CHAPTER 18

Northern Europe

What You Will Learn...

In this chapter you will discover Northern Europe's unique and varied physical geography. You will also study the history and culture of Northern Europe's two main regions—the British Isles and Scandinavia. Finally, you will learn about the British Isles and Scandinavia today.

Focus on Reading and Writing

Using Context Clues—Synonyms As you read, you may occasionally encounter a word or phrase that you do not know. When that happens, use the words and sentences around the unfamiliar word—context clues—to help you determine the word's meaning. As you read this chapter, look for words that are synonyms, or words that mean the same as the unfamiliar word. **See the lesson, Using Context Clues—Synonyms, on page 533.**

Writing a Letter Letters are a great way to stay in touch with friends and family. As you read this chapter, gather information about Northern Europe. Then imagine you are traveling through this region. Write a letter to your friends and family at home in which you describe what you have learned on your travels.

Geography Fertile plains like this one in Ireland provide Northern Europe with much of its farmland.

Interactive Map

Northern Europe: Political

map zone Geography Skills

Location Much of Northern Europe is separated from the rest of the continent by the English Channel and the North and Baltic seas.

1. **Identify** What countries extend north of the Arctic Circle?
2. **Contrast** How does Northern Europe differ physically from the rest of Europe?

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ARCTIC OCEAN
Arctic Circle
Norwegian Sea
North Sea
Baltic Sea
Gulf of Bothnia
Gulf of Finland
Tromso
Bergen
Oslo
Stockholm
Helsinki
Göteborg
Copenhagen
NORWAY
SWEDEN
FINLAND
DENMARK
ESTONIA
LATVIA
LITHUANIA
RUSSIA
BELARUS
POLAND
GERMANY
NETHERLANDS

History The Palace of Westminster in London has been home to the British Parliament for over 600 years.

Culture Skiing and other forms of outdoor recreation are popular throughout much of Scandinavia.

SECTION 1

Physical Geography

What You Will Learn...

Main Ideas

1. The physical features of Northern Europe include low mountain ranges and jagged coastlines.
2. Northern Europe's natural resources include energy sources, soils, and seas.
3. The climates of Northern Europe range from a mild coastal climate to a freezing ice cap climate.

The Big Idea

Northern Europe is a region of unique physical features, rich resources, and diverse climates.

Key Terms and Places

British Isles, *p. 449*
Scandinavia, *p. 449*
fjord, *p. 449*
geothermal energy, *p. 450*
North Atlantic Drift, *p. 450*

TAKING NOTES As you read, take notes on Northern Europe's physical features, natural resources, and climates. Record your notes in a chart like the one below.

Physical Features	Natural Resources	Climates

If YOU lived there...

Your family is planning to visit friends in Tromso, Norway. It is a city on the Norwegian Sea located 200 miles north of the Arctic Circle. You imagine a landscape covered in snow and ice. When you arrive, however, you discover green hills and ice-free harbors.

What might explain the mild climate?

BUILDING BACKGROUND Although located at high latitudes, Norway and the rest of Northern Europe have surprisingly mild temperatures. All the countries of Northern Europe are located on seas and oceans. As a result, they benefit from ocean currents that bring warm water north and keep the climate reasonably warm.

Physical Features

From Ireland's gently rolling hills to Iceland's icy glaciers and fiery volcanoes, Northern Europe is a land of great variety. Because of this variety, the physical geography of Northern Europe changes greatly from one location to another.

Two regions—the British Isles and Scandinavia—make up Northern Europe. To the southwest lie the **British Isles**, a group of islands located across the English Channel from the rest of Europe. Northeast of the British Isles is **Scandinavia**, a region of islands and peninsulas in far northern Europe. The island of Iceland, to the west, is often considered part of Scandinavia.

Hills and Mountains Rough, rocky hills and low mountains cover much of Northern Europe. Rugged hills stretch across much of Iceland, northern Scotland, and Scandinavia. The jagged Kjolen (CHUH-luhn) Mountains on the Scandinavian Peninsula divide Norway from Sweden. The rocky soil and uneven terrain in these parts of Northern Europe make farming there difficult. As a result, fewer people live there than in the rest of Northern Europe.

Interactive Map

Northern Europe: Physical

1 Melting glaciers created Scandinavia's jagged coastline and many fjords.

ARCTIC OCEAN
Denmark Strait
Norwegian Sea
ICELAND
Arctic Circle
KJOLEN MTS.
SCANDINAVIAN PENINSULA
FINLAND
Gulf of Bothnia
NORWAY
Sogne Fjord
1
Lake Vanern
ATLANTIC OCEAN
North Sea
SWEDEN
SCOTLAND
NORTHERN IRELAND
UNITED KINGDOM
DENMARK
JUTLAND PENINSULA
Baltic Sea
IRELAND
Irish Sea
WALES
ENGLAND
BRITISH ISLES
English Channel
EUROPE

0 150 300 Miles
0 150 300 Kilometers
Projection: Azimuthal Equal-Area

ELEVATION

Feet	Meters
13,120	4,000
6,560	2,000
1,640	500
656	200
(Sea level) 0	0 (Sea level)
Below sea level	Below sea level

ice cap

map zone Geography Skills

Place Northern Europe is made up of many islands and peninsulas.

1. **Identify** What countries are located on islands?
2. **Contrast** How is Norway's coastline different from Finland's?

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Farmland and Plains Fertile farmland and flat plains stretch across the southern parts of the British Isles and Scandinavia. Ireland's rolling, green hills provide rich farmland. Wide valleys in England and Denmark also have plenty of fertile soil.

Effects of Glaciers Slow-moving sheets of ice, or glaciers, have left their mark on Northern Europe's coastlines and lakes. As you can see on the map above, Norway's western coastline is very jagged. Millions of years ago, glaciers cut deep valleys into Norway's coastal mountains. As the glaciers melted, these valleys filled with water, creating deep fjords. A **fjord** (fee-AWRD) is a narrow inlet of the sea set between high, rocky cliffs. Many fjords are very long and deep. Norway's Sogne (SAWNG-nuh) Fjord, for example, is over 100 miles (160 km) long and more than three-quarters of a mile (1.2 km) deep. Melting glaciers also carved thousands of lakes in Northern Europe. Sweden's Lake Vanern, along with many of the lakes in the British Isles, were carved by glaciers thousands of years ago.

READING CHECK **Summarizing** What are some physical features of Northern Europe?

Natural Resources

ACADEMIC VOCABULARY
primary main, most important

Natural resources have helped to make Northern Europe one of the wealthiest regions in the world. Northern Europe's primary resources are its energy resources, forests and soils, and surrounding seas.

Energy Northern Europe has a variety of energy resources. Norway and the United Kingdom benefit from oil and natural gas deposits under the North Sea. Hydroelectric energy is produced by the region's many lakes and rivers. In Iceland steam from hot springs produces **geothermal energy**, or energy from the heat of Earth's interior.

Forests and Soils Forests and soils are two other important natural resources in Northern Europe. Large areas of timber-producing forests stretch across Finland and the Scandinavian Peninsula. Fertile soils provide rich farmland for crops, such as wheat and potatoes. Livestock like sheep and dairy cattle are also common.

Seas and Oceans The seas that surround Northern Europe are another important natural resource. For centuries, the North Sea, the Norwegian Sea, and the Atlantic Ocean have provided rich stocks of fish. Today, fishing is a key industry in Norway, Denmark, and Iceland.

READING CHECK **Summarizing** What natural resources are found in Northern Europe?

Satellite View

Norway's Fjords

Millions of years ago much of Norway was covered with glaciers. As the glaciers flowed slowly downhill, they carved long, winding channels, or fjords, into Norway's coastline.

As you can see in this satellite image, fjords cut many miles into Norway's interior, bringing warm waters from the North and Norwegian seas. As warm waters penetrate inland, they keep temperatures relatively mild. In fact, people have used these unfrozen fjords to travel during the winter when ice and snow made travel over land difficult.

Drawing Conclusions How do fjords benefit life in Norway?

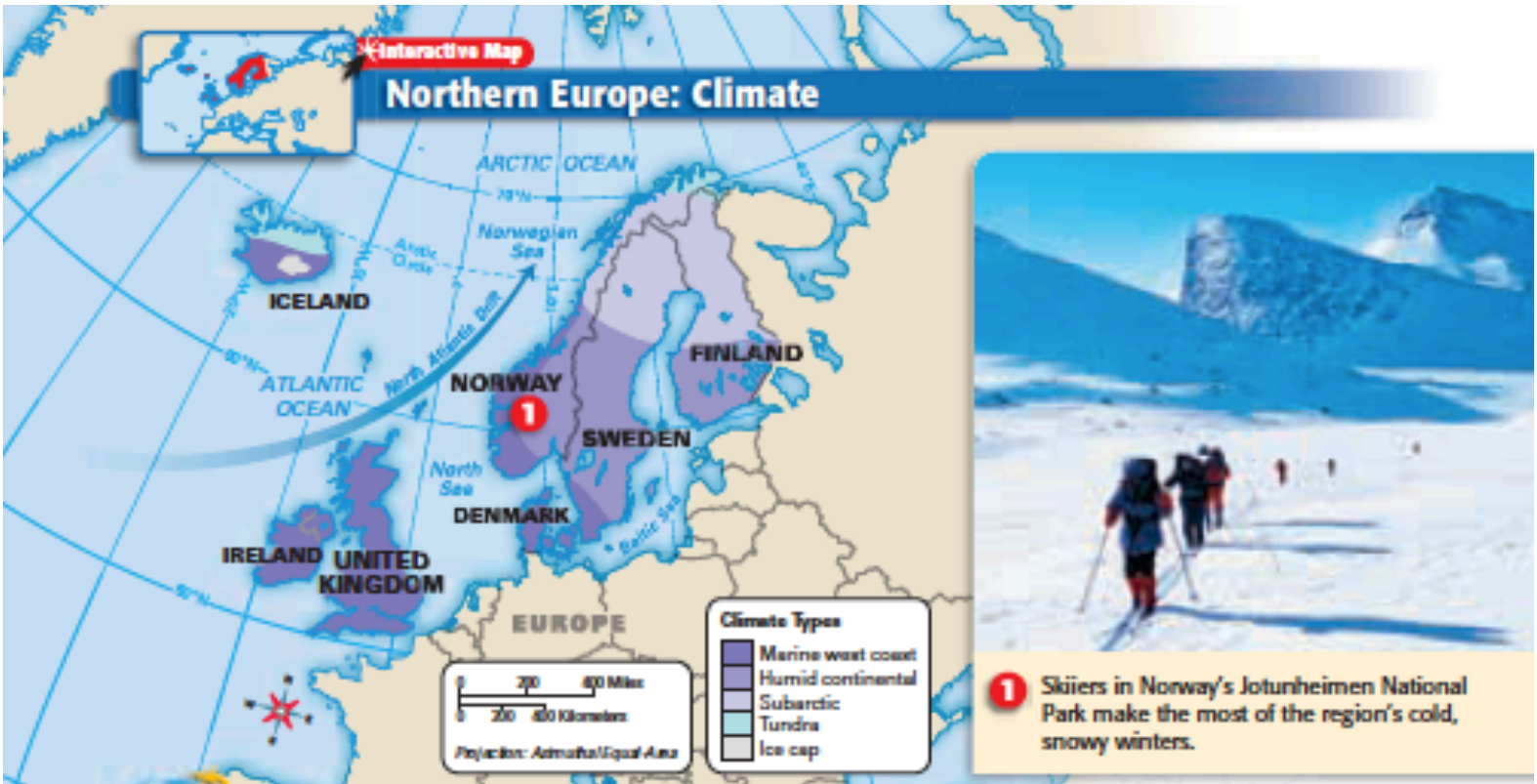
Climates

Locate Northern Europe on a map of the world. Notice that much of the region lies near the Arctic Circle. Due to the region's high latitude, you might imagine that it would be quite cold during much of the year. In reality, however, the climates in Northern Europe are remarkably mild.

Northern Europe's mild climates are a result of the **North Atlantic Drift**, an ocean current that brings warm, moist air across the Atlantic Ocean. Warm waters from this ocean current keep most of the region warmer than other locations around the globe at similar latitudes.

Much of Northern Europe has a marine west coast climate. Denmark, the British Isles, and western Norway benefit from mild summers and frequent rainfall. Snow and frosts may occur in winter but do not usually last long.

Central Norway, Sweden, and southern Finland have a humid continental climate. This area has four true seasons with cold, snowy winters and mild summers.



1 Skiiers in Norway's Jotunheimen National Park make the most of the region's cold, snowy winters.

map zone Geography Skills

Regions The climates of Northern Europe range from mild marine west coast to freezing ice cap.

1. **Locate** What parts of Northern Europe have tundra climates?
2. **Make Inferences** What allows much of Northern Europe to have mild climates?

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Far to the north are colder climates. Subarctic regions, like those in Northern Scandinavia, have long, cold winters and short summers. Iceland's tundra and ice cap climates produce extremely cold temperatures all year.

READING CHECK **Analyzing** How does the North Atlantic Drift keep climates mild?

SUMMARY AND PREVIEW Northern Europe has many different physical features, natural resources, and climates. Next, you will learn about the history and culture of the British Isles.

Section 1 Assessment

Online Quiz KEYWORD: SJ7 HP1B

Reviewing Ideas, Terms, and Places

1. a. **Describe** What are the physical features of this region?
   b. **Analyze** What role did glaciers play in shaping the physical geography of Northern Europe?
2. a. **Recall** What is **geothermal energy**?
   b. **Make Inferences** How do people in Northern Europe benefit from the surrounding seas?
3. a. **Identify** What climates exist in Northern Europe?
   b. **Predict** How might the climates of Northern Europe be different without the **North Atlantic Drift**?

Critical Thinking

4. **Comparing and Contrasting** Using your notes and a chart like the one below, compare and contrast the physical geography of the British Isles and Scandinavia.

	British Isles	Scandinavia
Physical Features		
Resources		
Climates		

FOCUS ON WRITING

5. **Describing the Physical Geography** Take notes on the physical features, resources, and climates of Northern Europe. In what season might you visit the region?