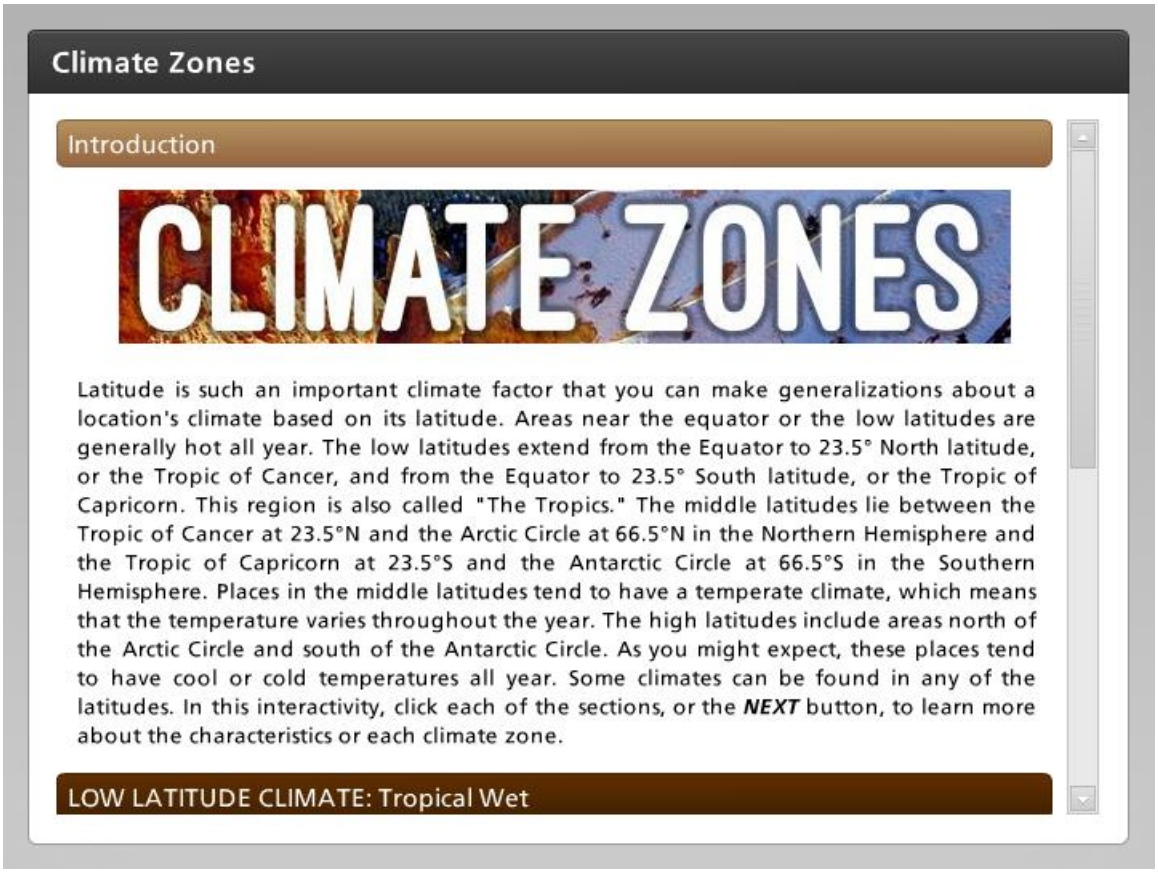
Module 11: Meteorology
Topic 3 Content: Climate Zones Notes

Introduction



Latitude is such an important climate factor that you can make generalizations about a location's climate based on its latitude. Areas near the equator or the low latitudes are generally hot all year. The low latitudes extend from the Equator to 23.5° North latitude, or the Tropic of Cancer, and from the Equator to 23.5° South latitude, or the Tropic of Capricorn. This region is also called "The Tropics." The middle latitudes lie between the Tropic of Cancer at 23.5°N and the Arctic Circle at 66.5°N in the Northern Hemisphere and the Tropic of Capricorn at 23.5°S and the Antarctic Circle at 66.5°S in the Southern Hemisphere. Places in the middle latitudes tend to have a temperate climate, which means that the temperature varies throughout the year. The high latitudes include areas north of the Arctic Circle and south of the Antarctic Circle. As you might expect, these places tend to have cool or cold temperatures all year. Some climates can be found in any of the latitudes. In this interactivity, click each of the sections, or the ***NEXT*** button, to learn more about the characteristics or each climate zone.

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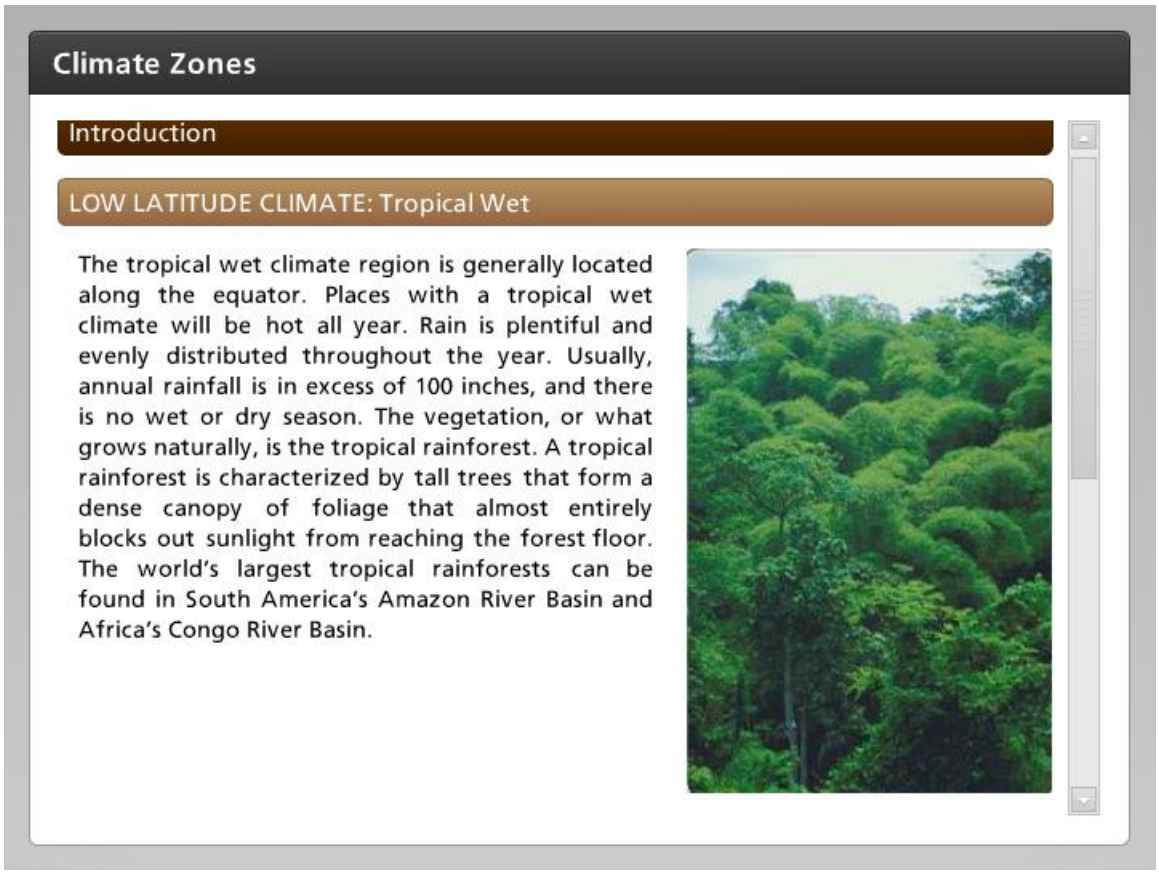
LOW LATITUDE CLIMATE: Tropical Wet



The tropical wet climate region is generally located along the equator. Places with a tropical wet climate will be hot all year. Rain is plentiful and evenly distributed throughout the year. Usually, annual rainfall is in excess of 100 inches, and there is no wet or dry season. The vegetation, or what grows naturally, is the tropical rainforest. A tropical rainforest is characterized by tall trees that form a dense canopy of foliage that almost entirely blocks out sunlight from reaching the forest floor. The world's largest tropical rainforests can be found in South America's Amazon River Basin and Africa's Congo River Basin.

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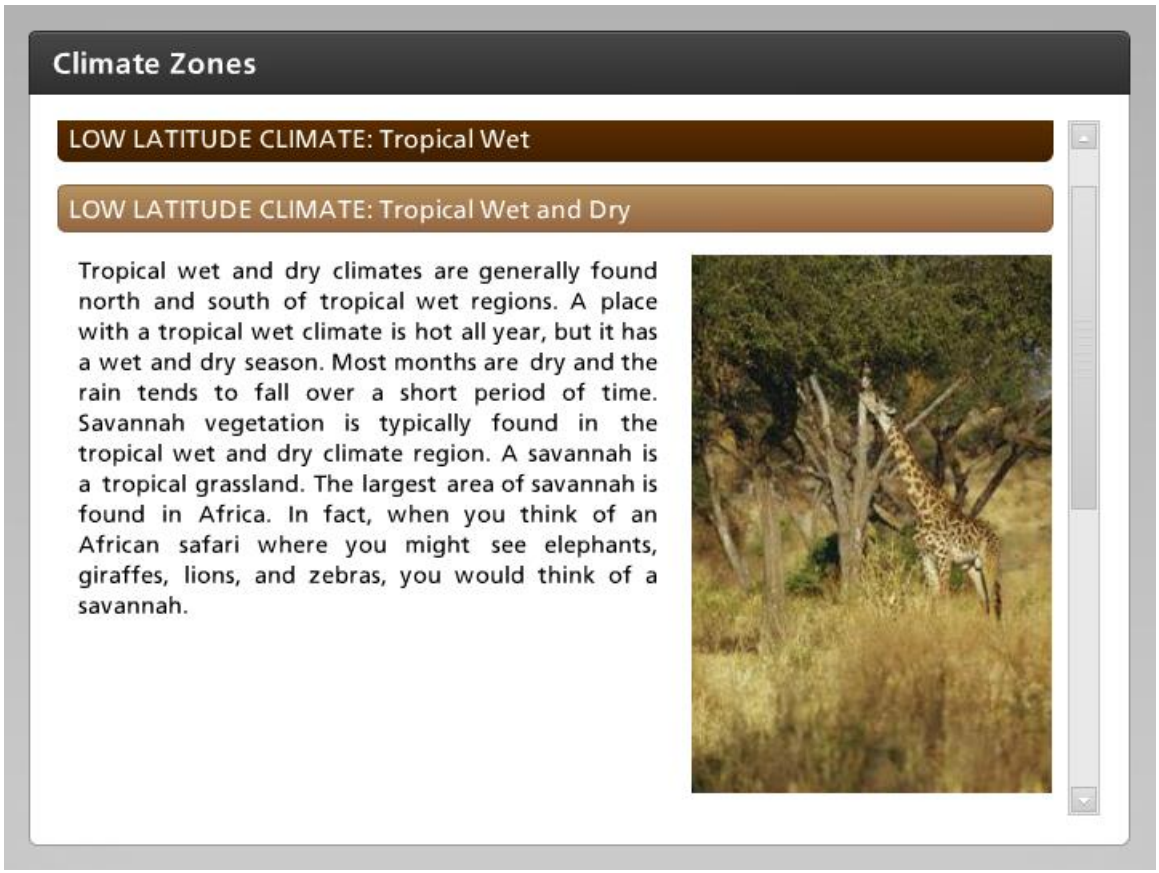
LOW LATITUDE CLIMATE: Tropical Wet and Dry



Tropical wet and dry climates are generally found north and south of tropical wet regions. A place with a tropical wet climate is hot all year, but it has a wet and dry season. Most months are dry and the rain tends to fall over a short period of time. Savannah vegetation is typically found in the tropical wet and dry climate region. A savannah is a tropical grassland. The largest area of savannah is found in Africa. In fact, when you think of an African safari where you might see elephants, giraffes, lions, and zebras, you would think of a savannah.

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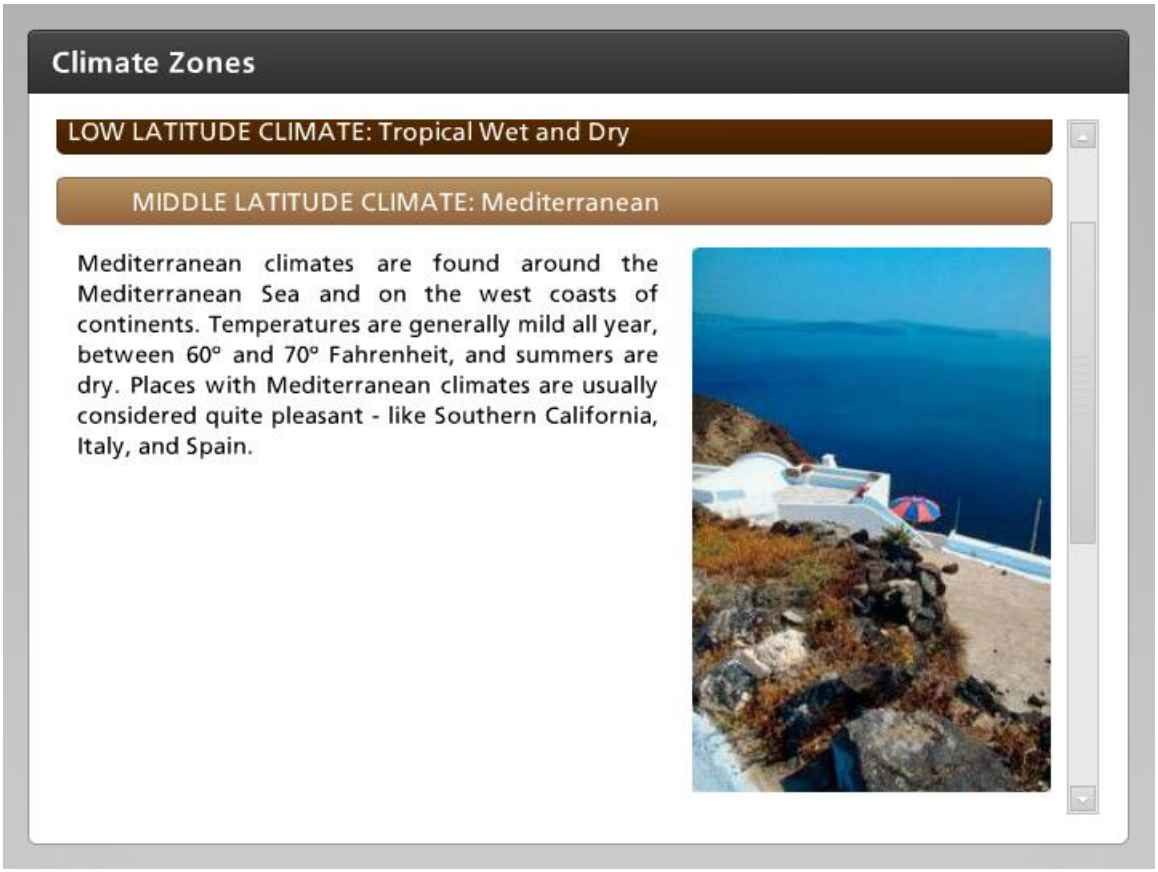
MIDDLE LATITUDE CLIMATE: Mediterranean



Mediterranean climates are found around the Mediterranean Sea and on the west coasts of continents. Temperatures are generally mild all year, between 60º and 70º Fahrenheit, and summers are dry. Places with Mediterranean climates are usually considered quite pleasant - like Southern California, Italy, and Spain.

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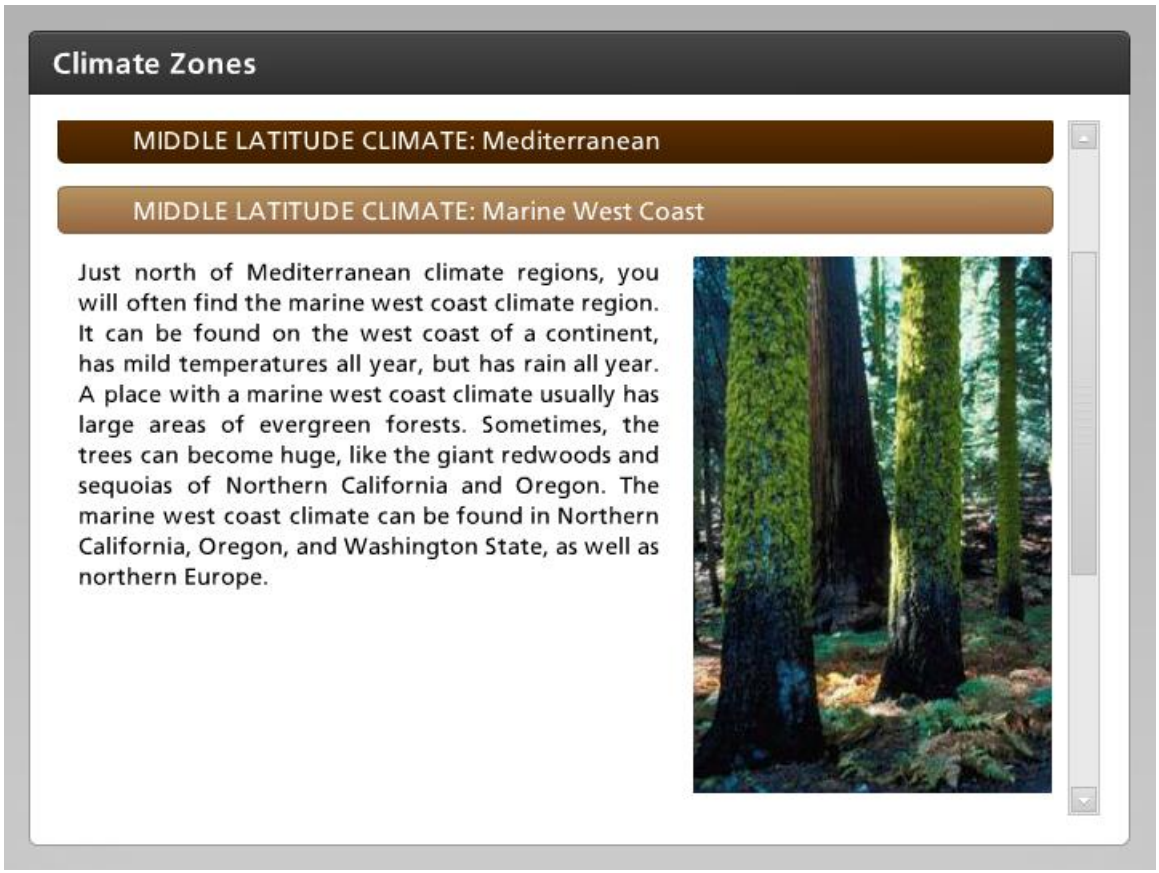
MIDDLE LATITUDE CLIMATE: Marine West Coast



Just north of Mediterranean climate regions, you will often find the marine west coast climate region. It can be found on the west coast of a continent, has mild temperatures all year, but has rain all year. A place with a marine west coast climate usually has large areas of evergreen forests. Sometimes, the trees can become huge, like the giant redwoods and sequoias of Northern California and Oregon. The marine west coast climate can be found in Northern California, Oregon, and Washington State, as well as northern Europe.

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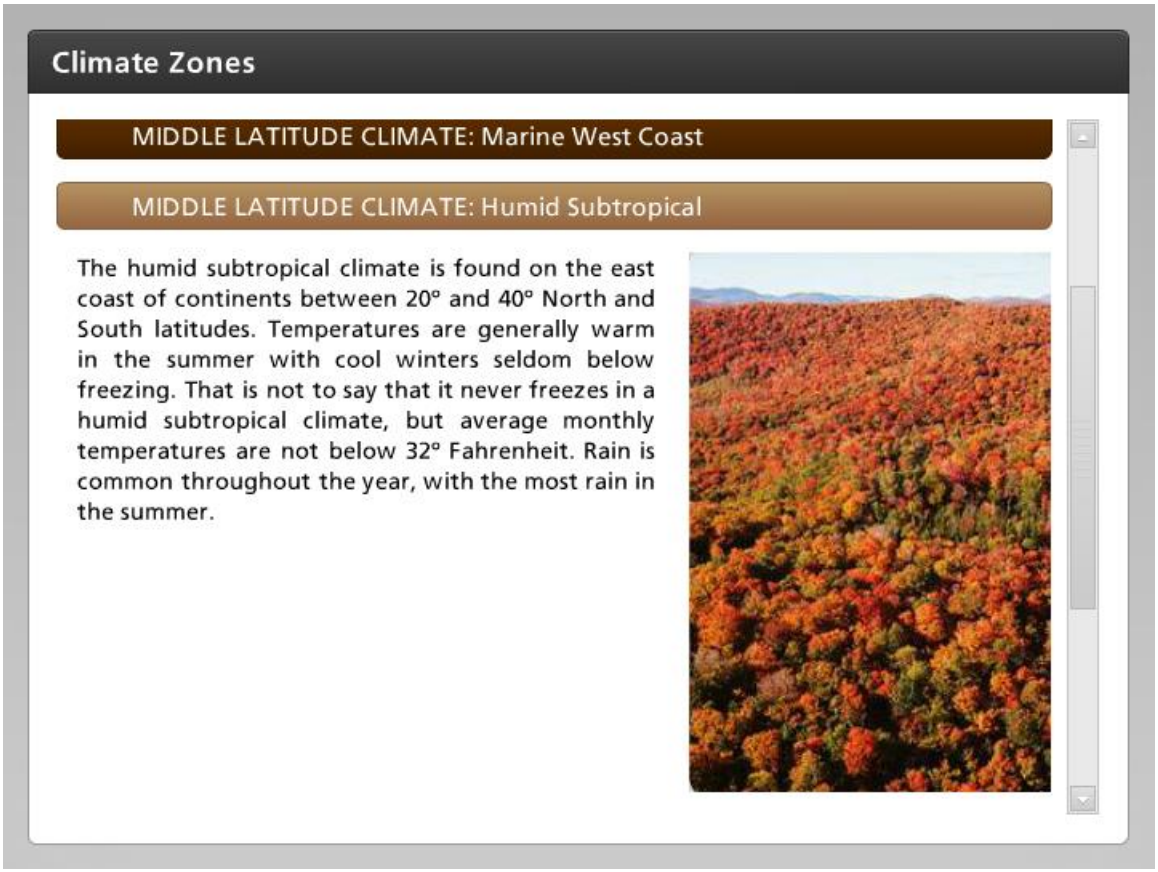
MIDDLE LATITUDE CLIMATE: Humid Subtropical



The humid subtropical climate is found on the east coast of continents between 20º and 40º North and South latitudes. Temperatures are generally warm in the summer with cool winters seldom below freezing. That is not to say that it never freezes in a humid subtropical climate, but average monthly temperatures are not below 32º Fahrenheit. Rain is common throughout the year, with the most rain in the summer.

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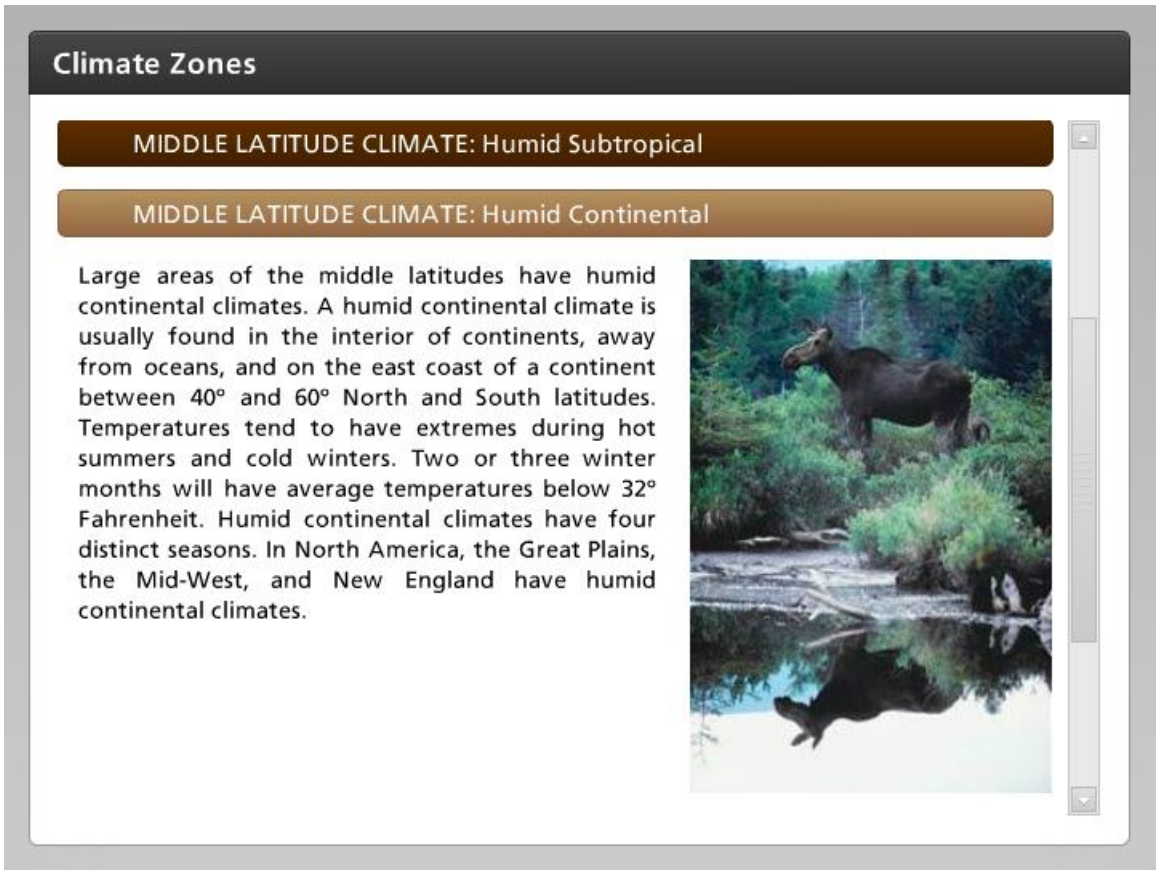
MIDDLE LATITUDE CLIMATE: Humid Continental



Large areas of the middle latitudes have humid continental climates. A humid continental climate is usually found in the interior of continents, away from oceans, and on the east coast of a continent between 40º and 60º North and South latitudes. Temperatures tend to have extremes during hot summers and cold winters. Two or three winter months will have average temperatures below 32º Fahrenheit. Humid continental climates have four distinct seasons. In North America, the Great Plains, the Mid-West, and New England have humid continental climates.

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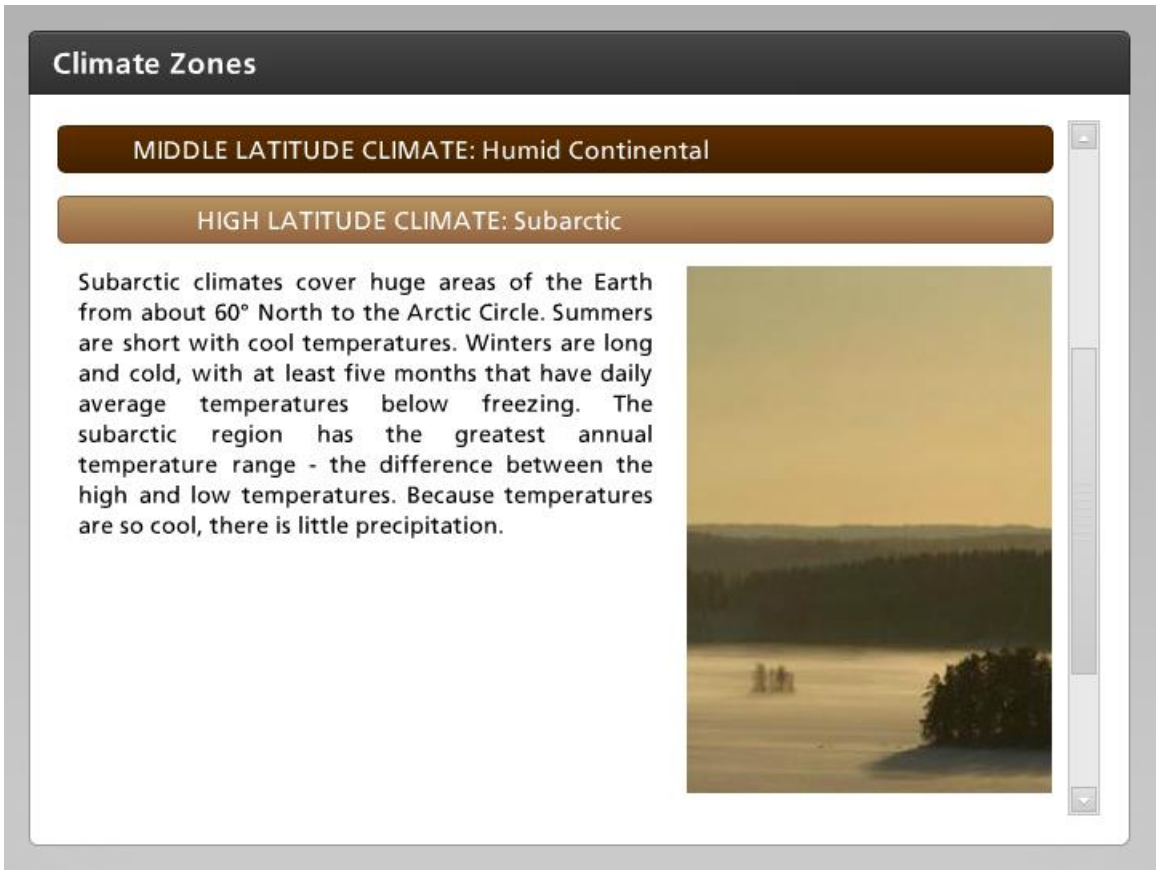
HIGH LATITUDE CLIMATE: Subarctic



Subarctic climates cover huge areas of the Earth from about 60° North to the Arctic Circle. Summers are short with cool temperatures. Winters are long and cold, with at least five months that have daily average temperatures below freezing. The subarctic region has the greatest annual temperature range - the difference between the high and low temperatures. Because temperatures are so cool, there is little precipitation.

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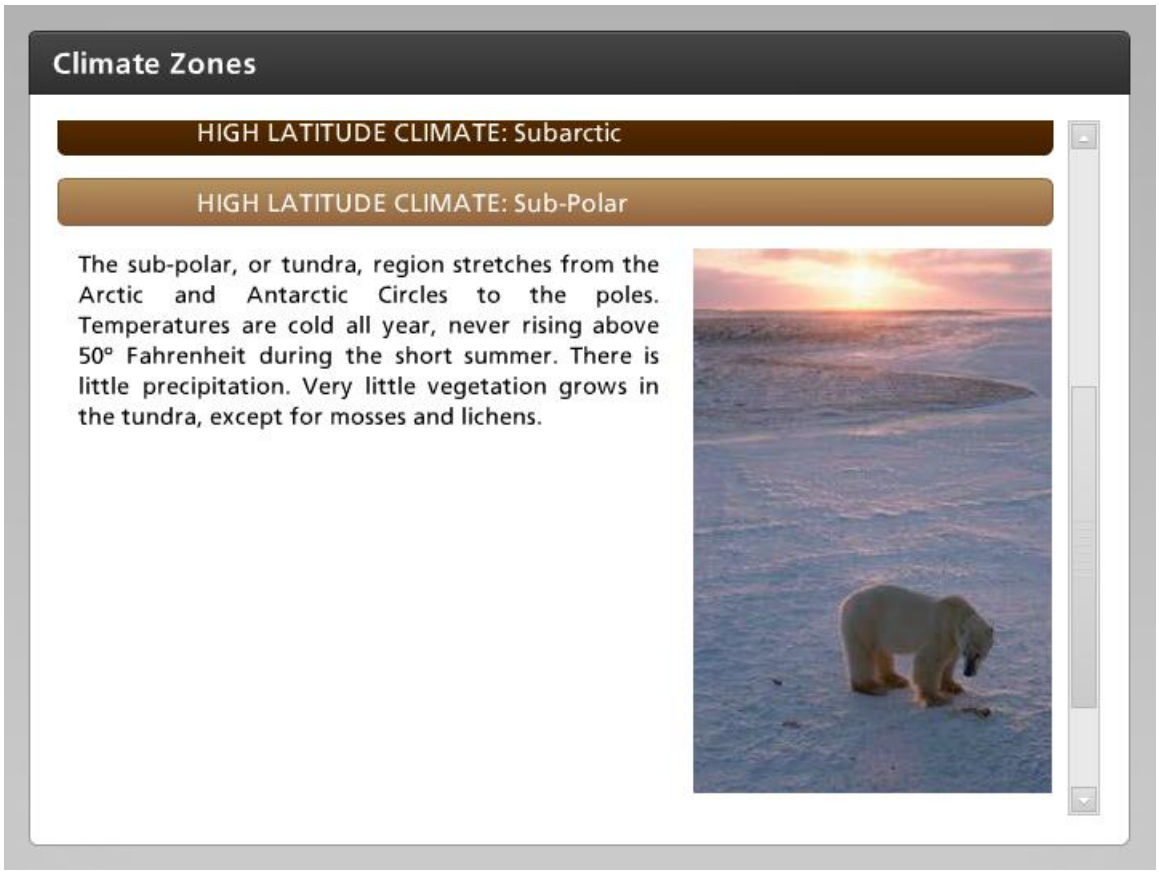
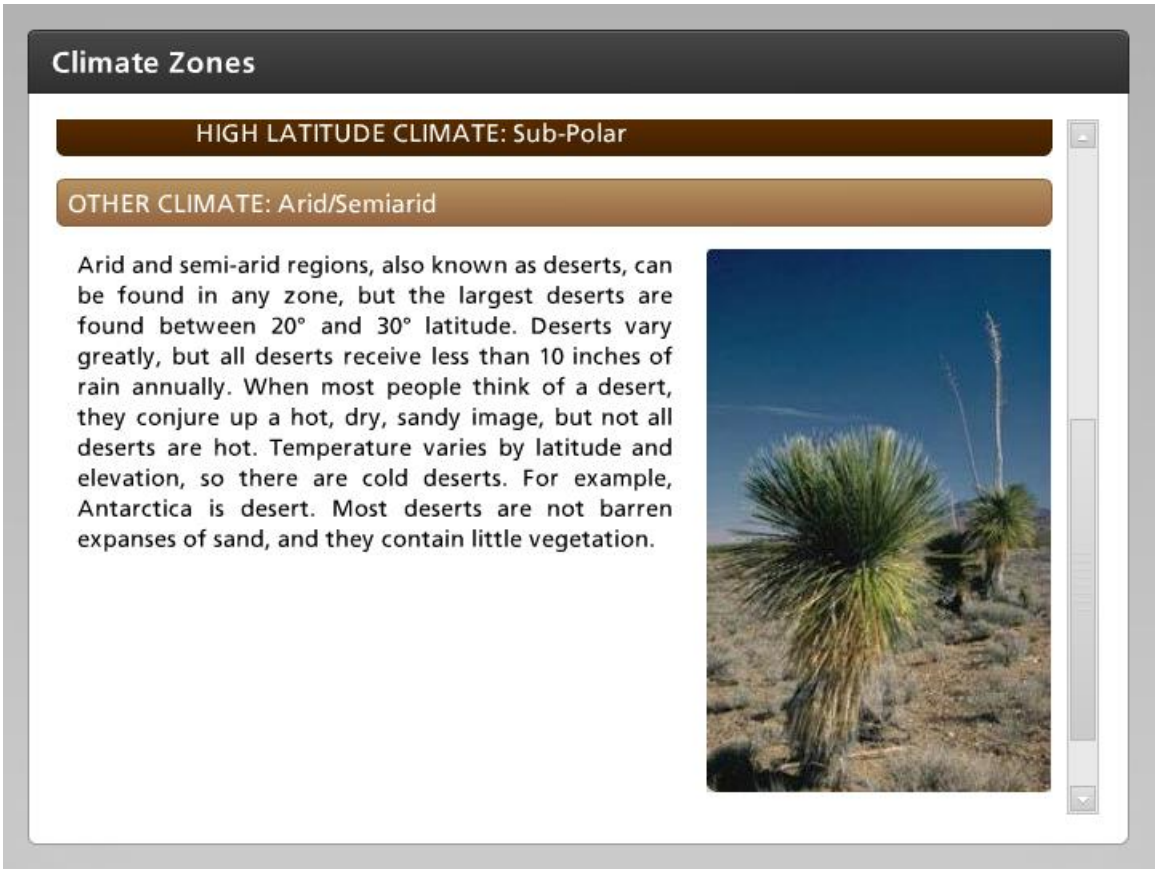
HIGH LATITUDE CLIMATE: Sub-Polar



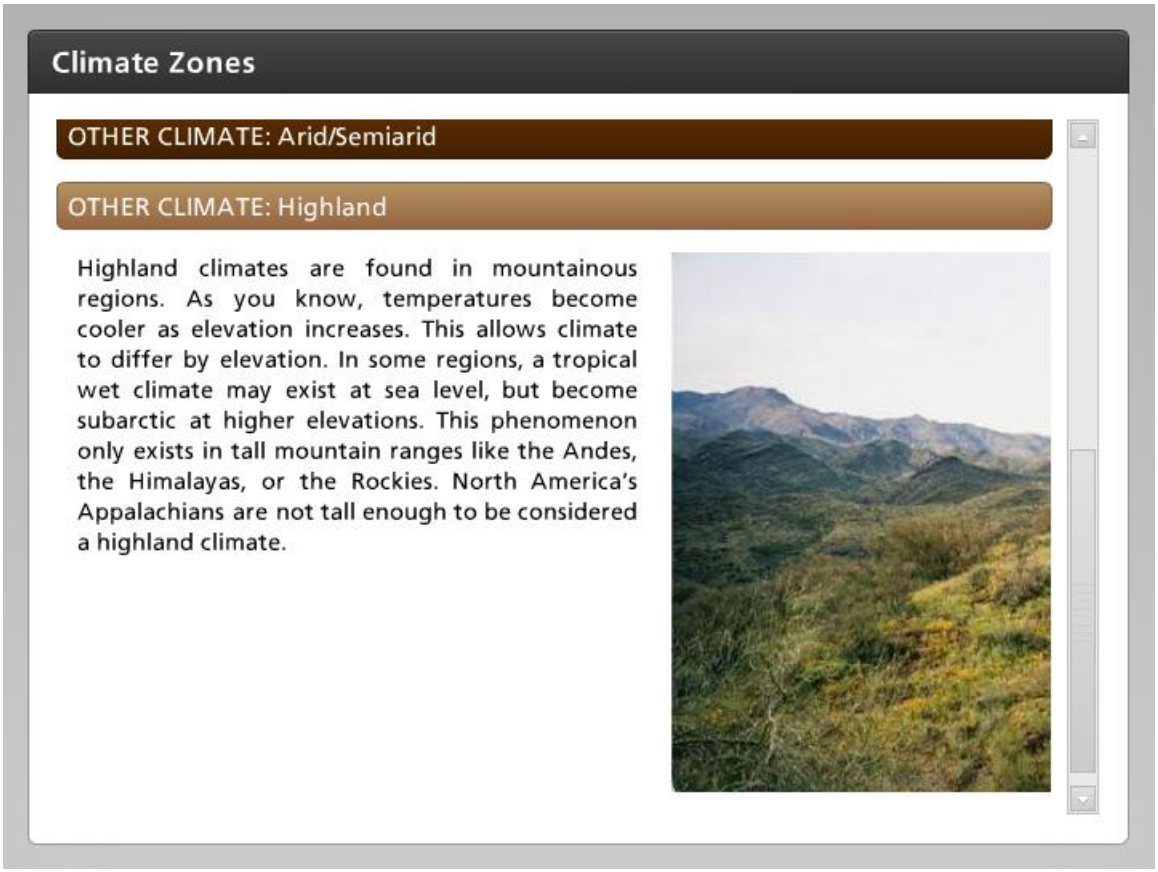
The sub-polar, or tundra, region stretches from the Arctic and Antarctic Circles to the poles. Temperatures are cold all year, never rising above 50º Fahrenheit during the short summer. There is little precipitation. Very little vegetation grows in the tundra, except for mosses and lichens.

OTHER CLIMATE: Arid/Semiarid



Arid and semi-arid regions, also known as deserts, can be found in any zone, but the largest deserts are found between 20° and 30° latitude. Deserts vary greatly, but all deserts receive less than 10 inches of rain annually. When most people think of a desert, they conjure up a hot, dry, sandy image, but not all deserts are hot. Temperature varies by latitude and elevation, so there are cold deserts. For example, Antarctica is desert. Most deserts are not barren expanses of sand, and they contain little vegetation.

OTHER CLIMATE: Highland



Highland climates are found in mountainous regions. As you know, temperatures become cooler as elevation increases. This allows climate to differ by elevation. In some regions, a tropical wet climate may exist at sea level, but become subarctic at higher elevations. This phenomenon only exists in tall mountain ranges like the Andes, the Himalayas, or the Rockies. North America's Appalachians are not tall enough to be considered a highland climate.