities, friendship centres, local governments and non-profit organizations that is place-based, equity-informed and youth-driven.

THEMES	ACTIONS
PATHWAY 3: Foster Resilient Species and Ecosystems in a Changing Climate	
Enhance Watershed Security and Strengthen Marine Resilience	Create a Watershed Security Strategy and begin development of an associated fund to help improve the health of B.C.'s watersheds.
	Develop an ocean acidification action plan, including research and partnerships to support marine resilience, healthy ecosystems and communities.
	Work with partners to pilot the development of water supply and demand management plans for priority watersheds where climate change is likely to result in greater water scarcity.
Enhance Tools and Approaches for Managing Ecosystems, Parks and Protected Areas	Develop and implement tools and approaches for integrating climate change knowledge into the assessment, stewardship and management of species, ecosystems, and natural resources. This includes working with Indigenous communities and knowledge holders; identifying, protecting and restoring areas important for maintaining species at risk and biodiversity in a changing climate; and monitoring and managing invasive species.
	Through the Together for Wildlife strategy, complete a review of land designations under the *Land Act, Wildlife Act, Oil and Gas Activities Act*, and *Forest and Range Practices Act* that contribute to conservation in light of climate change impacts and habitat alterations.
	Explore climate change resilience in policy and management options informed by the independent panel report, A New Future for Old Forests.
	Promote and enhance the use of nature-based solutions for strengthening community and ecosystem resilience and managing climate-related hazards, such as extreme heat and flooding.
	Explore ways to protect and preserve cultural heritage in a changing climate, including working with the First Peoples' Cultural Council on a program to better understand climate change impacts on Indigenous cultural heritage resources.
	Understand and address climate impacts to parks and protected areas including on cultural heritage sites, trails, campgrounds and infrastructure.

THEMES	ACTIONS
PATHWAY 4: Advance a Climate-Ready Economy and Infrastructure	
Increase the Resilience of our Buildings and Infrastructure	Strengthen the climate resilience of our transportation infrastructure to better prepare for extreme weather and ensure community and business lifelines are reliable in the changing climate.
	Explore opportunities to increase resilience of buildings in B.C. which could include: ▪ Working with the National Research Council to develop and adopt building codes that include future climate design factors, such as the BC Energy Step Code; ▪ Providing training to the public sector and building industry on the use of future climate information to support market transformation; and ▪ Creating a climate resilient public sector buildings policy that could include: • assessing current and future climate risks to public sector buildings • requiring future climate be considered in capital planning • demonstrating and sharing best practices among public sector organizations on climate resilient buildings.
	Explore integrating resilience considerations with existing and proposed energy efficiency programs for buildings.
Support Business and Industry to Respond to Climate Risks	Collaborate with business and industry, including Indigenous enterprises, tourism, small businesses, industry sectors and labour organizations, to identify climate risks and develop tools to respond. This includes supporting the private sector to adopt climate risk assessment and adaptation practices and supporting workers and employers to create a climate-resilient workforce and jobs.
	Continue to work with farmers and the agriculture sector to strengthen resilience to climate risks. This includes assessing climate-related risks to food supply security and promoting innovative solutions, such as supporting water infrastructure and on-farm adaptation.
	Continue to support a resilient forest economy through integration of climate change mitigation and adaptation measures such as climate change-informed tree species selection and management, stand and landscape management, and harvesting strategies.

Share Your Thoughts

Please email your comments to **ClimateReadyBC@gov.bc.ca**
or visit **engage.gov.bc.ca/climatereadybc** for more information.

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