

L2: Europe's Climate and Environment

Learning Targets: I CAN identify the climate regions found in Europe. I CAN describe the major environmental concerns facing Europe today.

GPS: SS6G9 The student will discuss environmental issues in Europe.

SS6G10 The student will explain the impact of location, climate, natural resources, and population distribution on Europe.

ACTIVATE YOUR BRAIN: See if you can locate the following geographic features of Europe from our last lesson.

- Ural Mountains
- Rhine River
- Mediterranean Sea
- English Channel
- Danube River
- Alps



Climate

- Climates located near the _____ are usually warm and wet.
- A desert climate tends to be dry and hot during the day and much _____ at night.
- A continent or country can have a wide range of climates.
- Climate affects the type of _____ that can be grown in an area. For example, rice needs warm temperatures and large amounts of rain to grow. Many Asian countries have hot temperatures and large amounts of annual rainfall. This provides the right climate to grow _____.

Different Types of Climate

- _____ can affect the climate of a region. Elevation refers to the height of a geographical location above sea level.
- For example, Denver, Colorado, is called the "Mile High City." This is because Denver is at an elevation that is a mile above sea level.
- Places with a high elevation are usually _____. Ocean currents can also affect the climate of an area. For example, a warm current can keep temperatures mild even in a mountainous area. The rainforests of _____ have a warm and rainy climate throughout the year.
- In the areas of northern Canada that have an arctic climate, a biome known as tundra exists.
- In the _____, the ground is always frozen, and very few types of plants or animals can live there.
- The temperate forests of Russia have wet winters and dry summers. They are home to conifers, lichens, and deer.

Europe's Climate

❖ Southern Europe

- Southern Europe has a _____ climate because it is most affected by the Mediterranean Sea. Despite its name, the Mediterranean climate can exist in other parts of the world, such as the west coast of the United States.

❖ Eastern Europe

- Eastern Europe has a cold _____ climate. Unlike western Europe, this part of the continent is too far from the ocean to benefit from warm currents, so its climate is more affected by the region's northern latitude.

❖ Western Europe

- Western Europe has _____ and Mediterranean climates, keeping the region warmer than other areas at the same latitude are. The North Atlantic Drift causes this favorable climate by bringing warm air and rain to western Europe.

Europe's Climate

- _____ **currents** are movements of ocean water that flow in a steady direction. Currents can be hot or cool and often affect the weather and living conditions of an area.
- Some currents keep temperatures mild in areas that might otherwise be uninhabitable.
- The _____ **Stream Current** is a major current in the Atlantic Ocean. It picks up warm water from the North Equatorial Current before heading north along the East Coast. It then flows out into the northern Atlantic Ocean.
- The **North** _____ **Current** (also called the North Atlantic Drift) is a warm water current that brings water from the Gulf Stream to northern Europe. Because of this current, parts of northern Europe have mild climates despite the fact that the areas are so far north.

Europe's Environment

- Europe has many natural _____ spread across the continent.
- Some include the climate and its system of rivers.
- Europe also has many _____ problems. These pollution problems are due to its highly industrialized, dense population.
- However, the European Union is taking steps toward solving pollution problems.
- Europe has also experienced the worst accident at a _____ power plant at Chernobyl, Ukraine.

Natural Resources of Europe

- The Mediterranean Sea brings a warm, moist climate to nearby countries.
- It also allows for high production of fruits and vegetables in countries like Spain, Italy, and _____.
- Oil Fields are located in the North Sea. Norway, the United Kingdom, Germany, and the Netherlands all have drilling rights in that area. Russia is also a major producer of oil.
- In _____, Mt. Vesuvius is famous for erupting and burying several towns in 79 A.D., but today Europe worries more about manmade disasters than natural ones.

Chernobyl Disaster

- In 1986, the nuclear power plant at Chernobyl, Ukraine had a nuclear _____.
- It was the worst accident ever at a nuclear power plant. Many people in the surrounding area were exposed to radiation. Some developed _____, and others died.
- Before the accident, there were 14,000 residents in Chernobyl. After the accident, everyone within 30 kilometers of the plant was evacuated.

Pollution Problems in Europe

➤ Acid Rain

- Coal burning factories and automobiles release _____ into the air causing rain to become polluted.
- This is called acid rain. It damages ancient structures in Europe. Marble buildings and statues, for example, are becoming discolored and _____.
- Acid rain also damages the forests across Europe, such as the Black Forest in Germany. Germany has been Europe's worst contributor to _____ since the mid-2000s.

➤ Pollution and Industry

- Europe is both densely _____ and highly industrialized.
- These factors combined place a great amount of strain on the environment.

➤ Global Warming

- **Global warming** is primarily caused by having too much carbon dioxide (CO₂) and other heat-trapping gases in the atmosphere when we burn fossil fuels to generate electricity, drive our cars, and power our lives.
- Many places in Europe rely heavily on _____.
- Areas that rely on winter tourists will slowly watch their economy be hurt as the temperature increases _____.

➤ Deforestation

- Europe used to be covered in _____.
- Today, many of these forests are being cut down.
- The land is then used for _____ land and development.
- Trees are not being replaced as they are cut down.
- This makes the forests decrease quickly in size.

➤ Chemical Pollution

- Modern farming techniques often require spraying the land with _____.
- The runoff mixes with water in _____ and rivers.
- This mix causes water pollution. These chemicals also affect the soil and the air.

Europe's Pollution Solutions

- Overall, Europe has come up with many solutions to its pollution problems.
- In June 2007, 172 countries signed the _____ Protocol to the United Nations Framework Convention on Climate Change.
- This protocol states that each country participating will reduce greenhouse gas emissions by 2012.
- All of the _____ in the European Union signed the protocol.
- The European Union has also adopted its own energy policy. This policy will reduce emissions even further than the Kyoto Protocol calls for in the European Union.
- The European Union is also thinking about banning the use of incandescent _____ bulbs in homes and offices of member countries.
- Incandescent light bulbs are not very energy efficient. This means that they waste a lot of energy.
- The European Union would instead ask homes and businesses to use fluorescent light bulbs. These bulbs conserve _____.