
Vocabulary

Algae- Small plants that often grow in water or in damp areas.

Antarctic Circle-Line of latitude at 66° 32' south. Along this line there are 24 hours of daylight on Midsummer Day and 24 hours of darkness on Midwinter Day.

Antarctic Convergence- An irregular ocean ring that surrounds Antarctica. In this zone, the cold bottom waters from the southern ocean converge with (meet) warmer bottom waters from oceans to the north. This convergence brings nutrients (foods) to the surface.

Antarctic Divergence- the zone of divergence separating the westward flowing East Wind Drift and the easterly flowing West Wind Drift.

Antarctic Ocean- General term given to the seas surrounding the continent of Antarctica.

Atmosphere-The layer of gases surrounding the rocks and seas of the earth.

Baleen- The rows of thin, flexible strips in the jaw of a toothless whale that allow it to sift small animals out of seawater.

Blizzard- Blinding snow storm, especially one where powdery snow is swept up from the ground by a high wind.

Blubber- A thick layer of fat on a whale, seal, or penguin.

Calving- The separation of a piece of ice from a larger ice mass to form an iceberg.

Carbon Dioxide- (CO₂): A gas that is naturally found in the air. CO₂ also comes from burning wood, from running vehicles on gasoline, and from exhaling.

Chlorofluorocarbons- (CFC's) Chemicals made up of chlorine, fluorine, and carbon Gases used as coolants in refrigerators and air conditioners, and as foaming agents for insulation and food packaging. In the upper atmosphere, chlorine from CFC's destroys ozone that protects life on earth from the harmful ultraviolet radiation of the sun. Use of CFC's as propellant gases in aerosol cans has been halted in most nations, and there are international agreements to further reduce CFC production.

Climate- The average long-term atmospheric conditions, including temperature, wind, and precipitation, that prevail in a particular place. Climates of small areas- like the north side of a tree trunk-are called microclimates.

Conservation- To protect what is good, to preserve a resource from damage by exploitation.

Continental Drift- The movement of land masses of the world towards or away from each other .The process by which the earth's continents change position. About 200 million years ago they were joined in a single land mass. They continue to move and will change their positions. The continents and ocean basins are carried on 20 plates, about 60 miles thick, that make up the earth's crust.

Continental Shelf- The part of a continent which lies off-shore and is covered by a shallow layer of water or, in the case of the Antarctic, ice.

Continental Slope- The slope which joins the end of the continental shelf with the deeper part of the ocean.

Core Sample- A long narrow column of material obtained by drilling deeply with a hollow tube. In Antarctica, the drill gathers samples from many different layers of ice that formed millions of years ago.

Crustacean- Animal (usually living in the sea) with hard shell and many legs. prawns, crabs and lobsters are all crustaceans.

Environment- The surroundings of living things; everything that affects the way animals, plants, and people live.

Exploitation- The selfish taking of any resource from an environment without putting anything back.

Extinct- No longer existing.

Food Web- A group of plants and animals, each of which is a source of food for the next number in the web.

Frostbite- A very painful injury that results from exposing the body- especially the ears, nose, hands , and feet- to extreme cold.

Glacier- A huge mass of ice, formed from compacted snow, whose sides are often bounded by mountains or the walls of a valley. Ice sheets or caps, also formed from compacted snow, are so massive that they cover entire landscapes, mountains as well as valleys. Glaciers and ice sheets flow slowly toward the sea, where chunks break off and are called icebergs.

Glaciologist- A person who studies ice

Global Warming- The gradual warming of the earth's atmosphere that most atmospheric scientists now believe is under way. Human activities that add carbon dioxide, methane and other heat-trapping gases to the atmosphere may cause enough warming to raise sea levels, change rainfall patterns, and threaten crops, water supplies, wildlife and coastal cities.

Greenhouse Gases- Gases in the atmosphere that allow heat energy to reach the earth, but which trap some of the heat that is reflected back again toward space.

Greenhouse Effect- The result of the sun's heat becoming trapped in the atmosphere by gases in the same way that glass traps heat in a greenhouse.

Ice Age- In a period of time when the earth received less heat than at present. One result was an increase in the size of ice sheets. (An ice age is sometimes called a glacial period.)

Ice floe- A thick, flat chunk of floating pack ice, broken off by the action of waves.

Ice Sheet- A vast, flat mass of ice and snow that covers a large land area.

Ice Shelf- Vast floating sheet of ice attached to a coastline, fed by glaciers descending from the mountains.

Ice- Water frozen solid, ice occurs in its greatest variety in the coldest place on earth, the Antarctic. At least 78 different forms of ice have been named. They include bullet ice, frazil ice, grease ice, green ice, ice flowers, ice saddles, and pancake ice.

Iceberg- A piece of ice made up of fresh water that has completely broken off from an ice shelf or glacier and floats in the sea. In some cases, only a small part of the iceberg can be seen above the ocean's surface.

Icebreaker- Ship which has been reinforced to allow it to force a passage through pack ice and fast ice.

Incubate- To warm an egg with the body so that the egg can hatch.

Interglacial- A period of time when the earth warmed up. Ice sheets melted back and covered smaller areas.

Katabatic Wind- A fierce wind caused by the rapid flow of cold air down a mountain slope.

Krill- Small, shrimp-like animals which form the main food of many whales, seals, penguins and other birds. Antarctic krill is a special species known as *Euphausia superba*.

Latitude- Lines of latitude are imaginary circles around the earth. They are measured in degrees north and south of the equator.

Migrant- An animal which survives by moving from one environment to another to take advantage of seasonal food sources.

Nutrients- Biochemicals (e.g. nitrate, phosphate) present in sea water and produced by the decay of dead plants and animals.

Orbit- The course the earth and the other planets follow around the sun.

Ozone- A form of oxygen present in the earth's atmosphere in small amounts. A layer of ozone, between fourteen and nineteen miles above sea level, makes life possible by shielding the earth's surface from most ultraviolet rays.

Pack Ice- used interchangeably with sea ice and ice pack. This is the final stage of sea ice formation. Continued thickening and growth of ice results in large, thin sheets of ice floating at the ocean surface.

Photosynthesis- The chemical process by which plants make their own food. the process uses carbon dioxide, water, nutrients and sunlight.

Phytoplankton-Very small plants, of the plankton group, usually single celled, which float and drift in the oceans.

Plankton- Tiny animals (zooplankton) and plants (phytoplankton) which drift in millions through the seas. They are the first links in the food web.

Polar Plateau-3,000-metre high plateau leading to the South Pole.

Pollution-Contamination of seawater by dangerous chemicals from industry, oil spillage and sewage or other rubbish.

Precipitation- All the forms of water deposited on the earth from the atmosphere. They include rain, snow, frost, hail, dew, etc.

Roaring Forties- Fierce westerly gales which occur between latitudes 40 and 50 south

Sediments- Clay, sand and silt which collect on the sea floor and may become hard rocks. Remains of dead animals are also incorporated into the sediments.

South magnetic Pole-The point to which a compass is attracted and which is some distance from the geographical South Pole. It varies from year to year as the Earth's magnetic field changes

South Pole- The permanently fixed geographical point (90° South) around which the Earth rotates.

Species- A kind of living thing.

Sub-Antarctic- Describing the seas and islands outside the Antarctic Circle but south of Australia, Africa and South America. Sub-Antarctic water meets Antarctic water along the Antarctic Convergence.

Swell- Heaving of the sea, with long rolling waves which do not break. Swell is common after a storm.

Tides- The rise and fall of the surface of the sea which depends on the attraction of the Sun and the Moon. In the Antarctic, there may be one or two tides in a day.

Ultraviolet Radiation- Invisible radiation from the sun that has shorter wavelengths than visible violet light. Ultraviolet light includes tanning rays, but also more powerful wavelengths that cause sunburn and skin cancer. Most of these harmful rays do not reach the earth's surface because they are blocked by a layer of ozone gas in the stratosphere.

Ultraviolet (UV) Light- A ray of sunlight that humans cannot see directly. The shortest UV rays harm living things, and only some of the rays are absorbed by the Earth's ozone layer.

Whiteout- A weather condition in which loose or falling snow is blown into a dense blizzard, blocking vision and preventing movement.

Zooplankton- Tiny animals of the plankton group that can move themselves in water.