



Human–Environment Interaction

A HUMAN PERSPECTIVE The sun-baked American Southwest was a harsh environment for its early inhabitants, the ancestors of today’s Pueblo peoples. But these early settlers made good use of available resources. From the land, they took clay and stone building materials. They built multi-room, apartment-like dwellings in cliffs. This gave protection against daytime heat, nighttime cold, and human and animal enemies. From plants and animals, the early settlers got food and clothing. They survived because they adapted to their environment.

Settlement and Agriculture Alter the Land

Before humans came, North American landforms were changed only by natural forces, such as weathering and erosion. That changed when the first settlers—the ancestors of the native peoples of North America—arrived thousands of years ago.

SETTLEMENT The first inhabitants of the area of North America now known as the United States and Canada were **nomads**, people who move from place to place. Most archaeologists believe that they probably migrated from Asia over **Beringia**, a land bridge that once connected Siberia and Alaska. These migrants moved about the land. They hunted game, fished, and gathered edible wild plants. Since water was necessary for survival, these first Americans made temporary settlements along coastlines and near rivers and streams. They adjusted to extremes of temperature and climate. They also adapted to the region’s many natural environments, including mountains, forests, plains, and deserts.

AGRICULTURE Many early settlements became permanent after agriculture replaced hunting and gathering as the primary method of food production about 3,000 years ago. When people began to cultivate crops, they changed the landscape to meet their needs. In wooded areas, early farmers cut down trees for lumber to build houses and to burn as fuel. To plant crops, they plowed the rich soil of river valleys and flood plains using hoes of wood, stone, and bone. They dug ditches for irrigation. Vegetables they first cultivated—corn, beans, and squash—are now staples around the world.

Agriculture remains an important economic activity in the United States and Canada. In fact, both countries are leading exporters of agricultural products.

Main Ideas

- Humans have dramatically changed the face of North America.
- European settlements in the United States and Canada expanded from east to west.

Places & Terms

nomad

Beringia

St. Lawrence Seaway

lock

CONNECT TO THE ISSUES

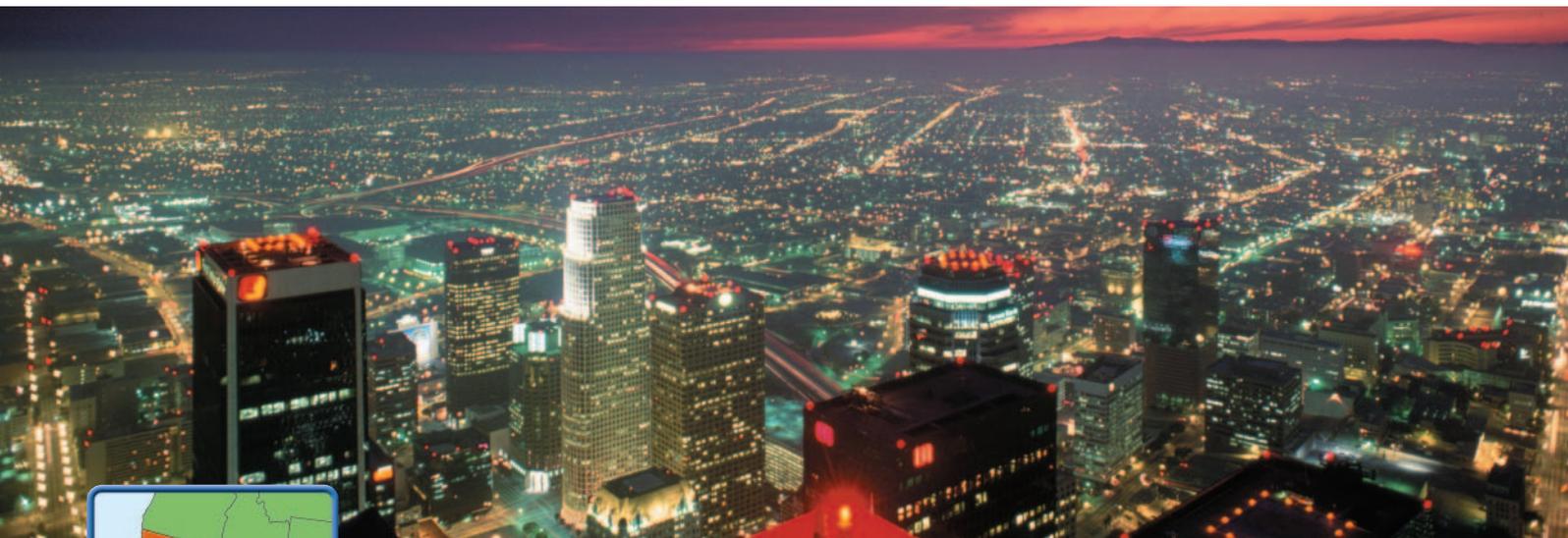
URBAN SPRAWL The spreading of cities and suburbs over wider areas—urban sprawl—is causing problems.

US & CANADA

REGION Irrigation has opened land in dry areas to farming. Tracts such as these in New Mexico are watered by a method called center-pivot, which taps underground water.

What are some other ways water can be brought to dry land?





HUMAN-ENVIRONMENT INTERACTION

Los Angeles sprawls out almost as far as the eye can see in this photo. **What changes were made to the environment as the city grew?**

Building Cities

Where a city is built and how it grows depends a great deal on physical setting. As you read, living near water was crucial to early settlers, as it would be to those who followed. Other factors that can affect the suitability of a site are landscape, climate, weather, and the availability of natural resources. Some of these factors played a role in the development of two major cities of the region.

MONTREAL—ADAPTING TO THE WEATHER Montreal, Quebec, is Canada's second largest city and a major port—even though its temperature is below freezing more than 100 days each year. Montreal's location on a large island where the St. Lawrence and Ottawa rivers meet made it an appealing site to early French explorers. The French built a permanent settlement there in 1642. The community was founded at the base of Mount Royal and grew by spreading around the mountain. To make the city's severe winters more endurable, people went inside and underground. In fact, large areas of Montreal have been developed underground, including a network of shops and restaurants.

LOS ANGELES—CREATING URBAN SPRAWL Unlike Montreal, Los Angeles, California, has a mild climate year-round. It also has a desirable location on the Pacific coast. Hundreds of thousands of people were pouring into this once small Spanish settlement by the early 1900s. As a result, the city expanded farther and farther into nearby valleys and desert-like foothills. During the 1980s, Los Angeles became the second most populous city in the United States. However, rapid population expansion brought problems. These included air pollution, inadequate water supplies, and construction on earthquake-threatened land. But such problems did not stop the city's growth. Los Angeles itself now covers about 469 square miles. Its metropolitan area spreads over 4,060 square miles. **A**

Building cities was just one way humans interacted with their environment. Another was in the construction of transportation systems to make movement from place to place less difficult.



Making Comparisons

A How has climate influenced the development of Los Angeles and Montreal?

Overcoming Distances

The native peoples and the Europeans who followed encountered many obstacles when they moved across the land. They faced huge distances,

large bodies of water, formidable landforms, and harsh climates. But they spanned the continent and changed the natural environment forever.

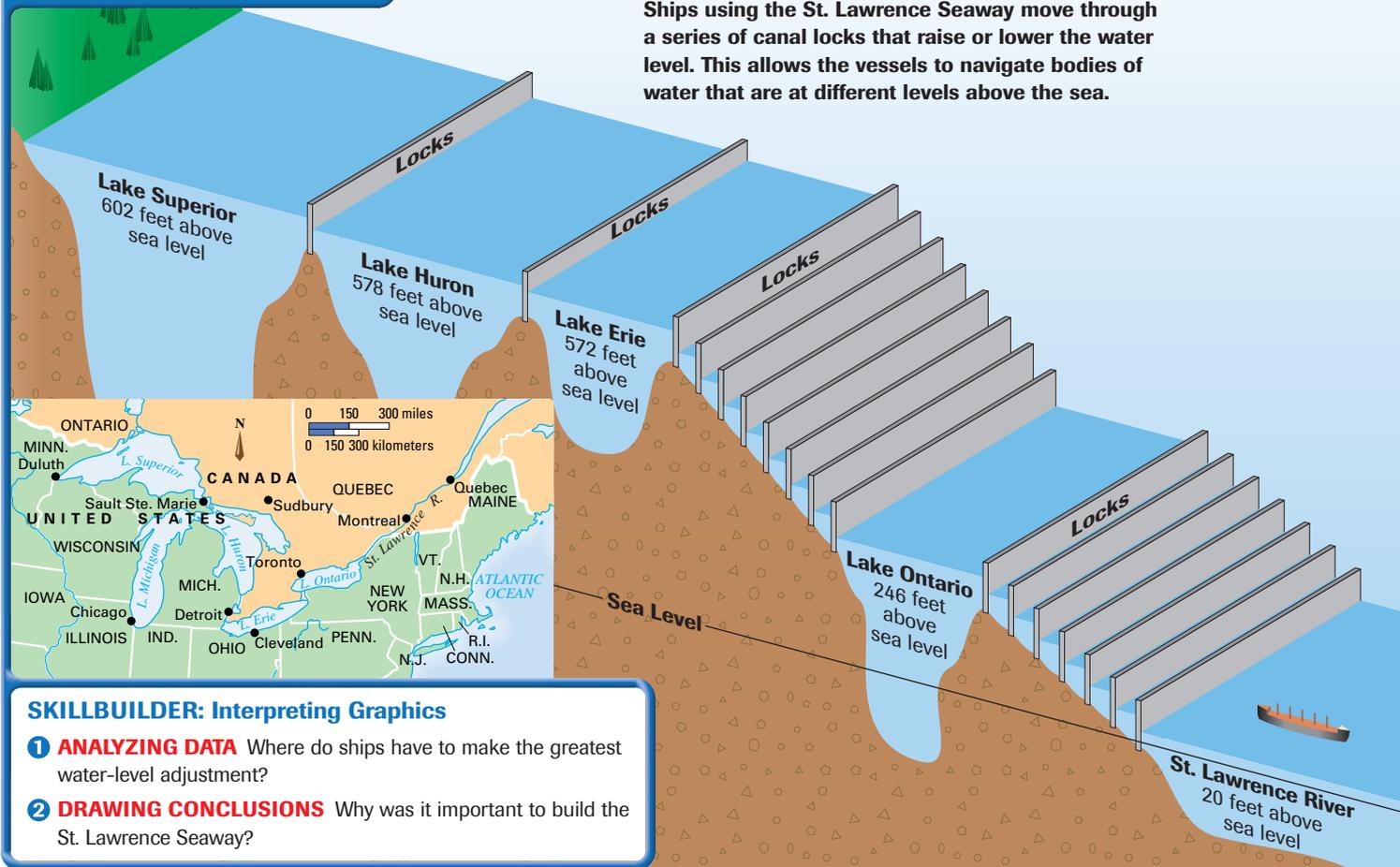
TRAILS AND INLAND WATERWAYS Some of the early peoples who came across the land bridge from Siberia blazed trails eastward. Others followed the Pacific coast south toward warmer climates. Still others remained in the northwest, in what are now Alaska and northern Canada.

When Europeans from England and France crossed the Atlantic to North America, they set up colonies along the coast. Then, they moved inland. As they did, they carved overland trails, including the National and Wilderness roads and the Oregon and Santa Fe trails. They also used inland waterways, such as the Mississippi and Ohio rivers. To connect bodies of water, they built a network of canals. The Erie Canal across upstate New York opened in 1825 and made the first navigable water link between the Atlantic and the Great Lakes. **B**

North America's most important deepwater ship route—the **St. Lawrence Seaway**—was completed in the 1950s as a joint project of the United States and Canada. As you can see from the map on this page, the seaway connects the Great Lakes to the Atlantic Ocean by way of the St. Lawrence River. Ships are raised and lowered some 600 feet by a series of **locks**, sections of a waterway with closed gates where water levels are raised or lowered. The seaway enables huge, oceangoing vessels to sail into the industrial and agricultural heartland of North America.

Geographic Thinking
Seeing Patterns
B Why was it important to link waterways?

The St. Lawrence Seaway



SKILLBUILDER: Interpreting Graphics

- ANALYZING DATA** Where do ships have to make the greatest water-level adjustment?
- DRAWING CONCLUSIONS** Why was it important to build the St. Lawrence Seaway?

TRANSCONTINENTAL RAILROADS The marriage of the steam locomotive and the railroads made crossing the continent from the Atlantic to the Pacific quicker and easier. Railroad building began in North America in the early 19th century. But many of the physical features shown on the map on page 103 presented natural barriers. To make way, railroad workers had to cut down forests, build bridges over streams, and blast tunnels through mountains.

The first transcontinental railroad was completed across the United States in 1869. A trans-Canada railroad, from Montreal to British Columbia, was completed in 1885. These railroads carried goods and passengers cross-country, promoting economic development and national unity as they went. Today, the United States has the world's largest railway system, and Canada the third largest.

NATIONAL HIGHWAY SYSTEMS Before the railroads came, there were roads that connected towns and cities and provided pathways to the interior. But it was the development of the automobile in the early 20th century that spurred roadbuilding. Today, both the United States and Canada have extensive roadway systems. The United States has about 4 million miles of roads, while Canada has about 560,000 miles.

As you read earlier, much of Canada's population is concentrated in the south. So, Canadians built their major highways east to west in the southern part of the country, connecting principal cities. The Trans-Canada Highway, Canada's primary roadway, stretches about 4,860 miles from St. John's, Newfoundland, to Victoria, British Columbia. In the United States, the interstate highway system is a network of more than 46,000 miles of highways that crisscross the country. Begun in the 1950s, it connects the United States with Canada on the north and Mexico on the south, and also runs east-west across the country.

In this chapter, you read about the physical geography of the United States and Canada. In the next chapter, you will learn about the human geography of one of these countries—the United States.



Making Comparisons

How is the Trans-Canada Highway similar to and different from the U.S. interstate highway system?



Assessment

1 Places & Terms

Identify and explain where in the region these would be found.

- nomad
- Beringia
- lock
- St. Lawrence Seaway

2 Taking Notes

MOVEMENT Review the notes you took for this section.



- Why are railroads important to a nation's development?
- In what ways did settlers in Canada and the United States move across the continent?

3 Main Ideas

- What factors affect the choice of location of a city?
- Why is the St. Lawrence Seaway important?
- How did methods of moving people and goods across the continent change over time?

4 Geographic Thinking

Making Inferences In what ways have transportation systems crossing the continent altered the environment? **Think about:**

- construction of canals and railroads
- building cities

S See Skillbuilder Handbook, page R4.



ASKING GEOGRAPHIC QUESTIONS Obtain and study a highway map of your state. Then come up with a geographic question about the map, perhaps one considering geographic features that caused the location of a highway. Answer the question and make a **class presentation** using visuals.