Vocabulary/Ch. 4

Friedland

**climate**: The average weather that occurs in a given region over a long period of time.

**troposphere**: A layer of the atmosphere closest to the surface of Earth, extending up to approximately 16 km (10 miles) and containing most of the atmosphere’s nitrogen, oxygen, and water vapor.

**stratosphere**: The layer of the atmosphere above the trophosphere, extending roughly 16 to 50 km (10-31 miles) above the surface of the Earth.

**albedo**: The percentage of incoming sunlight reflected from a surface

**saturation point**: The maximum amount of water vapor in the air at a given temperature

**adiabatic cooling**: The cooling effect of reduced pressure on air as it rises higher in the atmosphere and expands

**adiabatic heating**: The heating effect of increased pressure on air as it sinks toward the surface of Earth and decreases in volume

**latent heat release**: The release of energy when water vapor in the atmosphere condenses into liquid water

**Hadley cells**: A convection current in the atmosphere that cycles between the equator and 30⁰N and 30⁰S.

**intertrophical convergence zone**: An area of Earth that receives the most intense sunlight; where the ascending branches of the two Hadley cells converge

**polar cells**: A convection cell in the atmosphere formed by air that rises at 60⁰N and 60⁰S and sinks at the poles, 90⁰N and 90⁰S.

**Coriolis effect**: The deflection of an object’s path due to the rotation of Earth

**gyres**: A large-scale pattern of water circulation that moves clockwise in the Northern Hemisphere and counterclockwise in the Southern Hemisphere

**upwelling**: The upward movement of ocean water toward the surface as a result of diverging currents.

**thermohaline circulation**: An oceanic circulation pattern that drives the mixing of surface water and deep water

**El Nino-Southern Oscillation (ENSO)**: The periodic changes in winds and ocean currents, causing cooler and wetter conditions in the southeastern United States and usually dry weather in southern Africa and Southeast Asia.

**rain shadow**: A region with dry conditions found off the leeward side of a mountain range as a result of humid winds from the ocean causing precipitation on the windward side

**biomes**: A geographic region categorized by a particular combination of average annual temperature, annual precipitation, and distinctive plant growth forms on land and a particular combination of salinity, depth, and water flow.

**tundra**: A cold and treeless biome with low-growing vegetation

**permafrost**: An impermeable, permanently frozen layer of soil

**boreal forests**: A forest made up primarily of coniferous evergreen trees that can tolerate cold winters and short growing seasons

**temperate rainforests**: A coastal biome typified by moderate temperatures and high precipitation

**temperate seasonal forests**: A biome with warmer summers and colder winters than temperate rainforests and dominated by deciduous trees.

**woodland/shrubland**: A biome characterized by hot, dry summers and mild, rainy winters

**temperate grassland/cold desert**: A biome characterized by cold, harsh winters, and hot, dry summers

**tropical rainforests**: A warm and wet biome found between 20⁰N and 20⁰S of the equator, with little seasonal temperature variation and high precipitation

**tropical seasonal forests and savannas**: A biome marked by warm temperatures and distinct wet and dry seasons

**subtropical deserts**: A biome prevailing at approximately 30⁰N and 30⁰S, with hot temperatures, extremely dry conditions, and sparse vegetation.

**littoral zone**: The shallow zone of soil and water in lakes and ponds where most algae and emergent plants grow

**limnetic zone**: A zone of open water in lakes and ponds

**phytoplankton**: Floating algae

**profundal zone**: A region of water where sunlight does not reach, below the limnetic zone in very deep lakes

**benthic zone**: The muddy bottom of a lake, pond, or ocean

**freshwater wetlands**: An aquatic biome that is submerged or saturated by water for at least part of each year, but shallow enough to support emergent vegetation

**salt marshes**: A marsh containing nonwoody emergent vegetation, found along the coast in temperate climates

**mangrove swamps**: A swamp that occurs along tropical and subtropical coasts, and contains salt-tolerant trees with roots submerged in water

**intertidal zone**: The narrow band of coastline between the levels of high tide and low tide

**coral reefs**: The most diverse marine biome on Earth, found in warm, shallow waters beyond the shoreline

**coral bleaching**: A phenomenon in which algae inside corals die, causing the corals to turn white

**photic zone**: The upper layer of water n the ocean that receives enough sunlight for photosynthesis

**aphotic zone**: The layer of ocean water that lacks sufficient sunlight for photosynthesis

**chemosynthesis**: A process used by some bacteria in the ocean to generate energy with methane and hydrogen sulfide