

# Glossary



**BAS** – British Antarctic Survey.

**Biodiversity** – the variety of plant and animal life in the world or in a particular habitat, a high level of which is considered to be important and desirable.

**BGS** – British Geological Survey.

**Carbon Dioxide** – a colourless, odourless gas produced by burning carbon and organic compounds and by respiration. It is naturally present in air and is absorbed by plants in photosynthesis. The global average concentration of CO<sub>2</sub> in Earth's atmosphere is currently about 0.04%, or 400 parts per million by volume (ppm).

**CEH** – Centre for Ecology and Hydrology.

**CFC's** – banned gases that used to be used in items such as aerosols and refrigerators and caused damage to the ozone layer. CFC is an abbreviation for 'chlorofluorocarbon'.

**Climate Change** – a change in global or regional climate patterns, in particular a change apparent from the mid to late 20th century onwards and attributed largely to the increased levels of carbon dioxide in the atmosphere produced by the burning of fossil fuels.

**Earth Observation** – the gathering of information about planet Earth's physical, chemical and biological systems by remote sensing technologies such as satellites or drones.

**Ecology** – the branch of biology that studies the relations of organisms to one another and to their physical surroundings.

**Ecosystem** – a biological community of interacting organisms and their physical environment.

**FAAM** – Facility for Airborne Atmospheric Measurements. This is the NERC aircraft depicted in the illustrations.

**Greenhouse Gas** – the gases which are responsible for causing the greenhouse effect. The most abundant greenhouse gases are carbon dioxide, water vapour, and methane.

**Gyres** – a ring like system of ocean currents rotating clockwise in the Northern Hemisphere and counter clockwise in the Southern Hemisphere.

**Habitat** – the natural home or environment of an animal, plant, or other organism.

**Hydrology** – the branch of science studying the properties of the earth's water, and especially its movement in relation to land.

**Invasive Species** – a species that is: 1) non-native (or alien) to the ecosystem under consideration and. 2) whose introduction causes or is likely to cause economic or environmental harm or harm to human health.

**Microplastic** – small plastic pieces less than five millimetres long which can be harmful to our ocean and aquatic life.

**MPA** – Marine Protected Areas (MPA) are protected areas of seas, oceans, estuaries or large lakes. MPAs restrict human activity for a conservation purpose, typically to protect natural or cultural resources.

**NCAS** – National Centre for Atmospheric Science.

**NCEO** – National Centre for Earth Observation.

**Neonicotinoid** – Systemic pesticides that are taken up by the plant and transported to all the tissues (leaves, flowers, roots and stems, as well as pollen and nectar). Products containing neonicotinoids can be applied at the root (as seed coating or soil drench) or sprayed onto crop foliage. Neonicotinoids affect the central nervous system of insects leading to eventual paralysis and death.

**NERC** – Natural Environment Research Council.

**NOC** – National Oceanography Centre.

**Nurdle** – A very small pellet of plastic which acts as raw material in the manufacture of plastic products.

**Ocean Acidification** – A term used to describe significant changes to the chemistry of the ocean. It occurs when carbon dioxide gas is absorbed by the ocean and reacts with seawater to produce acid.

**Ozone Layer** – A layer in the earth's stratosphere at an altitude of about 10 km (6.2 miles) containing a high concentration of ozone, which absorbs most of the ultraviolet radiation reaching the earth from the sun.

**Particulate Matter** – Suspended air particles many of which are hazardous. This complex mixture includes both organic and inorganic particles, such as dust, pollen, soot, smoke, and liquid droplets.

**PM2.5 / PM10** – PM10 is particulate matter that is 10 microns or less in diameter, PM2.5 is particulate matter that is 2.5 microns or less in diameter. By way of comparison, a human hair is about 100 microns, so roughly 40 fine particles could be placed on a hair's width.

**Pesticide** – Pesticides are chemical compounds that are used to kill pests, including insects, rodents, fungi and unwanted plants (weeds). Pesticides are used in public health to kill vectors of disease, such as mosquitoes, and in agriculture, to kill pests that damage crops.



**Quadrat** – A quadrat is a plot used in ecology to isolate a standard sized area for study and for estimating percentage cover of species over a large area.

**RRS** – Royal Research Ship.

**Smog** – A mixture of smoke, gases, and chemicals, especially in cities, that makes the atmosphere difficult to breathe and harmful for health.

