SLIDE 1

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.

SLIDE 2

Section 1: Landforms and Resources
Section 2: Climate and Vegetation
Section 3: Human-Environment Interaction

SLIDE 3

Section 1: Landforms and Resources

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

SLIDE 4

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

SLIDE 7

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

SLIDE 9

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

SLIDE 10

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

SLIDE 11

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

SLIDE 12

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 **ljsselmeer**

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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