

# What are ecosystems?

An **ecosystem** is a community of plants and animals which interact with each other and with their **non-living environment**. The types of plants and animals that grow or live in an environment depend on factors such as climate, soil, rock type and relief. Look at diagram A which shows the links between various elements of a simple ecosystem. Notice how the parts are closely related and each affects the other. This is important because if one component changes, then so will the others.

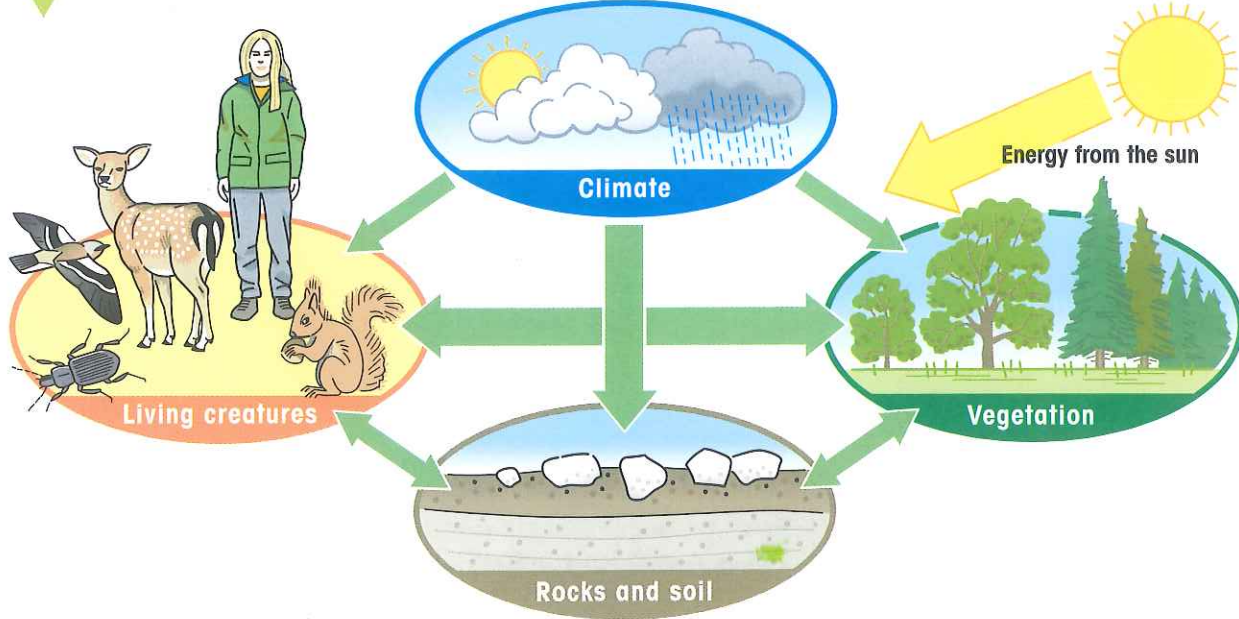
Ecosystems can vary enormously in scale. They range from small ponds and hedgerows to whole **rainforests** stretching thousands of kilometres across continents. A very large ecosystem such as a rainforest is called a **biome**. The vegetation in a biome is largely determined

by climatic factors such as temperature, rainfall, sunshine and wind. Map B shows some of the world's major ecosystems. Three of these are explained in more detail in the next few pages of this unit.

In recent times, ecosystems have been increasingly altered and even destroyed by human activity. In Brazil, for example, 40 per cent of the original rainforest has been cleared for development, whilst across Scandinavia huge areas of coniferous forest are slowly dying from air pollution called **acid rain**.

Many people are worried that changes brought about by human activity are irreversible and will cause severe problems in the future.

A Links in a simple ecosystem



B Some major world ecosystems

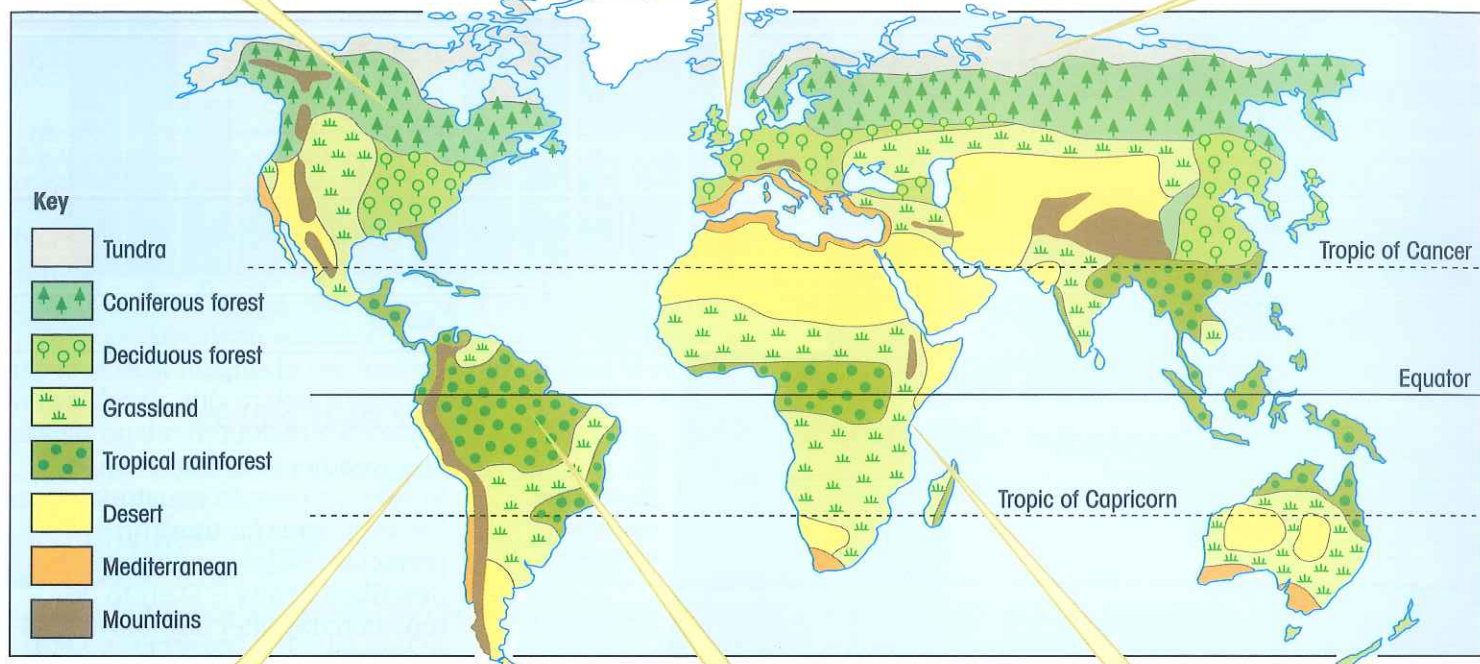
Coniferous forest, Canada



Deciduous forest, UK



Siberian tundra



Atacama Desert, Peru



Rainforest in Brazil



Grassland in Kenya

C

Acid rain damage hits Scandinavian forests

Kenyan wildlife threatened by farmers ploughing and overgrazing the land

Arctic oil spill threatens caribou grazing land

Problems for Brazil as miners and loggers clear more forest

Woodland cleared for Lake District leisure complex

Global warming blamed for spread of desert

2 For each of the headlines shown in C: a) name the type of biome it refers to b) suggest how plants, animals or people might benefit or suffer from the changes. Give reasons for your answers.

## Summary

An ecosystem is a community of plants and animals whose lives are closely linked to each other and to the climate and soil of the area in which they grow or live. Ecosystems may be changed by human activity.

## Activities

- 1 Complete the following sentences using the descriptions in the boxes.
- a) The environment is ...
  - b) The non-living environment includes ...
  - c) The living environment includes ...
  - d) An ecosystem is ...
  - e) A natural ecosystem is ...
  - f) A biome is ...

... the interaction of plants and animals with their non-living surroundings.

... animals, birds, fish, insects and people.

... the natural or physical surroundings where plants and animals live.

... a large ecosystem such as a desert or tropical rainforest.

... rocks, soil, the air and climate.

... a community of plants and animals unaffected by human activity.