MANITOBA CLIMATE RESILIENCE TRAINING

Capacity Enhancement in Vulnerability and Risk Assessment (CEVRA) Project Workshop

Presentation Slide Deck

AGENDA

10:00 – 10:15	**Introductions**
10:15 – 10:30	**Getting Started**
10:30 – 13:10	**Assessing Current and Future Climate Risks**
	Step 1: Climate Hazard Assessment
	Step 2: Climate Impact Assessment
	Lunch Break (12:00 – 12:30)
	Step 3: Climate Risk Assessment
13:10 – 13:30	**Next Steps**
	Where To Go From Here? & Exit Survey

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INTRODUCTIONS

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Introductions - HTFC

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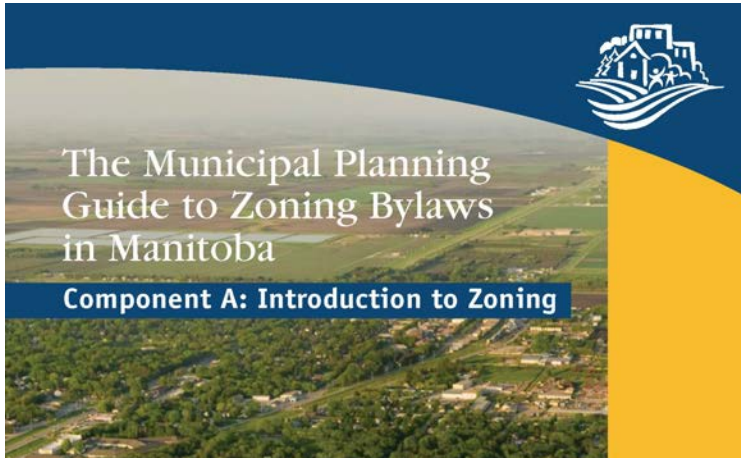
The Leaf / Diversity Gardens

Oodena Celebration Circle



Zoning Bylaw Guide

Gimli Viking Park

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Introductions - HTFC

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HTFC's Environmental Planning and Design Projects

Bioswales

Green Roofs

Rain Gardens

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Introductions

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We now invite you to share:

- Your name
- Your municipality or organization
- Your role

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Introductions

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- We are here today on behalf of Manitoba's Climate and Green Plan Implementation Office (CGPIO) to introduce the work they are doing on a new Climate Change Adaptation Planning guidebook

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A "Made in Manitoba" Climate Adaptation Guidebook

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- To help Manitoba communities create climate change adaptation plans
- Made in collaboration with the International Institute for Sustainable Development (IISD)
- Currently in development
- Your feedback today will help inform the final document

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Policy Frameworks

Federal Adaptation Policy Framework

Government of Canada | Gouvernement du Canada

Vision Statement

Recognizing the need to adapt to climate change, the wide variation in climate impacts across Canada, and the many groups that are involved in adaptation, the Government of Canada adopts the following vision:

> Canada is resilient to a changing climate by successfully adapting to the challenges and opportunities, and ensuring the health, safety, and security of Canadians and Canada's environmental, social, and economic wealth in a long term and sustainable manner.

Objectives

The following are the objectives of the Federal Adaptation Policy Framework:

1. Canadians understand the relevance of climate change and associated impacts on their quality of life.
2. Canadians have the necessary tools to adapt to climate change effectively.
3. The federal government, as an institution, is resilient to a changing climate.

The Federal Role

Given the broad health, environmental, social, and economic impacts of climate change, the federal government must take action to ensure that it effectively integrates climate change considerations into its own programs, policies, and operations and facilitates action by others. These roles are accomplished by:

1. Generating and sharing knowledge

The Government of Canada plays a crucial ongoing role in the generation and provision of scientific information to support evidence-based decision-making related to climate change impacts and adaptation. In some cases, the federal government hosts knowledge and expertise not found elsewhere in Canada. This includes a range of activities, such as periodic national assessments of climate change, development of innovative new technologies and practices, ongoing environmental monitoring, research in specific areas (e.g. climate change projections, climate change effects on forests, and transportation infrastructure), and support for and engagement with stakeholders in the development of tools for adaptation. This role capitalizes on federal strengths in science and technology that are not replicated outside the Government. It is also essential to the understanding of critical issues and the ability of stakeholders to develop and apply effective responses.

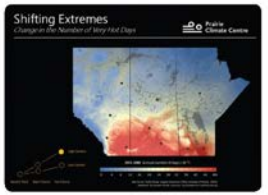
The Government of Canada is well positioned to mobilize economies of scale to generate and deliver fundamental knowledge and information that can be applied across the country. Sharing information, both within the federal government, the international community, and with other external stakeholders (e.g., academia) will increase awareness of climate change impacts, assist with capacity building, and reduce adaptation costs in all regions and sectors. By participating in the generation of new information and tools, the federal government will ensure that this is made public.

Knowledge of climate variability, change, impacts, and adaptation options is a fundamental input to both internal and external adaptation. Further research and modeling to address knowledge gaps, such as socio-economic considerations and refining information at local-scales, will lead to better and more targeted adaptation. Although our climate variability and change knowledge is incomplete, there is now enough information to implement adaptation measures.

Adaptation

Climate change poses real and potentially significant challenges to our environment, economy and the social fabric of our communities. Many regions across Canada have experienced extreme weather events such as flooding, drought, blizzards, hurricanes, tornadoes heat waves and wildfires. These extreme weather events are becoming more common and more severe. The expectation is that this will continue into the future.

According to work developed by the Prairie Climate Centre at the University of Winnipeg, there are real risks for Manitoba, especially associated with increasing temperatures, changes in precipitation, and negative impacts on communities, infrastructure, the economy and nature. Climate change is not just an intangible and far-off issue. Every indication is that it's happening now and will increasingly become more challenging.



The damage caused by record-breaking extreme weather can be costly. Private insurers have paid out billions of dollars over the past years for losses caused by natural disasters. These amounts are up to 10 times what was paid out even a decade ago. These ultimately result in higher customer premiums. Governments have paid out even larger amounts in disaster payments and repairs to infrastructure. The Fort McMurray wildfire is estimated to exceed $8.8 billion in financial, physical, social, health and environmental losses. Here at home, the 2011 spring flood in Manitoba cost the government $1.2 billion and costs continue to rise with recent flooding in the past few years. This is money taken from other priorities such as health care and education.

Extreme weather and the damages and social costs associated with it, should be seen as a warning sign of things to come. Adapting to a changing climate is becoming the new normal. We need to prepare for and take action in response to actual or anticipated climate impacts to minimize their adverse impacts on our economy, environment and the communities in which we live.

Adaptation is about becoming stronger and more resilient in the face of climate change risk. It means investing today for tomorrow.

> **Adaptation** refers to taking action now to reduce the impacts of current and future climate change events such as floods, droughts and wildfires.

The following initiatives are currently being considered to support the Adaptation keystone. Your comments, ideas and suggestions related to this keystone and its proposed initiatives are valuable to government. Please consider sharing your views online at: www.manitobaclimategreenplan.ca.

Climate Knowledge

Understanding how Manitoba's climate is changing and how that might impact us is essential. This knowledge strengthens our ability to plan and make informed decisions about what actions we need to take.

Prairie Climate Centre – The Prairie Climate Centre is a joint initiative of the International Institute for Sustainable Development and the University of Winnipeg. The centre provides governments, businesses, non-government organizations and sectors with reliable climate data and information, enabling them to make informed decisions on addressing climate risk management and adapting to climate change. The Manitoba government has already invested over $400,000 to support this Made-in-Manitoba research organization. This centre is ready-made to become the regional climate services centre for Western Canada.

Manitoba Centre for Sustainable Agriculture – There is an increasing need to build capacity for agriculture-related climate change research that supports agricultural production, decreased emissions of greenhouse gases, enhanced sequestration of carbon in soil and greater resiliency to extreme weather. The Manitoba government is considering options to support the creation of such a research centre to provide this support

Program Context

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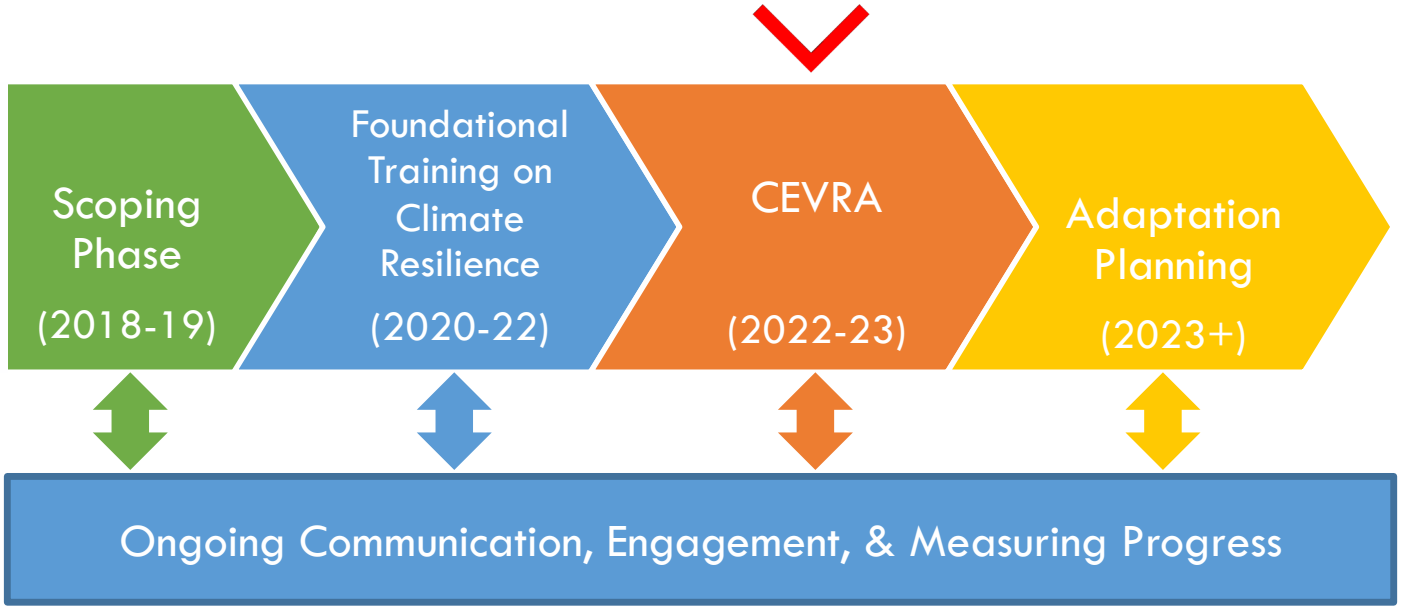
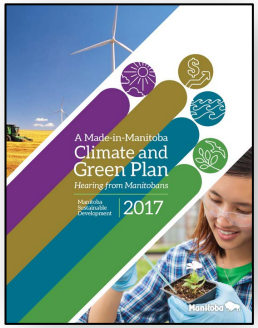
- Manitoba Climate Resilience Training (MCRT) Program: A multi-year, multi-phased program that supports Climate and Green Plan Adaptation Framework
- Supports the development of a Manitoba Climate Adaptation Plan



Enhanced Resiliency of Communities, Sectors, and Ecosystems



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What is CEVRA?

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Capacity

Enhancement in

Vulnerability and

Risk

Assessment

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How does this relate to HRVAs?

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- Your municipality will have completed an annual HRVA (Hazard, Risk, and Vulnerability Assessment) for Manitoba EMO (Emergency Measures Organization)
- While they share similarities in process, an EMO HRVA and a Climate VRA differ largely in scope

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HRVA vs Climate VRA

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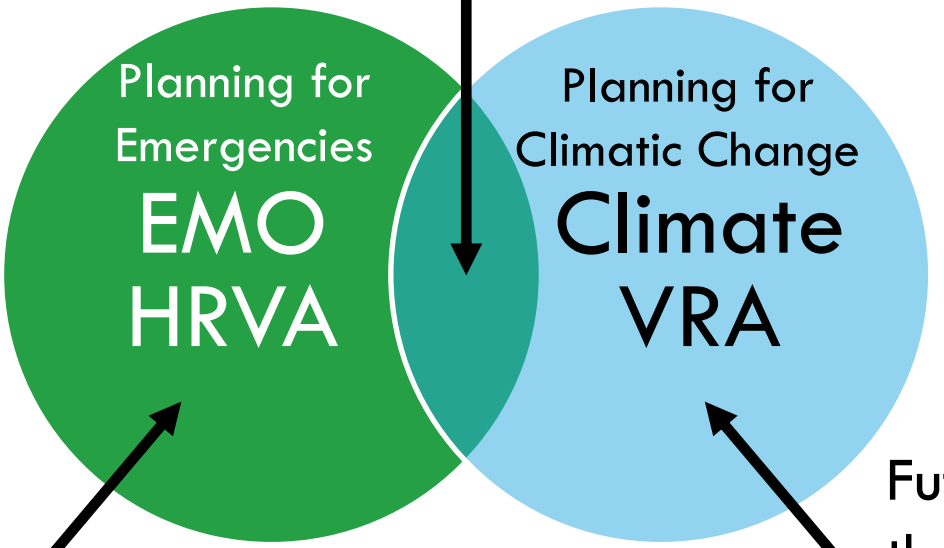
Planning for Climate-Related Emergencies



Present-day focused – on responding to hazards of all kinds

Future focused – on the likelihood & impact of climate hazards

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Applying Workshop Lessons

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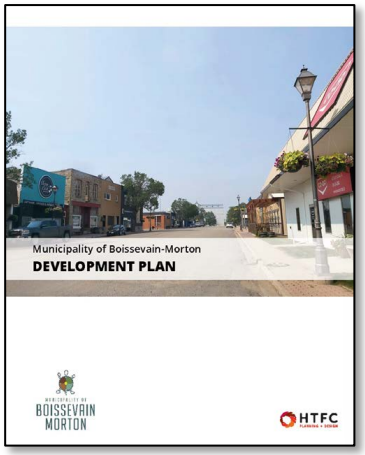
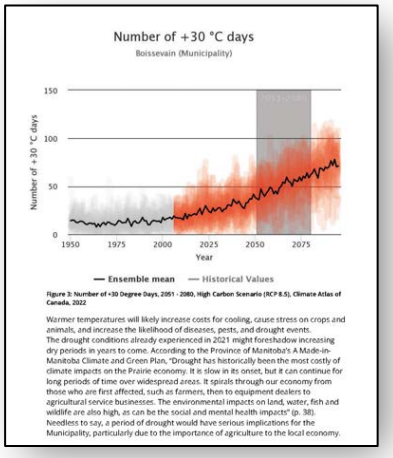
You can apply today's content to:

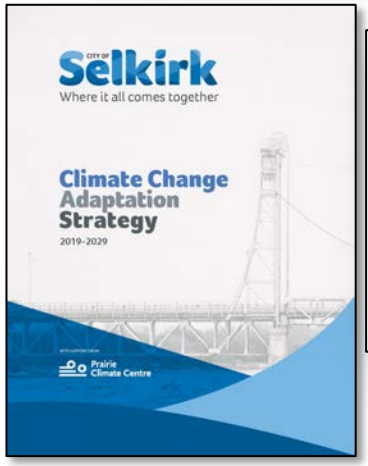
Climate VRA

- Your Next HRVA
- Development Plan / Zoning By-laws
- Climate Action Plan

EMO MANITOBA EMERGENCY MEASURES ORGANIZATION







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What We Heard

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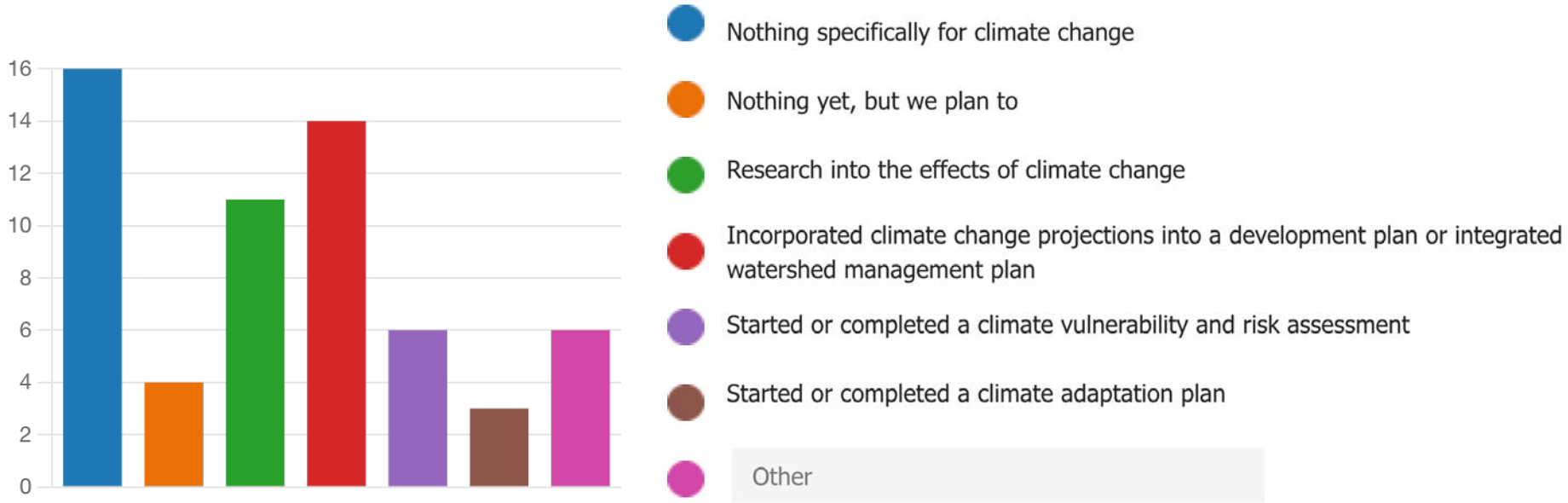
- **We asked:** What work has your municipality or district done to date to prepare for a changing climate?



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PREPARING A CLIMATE ACTION PLAN

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Climate Action Plan Process

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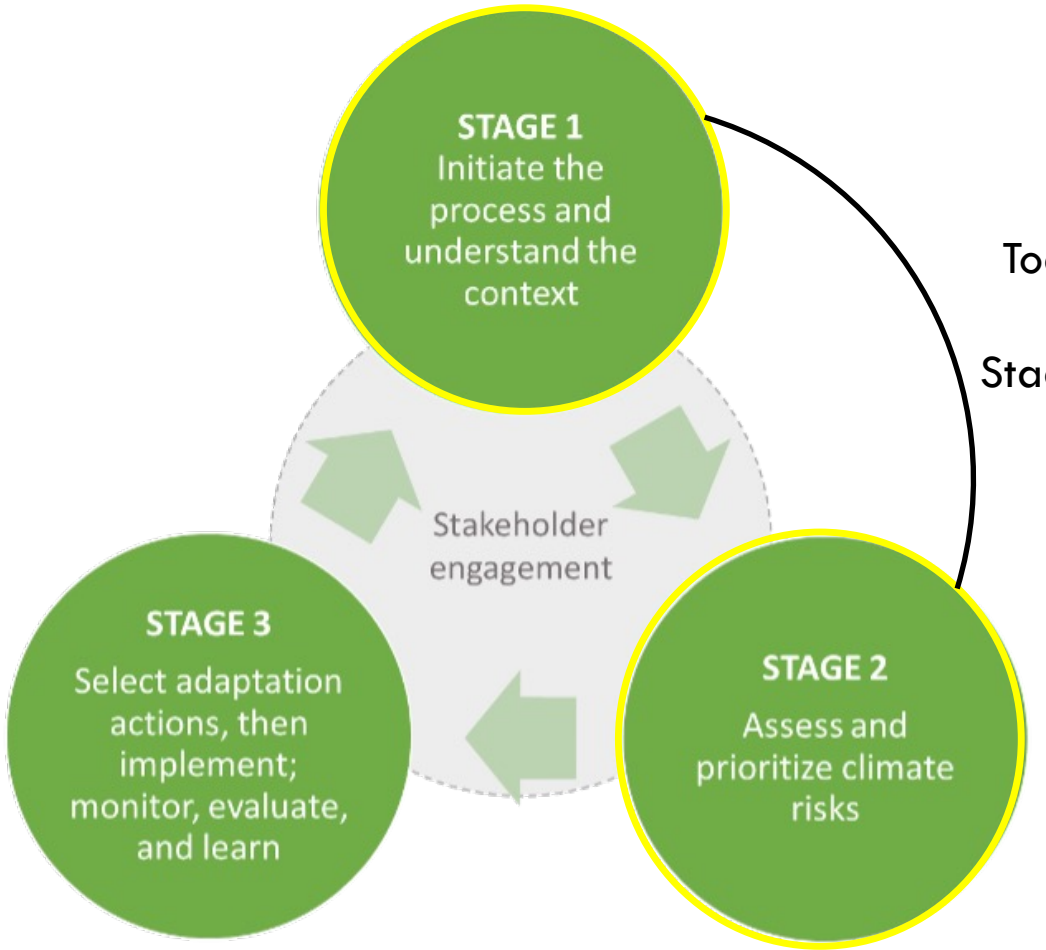

Today's focus is on Stages 1 and 2

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Climate Action Plan Steps

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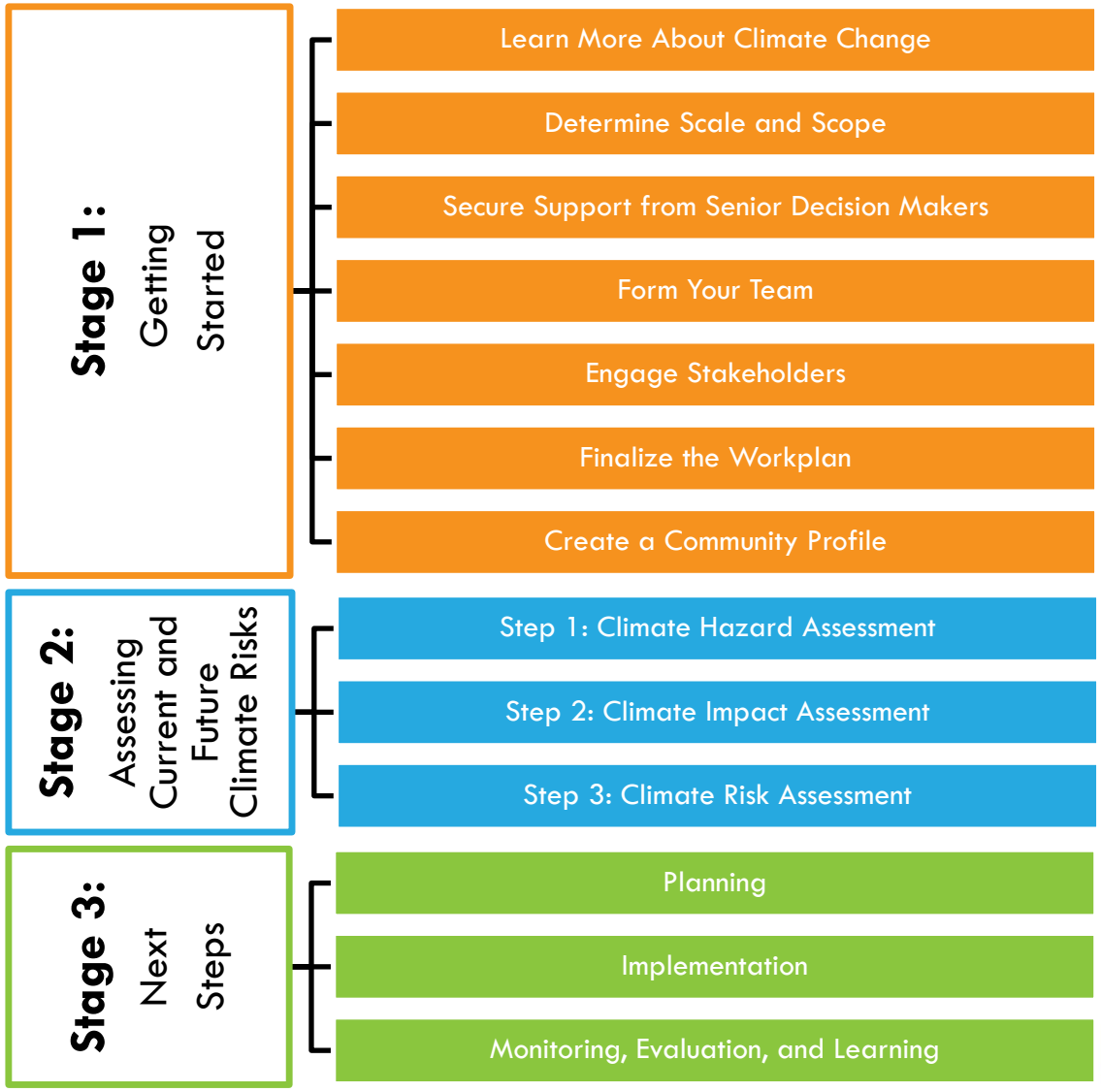

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Today's Key Takeaways and Goals

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1. **Understand** the projected climate future for your community
2. **Recognize** climate hazards and how they could change in the future
3. **Identify & assess** the risks to your community
4. **Learn** the steps of a climate vulnerability and risk assessment
5. **Adopt** a mentality of planning for the worst while hoping for the best

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CLIMATE ACTION PLAN
STAGE 1: GETTING STARTED

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Climate Action Plan Stage 1: Getting Started

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Climate Action Plan Stage 1: Getting Started

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What We Heard

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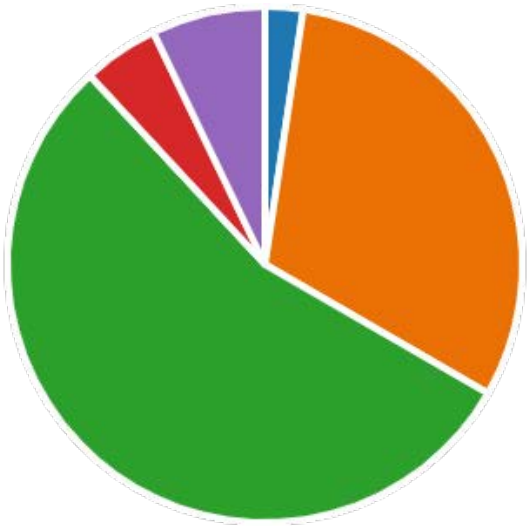
- **We asked:** How would you describe the average citizen's attitudes towards the changing climate in your municipality or watershed district?



- 2% The average citizen doesn't believe the climate is changing
- 31% The average citizen is indifferent to the changing climate
- 55% The average citizen is somewhat concerned about the changing climate
- 5% The average citizen is very concerned about the changing climate
- 7% I don't know

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Climate Change Basics: Weather vs Climate

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Weather

- Changes by the hour, day, or week
- Readily observable

"Climate is what we expect, weather is what we get"
– *Mark Twain*

Climate

- Changes with the seasons
- A generalization of regional weather over time

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Climate Change Basics:
Earth's Temperature Over Time

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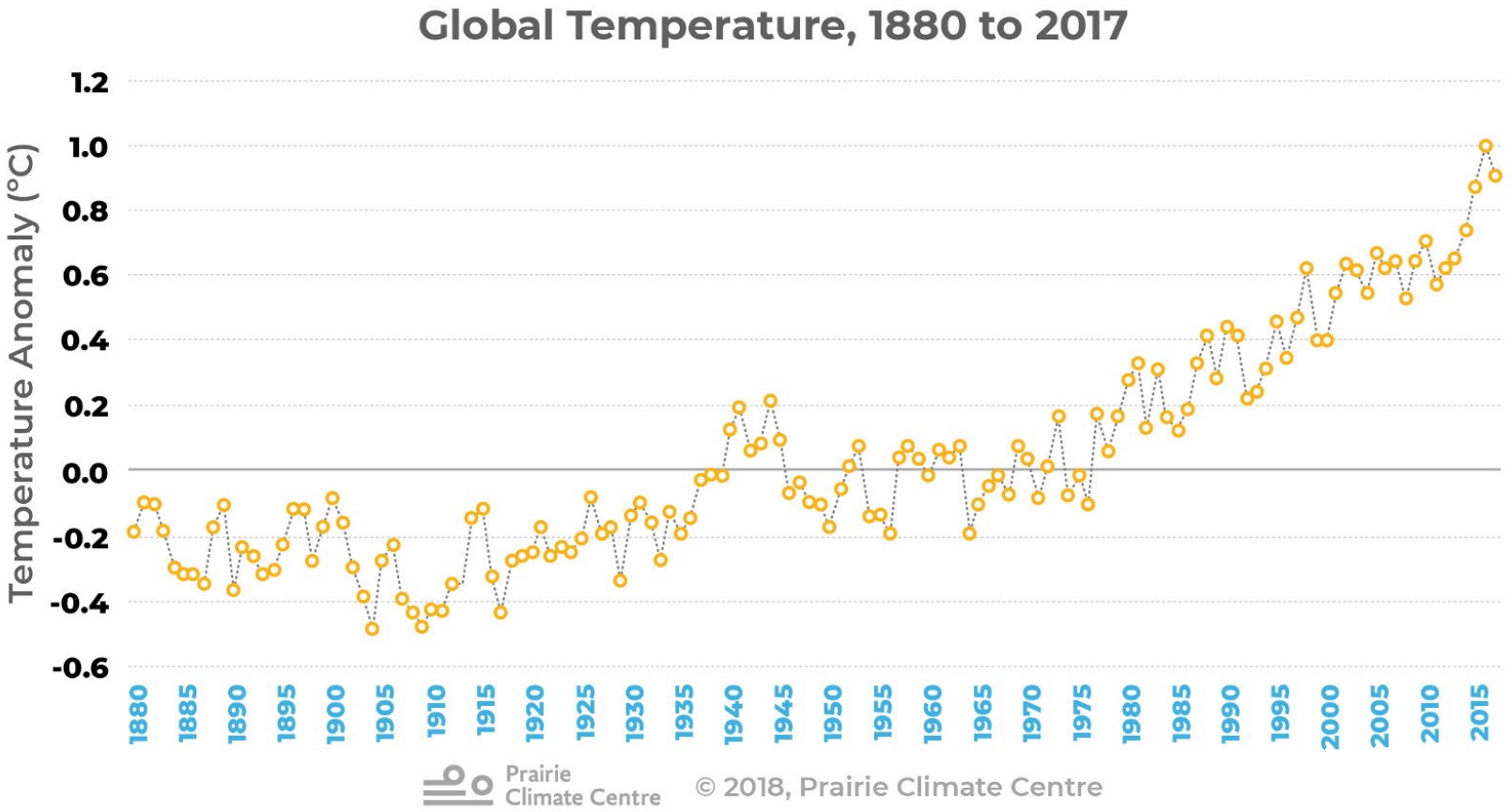

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Source: https://climateatlas.ca/climate-change-basics

Climate Change Basics:
Carbon Dioxide Levels Over Time

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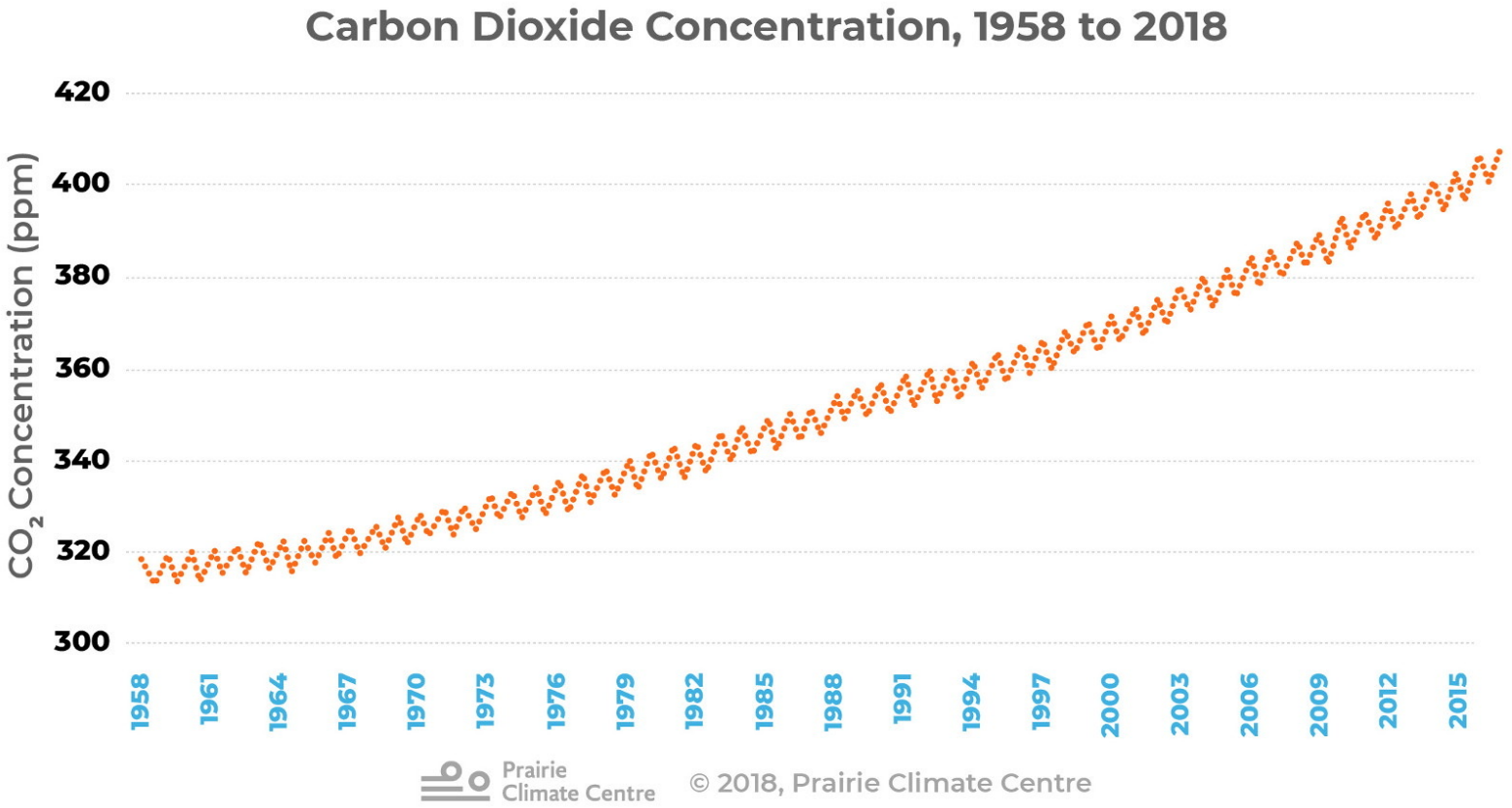

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Source: https://climateatlas.ca/climate-change-basics

Climate Change Basics:
Temperature & CO2 Compared

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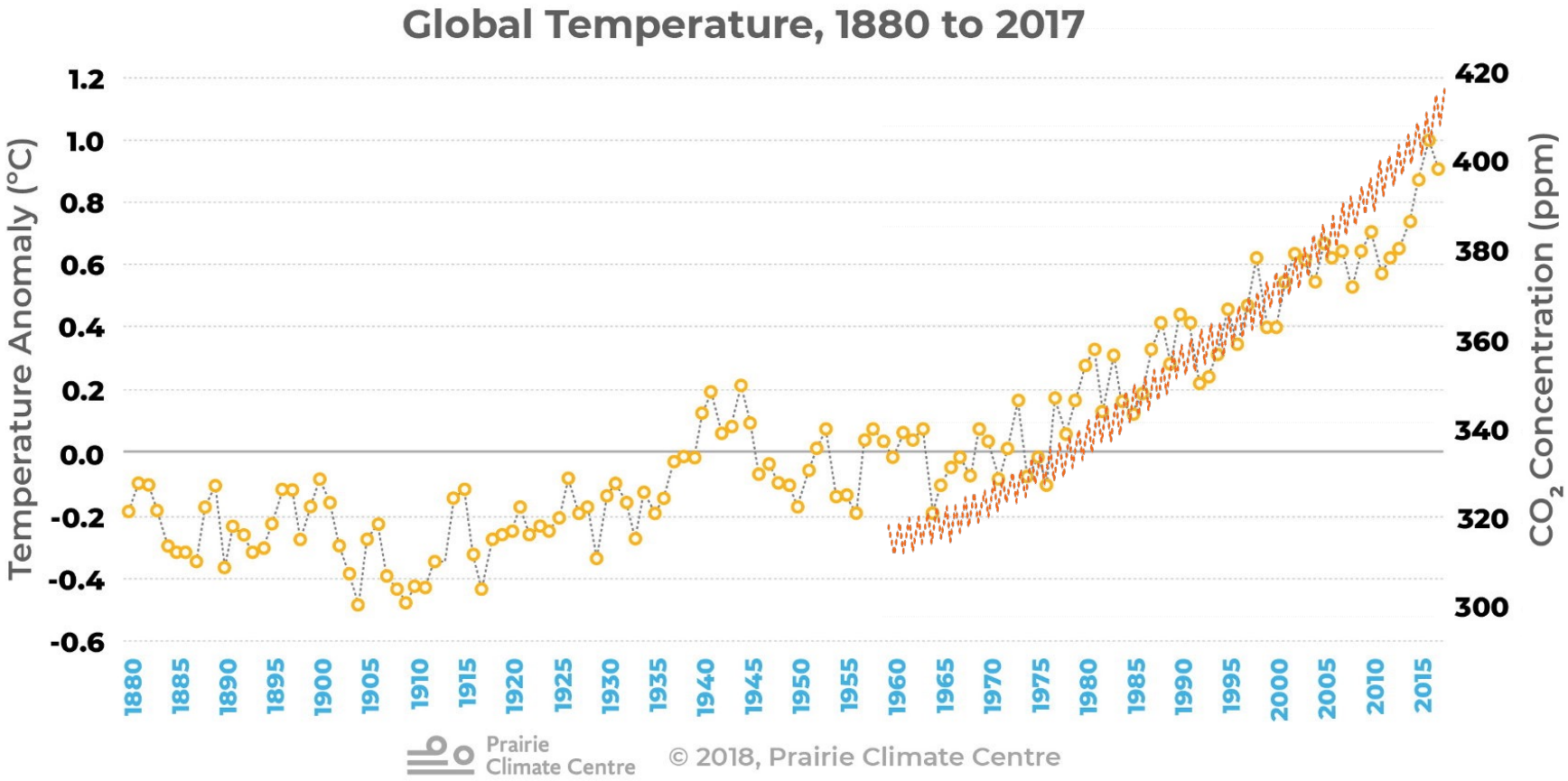

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Source: https://climateatlas.ca/climate-change-basics

Mitigation vs Adaptation

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- **Mitigation –** Efforts to slow the process of a changing climate

- **Adaptation –** Response to a new climate reality

"**Mitigation** will help avoid the unmanageable.

Adaptation is essential to manage the unavoidable."

- All One Sky

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Mitigation vs Adaptation

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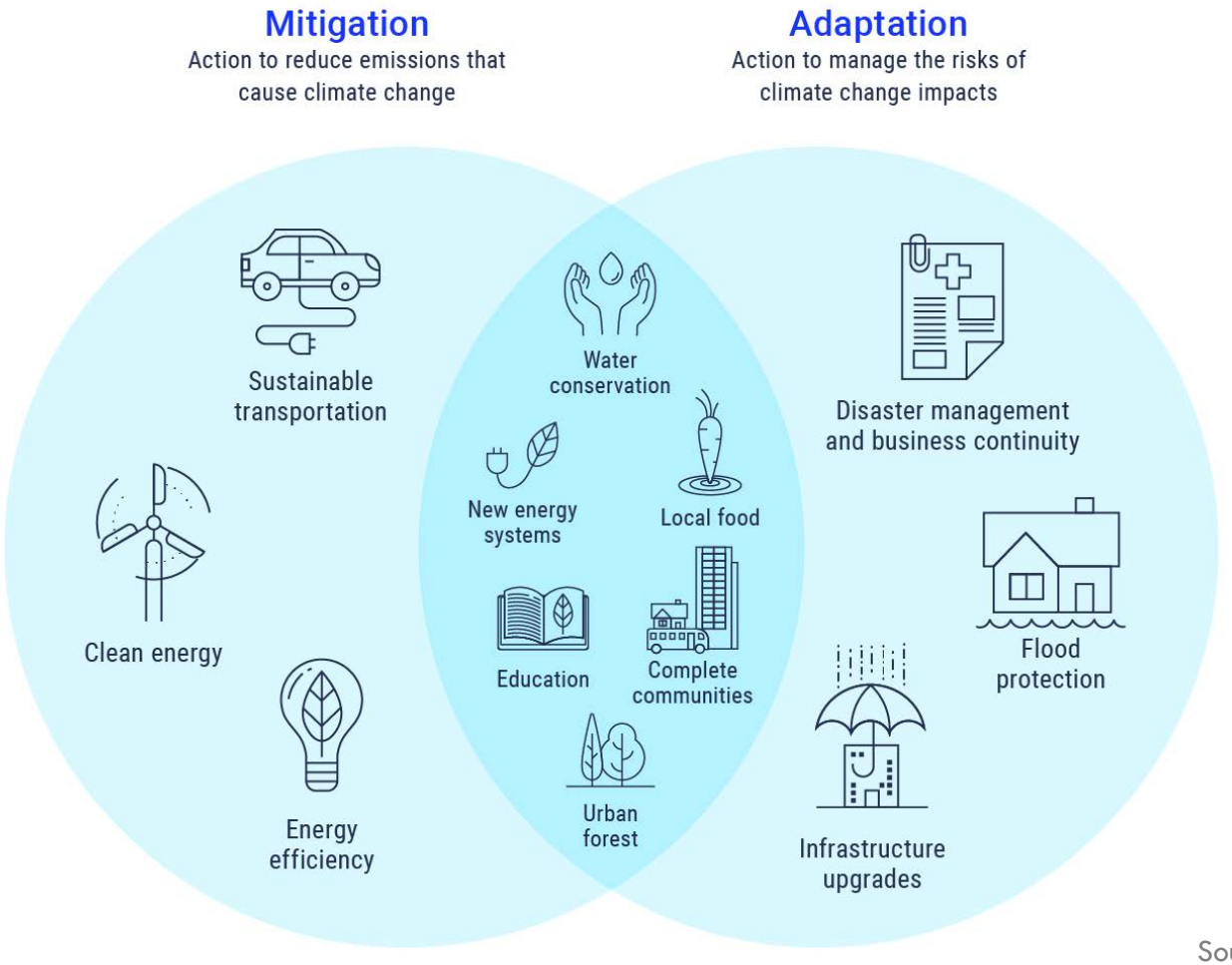

Source: City of Calgary

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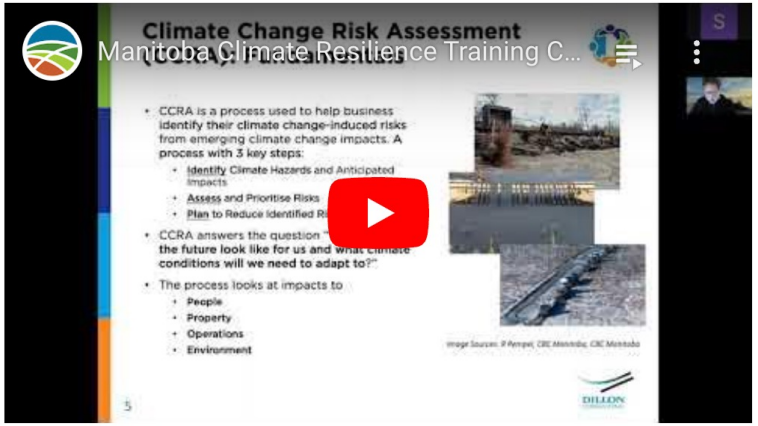
CLIMATE CHANGE 101

A climate change primer course for professionals and practitioners in Manitoba to better understand the causes, future projections, and effects of climate change in the Canadian context. This course serves as a foundational primer for the rest of the MCRT training to be undertaken by select audiences.

RISK ASSESSMENT: CORE PRINCIPLES

Climate Change Risk Assessment: Core Principles

This foundational module provides a foundation of core climate change risk assessment principles and approaches for all BRACE sector audiences. It explores core concepts such as hazard identification, vulnerability assessment, risk assessment and how to use a CCRA process to identify, assess, prioritize climate impacts to inform climate adaptation planning.



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Start here:

MCRT Foundational Training Modules:

https://climatewest.ca/mcrt-foundation-modules

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Climate Action Plan Stage 1: Getting Started

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Determine scale and scope

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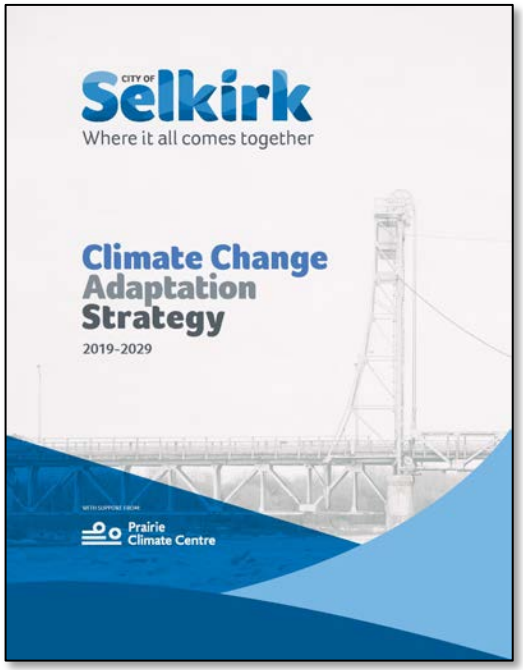
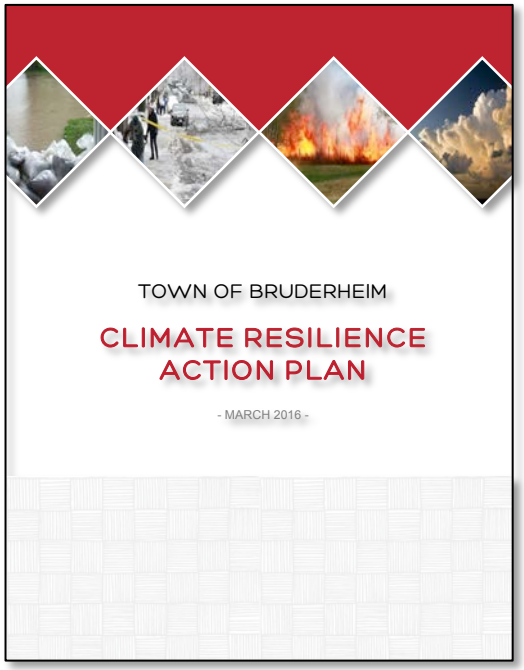


City of Selkirk, MB
Population: 10,504



Town of Bruderheim, AB
Population: 1,308

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Climate Action Plan Stage 1: Getting Started

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Secure support from senior decision makers

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- Engage with senior decision makers early in the process to ensure objectives are achieved
- Draw attention to the local impacts and opportunities to gain internal support
- Collaborate with other regions, levels of government, and stakeholders to pool resources

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Climate Action Plan Stage 1: Getting Started

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Form your team

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- Build your team and select your leader
- Small-scale: could just be municipal staff and leadership
- Large-scale: could include external experts, specialists, or consultants (planners, engineers, hydrologists, etc.)

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Climate Action Plan Stage 1: Getting Started

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Engage stakeholders

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- Tailor your approach to your audience
- Seek diversity to capture different perspectives and concerns
- Approaches to engagement:
  - Community workshops and open houses
  - One-on-one dialogue with key players
  - Distribution of written materials
  - Social media campaigns

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Climate Action Plan Stage 1: Getting Started

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Finalize the work plan

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- Your work plan should communicate:
  - The scope and scale of the plan
  - Team members, roles, and responsibilities
  - The level of planned stakeholder engagement
  - Target timelines
  - Other details

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Climate Action Plan Stage 1: Getting Started

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Create a community profile

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- A community profile documents the important characteristics of your community, its people, assets, and economy
- Consider the following elements in developing your community profile:
  - Community & People
  - Critical Services
  - Buildings & Infrastructure
  - Local Economy
  - Natural Environment

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CLIMATE ACTION PLAN
STAGE 2: ASSESSING CURRENT AND FUTURE CLIMATE RISKS

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Climate Action Plan Stage 2: Assessing Current and Future Climate Risks

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Climate Action Plan Stage 2: Assessing Current and Future Climate Risks

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Step 1:
Climate Hazard Assessment

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The goal of this step is to:

- Identify the climate hazards that already affect or will affect your community; and
- Understand how the climate hazards are predicted to change.

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Examples of Climate-Related Hazards Affecting Manitoba in Recent Years

Polar vortex breaks temperature records across Prairies, bitter cold expected to linger

Environment Canada has issued a cold weather warning for Alberta, Saskatchewan and Manitoba

Mickey Djuric · CBC · Posted: Feb 08, 2021 7:39 AM CST | Last Updated: February 8, 2021

Manitoba's winter road system finally opens for season about a month late

Construction fell behind due to warmer temperatures in December and January

CBC News · Posted: Feb 17, 2021 7:35 AM CST | Last Updated: February 17, 2021

Manitoba floods continue to wreak havoc on communities across the province

By Sam Thompson • Global News
Posted May 4, 2022 9:30 am · Updated May 4, 2022 9:31 pm

Pothole season hits Manitoba drivers in the pocket, leads to spike in claims to public insurer

324 pothole-related claims last month, compared to 56 in March 2021, MPI says

Jenn Allen · CBC News · Posted: Apr 21, 2022 4:22 PM CDT | Last Updated: April 21, 2022

Wildfires continue to cause air quality issues in northern Manitoba

Kayla Rosen
CTVNewsWinnipeg.ca
Published July 22, 2022 8:20 a.m. CDT

What We Heard

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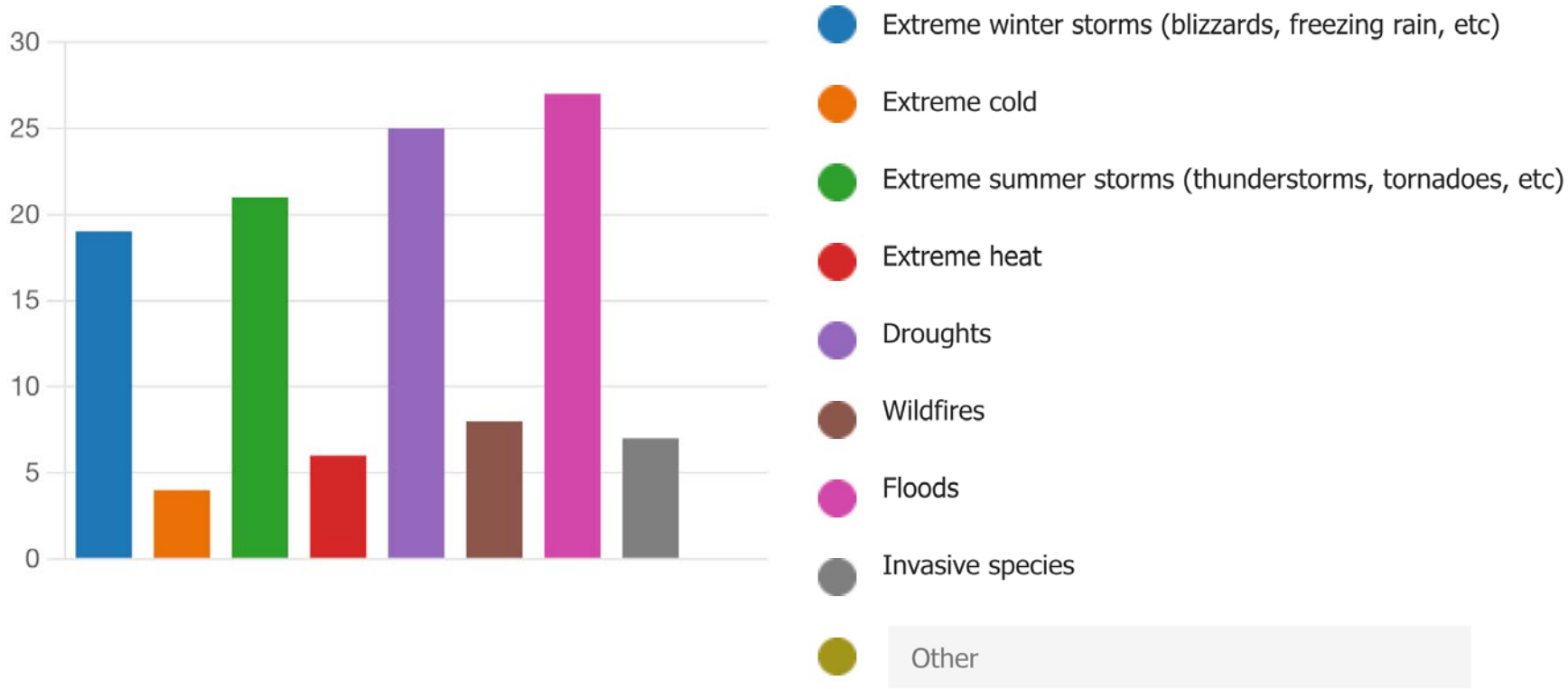
- **We asked:** What climate hazards do you think pose the greatest risk to your municipality or district in the future?



Task 1.1: Develop a list of climate-related hazards

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Group Discussion:

- What climate-related hazards have impacted your community in the past?
  - Examples:
    - Annual heatwaves
    - Red River Flood of 1997
    - Pukatawagan Wildfire of 2022

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Task 1.1: Develop a list of climate-related hazards

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- Consider the attributes of these hazards and write your answers in **Box 1.1** on page 1.

Climate Hazard	Frequency	Magnitude	Duration
Heatwaves	Annually in July and August	Night temperatures of +20°C	3-4 days at a time

Box 1.1: *Identify existing climate hazards in your community.*

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Task 1.2: Identify how climate hazards are predicted to change

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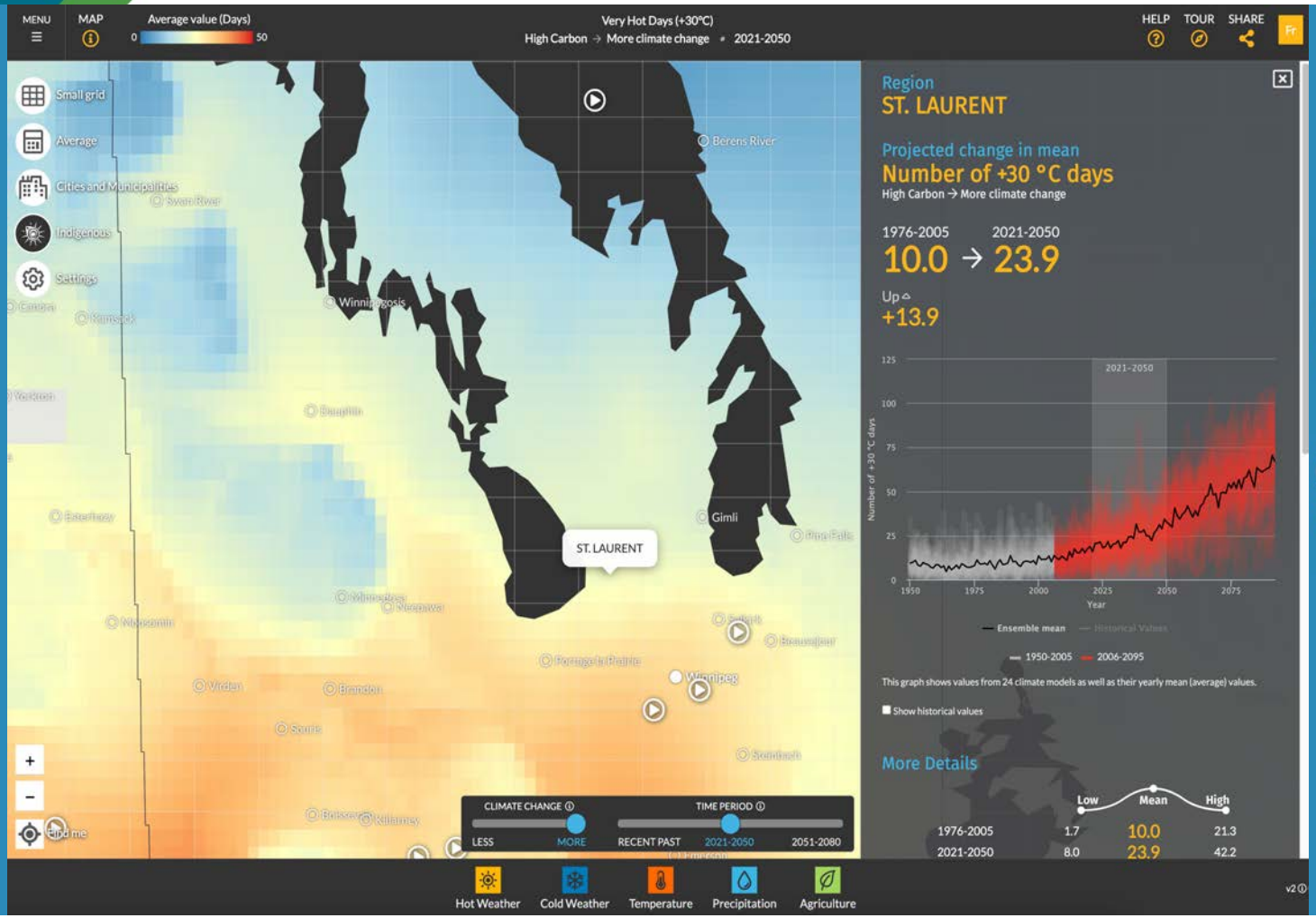

Climate Atlas of Canada

Go to the **Climate Atlas of Canada:** ClimateAtlas.ca

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Task 1.2: Identify how climate hazards are predicted to change

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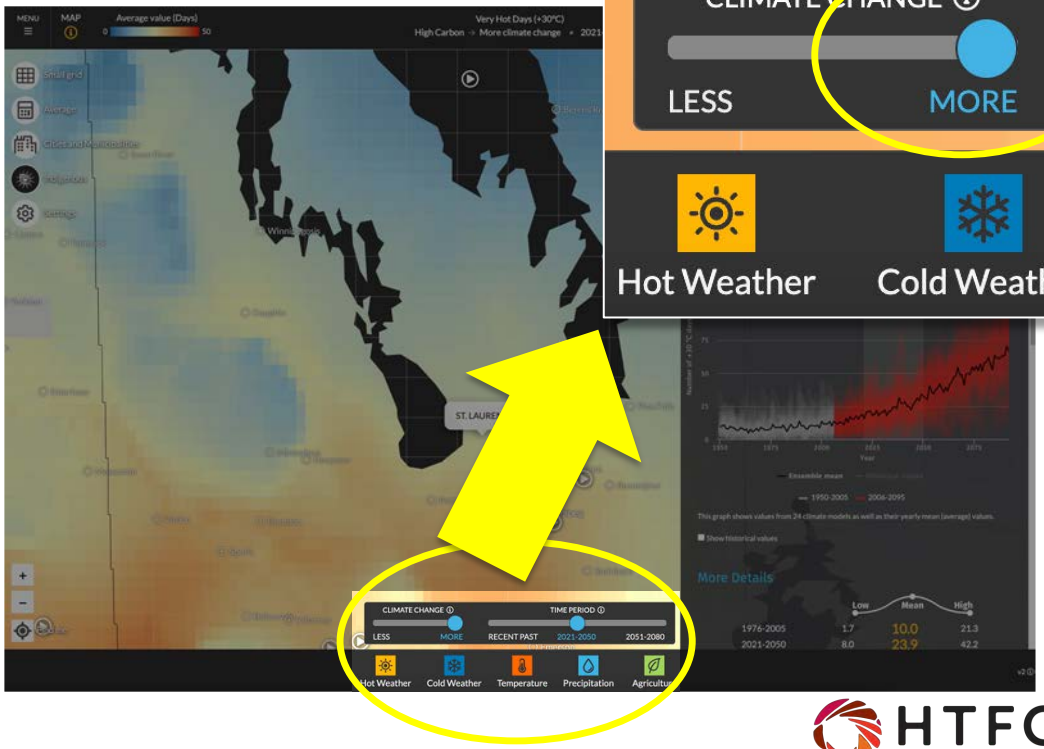
- Visit “ClimateAtlas.ca” on your device
- Click “Map” on the top of the homepage.
- Locate your community and set your sliders to:



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Projecting Future Change

MANITOBA CLIMATE RESILIENCE TRAINING

- **Less Climate Change – "Low Carbon" Scenario (RCP 4.5)**
  - Emissions rise at current rates until 2040 when they quickly decline
  - A more likely scenario than RCP 8.5
- **More Climate Change – "High Carbon" Scenario (RCP 8.5)**
  - Emissions rise at current rates through 2100
  - The worst case scenario

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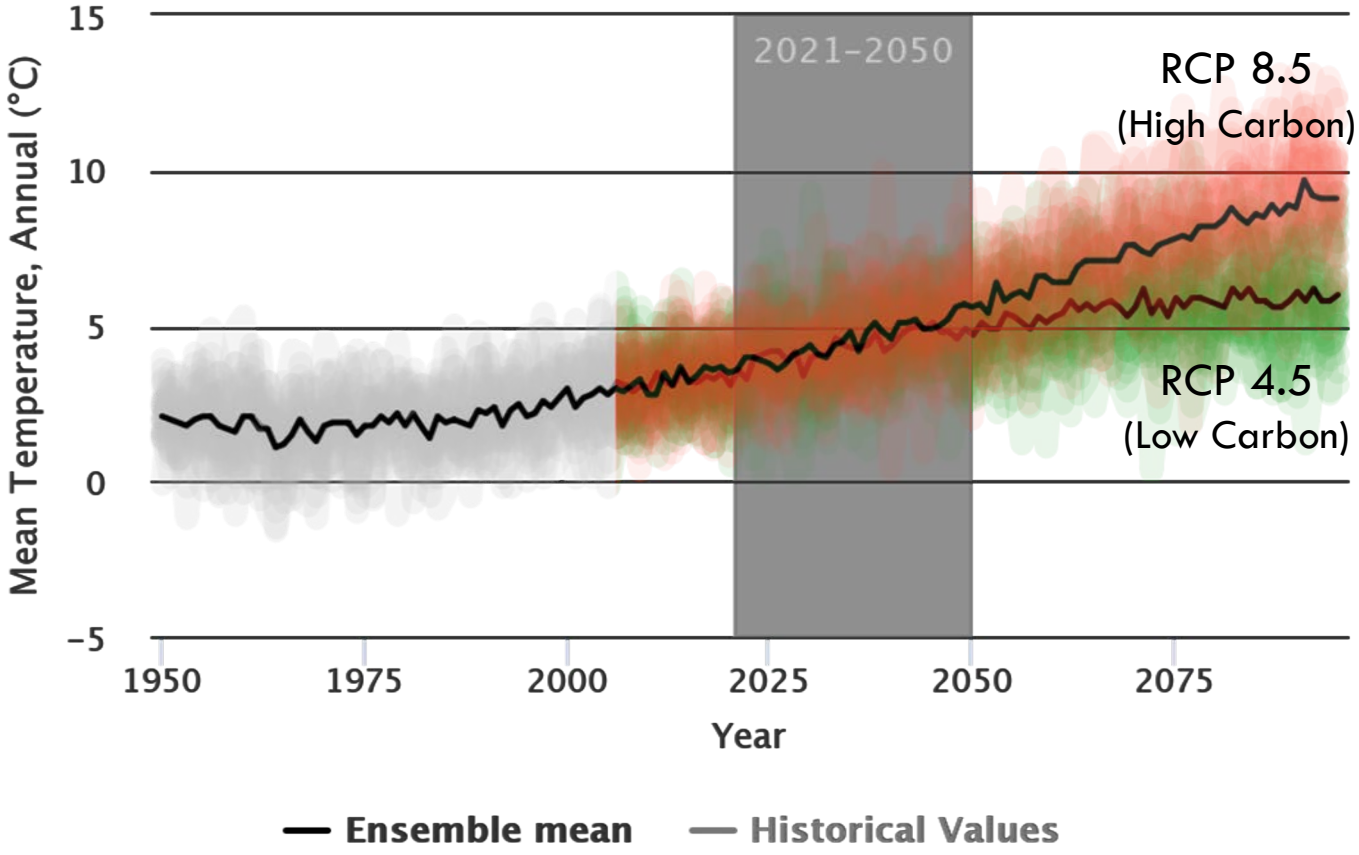
Source: ClimateAtlas.ca

MANITOBA CLIMATE RESILIENCE TRAINING

Mean Temperature

Victoria Beach (Region)



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Source: https://climateatlas.ca/map/canada/annual_meantemp_2030_45#z=8&lat=49.72&lng=-95.45&grid50k=062l10

"High Carbon" Future 2021-2050 (Victoria Beach Region)

MANITOBA CLIMATE RESILIENCE TRAINING

Variable	Recent Past (1976-2005)	Near-term Forecast (2021-2050)	Change (+/-)
HOT WEATHER Very Hot Days (+30°C)	7.8 days	20.1 days	**+ 12.3 days 158% increase**
COLD WEATHER Very Cold Days (-30°C)	16.3 days	7.1 days	**- 9.1 days 56% decrease**
TEMPERATURE Annual Mean Temperature	+2.2°C	+4.6°C	**+ 2.3°C 105% increase**
PRECIPITATION Mean Spring Precipitation	108 mm	118 mm	**+ 10 mm 9% increase**
AGRICULTURE Frost-Free Season	129.9 days	150.2 days	**+ 20.3 days 16% increase**

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Source: ClimateAtlas.ca

Task 1.2: Identify how climate hazards are predicted to change

MANITOBA CLIMATE RESILIENCE TRAINING

- Use the Climate Atlas of Canada to fill in the blanks in **Box 1.2** on page 2.

Variable	Recent Past: 1976-2005	Near-term Forecast: 2021-2050	Change in Variable (+/-)
Very Hot Days (+30°C)	days	days	days
Very Cold Days (-30°C)	days	days	days
Annual Mean Temperature	°C	°C	°C
Mean Spring Precipitation	mm	mm	%
Frost-Free Season	days	days	days

Box 1.2: *Fill in the boxes using data for your region from the Climate Atlas of Canada.*

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Task 1.2: Identify how climate hazards are predicted to change

MANITOBA CLIMATE RESILIENCE TRAINING

- Using the climate data you entered in **Box 1.2**, predict how climate change could change the hazards in **Box 1.3** on page 3.
- Consider:
  - What do the climate models predict about the future of your community?
  - Could the predicted changes result in new hazards?

Climate hazard	How Might This Change the Hazard in the Future?
Example: Heatwaves	As summer temperatures and the number of days above +30°C increase, future heatwaves may be hotter, more frequent, and last longer.

Box 1.3: *Fill in the boxes above to understand how the climate hazards impacting your community may change in the future.*

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Climate Action Plan Stage 2: Assessing Current and Future Climate Risks

MANITOBA CLIMATE RESILIENCE TRAINING

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Step 2:
Climate Impact Assessment

MANITOBA CLIMATE RESILIENCE TRAINING

The goal of this step is to:

- Consider impacts of the identified climate hazards
- Explore how these impacts might be felt in the future
- Understand the consequences for your community

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A Note of Caution

MANITOBA CLIMATE RESILIENCE TRAINING

- While our goal is to help you walk through the steps of a Climate Impact Assessment, in practice this process should involve other members of your team—and potentially expert advice—to properly complete.

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Task 2.1: Develop an inventory of climate change hazards and impacts

MANITOBA CLIMATE RESILIENCE TRAINING

- For each climate hazard identified in Step 1, think of **impacts** that may occur as a result.
- Record impacts in **Box 2.1** on page 5. Consider:
  - *What would occur because of that hazard?*
  - *How could the hazard affect human and natural systems?*

Climate Hazard	What Are the Impacts of This Hazard?				
Example: Heatwave	-More hot days and night	-Reduced water supply	-Loss of soil moisture	-Increased risk of wildfires	-Amplification of drought conditions

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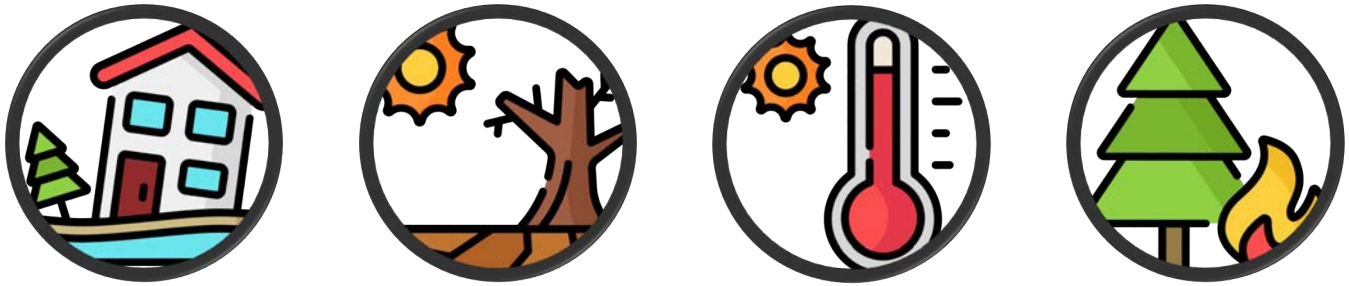
Task 2.2: Identify the climate risks to your community

MANITOBA CLIMATE RESILIENCE TRAINING

- For the most pressing climate hazard in **Box 2.1**, imagine a **worst-case scenario event** that could occur in your municipality between now and 2050.



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Task 2.2: Identify the climate risks to your community

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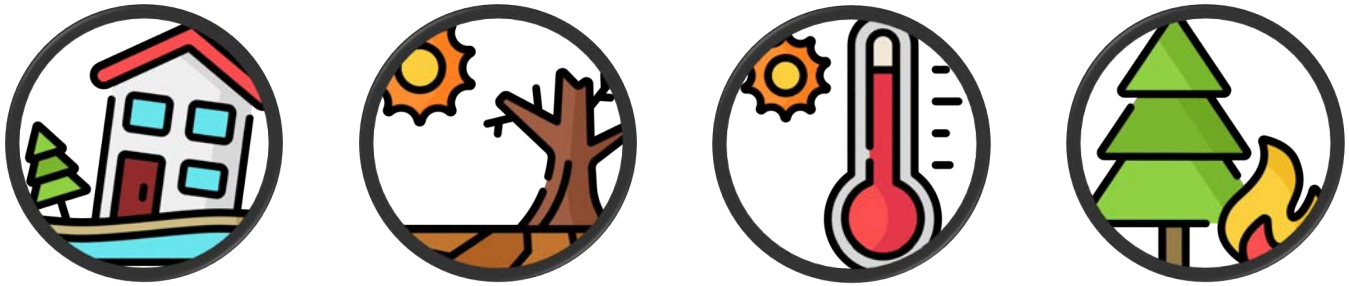
- EXAMPLES -

- A 1-in-300-year flood
- A prolonged drought
- Extended summer heat wave
- Extreme rainfall event or summer storm
- Major snowstorm or ice storm



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Task 2.2: Identify the climate risks to your community

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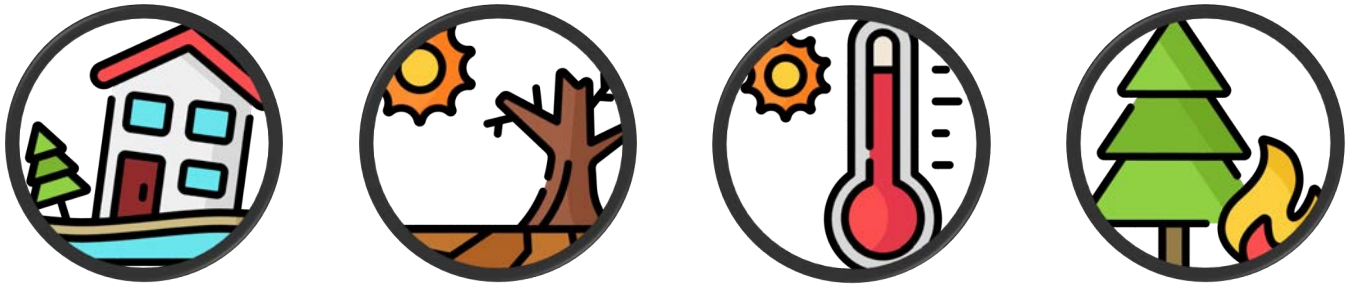
What would happen in your municipality in this worst-case-scenario?



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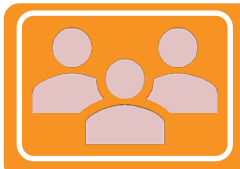
Task 2.2: Identify the climate risks to your community

MANITOBA CLIMATE RESILIENCE TRAINING

Think about **consequences** to particular areas:



Community & people

Fatalities, injuries, medical treatment, hospitalization, temporary or permanent displacement, mental health and emotional well-being

Critical services

Loss of services such as transportation, water, electricity, etc.

Buildings and infrastructure

Damage to buildings, equipment, vehicles, infrastructure.

Local economy

Disruption or loss of ability to produce, consume, and trade goods and services, and to generate income supporting livelihoods

Natural environment

Impacts to land, water, air, plants, and animals, and the provision of ecosystem services

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Task 2.2: Identify the climate risks to your community

MANITOBA CLIMATE RESILIENCE TRAINING

- Fill in **Box 2.2** on page 8.
- Write down a bullet point list of potential consequences that could occur in a **worst-case scenario** event.

What Potential Consequences Might You Prepare For?	
Community & People	
Critical Services	
Buildings & Infrastructure	
Local Economy	
Natural Environment	

Box 2.2: *A template for completing a Climate Impact Assessment.*

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Climate Action Plan Stage 2: Assessing Current and Future Climate Risks

MANITOBA CLIMATE RESILIENCE TRAINING

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Climate Risk Assessment

MANITOBA CLIMATE RESILIENCE TRAINING

The goal of this step is to:

- Understand how susceptible your community is to each of the impacts and consequences you have previously identified
- Determine priorities for the adaptation planning phase and consider solutions

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Understanding Risk

MANITOBA CLIMATE RESILIENCE TRAINING

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Task 3.1: Assess the severity of identified climate risks to your community

MANITOBA CLIMATE RESILIENCE TRAINING

- Return to your Climate Impact Assessment (**Box 2.2**) on page 8.
- For each consequence you have identified, assign a level of anticipated severity were that consequence to occur.
- Use the numbers 1 – 5 (with 1 being lowest).

Community & People	4 - Increased risk of heat stroke and heat exhaustion, especially seniors 5 - Wildfires and evacuations 2 - Cancelation of outdoor events, sports, and gatherings

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Task 3.1: Assess the severity of identified climate risks to your community

MANITOBA CLIMATE RESILIENCE TRAINING

1 **Insignificant**	No practical impact on the community, its people, or assets.
2 **Minor**	No significant impact on the community, its people, or assets, and can be handled through business-as-usual practices.
3 **Moderate**	Moderate impacts at the local and regional scale of minor importance, to be addressed through low-cost or no-regret adaptation actions.
4 **Major**	Major impacts at the local and regional scale that are of high importance to municipal operations and agencies, requiring assistance from national agencies to quickly address through strategic adaptation actions.
5 **Catastrophic**	Extreme impacts at the local and regional scale of very high importance to municipal operations and agencies to urgently address through adaptation.

Task 3.2: Assess the severity of identified climate risks to your community

MANITOBA CLIMATE RESILIENCE TRAINING

Likelihood	1 Insignificant	2 Minor	3 Moderate	4 Major	5 Catastrophic
5 Very Likely	Medium Priority	Medium-High Priority	Medium-High Priority	High Priority	High Priority
4 Likely	Medium-Low Priority	Medium Priority	Medium-High Priority	Medium-High Priority	High Priority
3 Possible	Medium-Low Priority	Medium-Low Priority	Medium Priority	Medium-High Priority	Medium-High Priority
2 Unlikely	Low Priority	Medium-Low Priority	Medium-Low Priority	Medium Priority	Medium-High Priority
1 Very Unlikely	Low Priority	Low Priority	Medium-Low Priority	Medium-Low Priority	Medium Priority
Risk Assessment Matrix					

Consequences

Task 3.2: Assess the severity of identified climate risks to your community

MANITOBA CLIMATE RESILIENCE TRAINING

Consider how likely this event is to occur.

- The more likely it is happen, the greater your response should be.
- See **figure 3.3** on page 11.

Very Likely – 5	Adaptation actions must be developed and applied immediately
Likely – 4	Develop and apply low-cost and "no regret" adaptation options with urgency
Possible – 3	Integrate low-cost and "no regret" adaptation options into routine planning practices
Unlikely – 2	Monitor and reassess the severity of consequences in the future
Very Unlikely – 1	Adaptation actions unnecessary or impractical

Figure 3.3: *Levels of likelihood and the appropriate response needed.*

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Task 3.2: Prioritize climate risks to your community

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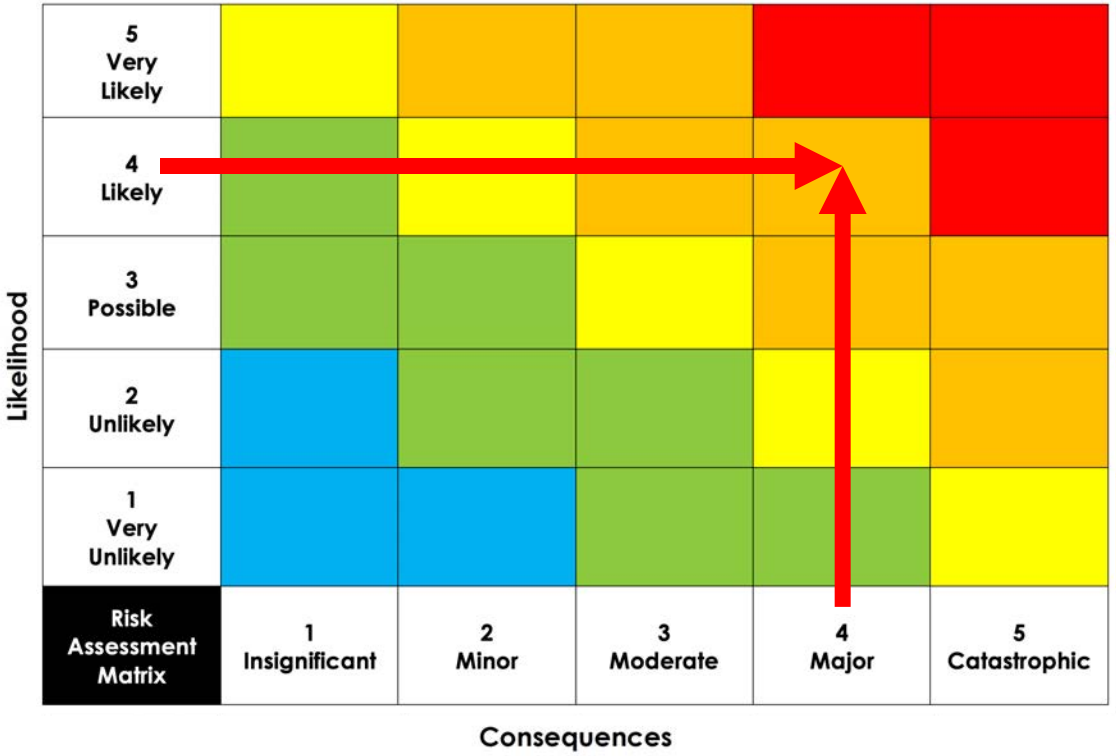

- Plot each consequence you identified in **Box 2.2** onto the blank Matrix in **Box 3.1**.

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Next Steps:
Adaptation Planning Actions

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"High Priority" Consequence	Potential Actions to Explore Through Adaptation Planning
Example: Wildfires and evacuations	- Take inventory of vulnerable buildings, like healthcare centres, nursing homes, and schools - Plan evacuation routes and backup routes - Explore the creation of a firebreak around the community - Educate citizens on ways to reduce the risk of wildfires - Encourage citizens to make their own evacuation plan

Box 3.2: *Brainstorm ideas your municipality can explore further to address the consequences you rated as high priority.*

- For every item in a **red** square in **Box 3.1**, begin brainstorming potential actions in **Box 3.2**.

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STAGE 3:
NEXT STEPS

BEYOND THIS WORKSHOP

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Review
Stage 3: Next Steps

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WHERE TO GO FROM HERE?

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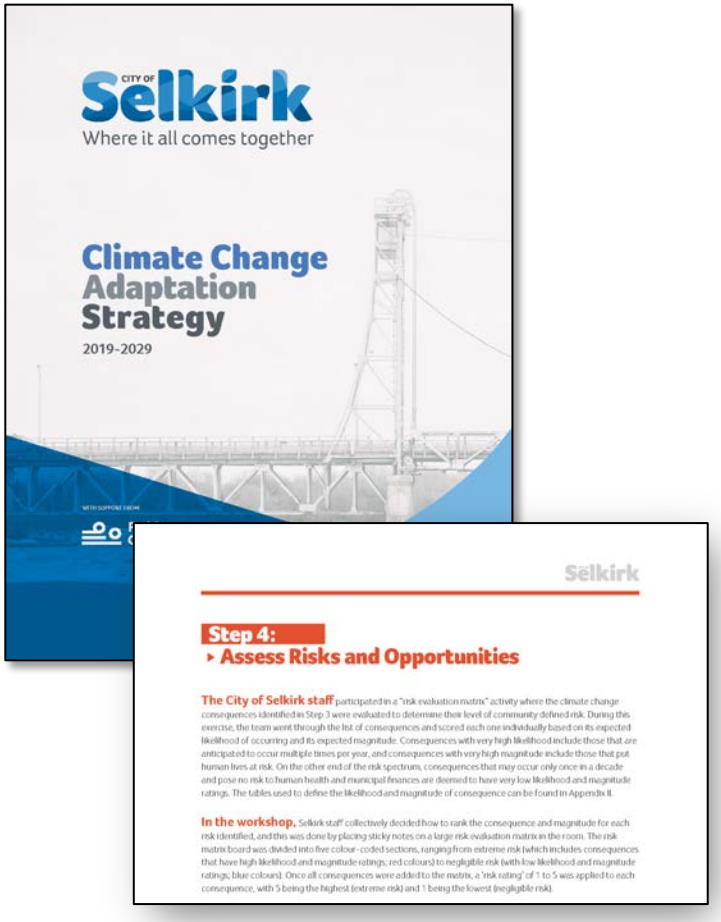
Review
Applying Workshop Lessons

MANITOBA CLIMATE RESILIENCE TRAINING

You can apply today's content to:

- A Climate Change Adaptation Strategy or Action Plan



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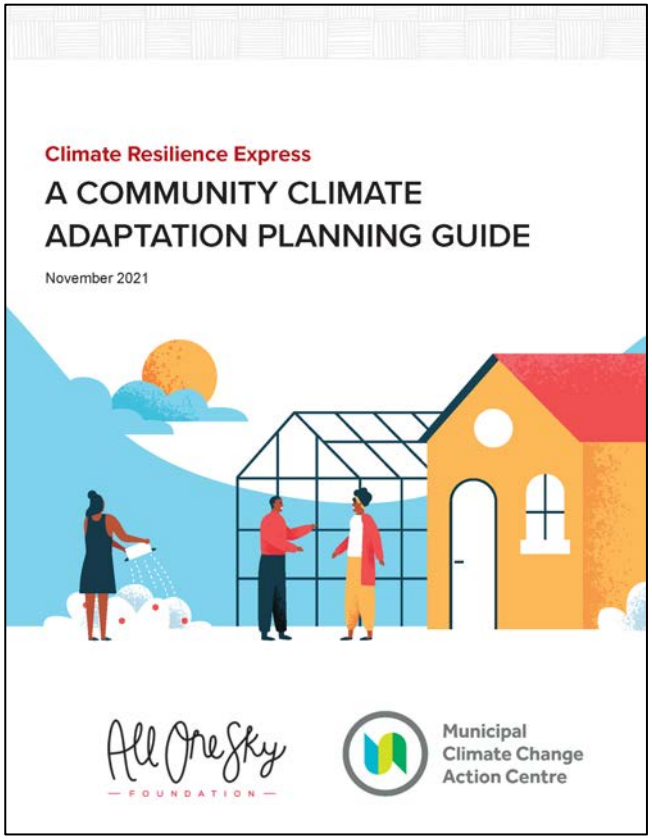
Climate Resilience Express

MANITOBA CLIMATE RESILIENCE TRAINING

- Climate Resilience Express Adaptation Planning Guide (right)
- Example Climate Resilience Action Plans
  - Real world plans from Alberta communities as small as 1,308 people



Access free online: www.allonesky.ca/climate-resilience-express

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Federal Funding Opportunities

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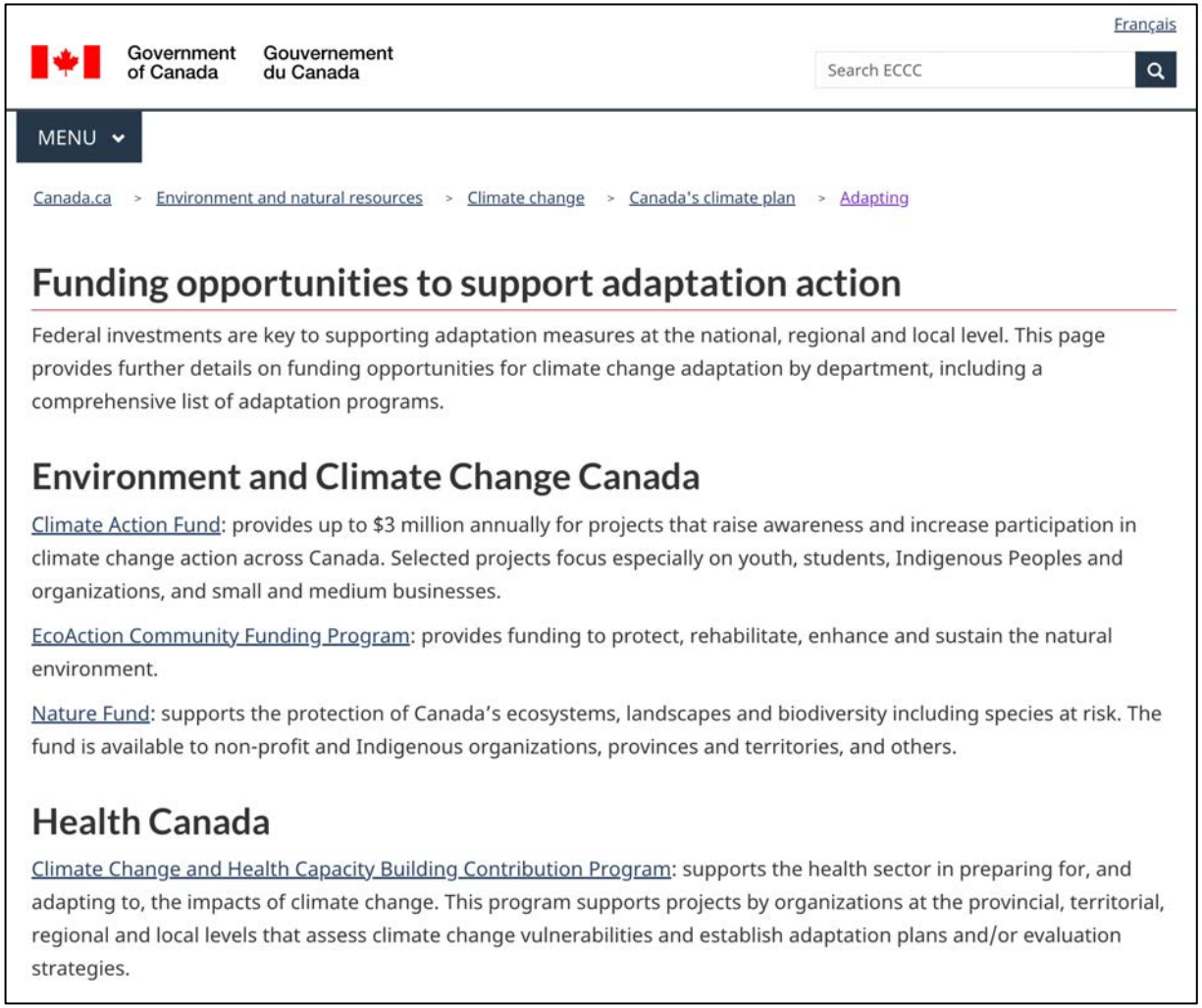

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Search ECCC

MENU

Canada.ca > Environment and natural resources > Climate change > Canada's climate plan > Adapting

Funding opportunities to support adaptation action

Federal investments are key to supporting adaptation measures at the national, regional and local level. This page provides further details on funding opportunities for climate change adaptation by department, including a comprehensive list of adaptation programs.

Environment and Climate Change Canada

Climate Action Fund: provides up to $3 million annually for projects that raise awareness and increase participation in climate change action across Canada. Selected projects focus especially on youth, students, Indigenous Peoples and organizations, and small and medium businesses.

EcoAction Community Funding Program: provides funding to protect, rehabilitate, enhance and sustain the natural environment.

Nature Fund: supports the protection of Canada's ecosystems, landscapes and biodiversity including species at risk. The fund is available to non-profit and Indigenous organizations, provinces and territories, and others.

Health Canada

Climate Change and Health Capacity Building Contribution Program: supports the health sector in preparing for, and adapting to, the impacts of climate change. This program supports projects by organizations at the provincial, territorial, regional and local levels that assess climate change vulnerabilities and establish adaptation plans and/or evaluation strategies.

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Source: https://www.canada.ca/en/environment-climate-change/services/climate-change/adapting/funding.html

Provincial Funding Opportunities

MANITOBA CLIMATE RESILIENCE TRAINING

– Conservation & Climate Fund

The Conservation and Climate Fund provides support to projects occurring in Manitoba that incorporate actions to address and adapt to climate change and protect the environment in alignment with the priorities and implementation of the Climate and Green Plan.

Projects will deliver on one or more of the following:

- Reduce greenhouse gas emissions;
- Address the effects of climate change, including measures to adapt to climate change;
- Promote sustainable development while ensuring natural resources are managed in a manner that ensures availability for future generations

The Fund is a project funder and it is not the intent to provide on-going operating or maintenance support to an organization.

As an initiative of the Manitoba Climate and Green Plan, the Fund supports a green and climate resilient province.

Who can apply?

Eligible applicants include:

- Incorporated non-profit organization
- Academic and educational institution
- Manitoba Municipality
- Northern Affairs and Indigenous Community in Manitoba
- Business, including Social Enterprise Businesses

Organizations must be active and have established operations within Manitoba for at least one year before applying. Business must be registered with the Province of Manitoba.

Ineligible applicants include Individuals, Crown Corporations, Federal Government, Provincial Governments, and Watershed Districts.

CATEGORY	SUB-CATEGORY	OUTCOMES	CROSS SECTOR FOCUS AREAS
Climate and Green Technology	Clean Energy	• Foster more clean energy production (e.g. renewable or low carbon energy sources) and used in Manitoba	Clean technology pathways that fulfill market needs and provide job and economic stimulus. (e.g. Clean tech or clean energy investments and jobs created) Circular economy development that focuses on provincial industries and associated economic opportunities. (e.g. Redirect by-product streams into higher value added processing or reuse.) Municipal climate action projects to reach the carbon emissions reduction potential of municipalities; and/or to advance implementation *of the community's adaptation plans.* Advance innovative knowledge sharing of climate change sciences, which fosters sustainable action, for a prairie specific context.
	Sector Emissions Reductions	• Contribute to overall emissions reductions for Manitoba	
	Innovation and Cleantech	• Promote growth in the clean technology sector	
	Green Infrastructure	• Advance key infrastructure partnerships under the Climate and Green Plan (e.g. to municipalities, international experts and indigenous communities)	
Water	Agriculture and Land Use	• Maintain and enhance healthy agro-ecosystems	
	Flood and Drought	• Contribute to effective forecasting, mitigation and response to flooding and drought	
	Water Quality	• Target clean water throughout Manitoba for drinking, habitat and economic development	
Nature and Resilient Landscapes	Park and Protected Areas	• Encourage a greater connection and enjoyment with nature and natural tourism for Manitoba families	
	Forestry and Natural Areas	• Promote healthy and productive forests and natural areas	
	Conservation	• Support Manitoba's active conservation efforts	

Source: https://www.gov.mb.ca/grants/grant-name.html

Other Funding Opportunities

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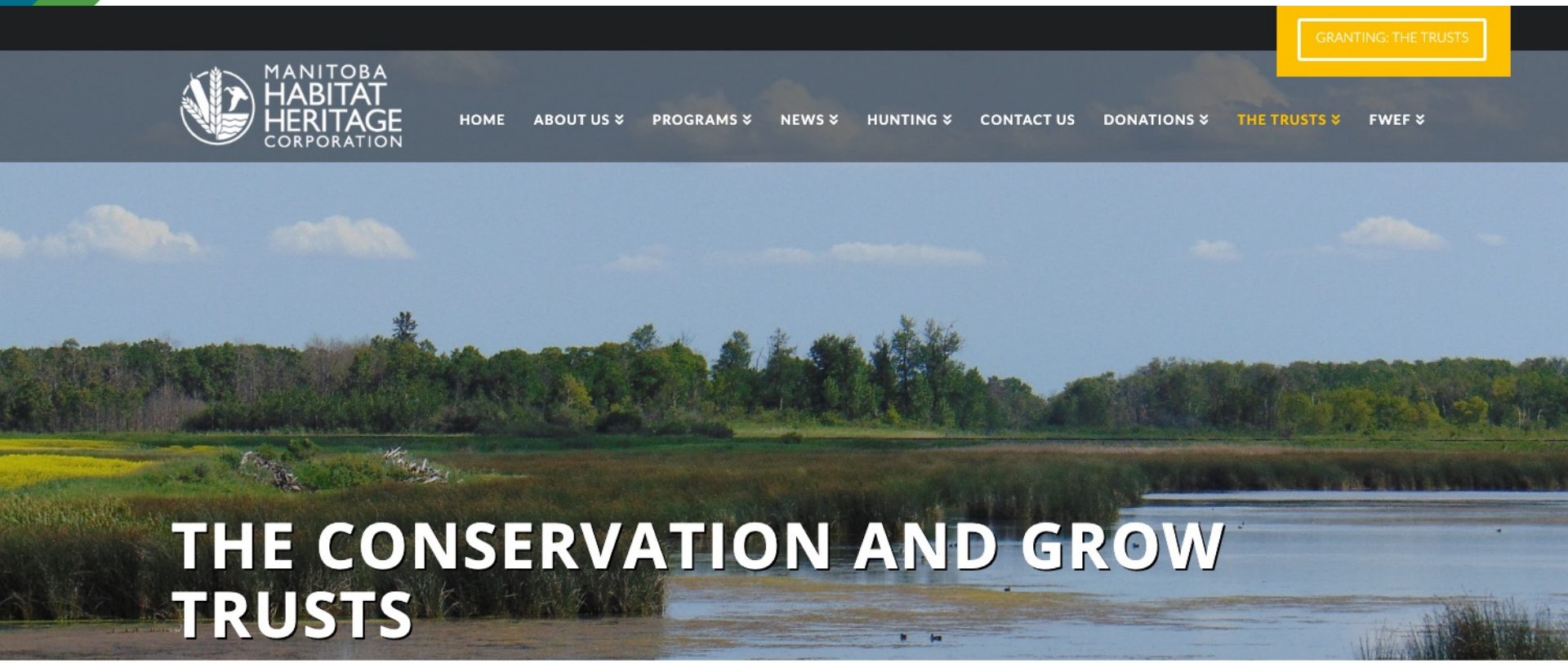

Go to: www.mhhc.mb.ca

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Partners for Climate Protection

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Visit here: https://fcm.ca/en/programs/partners-climate-protection

ClimateWest
Building Prairie Resilience

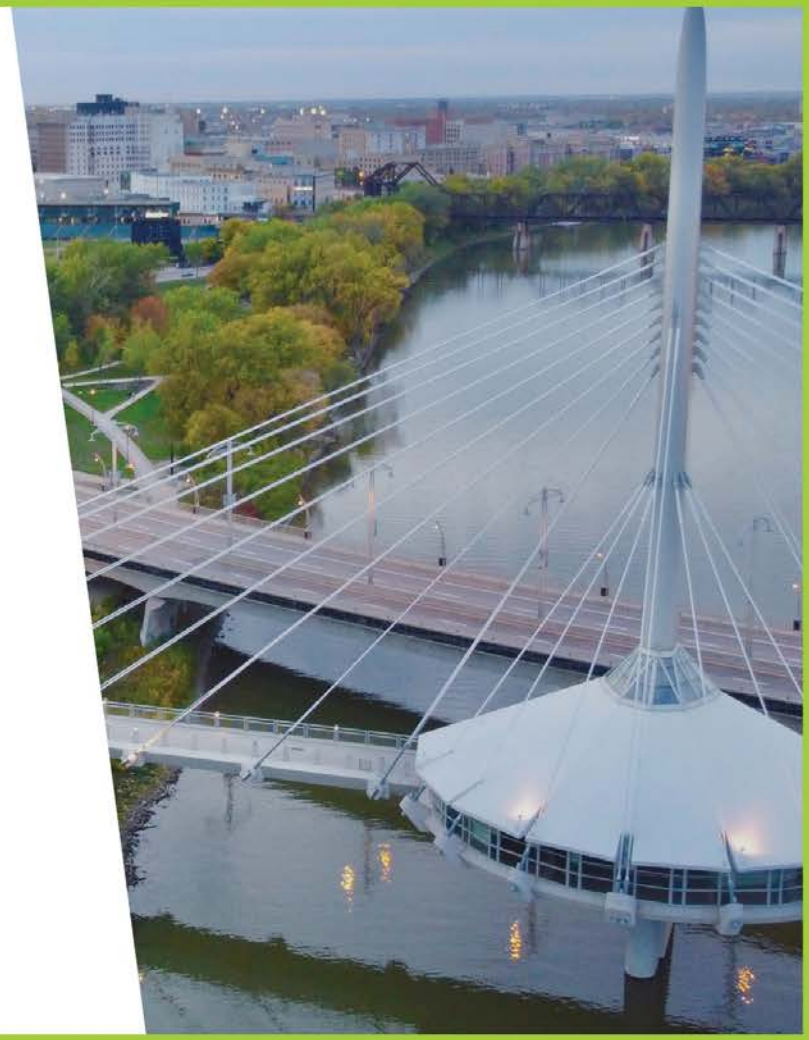
Save the Date

ClimateWest Forum:

The benefits of early adaptation action

May 3-4, 2023 / Winnipeg & Online

climatewest.ca

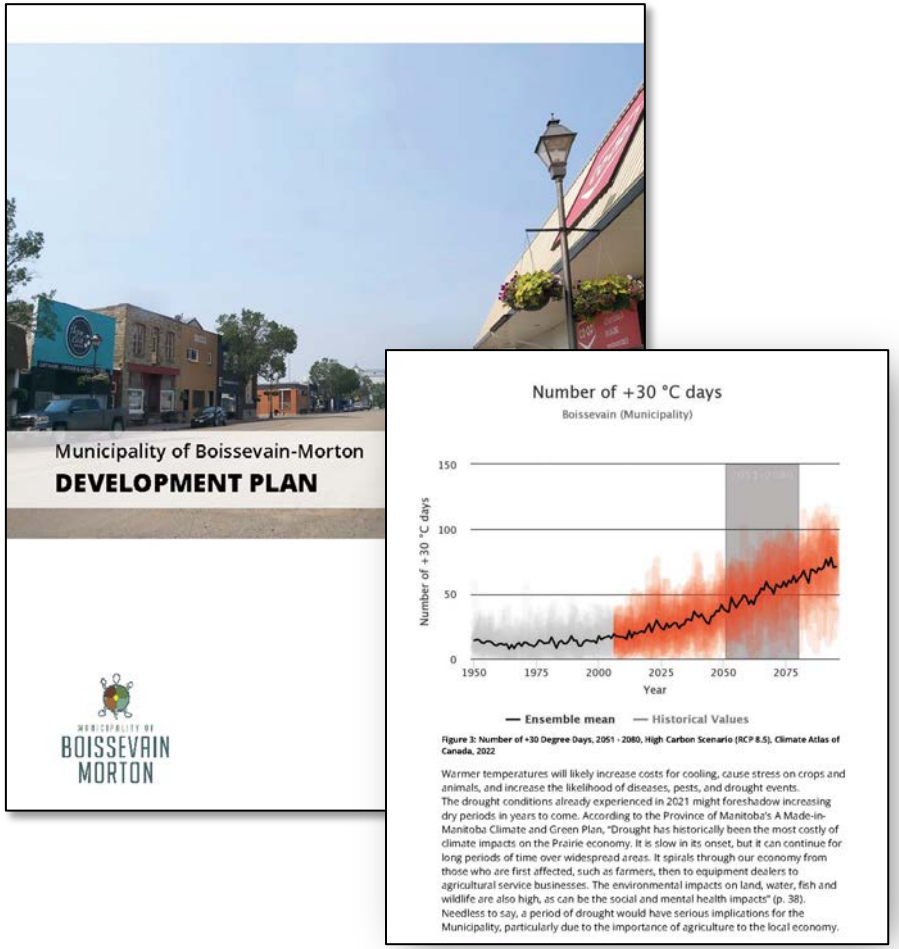


Review
Applying Workshop Lessons

MANITOBA CLIMATE RESILIENCE TRAINING

You can also apply today's content to:

- Your EMO HRVA
- A Development Plan or Zoning By-law



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Climate Adaptation in Development Plans & Zoning

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Flooding:

- Designate flood-prone areas for environmental protection
- Adopt higher flood protection standards for developments (beyond 1-in-100 year levels).

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Climate Adaptation in Development Plans & Zoning

MANITOBA CLIMATE RESILIENCE TRAINING

Drought & Extreme Weather:

- Encourage or require development to include green infrastructure that retains water, controls water flow, mitigates flash floods, and provides resilience from these events.

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Climate Adaptation in Development Plans & Zoning

MANITOBA CLIMATE RESILIENCE TRAINING

Warming Summers & Winters

- Identify risks and opportunities to:
  - Transportation infrastructure
  - Active transportation demand (due to warmer annual temps.)
  - Tourism (particularly in the north)
  - Need for more urban shade trees
  - Population shifts

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Climate Adaptation in Development Plans & Zoning

MANITOBA CLIMATE RESILIENCE TRAINING

Wildfires

- Include policies in Development Plans to locate development away from areas of high forest fire danger
- Ensure new developments account for fire risk
- Encourage resilient design through site layout and fire-resistant vegetation

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MANITOBA CLIMATE RESILIENCE TRAINING

THANK YOU!

If you require additional support or would like a digital copy of the materials presented today, please contact HTFC before **March 31st, 2023.**

Email: snuttall@htfc.ca
Phone: (204) 944-9907 Ext. 228

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