Island Health

Strengthening Health and Resilience in a Changing Climate:

A Primer for Local Governments

Supporting decision-makers with tools to strengthen climate resilience and health through adaptive capacity.

Island Health, Population and Public Health · December 2025

Territory acknowledgement

Before Canada and B.C. were formed, Indigenous Peoples lived in balance and interconnectedness with the land and water in which the necessities of life are provided. Health disparities persist, which are due to the impacts of colonization and Indigenous-specific racism. The region Island Health supports is the traditional territory of the Coast Salish, Nuu-chah-nulth and Kwakwa̱ka̱ʼwakw cultural families, who have been caretakers and stewards of these territories since time immemorial. It is with humility we continue to work toward building our relationship.

Rights acknowledgement

We acknowledge with respect the inherent rights of the First Nations whose ancestral territories cover the entirety of the region served by Island Health.

These inherent rights include their unextinguished land rights and rights to self-determination, health and wellness within these territories. Laws and governance systems rooted in the land have upheld the sovereignty of these diverse Nations for thousands of years. The rights and responsibilities of First Nations to their ancestral territories have never been ceded or surrendered, and are upheld in provincial, national and international law.

We also acknowledge that many Indigenous Peoples (First Nations, Métis, and Inuit) from elsewhere in what is now known as Canada also call these lands and waters home, and we have obligations to uphold their rights to self-determination, health and wellness. This includes Métis Nation British Columbia and its six Chartered Communities across the region served by Island Health, as well as those whose ancestral territories lie elsewhere. In alignment with a Distinctions-based Approach [1] and the First Nations principles of Ownership, Control, Access, and Possession [2], Island Health has not included data specific to Indigenous Peoples or their communities in this report.

Island Health Population and Public Health (PPH) recognizes the need for thoughtful and intentional work to decolonize the health system. In the spirit of the United Nations Declaration on the Rights of Indigenous Peoples [3], the Métis Nation Relationship Accord II [4], and the 94 Calls to Action issued by the Truth and Reconciliation Commission of Canada, [5] Island Health works with the 50 First Nations in our region, the First Nations Health Authority (FNHA), Métis Nation British Columbia and other Indigenous partners to make programs and services more culturally safe and supportive of Indigenous health and wellness.

Additional foundational commitments to Indigenous health and reconciliation are detailed within:

- The Declaration on the Rights of Indigenous Peoples Act [6]
- The report "In Plain Sight: Addressing Indigenous-specific Racism and Discrimination in B.C. Health Care" [7]
- The BC Cultural Safety and Humility Standard [8]
- The Declaration of Commitment to Cultural Safety and Humility in Health Services [9]

Preface

Island Health's Population and Public Health (PPH) department is in the process of developing a strength-based, systems approach to climate adaptation. Our perspective frames the ecosystem as our health system, recognizing that human health, ecosystems, built environments and social systems are deeply interconnected. This approach helps guide the work supporting local, community-guided climate adaptation that protects health, strengthens resilience and builds on existing community strengths. By focusing on community assets and not only risks and deficits, the approach helps build local capacity that stays within the community.

Island Health is committed to respectful partnership and a shared path with Indigenous Peoples, acknowledging their leadership, rights and deep connections to land, water and ecosystems. Indigenous knowledge systems offer critical insights into sustainable practices and climate adaptation. By bringing together Indigenous and Western science, Island Health supports more inclusive, innovative and effective responses to climate-related health challenges.

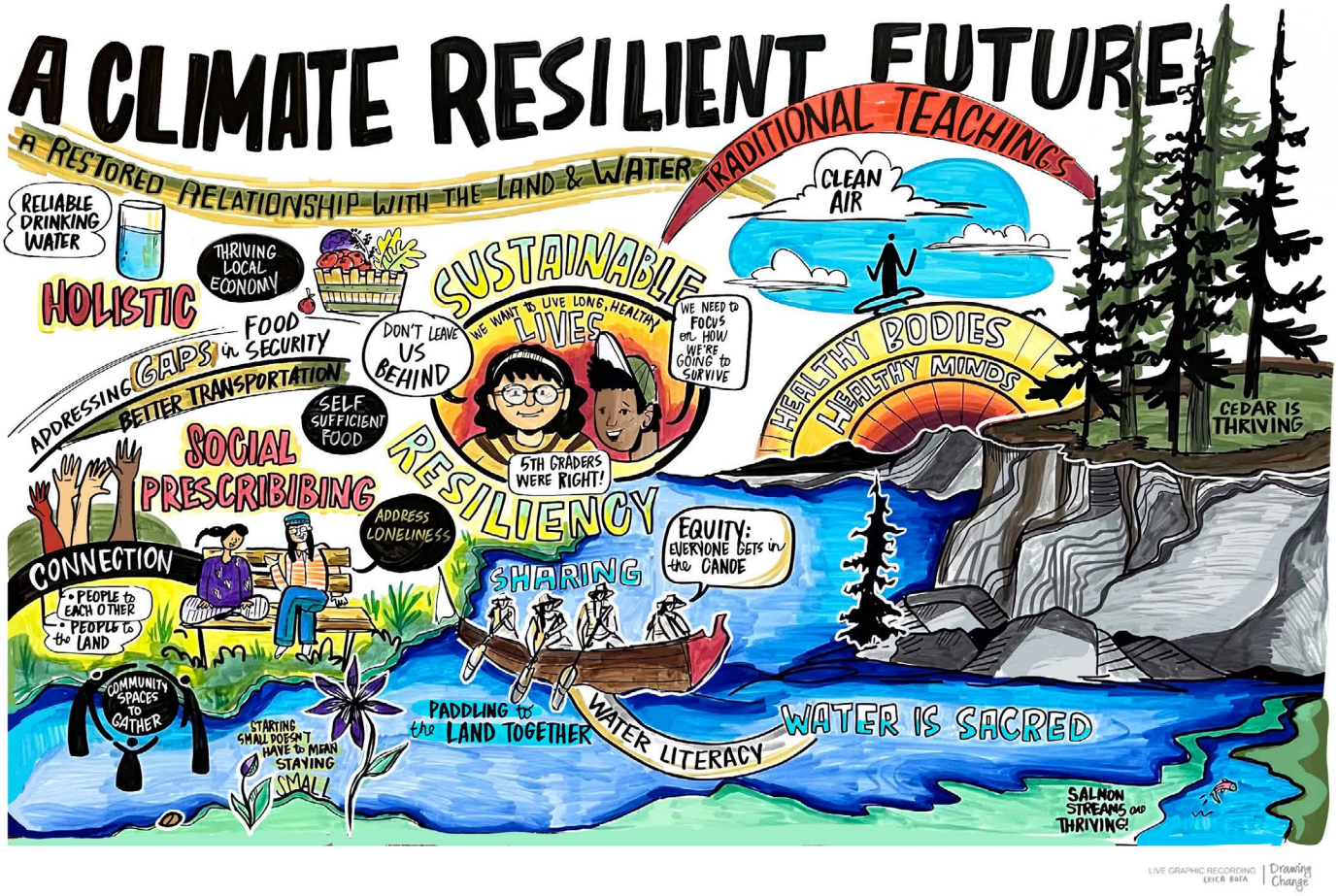
This approach to climate resilience and community health was launched at the Climate Change and Health Community Gathering, co-hosted with Snuneymuxw First Nation in Nanaimo in January 2024. The gathering brought together First Nations, municipalities, regional districts and Island Health staff to share experiences, strengthen relationships and identify priorities for climate-health action. The event was about networking, collaboration and idea-sharing, highlighting the importance of partnerships in building resilience.

> *"History teaches us that all sustainable change happens at the grassroots level and spreads out from there to create further ripples of change. Some of these ripples combine to create big waves; most trigger countless small and unexpected impacts that overlap and intersect in ways we'll never know the full importance of."*
>
> — Russel & McKnight, 2022
>
> *(in The Connected Community: Discovering the Health, Wealth, and Power of Neighbourhoods)*

To further support community efforts to address climate-related health risks and adaptation, the Island Health PPH team is developing a holistic, health equity-focused Climate Resilience and Community Health Assessment Framework to guide our work. The framework empha-sizes community-guided, strengths-based approaches, recognizing that locally led solutions are more useful because they align with the local situation.

This primer presents one piece of the framework, focusing on community assets. It supports practical, empowering adaptation grounded in local knowledge and lived experience to help reduce the identified climate health risks. The primer equips local deci-sion-makers, particularly municipalities and regional districts, with additional knowledge and tools to build resilience and a shared path with local Indigenous Peoples. Resources on other pieces of the framework, such as health risks related to the impacts of climate change can be found on the Island Health website.

Climate change presents unpredictable decision-making challenges. Through cross-sectoral collaboration, culturally safe mutual learning and respect for diverse knowledge systems, new kinds of climate resilience can be co-developed to protect the health and well-being of all communities across the region.



Executive Summary

What this primer offers

Communities across the Island Health region are already experiencing the impacts of climate change. These changes affect the environment as well as the health and well-being of people in our communities.

This primer introduces a strengths-based, community-led approach to climate adaptation planning that:

- Places health at the centre of climate resilience efforts and acknowledges that community well-being is dependent on the health of surrounding ecosystems.
- Focuses on adaptive capacity—the assets and relationships that help communities prepare, respond and recover from disruption.
- Provides real-world examples of cross-sectoral action leading to climate adaptation from across the region Island Health serves.

Why use the primer

- Planning for resilience protects lives, reduces inequities and improves everyday well-being—not just during crises.
- Integrated, cross-sectoral collaboration supports climate adaptation that protects both human and ecosystem health, while building local resilience.
- This primer helps develop solutions that pool resources, strengthen community capacity and address the unique challenges in each community.

How to use the primer

- Start with strengths: Use the eight dimensions of adaptive capacity to identify existing assets and opportunities (Section 2.1).
- Apply the Identify–Act–Strengthen process (Section 2.4):
  - Identify existing community strengths and efforts to develop broader solutions to emerging issues. Co-develop meaningful indicators with community partners to measure community strengths.
  - Act on those strengths as the foundation for planning and decision-making.
  - Strengthen well-being and readiness for future challenges.
- Integrate this primer into existing adaptation plans and frameworks to complement risk assessments (Section 2.4).
- Draw inspiration from case studies that show how local leadership and partnerships improve resilience and health (Section 4).

What you can do

- Engage your community to identify strengths.
- Select indicators to track progress.
- Explore resources linked in this primer.
- Connect with Island Health for support and resources.

For more information or to explore partnerships, visit Island Health's Community Development page or contact hbe@islandhealth.ca.

Table of Contents

1. Introduction **8**

1.1 Why is climate change a health issue? **10**

2. Building adaptive capacity **14**

2.1 Eight dimensions of adaptive capacity **15**

2.2 Assessing and monitoring adaptive capacity **24**

2.3 Connection to climate vulnerability **26**

2.4 Putting this primer into action **28**

3. Foundations for successful implementation **29**

3.1 Indigenous climate leadership **29**

3.2 Guided by community expertise **31**

4. Case studies **32**

4.1 Case study 1: Salmon revival in the Cowichan Valley **33**

4.2 Case study 2: Addressing community polarization in Clayoquot Sound **34**

4.3 Case study 3: Mamalilikulla First Nation harnessing local expertise **35**

4.4 Case study 4: Capital Regional District's response to extreme heat **36**

5. Working with Island Health **37**

6. Moving forward together **39**

7. References **40**

8. Appendix A: Indicators to assess adaptive capacity and monitor improvement **53**

9. Appendix B: Using the eight dimensions within the planning process **62**

1. Introduction

Climate and health are deeply connected, and Island Health has identified climate change as a priority because of its wide-ranging effects on health. As the climate changes, communities across the Island Health region will face more frequent and severe weather events such as heat waves, wildfires, flooding and storms, alongside longer-term shifts such as rising sea levels, ocean acidification, habitat loss and water shortages. Climate change also amplifies existing issues, including pollution, loss of biodiversity and disruptions to natural systems. These pressures create unprecedented stress on community health, ecosystems and critical infrastructure. The effects extend beyond the environment to people's physical, mental and social well-being,[10, 11] through shaping housing needs, food security, income, access to services and the capacity of health systems to respond. Human health and community resilience depend on the quality of the air, water, and land that sustain local life and economies. These issues cannot be addressed by one department, organization or sector alone.[12] It requires a new way of thinking and doing things.[13–15] To navigate this new reality, communities can use practical, systems-based approaches to prepare for disasters while also adapting to a changing climate. These approaches, such as the approach proposed here, can help make sense of complex challenges and co-develop effective, collaborative solutions.

This primer focuses on climate resilience, which refers to a community's ability to prepare for, respond to and recover from climate change in ways that protect health and support long-term well-being. Resilience is living and thriving in a changing climate—adapting and strengthening systems for a healthier and more sustainable society that is less prone to climate disruption.[16]

To support efforts towards climate resilience, this primer introduces an approach to climate adaptation planning that focuses on adaptive capacity. Adaptive capacity refers to the specific skills, resources and mechanisms that make resilience possible. Focusing on a community's existing strengths and assets can help communities build adaptive capacity and adjust to changing conditions. Focusing on community strengths as adaptive capacity provides support for local efforts to live with and thrive in a changing climate, in a way that is solution-oriented, empowering, achievable and tailored to local realities. By building on what communities are already doing well, the approach put forward in this primer supports locally-driven planning that is inclusive, practical, solutions-focused and grounded in lived experience.

This primer aims to:

- Highlight the connection between climate change and health, showing how strengthening community resilience also supports well-being.
- Foster a shared understanding of resilience-focused planning, making it easier for communities and partners to navigate the complexity of climate adaptation together.
- Champion inclusive, locally informed planning that values diverse voices, perspectives and knowledge systems.
- Support integrated action across sectors, so that efforts to build resilience are aligned, complementary and mutually reinforcing.
- Help develop solutions that not only pool resources and strengthen community capacity but also address the unique challenges in each community.

1.1 Why is climate change a health issue?

1.1.1 Climate change affects human health

Human well-being depends directly on healthy ecosystems. Natural systems provide essential services that underpin community health and resilience, such as clean water, cleaner air, food and climate regulation, livelihoods and mental well-being. The health sector refers to this integrated view as planetary health, emphasizing the need to protect ecosystems to safeguard public health.[17] Therefore, climate change is not just an environmental issue—it is a health issue.

Climate change affects health through complex pathways. Rising temperatures, extreme weather events, wildfire smoke, and disruptions to infrastructure all have direct impacts on people's physical and mental well-being. However, many of the most serious threats to public health do not result from direct exposure to climate hazards alone, but from the disruption of the natural systems on which we depend.[11] For example, wildfire-driven changes in a watershed affect the treatability of drinking water available to downstream communities.[18] In addition, when impacts do occur, they are most often felt by those who are already facing challenges with determinants of health, such as low income, poor housing or limited access to health services.

The many connections between climate, ecosystems and health mean that a single climate-related event, such as wildfire, can have multiple, cascading, and long-term consequences for the community:

> In August 2018, a lightning strike in a drought-stricken forest led to a chain of events that affected the health and well-being of Zeballos residents. The initial wildfire triggered a local state of emergency, prompting evacuations due to both wildfire threat and poor air quality.[19] At the same time, a second wildfire caused by the same storm impeded travel on the only route in and out of the community.[20] Although the fire was contained by September 2018, winter storms revealed that the wildfires had created new landslide risks,[21] which caused additional evacuations and displaced some community members for many months.[22, 23]

Wildfires are not just creating health risks in rural communities; they can also threaten urban health:

> In July 2024, the Old Man Lake wildfire in Sooke Potholes Regional Park posed multiple health risks to the residents of Greater Victoria, from hazardous fine particulate smoke to initial concerns about potential contamination of the Sooke Lake Reservoir, the Capital Regional District (CRD)'s primary drinking water source. The fire also damaged underground water pipes. This threatened drinking water safety and availability. Many people were exposed to smoke which would have especially affected those with underlying health conditions.

These examples highlight how climate change is not just an environmental issue—it is a health issue with complex pathways and cascading consequences. When critical vulnerabilities, such as transportation routes, water systems or housing are compromised, the impacts multiply, affecting physical health, mental well-being and community stability. Preparing for these interconnected risks requires adaptation strategies that put health at the centre, strengthen systems and build resilience across sectors.

1.1.2 Strengthening adaptive capacity protects health

Centring health in climate adaptation means more than responding to crises. Building adaptive capacity helps communities prepare for climate-related emergencies and longer-term changes to the environment, while also helping to improve everyday health and well-being.[24] By doing this, communities are better able to anticipate risks and take steps to protect people before emergencies and long-term environmental changes occur. Building adaptive capacity also improves everyday well-being, not just during disasters, and ensures decisions are fair and inclusive, especially for those most affected by climate change. By embedding these principles into planning, local governments can create safer, healthier and more resilient places to live.

In some cases, climate actions can address multiple challenges at once. A single initiative—like creating parks and green spaces (Figure 1)—can reduce exposure to extreme heat, reduce flood risk, increase physical activity, foster social connection, and improve mental health and other health outcomes.[25, 26]

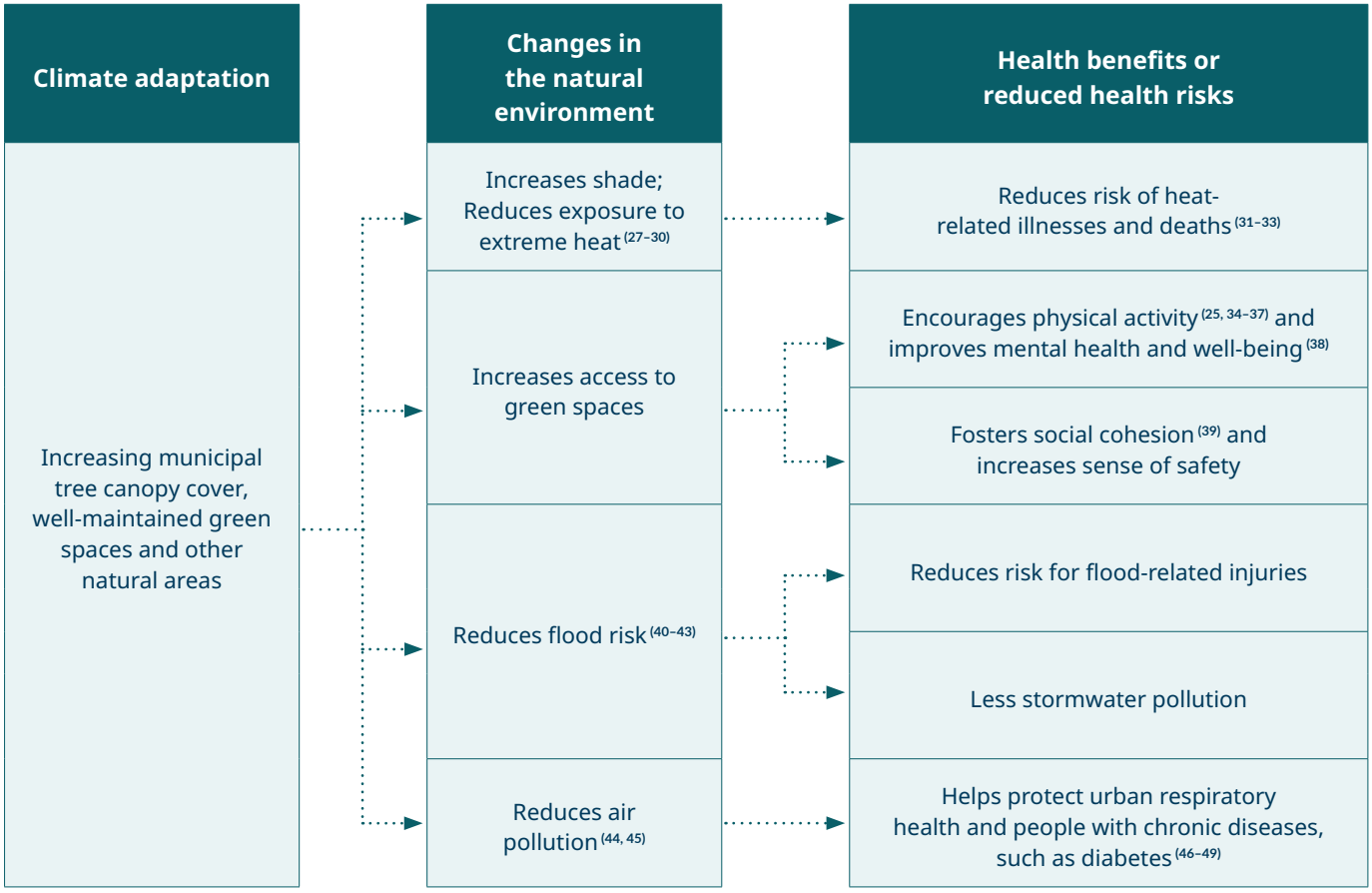


Figure 1: *Climate adaptation action influences health through complex pathways. For instance, parks, green spaces and other natural areas can help reduce effects of climate hazards while also offering a range of possible positive health benefits.*

Other examples of adaptation action that confer health benefits include:

- Increasing public and active transportation options, which can reduce the emission of greenhouse gases and harmful particulate pollution and make it easier for people to access services and stay connected. [50]
- Strengthening social networks to help people support one another during emergencies and reduce isolation. [51, 52]
- Protecting and restoring natural ecosystems to improve access to clean water, healthy foods and advance reconciliation with Indigenous communities. [53]

Figure 2 depicts an overview of selected environmental changes that contribute to health harms, and actions to build a community's adaptive capacity that can mitigate these negative impacts. The centre of the figure shows the climatic changes that occur due to additional heat trapped within the Earth's atmosphere. These conditions force changes in the natural environment that increase communities' exposure to hazards and eventually impact health. The outermost ring depicts some of the adaptive capacities, described in the next section, that can counteract the harms.

Indigenous knowledge systems offer important insights into these connections. Many Indigenous communities view health and the environment as deeply intertwined, emphasizing balance between people and the Land[i]. These perspectives can enrich local planning and help communities design solutions that are sustainable, inclusive and grounded in long-term stewardship.

[i] The word Land is often capitalized to reflect its significance. The term encompasses the earth, water, air and all living and non-living beings.

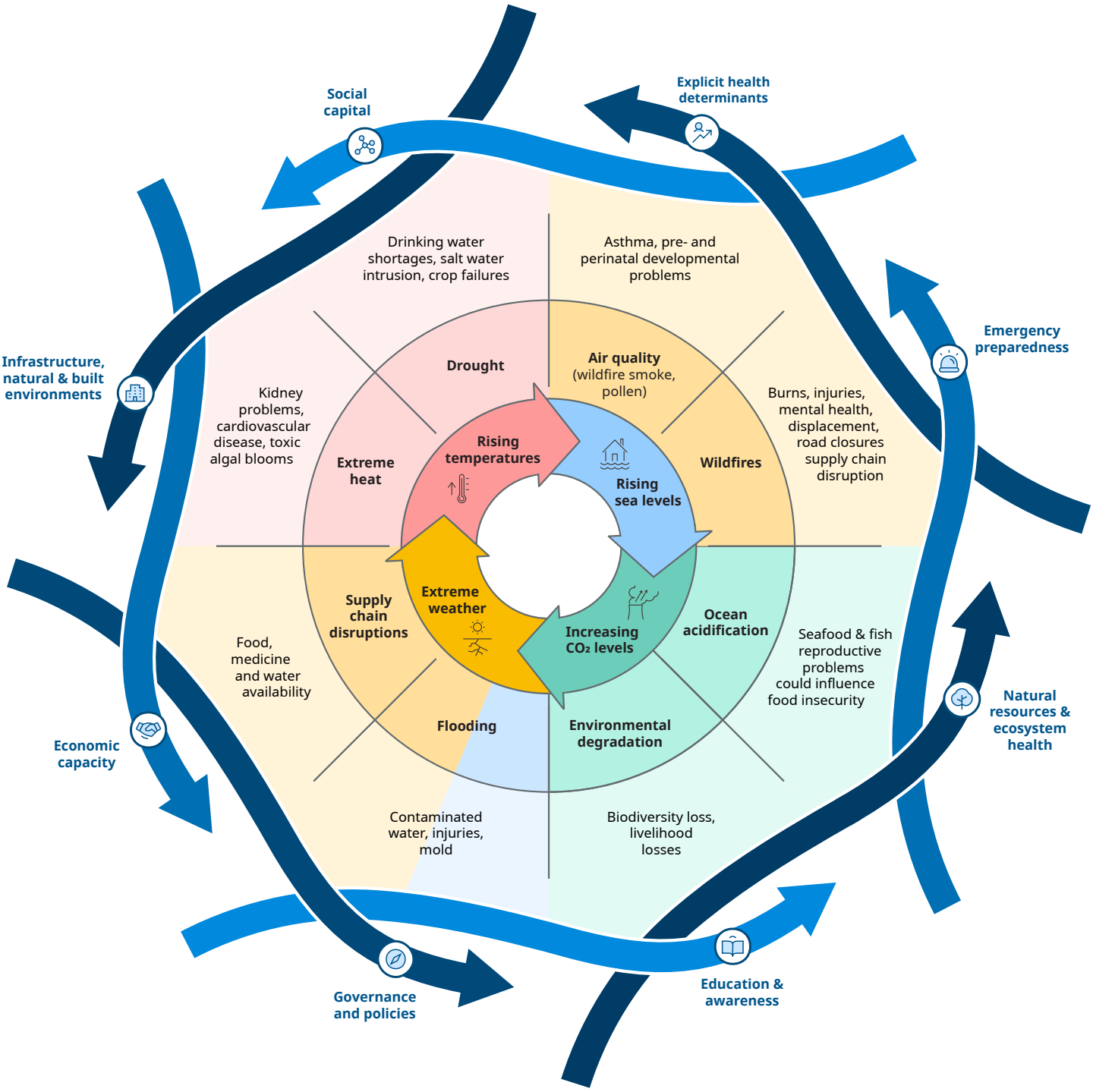


Figure 2: *Conceptual diagram of how changing climate conditions can impact natural systems that provide essential services for human health and well-being. Building adaptive capacity can help mitigate these changes.*

2. Building adaptive capacity

Communities across the Island Health region are already taking steps to prepare for climate change, whether through emergency planning, sustainability initiatives or climate risk assessments. This primer offers a way to build on those efforts in adaptation planning by focusing on adaptive capacity.

This primer encourages local governments and partners to work together to identify and assess existing local strengths for integrated planning and decision-making.

This approach is:

- **Strengths-based**: It focuses on what communities are already doing well, rather than what's missing.
- **Health-centred**: It can help identify and build collaboration around shared values relating to health and wellness.
- **Locally-driven**: It draws on lived experience, local knowledge and community priorities.
- **Systems-focused**: It uses a planetary health lens, which emphasizes that human health is dependent on healthy ecosystems.
- **Collaborative**: It stresses the value and importance of cross-sectoral partnerships and inclusive engagement.
- **Respectful of Indigenous climate leadership and knowledge**: It emphasizes the importance of building a shared path to climate resilience with Indigenous communities.
- **Flexible**: It can be used by communities at any stage of their adaptation journey.

At its core, the concept of building adaptive capacity is rooted in the principles of Asset-Based Community Development (ABCD), which emphasizes local empowerment, collaboration and self-determination.[54–57] By identifying and mobilizing existing assets, such as community organizations, cultural knowledge, natural resources and social networks, communities can take meaningful action even when resources are limited.

ABCD also helps build alliances between unlikely partners by focusing on shared goals and interests. Lasting social change and effective community action often emerges when groups that do not typically collaborate work together.[58]

The primer explores this approach in detail, focusing on using it when conducting assessments of community resilience and health. The following sections:

- Outline eight dimensions of adaptive capacity to help address the many interconnected factors in climate adaptation (Section 2.1).
- Describe how to select meaningful indicators to assess and monitor adaptive capacity (Section 2.2).
- Explain how the concept of adaptive capacity can be integrated into broader climate change adaptation planning frameworks (Section 2.3).
- Provide practical steps for communities to apply this primer in their own context (Section 2.4).

2.1 Eight dimensions of adaptive capacity

This primer proposes eight dimensions of adaptive capacity as interwoven strands of adaptation planning, shown in Figure 3. Each strand is connected to and shaped by the others—strengthening one often reinforces others. Paying attention to all dimensions helps maintain balance and reduces the risk of unintended negative outcomes. Together these strands represent key areas of focus and show how each sector's work is woven into the broader goals of community-wide planning. These dimensions of adaptive capacity also reflect many determinants of health, highlighting the importance of collaboration across sectors.

The eight dimensions are outlined in the following sections, along with three key components for each (sub-dimensions) that help advance climate adaptation. The included questions to consider guide the shift from problem-focused to broader, solution-oriented planning. They are suggestions to think through collaboratively when working to identify your community's current adaptive capacities. How to work with these different dimensions of adaptive capacity can be found in Section 2.4.

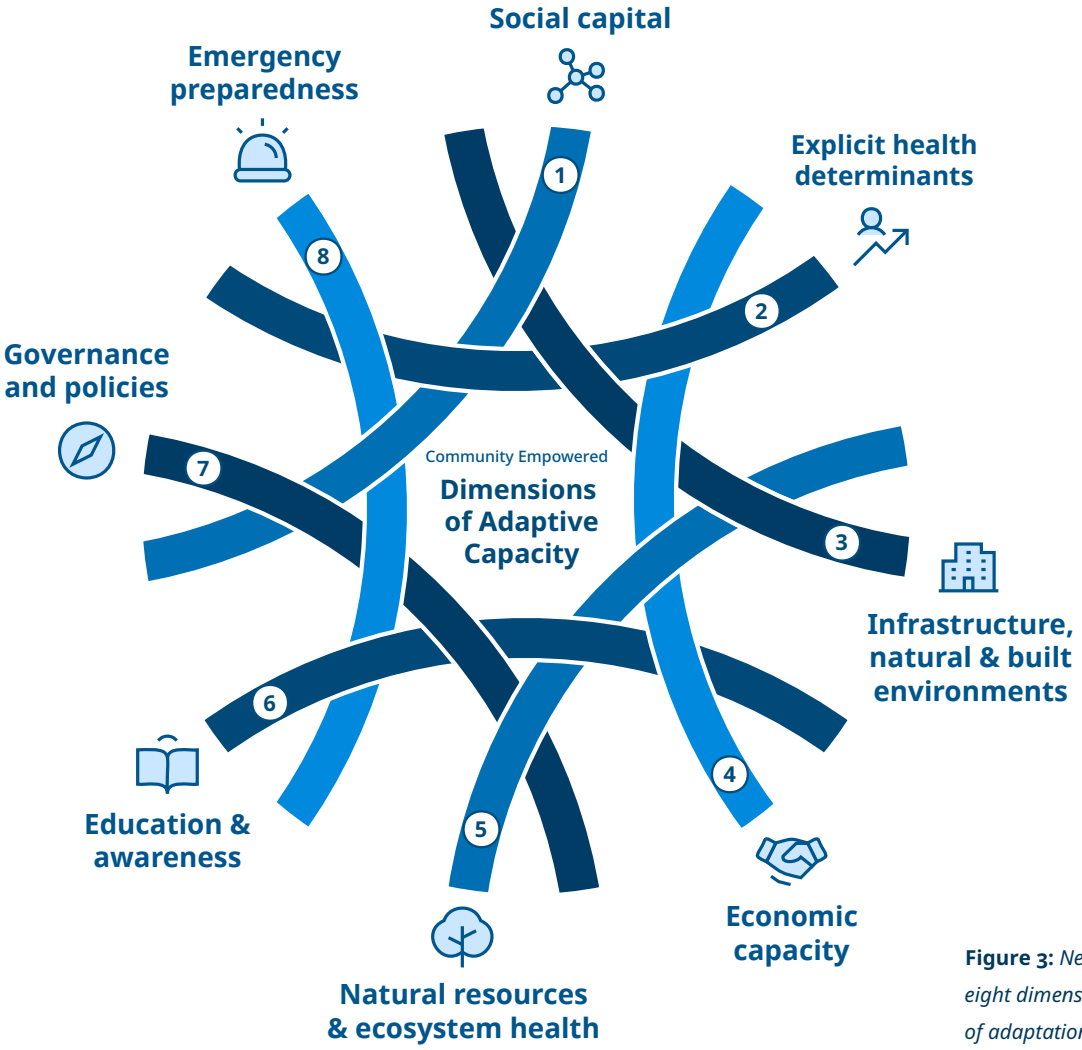


Figure 3: *New approach to adaptive capacity with eight dimensions represented as interwoven strands of adaptation planning that support a climate resilient and healthy community.*

2.1.1. Social Capital

The dimension of social capital (including health equity and social justice) refers to a community's ability to organize and respond effectively during climate emergencies. Within the dimension of social capital, there are three sub-dimensions:

I. Community cohesion	
Defined as: strength of relationships and mutual trust that support reciprocity and collective action.	**How it supports climate resilience and community health** Strengthening community cohesion advances climate resilience and community health by: • Promoting mutual support, sense of belonging and active participation. • Enabling communities to better prepare for, respond to and recover from climate impacts. [11, 59–62]
Consider: how connected are we as a community? Who needs to be at the table?	

II. Local decision-making and governance structures represent diversity of population	
Defined as: processes and policies that enable inclusion and participation of diverse voices in local climate change and health-related decisions.	**How it supports climate resilience and community health** Local decision-making and governance structures representing diversity of the population are inclusive and combine diverse community knowledge with scientific insight to support climate resilience and community health by: • Making decisions more locally relevant, equitable and feasible. • Building sense of ownership, agency and hope. [63–67] Having a voice in decisions that affect one's life is essential to well-being and increases commitment to making the solutions work.
Consider: how are we engaging and mobilizing diverse members of the community?	

III. Cultural and social safety in sharing information and participating in adaptation planning	
Defined as: safe, respectful spaces for diverse community members to participate in adaptation planning through processes with which they feel comfortable.	**How it supports climate resilience and community health** Creating culturally and socially safe spaces for engagement can involve supporting different types of language use, meeting formats and decision-making structures that enable participation of people who communicate differently or who have historically been left out of discussions. This promotes climate adaptation and health equity by: • Making participation accessible and mutually respectful, with opportunities to stay involved as plans are implemented and updated. • Ensuring diverse knowledge systems are honoured and that all participants can contribute on equal footing. [68–71]
Consider: how can we create spaces where people feel respected and safe to share their experiences, enabling meaningful and practical adaptation responses?	

2.1.2. Explicit health determinants

The dimension of explicit health determinants refers to linkages between climate risks and health that help identify where adaptation is most urgently needed. Within the dimension of explicit health determinants, there are three sub-dimensions:

I. Comprehensive and meaningful data on local demographics and exposures to climate health hazards

Defined as: data on population characteristics (e.g., age, socioeconomic status, housing quality, and populations that are under-resourced or otherwise made vulnerable) and local environmental exposures (e.g., flood risk, heat islands, air quality) that help prioritize where to focus resources.

Consider: what kind of data do we currently have for our region? What data is missing? Who could help?

How it supports climate resilience and community health

Collecting, validating, and applying local data, including Western and Indigenous science and local knowledge, helps identify where climate and health risks overlap and improves data accuracy. This supports climate resilience and community health by:

- Providing locally validated data about those disproportionately impacted by environmental exposures.
- Identifying local climate health risks and populations or ecosystems threatened by a changing climate.

This enables targeted adaptation planning to protect the community.[72–77]

II. Overlapping social and ecological health determinants

Defined as: compounding and interconnected social and ecological factors that influence health outcomes across populations and environments.

Consider: how are ecosystem health and other factors affecting community health? Who needs to be involved to address the issues?

How it supports climate resilience and community health

Addressing both human and ecosystem health together helps develop integrated solutions that tackle root causes rather than just symptoms. Understanding how compounding social and ecological factors, like pollution, land use, food systems and health inequities overlap, helps identify where people and ecosystems are most likely to be affected.[78–81] This supports climate resilience and community health by:

- Enabling more effective, locally relevant, long-term adaptation strategies.
- Strengthening cross-sectoral partnerships and addressing underlying health challenges.[82–86]

III. Collaboration with public health and health-care services, including mental health support

Defined as: partnerships with health providers to integrate health expertise into climate adaptation planning.

Consider: how can health care providers help strengthen adaptation planning? Who can be invited? How can this collaboration meaningfully contribute to their work?

How it supports climate resilience and community health

Collaborating with public, primary, and mental health services to identify and respond to climate-related health risks promotes climate resilience and community health by:

- Supporting early detection, evidence-based planning, and rapid, integrated responses during climate events.
- Making care systems better equipped to support prevention, particularly for people who may experience disproportionate negative impacts.[87–91]

2.1.3. Infrastructure, natural and built environments

The dimension of infrastructure, natural and built environments refers to systems and spaces designed and situated to reduce climate risks and support well-being. Within the dimension of infrastructure, natural and built environments, there are three sub-dimensions:

I. Climate-resilient infrastructure	
Defined as: infrastructure designed or retrofitted to withstand climate hazards (based on environmental, social, and technological considerations).	**How it supports climate resilience and community health** Infrastructure needs to be designed, built or retrofitted to withstand shocks and recover quickly after an event, ensuring the continuity of essential services. Promoting climate-resilient infrastructure, such as buildings, food, water systems, transportation and energy, supports climate resilience and community health by: [92–96] • Reducing vulnerability to climate hazards and service disruptions. • Protecting residents from injury, displacement, and disease caused or worsened by climate change.
Consider: what are the most critical local infrastructure systems? What makes or would make them climate resilient? What are the health risks and other costs if we do not invest in and maintain critical infrastructure?	

II. Nature-based solutions and infrastructure	
Defined as: use of natural systems to reduce climate risks while enhancing biodiversity, community resilience and human well-being.	**How it supports climate resilience and community health** Nature-based infrastructure, such as green spaces, urban trees, flood-absorbing landscapes and shoreline stabilization, often provides multiple, long-term benefits to both climate resilience and human health. It does this by: • Reducing climate impacts naturally, while protecting ecosystems and improving biodiversity. • Improving air and water quality, reducing heat stress and providing access to green spaces that support physical and mental well-being. [97–103]
Consider: what are the nature-based solutions that make the most sense in our community to strengthen climate resilience?	

III. Climate-resilient housing and shelter	
Defined as: housing (and shelter systems) designed or retrofitted to reduce climate-related health risks.	**How it supports climate resilience and community health** Availability, affordability and quality of housing affect equity, well-being and long-term climate resilience in communities. Climate-resilient housing and shelters support climate resilience and community health by: • Withstanding and adapting to the impacts of a changing climate. • Protecting residents' health, safety and livelihoods. [104–108]
Consider: how have climate health-related housing issues been addressed in our community? What has been most effective and for whom? What could be done better?	

2.1.4. Economic capacity

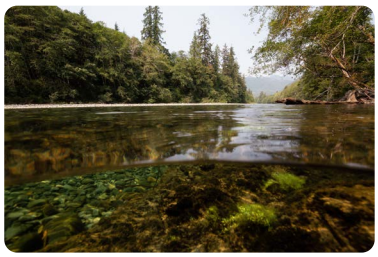
The dimension of economic capacity refers to economic activities, resources and opportunities that support community resilience and recovery. Within the dimension of economic capacity, there are three sub-dimensions:

I. Diversification of livelihoods and income sources	
Defined as: variety of income options available to support household and community well-being.	**How it supports climate resilience and community health** Diversifying local economies helps communities better withstand sudden or extreme climate events. This supports climate resilience and community health by: • Maintaining food, housing and energy security and access to essential services during disruptions. • Reducing financial stress from additional expenses or loss of income related to the changing climate. [108–114]
Consider: what are the economic strengths and vulnerabilities in our community? Who is in the greatest need of support for livelihood and income resilience? How can the situation be improved?	

II. Access to financial resources	
Defined as: availability of funding and resource access services that support communities to prepare for, respond to and recover from climate impacts.	**How it supports climate resilience and community health** Access to financial resources enables communities to implement appropriate climate adaptation measures. This supports climate resilience and community health by: • Encouraging widespread adoption of strategies across households, organizations and businesses to secure food, shelter and invest in protective infrastructure and services. • Building confidence and empowering people to adapt and thrive despite climate change and related mental health impacts. [115–119]
Consider: what kind of incentives and support systems do we have in place to improve the situation?	

III. Employment and local capacity in climate-resilient sectors	
Defined as: readiness and capacity of the local workforce and businesses to operate in sectors that enhance climate resilience and promote environmental sustainability.	**How it supports climate resilience and community health** Investments in local climate-resilient and environmentally sustainable sectors and workforce strengthens climate resilience and community health by: • Boosting the local economy. • Reducing environmental impacts from industry, such as pollution affecting health outcomes, and strengthening job security which promotes general well-being. • Expanding community skills and opportunities in climate-resilient industries, employment and training. [120–123]
Consider: which local businesses are climate-resilient? How diverse is the local industry?	

2.1.5. Natural resources and ecosystem health



The dimension of natural resources and ecosystem health refers to the condition and management of natural systems that can help reduce climate risks and support community well-being. Within the dimension of natural resources and ecosystem health, there are three sub-dimensions:

I. Local biodiversity and ecosystem protection

Defined as: efforts to conserve, restore and revitalize natural habitats that reduce climate impacts on both community and ecosystem health.

Consider: which policies and practices are in place to strengthen the characteristics of local ecosystems that protect climate health?

How it supports climate resilience and community health

Biodiversity and ecosystem health are foundational to resilient communities and sustainable livelihoods. Healthy, diverse ecosystems support climate resilience and community health by:

- Buffering extreme events and environmental stressors.
- Providing clean air and water, access to nature and cultural and mental benefits. [12,124–127]

II. Sustainable land use and water management

Defined as: local policies or practices that guide land use and source water protection, in ways that protect local water resources, maintain water quality and minimize pollution.

Consider: how climate resilient are local water systems? What kind of existing plans and programs help ensure land use practices protect local drinking water and water needs of the ecosystem?

How it supports climate resilience and community health

Integrated land and water management is essential for climate adaptation and for protecting the resources that sustain both people and ecosystems. Sustainable land use and water management support climate resilience and community health by:

- Minimizing exposure to environmental hazards, securing water quality and supply, and strengthening natural ecosystems that buffer future climate shocks.
- Ensuring access to clean water and land use that support human, ecosystem and watershed health. [18,128–131]

III. Public access to information and governance of natural resources

Defined as: transparent and inclusive management of natural resources, including access to data on natural resources and mechanisms for community participation.

Consider: what governance mechanisms and/or public access sharing agreements are in place for local ecosystems? Who needs to be involved in the conversation?

How it supports climate resilience and community health

Strengthening data sharing and inclusive natural resource governance fosters climate resilience and community health by: [100,132–134]

- Improving local disaster preparedness and community capacity to respond to environmental challenges through coordinated, ecosystem-based solutions.
- Enhancing informed decision-making, accountability, collective stewardship and long-term social cohesion.

2.1.6 Education and awareness

The dimension of education and awareness refers to community understanding of climate-health risks and available adaptation strategies. Within the dimension of education and awareness, there are three sub-dimensions:

I. Information about strategies to reduce climate change impacts on health	
Defined as: availability of clear, relevant information that helps communities understand and act on the links between climate risks and health outcomes.	**How it supports climate resilience and community health** Providing accessible information and resources about local climate-health risks and effective adaptation strategies enables communities to take informed, meaningful climate action while minimizing unintended consequences. This supports climate resilience and community health by: • Enabling integrated planning, enhancing cross-sectoral collaboration and supporting locally tailored adaptation efforts. • Fostering community engagement and buy-in for adaptation planning with easily understandable locally relevant information, guidance, and concrete examples on potential solutions. [75, 135, 136]
Consider: what locally relevant information, materials and guidelines exist to address climate health risks? Who produces, shares and uses this information? What else might we need?	

II. Effective knowledge sharing channels and mechanisms	
Defined as: sharing information using communication methods that are inclusive, multidirectional, culturally appropriate and accessible to all community members.	**How it supports climate resilience and community health** Incorporating interactive, mutual learning opportunities as part of knowledge sharing in climate-health initiatives boosts the impact of shared solutions by making information more relevant, encouraging dialogue and fostering mutual respect. This supports climate resilience and community health by: • Strengthening local understanding, collaboration and community-led adaptation. • Empowering residents and promoting inclusive, culturally informed decisions. [137–140]
Consider: how are we creating public awareness and sharing the guidelines for addressing climate health risks?	

III. Training programs and social networks for skill development	
Defined as: initiatives and programs that foster local knowledge, skills and capacity for climate adaptation.	**How it supports climate resilience and community health** Learning how to adapt helps people live and thrive in a changing climate. Training programs and social networks that build practical skills and relationships help equip communities to manage climate-related health risks and reduce stress. This supports climate resilience and community health by: • Safety, seasonal readiness and disaster response. • Fostering confidence, reducing mental health strain and strengthening community cohesion. [141–144]
Consider: how is the community capacity in adaptation planning strong in our community? How can we improve equity in access to capacity building opportunities?	

2.1.7 Governance and policies

The dimension of governance and policies refers to local leadership, policies and resources that support climate-health adaptation. Within the dimension of governance and policies, there are three sub-dimensions:

I. Climate policies and plans with health equity lens	
Defined as: presence of formal municipal policies, plans and regulations that explicitly integrate in climate adaption planning the goal that everyone has a fair chance to be as healthy as possible.	**How it supports climate resilience and community health** Embedding equity into climate adaptation policies ensures the needs of populations that are under-resourced and/or disproportionately impacted are addressed. This supports climate resilience and community health by: • Promoting fair access to resources and protective measures. • Reducing health inequities and supporting inclusive, just adaptation efforts. [145–149]
Consider: how is health equity addressed in local climate adaptation? How can the situation be improved?	

II. Local institutional capacity to respond	
Defined as: ability of municipal departments, public health agencies, community organizations and other local institutions to anticipate, prepare for, and effectively respond to climate-related health risks.	**How it supports climate resilience and community health** Strengthening the capacity of organizations through integrated efforts to respond quickly to emerging climate–health threats, using the best available data and local knowledge to guide actions and adapt policies as needed. This fosters climate resilience and community health by: • Supporting informed, coordinated and inclusive decision-making. • Improving preparedness, reducing local vulnerability and fostering safer, more supportive environments. [150–154]
Consider: how prepared are local organizations for climate adaptation? How can the collaboration be supported?	

III. Local resource allocation for adaptation	
Defined as: funding and staffing dedicated to planning, implementing and sustaining climate adaptation actions.	**How it supports climate resilience and community health** Having staff and resources explicitly for climate adaptation is becoming increasingly necessary for effective adaptation planning. Allocating local government resources to essential services, programs and protective measures enables effective, long-term climate adaptation. This supports climate resilience and community health by: • Strengthening planning, implementation and long-term sustainability of adaptation actions. • Reducing exposure to hazards and promoting safer, healthier living conditions during and after climate impacts. [155–158]
Consider: what kind of resources have local governments dedicated to climate adaptation? How can the situation be improved?	

2.1.8 Emergency preparedness

The dimension of emergency preparedness refers to systems and plans that protect communities before, during and after climate emergencies. Within the dimension of emergency preparedness, there are three sub-dimensions:

I. Risk assessments, monitoring and alert systems

Defined as: tools to identify, assess, track and communicate climate health-related risks in ways that prioritize the protection of populations who are under-resourced and sensitive ecosystems.

Consider: which risk assessments have already been competed? What kind of monitoring and alarm systems are in place? What remains to be done and what is the priority?

How it supports climate resilience and community health

Risk assessments, monitoring and alert systems, such as hazard mapping, early warnings, and real-time tracking of key environmental indicators, are essential to reduce climate impacts on health. These systems support climate resilience and community health by:

- Identifying and addressing the specific needs of those whose health would be most affected. This ensures equitable protection and necessary resource allocation.
- Enabling targeted and tailored interventions and climate-smart policies for timely disaster response. [159–161]

II. Targeted seasonal and disaster readiness plans for populations who are under-resourced and/or disproportionately impacted

Defined as: targeted actions to strengthen the climate resilience, health and well-being of populations who are under-resourced during extreme climate-related events.

Consider: who are the local populations made vulnerable by lack of adaptation planning? Where are they located? Why are they experiencing disproportionately high impacts? How can their climate-health risks be reduced?

How it supports climate resilience and community health

Targeted seasonal and disaster readiness plans help reduce climate-health risks for populations who are under-resourced. This supports climate resilience and community health by:

- Improving preparedness and access to protective services.
- Promoting health equity and safer living conditions during and after climate impacts. [161–164]

III. Community-wide risk management strategies and plans

Defined as: comprehensive policies, protocols and coordinated actions to reduce and respond to climate-related health hazards in ways that safeguard all residents.

Consider: what kind of disaster risk management strategies and plans do we have in place? Where are the gaps?

How it supports climate resilience and community health

Strong integrated risk management plans and policies help reduce exposure to climate-related health risks and keep essential services running. These plans and policies support climate resilience and community health by:

- Providing fair, coordinated and timely protection that reduces vulnerability and builds capacity to adapt.
- Preventing injury and illness and ensuring inclusive access to vital services. [165–167]

The systems approach to adaptation planning, reflected in the eight dimensions, illustrates how interconnected factors shape health and the vital role of healthy ecosystems in community well-being. Communities can use these dimensions as a guide to see what has already been accomplished in their planning and where gaps may still exist. They can also help support collaborative development of locally relevant adaptive capacity indicators, assessment approaches or monitoring frameworks. In addition, the dimensions may provide a useful way to bring different sectors and residents together to support climate adaptation.

2.2 Assessing and monitoring adaptive capacity

Once a community's adaptive capacities have been identified, the next step is to develop indicators to assess the current situation. Assessment helps communities see where they are already prepared and where they might want to focus future efforts.

Measuring adaptive capacity can be challenging. Unlike climate hazards, which are often tracked through weather data or risk maps, community strengths are more complex and harder to quantify. Traditional assessments often rely on indirect measures like income or education levels, which may not fully reflect a community's lived experience or readiness to respond.

Combining available data with local knowledge forms a fuller picture of adaptive capacity and helps fill in data gaps for adaptation planning. Selecting, and even co-creating, adaptive capacity indicators together with diverse community partners across sectors and jurisdictional boundaries makes them:

- **Locally relevant:** Reflecting the unique context, values and priorities of the community.
- **Easy to understand:** Helping residents and decision-makers make sense of the findings.
- **Meaningful:** Providing insight into what supports resilience and where to focus action.

Adaptive capacity indicators can assess both what is (i.e., current status) and what the community wants to achieve (i.e., progress), shown in **Table 1**. Once selected, indicators can be used to monitor changes over time and communicate progress to the public and decision-makers. Communities may choose to start with a small set of indicators and expand as capacity grows. Introducing Indicators: A First Look at Using Indicators to Measure Adaptation Progress[168] from ICLEI – Local Governments for Sustainability may be a helpful resource for those interested in more information about indicators and measuring progress.

The following table provides a few examples of indicators to support communities in brainstorming indicators that would be measurable, relevant and meaningful for their community. A complete list of example indicators for all sub-dimensions can be found in Appendix A. Communities can select their focus, indicators and methods to conduct the assessment, based on their unique circumstances and needs.

This process is not just about collecting data—it's about building relationships, breaking down silos, fostering shared understanding, creating a foundation for coordinated planning and recognizing the good work already happening in the community.

Dimension & sub-dimension of adaptive capacity	Example indicators for mapping and monitoring
Social capital	
Cultural and social safety in sharing information and participating in adaptation planning	**Cultural and social safety in adaptation planning.** Assessed whether adaptation planning processes create culturally safe, socially inclusive spaces where diverse groups, especially those under-resourced or otherwise made vulnerable, can participate, share perspectives without fear or marginalization and help co-develop adaptation plans that reflect their insights and expertise. [Not started / Early stages / In progress / Final stages / Successfully established]
Infrastructure, natural and built environments	
Climate-resilient infrastructure	**Municipal policy and fee structure for stormwater management.** Developed municipal policies and associated fee structures to promote climate-resilient infrastructure, such as permeable parking lots and other green stormwater solutions, to reduce flooding and manage stormwater surges effectively. [Not started / Early stages / In progress / Final stages / Completed]
Governance and policies	
Local institutional capacity to respond	**Institutional capacity and integrated coordination for climate adaptation.** Established well-defined mandates for departments and organizations, combined with coordinated formal and informal networks across local, regional and national agencies, sectors and community groups, that enable integrated planning and effective responses to climate-related threats to community health. [Not started / In progress / Completed]

Table 1: *Examples of indicators that could be used to assess and monitor some of the sub-dimensions of adaptive capacity.*

2.3 Connection to climate vulnerability

In climate adaptation planning, the health impacts of climate change are traditionally thought of through the concept of 'vulnerability'.[169] A community's vulnerability[ii] is shaped by how the community experiences and responds to climate-related challenges. In health-focused planning, vulnerability –and its opposite, resilience – is often assessed through three interconnected components (Figure 4):

- **Exposure:** The types and severity of climate hazards a community faces, such as extreme heat, flooding, wildfires or drought.
- **Sensitivity:** How susceptible people are to harm from climate hazards, based on factors like age, income, housing conditions and existing health issues.
- **Adaptive capacity:** The strengths, assets and relationships that help communities anticipate, prepare for and recover from climate impacts.

Together, exposure and sensitivity form climate health risks—the factors that determine how a changing climate negatively affects a community's health.

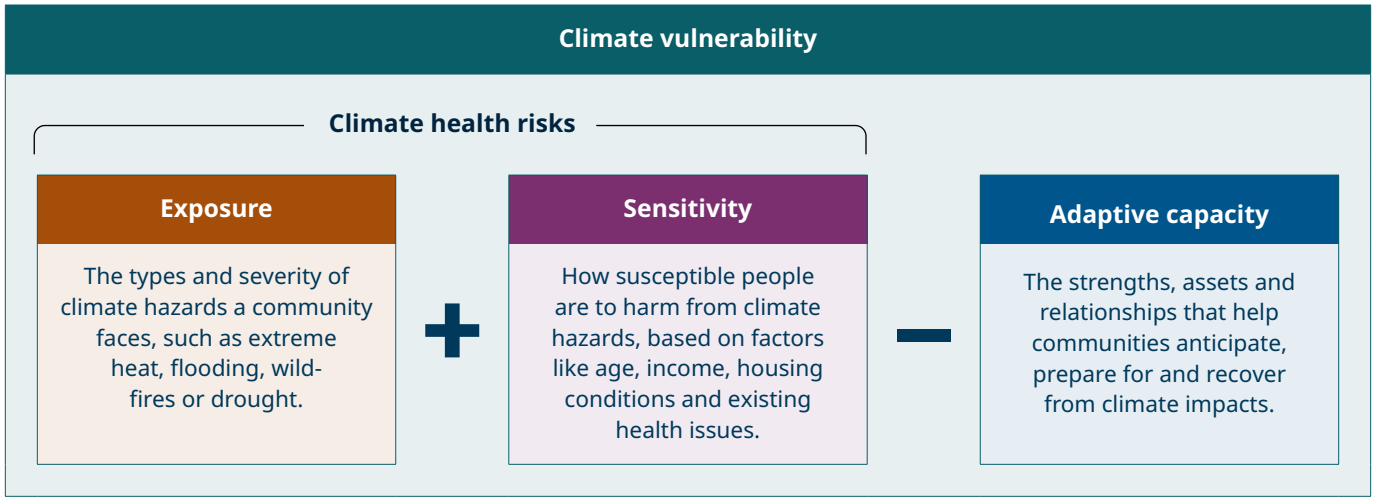


Figure 4: *Traditional approach to considering and assessing the impacts of climate change on community health, including the three components of vulnerability typical for health-focused adaptation assessments: Exposure, Sensitivity and Adaptive Capacity. Adapted from the US Global Change Research Program.*[170]

[ii] In climate change and health contexts, the term "vulnerability" tends to be used inconsistently and often refers to what we call "sensitivity". In the emerging climate health adaptation assessment practice, adaptive capacity is included as part of "vulnerability" to assess the overall vulnerability of a system or geographic area. In public health, we are moving away from revictimizing less-resourced, equity-deserving people and avoid using 'vulnerable' when referring to individuals.

This primer flips the traditional viewpoint and focuses instead on a community's resilience, rather than its vulnerability. Instead of starting with what's wrong, it centres what's strong. While understanding local climate and health risks is important, beginning adaptation planning with a focus on existing community strengths fosters self-reliance and helps lessen dependence on external resources. Bringing together local assets helps communities reduce vulnerability and increase resilience in ways that are empowering, inclusive and sustainable.

The visual representation in Figure 5 shows how increasing adaptive capacity offsets climate health risks to build long-term community resilience . Communities with strong adaptive capacity are better equipped to withstand and recover from climate-related disruptions. Future publications from Island Health will provide additional context on climate hazard exposure and population sensitivities, the other two factors that impact community resilience and vulnerability.

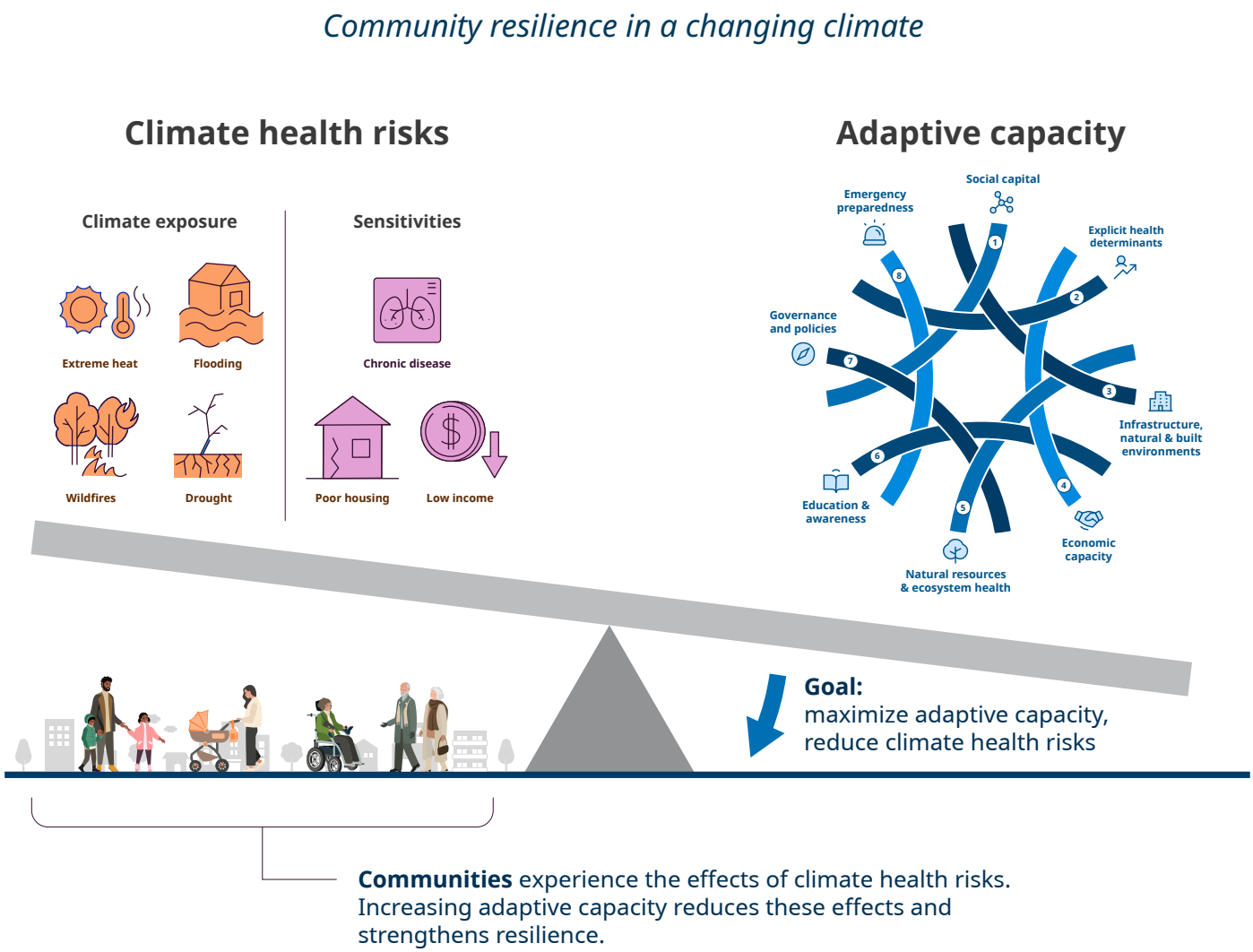


Figure 5: *Conceptual representation of adaptive capacity protecting against the effects of exposure and sensitivity on community health. Maximizing adaptive capacity and reducing climate health risks makes a community more resilient.*

2.4 Putting this primer into action

The approach described in this primer is designed to be flexible and adaptable to the unique context of each community. Whether a community is just beginning its planning journey or already engaged in climate adaptation work, the approach can be used to guide efforts that build on existing strengths and support health and well-being.

The process follows three broad phases: Identify, Act and Strengthen, with the eight dimensions of adaptive capacity (described in Section 2.1) incorporated into the Identify phase.

Identify

- Engage community members, Indigenous partners and local organizations to map out strengths, assets, relationships and systems that support resilience in the community. (See Appendix B for an example of how to use the eight dimensions of adaptive capacity for support in the planning process.)
- Envision your climate-resilient, healthy and sustainable community.
- Review existing assessments and plans to identify gaps related to community strengths and health.
- Co-develop locally meaningful indicators to assess the identified adaptive capacities and/or to monitor adaptation progress. (See Appendix A for examples.)

Act

- Form new kinds of partnerships for mutual learning and to harness the innovative, cross-sectoral knowledge power of the local strengths to address the identified and prioritized main climate health risks.
- Use identified strengths as a foundation for local adaptation planning.
- Track progress using locally relevant indicators to understand how resilience is growing over time.

Strengthen

- Share and validate findings with community members, decision-makers and partners to inform future actions and build support.
- Celebrate successes and lessons learned, reinforcing community engagement and momentum.
- Continue strengthening adaptive capacity, using the approach to guide ongoing planning and collaboration.

These steps and approach can be used either as a standalone tool or can be integrated into existing frameworks and tools for climate adaptation planning. For example, this primer can be used to build upon work that has already been completed, as in the adaptation plans previously completed in ten Vancouver Island communities [171, 172] guided by ICLEI's Building Adaptive and Resilient Communities (BARC) framework [173]. Using these steps to build upon the eight dimensions that contribute to enhancing overall adaptive capacity can support improving long-term community health and preparedness.

3. Foundations for successful implementation

A solidly founded climate adaptation strategy draws on Indigenous leadership, promotes cross-sectoral collaboration and brings together local context-specific knowledge to complement scientific evidence. This section will show how community values, expertise and resources, rooted in local social, political and ecological conditions, enable more practical, effective and tailored adaptation strategies.

3.1 Indigenous climate leadership

It is important for local governments and community groups (Indigenous and non-Indigenous) to develop a shared path towards climate resilience. Fostering co-design and shared decision-making with Indigenous Peoples is key to building climate resilience that is inclusive, equitable and effective.

Creating a shared path means respecting differences in worldviews and recognizing the value of Indigenous leadership, knowledge and guidance in shaping effective and inclusive adaptation plans. First Nations communities tend to approach health holistically, integrating physical, mental, emotional and spiritual well-being with the health of the Land. This holistic system perspective offers valuable insights for local governments seeking to address climate-related health challenges and build long-term, community-wide resilience.

Many First Nations also view health and the environment as inseparable,[174] linking land stewardship to both environmental and community health. Within the Island Health region, Indigenous leadership plays a critical role, grounded in generations of deep knowledge of the Land. By centring planetary health and relationality, Indigenous perspectives offer a more inclusive, just and sustainable foundation for climate and health research, policy and action.

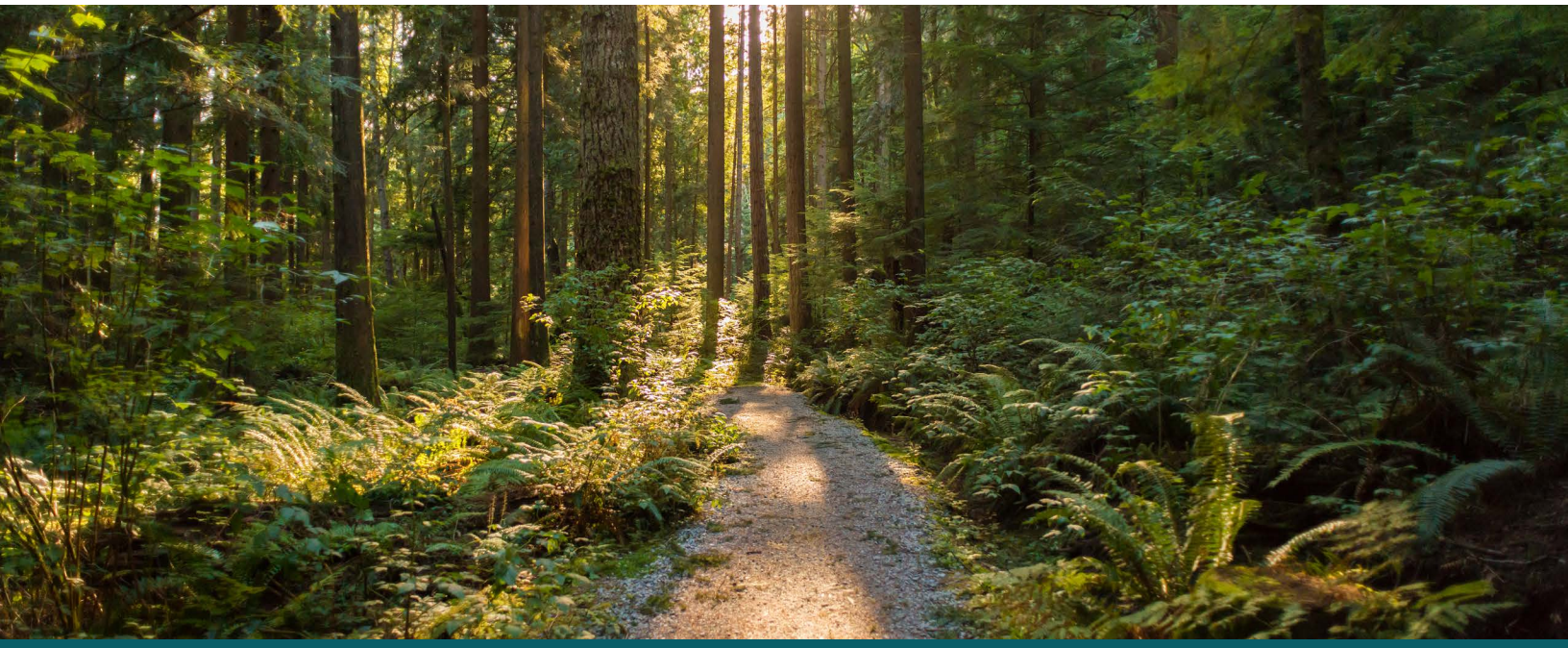
In 2019, the United Nations Framework Convention on Climate Change (UNFCCC) recognized that Indigenous knowledge and values are vital for strengthening climate resilience.[175] Many First Nations' holistic understanding of health offers powerful guidance for addressing climate-related health challenges.

In British Columbia, collaboration with First Nations is also often a legislated responsibility of provincial and local governments. British Columbia's Climate Preparedness and Adaptation Strategy (CPAS)[176] emphasizes a shared path with Indigenous Peoples as critical for addressing climate risks. Grounded in the Declaration on the Rights of Indigenous Peoples Act (DRIPA),[6] the Province is aligning its laws with United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).[3] to uphold Indigenous rights and self-determination. B.C.'s Emergency and Disaster Management Act (EDMA)[177] reinforces this by recognizing Indigenous

authority in emergency management and requiring municipal collaboration with First Nations in related decision-making. The B.C. First Nations Climate Strategy and Action Plan[178] further emphasizes the importance of honouring title, rights and treaty rights.

Within the region Island Health serves, many First Nations have been leading the way in climate action, embodying the integrated, community-driven approach promoted in this primer. The T'Sou-ke Nation exemplified this in 2008 when it began transforming into a sustainable, solar-powered community through an inclusive planning process guided by the Seventh Generation principle, achieving energy self-sufficiency and improved food security.[179] Similarly, the Ahousaht, Hesquiaht, and Tla-o-qui-aht Nations' 2011 collaborative work produced the Clayoquot Sound Community-Based Climate Change Adaptation Plan,[180] which integrated Indigenous knowledge and scientific modeling to strengthen ecosystem and human health resilience across their territories. First Nations leadership in the Island Health region is grounded in the deep alignment between traditional ecological knowledge and sustainable environmental practices, building resilient, community-driven responses to climate change.

> *"Can you imagine a world where nature is understood as full of relatives, not resources, where inalienable rights are balanced with inalienable responsibilities, and where wealth itself is measured not by resource ownership and control, but by the number of good relationships we maintain in the complex and diverse life-systems of this blue green planet?"*
>
> — Daniel Wildcat, 2013



3.2 Guided by community expertise

Community expertise is central to building adaptive capacity. Local residents, organizations and leaders bring essential knowledge about the local contexts, including their own strengths, challenges and priorities, to complement scientific evidence. When communities actively identify, assess and monitor adaptive capacity, new knowledge and skills stay in the community and the evidence is more meaningful, accurate and empowering. Collaborative processes, such as community workshops, asset mapping and indicator development also help people recognize existing resilience-building work while fostering trust, engagement and a sense of ownership over local adaptation efforts.[67]

Local knowledge is vital to evidence-informed decision-making and policy development. Across the Island Health region, small community sizes and diverse geographies mean that high-level, aggregated data often lack the detail needed for assessment of climate-related health risks at the local level. Differences in governance structures and community cultures also shape how climate risks unfold and how adaptation takes root.

Local knowledge provides essential context, enhances the relevance and effectiveness of solutions, and offers a deeper, long-term understanding of local dynamics that scientific data alone may miss.

Community engagement also plays a critical role in addressing inequities. Climate change affects everyone, but not equally. Certain groups face greater risks from climate change, such as residents in rural or remote areas, children, pregnant people, older adults with low income, certain occupational groups and people with mobility barriers.[181–183] Inclusive planning ensures these voices are heard and that solutions reflect the needs of those most affected. Individuals disproportionately impacted and organizations that represent them should be supported to participate in shaping solutions, as much as their capacity allows.

4. Case studies

Across the region Island Health serves, communities have been demonstrating a wide range of strengths that support climate resilience, ecosystem protection and health. These examples can serve as inspiration and guidance for others.

While the case studies reflect many of the foundational elements of the approach suggested in this primer, they may not include every suggested element. Each example is shaped by its unique context and priorities, and all offer valuable insights for advancing climate resilience and health.

The case studies are organized into the three steps of Identify-Act-Strengthen described in Section 2.4. The selected case studies highlight:

- Local people and leadership coming together to identify and build upon their strengths, and listen deeply in the process, which can build trust and foster a shared purpose that prioritizes collective well-being.
- Using a multi-solving systems approach.
- Solutions rooted in commitments to equity and anti-racism, human and ecosystem health and Indigenous self-determination.
- How communities address multiple categories of adaptive capacity simultaneously.

Each case study is accompanied by tabs representing the eight Dimensions of Adaptive Capacity, with the most prominent dimensions highlighted in navy blue. Examples of how the eight dimensions of adaptive capacity can also be used in monitoring or more comprehensive, integrated planning can be found in Appendix A and Appendix B, respectively.

These case studies show how community initiatives across the Island Health region are already building local capacity for climate resilience and community health.

The eight dimensions of adaptive capacity align also with the social, ecological and structural determinants of health that shape community well-being. Together, they provide communities with a practical lens to integrate health, equity and resilience perspectives in local adaptation planning and a solid foundation to guide collaboration with Island Health.

Case study tabs:

1	Social capital
2	Explicit health determinants
3	Infrastructure, natural & built environments
4	Economic capacity
5	Natural resources & ecosystem health
6	Education & awareness
7	Governance & policies
8	Emergency preparedness

4.1 Case study 1: Salmon revival in the Cowichan Valley

Healthy, abundant salmon runs are vital to coastal communities as they support the fishing industry and ecotourism, provide crucial nutrition, and are a cornerstone of many First Nations' livelihoods and traditions—both culturally and socially. At the same time, river water is necessary to run the local pulp mill, the hatchery and some agriculture, making adequate flows essential for the entire region. This shows that ecosystem health is inseparable from community health and can only be safeguarded through coordinated action across sectors.

Identify

- Challenging situation
- Community strengths to build upon

After a drought in 2003, low flows in the Cowichan River severely impacted Chinook salmon migration and threatened a major local industry.[184] However, although there were many pressures on the watershed, all users had knowledge or other resources that could contribute to solutions.

Act

- To build upon community strengths and improve the situation

Regional partners formed the Cowichan Stewardship Roundtable in 2003, released a watershed plan in 2007, and established the Cowichan Watershed Board (CWB) in 2010. Co-chaired by Cowichan Tribes and the Cowichan Valley Regional District, the CWB unites governments, industry and community groups to steward the watershed through shared responsibility, science and traditional knowledge. More importantly, all parties share the intention to more deeply understand how Indigenous knowledge can guide future work and decision-making through sharing of language, culture and S-xats-thut tst (teachings).

Strengthen

- Community health outcomes
- Community resilience outcomes

This collaborative governance model has helped to improve salmon stocks[185, 186] as well as both climate and health resilience through supporting livelihoods, food security and other determinants of health. Collaboration also enhanced social connection and community empowerment, thus strengthening trust and sense of belonging, which are key for both community health and effective emergency responses.

4.2 Case study 2: Addressing community polarization in Clayoquot Sound

Adaptation planning involves navigating competing interests, which can be challenging. A local organization can function as a bridging organization to help overcome these barriers by fostering communication, building trust and coordinating the exchange of knowledge, resources and opportunities.

1 2 3 4 5 6 7 8

Identify

- Challenging situation
- Community strengths to build upon

Beginning in the 1980s and culminating in the mid-1990s, clearcutting in Clayoquot Sound prompted thousands of people to gather, blocking logging roads in the largest act of civil disobedience in Canadian history.[187, 188] This protest highlighted the power of First Nations leadership and collective action, but also the potential for polarization when values and livelihoods collide.

Act

- To build upon community strengths and improve the situation

In 2000, the Clayoquot Biosphere Trust (CBT) was established as a bridging organization joining Indigenous and non-Indigenous communities, researchers, governments and local organizations. The vision is to "live sustainably in a healthy ecosystem, with a diversified economy, and strong, vibrant, and united cultures, while embracing the *nuučaan̓ułʼ* (Nuu-chah–nulth) First Nations' living philosophies of *iisaak* (living respectfully), *qwa' aak qin tiič mis* (life in the balance), and *hišukniš ċawaak* (everything is one and interconnected)."[189]

Strengthen

- Community health outcomes
- Community resilience outcomes

CBT has successfully united disparate community groups to collaboratively advance projects related to ecosystem health, cultural vitality, sustainability and community well-being across the region.[190] They explicitly address health through their support of the local food hub, Vital Signs assessments,[149] supporting economic diversification and leadership development,[123] increasing access to health service providers and harm reduction, and child and youth advocacy.[189]

4.3 Case study 3: Mamalilikulla First Nation harnessing local expertise

Local people—especially hunters, fishers, gatherers, and hikers—spend significant time outdoors and often have detailed knowledge of local environments and the changes occurring within them. Their knowledge can help monitor the change in both social or physical factors (e.g., citizen science) or validate or highlight local discrepancies with collected (aggregated) data. Local Indigenous knowledge provides long-term observational data, a holistic understanding of ecosystems and local expertise that can be crucial for monitoring subtle climate change impacts on health often missed by conventional scientific methods.

Identify

- Challenging situation
- Community strengths to build upon

After being displaced from their traditional territories in the 20th century, Mamalilikulla First Nation leaders identified that there were no formal mechanisms available for monitoring and stewardship of the Land and surrounding waters. To protect the ecosystem and community well-being, they would need a way to re-assert not only the Nation's presence in the territory, but also the traditional knowledge required to manage increasing pressures from climate change and natural resource development in those territories.[193]

Act

- To build upon community strengths and improve the situation

Mamalilikulla First Nation initiated a Guardian Program, which harnessed the expertise of Knowledge Holders and Elders to monitor and protect their traditional territories. Through the Guardian Program, Mamalilikulla First Nation works with the Department of Fisheries and Oceans and other partners to conduct research and restoration, monitor impacts due to commercial and recreational activities, engage with the public and protect cultural assets.[194] These activities are essential to create a baseline against which to monitor the impacts of climate change. In addition, blending of local expertise and scientific evidence is used to make decisions that support both climate resilience and community health.

Strengthen

- Community health outcomes
- Community resilience outcomes

The Guardian Program has led to numerous stewardship, conservation and economic development projects that are serving not only to protect and preserve the Land, but to improve food security, protect cultural assets and create new opportunities for Mamalilikulla youth.[195] The program has also helped validate Mamalilikulla's membership and partners with regard to rights and title in respect of core traditional territories.

4.4 Case study 4: Capital Regional District's response to extreme heat

Climate adaptation can begin with small, practical projects that build community-wide understanding of the issues and potential solutions. While universities may not be able to support long-term implementation, they can be valuable partners in addressing specific challenges. Using the eight dimensions of adaptive capacity provides a framework for tracking progress and ensuring all critical aspects of resilience are addressed over time.

Identify

- Challenging situation
- Community strengths to build upon

In the Capital Regional District (CRD), extreme heat was identified as posing a serious risk to health—especially to marginalized communities. During a 2021 extreme heat event, which led to 24 deaths in the CRD, residents reported that heat-related information was hard to find, inconsistent and scattered.

Act

- To build upon community strengths and improve the situation

The CRD's Community Health Network partnered with the University of Victoria on a community-based research project. Using an equity lens, they explored how extreme heat affects groups made vulnerable by lack of adaptation planning and identified ways to improve public engagement, emergency response and planning.

Strengthen

- Community health outcomes
- Community resilience outcomes

The project produced several tangible and policy-oriented outcomes aimed at improving community resilience to extreme heat, including a comprehensive Hot Topic Final Report and Story Map[196] and podcasts[197] connecting data with human stories, and extensive quantitative and qualitative research from surveys and sharing circles. The findings were translated into actionable policy recommendations addressing cooling access, landlord and strata obligations, public and outdoor space improvements, and resource supports for under-resourced populations. Knowledge mobilization efforts culminated in an action planning session with regional decision-makers to integrate findings into municipal and health planning.

5. Working with Island Health

Climate adaptation is a priority for Island Health, as described in our Climate Change and Planetary Health Strategy. [198]

In addition to working to address the direct climate impacts on Island Health programs and services, our Population and Public Health (PPH) teams are here to support local communities in strengthening each dimension of adaptive capacity. We also collaborate with the First Nations Health Authority (FNHA) and Métis Nation B.C. (MNBC), guided by the principles laid out in the Vancouver Island Partnership Accord signed in 2022 [199]. We support individual First Nations on climate adaptation work where invited. Our work is supported by a Medical Health Officer specializing in environmental health, climate change and emergency response.

Community Health Promoters (CHPs) work closely with local organizations, local government and community partners to promote awareness of how climate change affects health and well-being. CHPs focus on building relationships, strengthening local capacity and supporting community-led initiatives that respond to current and emerging health challenges. CHPs also help communities connect with relevant PPH expertise and resources to support local climate resilience. Contact information for your local CHP can be found on our Community Development webpage.

Guided by a vision of a just and sustainable food system where everyone has access to nutritious, culturally appropriate food, our **Food and Nutrition team** supports eight regional Food Hubs. These hubs develop communication networks and engage with neighbouring communities and governments. In addition, the Indigenous Health Dietitians and Public Health Dietitians promote nutrition and health and work with community organizations including food hubs to improve food security and help reduce climate change impacts.

The **School Health Promoters** work with schools and school districts to promote health and illness prevention at schools. While their team focus stretches across a range of child and youth health-related factors, the team also helps ensure that climate change and health messaging reach schools. In addition, they connect partners with other Island Health PPH staff to support initiatives such as the Youth Climate Summit in Comox Valley in 2024. More information on School Health Promoters can be found on our Healthy Schools webpage.

Environmental Health Officers (EHOs) play a critical role in keeping communities healthy by enforcing and educating on provincial regulations related to food and drinking water safety. As our region grows warmer and drier, EHOs are working with communities to increase water systems' resilience to drought and wildfire, helping communities maintain access to safe drinking water. Regional EPH offices are listed on our website.

Healthy Built Environment (HBE) Consultants collaborate with local governments and community partners to integrate health considerations into community development and land use planning. As public health professionals, they offer insights into population health impacts and provide evidence to support policy and decision making that promotes healthier, more equitable and climate-resilient communities. Our HBE consultants can contacted at hbe@islandhealth.ca.

Both scientific and local context-specific knowledge are essential for long-term resilience. Our **Environmental Health and Climate Scientists** help refine climate health-related questions and suggest relevant indicators and other actionable metrics. They can also connect municipalities, First Nations and other communities with academic researchers, offer guidance and support letters for funding proposals, and, when capacity allows, participate as a collaborator in innovative assessments. Members of our scientific team can be contacted through hbe@islandhealth.ca.

Epidemiologists and Surveillance Analysts help communities gain insight into population health through products such as the Local Health Area (LHA) profiles and Population Health Status Reports. Our team members can be contacted through pophealthsurvepi@islandhealth.ca.

Our **Disaster Risk Reduction and Resilience Consultant** aligns our work with the United Nations Sendai Framework for Disaster Risk Reduction framework priorities, strengthening disaster risk governance within Island Health PPH and climate preparedness with FNHA and Metis Nation B.C. in our Collaborative Seasonal Readiness Partnership Table. The consultant and other team members also support communities through public engagements on building resilience to climate hazards and by providing tools and resources on our public websites. Our consultant can be contacted through hbe@islandhealth.ca.

Dimension	Examples of how Island Health PPH teams can help
Social capital	Engage in community-led planning processes to help to build connections between community organizations, local governments and health agencies.
Explicit health determinants	Gather and analyze data to improve communities' access to information on health status, the determinants of health and health service usage.
Infrastructure, natural, and built environments	Engage with local governments on Official Community Plans to reflect how land use planning and development can be optimized to promote health and sustainability.
Economic capacity	Provide support to local food security organizations which have built shared commercial kitchens, creating new opportunities for local food producers.
Natural resources and ecosystem health	Participating in Indigenous-led watershed management initiatives.
Education and awareness	Help school communities integrate planetary health into school district strategic planning, educator professional development, youth-led initiatives and school environments.
Governance and policies	Support local governments to integrate and understand climate-health interactions in adaptation planning.
Emergency preparedness	Engaging with the public and local governments to create tools and resources to build preparedness around climate-driven emergencies.

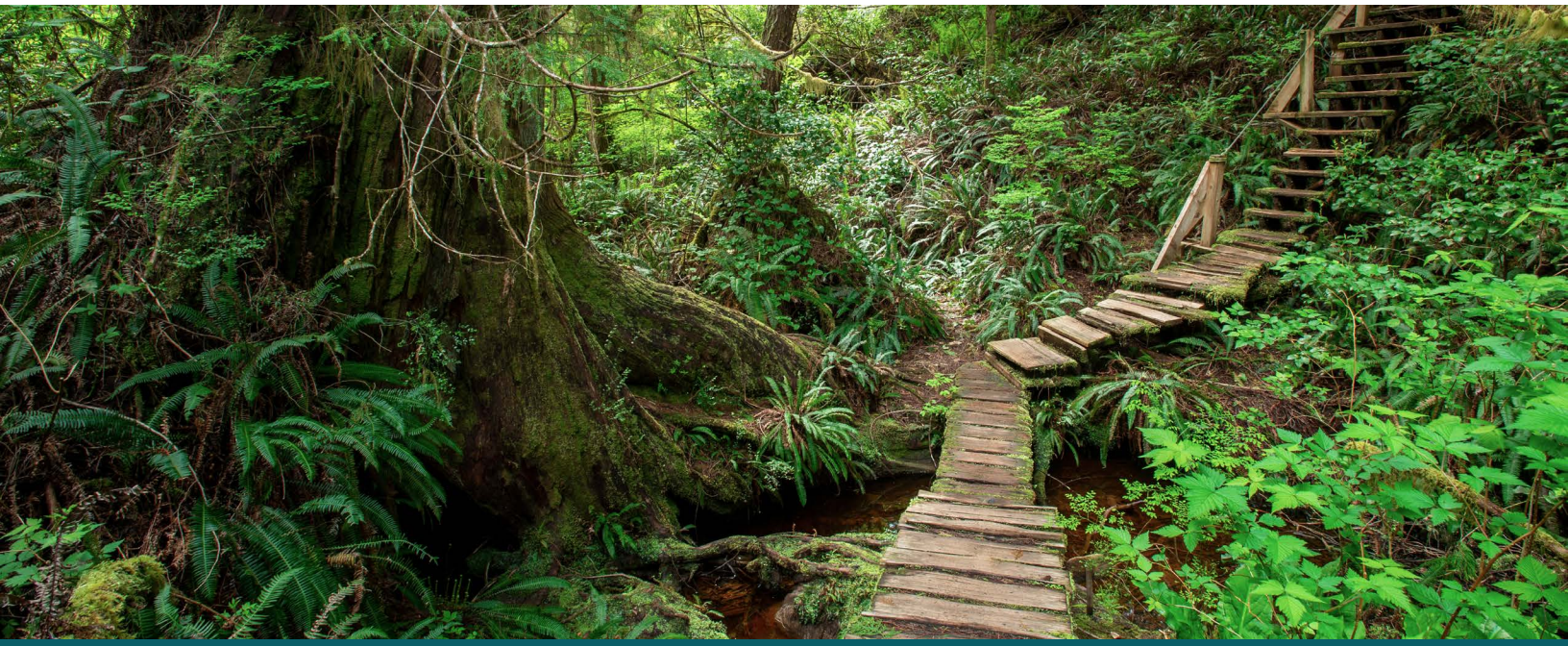
6. Moving forward together

Communities across the Island Health region are showing leadership in responding to climate change. The approach described in this primer is designed to support and strengthen those efforts—by helping communities recognize their existing strengths, build on what's working and plan for a healthier, more resilient future.

Moving forward, local governments and community organizations can benefit from:

- Engaging with residents and partners to identify the strengths that already support resilience and well-being.
- Using the primer's approach to guide planning, track progress and bring health into conversations about climate adaptation.
- Learning from one another, sharing stories, strategies and lessons across communities.

Island Health's PPH department is available to offer support within its capacity. This may include sharing tools, connecting partners or helping communities explore ways to integrate health into their planning. We welcome opportunities to collaborate and learn alongside communities as they lead this work. Together we can build on the strengths and connections of our communities to create a future that is healthier, more connected and better prepared for our changing climate.



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8. Appendix A: Indicators to assess adaptive capacity and monitor improvement

Adaptation planning requires some degree of understanding of what capacity communities have to address climate change impacts and their threats to community health. Baseline indicators are slightly different from the progress indicators used to monitor change.

A baseline adaptive capacity assessment is useful because it provides a clear starting point for understanding a community's strengths, gaps and readiness to adapt to climate impacts. More specifically, the assessment helps to:

1. **Identify what assets already exist**
   It shows which resources, networks, knowledge and systems a community can already rely on when facing climate risks.
2. **Reveal gaps and vulnerabilities**
   By mapping what is missing or underdeveloped, it highlights where capacity needs to be strengthened.
3. **Guide priority-setting and planning**
   Decision-makers can use the baseline to prioritize actions and allocate resources more effectively.
4. **Enable tracking of progress over time**
   The baseline serves as a reference point, making it easier to monitor improvements, measure outcomes and evaluate whether adaptation actions are working.
5. **Support collaboration**
   It makes visible who is involved, who is missing and where partnerships can be built or strengthened.
6. **Build a shared understanding**
   Communities, partners and officials gain a common perspective on current readiness, making it easier to agree on next steps.

Progress indicators can be modified from baseline indicators by defining a specific goal to improve the situation, achievement date, and specific milestones or approximations, such as [not started / early stages / in progress / final stages / completed]. Here we provide an example indicator for each sub-category of the eight dimensions of adaptive capacity.

1. **Social capital** (including health equity and social justice)

Indicator dimension & sub-dimension	Definition	Questions to consider	Example indicators for mapping and monitoring
Community cohesion	Strength of relationships and mutual trust that support reciprocity and collective action.	How connected are we as a community? Who needs to be at the table?	**Community engagement and partnership landscape:** Identified key organizations that foster community engagement and cross-sector partnerships (public, non-profit and private), including their capacity to mobilize local sectors and community groups for climate adaptation. [*Community and cross-sector partner inventory, identifying key actors, their roles, and relationships*]
Local decision-making and governance structures representing diversity of population	Processes and policies that enable inclusion and participation of diverse voices in local climate change and health-related decisions.	How are we engaging and mobilizing diverse members of the community?	**Health equity-informed, inclusive engagement in municipal decision-making:** Established municipal policies and practices that support fair, accessible and collaborative participation in adaptation planning, including mechanisms that reduce barriers and enable meaningful involvement of groups that are under-resourced or otherwise made vulnerable. [*Not started / Early stages / In progress / Final stages / Successfully established*].
Cultural and social safety in sharing information and participating in adaptation planning	Safe, respectful spaces for diverse community members to participate in adaptation planning through processes with which they feel comfortable.	How can we create spaces where people feel respected and safe to share their truths, enabling meaningful and practical adaptation responses?	**Cultural and social safety in adaptation planning:** Assessed whether adaptation planning processes create culturally safe, socially inclusive spaces where diverse groups, especially those under-resourced or otherwise made vulnerable, can participate, share perspectives without fear or marginalization, and help co-develop adaptation plans that reflect their insights and expertise. [*Not started / Early stages / In progress / Final stages / Successfully established*].

2. Explicit health determinants

Indicator dimension & sub-dimension	Definition	Questions to consider	Example indicators for mapping and monitoring
Comprehensive and meaningful data on local demographics and exposures to climate health hazards	Data on population characteristics (e.g., age, socioeconomic status, housing quality, and populations that are under-resourced or otherwise made vulnerable) and local environmental exposures (e.g., flood risk, heat islands, air quality) that help prioritize where to focus resources.	What kind of data do we currently have for our region? What data is missing? Who could help?	**Comprehensive and meaningful local climate-health data:** Assessed the extent to which systems for monitoring and communicating key local climate health threats, such as local air quality monitoring and alerts, have been established with guidance from the health authority. [*Not started / Early stages / In progress / Final stages / Fully established*]
Overlapping social and ecological health determinants	Compounding and interconnected social and ecological factors that influence health outcomes across populations and environments.	How are ecosystem health and other factors affecting community health? Who needs to be involved to address the issues?	**Overlapping social and ecological determinants of climate-related health risks:** Identified local areas facing high climate-health risks due to cumulative, overlapping social and ecological stressors, and developed cross-sectoral initiatives—across health, social services, planning, environment, housing, and natural resource management—that collectively strengthen integrated climate adaptation efforts for each area. [*Not started / Early stages / In progress / Final stages / Fully established*]
Collaboration with public health and health-care services, including mental health support	Partnerships with health providers to integrate health expertise into climate adaptation planning.	How can health care providers help strengthen the adaptation planning? Who can be invited? How can this collaboration meaningfully contribute to their work?	**Collaboration with public health on healthy natural and built environments:** Assessed the extent of collaboration with Healthy Built Environment Consultants; from having basic contact and informal relationships to establishing formal protocols in municipal planning processes (e.g., Official Community Plans) that ensure their early involvement in addressing climate-related health impacts. [*No contact / Contact established / Informal collaboration / Protocols in development / Formal collaboration established*]

3. Infrastructure, natural and built environments

Indicator dimension & sub-dimension	Definition	Questions to consider	Example indicators for mapping and monitoring
Climate-resilient infrastructure	Infrastructure designed or retrofitted to withstand climate hazards (based on environmental, social and technological considerations).	What are the most critical local infrastructure systems? What makes or would make them climate resilient? What are the health risks and other costs if we do not invest in and maintain critical infrastructure?	**Municipal policy and fee structure for stormwater management:** Developed municipal policies and associated fee structures to promote climate-resilient infrastructure, such as permeable parking lots and other green stormwater solutions, to reduce flooding and manage stormwater surges effectively. [*Not started / Early stages / In progress / Final stages / Completed*]
Nature-based solutions and infrastructure	Use of natural systems to reduce climate risks while enhancing biodiversity, community resilience and human well-being.	What are the nature-based solutions that make the most sense in our community to strengthen climate resilience?	**Green infrastructure on roads in high-flood-risk areas:** Inventory and assessment of green infrastructure, such as bioswales, rain gardens, roadside trees, urban forests, permeable pavements and vegetated buffers, located along or near municipal roads in high-flood-risk areas, including the type, number, size and condition of these installations, and their role in mitigating flooding and managing stormwater. [*Not started / Early stages / In progress / Final stages / Completed*]
Climate-resilient housing and shelter	Housing (and shelter systems) designed or retrofitted to reduce climate-related health risks.	How have climate health-related housing issues been addressed in our community? What has been most effective and for whom? What could be done better?	**Support strategy for the climate-resilience of local underhoused populations:** Assessed the existence and implementation of municipal policies or programs that provide coordinated support to the climate-resilience of underhoused populations, including both emergency facilities and affordable housing opportunities. [*Not started / Early stages / In progress / Final stages / Completed*]

4. Economic capacity

Indicator dimension & sub-dimension	Definition	Questions to consider	Example indicators for mapping and monitoring
Diversification of livelihoods and income sources	Variety of income options available to support household and community well-being.	What are the economic strengths and vulnerabilities in our community? Who is in the greatest support need for livelihood and income resilience? How can the situation be improved?	**Diversification of livelihoods and climate-resilient economic development:** Classified local employers or sectors by climate sensitivity [*high, medium, low*], and created a local economic development plan that identifies climate-resilient growth sectors and fosters complementary sector diversification. [*Not started / Early stages / In progress / Final stages / Completed*]
Access to financial resources	Availability of funding and resource access services that support communities to prepare for, respond to and recover from climate impacts.	What kind of incentives and support systems do we have in place to improve the situation?	**Municipal support for climate adaptation of local businesses:** Identified which municipal programs or services are in place to help local businesses prepare for and adapt to climate-related risks. This includes advisory services, technical guidance, and financial support (e.g., grants, low-interest loans or incentives) aimed at building business resilience to climate impacts. [*Not started / Early stages / In progress / Final stages / Completed*]
Employment and local capacity in climate-resilient sectors	Readiness and capacity of the local workforce and businesses to operate in sectors that enhance climate resilience and promote environmental sustainability.	Which local businesses are climate-resilient? How diverse is the local industry?	**Municipal-educational partnerships for local climate-resilient skills:** Established municipal partnerships with local educational institutions that provide vocational programs, workshops and training to build local skills in emerging climate-resilient sectors, such as renewable energy, eco-tourism, sustainable agriculture and green digital services. [*Not started / Early stages / In progress / Final stages / Completed*]

5. Natural resources and ecosystem health

Indicator dimension & sub-dimension	Definition	Questions to consider	Example indicators for mapping and monitoring
Local biodiversity and ecosystem protection	Efforts to conserve, restore and revitalize natural habitats that reduce climate impacts on both community and ecosystem health.	Which policies and practices are in place to strengthen the characteristics of local ecosystems that protect climate health?	**Policies and practices for climate-resilient ecosystems:** Developed a system for tracking implementation of municipal or regional policies and management practices that enhance the structure, function and resilience of local ecosystems to protect human health from climate-related impacts. [*Not started / Early stages / In progress / Final stages / Established*]
Sustainable land use and water management	Local policies or practices that guide land use and source water protection, in ways that protect local water resources, maintain water quality and minimize pollution.	How climate resilient are local water systems? What kind of existing plans and programs help ensure land use practices protect local drinking water and water needs of the ecosystem?	**Collaborative water governance:** A collaborative approach to local watershed governance that brings together governments, sectors, industries, landowners and residents, fostering integrated natural resource management practices that protect the watershed from contamination, droughts and flooding. [*Not started / Early stages / In progress / Final stages / Fully established*]
Public access to information and governance related to natural resources	Transparent and inclusive management of natural resources, including access to data on natural resources and mechanisms for community participation.	What governance mechanisms and/or public access sharing agreements are in place for local ecosystems? Who needs to be involved in the conversation?	**Local natural resource stewardship and data sharing:** Established stewardship programs and data-sharing agreements that strengthen disaster-preparedness planning for local ecosystems facing wildfires, droughts or flooding. [*Not started / Early stages / In progress / Final stages / Fully established*]

6. Education and awareness

Indicator dimension & sub-dimension	Definition	Questions to consider	Example indicators for mapping and monitoring
Information about strategies to reduce climate change impacts on health	Availability of clear, relevant information that helps communities understand and act on the links between climate risks and health outcomes.	What locally relevant information, materials, and guidelines exist to address climate health risks? Who produces, shares, and uses this information? What else might we need?	**Availability of local climate-health information:** Extent to which locally relevant information, materials and guidelines on climate-related health risks are produced and shared by community partners, along with identification of remaining information gaps. (A) Inventory of existing local climate-health information resources [*Yes/Partial/No*]; (B) Identification of key producers and distributors of information [H*ealth authorities, NGOs, local governments, community groups*]; and (C) Assessment of unmet information needs or gaps. [L*ow/ Medium/High*]
Effective knowledge sharing channels and mechanisms	Sharing information using communication methods that are inclusive, multidirectional, culturally appropriate and accessible to all community members.	How are we creating public awareness and sharing the guidelines for addressing climate health risks?	**Climate–health communication and learning initiatives:** Easy access to communication platforms and interactive local learning initiatives that share climate–health information and strengthen community capacity - for instance, helping families, schools, and sports programs protect children during heat waves and smoky-sky events. [Yes/ Partial/No] or a full inventory.
Training programs and social networks for skill development	Initiatives and programs that foster local knowledge, skills and capacity for climate adaptation.	How is the community capacity in adaptation planning strong in our community? How can we improve equity in access to the capacity building opportunities?	**Regional climate–health training webinars:** Co-organized a regional educational webinar series for municipal and regional district staff on climate–health, Indigenous climate leadership, and sustainable, climate-resilient community development, in collaboration with the Community Energy Association's VICCAN* peer-support network and the health authority. [*Not started / In progress / Completed*] **Vancouver Island and Coastal Communities Climate Action Network, VICCAN*

7. Governance and policies

Indicator dimension & sub-dimension	Definition	Questions to consider	Example indicators for mapping and monitoring
Climate policies and plans with health equity lens	Presence of formal municipal policies, plans, and regulations that explicitly integrate in climate adaptation planning the goal that everyone has a fair chance to be as healthy as possible.	How is health equity addressed in local climate adaptation? How can the situation be improved?	**Health equity integration guidelines:** Developed formal guidelines for incorporating health equity into climate adaptation planning. [*Not started / In progress / Completed*]
Local institutional capacity to respond	Ability of municipal departments, public health agencies, community organizations and other local institutions to anticipate, prepare for, and effectively respond to climate-related health risks.	How prepared are local organizations in climate adaptation? How can the collaboration be supported?	**Institutional capacity and integrated coordination for climate adaptation:** Established well-defined mandates for departments and organizations, combined with coordinated formal and informal networks across local, regional, and national agencies, sectors, and community groups, that enable integrated planning and effective responses to climate-related threats to community health. [*Not started / In progress / Completed*]
Local resource allocation for adaptation	Funding and staffing dedicated to planning, implementing and sustaining climate adaptation actions.	What kind of resources have local governments dedicated to climate adaptation? How can the situation be improved?	**Resource allocation for adaptation:** Assessed the human, financial and operational resources dedicated by local governments to climate adaptation (including staff capacity, budgets, and technical support), the adequacy of these resources and opportunities to strengthen capacity for effective implementation of adaptation actions. [*Not started / In progress / Completed*]

8. Emergency preparedness

Indicator dimension & sub-dimension	Definition	Questions to consider	Example indicators for mapping and monitoring
Risk assessments, monitoring and alert systems	Tools to identify, assess, track and communicate climate health-related risks in ways that prioritize the protection of populations who are under-resourced and sensitive ecosystems.	Which risk assessments have already been competed? What kind of monitoring and alarm systems are in place? What remains to be done and what is the priority?	**Cross-sector climate–health ecosystem monitoring plan:** Developed a collaborative, cross-sectoral plan to monitor the impacts of climate change on the health of critical ecosystems that support community well-being and economic stability, with particular attention to populations who are under-resourced and/or disproportionately impacted. [*Not started/early stages/in progress/ final stages/completed*].
Targeted seasonal and disaster readiness plans **for populations who are under-resourced and/ or disproportionately impacted**	Targeted actions to strengthen the climate resilience, health and well-being of populations who are under-resourced during extreme climate-related events.	Who are the local populations made vulnerable by lack of adaptation planning? Where are they located? Why are they experiencing disproportionately high impacts? How can their climate-health risks be reduced?	**Targeted community-based climate resilience plan:** Cross-sectoral, place-based, community engaging, social development plan in place to build climate resilience in [*target population*] who are under-resourced and/or disproportionately impacted. [*yes/in progress/no*]
Community-wide risk management strategies and plans	Comprehensive policies, protocols and coordinated actions to reduce and respond to climate-related health hazards in ways that safeguard all residents.	What kind of disaster risk management strategies and plans do we have in place? Where are the gaps?	**Comprehensive climate hazard preparedness plans:** Developed comprehensive disaster preparedness plans for climate hazards that include health risks associated with the respective hazards. [*Not started/in progress/ completed*]

9. Appendix B: Using the eight dimensions within the planning process

Example of salmon revival in the Cowichan Valley (Case study 1)

The following table offers a template and suggestions for how to use the Dimensions of Adaptive Capacity in your planning process, helping to brainstorm and identify adaptive capacity that already exists in your community. To illustrate, we have included examples from the Cowichan Valley (Case study 1: Salmon revival in the Cowichan Valley), where strengthening local adaptive capacity supported a systems approach to better foster watershed and community health These examples also represent factors and activities that improve climate resilience.

Although these capacity examples were not all present when drought-related issues were first identified and the Cowichan Watershed Board was created, they demonstrate how the eight dimensions of adaptive capacity can guide a systems approach to long-term adaptation planning. Early on, many elements of the social capital and governance and policies dimensions were strengthened through inclusive participation, a co-chair governance model and Indigenous leadership. Over time, a wide range of stewardship projects and training programs have emerged, further strengthening climate adaptation and acting as a buffer that supports community health. These new community strengths bring in additional dimensions of adaptive capacity, such as natural resources and ecosystem health, that help build a more comprehensive approach towards climate resilience (further filling in the template).

The template also helps identify potential gaps and guide planning toward a more comprehensive, all-of-community approach. Although an organization may not currently view, for instance, emergency management as part of its mandate, working through the template together with community partners creates an opportunity to explore an innovative approach to climate adaptation.

Indicator dimension & sub-dimension	Questions to consider	Existing adaptive capacity strengths **Example:** Planning to address low water levels and salmon stocks in the Cowichan Valley (Case Study 1)
1. Social capital (including health equity and social justice)		
Community cohesion	How connected are we as a community? Who needs to be at the table?	**Example:** Current connections exist (or need to be built through collaborative engagement) between • CVRD • Municipalities • Cowichan Tribes • Industries • Non-governmental organizations working on the river health • Island Health (former MHO)
Cultural and social safety in sharing information and participating in adaptation planning	How can we create spaces where people feel respected and safe to share their experiences, enabling meaningful and practical adaptation responses?	**Example:** The organizational principles and governance structure are designed to protect cultural safety. • Operating principles are based on shared Indigenous and Western values and guided by the worldview of Cowichan Tribes. [200] • Co-chair structure and equal representation of the key parties, CVRD and Cowichan Tribes • Indigenous science and worldviews treated as equal to Western science
2. Explicit health determinants		
Comprehensive and meaningful data on local demographics and exposures to climate health hazards	What kind of data do we currently have for our region? What are missing? Who could help?	**Example:** Data collection efforts currently include health data profiles collected by Island Health. The watershed health data may require developing a new water quality monitoring program. • CVRD setting up local water quality monitoring with the initial help of Island Health toxicologist • Island Health Local Health Area Profiles [201] • Healthy Waters community water pollution monitoring program [202] initiated

4. Economic Capacity		
Access to financial resources	What kind of incentives and support systems do we have in place to improve the situation?	**Example:** Existing financial support opportunities identified upon initiation (internal) and, once an additional need is identified (a new weir), partners are mobilized for a grant application (external). • Internal: CVRD is providing operational funding for the CWB, all partners contribute in-kind support, such as staff time and meeting spaces. [203] • External – power in multiple partners: The board has secured funding for the new weir construction through collaborative grant applications, including $14-million from the Province of BC and $24-million from the federal government. [204]
5. Natural resources and ecosystem health		
Sustainable land use and water management	How climate resilient are local water systems? What kind of existing plans and programs help ensure that land use practices protect local drinking water and water needs of the ecosystem?	**Example:** Mapping existing plans and programs helps identify gaps early on, and new strategies, action plans and services can be established building on the existing strengths and assets. • Drinking Water and Watershed Protection Service - Cowichan Watershed Board [205] • The One Water One Region [206] strategy for delivery of healthy watershed and aquifers **Priority actions:** • Improve climate and water monitoring systems; • Improve data management systems; • Characterize the health of the region's watersheds and identifying risks; • Risk assessment; • Develop water budgets and other supporting information; and • Stable, long-term monitoring and reporting.

6. Education and awareness		
Training programs and social networks for skill development	How is the community capacity in adaptation planning strengthened in our community? How can we improve equitability of the capacity building opportunities?	**Example:** Current capacity building opportunities can be also informal events • River cleanup: An annual event that provides community members with an opportunity to participate in hands-on work, learn from each other, and build connections through a shared goal of river cleanup and stewardship. [207]
8. Natural resources and ecosystem health		
Targeted seasonal and disaster readiness plans for populations who are under-resourced and/ or disproportionately impacted	Who are the local populations made vulnerable by lack of adaptation planning? Where are they located? Why are they experiencing disproportionately high impacts? How can their climate health risks be reduced?	**Example:** What's currently not being done but needs attention or may offer new innovative opportunities Not currently applicable– but is there a role in watershed governance to engage with under-resourced groups in the region to help their climate resilience (food/water/ livelihoods)?