GeoJournal

As you read this chapter, note the ways Europeans are striving to care for their environment. Choose one environmental challenge and write a short essay comparing Europeans’ solutions to measures in your community.

Chapter Overview Visit the Glencoe World Geography Web site at txgeography.glencoe.com and click on Chapter Overviews—Chapter 13 to preview information about the region today.
By 5:30 A.M., 3,000 or 4,000 workers of the first shift are pouring through the gates of the iron and steel works on the Danube River island of Csepel. Expanded by ardent communists in the 1950s, it became Hungary’s largest industrial site. . . . Today’s worker wants to become part of the middle class, to own a car and a weekend cottage in the country. “That’s what I want,” says Gábor Szabó, a young welder, “to become a European.”


Like many eastern Europeans during the early 1990s, this factory worker in Hungary was eager to leave behind the dark legacy of communism and share in the prosperity that democratic western Europe enjoyed. Today, despite many difficulties, the countries of eastern Europe are building democracies and market economies. As standards of living rise, people in these countries also are developing closer ties to western Europe. Throughout Europe, people still remain proud of their individual national identities, but they are also beginning to identify with the region as a whole. In this section you will learn about Europe’s social, political, and economic systems and the recent changes that are transforming them.

Changing Economies

Europe’s economies, like its peoples, are diverse and changing. Today Europe is one of the world’s major manufacturing and trading regions. The European Union (EU), which unites much of
western Europe into one trading community, enjoys a greater volume of trade than any single country in the world. Meanwhile, the former communist countries of eastern Europe are trying to build free market economies. Some also seek to eventually become part of the European Union.

**Economics**

**The European Union**

The movement for European unity arose from the ashes of World War II, as western European countries struggled to rebuild their ruined economies. In 1950 France proposed closer links among Europe’s coal and steel industries, a move seen as the first step toward a united Europe.

Over the years more steps were taken toward that goal, but not until the 1990s did most Europeans agree that such a goal could ever be reached. In 1992 representatives from various European governments met in Maastricht, the Netherlands, and signed the **Maastricht Treaty**, which set up the European Union (EU). This new body aimed to make Europe’s economies competitive with those of the rest of the world by getting rid of restrictions on the movement of goods, services, and people across its members’ borders. It also paved the way for a single European currency, a central bank, and a common foreign policy.

Since the EU was formed, member countries have worked to boost trade and to make their economies more efficient and more productive. They have also tried to control government spending for many costly social welfare programs. Many Europeans, however, oppose scaling down the welfare state, believing that such a step would increase hardships on people during times of rising unemployment. The EU continues to work toward the goal of a stronger single economy in spite of the difficulties brought on by change. In the years ahead, the European Union plans to extend its membership to include a number of additional countries, mainly in eastern Europe.

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**CHART STUDY**

**Road to European Unity, 1951–2002**

- **1951 Treaty of Paris**: Six nations form a common market for coal and steel
  - France
  - West Germany
  - Belgium
  - Netherlands
  - Luxembourg
  - Italy

- **1957 Treaties of Rome**: Six nations agree to move toward a common trading market called the European Economic Community (EEC)

- **1967-1968 European Community**: EEC merges with other organizations to become the European Community (EC); common trade policy set up; end of tariffs on goods traded among members

- **1973 New Members**: Three new members join the European Community (EC)
  - United Kingdom
  - Ireland
  - Denmark
Eastern Europe

For more than 40 years after World War II, communist governments loyal to the Soviet Union ran eastern Europe’s command economies. Under these systems, government planners made decisions about what goods to produce and how to produce them. Industries employed many more workers and managers than they needed, and many factories lacked modern technology.

Since the fall of communism in 1989, eastern European countries have been moving from command economies to market economies. To compete in global markets, eastern European industries are working to overcome the obstacles of outdated equipment and inefficient production methods. Many laid-off workers are being retrained, as industries try to acquire new technology and to adopt energy conservation measures to reduce pollution. Eastern European governments are seeking to attract investments and financial aid from western Europe and other parts of the world.

Eastern Europeans have realized, however, that change is often costly and difficult. Workers have lost part of their social “safety net”—the free health care, child care, lifetime jobs, and other social benefits—provided by the communist system. With reduced benefits, death rates among newborns have risen in some parts of eastern Europe, and life expectancy levels have declined. Despite these difficulties, however, people in eastern Europe are slowly adjusting to a new way of life. For example, Germany—reunited in 1990—has faced challenges in improving industrial and living conditions in its eastern part, once under

Student Web Activity  Visit the Glencoe World Geography Web site at tx.geography.glencoe.com and click on Student Web Activities—Chapter 13 for an activity about the European Union.

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### Geography Skills for Life

1. **Interpreting Charts**  When did the United Kingdom join the European Community?

2. **Applying Geography Skills**  What steps have European countries taken toward unity since 1985?
Despite the . . . joblessness in eastern Berlin, there are thousands of quiet success stories. ‘It was the fulfillment of a dream,’ says Stefan Geissler, a 37-year-old former publishing clerk in the old East Berlin, who started the business with a partner, using their combined savings of $2,250. Despite a shaky beginning, Goethe & Co. is now making a small profit. ‘Everybody I know is making it—somehow,’ Geissler says with conviction. ‘People who say “Bring back the Wall” are talking nonsense. Most people are better off today.’


Industry

The Industrial Revolution made Europe the birthplace of modern industry. Today large-scale manufacturing centers are found across Europe from the United Kingdom to Poland. In both heavy and light industries, Europe produces everything from computers and cellular phones to transportation equipment and packaged goods.
Manufacturing

The development of industry is often linked to the availability of raw materials. In the 1800s Europe’s large deposits of coal and iron ore sparked the growth of heavy industry—the manufacture of machinery and industrial equipment. Today Europe’s leading industrial centers include the Ruhr and the Middle Rhine districts in Germany, the Lorraine-Saar district in France, the Po basin in Italy, and the Upper Silesia-Moravia district in Poland and the Czech Republic. Vast mineral deposits help to make the United Kingdom, France, and Germany leaders in manufacturing. Countries lacking industrial raw materials, such as the Netherlands and Denmark, specialize in light industry, such as making textiles or processing food.

Service and Technology Industries

Service industries employ a large percentage of the workforce in most European countries—in fact, about 60 percent of workers in western Europe. International banking and insurance rank among Europe’s top service industries. Switzerland and the United Kingdom are leaders in these fields. Belgium serves as the headquarters for hundreds of international companies. Tourism is another large service industry in Europe, especially in the United Kingdom, France, Germany, and Switzerland. As in the United States and Canada, high-technology industries are a growing sector of western Europe’s economy. Ireland, for example, has become a leading manufacturer of computer products and software.

Agriculture

Although largely industrialized, Europe also has fertile farmland. More Europeans earn a living from farming than from any other single economic activity. Yet the percentage of farmers in each country varies widely. For example, about 50 percent of Albania’s workers are farmers, but in the industrialized United Kingdom, fewer than 2 percent engage in agriculture.

Europe’s crops vary from area to area. Olives, citrus fruits, dates, and grapes grow in warm Mediterranean areas. Farther north, in the cooler plains region, farmers raise wheat, rye, and other grains as well as livestock. Northern countries, such as Denmark and the Netherlands, are major producers of dairy products. The Scandinavian countries are among the world’s leading suppliers of fish.

Farming Techniques

In western Europe, farmers use advanced technology to make the best use of limited agricultural space. Mixed farming—raising several kinds of crops and livestock on the same farm—is common. Most western European farmers own their own land, and the average farm covers about 30 acres (about 12 ha). In Denmark and some other countries, farm cooperatives, organizations in which farmers share in growing and selling products, reduce costs and increase profits.

In eastern Europe, the fall of communism has brought many changes to farming. Under communism, farmers worked either on government-owned collective farms, receiving wages plus a share of products and profits, or on state farms, not sharing in the profits but getting wages like factory workers. On both types of farms, outdated equipment and lack of incentive resulted in low crop yields. Since the shift to democracy, private ownership of land and food production has risen, and eastern European farmers are expected to increase yields and profits by using modern equipment and fertilizers.

Agricultural Issues

Throughout Europe, new farming methods have not escaped criticism. Many Europeans, for example, oppose genetically modified foods, foods with genes altered to make them grow bigger or faster or be more resistant to pests. Opponents claim that
little is yet known about the safety of these foods. In addition, many consumers also avoid foods grown in fields treated with toxic chemicals to control insects or weeds. Because of the concern about chemical use, some farmers rely on organic farming, using natural substances instead of fertilizers and chemicals to increase crop yields.

Despite much agricultural success, western Europe today faces a livestock crisis. In 2001 an outbreak of foot-and-mouth disease in the United Kingdom required the killing of thousands of animals, severely crippling the country’s livestock industry. The disease—highly contagious among animals but harmless to humans—then crossed to the European continent. As the disease threatened to spread across Europe, consumer panic led to plummeting beef sales. Fearing a global threat from the foot-and-mouth outbreak, the United States and other countries banned imports of animals, meat, and milk from Europe.

**Transportation and Communications**

Europe’s network of highways, railroads, waterways, and airline routes is among the best in the world. Modern communications systems also link most parts of Europe to one another and to the rest of the world. Many of the continent’s transportation and communications systems are government-owned, with standards and performance varying from one country to another. Eastern Europe, for example, is trying to improve its less advanced transportation and communications systems to match the quality of those in western Europe.

**Railways and Highways**

Throughout Europe, railroads move freight and passengers. Rail lines connect the region’s major cities and airports as well as link natural resources to major industrial centers. Railroads provide easy access to downtown and suburban areas. Bridges and tunnels carry traffic over or through barriers posed by water, mountains, or valleys. For example, in 2000 Denmark and Sweden opened a rail and road bridge that links Sweden to western Europe for the first time since the last Ice Age.

France pioneered the use of high-speed trains with its introduction in 1981 of trains à grand vitesse (TGVs), which means “very fast trains.” The fastest trains in the world, TGVs cause less damage to the environment than most other forms of transportation. High-speed rail lines, more economical than airline travel, now also operate in Germany, Italy, and Spain. A high-speed rail triangle links Paris, Brussels, and London, passing beneath the English Channel through the Chunnel, or Channel Tunnel.

A well-developed highway system also links Europe’s major cities. Germany’s four-lane superhighways, called autobahnen, are among Europe’s best roads. Europe has the highest number of automobile owners in the world except for the United States. Bicycles and motorcycles also provide popular forms of transportation.

**Seaports and Waterways**

With its long coastline, Europe has a seafaring tradition. Europe handles more than half the world’s international shipping at its bustling ports. Major ports include London, England; Antwerp, Belgium;
Checking for Understanding

1. Define European Union (EU), Maastricht Treaty, heavy industry, light industry, mixed farming, farm cooperative, collective farm, state farm, genetically modified food, organic farming.

2. Main Ideas Use a chart to organize data about factors affecting Europe’s economy.

<table>
<thead>
<tr>
<th>Economic Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry</td>
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</table>

Critical Thinking

3. Making Comparisons What different challenges do eastern and western Europeans face as they move toward a more unified Europe?

4. Identifying Cause and Effect Explain how physical geography influenced Europe’s economic development.

5. Drawing Conclusions What are the advantages and disadvantages of Europe’s communications systems?

Analyzing Maps

6. Region Study the map of the European Union on page 316. What common cultural and geographic features aided the formation of the EU?

Applying Geography

7. Agriculture in Europe Imagine that you are a farm-worker in eastern Europe. Write a description about how your work activities have changed since the fall of communism.

Europeans use cellular phones, electronic mail, and the Internet. Books, magazines, and newspapers continue to shape public opinion in Europe. As democracy has grown in eastern Europe, government censorship of printed materials has ended. In the next section, you will read how people in Europe interact with the region’s physical environment.
People and Their Environment

Guide to Reading

Consider What You Know
Environmental issues are frequently in the news in the United States. What threats to the environment in European countries have made headlines in U.S. newspapers?

Read to Find Out
- How have industry and farming practices affected Europe’s environment?
- What steps are being taken to protect Europe’s environment?
- What successes have Europeans had in recent decades in reversing the effects of pollution?

Terms to Know
- dry farming
- acid rain
- meltwater
- acid deposition
- environmentalist
- greenhouse effect
- global warming
- biologist

Places to Locate
- Romania
- Mediterranean Sea
- Strait of Gibraltar
- Carpathian Mountains

A Geographic View

A High Price
A Czechoslovak friend described what it was like in the 1950s. . . . “The bright future lay in industrializing as fast as possible. This way we would exploit all natural resources and gain mastery over nature. The technology was often out of date, but we were after short-term benefits—there was no thought of the future environmental consequences.”


When communism ended in eastern Europe, the results of nearly 40 years of rapid industrialization were shockingly clear: polluted air and rivers, acres of destroyed forests, and soot-covered, decaying buildings. In this section you will learn about the interaction of Europeans with their environment. You will also discover how Europeans are working together to reverse the effects of pollution, a problem that crosses national borders.

Humans and the Environment
As in other parts of the world, people in Europe face challenges posed by the physical environment. In southern Europe, about 40 million years ago, two tectonic plates collided, thrusting up great mountain ranges, including the Alps and the Apennines. The frequent occurrence of earthquakes in countries such as Italy, Greece, and Macedonia indicates that tectonic changes are still taking place today, and earthquakes may strike with devastating effects. Like peoples in other areas, Europeans affect and are affected by their environment.
People in parts of southern Europe also have to cope with low rainfall. For example, Spain’s Meseta is so arid that streams dry up, the ground becomes scorched, and drought is common. The arid climate makes dry farming necessary in this area. **Dry farming** is a way of farming in dry areas that produces crops without any irrigation and relies on farming methods that conserve soil moisture.

**The Delta Project**

In northwestern Europe, violent Atlantic and North Sea storms strike countries that border the sea, such as the Netherlands and Denmark. During these storms, sea travel is often hazardous along these countries’ coasts. In 1953 a severe Atlantic storm, combined with the North Sea’s heavy spring tide, flooded the southwest corner of the Netherlands, killing about 1,800 people. For nearly the next 30 years, Dutch engineers carried out the Delta Plan, a project that aimed to prevent such severe flooding. Under the plan, a system of dams and dikes was built to seal off and protect the Netherlands’ southwestern coast.

**Floods**

In recent years heavy rains have lashed much of Europe, causing widespread floods and mudslides. This extreme weather has led to loss of life, property damage, and disruption of transportation networks. Some scientists claim that the natural climate cycle accounts for the rains. Others believe that global warming is responsible.

**Pollution**

In some ways, Europeans have not dealt wisely with their environment. Over the years, Europe’s high concentration of industry and population has had a devastating impact on the land, air, and water. For example, in central Europe’s “black triangle,” a heavily industrialized area in Poland, eastern Germany, and the Czech Republic, soot covers the ground, and the air bears the smell of sulfur from smokestacks.

Before 1989 eastern European countries had practically no laws to control pollution. With the communist emphasis on rapid industrial growth—not environmental safety—the pollution of the air, water, and soil increased until it affected public health. Although efforts are now under way to clean up the environment, the “black triangle” still bears the scars of poorly considered development from the communist era. Western European countries also have experienced serious environmental damage from the dumping of industrial wastes into the air and water. The European Union (EU) now requires environmental protection and cleanup from its members.

**Acid Rain**

In the 1960s industries in several European countries built high smokestacks to carry pollution away from industrial sites. This method worked locally, but the pollution directed away from the factories drifted across national borders. The pollution, containing acid-producing chemicals, combined with moisture in the air and fell as **acid rain**. Polluted clouds drifting from the industrial belt of Europe, for example, wither forests in other areas, and increase the trees’ vulnerability to insects and disease.

The effects of acid rain are especially severe in eastern Europe, where lignite coal continues to serve as a main fuel source. Also called brown coal, lignite is found close to the earth’s surface, making the cost of production low. Lignite, however, burns inefficiently and pollutes heavily. As a result, acid rain has ravaged 35 percent of Hungary’s forests, 82 percent of Poland’s, and 73 percent of the forests in the Czech Republic and Slovakia.

Acid rain damage is not limited to forests. Acid rain also falls on lakes and rivers. In winter, snow carries the industrial pollution to the ground. In spring, **meltwater**—the result of melting snow and ice—carries the acid into lakes and rivers. As acid concentrations build, fish and other aquatic life die. Nearly 20 percent of Sweden’s lakes have no fish. A third of the rivers in the Czech Republic and half of those in Slovakia cannot support aquatic life.

Automobile exhaust also adds acid-forming compounds to the atmosphere. **Acid deposition**, wet or dry acid pollution that falls to the ground, harms not only Europe’s natural environment but also its historic buildings. The Acropolis in Athens, the Tower of London, and Cologne Cathedral in Germany all show damage from acid deposition. Statues, bridges, and stained glass windows also show the harmful effects of this type of pollution.
Air Pollution

Air pollution is a problem throughout Europe. Traffic exhausts and industrial fumes cause eye irritations and asthma, and make respiratory infections worse in people who live in the industrial areas of western Europe. In the Netherlands—where people drive the greatest number of cars per square mile in Europe—high levels of air pollution also affect public health. In 2000 Swiss researchers estimated that pollution from automobiles and trucks was responsible for about 6 percent of all deaths across Austria, France, and Switzerland.

In eastern Europe, factories built in the communist era belch soot, sulfur, and carbon dioxide into the air by the hundreds of tons. As a result, Poland, Romania, and the Czech Republic are among the world’s most polluted countries. Life expectancy is lower in eastern Europe than in environmentally cleaner regions, and cancer rates and birth defects are higher. Air pollution also has poisoned crops.

Although steps are being taken to reduce pollution, Europe still faces many challenges. For example, some former communist countries are closing polluting factories. Yet they are also putting more cars on the road, increasing air pollution from traffic.

Global Warming

The problems of air quality in Europe, like those in other industrialized regions, may have global consequences. Many environmentalists—people concerned with the quality of the environment—are studying the effects of increased carbon dioxide in the earth’s atmosphere. Carbon dioxide and other gases trap the sun’s heat near the earth’s surface, creating the greenhouse effect. Without this greenhouse effect, the earth would be so cold that even the oceans would freeze. Plants would not grow, and life would not exist.

The burning of fossil fuels such as coal, oil, and gasoline, however, has significantly raised the amounts of carbon dioxide in the atmosphere, increasing the greenhouse effect. Some scientists estimate that the earth’s average temperature may rise 2.5° to 10.4°F (1.4° to 5.8°C) by the year 2100, a trend called global warming. A warmer global climate, they claim, will melt polar ice caps and mountain glaciers and cause oceans to submerge coastal areas. Weather patterns might change, producing new extremes of rainfall and drought.

Although the potential destruction from global warming is more widespread than are other environmental issues, governments give it less attention than they do other environmental issues that are more regional or local. Facing the threat of global warming requires international cooperation. However, because not all scientists agree that global warming is occurring, the international community so far has done little to reduce its possible causes.
Economics

Water Pollution

Water pollution is another issue facing Europe, particularly in the Mediterranean region. Countries bordering the Mediterranean Sea use the sea for transportation and recreation. They also use it for waste disposal, dumping sewage, garbage, and industrial waste there. In the past, bacteria in the Mediterranean Sea broke down most of the waste the sea received. In recent times, however, growing populations and tourism along the coast have increased the environmental problems of the Mediterranean. Small tides and weak currents tend to keep pollution where people discharge it. The Mediterranean Sea, open to the Atlantic only through the narrow Strait of Gibraltar, takes almost a century to renew itself completely.

Pollution contaminates marine and animal life and creates health hazards for people. The Mediterranean is overfished and cannot provide its former bounty. Only small schools of tuna enter from the Atlantic, and disease has claimed the last Mediterranean monk seals. Native species of seaweed and shellfish compete with foreign species carried into the Mediterranean by ships.

Water pollution affects Europe’s rivers and lakes as well as its coastal waters. The Danube River, for example, is seriously affected by agricultural runoff. When fertilizers enter the river, they encourage algae growth. Algae, in turn, rob the river of so much oxygen that fish cannot survive. Another source of pollution is raw sewage, which is dumped into rivers in various places. In Warsaw, for example, only half of the sewage is treated. The other half is released untreated into the Vistula River. Industries in western Europe deposit wastes into the Meuse and Rhine Rivers; from there the pollutants flow into the North Sea. Consequently, pollution levels from the Netherlands to Denmark have doubled over the past few years.

Reducing Pollution

Europeans are working to solve environmental problems, such as pollution and waste disposal. They understand the economic impact of pollution, such as the loss of tourists and the high cost of cleanup. They also recognize the cultural effects, primarily the destruction of natural and historical sites.

Concern for the Environment

Today’s Europeans feel responsible for protecting and preserving the environment and their national heritages for future generations. For example, many Europeans share a respect for nature. Those who live in densely populated areas value the opportunity to get away from urban areas and enjoy the natural landscape. Those who inhabit sparsely populated areas often depend on the natural environment to support their way of life.

The European concept of a natural environment is different from that in other parts of the world. Few
areas in Europe remain unchanged by the clearing of forests, the drainage of seas, or the building of canals. Although much of Europe has been greatly altered by human activity, Europeans want to preserve what little wilderness area is left. One of the largest areas of Europe still in its natural state is the Bialowieza (bee•ah•lah•WEH•zah) Forest in Belarus and Poland. Today this area is home to animal species such as the wolf, lynx, and European bison, all of which are now rarely seen elsewhere in Europe.

An effort to reintroduce wolves—which help reduce large herds of musk oxen, elk, reindeer, and other deer—is under way in some parts of Europe. Spain recolonized the animals in the northwest areas of the country, and their number has tripled to more than 2,000. Wolves now live within 25 miles of Rome, where their reintroduction succeeded in part because Italian farmers are paid for livestock lost to wolves. Wolves also are thriving in Romania’s Carpathian Mountains. About 2,500 wolves—weighing up to 150 pounds (68 kg) each—live in the heavily forested mountains, preying on chamois, roe deer, and red deer.

**Cleanup Efforts**

In recent decades Europeans have made more concerted efforts to clean up the environment. Member countries of the EU can face legal action if they do not respect environmental protection laws. For example, France was cited for violating the European Union’s guidelines on nitrate pollution, and Greece is being taken to court for failing to protect a rare Mediterranean sea turtle. European countries are also addressing the consequences of pollution. Cities in western Europe now protect buildings and statues with acid-resistant coatings. Lime added to lakes in Scandinavia reduces acid levels. Biologists—scientists who study plant and animal life—are researching the effects of acid levels on fish.

England’s Thames River cleanup is a notable success story. Until the 1960s, the river was lifeless, its fish destroyed by sewage and industrial pollution. Factory closings and strict environmental controls have allowed the return of many fish and birds. After having disappeared for 150 years, even the giant conger eel, a traditional delicacy, returned in large numbers to the Thames.

Pollution that crosses national borders, however, presents a more complicated situation. For example, pollution in the Danube River, flowing through central and eastern Europe, threatens wildlife in its outlet—the Black Sea:

“In the past 50 years the number of dolphins in the Black Sea has declined from an estimated million to about 200,000. We must improve the water quality, but how will it be possible financially and administratively when the Danube flows through eight countries, and 70 million people live within its drainage area?”

Jon Thompson, “East Europe’s Dark Dawn,” *National Geographic*, June 1991
Solving wide-ranging pollution problems requires international cooperation. The United Nations’ Mediterranean Action Plan, which involves 20 countries and the European Union, is a model of international joint effort. In 1999 the EU approved guidelines to protect endangered species, increase protection from industrial waste, and prevent the dumping of pollutants by ships and aircraft into the Mediterranean. The EU also required large companies to recycle a portion of their packaging waste. As a result, over 9 billion pounds (over 4 billion kg) of waste plastics were recycled in 1998.

Plans for the Future
The EU and European governments continue to develop ways to protect the environment. Many power plants now burn clean natural gas instead of lignite coal. By 2010 the EU wants all member countries to lower emissions to 15 percent below 1990 levels to reduce greenhouse gases.

In order to be admitted to the EU, countries in eastern Europe are expected to meet EU environmental standards. Because they will need to spend about $120 billion on cleanup, eastern Europeans are now seeking financial aid from EU countries in western Europe. Pollution from eastern Europe also threatens western Europeans, so they and U.S. companies are also providing technology, expertise, and investment to help modernize eastern Europe’s industries. Such efforts highlight the global range of Europe’s environmental concerns.
It looks harmless as it falls, pattering softly on the ground. Yet acid rain is a quiet killer. It can turn a forest into a patch of leafless trunks and a pond into a lifeless pool. Human activities are to blame for most acid rain. Chemical gases emitted from power plants, factories, and cars are the chief causes. Acid rain has damaged many European forests and lakes. Germany’s once-picturesque forests have been especially hard hit. Acid rain can be reduced. But to do so requires balancing environmental protection with the needs of modern industrialized societies.

Germany’s Forests:

In the Path of Acid Rain

Industrial emissions contribute to acid rain. 

Industrialists point out that modern societies cannot function without the electricity and material goods produced by power plants and factories. People need vehicles to get from place to place. Devices that reduce acid-causing emissions are expensive. Furthermore, solar power and other alternative energy sources are not yet realistic replacements for fossil fuels.

Despite these challenges, Germany is developing new technologies that will help reduce acid rain. German companies manufacture some of the world's most efficient gas turbines. Germans also built the first steel mill that does not burn coal to make steel.

What’s Your Point of View? 
Acid rain falling in Germany can be caused by another country’s power plants. How does this complicate finding solutions to the acid rain problem?
Using the Internet for Research

Using the Internet for research is both easier and harder than using the library. It is easier because you can look through many different sources at one time. Internet research can sometimes be difficult because of the large amounts of information and the lack of organization to it.

Learning the Skill

Fortunately, you can search for information on the Internet in several ways. You can start your search with a search engine, such as www.yahoo.com or a reference center, such as Internet Public Library, at www.ipl.org.

Once you find information, however, you need to consider its reliability.

- **Evaluate the source of the information.** Avoid sources that do not provide facts or that are heavily slanted toward a particular view.
- **Keep records.** Always record the Web site title and address, the date you viewed the Web site, and the author's name (if available) so you can cite it.

The top level domain (TLD) at the end of a Web site address tells you what kind of site you have accessed. These are the most common TLDs:

1. .gov—government agencies, such as the Library of Congress or the U.S. State Department
2. .edu—educational sites, such as universities or the Smithsonian Institution
3. .org—nonprofit organizations, such as the United Nations and the World Wildlife Fund
4. .com—business sites, such as the National Geographic Society or the Discovery Channel; search engines, such as Yahoo, are often .com sites

In 2000, seven new TLDs were introduced, including “.mus” for museums and “.biz”, an additional TLD for businesses.

Practicing the Skill

Use an Internet search engine to search for information about the environmental policies of the European Union. Analyze the Web sites you find. Then choose three sites, and record the reference information about each site.

Search the Internet to find three sites that provide data and statistics on Europe’s wildlife. Write a report analyzing and evaluating the sites’ validity and usefulness. Then use reliable site data to answer the following questions: What kinds of wildlife does Europe have? How is wildlife being protected? What countries are the most committed to wildlife protection?
SECTION 1  Living in Europe (pp. 313–319)

Terms to Know
- European Union (EU)
- Maastricht Treaty
- heavy industry
- light industry
- mixed farming
- farm cooperative
- collective farm
- state farm
- genetically modified food
- organic farming

Key Points
- The countries of the European Union work toward bringing the continent economic and political unity.
- After years of communist rule, countries in eastern Europe face a difficult transition to market economies.
- Europe’s economic activities include manufacturing, service and technology industries, and agriculture.
- Much of Europe has well-developed communications and transportation systems.

Organizing Your Notes
Create an outline using the format below to help you organize your notes for this section.

<table>
<thead>
<tr>
<th>I. Changing Economies</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. The European Union</td>
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<tr>
<td>B. Eastern Europe</td>
</tr>
<tr>
<td>II. Industry</td>
</tr>
<tr>
<td>A.</td>
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<td>B.</td>
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<tr>
<td>C.</td>
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<tr>
<td>III. Agriculture</td>
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<td>IV.</td>
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</tbody>
</table>

SECTION 2  People and Their Environment (pp. 320–325)

Terms to Know
- dry farming
- acid rain
- meltwater
- acid deposition
- environmentalist
- greenhouse effect
- global warming
- biologist

Key Points
- Acid rain is damaging Europe’s forests, waterways, wildlife, and buildings.
- Air pollution from Europe’s factories endangers public health and the environment.
- Greenhouse gases contribute to global warming.
- Pollution threatens the water quality and wildlife in the Mediterranean Sea and eastern Europe.
- European countries are taking steps to reduce pollution and clean up the environment.

Organizing Your Notes
Use charts like the one below to help you organize the notes you took as you read this section.

<table>
<thead>
<tr>
<th>Polluted Countries or Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Types of Pollution</td>
</tr>
<tr>
<td>Sources of Pollution</td>
</tr>
<tr>
<td>Cleanup Efforts</td>
</tr>
<tr>
<td>Results</td>
</tr>
</tbody>
</table>

Bird rescued from oil-covered beach, Wales
Critical Thinking

1. **Drawing Conclusions** Why are pollution problems most severe in eastern Europe?

2. **Making Predictions** How might global warming affect Europe? How do you think the countries of Europe will address the issue of global warming in the future?

3. **Comparing and Contrasting** On a Venn diagram, compare and contrast pollution in western and eastern Europe. Explain the interrelationships among physical and human processes regarding environmental change.

Reviewing Key Terms

On a sheet of paper, write the key term that best completes each sentence. Refer to the Terms to Know in the Summary & Study Guide on page 329.

1. Wet or dry pollution that falls directly to the ground is also known as ________.

2. ________ is damaging Europe’s forests.

3. Raising several types of crops and livestock is called ________.

4. ________ may cause the ice caps to melt.

5. ________ produces machinery.

6. Soviet officials managed a(n) ________, but did not share profits with the farmers.

7. ________ carries the acid precipitation into rivers and lakes in the spring.

8. The ________ set up the European Union (EU).

9. The ________ causes the sun’s heat to be trapped near the earth’s surface.

10. ________ is the production of textiles or processed food.

11. ________ uses natural substances to increase crop yield.

Reviewing Facts

**SECTION 1**

1. How is the European Union working toward economic and political unity for its members?

2. How has eastern European agriculture changed since the communist era ended?

**SECTION 2**

3. Why is air pollution in Europe so widespread?

4. How has the EU encouraged environmental protection and cleanup?

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**Locating Places**

Europe: Physical-Political Geography

Match the letters on the map with the places and physical features of Europe. Write your answers on a sheet of paper.

2. Po River 6. Corsica 10. Sardinia
3. Italy 7. France 11. Black Sea

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**NATIONAL GEOGRAPHIC**
Using the Regional Atlas
Refer to the Regional Atlas on pages 260–263.

1. Location In what area of Europe is subsistence farming predominant?

2. Place Name three European capitals that have populations greater than 5,000,000.

Thinking Like a Geographer
Think about the physical and human geography of Europe. What factors helped establish the European Union? Research and identify different points of view that will shape the future structure and role of the European Union.

Problem-Solving Activity
Problem-Solution Proposal Choose a city located on the Mediterranean Sea. Imagine that you head a planning committee that wants to encourage tourism but also wants to reduce the pollution in the local bay. Research the industrial and tourism activities of the city, and then write a proposal suggesting ways to develop tourism while reducing pollution. Address the proposal to the city’s industrial leaders, hotel managers, tourism directors, and water quality experts.

GeoJournal
Creative Writing Use the information in your GeoJournal to create an outline and storyboard for a television special on preserving the environment in Europe.

Technology Activity
Creating an Electronic Database Choose five countries from western Europe and five countries from eastern Europe. Using the Internet and other references, research the per capita income, or the average individual earnings in a year, for each country. Also find the percentage of the workforce involved in agriculture, manufacturing, and service industries for each country. Then use the information to create an electronic database. Write an essay explaining how these economic factors affect the standard of living in western and eastern Europe.

TAKS Test Practice
Choose the best answer for each of the following multiple-choice questions. If you have trouble answering the questions, use the process of elimination to narrow your choices.

1. Lignite, or brown coal, is easily and inexpensively mined. Why should European cities be discouraged from using lignite as a main fuel source?
   A Mining of lignite creates unsightly open pits that are dangerous to children.
   B Acid rain in European cities would be reduced by burning lignite.
   C European cities, especially in the east, use natural gas more than lignite.
   D Sulfur dioxide emissions from lignite cause high levels of air pollution.

2. How do prevailing winds affect the acid rain that falls in Europe?
   F Prevailing winds disperse acid rain across national borders.
   G Prevailing winds help clear away the acid rain, which results in less pollution.
   H Acid rain is heavier than air, so prevailing winds do not affect acid rain at all.
   J Europe’s industrial belt lies in an area with no prevailing winds.

For multiple-choice questions, remember to read each answer choice carefully. Some answer choices may not answer what the question asks. Sometimes, more than one answer may seem correct. Therefore, closely study the question so that you are sure of what it is asking, and then choose the answer choice that best answers the question.