As you read this chapter, take notes in your journal on the economic activities, transportation, communications, and environmental concerns of the United States and Canada.

Chapter Overview Visit the Glencoe World Geography Web site at tx.geography.glencoe.com and click on Chapter Overviews—Chapter 7 to preview information about the region today.
Living in the United States and Canada

A Geographic View

An Occasion to Celebrate

County fairs endure as an occasion to celebrate our agrarian traditions, to honor family, inventiveness, and hard work. More important, perhaps, they allow us, as communities, to come together and get to know one another. County fairs also give us a chance to glimpse the American past. Yet they have lasted not by being annual historical reenactments but by evolving as American society evolves and becomes more urban.

—John McCarry, “County Fairs,” National Geographic, October 1997

Urban lifestyles predominate in the United States and Canada, yet people in both countries continue to respect traditional rural values, such as inventiveness and hard work. Adhering to these values, Americans and Canadians have utilized their rich natural resources and technological skills, placing their countries among the world’s top economic powers. In this section you will learn how people in the United States and Canada make their livings and how their economies are interrelated with each other and with the rest of the world.

Economic Activities

The United States and Canada both have free market economies, which allow people the freedom to own, operate, and profit from their own businesses. Businesses can hire employees and pay them for their work. Laws protect private property rights, employment
opportunities, and the health and safety of workers. Although their economies are similar, the United States and Canada take different approaches to the ownership of some corporations and the administration of some services. In Canada the government owns and administers many services, such as broadcasting and health care, that tend to be handled by private, nongovernmental corporations in the United States.

Like other developed countries, the United States and Canada have moved from primarily agricultural to primarily industrialized economies. As technology transforms the workplace, both countries are developing post-industrial economies, which place less emphasis on heavy industry and traditional manufacturing and more emphasis on service and high-tech businesses. Agriculture and manufacturing continue to play significant roles in the region’s economic life, however.

**Agriculture**

As in most developed countries, farming in the United States and Canada is overwhelmingly commercial, with agricultural commodities, or goods, produced for sale. Large commercial corporations, however, account for only 5 percent of farm ownership. Most farms in the United States and Canada, no matter what their size, are still owned by farming families, many of whom have formed cooperative operations.

The United States devotes about 1 billion acres (405,000,000 ha) of land to agriculture. A little less than half of that total is cropland—the largest cropland area of any country in the world—and the rest is used for the grazing of livestock. Canada, with much less arable land than the United States, still devotes 167 million acres (67,583,000 ha) to agriculture, evenly divided between crops and livestock.

Since the 1950s, although the average size of farms in the United States and Canada has risen, the number of people employed as farmers in the region has decreased. Today only 2 percent of Americans and 4 percent of Canadians work in agriculture. Among the factors contributing to this decline is the high cost of farming. Successful agriculture requires investing in expensive machinery, fertilizers, and chemical pesticides—all of which make farming easier but drive up costs and impact profits. Another factor is unpredictable consumer demand. If a farm product produced in large quantities—such as hogs or cranberries—does not sell well on the market, farmers have to lower their prices for the product and may lose money as a result. The risk of natural disasters and the time and hard work needed to run a farm also contribute to fewer farmers entering this segment of the economy.

**Key Agricultural Products**

The United States and Canada rank among the world’s leading producers of beef, milk, and eggs, and of corn, wheat, and other grains. These agricultural products are shipped to markets across the country and around the world.

Cattle ranches operate mostly in the western, southern, and midwestern United States and in Canada’s western Prairie Provinces. Other important livestock-producing areas include the north-central parts of the United States and the Canadian

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**Geography Skills for Life**

Wheat Harvest

The Peace River area of British Columbia produces most of the grain harvested in the province.

Place Where is wheat grown in the United States?
provinces of Quebec and Ontario. Hogs, chickens, and dairy products also lead the list of farm products from these areas.

Wheat is grown in the Prairie Provinces of Canada and on the Great Plains of the United States, a region often called the Wheat Belt. The type of wheat grown depends on the climate. Farmers in the northern plains, with their short growing season, concentrate on spring wheat, which is planted in the spring and harvested in the fall. Farther south, farmers plant winter wheat, which germinates before the ground freezes, grows with the spring rains, and is harvested in the early summer.

The Corn Belt of the United States consists of a band of farmland stretching from Ohio to Nebraska. Corn is also grown in the Canadian provinces of Quebec, Ontario, and Manitoba. About 50 percent of the corn crop is used to feed livestock; the rest is processed to make sweeteners and corn oil, used in industrial manufacturing, or used for food by people.

Fruits and vegetables are grown in many parts of the United States and Canada. Apples, peaches, and cherries flourish in the Great Lakes region and in the St. Lawrence River Valley. Potatoes are an important crop in the U.S. states of Maine, North Dakota, and Idaho as well as in the Canadian provinces of Prince Edward Island and New Brunswick. California ranks first among U.S. states in the production of tomatoes, lettuce, peas, asparagus, okra, avocados, grapes, and strawberries. Citrus fruits are grown in central and southern Florida, in the lower Rio Grande Valley of Texas, and in southern California. Sugarcane, pineapples, and bananas are grown in Hawaii.

**Economics**

**Breaking Geographic Boundaries**

Throughout much of the region’s history, geographic factors often limited the type of agriculture that could be carried out in a particular area. Cattle ranching, for example, needed the wide open spaces and natural grasses of the western prairies and plains. Most American dairy farms were concentrated in a belt of land stretching from upper New York State to Minnesota. This region, known as America’s Dairyland, has cooler summers and native grasses ideal for dairy cattle.

Today, however, advances in agricultural technology have changed or widened the traditional growing areas. The development of breeds of cattle that need less room to roam has opened the southern United States to cattle ranching. Because of improved feed sources and automation, large productive dairy farms can now be found in every American state and many Canadian provinces.

**Manufacturing and Service Industries**

Manufacturing makes up about 20 percent of both the United States and Canadian economies and employs about 20 percent of the region’s workforce. Advanced technologies, such as robotics and computerized automation, have transformed manufacturing in the region. As with farming, the region’s factories produce greater quantities of goods with fewer workers than in the past.
Transportation equipment and machinery are large export categories of both countries. In the United States, aircraft and aerospace equipment are produced in California and Washington, and factories in the Midwest produce most of the country’s automobiles. United States auto manufacturers also operate plants in Quebec and Ontario. Food processing is another important economic activity in California and in the northeastern United States. Canada, especially Quebec, manufactures and exports a variety of wood-based products drawn from its timber resources.

**Post-Industrial Economies**

The largest area of economic growth in the United States and Canada is in service industries. About 75 percent of the region’s workers are employed in service jobs, such as government, education, health care, tourism, entertainment, banking, and real estate.

The rising post-industrial economy is best reflected in the region’s high-tech and biotechnology industries. Both countries produce high-tech equipment for use in computer sciences and telecommunications. California’s Silicon Valley, for example, is home to around 20 of the world’s 100 largest high-tech companies. Led by the development of high-tech industries in Seattle, the state of Washington has the sixth-highest concentration of high-tech businesses in the United States. Texas boasts more than 1,000 software companies in its capital city of Austin, and some of the fastest-growing high-tech companies are based in Dallas. Raleigh, Durham, and Chapel Hill, known as North Carolina’s Research Triangle, have attracted prestigious biotechnology companies. Boston is a leading area in software, telecommunications, and media technology. In Canada, Ontario is home to many thriving telecommunications and Internet businesses.

**Retooling the Rust Belt**

During the last third of the 1900s, the switch from heavy industry and traditional manufacturing to service industries left cities in the east and near the Great Lakes, such as Buffalo, Pittsburgh, Cleveland, and Detroit, without their major economic bases. As corporations began to move
south to the Sunbelt, some older industrial areas were left with abandoned factories and rusting steel mills. Together they acquired the derogatory nickname “the Rust Belt.” Today, however, many of these cities are converting old factories for use in new industries, a process called retooling, and transforming run-down areas into tourist attractions and public spaces. For cities such as Pittsburgh, this change has brought renewed energy:

“shaken by the collapse of the steel industry, which had provided them with an unshakable sense of identity for more than a century, Pittsburghers hunkered down and built a new economy based on services, medicine, education, and technology. In the process, they transformed their community from one driven by quantity of production into one devoted to quality of life.”

Peter Miller, “Pittsburgh: Stronger than Steel,” National Geographic, December 1991

Transportation and Communications

Good transportation and reliable communications systems are the backbone of economic success in the United States and Canada. Both also contribute to the quality of life in the region today.

The Automobile

Since World War II, the most popular means of personal transportation in the United States and Canada has been the automobile. Extensive automobile use in the region has required heavy investment in the building and maintenance of highways, roads, and bridges. In the United States, more than 3,900,000 miles (6,276,442 km) of streets, roads, and highways carry about 208 million motor vehicles each year. Canada’s smaller, more concentrated population relies on about 15 million motor vehicles and 550,000 miles (885,139 km) of roads. The Trans-Canada Highway, a well-maintained modern roadway, runs 4,860 miles (7,821 km) from Victoria, British Columbia, to St. John’s, Newfoundland.

By 1960, service jobs employed more than half of workers. Today, the service sector dominates the U.S. economy.

1. Interpreting Graphs How has the percentage of workers in the service sector changed since 1900?

2. Applying Geography Skills What factors have influenced the shift from an economy based on agriculture to one based on services?
More than a simple means of getting from one place to another, the automobile has become a status symbol for many North Americans. Cars are marketed for the image they represent, and obtaining a driver’s license has become an unofficial rite of passage for most teenagers in the United States and Canada. Reliance on the automobile, however, creates many challenges because automobile-related pollution affects most urban areas. Auto-makers and government agencies are working together to reduce the use of automobiles in certain urban districts and to find clean, efficient ways to use fuel.

Another challenge posed by automobile use is traffic congestion in the region’s cities, where traffic jams can last for hours. Mass public transportation can help ease such congestion. Cities such as Montreal, New York, San Francisco, and Boston now have well-established subway systems. Los Angeles, which has some of the world’s largest traffic jams, is completing a transport system that will combine subways with elevated trains, and Seattle and Dallas both use monorail systems. Urban areas also use buses and commuter trains to ease some of the congestion.

Other Means of Transportation

For long-distance travel, many people in the United States and Canada use the region’s busy network of airports. In the United States, Atlanta’s Hartsfield and Chicago’s O’Hare International Airports vie for the title of the busiest airport in the country and in the world. Toronto’s Pearson International Airport is Canada’s busiest. Passenger railroads and long-distance buses account for only a small portion of the region’s passenger travel.

The transport systems of the region move goods as well as people. Railroads move about 35 percent of the region’s freight, and about 15 percent continues to be carried along inland waterways. More modern means of transport include long-haul trucks, which carry about 20 percent of the region’s freight. Airplanes carry only a small portion of the region’s heavy freight but do a growing amount of overnight delivery business. Finally, pipelines, long networks of underground or aboveground pipes, carry almost one-fourth of the region’s freight in the form of gas and oil.

Communications

In the United States and Canada, telephone and mail services are the primary means of communication. While Canada’s broadcasting and telephone services are publicly owned, private companies operate the same services in the United States. Federal government regulations, however, make sure that there is no monopoly, the total control of a type of industry by one person or one company.

Wireless microwave and satellite relays are increasingly used for long-distance contacts. Cellular and digital services have made telephone communication more mobile. Computer use is high, although efforts are underway to make this technology available to all people. In the midst of these advances, Americans and Canadians still rely on newspapers and magazines.

Trade and Interdependence

The United States and Canada are among the world’s major trading countries. The United States is second only to the European Union in exports, providing more than 10 percent of all world exports. The U.S. economy supplies chemicals,
agricultural and manufactured goods, and raw materials, such as metals, iron ore, and cotton fiber. Canada exports many of the same goods, as well as large quantities of seafood and timber products. In 2000, the United States granted China—one of the world’s largest potential markets—permanent normal trade relation status (PNTR, formerly called most-favored nation status), which gives China the same trading opportunities granted to other trading partners. 

Exports and Imports

Despite its many resources, the United States spends more on imports than it earns from exports. The resulting trade deficit, or difference in value between a country’s imports and its exports, is hundreds of billions of dollars. The U.S. trade deficit results from the country’s large population and its growing industries that require costly energy purchases. Also, some countries charge high tariffs, or taxes, on imports, thus raising the price of U.S. products and reducing their sales abroad. As a result, growth rates for U.S. exports are very slow.

Canada, by contrast, enjoys a trade surplus, earning more from exports than it spends for imports. Canada’s smaller population makes its energy needs less costly. Although both countries are spending more on imports, Canada’s export revenues have grown yearly at a higher rate than those of the United States.

NAFTA

The United States and Canada are each other’s largest trade partners. In 1989, the two countries signed an agreement that removed trade restrictions between them. A 1994 pact—the North American Free Trade Agreement (NAFTA)—included these two countries and Mexico. Unlike the European Union, however, NAFTA prohibits the free flow of labor among member countries.

In recent years, businesses in the United States and other developed countries have sought lower production and labor costs by outsourcing, or setting up plants abroad to produce parts and products for domestic use or sale. Outsourcing provides cheaper goods for home markets, while offering jobs to foreign workers. Because of NAFTA, more American companies have set up assembly plants in Mexico, where labor costs are less expensive than in the United States.

United Against Terrorism

On September 11, 2001, terrorists hijacked four passenger planes, crashing two of them into New York City’s World Trade Center and the third into the Pentagon, the defense department headquarters near Washington, D.C. A fourth plane plummeted into a Pennsylvania field. The devastation and loss of so many lives made the United States firmly resolved to rid the world of terrorism.

Empire State Building
Completed in New York City in 1931, the Empire State Building was the tallest building in the world at 1,250 feet (381 m). It was created in the streamlined art deco style of geometric patterns that was popular in the 1920s and 1930s.

architecture of THE UNITED STATES

Student Web Activity Visit the Glencoe World Geography Web site at tx.geography.glencoe.com and click on Student Web Activities—Chapter 7 for an activity on the economic interdependence of Canada and the United States.
Although the attacks stunned Americans, they responded quickly to aid victims and rescue workers. To show their unity, Americans across the country put up flags and held candlelight vigils and prayer services. The United States government also acted swiftly in dealing with the crisis. Military forces were put on high alert, security was increased at airports and other public places, and the FBI began a massive investigation. President George W. Bush announced the creation of the Office of Homeland Security to organize efforts to protect Americans from further terrorist attacks.

In October, another crisis arose when traces of anthrax, a type of bacteria used in deadly biological weapons, were found in mail sent to major news offices and federal government buildings. Several people contracted the anthrax disease, and some died. The FBI began investigating who had made the anthrax and distributed it.

Meanwhile, the September 11th attacks had shocked other nations, some of whom had lost citizens in the World Trade Center. As a result, the United States won much international support for a massive, wide-ranging response to terrorism. The first military operation of the war on terrorism began in the Southwest Asian country of Afghanistan, which harbored Saudi exile Osama bin Laden, the leader of the terrorist network believed to have carried out the attacks. President Bush warned that Afghanistan was only the beginning of a struggle that would not end “until every terrorist group of global reach has been found, stopped, and defeated.”
People and Their Environment

A Geographic View

From Waste to Wetland

This is gold mining today, the ads proclaim—beautiful hills, waving fields of grass, prancing mule deer, a glimmering lake. . . . I saw waste rock piles shaped into eye-pleasing mounds, the milling operation that recycles and contains all processed water, and the huge [residue-collecting] pond that, over time, will become a 600-acre wetland. I saw the sophisticated monitoring system for the early detection of contamination in the groundwater. I even saw the gate placed over the mouth of a tunnel to protect the maternity roost for a local population of Townsend’s big-eared bats.


Strip mining made the American West rich, but it also left deep scars on the landscape. Today mining and other resource-based western industries are working to control ecological damage. In this section you will discover how people in the United States and Canada are managing scarce resources and seeking ways to overcome the effects of pollution.

Human Impact

The rich natural resources of the United States and Canada have not always been managed responsibly. The practice of clear-cutting, or taking out whole forests when harvesting timber, has destroyed
many of the region’s old-growth forests, endangered wildlife, and left the land subject to erosion and flooding. Overfishing has depleted many of the region’s freshwater and ocean fisheries. Although efforts to reverse the damage have begun, the region has a long way to go toward the sustainable use of its natural resources.

Natural resource management also includes evaluating the impact of human activity on the environment. In some cases, policies that appear to make good environmental sense must be rethought. For example, in the dry western regions of the United States and Canada, it used to be standard practice to extinguish wildfires as quickly as possible. The vegetation in these areas, however, needs periodic wildfires to clear overgrowth and to germinate seeds. Without burning, grasses and scrub grow thick and underbrush dries out. Too much burning, however, can be devastating. For example, when lightning from summer storms ignited brushfires in 2000, the result was explosive infernos that raged across several states, endangering human and animal life and destroying agricultural and grazing lands. One solution may be to follow the practice of the early Native American inhabitants of these dry areas, who set deliberate fires, known today as controlled burns, to clear dry brush before it became too dense.

Pollution

One of the unfortunate consequences of industrial development in the United States and Canada has been the increase in human-made pollution. Pollution, the introduction of harmful materials into the environment, damages the quality of water, air, and land. The kinds of pollution that trouble the United States and Canada are directly related to the region’s physical geography and economic activities.

Acid Rain

Acid rain, precipitation that carries abnormally high amounts of acidic material, affects plants and fish in a large area of the eastern United States and Canada. Acid rain forms when chemical emissions from cars, power plants, factories, and refineries react with water vapor in the air. The reaction turns the chemicals, chiefly sulfur dioxide and nitrogen oxide, into their acidic forms. As the acid rain falls to the ground, it corrodes stone and metal buildings, damages crops, and pollutes the soil. Acid rain is especially damaging to the region’s waters, however. Plant life and fish cannot survive in highly acidic waters. Over time, lakes may become biologically dead, unable to support most organisms.

The winds that carry acid rain do not respect local or national boundaries. The source of the pollution may be quite distant from the place where acid rain falls. Carried by eastward winds, acid rain from the U.S. Midwest’s coal-burning plants falls on the Adirondack Mountains, where it mixes with the runoff from melting acid snow. The result is that 26 percent of all lakes in the region are...
Acidic, and hundreds are unsuitable for the survival of sensitive fish species. Emissions from the United States also result in acid rain in Canada, threatening important timber and water resources. Canada’s eastern provinces—Ontario, Quebec, New Brunswick, and Nova Scotia—are the most vulnerable. Thousands of lakes throughout Canada, including 100 in Ontario alone, are so acidic that they are biologically dead.

About half of the acid rain in Canada comes from the United States. As a result, the two countries have begun cooperating to improve air quality. Improvement has already been noted. In Canada, 33 percent of the acidified lakes studied since the 1980s show reduced acid levels. In the Sudbury region of Ontario, for example, fish populations are rising, as are the number of fish-eating birds, such as loons.

**Smog**

The sulfur and nitrogen oxides that create acid rain also contribute to the type of air pollution known as *smog*. As the sun’s rays interact with automobile exhaust gases and industrial emissions, a visible haze forms, damaging or killing plants and irritating people’s eyes, throats, and lungs.

Health officials in many of the region’s metropolitan areas now measure air quality on a daily basis. When emissions interact with climate conditions and create dangerous levels of smog, officials issue alerts, urging children, the elderly, and people with respiratory problems to stay indoors. Under these conditions authorities may prohibit nonessential driving and the use of lawnmowers, chainsaws, and other devices with gas-powered engines. Industrial activity may be restricted, and industries with excessive emissions may be fined. Some local and state governments in the United States require emissions testing as part of the automobile licensing process. In many parts of the United States and Canada, fuel pumps in service stations must have special nozzles that reduce the leakage of petroleum vapors into the air.

Clean-air practices have substantially reduced air pollution in Los Angeles and other major cities, and still more is being done. Some car manufacturers are producing vehicles that run on electricity instead of fossil fuels. Engineers also continue to research air-, water-, and solar-powered cars. In the United States, proposed legislation would require the reduction of the sulfur content in diesel fuel by 97 percent. By 2007, officials hope to make all new diesel vehicles, such as trucks and buses, smoke free. Smog can also be reduced by encouraging the use of alternatives to automobiles, such as walking, bicycling, or using public transportation.

**Water Pollution**

Water systems in the United States and Canada become polluted not only by acid rain but also by the introduction of sewage and industrial and agricultural wastes into the water supplies. Industrial wastes, including toxic substances, may be illegally dumped into rivers and streams or may find their way through small, unnoticed leaks into the *groundwater*, freshwater that lies beneath the earth’s surface. Industries also cause thermal pollution by releasing heated industrial waste water into cooler lakes and rivers. Runoff from agricultural
Chemicals, such as fertilizers and pesticides, also pollutes the water resources of the region.

Water pollution has disastrous effects on marine life and on the birds and other animals that feed on fish or breed in wetlands. The toxic chemicals and wastes that pollute the water supply also endanger humans. In 2000 seven people in the Canadian farming town of Walkerton died and thousands became ill after being infected by *E. coli* bacteria in their drinking water. Groundwater contaminated with animal waste and other toxins had entered Walkerton’s water supply through corroded pipes.

Water pollution also speeds eutrophication (yu•TROH•fuh•KAY•shuhn), the process by which a lake or other body of water becomes rich in dissolved nutrients, encouraging overgrowth of small plants, especially algae. In extreme cases the algae growth depletes the water’s oxygen, leaving none for fish. Algae overgrowth can also turn a lake first into a swamp and later into dry land. Normally, eutrophication takes thousands of years, but pollution greatly speeds the process.

**History**

**Back from the Brink**

In the 1960s the region’s waterways were under assault from pollution. The Cuyahoga River near Cleveland, Ohio, was so fouled by industrial chemicals that it burst into flames. Oil from a spill off the coast of Santa Barbara, California, coated beaches and wildlife. Eutrophication threatened Lake Erie. A biologist warned of serious consequences:

> “The most alarming of all man’s assaults upon the environment is the contamination of air, earth, rivers, and sea with dangerous and even lethal materials. . . . The poisons . . . kill vegetation, sicken cattle and . . . travel from link to link of the food chain. . . .”

Rachel Carson, *Silent Spring*, 1962

In 1972 the United States and Canada signed the Great Lakes Water Quality Agreement to combat pollution in the lakes. The United States also passed
the Clean Water Act, mandating measures to restore the quality of the country’s waters.

In New England, the Act forced an end to asbestos dumping in the Nashua River and spurred the construction of waste-water treatment plants. The facilities protected the river from paper pulp, chemical dyes, and other industrial wastes. Like many of the country’s waterways, the Nashua slowly regained its health. Today it is once again safe for wildlife and people.

The passage of the North American Free Trade Agreement (NAFTA), however, has shifted some environmental concerns south to the U.S.–Mexico border. Along the Rio Grande, rapid industrial growth threatens the environment. The Commission for Environmental Cooperation, a nongovernmental agency with representation from Canada, the United States, and Mexico, is monitoring the environmental effects of NAFTA and suggesting ways to reduce pollution.

**Challenge for the Future**

Like people worldwide, those who live in the United States and Canada are concerned about the possible effects of global warming. The slight but steady rise in the earth’s temperatures over the past century is not easily explained, nor are its consequences completely understood. Some effects of global warming, however, are easy to see, especially in the Arctic regions of Alaska and Canada. In these areas, the melting of polar ice is accelerating, a phenomenon with potentially disastrous consequences. In one Inuit community on the western tip of Canada’s **Banks Island**, thinning sea ice has forced caribou, polar bears, and seals, on which the hunting lifestyle of the Inuit depends, to move farther north. More disturbing, the permafrost—the frozen soil of the tundra—is beginning to thaw, buckling the land and weakening the foundations of houses.

Global warming has a chain reaction of effects that threaten to alter life throughout the United States and Canada. When polar ice melts, ocean levels rise, increasing the danger of coastal flooding. For example, the city of New Orleans, much of which lies below sea level, is in danger of being completely submerged because of the combined effects of rising ocean waters and more frequent Mississippi River floods. Warmer, higher seas also alter climate patterns, leading to increased frequency and severity of weather events such as El Niño, which has been responsible for both flooding and drought. Monitoring and responding appropriately to the effects of global warming remains a critical challenge for the future of the region and for the world.

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**TAKS Practice**

**Checking for Understanding**

1. Define clear-cutting, acid rain, smog, groundwater, eutrophication.

2. **Main Ideas** Copy the flowchart below on a sheet of paper. Complete the chart by listing causes, effects, and possible solutions for a regional environmental problem.

   ```
   Problem ➔ Causes ➔ Effects ➔ Solutions
   ```

**Critical Thinking**

3. **Analyzing Information** Why is it important for Canada and the United States to work together to reduce pollution?

4. **Drawing Conclusions** Why are more metropolitan areas of the United States and Canada beginning to experience smog?

5. **Identifying Cause and Effect** What are the short-term and long-term effects of water pollution on people and the environment?

**Analyzing Maps**

6. **Place** Study the map of acid rain on page 166. Which parts of the region have the greatest concentration of acid rain? Why?

**Applying Geography**

7. **Regional Cooperation**

   Think about the cooperation among the United States, Canada, and Mexico in NAFTA to promote free trade. Identify the human factors involved in the trade network created by this agreement.
United States’s Wetlands:

Marsh. Bog. Swamp. Different words, but they all describe wetlands. A wetland is an area where water covers the soil, or lies just beneath its surface, for at least part of the year. For centuries, wetlands were regarded as smelly, insect-choked wastelands. They were places to eliminate. Across America, wetlands were filled in or drained. But in the 1970s, research confirmed what many had suspected—wetlands are valuable ecosystems that link water, life, and land. Laws were passed to protect wetlands. However, balancing wetlands preservation with development is controversial.
A tricolored heron stands in the still, shallow water (left). It is early morning in Florida’s Everglades National Park, one of the largest wetlands in the United States. Wetlands teem with life. Spend a few hours in the Everglades and what might you see? Egrets, herons, and dozens of other birds. Scores of insects, fish, frogs, and snakes. Perhaps an alligator or two.

Wetlands rank among Earth’s most productive ecosystems. They are nurseries, where fish and shellfish come to spawn. They are rich feeding grounds, where tiny plants and aquatic insects form the base of complex food webs. They are also sanctuaries, home to living things found nowhere else. About a third of all endangered or threatened species in the United States live in wetlands.

Wetlands are valuable in other ways, too. They slow erosion, thus stabilizing shorelines and riverbanks. They filter out pollutants that would otherwise end up in lakes and rivers. Coastal wetlands buffer the impact of storm tides. Inland wetlands slow fast-moving floodwaters.

However, wetlands often occur where people want to grow crops. Before wetlands were recognized as valuable, the United States government encouraged farmers to drain these ecosystems to create cropland. In addition, wetlands frequently lie in the path of new housing developments, shopping malls, airports, roads, and reservoirs.

When Europeans arrived in North America, some 220 million acres (89 million ha) of wetlands existed in what are now the lower 48 states. Today slightly more than 100 million acres (40 million ha) remain. Wetlands are protected by law, but some wetlands development is allowed.

Supporters of wetlands development think the land where wetlands are found has more profitable uses. As cities and communities grow, people need more housing, schools, businesses, and roads. Developers insist they often have no choice but to build in wetlands. In many instances, it is now legal for developers to destroy natural wetlands as long as they create “new” wetlands as replacements.

Opponents of wetlands development argue that wetlands are too valuable to lose. Without these unique habitats, some kinds of animals may become extinct. Opponents are concerned that human-made wetlands are not true replacements for existing ecosystems.

What’s Your Point of View?
Do you think it’s acceptable to build on natural wetlands, as long as “new” wetlands are created? Or do you think wetlands should be completely protected?
Interpreting a Climate Map

Climate helps determine how people live, work, dress, and play in a particular region. People on different continents may share similar climates. By reading a climate map, you can discover these similarities and differences among regions.

Learning the Skill

A climate map shows the climate zones of a region. Latitude, temperature, precipitation, altitude, wind patterns, and nearness to oceans help determine the climate of a region. Variation in precipitation also creates different types of climates, such as rain forest (very wet), desert (very dry), and savanna (wet and dry seasons).

On a climate map, colors represent different climate regions. The map key explains the color code. To interpret a climate map:

- Identify the area covered by the map.
- Study the key to identify the climate regions on the map.
- Locate the regions in each climate zone.
- Draw conclusions about the climate similarities and differences among regions.

Practicing the Skill

Study the climate map of eastern Canada. Use the information to answer the following questions.

1. What climate dominates the far northeast part of Canada?
2. Which area shown has a humid continental climate?
3. What climate does the coast of Newfoundland and Labrador have?
4. Why are so few major cities located in Nunavut and northern Quebec?
5. Why are there only three climate regions represented in eastern Canada? What factors of physical geography may account for this?
6. Compare the climate map on this page to the natural vegetation map on page 123. What is the relationship between climate patterns and vegetation patterns in eastern Canada?
Organizing Your Notes

Terms to Know
- market economy
- post-industrial
- commodity
- retooling
- pipeline
- monopoly
- trade deficit
- tariff
- trade surplus

Key Points
- The region’s economy has shifted from reliance on agriculture and traditional manufacturing to emphasis on service and high-tech industries.
- Agriculture is a key economic activity of the region, although it employs only a small percentage of the workforce.
- Technology and improved agricultural methods have helped farmers overcome the limitations of physical geography and climate.
- Dependable transportation and advanced communications systems help make the region an economic leader.
- The United States and Canada are among the world’s leading exporters.
- The region’s two countries are each other’s largest trade partners. The region also trades with countries and trade blocs around the world.

SECTION 2

People and Their Environment (pp. 165–169)

Terms to Know
- clear-cutting
- acid rain
- smog
- groundwater
- eutrophication

Key Points
- The United States and Canada are working to manage their rich natural resources responsibly.
- Acid rain, smog, and water pollution cause damage to the region’s environment and affect human health.
- Cooperative efforts to address environmental concerns are making a difference in the region.

Organizing Your Notes

Use a web diagram like the one below to help you organize your notes for this section.

- Acid rain
- Smog
- Water pollution

- Global warming
- Climate change

Workers guide a barge down the Erie Canal.
2. Analyzing Information  Explain the connection between transportation patterns and air pollution.

3. Identifying Cause and Effect  Use a chart like the one below to analyze the causes of acid rain and its effects on the environment.

<table>
<thead>
<tr>
<th>Acid Precipitation</th>
<th>Causes</th>
<th>Effects</th>
</tr>
</thead>
</table>

Reviewing Key Terms
Write the letter of the key term that best matches each definition below.

a. trade surplus  e. trade deficit  
b. retooling  f. market economy  
c. clear-cutting  g. post-industrial  
d. acid rain  h. tariff

1. an economic system in which people can own and profit from their own businesses
2. reduced emphasis on heavy industry
3. converting old factories to new uses
4. loss of income through trade
5. a tax on imported trade goods
6. taking out whole forests when harvesting timber
7. precipitation that carries high amounts of acids
8. earning money through export sales

Reviewing Facts

SECTION 1
1. What type of economic system do the United States and Canada have?
2. What economic activity employs the most people in both the United States and Canada?

SECTION 2
3. What solutions have the United States and Canada implemented to deal with air pollution?
4. What factors contribute to water pollution in the region?
5. What part of the region is experiencing increased environmental problems as a result of NAFTA?

Critical Thinking
1. Making Generalizations  What challenges will industrial cities face as the economy becomes more dependent on high-technology industries?
Using the Regional Atlas
Refer to the Regional Atlas on pages 106–109.

1. Region Describe the relationship between areas where livestock is raised and the population density in these areas.

2. Human-Environment Interaction What types of natural resources are clustered around large cities and manufacturing areas in the United States?

Thinking Like a Geographer
Study the economic activity map on page 109. Identify an activity that is represented in your area. Then, in geographic terms, explain why your area is suited to this activity and what other related activities might be developed there.

Problem-Solving Activity
Problem–Solution Proposal Identify a transportation problem in your community or state. Find examples of different points of view that affect decision making and the development of public policies on the problem. Then devise your own solution and present it to the class.

GeoJournal
Descriptive Writing Use your GeoJournal to write an essay describing how varying physical and cultural patterns in the region influenced the development and spread of new ideas and technologies. Use your textbook and the Internet as resources to make your essay accurate and interesting.

Technology Activity
Creating an Electronic Database Choose a region of the United States or Canada. Research that region and create an electronic database. Include types of industries, jobs, trading partners, major transportation routes, communications, land use, and environmental problems. Share your findings with the class, using charts, maps, and other graphics.

Self-Check Quiz
Visit the Glencoe World Geography Web site at tx.geography.glencoe.com and click on Self-Check Quizzes—Chapter 7 to prepare for the Chapter Test.

TAKS Test Practice
Study the bar graph below. Then choose the best answer for the following multiple-choice question. If you have trouble answering the question, use the process of elimination to narrow your choices.

Barrow, Alaska

1. As a regional geographer for an oil company, you need to determine the best time for a survey team to work near Barrow, Alaska. Given the information on the bar graph, during which three-month period should the survey take place?
   A January, February, March
   B September, October, November
   C March, April, May
   D June, July, August

Test-Taking Tip
Study the information shown on the bar graph for average monthly temperature. Look for three consecutive months in which temperatures would be the most favorable for people and equipment to function outside.