# ADDRESSING CLIMATE CHANGE

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*April 2019*

## Summary

This fact sheet explains how climate change relates to Indigenous community planning. The United Nations acknowleges that "climate change is the defining issue of our time".[1] As Indigenous communities can be particularly vulnerable to the effects of climate change they are uniquely positioned to manage and plan for it.

**Keywords:**      planning, collecting data, reporting back, Elders / knowledge keepers, direction setting

## What Is Climate Change?

Commonly thought of as the biggest environmental challenge humanity has ever faced, climate change refers to a change in global or regional climate patterns over time. While weather can change in just a few hours, climate usually takes tens of thousands of years to change.[2] There is a high level of agreement in both international scientific communities and governments, that global climate conditions are changing.[3] Indicators of climate change include rising global temperatures, warmer air temperatures, melting sea ice, sea level rise, and ecosystem loss. In Canada, impacts will likely include increased flooding, drought, intense summer heat,

violent storms, and other extreme weather. Figure 3 on the following page shows warmer and cooler seasonal and annual temperatures compared to the 20th-century average.

> "Weather records from across Canada show that every year since 1998-that's 20 years ago now-has been warmer than the 20th century average. This means that a whole generation of Canadians has never experienced what most of modern history considered a 'normal' Canadian climate."[4]
>
> – The Climate Atlas of Canada

The Earth's climate is affected by a number of natural features which include Earth's tilt, its orbit, changing ocean currents, and atmospheric make-up. We also know that they do not explain the recent climatic changes seen around the world. Evidence has led scientists to understand that these changes are directly linked to human activity – notably the addition of greenhouse gases (GHG's) such as carbon dioxide, to our atmosphere.[5]

The more we learn about climate change and the environment, the more we realize what we don't know. At the local level, it is crucial to understand both how communities may be affected by climate change and what strategies they can use to adapt or build resilience to its effects. This will help protect communities and enhance the lives of their residents.



*Figure 1  |  Melting Glacier*
*Source: (*Stanley, David. "Melchoir Glaciers." Digital image. Flickr. November 3, 14. Accessed January 23, 2019. https://www.flickr.com)

## How Does Climate Change Impact Indigenous Communities?

While everyone on Earth will be affected by climate change, it is expected that Indigenous communities may be uniquely impacted[6,7]. Indigenous communities preserve a close connection with the land and work with natural resources, locations, and economic structures. This makes Indigenous communities more vulnerable to facing greater challenges as the climate changes. Many also rely on the environment for medicines and other cultural practices. The environment plays a critical role in these communities and one that is threatened if current climate trends continue.

While the impacts of climate change are different for each community, some potential effects are listed in Figure 2 below.

- Changes to water quality and quantity
- Loss of cultural sites/hunting/foraging areas
- Changes to landscape/ecology
- Damage or loss of land or infrastructure such as roads
- Loss of traditional knowledge
- Drainage Issues

*Figure 2 | Potential Effects of Climate Change on Indigenous Communities.*

As Figure 2 shows, not only does climate change pose a threat to the economies of these communities, it also threatens the culture and well-being of their residents. Someone who is on the land might notice changes in animal migration patterns, or that plants and trees are growing differently. The key is that these local changes are linked to a bigger pattern of global change.

Although more research is needed to understand the impacts of climate change in Indigenous communities, it quickly becomes clear that if these impacts are going to be avoided in the future, we have to act now.
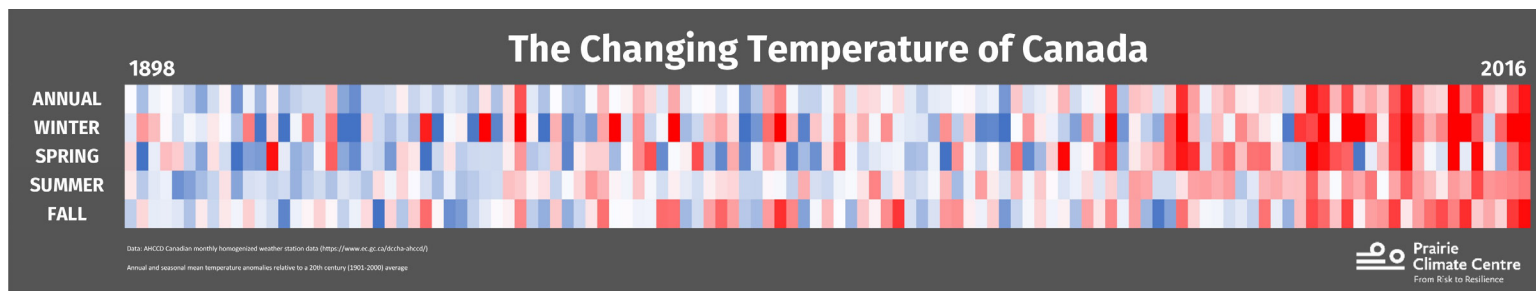
## Whose Responsibility Is It?

Climate change is a global problem that will require international attention and action if its effects are to be reduced and managed. Canadian municipal, provincial, and federal governments are currently trying to address climate change on a number of levels', however, progress has been slow. But climate change can also be addressed at the local or individual level. It is up to every person and community to decide for themselves what their responsibility is in addressing climate change.

Although Indigenous communities may often contribute the least to climate change, they are some of the first to see to its effects. In this way, Indigenous communities are uniquely positioned to manage and plan for it.

*Although Indigenous communities may often contribute the least to climate change, they are often some of the most vulnerable and first to see to its effects. In this way, Indigenous communities are uniquely positioned to manage and plan for it.*

## How Can the Issue of Climate Change Be Made a Part of the Planning Process?

Generally, planning is a multi-step process meant to help take you from where you are to where you want to be. In this way, climate change can and should be made a part of a community planning process as all communities will have to deal with the effects of climate change sooner or later.

Although different frameworks could be used to address climate change in a community, a series of guidebooks provided by the Centre for Indigenous Environmental Resources (CIER) (in partnership with various other agencies), outline one potential process which is highlighted below:[8]

1. Select a project team or working group to look at the issue.[9] As communities can have a range of contexts and resources, it is important to select a team that

*Figure 3 |* Changes in the Observed Mean Temperature Data in Canada.
*Source:* (Prairie Climate Centre. "The Chaging Temerature of Canada" Digital image. Prairie Climate Centre. October 31, 2017. Janurary 26, 2019. http://prairieclimatecentre.ca/2017/10/seeing-is-believing-historical-records-prove-canada-is-warming/.)



The Changing Temperature of Canada

1898 / 2016

ANNUAL WINTER SPRING SUMMER FALL

Data: AHCCD Canadian monthly homogenized weather station data (https://www.ec.gc.ca/dccha-ahccd/)
Annual and seasonal mean temperature anomalies relative to a 20th century (1901-2000) average

Prairie Climate Centre
From Risk to Resilience

understands the community and who can communicate and work well with other community members. The working group should have a general understanding of climate change as well as a sense of how it fits into the general priorities and vision for your community as a whole.

2.  Have the working group look at the specific impacts on your community.[10] Impacts can range in terms of scale and severity. This step could involve speaking with elders or brainstorming with other community members about where they have seen evidence of climate change.

3.  Have the working group get a better sense of both the vulnerabilities of your community and any factors that influence these vulnerabilities.[11] Ask questions like, "Is flooding an issue in your community? And if so, where is flooding the worst?" This can help you begin to identify strategies that reduce risk and improve sustainability and resiliency in community planning.

4.  Identify solutions that could be put in place at the community level.[12] This may the most difficult step as climate change is a complex issue and a community can only do so much on their own. Solutions could include identifying areas for a firebreak or drainage swale. In other words, things that are realistic and also impactful. Searching for funding for the fifth stage could also take place in this step,

5.  Implement and take action.[13] Taking "action" could include a variety of activities that were identified in the previous step. This could include working or creating a project, policy, or initiative that you have found would benefit the community's climate change resiliency.

6.  Monitor progress and change over time.[14] Gathering this data is very important as it will be useful for tracking your success and help future community members continue to address climate change.

A diagram outlining this framework is shown in Figure 4. Each of these steps belongs to a larger overall process and take time, repeated consultation, and strong decision making. In many cases, it might be useful for the community or working group to make an action plan to help in implementation of effective change.

## How Do You Begin?

Many Indigenous and northern communities have begun monitoring and addressing climate change. Action plans utilize traditional knowledge to help implement goals the community has identified.

For more information,
see the *Creating Action Plans* fact sheet.



STEP 1: Select Project Team

STEP 2: Look at How the Community will be Impacted

STEP 3: Identify Vulnerabilities

STEP 4: Identify Achievable Goals

STEP 5: Take Action!

STEP 5: Monitor Progress & Change

*Figure 4 | Potential Planning Process for Indigenous Communities*
*Adapted from* Centre for Indigenous Environmental Resources. (2006). Climate Change Planning Tools for First Nations Guidebooks. Retrieved from Centre for Indigenous Environmental Resources: http://www.yourcier.org/climate-change-planning-tools-for-first-nations-guidebooks-2006.html

The scope of this work has ranged from joining advocacy initiatives to building partnerships to the creation of community action and land use management plans. Building resilience and sustainability in a community along with adopting strategies that fit the community is key to success. Consultation and knowledge building go hand in hand in this process and are likely needed to reach long-term goals.

Although every community has limitations in terms of available funding and people power, there are some climate change supports that communities can access.

Examples of programs and/or initiatives have included:

- The First Nation Adapt Program
- Indigenous Community-Based Climate Monitoring Program
- Climate Change and Health Adaptation Program
- Northern Responsible Energy Approach for Community Heat and Electricity Program
- Climate Change Preparedness in the North Program
- Indigenous Climate Action
- Center for Indigenous Environmental Resources

These supports range in function and level of support. Some provide direct funding while others offer research and information.

If you are interested in knowing more about the effects of climate change in your area, your local community office may either have some resources that can help you or may be able to put you in touch with someone who does. The Praire Climate Center, Environment and Climate Change Canada, and Manitoba Sustainable Development are other resources.

## *Final Thoughts*

Climate change is the most serious environmental challenge we have ever faced. Indigenous communities can plan for resilience as a community with the help of traditional knowledge, partnerships, and planning.

## *Further Reading*

**Climate Change Planning Tools for First Nations Guidebooks** by the Center for Indigenous Environmental Resources

These guidebooks work together to form a cohesive tool-kit for climate change planning in First Nations communities. They outline a step-by-step process for addressing climate change issues and provide examples of workshops and community activities that can be used to engage with communities.

http://www.yourcier.org/climate-change-planning-tools-for-first-nations-guidebooks-2006.html

**Climate Atlas of Canada** by Prairie Climate Center

The Climate Atlas of Canada is an interactive tool for citizens, researchers, businesses, and communities to learn about climate change in Canada. The Climate Atlas shows a variety of information such as changes in rain, air temperatures, humidity, growing season, and frost days over time with estimates in the immediate and near future.

https://climateatlas.ca/

## Endnotes

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