LECTURE 2: REGIONS OF CANADA - Sept. 15th, 2021

SENSE OF PLACE

A sense of place involves a psychological bond that people have for the area where they were born and raised or where they currently live.

- It arises from the physical landscape of the area, economic activities, and institutional bodies.
- **The place** is the most powerful determinant of a person's life chances, experiences, and opportunities.
- A strong sense of place leads to regional consciousness (the willingness to advocate for regional interests).
- Each Canadian region has both a sense of place and regional pride and a commitment to federalism.
- Collective experiences among people in a region have led to shared aspirations, goals, and values.
- A sense of place within a specific city protects against the current phenomena of economic and cultural globalization.
- Distinctive cityscapes provide an identity that evokes a psychological bond between people and the location.

THE 6 REGIONS OF CANADA

Figure 1.2

- These areas have been defined as regions because:
    1. They are manageable sections in a balanced size.
    2. They are identifiable by a set of physical features, natural resources, and economic strengths.
    3. The breakdown is on a provincial basis making it easy to study statistical census data.
    4. They are linked to regional identity and sometimes associated with regional disputes.

CHARACTERISTICS OF THE 6 REGIONS

Table 1.1

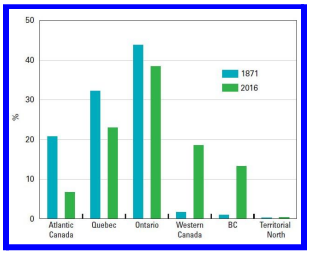
Geographic Region	Area* (000 km2)	Area (% of Canada)	Population	Population (% of Canadian total)	GDP (%)
Ontario	1,076.4	10.8	13,850,000	38.5	37.8
Quebec	1,542.1	15.4	8,284,656	23.0	18.8
Western Canada	1,960.7	19.6	6,654,345	18.5	24.7
British Columbia	944.7	9.5	4,703,939	13.1	12.7
Atlantic Canada	539.1	5.4	2,374,154	6.6	5.6
Territorial North	3,909.8	39.3	111,867	0.3	0.4
Canada	9,972.8	100.0	35,985,751	100.0	100.0

*Includes freshwater bodies such as the Canadian portion of the Great Lakes.

- Roughly 61-62% of the Canadian population is made up of the residents of Quebec and Ontario.

PROPORTION OF REGIONAL POPULATION

Figure 1.3



THE CORE/PERIPHERY THEORY

This is a model that describes the interaction among regions that is evident in Canada.

- It is also referred to as the heartland/hinterland theory.
- It is based on the idea that capitalist economies result in regionally uneven development.
- This theory states that both parts are dependent on each other, but the core (the industrial heartland) dominates the economic relationship with the periphery (the resource hinterland).
- In Canada, the core is considered to be Southern Ontario and Southern Quebec. All other areas in the country make up the periphery.
- B.C. and the Prairie Provinces are considered to be **upward transitional peripheries**. The Atlantic Provinces are a downward transitional periphery. The Territorial North is a resource frontier periphery.
- In general, as one travels from a core toward a periphery, there are typically noticeable trends:

    - Both total population and population density decreases
    - Median income decreases
    - Unemployment rate increases
- There are two contrasting ways that cores and peripheries interact:
    1. Regional Exploitation
        - The economically wealthy core exploits the natural wealth of the periphery, leaving it impoverished.
    2. Modernization
        - The core invests in the periphery and helps it to develop economically.

CHARACTERISTICS OF CORES

- Receives raw materials from the periphery
- Manufacturing is a common industry
- Geographically small
- Diverse economy
- Urban and densely populated
- Home to corporate headquarters

CHARACTERISTICS OF PERIPHERIES

- Purchases manufactured goods from the core
- Geographically large
- Resource-based economy
- Rural and sparsely populated

SUB-CORES IN CANADA

A sub-core has similar characteristics to a core but at a much smaller scale.

- There is evidence of sub-cores existing within Canada's peripheries:
    - Vancouver/Victoria
    - Edmonton/Calgary
    - Halifax

THE STAPLES THESIS

- This is a proposed explanation of how and why Canada's economy has grown and changed since the confederation.
- What is a 'staple' product?
    - A natural resource that can be exploited relatively quickly and cheaply for profit.
- The regional economic history of Canada was linked to the discovery, utilization, and export of staple resources in Canada's peripheral regions.
- Eventually, economic diversification occurred, thus making peripheral regions less reliant on natural resources.
- Harold Innis proposed the thesis in the early 1930s.
- The Atlantic Provinces region was the first region to be settled, and in its early history, it was a periphery for England.
- Throughout Canada's history, there has been east to throughout Canada's historyTherewest progression of the most critical economic staples.

PROGRESSION OF CANADA'S STAPLES

1. Lumber (progressing from the east to the west). This was the earliest staple product.
2. Fur (progressing from the east to the west).
3. Fish (east)
4. Agriculture (progressing from Ontario to the west)
5. Oil (west)

ECONOMIC LINKAGES FOR GROWTH

- Three types of economic linkages are necessary for economic growth and job creation:
    1. **Backward linkage:** Supplies for the staple industry (e.g. saws and tools for the lumber industry).
    2. **Forward linkage:** Local processing before export (e.g. squaring lumber before shipment).
    3. **Final demand linkage:** Servicing the needs of workers and families (general stores, schools, etc).

THE NATIONAL POLICY

The National Policy (1879) contributed to the development of the core in Canada.

- This policy created a nationwide market for Canadian-made goods.
- How?
    - Through the implementation of tariffs and restriction of trade on foreign-made goods.
- The policy had several implications:
    - It increased the price of goods from the U.S. instead of having which would have been cheaper to purchase.
    - It favoured economic and manufacturing growth in Southern Ontario and Southern Quebec since this is where transportation costs were minimized.
    - It had a negative impact in Western Canada because they were purchasing expensive Canadian-made goods from the core but were exporting wheat and grain to the U.S. at low prices since the U.S. had its own tariffs.

THE CANADA - U.S. FREE TRADE AGREEMENT

The agreement was signed in 1988.

- It helped peripheries by providing cheaper products to purchase and also providing a larger market for their staple products.
- Many large companies began to integrate by operating factories in one location only (as opposed to having one factory in each country).
- It was superseded by NAFTA in 1994 when Mexico joined and was then replaced by CUSMA in 2020.

THE THICKENING CANADA - U.S. BORDER

This has been an ongoing concern since Sep. 11, 2001.

- Auto manufacturing assembly plants in Southern Ontario need quick and easy access to the U.S. market.
- Before 2001, Canadian citizens were not required to show passports when entering the U.S. (or vice versa).
- The change in identification requirements at the border led to a decline in the tourism industry in border cities (Niagara Falls, Windsor, Sarnia)
- The U.S. federal government favours a North America security perimeter that includes a common position on immigration, military, and trade policies.
- A continental perimeter is thought to potentially reduce the threat of terrorist attacks.

CANADA IN THE GLOBAL WORLD

- There is a core/periphery on a global scale where North America and Western Europe make up the global core.
- A sub-core is evident in Asia (China, South Korea, Japan), where there is rapid economic growth.
- Diversification of trade is a top priority for Canada in order to take advantage of the growth in Asia.
- Despite this, the U.S. will likely always remain Canada's principal market.

LECTURE 2: PHYSICAL GEOGRAPHIES OF CANADA - Sept. 15th, 2021

PHYSICAL GEOGRAPHY

Definition: The study of Earth's natural features.

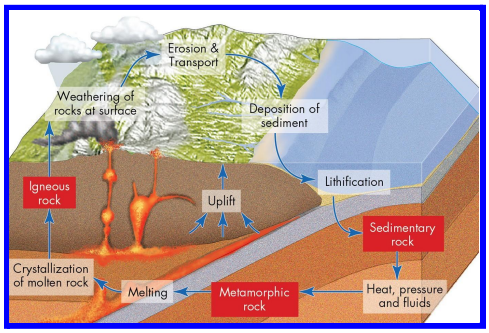
- Canada's physical geography will be studied in this course through 5 different categories:
  - Geologic elements
  - Physiography
  - Climate
  - Vegetation
  - soil
- Canada's physical geography provides the main explanation for its uneven distribution of population.
- Physical geography provides a basis for the location of the core:
  - An area with a more favourable physical base is more likely to develop into a core with a large population.
- The variations in physical geography provide the basis for biodiversity across Canada.

TYPES OF ROCKS

This is a model that describes the interaction among regions that is evident in Canada.

- There are 3 major rock types:
  - Igneous rock:
    - Molten rock (magma or lava) that emerged onto Earth's surface and cooled. It is hard, resists erosion, and often contains minerals.
  - Sedimentary rock: layered rock composed of materials that have been affected by wind and weathering.
    - Sedimentary rocks are usually flat and horizontal.
    - Sediments are cemented together by pressure and do not generally contain much mineral content.
    - Fossil fuels are sometimes found in these rock types.
- *Weathering* is the <u>breakdown</u> of the rock, and *erosion* is the <u>movement</u> of the broken materials.
  - Metamorphic rock: Pre-existing rocks that change form by the process of extreme heat and pressure. They sometimes contain minerals.
    - Limestone is a sedimentary rock; the metamorphic rock of limestone is marble.

THE ROCK CYCLE



GEOLOGIC ELEMENTS OF CANADA

This is a model that describes the interaction among regions that is evident in Canada

- There are 3 major geologic elements, and they each represent a different rock type:
  - Canadian Shield (igneous rock)
  - Platform (sedimentary rock)
  - Folded Mountains (metamorphic rock)
- Canadian Shield: (Northern Ontario)
  - It is composed of highly resistant igneous rock.
  - The rock is over 1 billion years old, making it the oldest rock in North America.
  - It extends from the Northwest Territories through the Northern Prairie provinces, Northern Ontario, Northern Quebec, and Labrador.
- Platform:
  - These rocks underlay the Interior Plains of the continent (from the Northwest Territories to Texas).
  - They are mainly sedimentary and contain large areas of oil and natural gas.
- Folded Mountains:
  - Folding is caused by the movement of tectonic plates.
  - It causes sedimentary rock to change into metamorphic rock.

MOUNTAINS IN CANADA

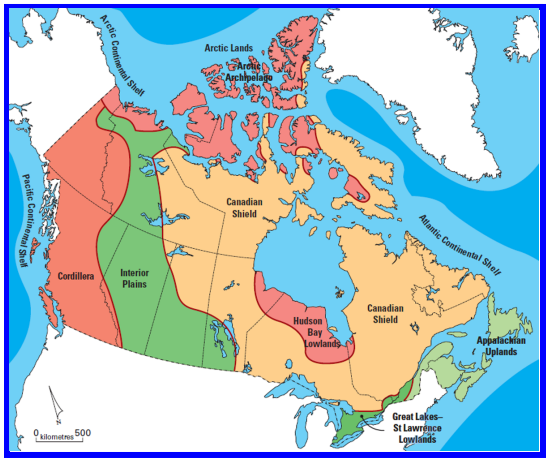
There are three major areas of folded mountains in Canada

- Appalachian Mountains:
  - Found in Quebec and Atlantic Canada, they are relatively old, relatively low, well eroded, and covered with vegetation
- Innuitian Mountains:
  - Found in Northern Nunavut, these are jagged but somewhat eroded, mostly inaccessible mountains.
- Cordillera:
  - The major ranges include the Rocky Mountains and the Coast Mountains. These are the youngest mountains in Canada, the highest, most jagged, and have permanently snow-capped tops.

PHYSIOGRAPHIC REGIONS

A physiographic region is a large area of Earth's crust that has common characteristics:

- It extends over a large area with similar topographic features
- Its landforms have been shaped by a common set of processes
- Canada has 7 physiographic regions:
  - Canadian Shield
  - Cordillera
  - Interior Plains
  - Hudson Bay Lowlands
  - Arctic Archipelago
  - Appalachian Uplands
  - Great Lakes - St. Lawrence Lowlands
- Figure 2.1



CANADIAN SHIELD

- It extends over half of the country's landmass.
- The rocky surface consists mainly of rugged land.
- During the last time of ice advance, the surface was subjected to glacial erosion and deposition.
- It contains a wealth of valuable metallic mineral resources. (Canadian Shield - Igneous Rock)

CORDILLERA

- A complex region of mountains, plateaus, and valleys.
- It has the highest variation in relief of all the physiographic regions.
- North-south alignment extends from Yukon to Southern British Columbia.
- The Rocky Mountains are the best known and tallest of the many mountain ranges.

INTERIOR PLAINS

- This region was once covered by a large shallow inland sea where sediments eventually formed sedimentary rock.
- The deep, wide river valleys are a unique feature of this region and are evidence of glacial spillways.

HUDSON BAY LOWLANDS

- This region has many bogs and contains musky (poorly drained soil).
- It has the least variation of relief of all physiographic regions.
- Permafrost is widespread, and there are only a few tiny settlements.

ARCTIC ARCHIPELAGO

- A complex area of coastal plains, plateaus, and mountains located north of the Arctic Circle
- The northern part of this region is permanently covered in snow and ice, while the southern part contains tundra.
- The region is underlain by continuous permafrost making tree growth impossible.

APPALACHIAN UPLANDS

- This is an area of rounded uplands and narrow river valleys.
- The indented coastline of the region contains many small bays and harbours.

GREAT LAKES - ST.LAWRENCE LOWLANDS

- This is the smallest physiographic region.
- The landscape is generally flat, with rolling hills reflecting the underlying sedimentary rock.
- The soil is very fertile and well suited for agriculture and a variety of crops.

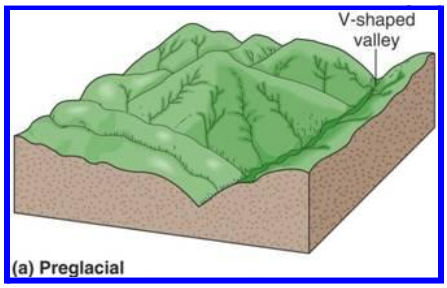
GLACIATION

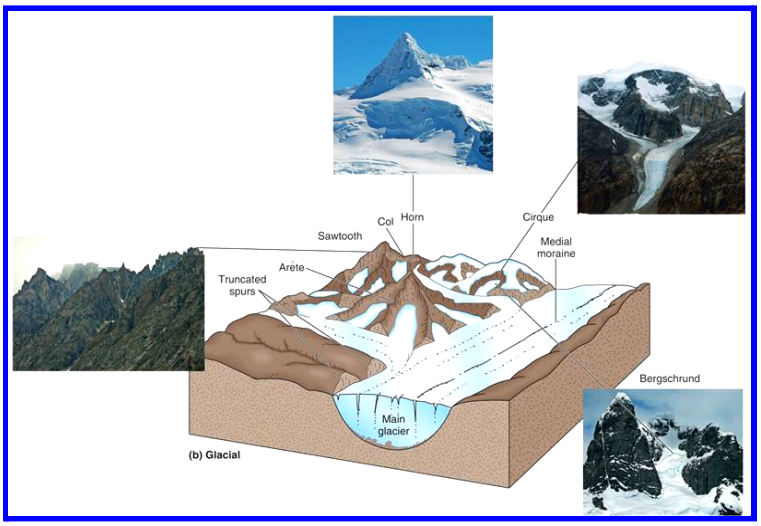
- Glaciation was a major shaping force in Canada.
- All of Canada (except for Northern Yukon) was covered by ice sheets just 18,000 years ago.
- The advance and retreat of ice has greatly altered the appearance of the landscape.
- Canada has over 2 million lakes (60% of the world's total). Most of these lakes formed from the melting of a continental glacier.

TYPES OF GLACIERS

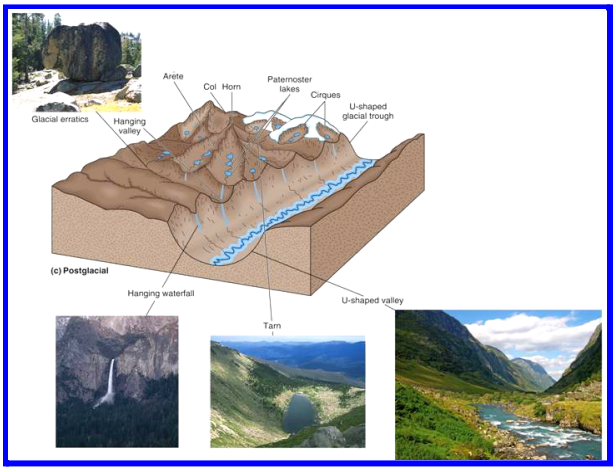
- Continental Glaciers: Thick sheets of ice that cover entire continents.
    - Today, the only continental glaciers on Earth are on Greenland and Antarctica, where ice is up to 3 km thick.
- Alpine Glaciers: Glaciers that are found in mountainous regions.
    - A glacier can develop when slopes accumulate with snow that compacts into ice over long periods of time.

ALPINE GLACIAL LANDSCAPES



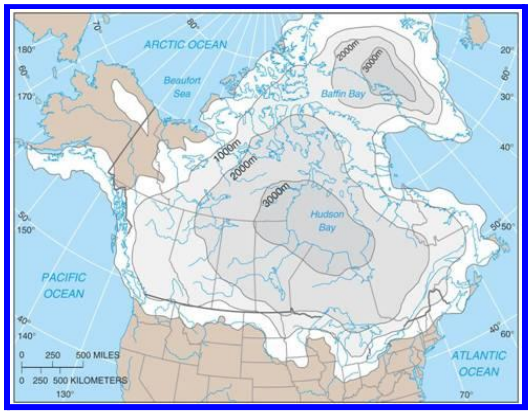


ALPINE POSTGLACIAL LANDSCAPES

- 

GLACIAL RETREAT

- 18,000 years ago



EVOLUTION OF THE GREAT LAKES

- The Great Lakes are remnants of glacial lakes that bordered the continental ice sheet.
- The bottom of the lakes were formed by glacial scouring and then filled with water from the melting ice.

FORMER LAKE AGASSIZ

- Formed by melting ice, this was once the largest lake in North America.
- It was primarily located in what is now Manitoba.
- The former lakebed is now flat and fertile farmland as part of the Red River Valley.

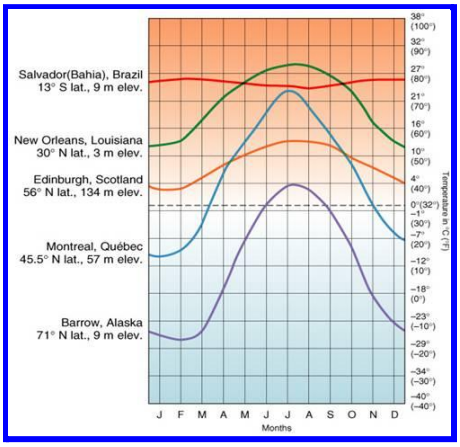
COMPONENTS OF CLIMATE

- Weather refers to the current state of the atmosphere.
- Climate describes average weather conditions for a specific place over a long period of time.
- There are two major components of climate:
    - Temperature
    - Precipitation
- These components vary greatly across the country as a result of 7 major climatic controls.

CLIMATIC CONTROLS (listed in order of importance)

- **Latitude:**
    - At lower latitudes, more solar radiation impacts the surface.
- **Altitude:**
    - Higher elevations experience cooler temperatures.
- **Proximity to Bodies of Water:**
    - Water keeps nearby land areas warmer in Autumn and cooler in Spring.
- **Ocean Currents:**
    - Currents transport warm or cold water depending on the source of the current.
- **Variations in Topography:**
    - Cold air is dense and tends to sink into valleys.
- **Prevailing Wind:**
    - Some wind systems cause rapid temperature changes (e.g., a chinook wind).
    - Calgary, Alberta, is most impacted by the Chinook Winds
- **Locations of Pressure Systems:**
    - Relates to the position of warm and cold fronts.

EFFECTS OF LATITUDE

- 

EFFECTS OF ALTITUDE

- Temperature decreases with increasing altitude.
- There are fewer air molecules at higher elevations. This allows heat to escape into space more easily.

CLIMATIC ZONES

- Canada has 7 climatic zones:
    - Pacific
    - Cordillera
    - Prairies
    - Great Lakes - St.Lawrence
    - Atlantic
    - Subarctic
    - Arctic
- Most of Canada's landmass is located within the Subarctic and Arctic climatic zones.

CLIMATIC ZONES IN CANADA

This is a model that describes the interaction among regions that is evident in Canada.

- Figure 2.5

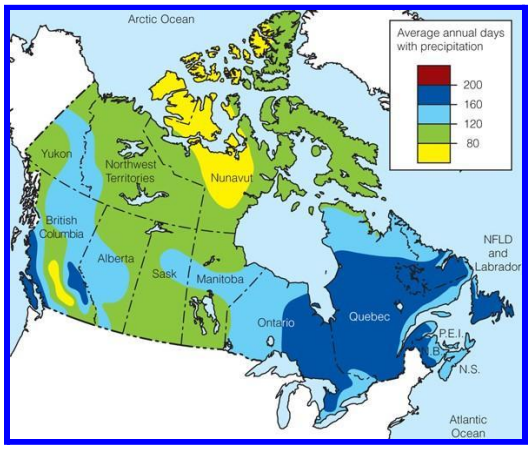
TEMPERATURE

- Temperatures in Canada are primarily controlled by latitude and proximity to bodies of water.
- Moderation is evident along ocean coasts (especially the Pacific coast due to prevailing westerly winds) and to a lesser extent around the Great Lakes.

TEMPERATURE ACROSS CANADA

- Figure 2.6 & Figure 2.7

PHYSICAL EFFECTS OF TEMPERATURE



- Temperature dictates the type of predominant vegetation in an area.
- Temperature dictates the length of the growing season in an area.

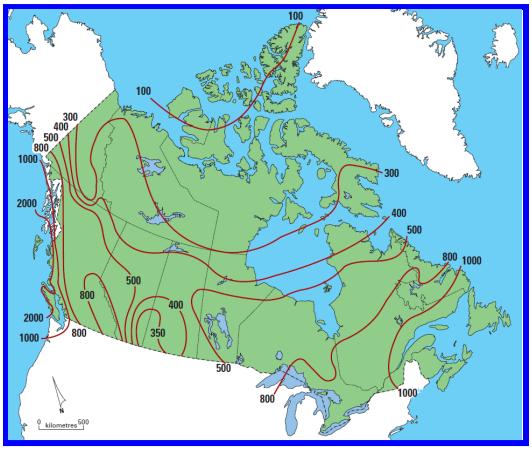
SATELLITE IMAGERY

- Photo 2.11

PRECIPITATION

- The Prairie Provinces and the Territorial North are relatively dry (especially in Winter).
- The west coast is very wet due to orographic precipitation.
- **Orographic:** precipitation caused by air rising up a mountain
- **Convective:** thunderstorms caused by air rising off hot ground
- Convective precipitation occurs in the Prairie Provinces and the Great Lakes - St.Lawrence Lowlands especially during Summer.
- Precipitation is moderate and consistent year-round in the Great Lakes - St.Lawrence Lowlands.
- Lake effect snow is common in parts of Southern Ontario.

PRECIPITATION ACROSS CANADA

- 

- Figure 2.8
- **Desert:** an area that receives less than 250mm of precipitation annually.