



Climate and Vegetation

Main Ideas

- Much of Europe has a relatively mild climate because of ocean currents and warm winds.
- Eastern Europe has a harsher climate because it is farther from the Atlantic Ocean.

Places & Terms

North Atlantic Drift

sirocco

mistral

CONNECT TO THE ISSUES

POLLUTION Industrial air pollution leads to acid rain, which kills trees and other vegetation.

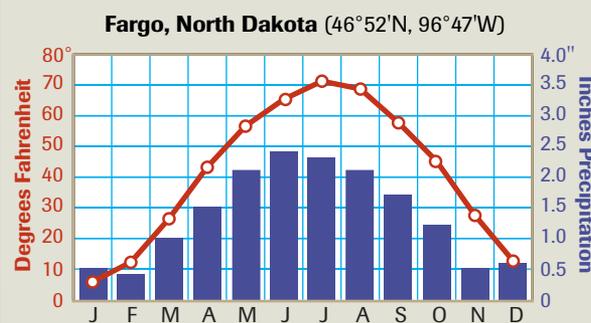
A HUMAN PERSPECTIVE Because of Greece’s mild climate, the ancient Greeks spent much time outdoors. Greek men liked to talk with their friends in the marketplace. They also enjoyed sports. Large crowds gathered for athletic contests that were held during religious festivals. The most important of these was a footrace held every four years in the town of Olympia, a contest called the Olympic Games. In time, these games came to include other sports such as wrestling. In this form, they were the model for our modern Olympics. If ancient Greece had had a cold climate, we might not have Olympic Games today.

Westerly Winds Warm Europe

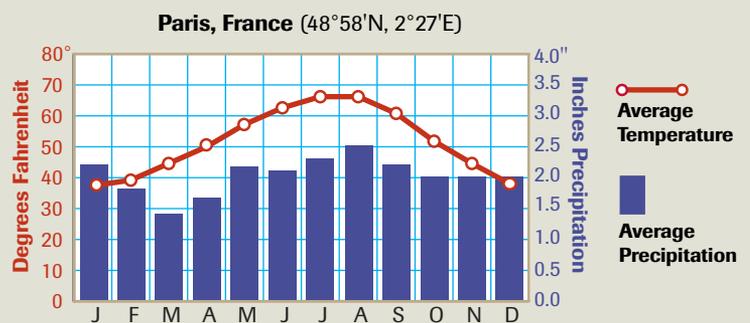
A marine west coast climate exists in much of Europe—from northern Spain across most of France and Germany to western Poland. It also exists in the British Isles and some coastal areas of Scandinavia. With warm summers and cool winters, the region enjoys a milder climate than do most regions at such a northern latitude.

The nearby ocean and the dominant winds create this mild climate. The **North Atlantic Drift**, a current of warm water from the tropics, flows near Europe’s west coast. The prevailing westerlies, which blow west to east, pick up warmth from this current and carry it over Europe. No large mountain ranges block the winds, so they are felt far inland. They also carry moisture, giving the region adequate rainfall.

Climographs: Fargo and Paris



SOURCES: *The Climate of the Earth*, National Weather Service



SOURCES: *Weather America*, *World Weather Guide*



SKILLBUILDER: Interpreting Graphs

MAKING COMPARISONS Which of these two locations is farther north? Which has the milder climate? Explain how you determined which was milder.

Geographic Thinking

Making Comparisons

A Would you expect the high Alps to be more or less densely populated than the surrounding region? Why?

The Alps create a band of harsher conditions next to this climate zone. Because of their high elevation, the Alps have a much colder climate. Above 5,000 feet, snow can reach a depth of 33 feet in winter. **A**

FORESTS TO FARMS Originally, mixed forests covered much of the marine west coast climate region. Over the centuries, people cleared away most of the forest so they could settle and farm the land. Today, farmers in the region grow grains, sugar beets, livestock feed, and root crops such as potatoes.

Harsher Conditions Inland

People who live far from the Atlantic Ocean do not benefit from the moderating influence of the westerlies. As a result, much of Sweden and Finland and the eastern parts of Poland, Slovakia, and Hungary have a humid continental climate, as does all of Romania. These places have cold, snowy winters and either warm or hot summers (depending upon their latitude). In general, the region receives adequate rainfall, which helps agriculture.

Like most of Europe, the region has suffered much deforestation, but the forests that do survive tend to be coniferous. The region also has broad fertile plains that were originally covered with grasses. Today, farmers grow grains such as wheat, rye, and barley on these plains. Other major crops include potatoes and sugar beets.

The Sunny Mediterranean

A mild climate lures people to live and vacation in the region bordering the Mediterranean Sea. This Mediterranean climate extends from southern Spain and France through Italy to Greece and other parts of the Balkan Peninsula. Summers are hot and dry with clear, sunny skies, while winters are moderate and wet. One reason for the climate is that mountain ranges block cold north winds from reaching the Iberian, Italian, and Balkan peninsulas.

SPECIAL WINDS An exception to this pattern is the Mediterranean coast of France, which is not protected by high mountains. In winter, this coast receives the **mistral** (MIHS•truhl), a cold, dry wind from the north. **B**

Most Mediterranean countries experience a wind called the sirocco. The **sirocco** (suh•RAHK•oh) is a hot, steady south wind that blows from North Africa across the Mediterranean Sea into southern Europe. Some siroccos pick up moisture from the sea and produce rain; others carry dust from the desert.

REGION In some Mediterranean fields, such as this one in southern France, olive trees and grape vines are grown side by side. **Why might farmers choose to plant a field with two crops instead of one?**



Geographic Thinking

Using the Atlas

B Locate southern France on the map on page 263. What type of landform borders the Mediterranean Sea there?



THE CLIMATE ATTRACTS TOURISTS

The Mediterranean region has primarily evergreen shrubs and short trees that grow in climates with hot, dry summers. The region's major crops are citrus fruits, olives, grapes, and wheat. The sunny Mediterranean beaches also attract thousands of people, making tourism a major industry in the region.

Land of the Midnight Sun

In far northern Scandinavia, along the Arctic Circle, lies a band of tundra climate. As explained in Chapter 3, the land in such a climate is often in a state of permafrost, in which the subsoil

remains frozen year-round. No trees grow there—only mosses and lichens. To the south of this lies the subarctic climate, which is cool most of the time with very cold, harsh winters. Little grows there but stunted trees. Because of the climate, agriculture is limited to southern Scandinavia.

This far northern region witnesses sharp variations in the amount of sunlight received throughout the year. Winter nights are extremely long, as are summer days. North of the Arctic Circle, there are winter days when the sun never rises and summer days when the sun never sets. The region is often called the Land of the Midnight Sun.

In the next section, you will read about ways in which Europeans have altered their environment—both positively and negatively.

BACKGROUND

A lichen is an organism made of a fungus and an alga growing together.



PLACE In the village of Jukkasjärvi, Sweden, the Ice Hotel is built every winter out of 10,000 tons of ice and 30,000 tons of snow.

How does climate make this possible?

SECTION 2 Assessment

1 Places & Terms

Identify these terms and explain how they affect climate.

- North Atlantic Drift
- mistral
- sirocco

2 Taking Notes

REGION Review the notes you took for this section.

Climate and Vegetation

- Which regions of Europe have the harshest, coldest climates?
- Which climate zones produce the richest variety of vegetation?

3 Main Ideas

- How do the North Atlantic Drift and the prevailing westerlies affect Europe's climate?
- How are a mistral and a sirocco different?
- Why is northern Scandinavia sometimes called the Land of the Midnight Sun?

4 Geographic Thinking

Making Decisions If you wanted to attract tourists to far northern Scandinavia, how would you advertise the region? **Think about:**

- recreational activities suitable for such a climate



RESEARCH LINKS
CLASSZONE.COM

GeoActivity

MAKING COMPARISONS Choose a place in Europe, and then find a place in North America at about the same latitude. Do Internet research to learn about the climate and vegetation of the two places. Create a **chart** comparing the two.