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## **Chapter 12**

### **Physical Geography of Europe: The Peninsula of Peninsulas**

Because of its unique geography and weather patterns, Europe's landscapes, waterways, and climates vary greatly.

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Section 1: Landforms and Resources

Section 2: Climate and Vegetation

Section 3: Human-Environment Interaction

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#### **Section 1: Landforms and Resources**

- Europe is composed of many peninsulas and islands.
- Europe's landforms also include large plains and mountain ranges.

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#### **Section 1: Landforms and Resources**

##### **Peninsulas and Islands**

##### **Always Near the Water**

- Europe is a large peninsula of Asia
  - also has its own smaller peninsulas: a "peninsula of peninsulas"
  - most places are within 100 miles of the ocean or a sea

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##### *Continued* **Peninsulas and Islands**

##### **Northern Peninsulas**

- The Scandinavian Peninsula includes Norway and Sweden
  - bounded by Norwegian, North, and Baltic Seas
- Ice Age glaciers remove topsoil; leave thin, rocky soil
- Glaciers create **fjords** in Norway
  - steep U-shaped valleys connected to sea, filled with seawater
  - provide harbors for fishing boats
- Jutland Peninsula forms large part of Denmark, small part of Germany
  - gentle, rolling hills and swampy low areas

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### *Continued* Peninsulas and Islands

#### **Southern Peninsulas**

- Iberian Peninsula: home to Spain, Portugal
- Italian Peninsula includes Italy, extends into Mediterranean Sea
  - boot-shaped, with 4,700 miles of coastline
- Balkan Peninsula bordered by Adriatic, Mediterranean, Aegean seas

#### **Islands**

- Larger: Great Britain, Ireland, Iceland, Greenland in North Atlantic
- Smaller: Corsica, Sardinia, Sicily, Crete in Mediterranean

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### **Mountains and Uplands**

#### **Mountain Chains**

- The Alps is Europe's most famous mountain chain
  - crosses France, Italy, Germany, Switzerland, Austria, Balkans
  - cuts Italy off from rest of Europe
- Pyrenees block movement from France to Spain and Portugal
- Apennine Mountains divide Italian Peninsula between east, west
- Balkan Mountains block off peninsula, separate ethnic groups

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### *Continued* Mountains and Uplands

#### **Uplands**

- **Uplands**—hills or low mountains; may have mesas, high plateaus
  - some are eroded remains of mountain ranges
- Uplands include Scandinavian Kjolen Mountains, Scottish Highlands
  - also Brittany in France and the **Meseta** plateau in Spain
- Some uplands border mountainous areas
  - Central Uplands of Germany at base of Alps
  - **Massif Central** uplands in France

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### **Rivers: Europe's Links**

#### **Moving People, Goods, Ideas**

- Network of rivers bring people, goods together
  - allows goods inland from coastal harbors, aids economic growth

- Two major, castle-lined rivers have historically acted as highways
  - Rhine flows north 820 miles from interior to North Sea
  - Danube flows east 1,771 miles, through 9 countries, to Black Sea
- These and many other rivers connect Europeans
  - encourage trade and travel

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## **Fertile Plains: Europe's Bounty**

### **The Northern European Plain**

- One of the most fertile agricultural regions in world
- Curves across France, Belgium, Netherlands, Denmark, Germany, Poland
  - flat agricultural land produces vast quantities of food
- Flatness also has given invaders an open route into Europe
- Other, smaller, fertile farming plains:
  - Sweden, Hungary, northern Italy's Lombardy

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## **Resources Shape Europe's Economy**

### **Fueling Industrialization**

- Coal and iron ore are needed to create steel for industrialization
  - found in Belgium, Netherlands, France, Germany, Poland
- Major industrialized regions:
  - Ruhr Valley, Germany; parts of United Kingdom

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### *Continued* **Resources Shape Europe's Economy**

#### **Energy**

- Oil, natural gas found in North Sea in 1959; offshore rigs in 1970s
  - petroleum supplied by Norway, Netherlands, Britain

#### **Agricultural Land**

- 33% of Europe is suitable for agriculture; world average only 11%

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## **Resources Shape Life**

### **Affecting All Parts of Life**

- Resources affect food, jobs, houses, even culture
  - for example, folk tales set in deep, dark forests of Old Europe

- Distribution of resources creates regional differences
  - for fuel, Irish burn **peat**—partially decayed plant matter from bogs
  - Polish miners have worked coal mines for generations

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## **Section 2: Climate and Vegetation**

- 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.

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## **Section 2: Climate and Vegetation**

### **Westerly Winds Warm Europe**

#### **A Mild Climate for a Northern Latitude**

- Marine west coast climate: warm summers, cool winters
  - Spain, France, Poland, British Isles, coastal Scandinavia
- **North Atlantic Drift**—warm-water tropical current flows by west coast
  - prevailing westerlies carry current's warmth, moisture inland
- Alps' high elevation creates colder climate, deep winter snows

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#### *Continued* **Westerly Winds Warm Europe**

#### **Forests to Farms**

- Original mixed forests cleared for farming
  - grow grains, sugar beets, livestock feed, potatoes

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### **Harsher Conditions Inland**

#### **Not Reached by Westerly Winds**

- Humid continental climate: cold, snowy winters; warm or hot summers
  - Sweden, Finland, Romania; eastern Poland, Slovakia, Hungary
- Adequate rainfall for agriculture
- Heavy deforestation; surviving trees are mostly coniferous
- Broad, fertile plains were once covered with grasses
  - today, wheat, rye, barley, potatoes, sugar beets grow

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## **The Sunny Mediterranean**

### **An Appealingly Mild Climate**

- Mediterranean climate: hot, dry summers; mild, wet winters
  - Italy, Greece and southern Spain, France
  - mountain block cold north winds

### **Special Winds**

- Mediterranean coast of France is not protected by mountains
  - **mistral**—a cold, dry winter wind from north
- **Sirocco**—hot North African wind carries sea moisture or desert dust

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## *Continued* **The Sunny Mediterranean**

### **The Climate Attracts Tourists**

- Vegetation is evergreen shrubs, short trees
  - major crops: citrus fruits, olives, grapes
- Sunny beaches attract tourists

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## **Land of the Midnight Sun**

### **Cold, Dark Winters**

- Tundra climate in far northern Scandinavia, along Arctic Circle
  - permafrost with no trees, only mosses, lichens
- South of tundra is subarctic climate: cool with cold, harsh winters
  - little growth except stunted trees
- Region's sunlight varies sharply: long winter nights, summer days
  - area north of Arctic Circle the Land of the Midnight Sun
  - some winter days have no sun, some summer days have no night

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## **Section 3: Human-Environment Interaction**

- The Dutch and the Venetians altered lands to fit their needs by constructing polders and canals.
- Uncontrolled logging and acid rain destroy forests.

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## Section 3: Human-Environment Interaction

### Polders: Land from the Sea

#### Creating Holland

- “God created the world, but the Dutch created Holland”
  - to hold growing population, the Dutch reclaimed land from the sea
  - 40% of the Netherlands was once under water
  - **dikes**—earthen banks that hold back the sea
  - a **polder**—land reclaimed by diking and draining

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#### *Continued* Polders: Land from the Sea

#### Seaworks

- **Seaworks**—structures like dikes that control sea’s destructive force
  - **terpen**—high earthen platforms that provide safe ground during floods
- In 1400s windmills were used to power pumps that drained land
  - today the pumps are powered by electricity

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#### *Continued* Polders: Land from the Sea

#### Transforming the Sea

- **Zuider Zee**—arm of North sea the Dutch turned into a fresh-water lake
- Built dikes across entrance in early 1900s
  - saltwater eventually replaced by fresh water
- Project added hundreds of square miles of land to the Netherlands
  - lake is now called **IJsselmeer**

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### Waterways for Commerce: Venice’s Canals

#### An Island City Grows

- City of Venice is made up of 120 islands
  - two of the largest are San Marco and Rialto
- People, goods are moved by boat over 150 canals
- City forms when people escaping invaders settled on lagoon islands
  - location at north end of Adriatic makes it a good trading port

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*Continued* **Waterways for Commerce: Venice's Canals**

**Building on the Islands**

- Builders sunk wooden pilings into swampy land to support buildings
  - oak forests in northern Italy and Slovenia were leveled for pilings
  - weight of buildings is compressing ground, so Venice is slowly sinking
- Rising sea levels and removal of groundwater also cause sinking

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*Continued* **Waterways for Commerce: Venice's Canals**

**Problems Today**

- Severe water pollution
  - industrial waste, sewage, saltwater eat away foundations
  - erosion lets saltwater in, creates floods such as in 1966
- Agricultural runoff promotes "killer algae" growth
  - algae grow rapidly, die, decay; this uses up oxygen, so fish die
  - dead fish attract insects and create stench in warm weather

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**A Centuries-Old Problem: Deforestation**

**The Demand for Wood**

- Huge areas of Europe fall prey to deforestation
- Wood used for fuel, building material for ships, houses
  - industry needed wood charcoal for blast furnaces
  - eventually coal replaces wood, but damage to forests is done

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*Continued* **A Centuries-Old Problem: Deforestation**

**Acid Rain Strips Forests**

- In 1960s Germans notice Black Forest trees are discolored, dying
  - cause is acid rain
- Factories produce sulfur dioxide, nitrogen oxide emissions
  - combine with water vapor, create acid rain or snow
  - winds carry emissions to other areas, affecting one-fourth of forests
- Scandinavia suffers heavily due to prevailing winds