

Regional Landscape Studies

- ❑ NORTHLANDS
- ❑ NORTHEAST COAST
- ❑ MEGALOPOLIS
- ❑ CANADA'S CORE
- ❑ AMERICA'S HEARTLAND
- ❑ APPALACHIA and the OZARKS
- ❑ THE SOUTH
- ❑ PLAINS and PRAIRES
- ❑ MOUNTAINS and PLATEAUS
- ❑ DESERT SOUTHWEST
- ❑ NORTH PACIFIC COAST
- ❑ HAWAII

<<<For each region:

1. Know its physical geography.
2. Identify its unique characteristics.
3. Be able to explain the human imprint.
4. Discuss its sequence occupancy and economic development.

1

Regional Landscape Studies

Support Material.

- Read the assigned chapters.
- Supplement this material by looking at any US&C regional geography textbook.
- Consult road maps and regional/historical atlases.

Required Landscape Assignment

✓ Begin it now!

- ✓ As a region is covered in class, find and illustrate features from the list.
- If you start a region-by-region search now, you will have all the features needed well before the due date! (Create a file to store maps, images and information.)

2

Regional Landscapes of the United States and Canada

The Northlands

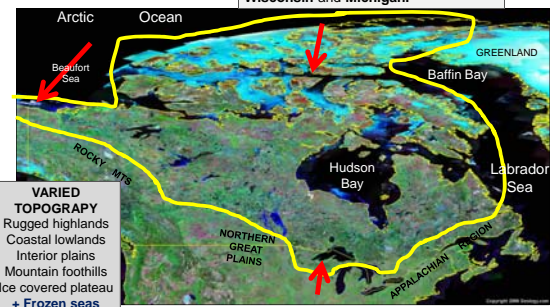
Prof. Anthony Grande

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The Northlands

Largest region in area of North America.

Includes Alaska's North Slope and Canada's Arctic Archipelago as well as northern parts of Minnesota, Wisconsin and Michigan.



4

The Northlands

When you think about this region, what images come into your mind?

Extreme cold/snow
Eskimos
Reindeer/caribou
Tundra/no trees
Coniferous forests
Northern lights
Midnight sun
Polar bear/seals



5

OVERVIEW: Physical

✓ Inhospitable area:

- Extremely cold, long winters
- Poor soils underlain by permafrost
- Stagnant cold water in summer
- Swarms of flying insects in summer

✓ Dense forest (taiga) but tundra is beyond the tree line.

✓ Ice fields/glaciers in the far north.

✓ Difficult area to move around:

- terrain plus great distances.

✓ Global warming has and will continue to change the area.

- Uneven frozen surface in winter.
- Soft, wet surface soil layer in summer.
- Deep crevasses on ice fields
- Sea ice/icebergs are year-round shipping hazards.



OVERVIEW: Human

- ✓ **Extremely low population density** except for southern margins
- ✓ **Center of Inuit culture:** Nunavut Territory.
- ✓ **Peoples' well-being affected by inhospitable environment:** cold + darkness = physical and mental stress.
- ✓ **Limited economic development:** harsh environment, few people and great distance to markets (lack of roads).
- ✓ **Chief economic activities:** extractive and service
- ✓ **Hudson Bay:** gateway for trade into central area.
- ✓ **Great Lakes:** connector of the southern area to the Atlantic Ocean via the **St. Lawrence Seaway** system.
- ✓ **Global warming will create new dynamics** in the area.

7

GEOLOGIC SETTING

- ❖ Centered on **Canadian Shield**.
 - Exposed Pre-Cambrian granitic crustal rocks are North America's oldest rocks.
 - Rich in **metallic minerals**
- **Hudson Bay:** Occupies a depression in the middle of the shield that has been flooded by the sea.
 - Caused by the weight of glaciers from the last ice age
 - Experiencing "glacial rebound": getting more shallow and the marshland around the bay is getting wider.
- **Laurentian Highlands** of Quebec
 - Rugged area with many rivers and lakes
 - Major producer of hydroelectricity
- **Western area:** Underlain by sedimentary rocks; has oil

8

CLIMATE

Coldest area of North America



Humid Continental

climate subgroups:

Dfb: cool summer

Dfc: short, cool summer

Polar climate subgroups:

ET tundra and **EF** icecap

ET is found in the northernmost parts of the region.

EF is found over the glaciers of Ellesmere and Baffin islands.

9

Climate Characteristics

- ❖ **Extremely COLD**
 - Ave. January temperatures range from +27°F along the south fringe to -39°F at the Arctic fringe.
 - Temps as low as -76°F have been recorded.
 - Impedes agricultural, hunting and fishing activities.
- ❖ **Equivalent to a semi-arid region** (little new precipitation received)
- **Long winters with short frost-free period:**
 - **Less than 90 days** (3 mo) over most of region.
 - **Range: 135 days** at the southern margins to **14 days** on the Arctic coast.
- ❖ **ALBEDO**
 - ✓ **Albedo = Reflectivity.**
 - **Influence:** With global warming there is less ice and more water allowing heat to be absorbed faster by darker land and transparent water (**less reflection**) .

10

Natural Vegetation

- ❖ **TAIGA** (boreal forest)
 - **Coniferous tree biome** extending across the southern part of the region.
 - Closely spaced spruces, firs, and pines.
 - Slow-growing and short.
 - Trees decrease in size/number from S-N.
- ❖ **TREE LINE**
 - **A zone of smaller and sparser trees.**
 - Transition between taiga and tundra.
- ❖ **TUNDRA**
 - Northernmost land areas where conditions are **too harsh for tree growth**.
 - Lichens, grasses, mosses, shrubs thrive.



11

Chief Northland Biomes



Tundra = grasses

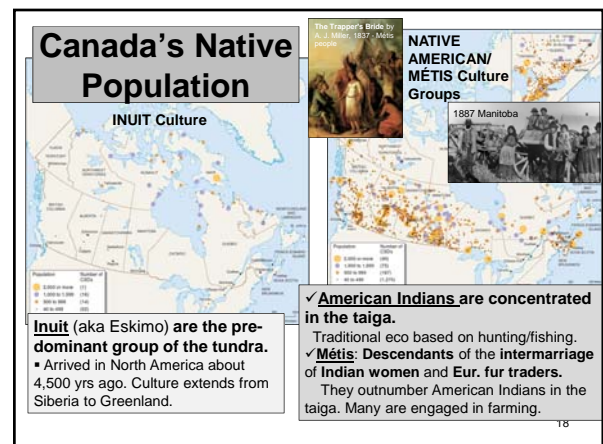
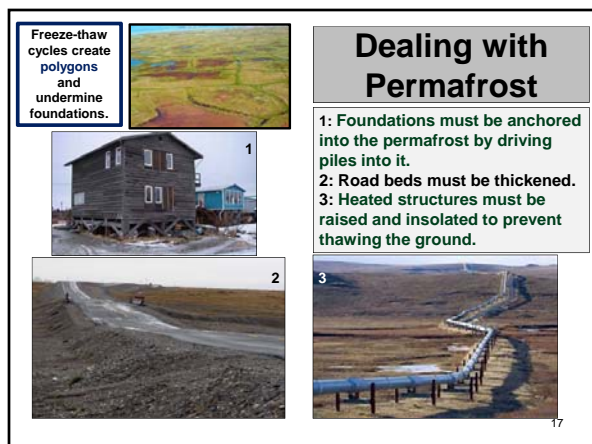
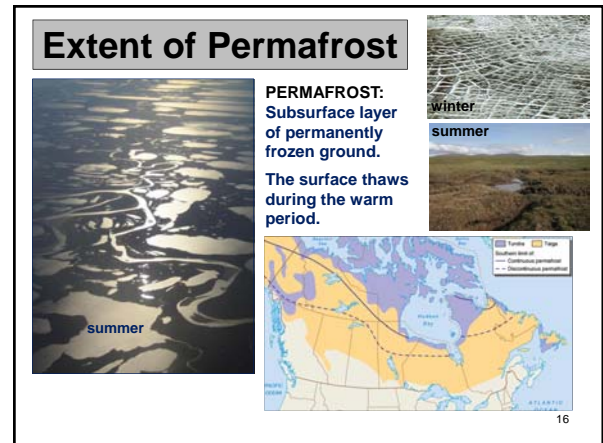
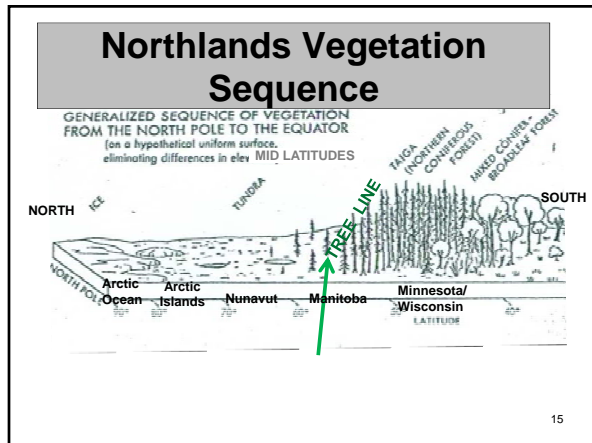
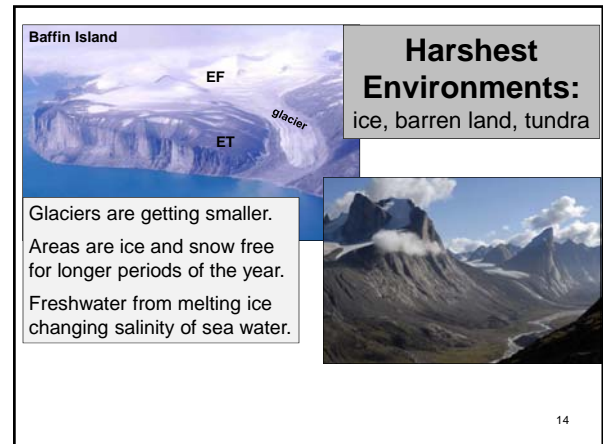
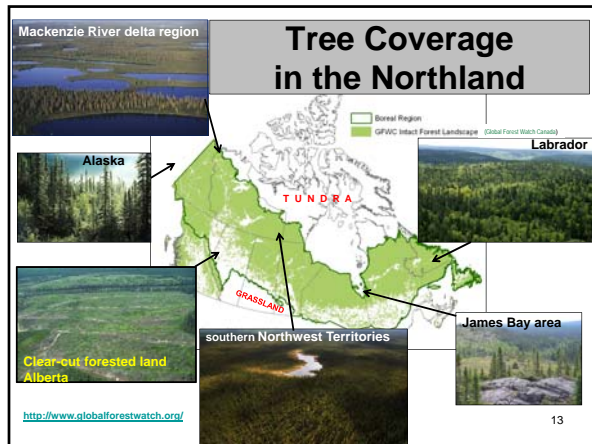


Taiga/Tundra Interface: transition zone is called the **tree line**.






Taiga = forest

12



First Nations	
Inuit	American Indian
<ul style="list-style-type: none"> Hunted/fished on water and ice; tundra dwellers. Used seal-skin kayaks and harpoons. Hunted for seal, whale, fish and marine animals. Nomadic 	<ul style="list-style-type: none"> Hunted/fished on land; taiga dwellers. Used birch-bark canoes and bows and arrows. Hunted for big game/fish. Herded caribou. Invented snowshoes for winter movement.

Both groups moved with the seasons, following animal migrations.

19

Early European Settlers

➤ **First came the French**

- Voyageurs, fur trappers and traders, missionaries.
- Controlled the Great Lakes/St. Lawrence drainage basin in early days.
- Trading posts and forts at strategic sites now the location of today's cities.




➤ **Then came the British**

- Hudson's Bay Company:** fur-trading company established N of French territory
- Granted regional trade monopoly by British govt.
- Settlements on the margins of Hudson Bay
- Control extended W to Rocky Mountains as **Rupert's Land**.
 - Pelts** (Arctic fox, beaver, bear) and **hides** were prized

20

Settlement Pattern


- Low population density.**
- Created/dominated by one major economic activity** as mining, transportation, defense.
- Small agricultural settlements** in fertile, warmer areas.
- In the Far North**
 - Native villages located where food and supplies were plentiful.
 - Few permanent settlements. Barren land of central region difficult to survive.
 - Today most settlers are employees of government or mining companies and are non-Native males.

21

Settlements




22

Local Transportation

Lack of roads impedes movement throughout the region. Check your atlas.







23

Lumbering

❖ **The taiga is the largest area of uncut forest in North America.**

➤ **Canada is the world's leading exporter of forest products.**

- Lumber, pulp and paper operations are found from Quebec to Manitoba.
- Spruce forests prime source of pulp for paper mills.**
- Mills are located on water supply and power sites along the southern edge of Canadian Shield.




24

Paper Mills, Quebec Prov.



Trees delivered to mill for chipping.



Barge carrying wood chips to paper mill for pulping.



25

U.S. Mining

- ❖ **Mesabi Range** (Minnesota), and areas of N. Wisconsin and Michigan, **produce iron ore.**
- ❖ **Taconite:** Contains c.30% iron, replacing exhausted high-quality ores. It is ground into powder before shipment, removing rock and making the load lighter and concentrated
- **Situational advantage:** network of the Great Lakes, St. Lawrence Seaway and railroads provide an outlet.



Iron ore strip mine

Loading an iron ore ship at Duluth, MN



26

Canadian Mining

- ❖ **Canadian Shield** is a vast area of **hard igneous rock at the surface.**
 - ✓ **The rocks contain deposits of many important minerals:** iron, copper, lead, zinc, nickel, uranium, gold and asbestos.
- Mining and processing centers have grown in the area.
- Metals are smelted on site to concentrate the ore.
- Moved by rail and water networks.

Open pit asbestos mine at Thetford, QC



Closed iron mine, Marmora, ON



Diamond mines near Yellowknife, NWT



Mining Center Complexes

Sudbury, ON:
Center of copper mining and smelting



World's tallest smokestack 1200 ft high

Timmins, ON:
Open-pit copper mine



28

Petroleum

❖ Alaska's North Slope

- Extraction is a technological feat
- Problem of moving petroleum to market: distance to the sea and the use of pipelines in a cold climate

❖ Alberta's Taiga

- Major proven resources
- Athabasca tar sands



- **Best prospects for additional discoveries**
 - Mackenzie River delta region of the Northwest Territories
 - Arctic Ocean seabed

29

Alaska Pipeline



Alaska Pipeline

30

Athabasca Oil/Tar Sands



❖ Alberta

- Major proven resources
- **The world's largest known near-surface repository of bitumen** (heavy crude oil) mixed with sandy soils of N Alberta.
 - Accessible by strip mining.
 - Oil produced from steam injection and refining.
 - Estimated economically recoverable oil to be about 170 billion barrels.

31

Alberta Tar Sands Strip Mining



Raw tar sand



To get **one barrel** of oil, **four tons** of tar sands have to be processed.



32

Hydroelectricity

❖ Quebec and Labrador have the greatest untapped production potential.

- Sites located at the southern edge of Canadian Shield.
- **Basis of the aluminum smelting industry.**
- **Surplus energy sold to NYS, Ontario, New England** as part of an international grid system.
- **Resistance from environmental groups.** Why?



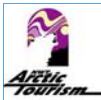
Strategic Northland



NORAD = North American Air Defense Command
DEW = Distance Early Warning Line



34



TOURISM

❖ Rising incomes and leisure time allow for more recreation.

- **Southern margins** (Minnesota, Wisconsin, Michigan; Quebec; Ontario) draw outdoor oriented tourists.
 - Easily accessible.
 - Heavy usage.
- **Central and northern portions** are visited less because of harsh environment.
- **Environmental Concerns:** Fragile environment that needs to be protected.



35

NEXT

NORTHEAST COAST

36