




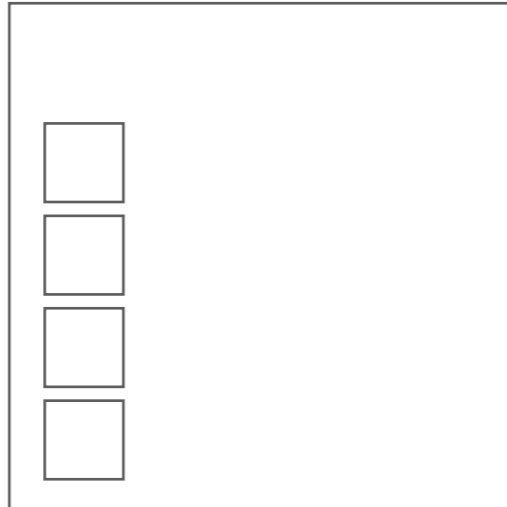
Creating Four Thematic Maps for the Memphis, Tennessee Metropolitan Statistical Area

Choropleth | Graduated Symbol | Dot | Cartogram

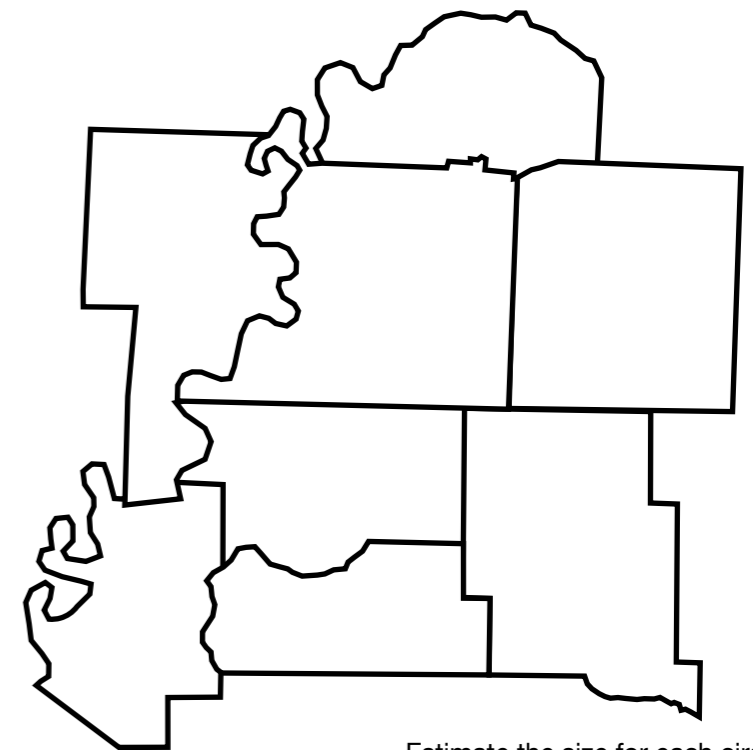
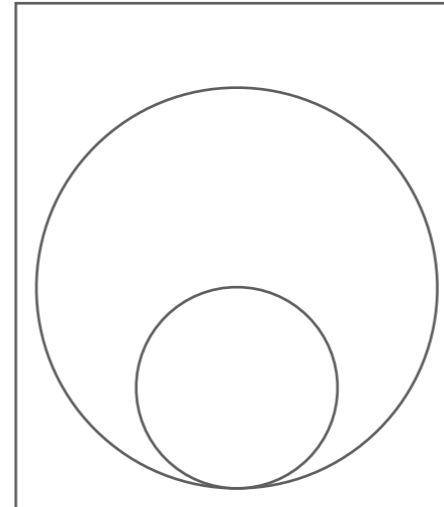
An outline map of a state, likely North Carolina, showing county boundaries. The map is white with black outlines, set against a light gray background. The text "Student Handout" is overlaid on the map.

Student Handout


CHOROPLETH



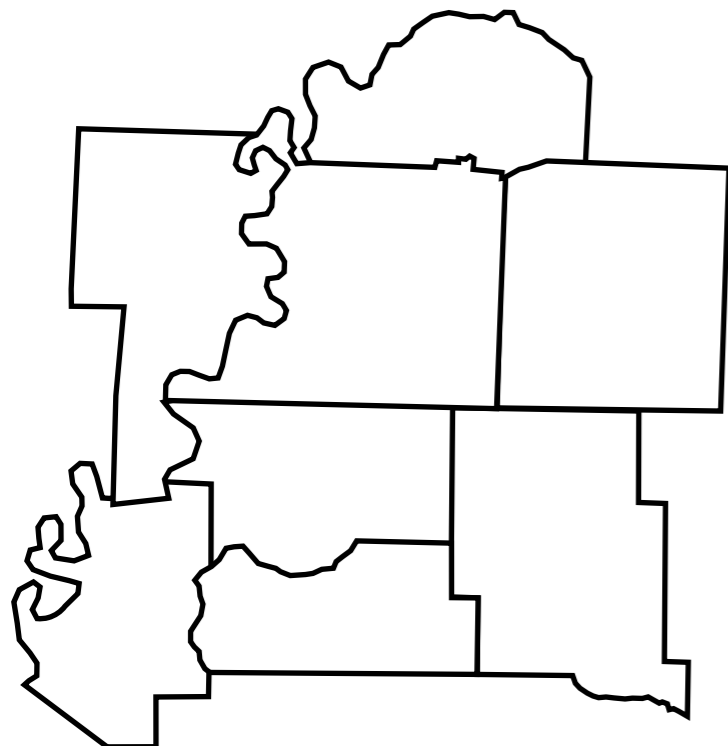
GRADUATED SYMBOL



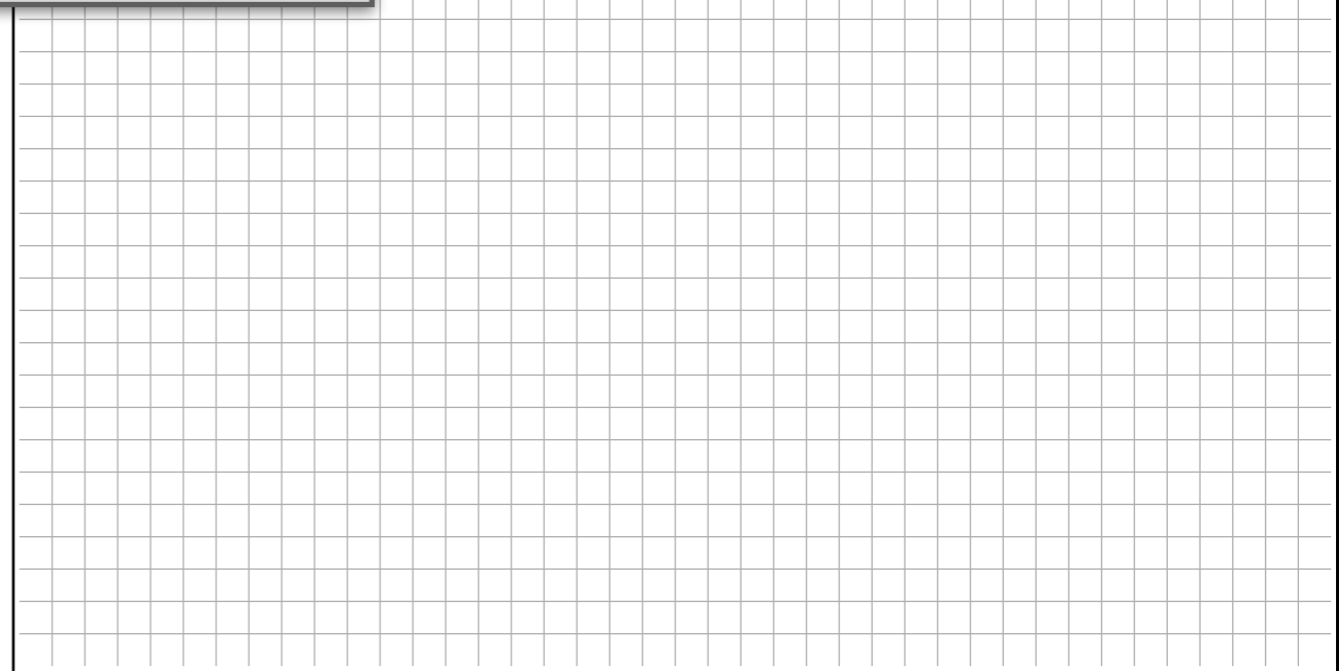
Estimate the size for each circle.

Memphis MSA		
 Counties	Population 2015	Percent %
Total Population	1,344,127	100.0
Crittenden, AR	48,963	3.6
DeSoto, MS	173,323	12.9
Marshall, MS	35,916	2.7
Tate, MS	28,296	2.1
Tunica, MS	10,343	0.8
Fayette, TN	39,165	2.9
Shelby, TN	938,069	69.8
Tipton, TN	61,870	4.6

DOT



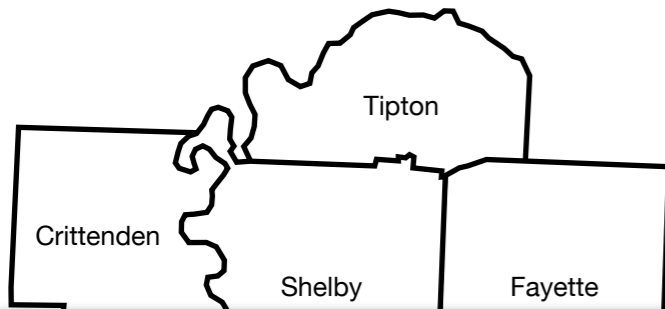
CARTOGRAM





Directions

CHOROPLETH



Add Title

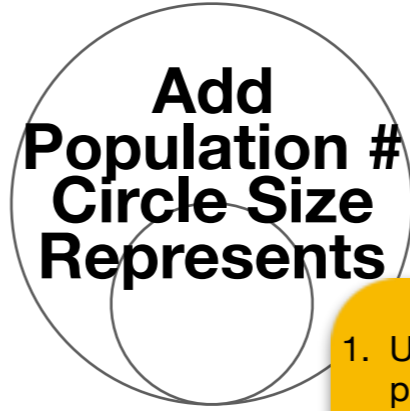
Add Population Categories

Directions

- Using the *Memphis MSA chart*, determine four categories for the Choropleth map and write the categories in the legend box.
- Give a title for the legend.
- Choose a color scheme from dark to light shades of the same color.
- Color each county according to the legend categories you determined.

GRADUATED SYMBOL


Add Title



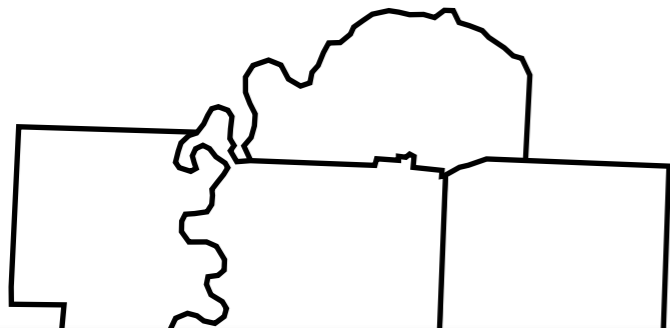
Directions

- Using the *Memphis MSA chart*, determine how many people the two circles on the left represent and write the number in the legend box.
- Give a title for the legend.
- Determine the approximate size of the circle for each county. The largest circle should fit on the map.
- Draw the circle for each county. The circles can be rough estimates and hand drawn.
- Draw largest circles first.

Memphis MSA

 Counties	Population 2015	Percent %
Total Population	1,344,127	100.0
Crittenden, AR	48,963	3.6
DeSoto, MS	173,323	12.9
Marshall, MS	35,916	2.7
Tate, MS	28,296	2.1
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Shelby, TN	938,069	69.8
Tipton, TN	61,870	4.6

DOT



Directions

- Using the *Memphis MSA chart*, determine how many people the black dot will represent. This will require dividing the county's total population by the number of people the dot will represent. Be sure the number is reasonable (over 1,000 for certain).
- Write the number the dot will represent in the legend box next to the black dot.
- Draw in each county the correct number of dots. It does not have to perfectly drawn circle dots.

Population #
Each Dot
Represents

CARTOGRAM



Population #
Each Box
Represents

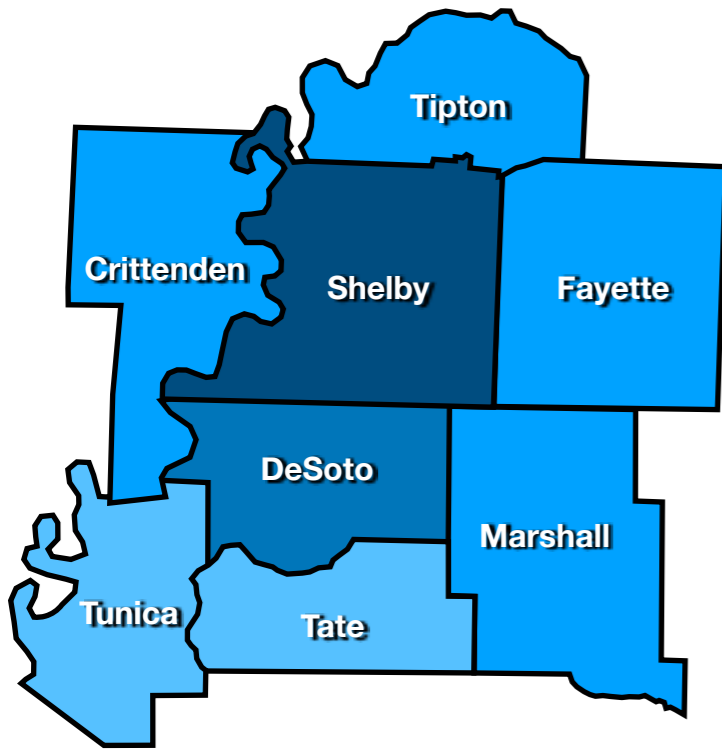
Directions

- Using the *Memphis MSA chart*, determine how many people the black box will represent and write it in the legend box (in the thousands).
- Determine how many boxes each county should have (be sure all the counties will fit on the graph).
- Start in the middle of the graph paper with drawing the largest county first.
- Attempt to make the counties look as close as possible to their actual shapes.

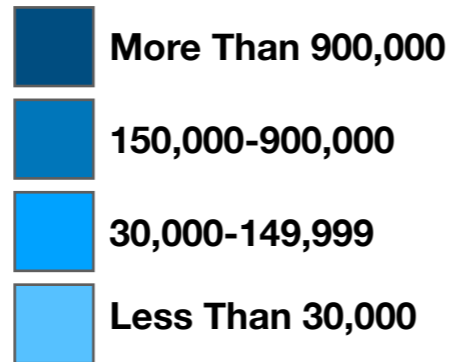


**Finished maps
might look like....**

CHOROPLETH

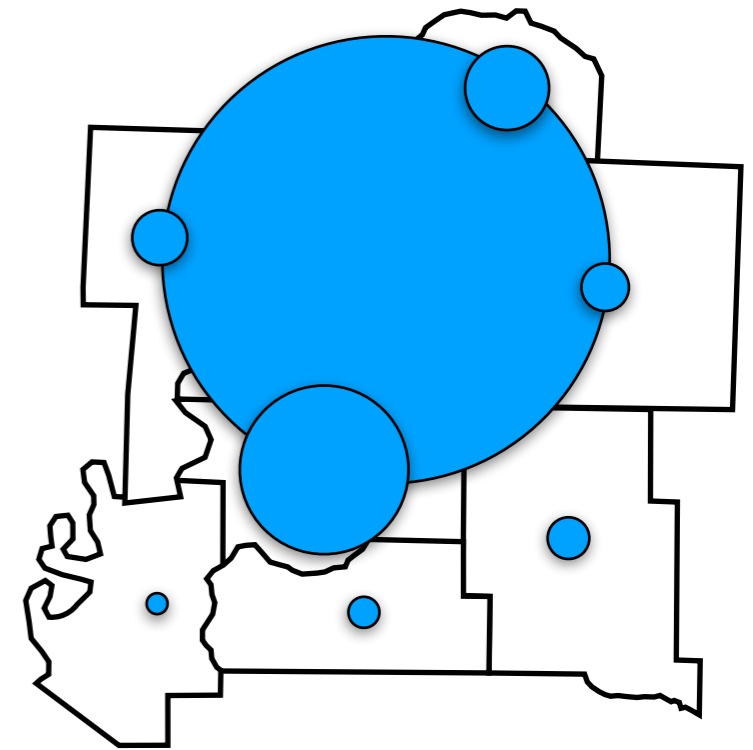
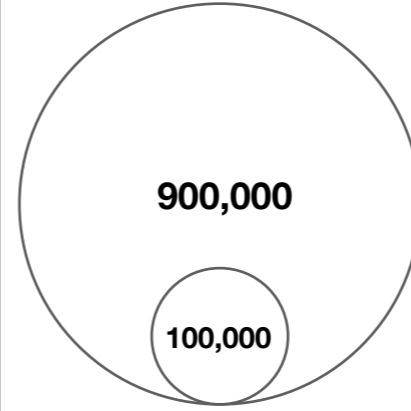


Total Population




GRADUATED SYMBOL

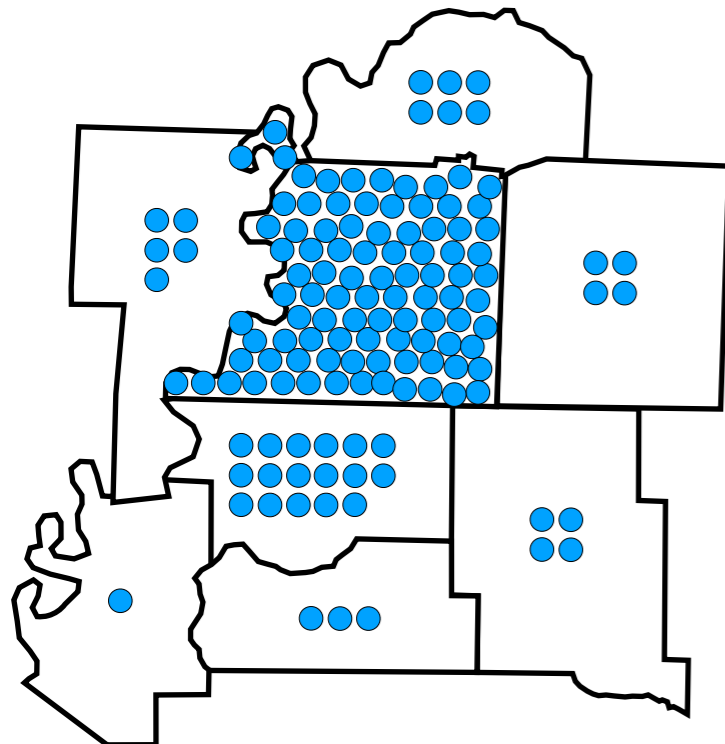
Total Population



Memphis MSA

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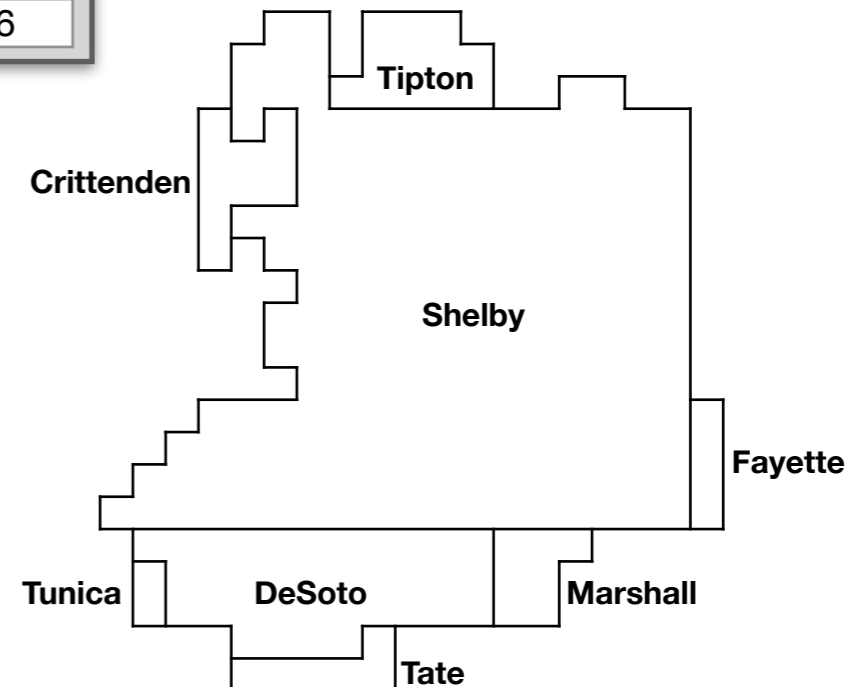
DOT



● 10,000 people

CARTOGRAM

□ 5,000 people





Ranking the Maps

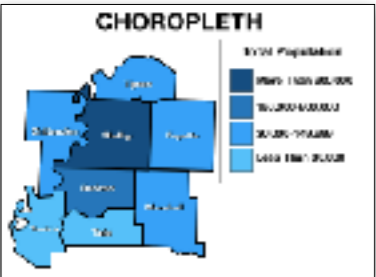
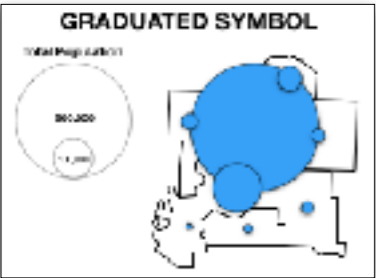
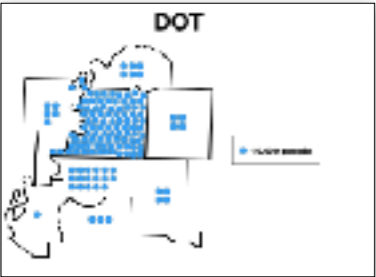
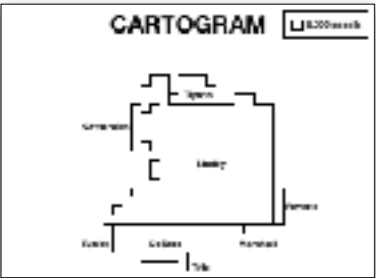
DIRECTIONS: Rank order the four maps with 1 being the most effective map to show the population for each county and 4 being the least effective map to show population for each county. Give an explanation for each of your rankings.

Map	Ranking	Explanation for Ranking
<p><i>Choropleth</i></p> 		
<p><i>Graduated Circle</i></p> 		
<p><i>Dot</i></p> 		
<p><i>Cartogram</i></p> 		



**Possible Ranking
and
Brief Explanations**

Rank order the four maps with 1 being the most effective map to show the population for each county and 4 being the least effective map to show population for each county. Give an explanation for each of your rankings.

Map	Ranking	Explanation for Ranking
<p>Choropleth</p> 	<p>2</p>	<p>Categories show range of population for each county.</p>
<p>Graduated Circle</p> 	<p>4</p>	<p>Easy to see where most people live, but overlapping circles hide geographic areas.</p>
<p>Dot</p> 	<p>1</p>	<p>Easy to see where most people live, but need to count dots to see how many people live in each county.</p>
<p>Cartogram</p> 	<p>3</p>	<p>Majority of countries are very small to where it is impossible to recognize them by their shape.</p>

The background is a map of North America, including parts of Canada, the United States, and Mexico. The map is overlaid with a grid of latitude and longitude lines. The color scheme is a gradient from light blue in the north to light orange in the south, representing the number of frost-free days. The text is centered over the map.

Isoline Map for Canada's Frost Free Days

A faint world map background with a grid overlay. The map is centered on the Atlantic Ocean, showing the Americas on the left and Europe and Africa on the right. The text "Student Handout" is overlaid in the center.

Student Handout

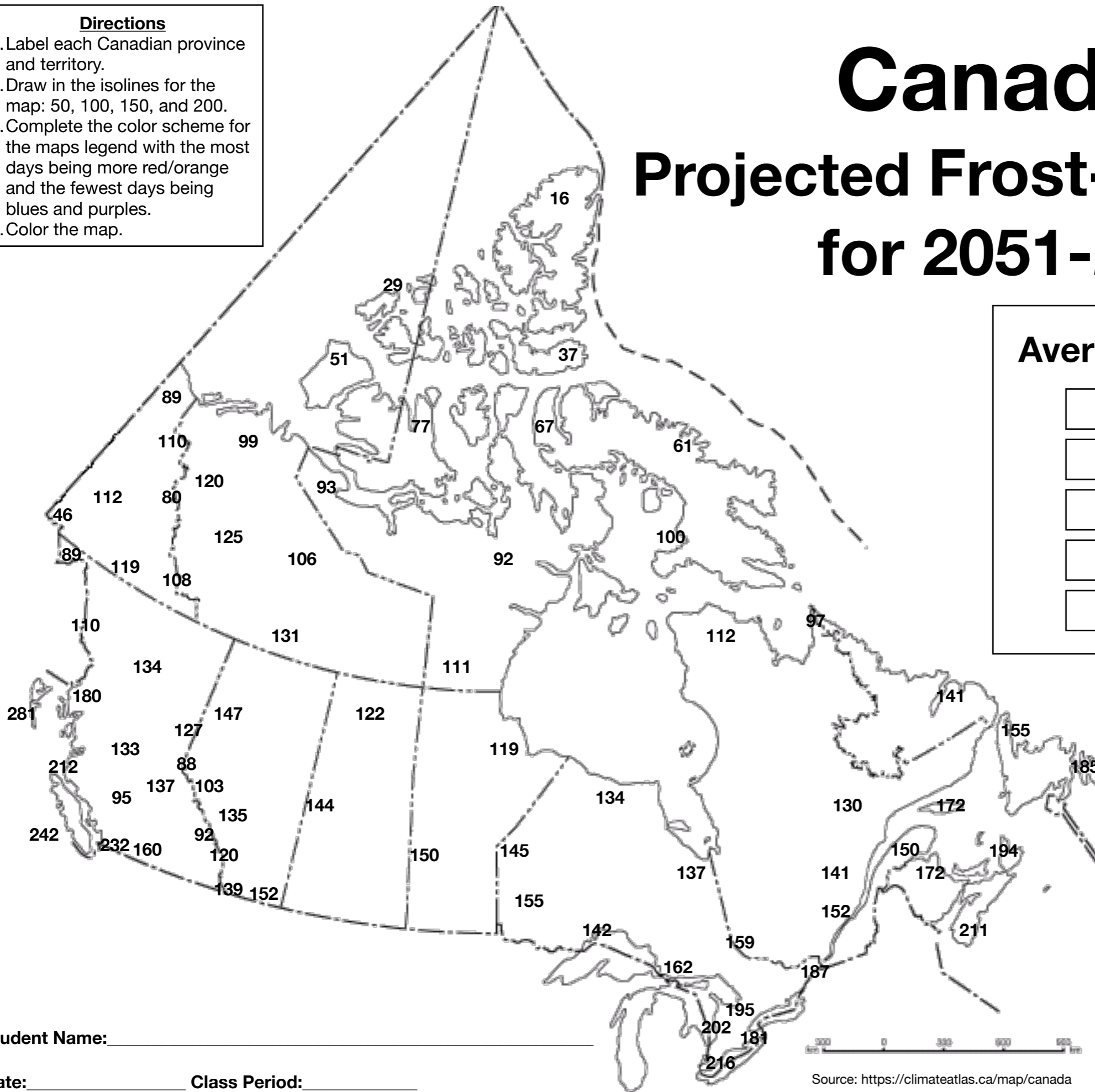
Directions

1. Label each Canadian province and territory.
2. Draw in the isolines for the map: 50, 100, 150, and 200.
3. Complete the color scheme for the maps legend with the most days being more red/orange and the fewest days being blues and purples.
4. Color the map.

Canada's Projected Frost-Free Days for 2051-2080

Average Days Frost Free

- 200+
- 150-199
- 100-149
- 50-99
- Fewer than 50



Explain how this map will be different from the current map.

Student Name: _____

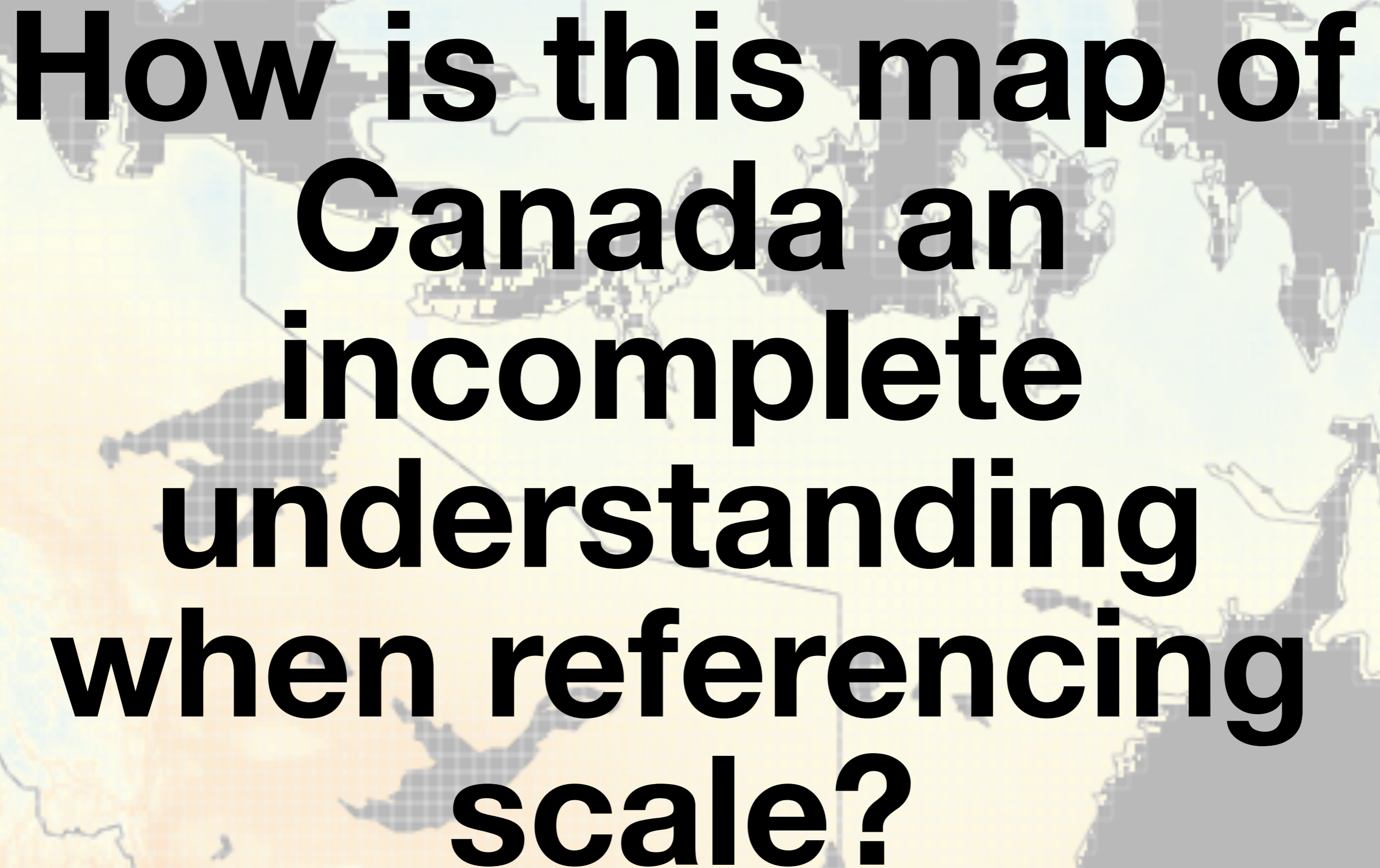
Date: _____ Class Period: _____



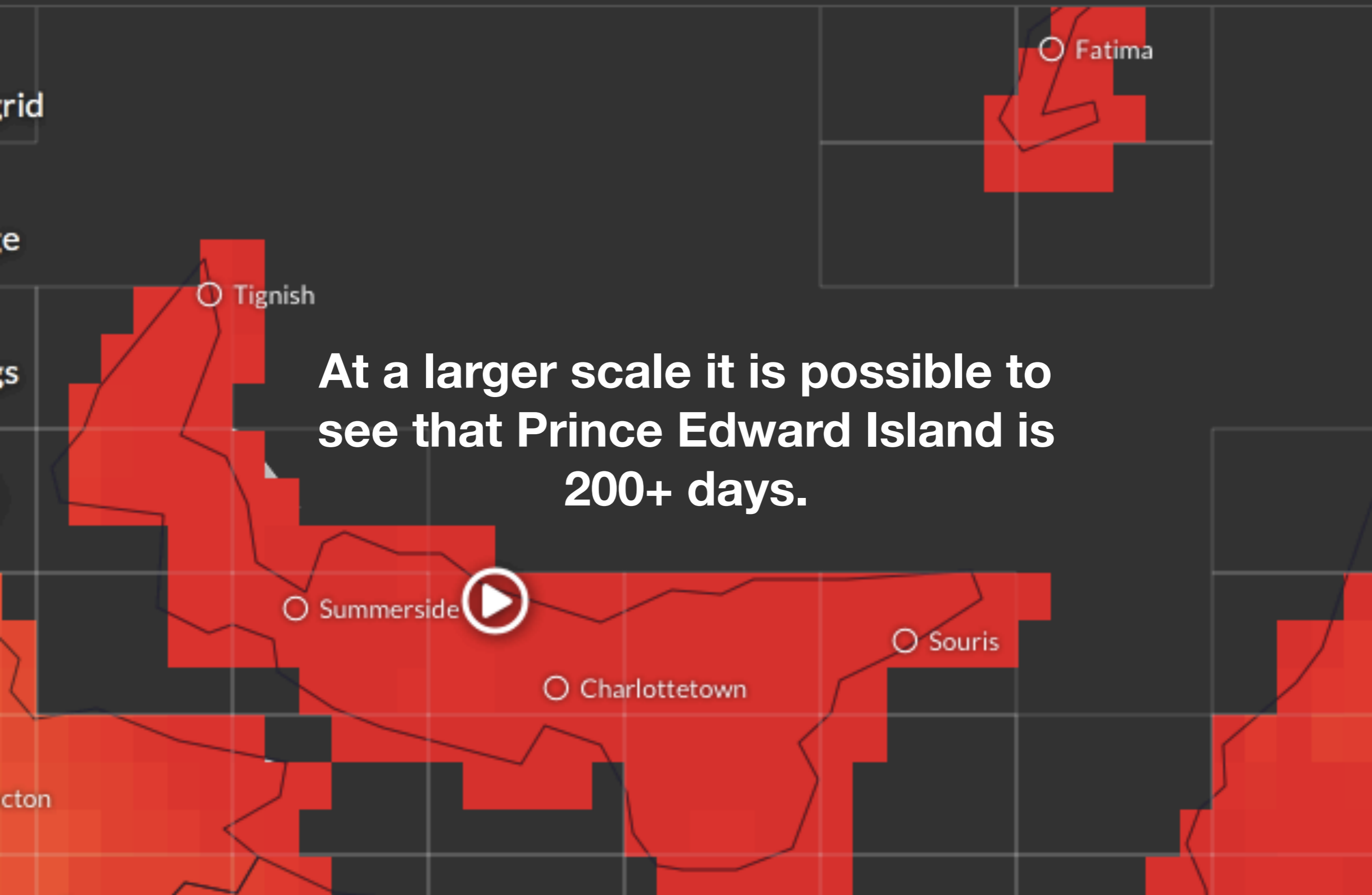
Source: <https://climateatlas.ca/map/canada>



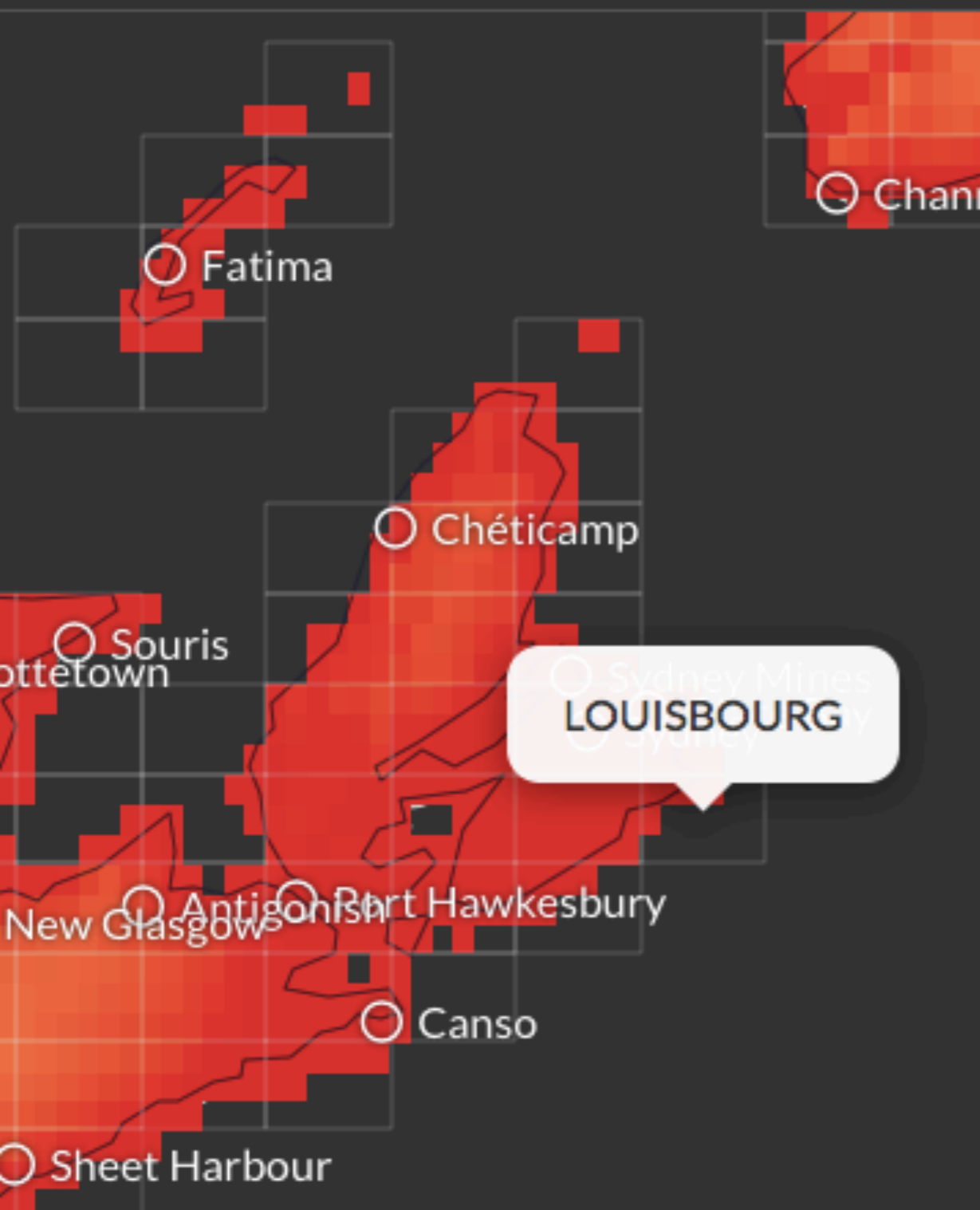
Completed Uncolored Map



**How is this map of
Canada an
incomplete
understanding
when referencing
scale?**



At a larger scale it is possible to see that Prince Edward Island is 200+ days.



Region

LOUISBOURG

Projected change in mean
Length of the Frost-Free Season

Low Carbon → Less climate change

1976-2005

2051-2080

178.3 → 215.0

Up ▲

+36.7

Costal areas on the east coast of Nova Scotia are over 200+ days.

CLIMATE CHANGE ⓘ

TIME PERIOD ⓘ

MORE

RECENT PAST

2021-2050

2051-2080

A colorful, pixelated map of the United States serves as the background. The map uses a variety of colors: blue for water bodies, green and yellow for land, and brown for mountainous regions. The text 'Writing Assignment' is centered over the map in a large, bold, black font.

Writing Assignment

Growing season length

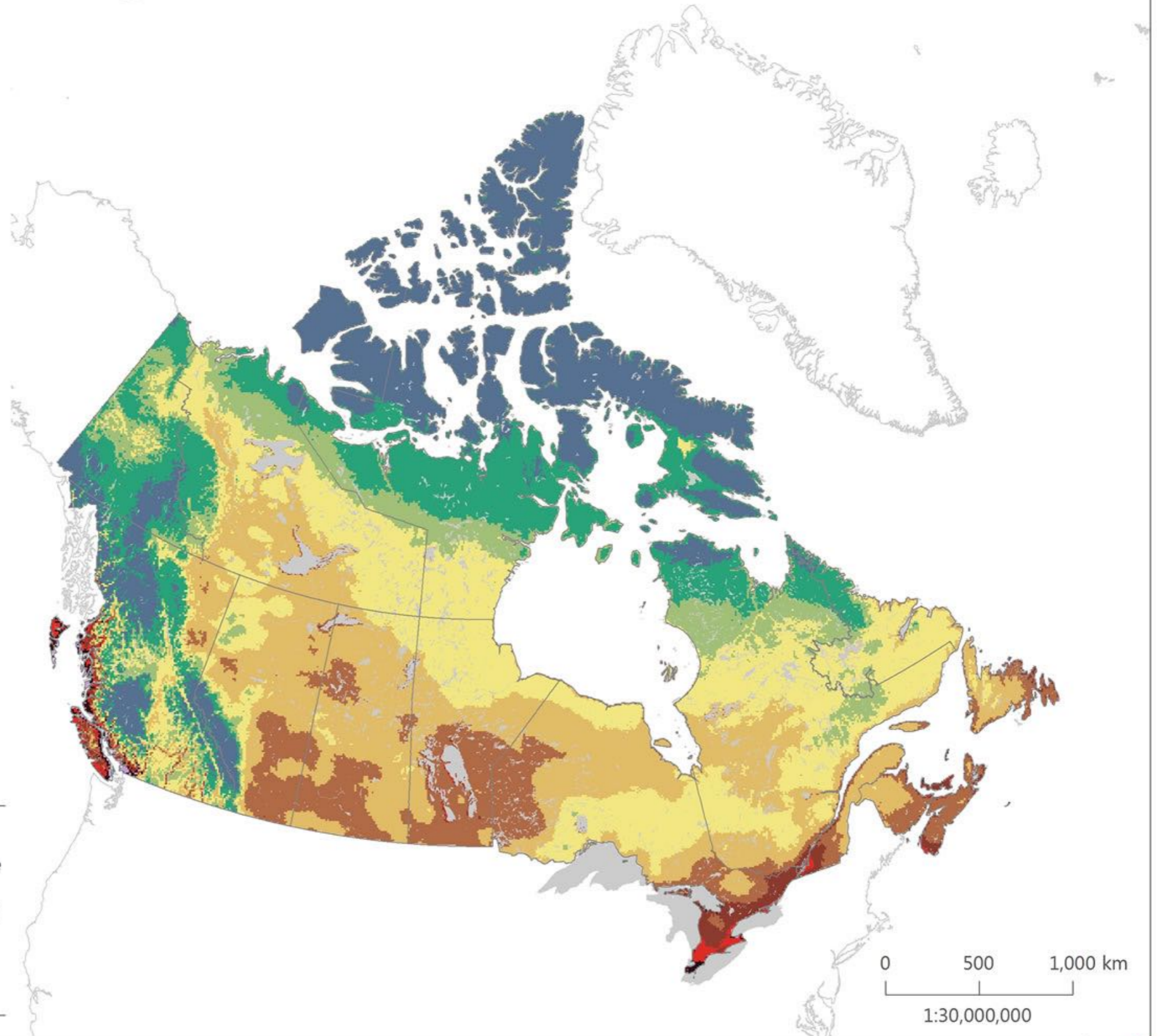
1951–1980

Growing Season

Days



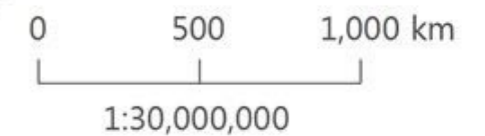
— Provincial Boundaries



Source
NRCan - CFS
www.cfs.nrcan.gc.ca/forestchange

Projection
Canada Lambert Conformal Conic
Standard Parallels 49N 77N
Central Meridian: -95

Date
January 14, 2016

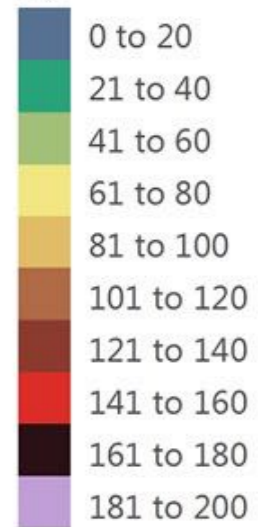


Growing season length

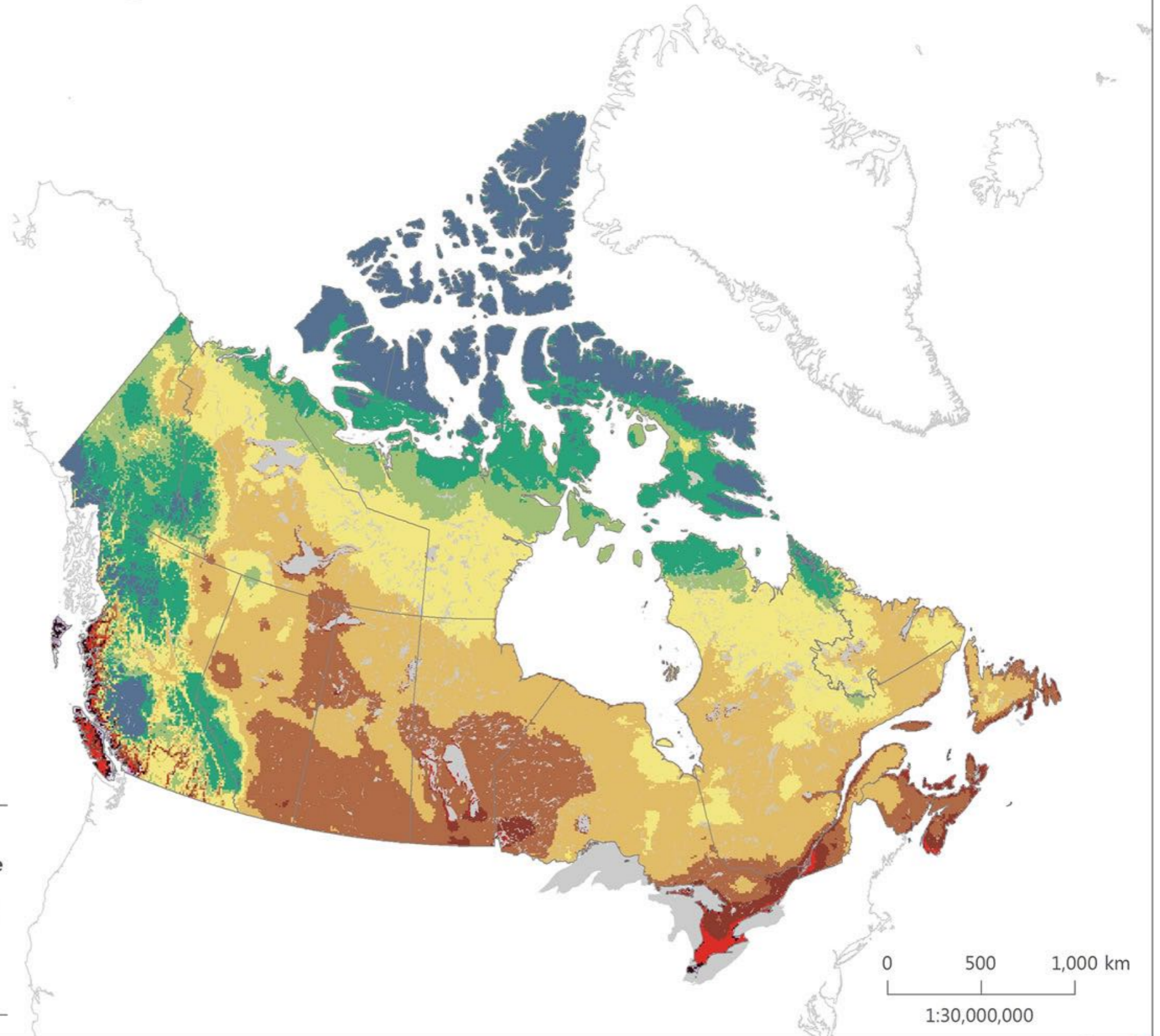
1981–2010

Growing Season

Days



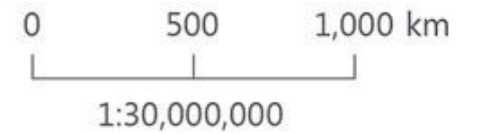
— Provincial Boundaries

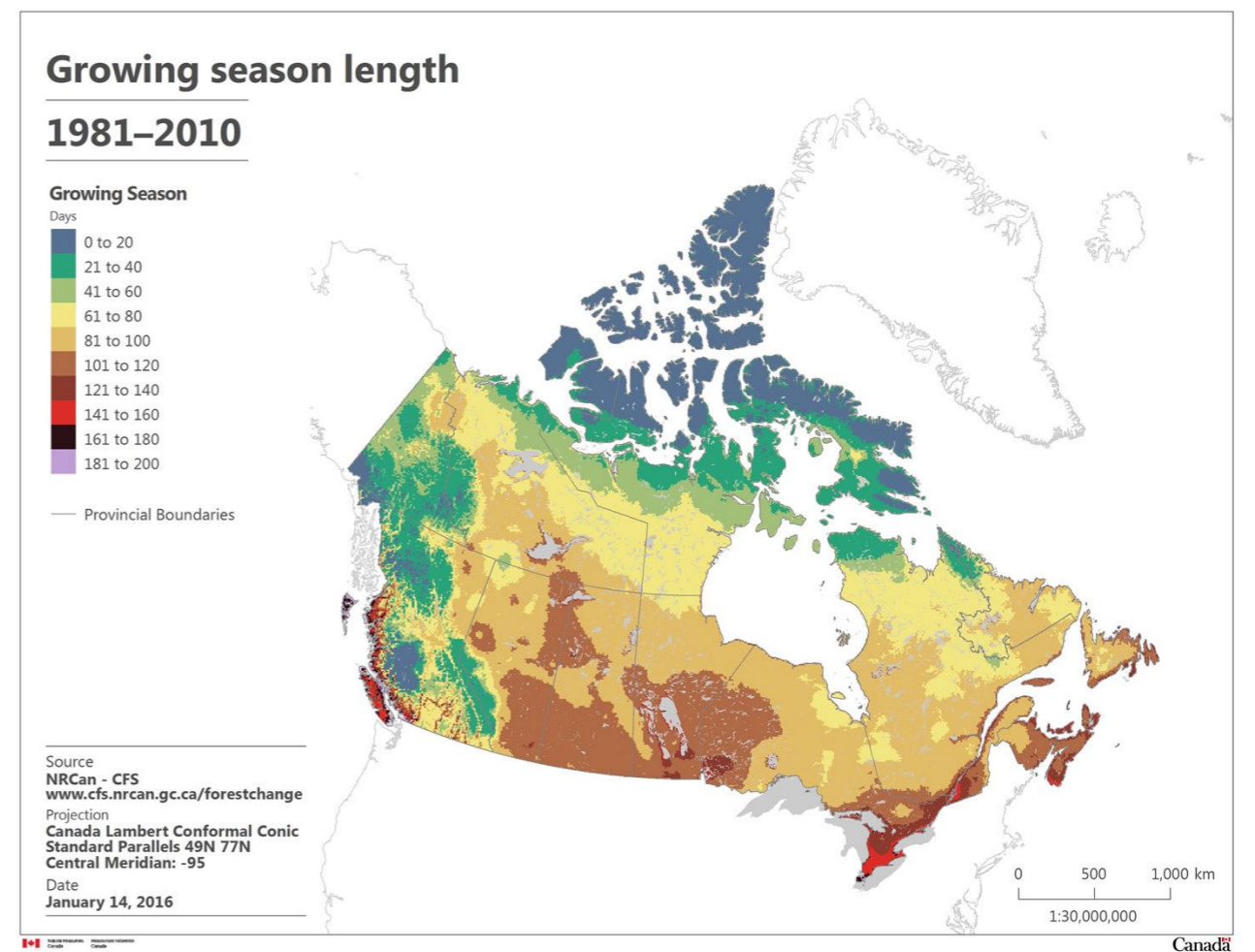
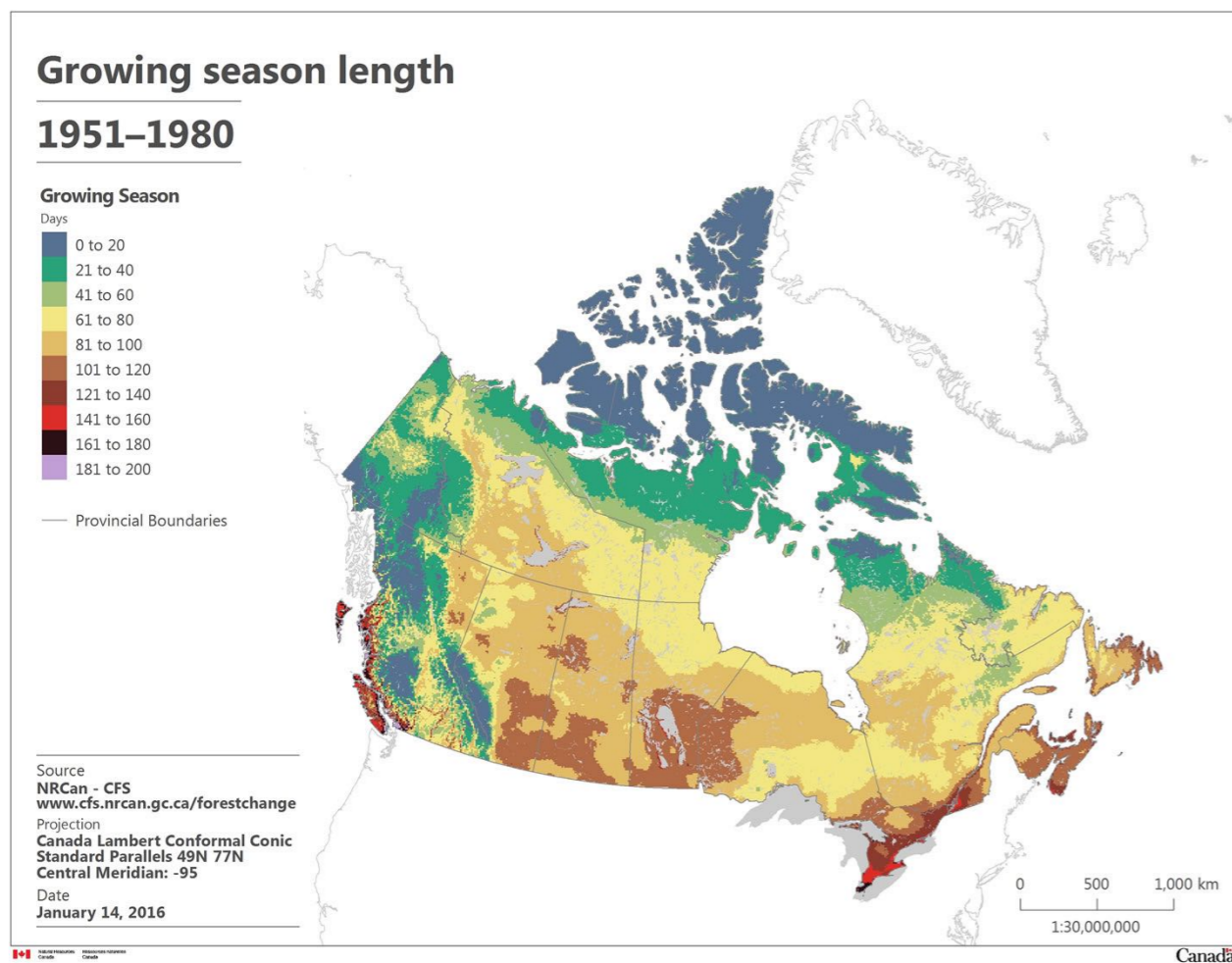


Source
NRCan - CFS
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Projection
Canada Lambert Conformal Conic
Standard Parallels 49N 77N
Central Meridian: -95

Date
January 14, 2016





(A) Explain how the growing season has changed in Canada from 1950 to 2010.

(B) Explain one POSITIVE impact of this change.

(C) Explain one NEGATIVE impact of this change.

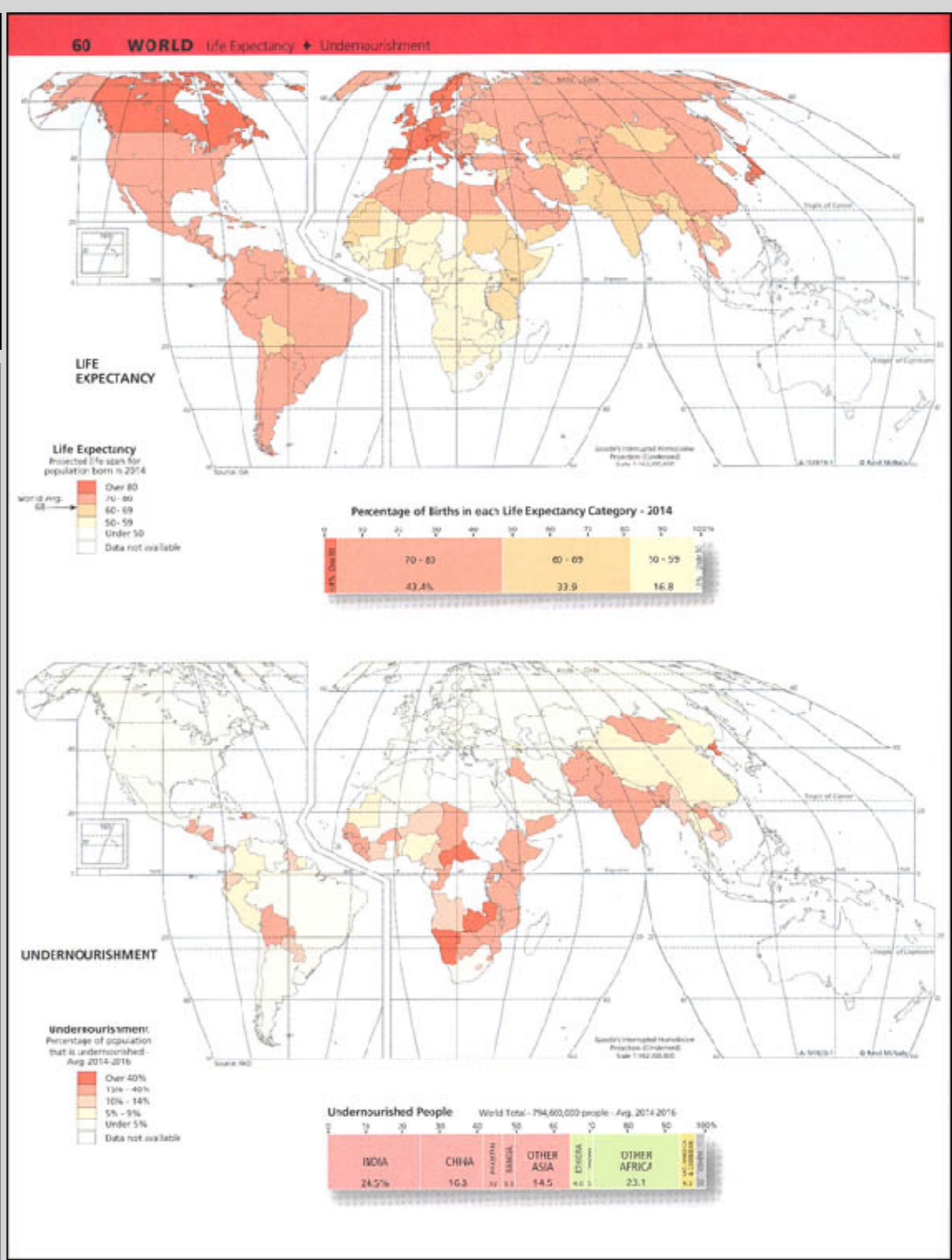
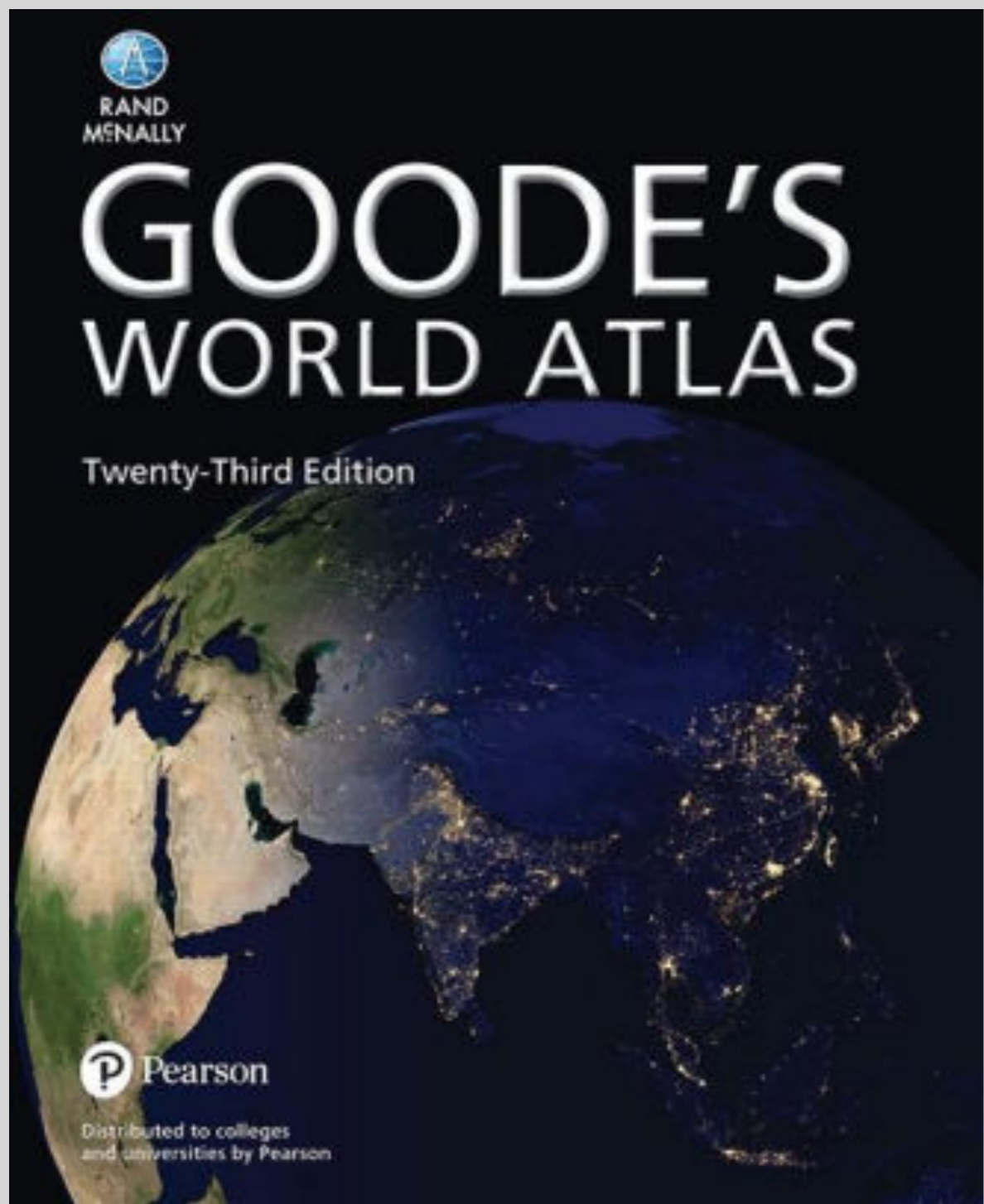


Goode's World Atlas Student Map Activity

Goode's World Atlas Student Map Activity

What is the thematic type of map?

What type of map is the Life Expectancy map?



Types of Maps	Title and Page Number for each Map	Explain TWO geographic patterns found on each of the maps.	
Cartogram	Title Page Number:	1	2
	Title Page Number:	1	2
Choropleth	Title Page Number:	1	2
	Title Page Number:	1	2
	Title Page Number:	1	2
Dot	Title Page Number:	1	2
	Title Page Number:	1	2
Graduated Circle	Title Page Number:	1	2
	Title Page Number:	1	2
Reference Maps (not any of the above types)	Title Page Number:	1	2
	Title Page Number:	1	2