

Europe:

Physical Geography and History

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GEOGRAPHY

Europe's Dramatic Landscape

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HISTORY

Classical Greece and Rome

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HISTORY

The Middle Ages and Renaissance

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HISTORY

Modern European History



ESSENTIAL QUESTION

What changes have taken place in Europe since ancient times?

CONNECT Geography & History

Use the map and the time line to answer the following questions.

1. What countries share borders with France?
2. The European Union's headquarters are in the capital of Belgium. What city is that?



2000 B.C.

History

◀ **27 B.C.** Augustus forms the Roman Empire, which lasts until A.D. 476. (Coin showing Augustus)

Geography

A.D. 79 Eruption of Mount Vesuvius destroys Roman city of Pompeii.

History

400s Beginning of the Middle Ages ▶



Present-Day Europe

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Culture

c. 1300 The Renaissance begins in Italy.

Government

1799 Napoleon seizes power in France following the French Revolution. ▶



Today

Economics

▲ **1992** Treaty forming the European Union is signed.

SECTION
1

Reading for Understanding

▶ Key Ideas

BEFORE, YOU LEARNED

The Earth's surface is covered with a variety of landforms, produced by internal and external forces.

NOW YOU WILL LEARN

Europe, too, has landforms ranging from mountains to plains. Its climate is influenced by its nearness to the ocean.

▶ Vocabulary

TERMS & NAMES

peninsula a body of land nearly surrounded by water

Alps Europe's tallest mountain range, stretching across southern Europe

Northern European Plain vast area of flat or gently rolling land from France to Russia

North Atlantic Drift warm ocean current that helps keep Europe's climate mild

fossil fuels sources of energy from ancient plant and animal remains

renewable energy sources sources of energy able to be replaced through ongoing natural processes

hydroelectric power electricity made by water-powered engines

BACKGROUND VOCABULARY

seafaring using the sea for transportation



Visual Vocabulary The Alps

▶ Reading Strategy

Re-create the chart shown at right. As you read and respond to the **KEY QUESTIONS**, use the chart to organize important details about the physical geography of Europe.



See Skillbuilder Handbook, page R7

CATEGORIZE

PENINSULAS	MOUNTAINS	RIVERS
1.	1.	1.
2.	2.	2.
3.	3.	3.





SECTION
1

GEOGRAPHY



Europe's Dramatic Landscape

Connecting to Your World

What comes to mind when you think of Europe? Snowcapped mountains on travel posters? Medieval castles next to winding rivers that you've seen in jigsaw puzzles? Or perhaps you've watched the Winter Olympics on television and seen skiers speeding down steep mountain slopes. Each of these images tells us something about Europe's physical geography. High mountain ranges, oceans, long broad rivers, and fertile plains are all a part of it. Let's see how they fit together.



Alcazar Castle Europe is famous for its castles, like this one in Segovia, Spain.

Peninsula of Peninsulas

KEY QUESTION Why is Europe called a peninsula of peninsulas?

A quick look at a map of Europe explains why it is called the "peninsula of peninsulas." A **peninsula** is a piece of land nearly surrounded by water. The entire continent of Europe is a peninsula with smaller peninsulas jutting out from it. Because of these peninsulas, most places in Europe are no more than 300 miles from an ocean or sea. Its nearness to these bodies of water has influenced Europe in many ways. The ocean modifies Europe's climate. Many Europeans use the ocean for both business and pleasure.

Opatija, Croatia

This town is located on the Istria Peninsula in southern Europe.



Europe's Coastline Europe's peninsulas extend off the continent in all directions, as the map on the opposite page shows. Far to the north, the Scandinavian Peninsula **A** juts out into the North Sea. Spain and Portugal occupy the Iberian Peninsula **B**, which extends into the Mediterranean Sea in southern Europe. The Italian and Balkan Peninsulas also stretch into the Mediterranean Sea.

Europe's many bays and peninsulas give it a long, uneven coastline, dotted with islands and stretching almost 24,000 miles. Europe has more coastline than Africa, a much larger continent. Long ago, Europe's nearness to the sea and its many natural harbors encouraged **seafaring**, or the use of the sea for transportation. Europeans fished, traded, and in time set out to explore other parts of the world.

Mountains Mountains are another key landform in Europe. They affect climate, travel, and culture. The **Alps C**, Europe's tallest mountain range, stretch across eight countries in southern Europe. The Pyrenees **D** once formed a natural barrier between France and Spain. Europe also has smaller mountain ranges, such as the Apennines.

Europe's mountain ranges separated the groups of people who settled the land thousands of years ago. This is one reason different cultures developed in Europe. Mountain ranges also contain natural resources, such as timber, which influence where people settle.

Mountains surround the **Northern European Plain E**, a vast area of flat or gently rolling land from France to Russia. Parts of the plain have fertile soil, making them Europe's major farming areas. Other parts are rich with coal. Industrial centers developed near the coal deposits. These variations have made settlement across the plain uneven.

SUMMARIZE Explain why Europe is called a peninsula of peninsulas.

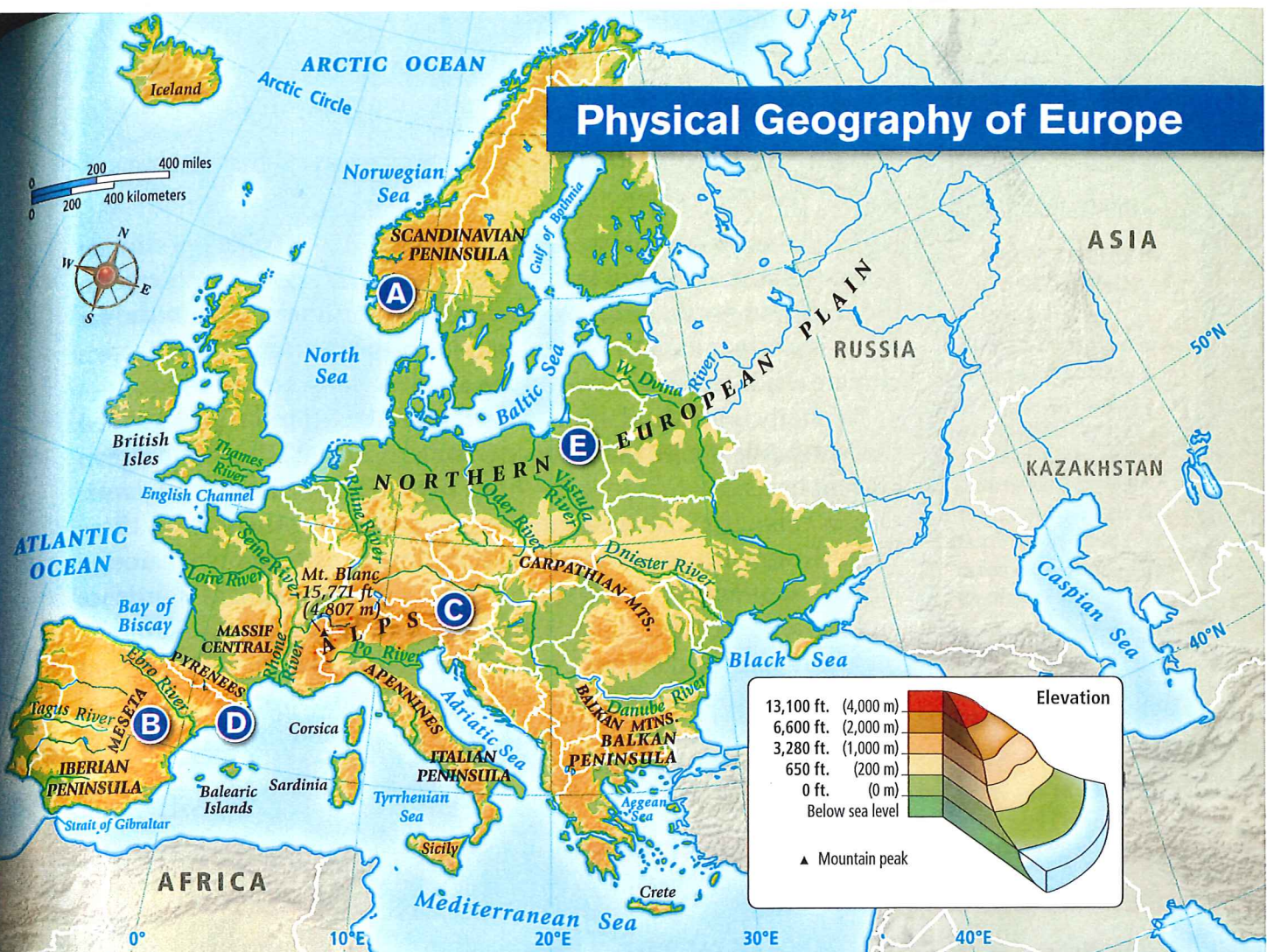


CONNECT Geography & Economics

Seafaring Economies

Europe's vast coastline boosted its economy by encouraging exploration, fishing, and trade. Europe provides over half of the world's international shipping. Countries with large fleets, such as Great Britain, ship goods around the world. To do so, they use ports on rivers like the Thames in London, shown here.

Physical Geography of Europe



CONNECT Geography & Economics

A Network of Rivers Europe's rivers are key trade and transportation networks. Goods are transported on rivers to and from coastal harbors. Cities sprang up along riverbanks to take advantage of these benefits.

- The **Rhine River** travels north from the Swiss Alps into the North Sea.
- The **Danube River** flows southeast from Germany into the Black Sea.
- The **Thames River** in the United Kingdom runs east across southern England to the North Sea.

CRITICAL THINKING

1. **Find Main Ideas** What advantages result from Europe's network of rivers?
2. **Draw Conclusions** Why are rivers important to landlocked countries in Europe?



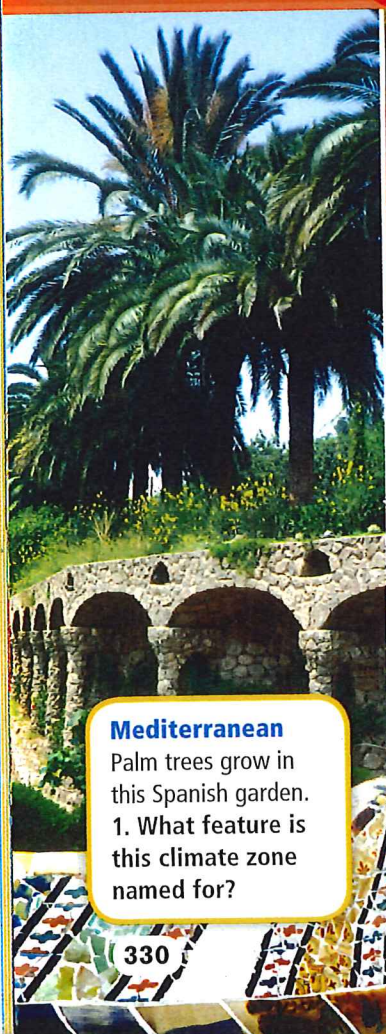
The Ocean's Influence on Climate

KEY QUESTION How has nearness to the sea affected the climate and vegetation of Europe?

Usually, the farther a place is from the equator, the colder its climate is. Like the United States, the northern parts of Europe are colder than the southern parts. In Europe, however, the climate even in the far north is warmer than the same latitudes in the United States. Europe's climate tends to be milder because of its nearness to the ocean.

Westerly winds and a warm current in the Atlantic Ocean called the **North Atlantic Drift** influence Europe's climate. The warm ocean current heats the air above it. Winds blowing east across the Atlantic Ocean carry the heat and moisture to Europe. In the winter, these westerlies bring warm tropical air to parts of Europe. Although Norway is as far north as parts of Alaska and Canada, it gets little ice and snow on its coast during the winter months. During the summer, the winds shift and deliver cooler subarctic air, keeping temperatures from getting too hot. Farther inland, the ocean has less effect on climate. Winter temperatures in eastern Europe tend to be colder than those in western Europe.

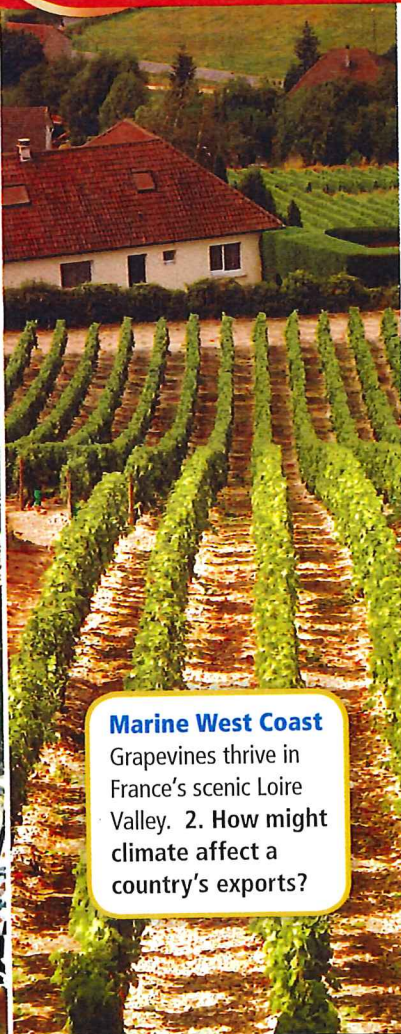
COMPARING Climate Regions of Europe



Mediterranean

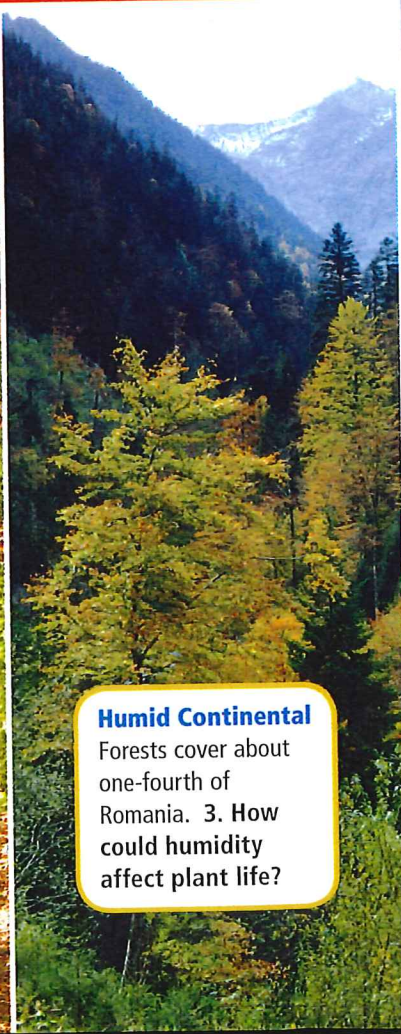
Palm trees grow in this Spanish garden. 1. What feature is this climate zone named for?

330



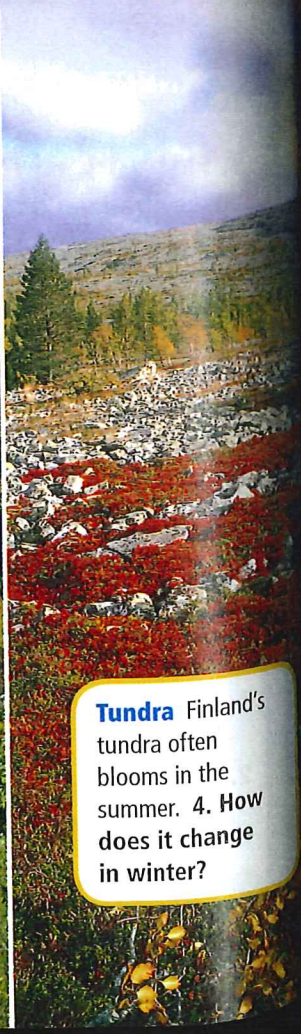
Marine West Coast

Grapevines thrive in France's scenic Loire Valley. 2. How might climate affect a country's exports?



Humid Continental

Forests cover about one-fourth of Romania. 3. How could humidity affect plant life?



Tundra Finland's tundra often blooms in the summer. 4. How does it change in winter?

Europe's plant and animal life varies with its climate. Parts of the Scandinavian Peninsula in the north are covered with tundra. Few plants can survive the cold winters. There are no trees on the tundra, but in the spring, mosses and a few wildflowers appear. Thick forests of fir trees cover large areas of northern Europe. Such trees remain green year-round. Central and eastern Europe once had forests of maple, oak, and elm trees. Today, most have been cut down for lumber or fuel. Far to the south, along the Mediterranean Sea, the climate is too warm and dry for the trees seen farther north. Instead, the wax-coated leaves of cork and olive trees retain water, helping these plants grow here.

In the Arctic region, elk and reindeer still roam, but most animals that once inhabited Europe's dense northern forests are gone. European brown bears, deer, foxes, and wolves live in parts of Europe. Two goatlike animals, the chamois (SHAM•ee) and ibex, inhabit high mountain areas in southern and southwestern Europe.

ANALYZE EFFECTS Explain the effects of Europe's location on its climate and vegetation.

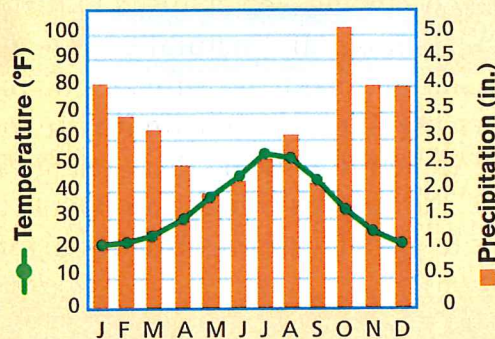
Fun Facts!

PALM TREES IN SCOTLAND?

Did you know that there are palm trees in Scotland? Even though Stranraer, Scotland is almost as far north as southern Alaska, palm trees thrive there. For this, Scots can thank the North Atlantic Drift. This ocean current brings mild weather to the region.

Tromsø, Norway
Latitude: 69° N

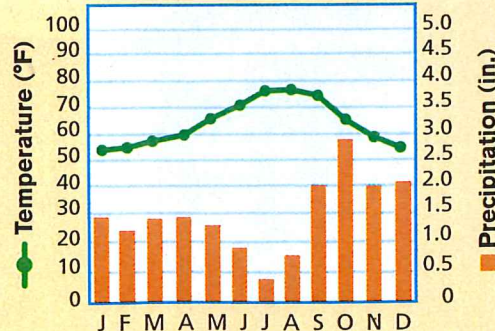
Tromsø, Norway: Subarctic



Source: www.euroweather.net

Valencia, Spain
Latitude: 39° N

Valencia, Spain: Mediterranean



Source: www.euroweather.net

Europe's Many Climates

Much of Europe's climate is mild as a result of the ocean, but differences in latitude still affect climate. Tromsø, Norway, far to the north, experiences the cool temperatures of a subarctic climate. Valencia, Spain, has a warm Mediterranean climate.

CRITICAL THINKING

- Evaluate** In both locations, more rain falls in October than in any other month. How does Valencia's October precipitation compare to Tromsø's?
- Compare and Contrast** How do the ranges of temperatures that each city experiences during the year compare to each other?

Europe's Resources

KEY QUESTION Why are energy resources so important to Europe's growth?

Europe has a variety of natural resources, from fertile soils to mineral deposits. These resources have influenced where people settled on the continent. They have also contributed to Europe's industrialization.

Fertile Soil and Abundant Resources Soil is an important resource because it is used to grow food for people to eat. Europe's regions of rich soil allow farmers to produce plentiful crops. About one-third of Europe's land can be used for farming, three times more than the world average.

Europe's landscape also provides a wide variety of important mineral resources. Minerals like iron, copper, lead, zinc, and coal provide the raw materials and energy needed for manufacturing. For instance, both coal and iron ore are used to make steel. Large deposits of these minerals helped industry develop in the United Kingdom and the Ruhr Valley in Germany.

Fuel for Industry As Europe's industry developed, it required additional energy sources to power factories and move goods. Several countries in northern Europe tap into oil and natural gas deposits in the North Sea. Countries such as France and Ukraine have uranium, a rare, naturally occurring element used to fuel nuclear power plants.

However, coal, oil, and natural gas are **fossil fuels**, sources of energy from ancient plant and animal remains. All of these energy sources—even uranium—exist in limited quantities and will eventually run out. In addition, using these energy sources can harm the environment. Burning fossil fuels can pollute the air and is believed to contribute to global warming. Nuclear plants create toxic waste.

Geothermal Power Plant This power plant in Larderello, Italy, produces enough energy each year to power half a million homes. Why might Italy want to develop more geothermal plants?



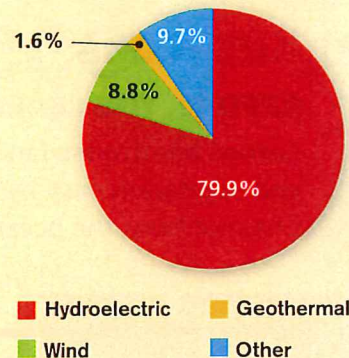
Renewable Energy As an alternative to fossil fuels, many European nations are trying to find renewable sources of energy. **Renewable energy sources** can be replaced through ongoing natural processes, such as sunshine, wind, and flowing water. These types of energy sources are also sustainable, meaning that they can be utilized without being used up.

Hydroelectric power is a renewable energy source that uses water-powered engines to make electricity. Austria generates energy by damming Alpine rivers. Coastal countries such as Ireland and Portugal are developing technology to harness wave energy. Germany, Spain, and Denmark lead the pack in producing electricity from wind energy. Other nations, including the Netherlands, generate heat and electricity by collecting solar energy from the sun. Italy and Iceland tap geothermal energy by drilling into naturally hot groundwater. These alternative energy sources have many benefits. They are sustainable. They reduce pollution. They mean that European nations can rely less on importing energy from other countries.

DRAW CONCLUSIONS Explain why energy resources are important to Europe's growth.

European Renewable Energy Sources

In 2001, 15 European countries used renewable energy sources to supply 15.2 percent of the energy they consumed. This pie graph shows how much energy came from each source.



Source: European Commission, *Electricity from Renewable Energy Sources*, 2004

Section 1 Assessment

ONLINE QUIZ
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TERMS & NAMES

1. Explain the importance of

- Alps
- Northern European Plain
- North Atlantic Drift
- fossil fuels

USE YOUR READING NOTES

2. Categorize

 Use your completed chart to answer the following question:

What are the major mountain ranges of Europe?

PENINSULAS	MOUNTAINS	RIVERS
1.	1.	1.
2.	2.	2.
3.	3.	3.

KEY IDEAS

- Why is the Northern European Plain important to Europe's economy?
- How does the North Atlantic Drift affect the climate of Europe?
- What are Europe's most important mineral resources?

CRITICAL THINKING

- Draw Conclusions** Why might mountains be both an asset and a disadvantage?
- Make Inferences** Why are coal and iron important to industrializing nations?
- CONNECT to Today** Why is Europe's network of rivers still important to its economy?
- WRITING Write a Report** Choose one of Europe's major rivers to write a report about. List the countries the river runs through. Include some major cities you might see if you sailed along the river. Finally, explain one way the river is important to Europe's economy.