The Climate Atlas in the Classroom

A Guidebook for Educators

Navigating the Climate Atlas of Canada in the context of classroom education
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Notes for using the Climate Atlas of Canada in the classroom

The Climate Atlas is a tool that combines science, mapping, and storytelling together to better understand and visualize climate change. These integrated knowledges are an effective way to teach climate change in the classroom.

The Climate Atlas of Canada is a free, publicly available resource for all to use.

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Navigating the Atlas

How to get there: Home > Map

What you’ll find:
The Climate Atlas is an interactive map that allows users to see how climate variables are expected to change through time across Canada.

1. Legend
2. Map settings
3. Climate Change scenarios
4. Time periods
5. Climate Variables
6. Zoom feature

See next page for breakdown of map features.
1. Legend & Title

- Describes what the current map is displaying
- Defines the values of colours on the map
- Explains what variable is being viewed, in which carbon emission scenario, and during which time period selected.
- See the map info icon for more information on what the map is displaying

2. Map settings

- Select the scale you want for regions shown on the map by area size or provinces/territories
- The map can show average values for a future time period, or the amount of change between recent past and a future time period
- Cities, municipalities, and Indigenous markers options
3. Climate Change Scenarios

More Climate Change, or "High Carbon" Scenario
This is the "business as usual" scenario, and assumes that world greenhouse gas emissions continue to increase at current rates through the end of the century.

Less Climate Change, or "Low Carbon" Scenario
This scenario assumes that greenhouse gas emissions increase until about 2050 and then rapidly decline.

4. Time Periods

The Recent Past (1976-2005) - The "baseline" maps and data describe climate conditions in the recent past generated by climate models and have been shown to accurately represent observed records.

The Immediate Future (2021-2050) - This period of time has just begun, and we'll be in the middle of it in about 10 years. Most Canadians will see these changes come to pass.

The Near Future (2051-2080) - Younger Canadians will likely experience all of these changes, and many older Canadians will at least see them begin.
5. Climate Change Variables

Navigating the Atlas

- **HOT WEATHER**
  - Very Hot Days (+30°C)
  - Tropical Nights
  - Warmest Maximum Temperature
  - Summer Days
  - Cooling Degree Days
  - Number of Heat Waves
  - Average Length of Heat Waves
  - Longest Spell of +30°C Days
  - Hot (+30°C) Season
  - Extremely Hot Days (+32°C)
  - Extremely Hot Days (+34°C)

- **COLD WEATHER**
  - Very Cold Days (-30°C)
  - Freeze-Thaw Cycles
  - Frost Days
  - Icing Days
  - Coldest Minimum Temperature
  - Heating Degree Days
  - Freezing Degree Days
  - Mild Winter Days (-5°C)
  - Winter Days (-15°C)

- **TEMPERATURE**
  - Mean Temperature
  - Maximum Temperature
  - Minimum Temperature

- **PRECIPITATION**
  - Precipitation
  - Heavy Precipitation Days (10 mm)
  - Heavy Precipitation Days (20 mm)
  - Wet Days
  - Dry Days
  - Max 1-Day Precipitation
  - Max 3-Day Precipitation
  - Max 5-Day Precipitation

- **AGRICULTURE**
  - Frost-Free Season
  - Date of First Fall Frost
  - Date of Last Spring Frost
  - Corn Heat Units
  - Growing Degree Days (Base 5°C)
  - Growing Degree Days (Base 10°C)
  - Growing Degree Days (Base 15°C)
  - Growing Degree Days (Base 4°C)

- **STATIONS**
  - Find me
  - Climate Change
  - Time Period

**Buttons:**
- Hot Weather
- Cold Weather
- Temperature
- Precipitation
- Agriculture
How to get there: Home > Topics

What you’ll find:
The topics page allows users to narrow down the climate change content they want to see based on the listed topics they are interested in exploring.
Educator Resources

How to get there: Home > Topics > Educator Resources

What you’ll find:
In the Educator Resources topic, you’ll find lesson plans, activity sheets, answer-key downloads, and more!

Go to: Lesson 1 & Lesson 2
What you’ll find:
Videos on numerous climate change topics that bring together real life examples of the stories behind climate change, along with the science.

How to use it:
The combination of science and storytelling makes educational topics more relatable for students. Use our videos to promote discussions, inform projects, introduce classroom topics, and accompany other topics that intersect with climate change.
How to get there: Home > Articles

What you’ll find:
Articles on numerous climate change topics that simplify complex scientific information for the general public.

How to use it:
These articles can be used in classrooms for article reviews, group discussions, and many other ways. See our lesson plan for Lesson 1 to get started using our Climate Atlas articles in your classroom.
Indigenous Climate Change Content

How to get there: Home > Indigenous

What you’ll find:
Within the Indigenous content, you’ll find climate change content organized into First Nations, Inuit, and Métis subtopics.

First Nations

Inuit

Métis

Across the Métis homeland, the unique and rich knowledge of Métis people contributes to a greater understanding of how both climate and culture are changing.

How to use it:

Indigenous knowledges on climate change are not only important in understanding the historic observed changes in climate, but they will also help us nativage and adapt to changes to come. Using Indigenous Knowledges in the classroom allow for a diverse world of information beyond western worldviews. Use articles and videos in this topic to foster discussions, guide projects, and introduce the topic of climate change in the classroom.
Downloadable Materials

How to get there: Home > Menu > Downloads

What you’ll find:
Downloadable infographics on climate change

How to use it:
Downloadable content can be used to support teaching material, such as useful images explaining climate change concepts, maps, and graphs. These downloads can be printed to be displayed on walls or inserted into slide decks to be presented to the classroom.
More Resources

**The Climate Atlas of Canada Tour** (video walkthrough)

**Student Introduction to the Climate Atlas of Canada** (slide-deck)