

CLIMATE CHANGE Adaptation Strategy

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Prairie
Climate Centre

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The climate in Winnipeg is changing, and the impacts are being felt at the local level. The Forks is taking proactive steps to increase climate resilience by developing a climate change adaptation strategy (CCAS). Planning for climate change helps ensure The Forks can continue to serve as a vibrant tourist destination and vital gathering space for communities in Winnipeg. To help prepare this CCAS The Forks partnered with local climate change adaptation experts and climatologists at the University of Winnipeg's Prairie Climate Center (PCC).

The development of The Forks CCAS occurred over a series of workshops and planning activities, bringing together knowledge of staff at The Forks with that of climate experts from the Prairie Climate Centre. The Forks' staff were guided to consider the consequences of climate change impacts, assess the risk they pose to assets, operations, and programs, and develop adaptation actions The Forks could adopt into future planning.

The Prairie Climate Centre

The Prairie Climate Centre is committed to making climate change meaningful and relevant to Canadians of all walks of life. We bring an evidence-based perspective to communicating the science, impacts, and risks of climate change through maps, documentary video, research reports, and plain-language training, writing, and outreach.

The Climate Atlas Of Canada

The Climate Atlas of Canada is an interactive tool for citizens, researchers, businesses, and community and political leaders to learn about climate change in Canada. It combines climate science, mapping and storytelling to bring the global issue of climate change closer to home, and is designed to inspire local, regional, and national action and solutions.

The Atlas is one of the only tools in the world that integrates interactive web design with climatology, cinema, and cartography to geovisualize and connect scientific data with personal experience in compelling and easy-to-use ways.

Learn More at: climateatlas.ca



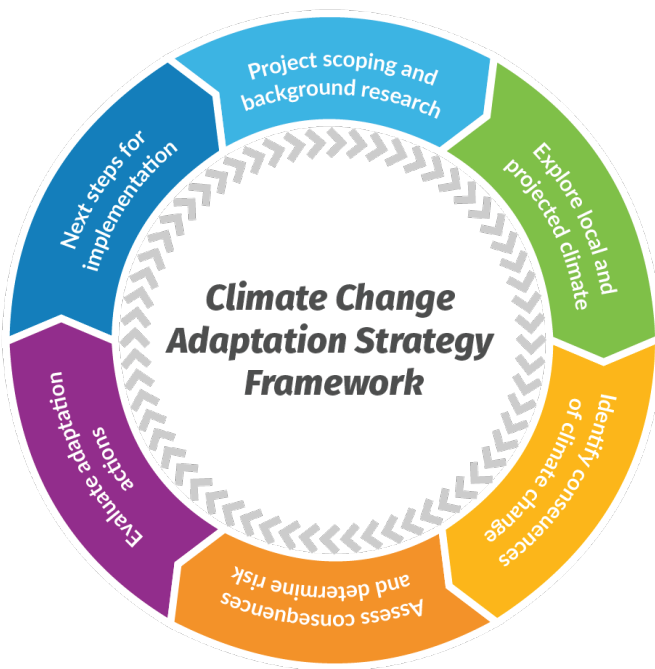
Climate change in Winnipeg

The climate determines how we design, build, and live in our community. As the climate changes, it affects what we once called 'normal'. In Winnipeg and at The Forks, climate change means hotter summers, warmer winters, and more frequent and intense extreme weather events.

The table presents a selection of climate change indices for Winnipeg, gathered from the Climate Atlas of Canada. All together, they can start creating a picture of what the future climate might be in Winnipeg.

The table shows average annual values for different time periods. The Recent Past represents the baseline time period from 1976-2005. Climate model projections for the time period 2051-2080 are presented with the low, mean, and high values of the model range.

Change	Recent Past (1976-2005)	10th percentile Low	2051-2080 Mean	90th percentile High	Direction of change
 Typical hottest summer day	34.4 °C	35.6 °C	39.5 °C	43.4 °C	↑
 Typical coldest winter day	-35.9 °C	-33.5 °C	-28.0 °C	-22.4 °C	↑
 Number of +30 °C days per year	14	25	52	77	↑
 Spring precipitation	119 mm	74 mm	139 mm	216 mm	↑
 Summer precipitation	227 mm	118 mm	220 mm	345 mm	↓
 Number of below-zero days per year	188	126	149	171	↓
 Number of +20 °C nights per year	2	5	21	39	↑



CCAS framework

A CCAS is developed using a framework or planning process that helps identify what the possible risks are in the face of a changing climate, and prioritizes actions that can reduce those risks.

The wheel shows the steps of the planning process The Forks undertook to develop their climate change adaptation strategy. The process is presented in a circle to demonstrate that the planning cycle is never truly over. As the climate continues to change, plans are revisited make sure adaptation actions are still appropriate reducing climate risk.

9 Climate changes

Below are the climate change impacts and trends that The Forks investigated for the Climate Change Adaptation Strategy. The climate changes are organized by seasons as many of the programming and operations of The Forks are closely tied to the seasons.



Summer changes



More frequent extreme heat



Longer wildfire season and poor air quality



Decrease in summer rainfall, increase in drought



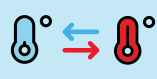
Increased frequency and intensity of heavy rainfall events



Winter changes



Milder winters, more rain-on-snow events



More “Weather Whiplash” events



Other changes



Shifts in the timing of seasons



Changing conditions for vegetation



Changing conditions for pest and diseases

5 Main types of climate change consequences identified

Climate change consequences are the negative effects that may occur due to climate change trends and impacts. Below are the types of consequences that might occur at The Forks.

- **Staffing challenges**
Staff availability and safety affected by extreme heat, air quality, and unpredictable weather.
- **Infrastructure & building vulnerability**
Potential damage to buildings caused by heavy rainfall events.
Stress on cooling systems due to extreme heat.
- **Reduced quality of visitor experience**
Visitor rates, comfort, safety, and event participation affected by extreme heat, air quality, and unpredictable weather.
- **Uncertainty for seasonal events and programming**
Shifts in seasons affecting outdoor spaces, events, activities, and programming.
- **Changes to site appearance and maintenance**
Stress on trees and vegetation from heat, drought, erosion, and invasive species.



5 Main approaches to adaptation actions

Adaptation actions are approaches intended to reduce the risk of climate change. The Forks is planning to reduce climate change risk through the following approaches to adaptation actions.

- **Adjust operations & planning**
Adapt operational guidelines, planning documents, and partner coordination to remain agile.
- **Conduct research & studies**
Conduct research and studies on practices from regions in warmer climates to inform decisions.
- **Protect health & safety for staff**
Adapt working conditions, equipment, and guidelines to extreme heat.
- **Improve infrastructure and systems**
Upgrade physical infrastructure to increase resilience to hotter temperatures and heavy rainfall events.
- **Integrate climate considerations into financial planning**
Adjust financial strategies to account for increased climate-related costs, delays, and seasonal shifts.



Next steps for implementation

The Forks is using **four key best practices** when working to implement the climate change adaptation strategy. These practices are intended to successfully bring the adaptation actions outlined in the CCAS into daily activities and short- and long-term planning.

- **Mainstream actions:** The climate change adaptation actions outlined in the CCAS are integrated into business planning processes at The Forks to ensure ease of implementation.
- **Integrate into budgets:** The necessary budget required for actions are identified and integrated into the budget cycles to increase the potential for actions being carried out. This includes creating contingency and adjusting existing budget lines appropriately.
- **Follow-through on research studies:** Develop follow-up actions for research and studies conducted as part of the CCAS and provide an outline for implementation.
- **Promote knowledge retention:** Formalize how the results of research are shared and integrated into guidelines, protocols, or other operational mechanisms. This is important for continuity of information and knowledge during staff transitions.

Climate change is a global issue that is experienced at the local level. Collective action to reduce climate risk and increase climate resiliency is required for a better future. Through the implementation of the strategies and actions in the CCAS, The Forks is leading by example, demonstrating the necessary steps needed to prepare for climate change and build a more resilient future.



Data sources

The climate model data presented on page 3 is sourced from The Climate Atlas of Canada, which includes climate change indices derived from 24 downscaled climate models obtained from the Pacific Climate Impacts Consortium (PCIC; pacificclimate.org), using the BCCAQv2 downscaling methodology. The values presented in this report represent the projections from the 24-model ensemble for the 'High Carbon' emissions scenario (RCP8.5). There is a baseline time period called "The recent past" 1976-2005, and a future time period 2051-2080. The high (90th percentile), mean, and low (10th percentile) model projections indicate the range of values across the 24 model ensemble.

Other sources

Photos and images are sourced from The Forks' public Flickr page.
<https://www.flickr.com/photos/theforkswinnipeg/albums/>

