Prairie Climate Centre

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# Climate Change Activity Sheet: Local Knowledge and Data for Adaptation Planning

Climate change impacts all aspects of our lives. There are different types of knowledges that contribute to our understanding and response to climate change. Indigenous and western scientific knowledges can be complementary and important in building robust resilient communities.

This worksheet provides an opportunity to think through the integration of Indigenous and western scientific knowledges by:

- Exploring how to get data relevant to you community and project from the Climate Atlas.
- Potential questions to consider when connecting western climate science and information with traditional and community knowledges for community planning.

## Starting with Community narrative

Climate change is a localized experience. Addressing climate needs to be rooted in community experiences and priorities.

Below are questions that build the community narrative around climate change:

1. What is your experience with climate change in your community and traditional territory? (Changes to health of land and community, impacts to community infrastructure or services etc.)
2. What are the primary concerns of your community with respect to climate change?

## Accessing Climate Atlas Data

The climate atlas shows projected climate change based on two greenhouse gas emissions scenarios. These can be seen as “more” or “less” climate change in a sliding bar at the of the bottom map. “More” Climate change means that it is showing a **High Carbon** scenario, or a “business as usual” scenario. The ”Less”climate change option will change the map to show what Canada will likely look like under reduced carbonemissions.

To start the activity, go to https://climateatlas.ca/map/canada/ and find **your community.** Use the  icon (top left of the map) to change settings from displaying “change from recent past” to “average value.” If using a smartphone device, press the up arrow [  ] at the bottom of the screen to see the icons/slide bars).

1. Find the climate variables needed to fill out the table along the icons at the bottom on the map. Once the variable is found, record values under a “more climate change” scenario for:
   a) **Recent Past (1976-2005)**
   b) **Immediate Future (2021-2050)**
   c) **Near Future (2051-2080)**

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**d) Change between the recent past and near future** (under the high carbon scenario). This value is given to you on the map but can also be calculated by subtracting the Recent Past value from the Near Future value for each climate variable.

| Climate Type | Climate Variable | HIGH Carbon Scenario | | | Change from recent past to near future? |
|---|---|---|---|---|---|
| | | Recent past | Immediate future | Near Future | |
| **Hot weather** | Very hot days (30°C +) | | | | |
| **Cold weather** | Winter days (-15 °C) | | | | |
| **Temperature** | Mean annual temperature | | | | |
| **Precipitation** | Annual Precipitation | | | | |
| **Agriculture** | Frost-free season | | | | |

## Integration of Knowledge Systems

The impacts of climate change are holistic. Climate model projection data is just one piece that can be woven into a community's narrative to envision how to build communities that are resilient to a changing climate. Below are a few questions to consider in the practice of integrating community knowledge with western climate science.

1. Does this data reflect your or your community's lived experiences and traditional knowledges? How are they similar/different?
   (Example: Increase in number of very hot days, plus no change, or a decrease in summer precipitation can lead to a more intense/longer fire season)

2. How do these changes relate to impacts in your community or on the land (example: community health, environment, activities, plants and animals, infrastructure, etc.)

3. Are there specific variables that relate to the changes experienced in your community or the projects/planning being undertaken?

4. Is there an opportunity to integrate western climate science with Indigenous and community knowledges to support project, community planning, and funding initiatives?