

Topic Page: [Environment](#)

Definition: **environment** from *Philip's Encyclopedia*

Physical and biological surroundings of an organism. The environment covers non-living (**abiotic**) factors such as temperature, soil, atmosphere and radiation, and also living (**biotic**) organisms such as plants, microorganisms and animals. The study of the relationship of organisms to their environment is called ecology, and protecting the environment involves conservation.



Image from: [Wind power is just one of the many alternative... in Encyclopedia of U.S. Campaigns, Elections, and Electoral Behavior](#)

Summary Article: **environment**

From *The Hutchinson Unabridged Encyclopedia with Atlas and Weather Guide*

In ecology, the sum of conditions affecting a particular organism, including physical surroundings, climate, and influences of other living organisms. Areas affected by environmental issues include the biosphere and habitat. In biology, the environment includes everything outside body cells and fluid surrounding the cells. This means that materials enclosed by part of the body surface that is 'folded in' are, in fact, part of the environment and not part of the organism. So the air spaces in human lungs and the contents of the stomach are all part of the environment and not the organism, using these terms correctly. Ecology

is the study of the way organisms and their environment interact with each other. Important processes in biology involve the transfer of material between an organism and its environment in exchanges of gases and food, for example during nutrition, photosynthesis, or respiration.

In common usage, 'the environment' often means the total global environment, without reference to any particular organism. In genetics, it is the external influences that affect an organism's development, and thus its phenotype.

Organisms usually show adaptations that help to explain why an organism lives where it does; in its habitat. Adaptations to cope with changing seasons, for example, can be quite different from one organism to another. Survival of the winter can be achieved in several different ways. Some plants die back. Some animals, such as swallows, may migrate; others, such as the dormouse, may hibernate.

Adaptations occur as a result of evolution. For example, a predator may evolve to have forward-facing eyes, acute vision and sense of smell, and have claws, talons, or a beak, for killing. The prey also adapts as a result of evolution.

Competition is the interaction between two or more organisms when they need the same resource which is in short supply.

The organisms and environment with all their interactions make a working unit called an ecosystem. Various environmental factors, such as the availability of nutrients, and competition, will help to determine the population of a species in an area. However, in food chains we can predict that the populations of organisms further along a food chain generally get smaller, because the plants at the start of the chain make the energy-rich food, and some of this energy is 'lost' at each step of the chain and not available to organisms further along.

Some organisms may be small but very numerous, so population size may not be a good measure of how much of an organism there is in a habitat. Biomass may be a more useful measure. This is the total mass of organisms in an area. Natural habitats support many different species of organism. Biodiversity is a measure of this. Some habitats, such as rainforests, have very high biodiversity. This is partly explained by very complex food chains and webs for the organism in the habitat, but this cannot fully explain it. However, biodiversity is decreasing fast in the world as a result of human activity and this is a cause of concern. It is hoped that if humans use sustainable development in the future, the damage done to habitats and biodiversity may be lessened.

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Adaptation of organisms to seasonal changes

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