The Physical Geography of the United States and Canada
Chapter Objectives

- Describe the dominant landforms and natural resources of the United States and Canada.
- Discuss climate and vegetation in the United States and Canada.
Section 1

The Land
Section Objectives

- Identify some key similarities and differences in the physical geography of the United States and Canada.
- Explain why rivers have played such an important role in this region’s development.
- Examine geographic factors that have made the United States and Canada so rich in natural resources.
Terms to Know

- divide
- headwaters
- tributary
- fall line
- fishery
A Geographic View

Missouri Breaks, Montana
The lower 48 states of the United States contain a number of active volcanoes. Two of the best known are in Washington, on the Pacific coast: Mount Rainier and Mount Saint Helens. At 14,410 feet (4,392 m), Mount Rainier is the third-tallest volcano in North America. It has been dormant for over a century. Mount Saint Helens, at a height of 8,365 feet (2,550 m), violently erupted in 1980, killing 57 people and damaging an area of about 70 sq. mi. (180 sq km).
Landforms

- **The Western Mountains and Plateaus** The western mountains of North America are called the Pacific Ranges.
- They include Alaska’s Mount McKinley, the highest point on the continent.
- The Rocky Mountains link the United States and Canada and stretch northwest from New Mexico to Alaska.
- Dry basins and plateaus, featuring Death Valley and the Grand Canyon, fill the area between the mountain ranges.
Landforms

- **Interior Landforms** East of the Rockies, the land falls and flattens into the Great Plains, which extend across the center of North America.
Landforms

- **Eastern Mountains and Lowlands** North America’s oldest mountain chain, the Appalachians, extends from Quebec in Canada to Alabama in the United States.
- The Canadian Shield, a giant core of rock, makes up the eastern half of Canada and the northeastern United States.
Landforms

- **Islands** North American islands include Manhattan, home to a major world cultural and financial center, in the northeast.
- The Hawaiian Islands in the Pacific are volcanic mountaintops.
- Greenland, the world’s largest island, is just off the coast of Canada’s Ellesmere Island.
DISCUSSION QUESTION

- Which areas of the region would you predict are the most densely populated? Why do you think so?
ANSWER

- People tend to settle near sources of freshwater and in mild climates. Mountaintops are too cold and the deserts are too dry for many people to live there. People would settle in the Great Plains because the farmland is rich and abundant. Some of the islands are probably crowded, as are most coastal areas where large cities are located. Other populated areas border lakes and rivers that serve as transportation arteries.
A Fortune in Water

- **Rivers from the Rockies** The high ridge of the Rockies is called the Continental Divide.
- Water flows west of the Divide toward the Pacific Ocean and east of the Divide into the Mississippi River and the Gulf of Mexico.
A Fortune in Water

- **The Mighty Mississippi** One of North America’s longest rivers, the Mississippi flows 2,350 miles (3,782 km) from its source.

- It begins in Minnesota as a stream and ends as a broad river that empties into the Gulf of Mexico.

- The Mississippi drains all or part of 31 U.S. states and 2 Canadian provinces. It is one of the world’s busiest commercial waterways.
A Fortune in Water

• **Eastern Rivers** The St. Lawrence, one of Canada’s most important rivers, forms part of the United States-Canada border.

• The Canadian cities of Quebec, Montreal, and Ottawa developed along the St. Lawrence River and its *tributaries*.

• Niagara Falls, located on a river connecting Lake Ontario and Lake Erie, is a major source of hydroelectric power for Canada and the United States.
A Fortune in Water
A Fortune in Water

- **From Glaciers to Lakes**  Glacial dams created Canada’s Great Bear Lake and Great Slave Lake.

- The Great Lakes—Lakes Superior, Erie, Michigan, Ontario, and Huron—are basins created by glacial activity.

- The Great Lakes-St. Lawrence Seaway is a network of canals, rivers, and waterways linking the Great Lakes with the Atlantic Ocean.
DISCUSSION QUESTION

- What is the importance of the Mississippi River in U.S. history and economics? Explain.
The river stretches almost the full length of the country’s interior, so it provides a means for transporting people and goods. European explorers used the Mississippi to venture into new territories.
Natural Resources

- **Fuels**  An abundance of resources, such as fossil fuels and minerals, has contributed to the prosperity of the United States and Canada.

- **Minerals**  Gold, silver, and copper are found in the Rocky Mountains. Nickel and iron are mined in parts of the Canadian Shield.

- Deposits of low-grade iron ore exist in northern Minnesota and Michigan. Canada supplies much of the world’s potash, copper, and silver.
Natural Resources
Natural Resources

- **Timber** Today forests cover less than 50 percent of Canada and just 30 percent of the United States.
- Commercial loggers face the challenge of harvesting trees while preserving the remaining forests.
- **Fishing** The coastal waters of the Atlantic and Pacific Oceans and the Gulf of Mexico are important sources of fish and other sea animals.
- Because of overfishing, however, the Grand Banks, off Canada’s southeast coast, are now off limits to cod fishers.
Natural Resources
Climate and Vegetation
Objectives

• List the climate zones found in the United States and Canada.

• Describe how winds, ocean currents, latitude, and landforms affect the region’s climates.

• Identify the kinds of weather hazards that affect the United States and Canada.

• Discuss how human settlement has affected the natural vegetation of the United States and Canada.
Terms to Know

- timberline
- chinook
- prairie
- supercell
- hurricane
- blizzard
A Geographic View

Moss campion, Yukon Territory, Canada
Geographic Literacy

- Tornadoes are a common phenomenon in the Great Plains region. “Tornado” comes from the Spanish word for thunderstorm. Tornadoes are usually brief, but they are very destructive. During the 1990s alone, 378 people lost their lives in tornadoes in the United States.
A Varied Region

- Two-thirds of Canada and the U.S. state of Alaska experience long, cold winters and brief, mild summers.
- Most of the continental United States and the southern one-third of Canada enjoy temperate climates, depending on elevation.
- Hawaii, in the South Pacific, has a tropical climate.
Northern Climates

- Large parts of Canada and Alaska lie in a subarctic climate zone with very cold winters and extensive coniferous forests.
- Winter temperatures can fall as low as -70°F (−57°C).
- Bitter winters and cool summers in the tundra along the Arctic coastline make the area unsuitable for most plants or people.
- Greenland boasts only a few ice-free areas with some extremely hardy trees.
Western Climates

- **Marine West Coast** A marine west coast climate brings nearly 100 inches (254 cm) of rainfall every year to the Pacific coast from California to southern Alaska.

- This amount of precipitation, combined with cool temperatures, is ideal for coniferous forests, ferns, and mosses.
Western Climates - Plateaus, Basins, and Deserts

- The region between the Pacific Ranges and the Rocky Mountains includes deserts and steppes.
- The weather is hot and dry. Cacti and wildflowers bloom during the brief spring rains.
- Elevation gives the higher reaches of the Rocky Mountains and Pacific Ranges a highlands climate.
- Beyond the timberline, coniferous forests give way to only lichens and mosses.
- In the spring, the warm, dry chinook wind thaws the snows at the base of the eastern slopes of the Rockies.
Interior Climates

- **Prairies**  
  Prairies, or naturally treeless expanses of grasses, spread across North America’s midsection.

- Some prairie grasses grow up to 12 feet high (3.7 m) as a result of rainfall ranging from 10 to 30 inches (26 to 76 cm) every year.

- **The Dust Bowl**  
  When farmers settled the Great Plains, they plowed up the sod formed by prairie grasses, leaving the soil without protection.

- During the 1930s, several seasons of drought and dry winds blew the soil away, and the area was nicknamed the Dust Bowl.
Interior Climates
Eastern Climates

- The southeastern United States, with a humid subtropical climate, has mild winters and long, muggy summers.
- Much of the original deciduous forest has been cleared for agriculture.
- Wetlands and swamps shelter a great variety of plants and animals.
- Every summer, the region prepares for hurricanes.
Eastern Climates

- The northeastern United States and southeastern Canada have a humid continental climate with bands of deciduous and mixed forestland.
- Much of this area is prone to winter blizzards—snowstorms with high winds, heavy or blowing snow, and little visibility.
Eastern Climates
Tropical Climates

- Hawaii, Puerto Rico, and the southern tip of Florida have tropical climates.
- Southern Florida has a tropical savanna area, and both Hawaii and Puerto Rico have tropical rain forests.
Section 1 - Summary

- Canada and the continental United States have similar landforms, shaped by similar geologic processes.
- Both have high, sharp mountains and dry plateaus in the west; rolling, grassy plains in the center; and lower, older mountains and coastal lowlands in the east.
- The region’s waterways, including rivers, lakes, coastal waters, and intracoastal channels, played a vital role in settling the land and continue to serve as commercial highways.
Section 1 - Summary

- The Continental Divide divides the region into two large drainage areas.

- To the east of the Divide, waters flow to the Arctic Ocean, to Hudson Bay, to the Atlantic Ocean, or to the Gulf of Mexico. To the west, they flow into the Pacific Ocean.

- Glacial movement shaped much of the North American landscape.

- The geologic factors that shaped the United States and Canada also provided the region with a wealth of natural resources.
Section 2 – Climate and vegetation

- The region encompassing the United States and Canada experiences a great variety of climates.
- Some climate regions of the United States and Canada are influenced primarily by latitude.
- Wind, ocean currents, rainfall patterns, and elevation moderate the effects of latitude in other climate zones of the United States and Canada.
Section 2 - Summary

- Climatic factors cause hazardous seasonal weather patterns in the United States and Canada, including spring and summer tornadoes, and summer and fall hurricanes, and winter blizzards.
- The region’s natural vegetation reflects its climatic variety, but human interaction with the environment has greatly altered natural vegetation.