

- adaptive capacity:** the capacity of a system to adapt if the environment where the system exists is changing.
- atmosphere:** The envelope of gases that surrounds Earth
- biogeochemical cycles:** A pathway by which a chemical element or molecule moves through both biotic (biosphere) and abiotic (lithosphere, atmosphere, and hydrosphere) components of Earth.
- biosphere:** All living things, whether in the air, in the oceans, or on and beneath the land surface.
- carbon:** carbon dioxide or other gaseous carbon compounds released into the atmosphere, associated with climate change
- carbon cycle:** The series of processes by which carbon compounds are interconverted in the environment, mainly involving the incorporation of carbon dioxide into living tissue by photosynthesis and its return to the atmosphere through respiration, the decay of dead organisms, and the burning of fossil fuels.
- carbon dioxide:** a colorless, odorless gas produced by burning carbon and organic compounds and by respiration. It is naturally present in air (about 0.03 percent) and is absorbed by plants in photosynthesis.
- chlorofluorocarbon:** Chlorine compounds that are the main cause of ozone depletion
- climate:** The average, year-after-year conditions of temperature, precipitation, winds, and clouds in an area
- climate change:** the change in global climate patterns apparent from the mid to late 20th century onwards, attributed largely to the increased levels of atmospheric carbon dioxide produced by the use of fossil fuels.
- climate change models:** The use of quantitative methods to simulate the interactions of the atmosphere, oceans, land surface, and ice. They are used for a variety of purposes from study of the dynamics of the climate system to projections of future climate.
- climate system:** the highly complex system consisting of five major components: the atmosphere (air), the hydrosphere (water), the cryosphere (ice), the geosphere (land) and the biosphere (life), and the interactions between them.
- climatic zones:** any of the geographical zones loosely divided according to prevailing climate and latitude
- conduction:** the process by which heat or electricity is directly transmitted through a substance when there is a difference of temperature
- convection:** the movement caused within a fluid by the tendency of hotter and therefore less dense material to rise, and colder, denser material to sink under the influence of gravity, which consequently results in transfer of heat.
- emissions:** Anthropogenic carbon dioxide (CO₂) emissions (i.e., emissions produced by human activities) come from combustion of carbon based fuels, principally wood, coal, oil, and natural gas.
- fossil fuels:** a natural fuel such as coal or gas, formed in the geological past from the remains of living organisms.
- global warming:** A gradual increase in the temperature of Earth's atmosphere
- greenhouse effect:** The process by which heat is trapped in the atmosphere by water vapor, carbon dioxide, methane, and other gases that form a "blanket" around Earth; the trapping of heat by a planet's atmosphere
- greenhouse gases:** Gases in the atmosphere, such as carbon dioxide, that trap solar energy
- hydrosphere:** the water on or surrounding the surface of the globe, including the water of the oceans and the water in the atmosphere.
- ice core:** a core sample that is typically removed from an ice sheet, most commonly from the polar ice caps of Antarctica, Greenland or from high mountain glaciers elsewhere.
- limestone:** a hard sedimentary rock, composed mainly of calcium carbonate or dolomite, used as building material and in the making of cement.
- methane:** a colorless, odorless flammable gas that is the main constituent of natural gas. It is the simplest member of the alkane series of hydrocarbons.
- ozone:** A form of oxygen that has three oxygen atoms in each molecule instead of the usual two
- polar ice caps:** Either of the regions around the poles of the earth that are permanently covered with ice.
- radiation:** The direct transfer of energy through space by electromagnetic waves
- thermal energy:** The total energy of motion in the particles of a substance
- varves:** an annual layer of sediment or sedimentary rock; one of the most important and illuminating to studies of past climate change.