

The world's climate

Climate is the word we use for the typical weather patterns of a particular region over a long period of time – at least 30 years. Long-term changes in typical weather patterns for a region are called climate change.

We can divide the Earth's climate into five main groups:

- ▶ **Tropical** (equatorial and monsoon)
- ▶ **Dry** (desert and savannah)
- ▶ **Mediterranean**
- ▶ **Temperate**
- ▶ **Polar**

A country's climate will influence every part of its life, from the clothes people wear to the houses that are built, and over time even the daily pattern of life.

What affects climate

Weather is affected most immediately by changes in the atmosphere – the air is constantly moving, heating up and cooling down, and drying or becoming loaded with water vapour.

Climate on the other hand is affected by a number of longer term physical factors:

Volcanic activity: ash and gases reduce the sunlight that reaches the Earth, cooling it at the surface.

Changes and wobbles in the orbit of the Earth: these affect the distance between the Earth and the Sun. The angle at which sunlight enters the Earth's atmosphere changes too.

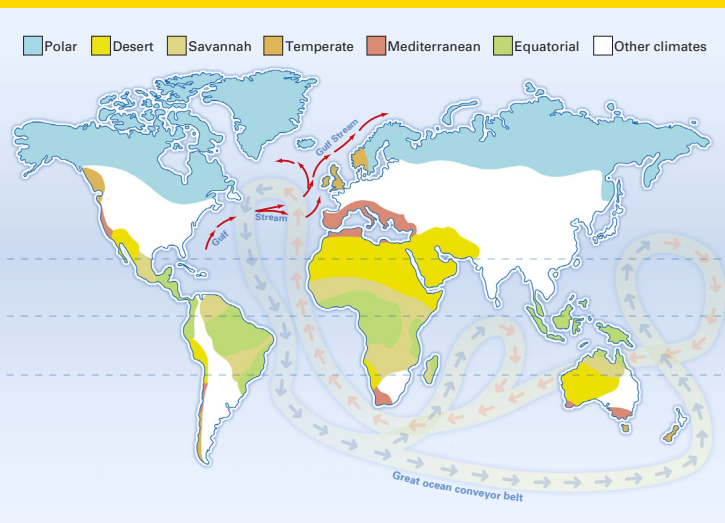
Ocean currents: the oceans are constantly on the move because of the wind as well as changes in the temperature of the water and the amount of salt dissolved in it. The currents carry warm and cold water around the globe, which impacts on the temperature of land masses.

The changing surface of the earth: as tectonic plates shift, the extent of rocks, ice sheets and oceans changes. This affects the temperature of the prevailing winds.

Living organisms: the number and types of organisms and their activity have an impact on climate.

Changing output of solar radiation: over the course of time the power of the Sun has varied. There is evidence that this also affects the Earth's climate.

The diagram shows the climate zones across the world.



Areas near the Poles have huge variations in the number of hours of sunlight each day, depending on the time of year.

Areas close to the Equator have the most regular hours of sunshine and are therefore hottest.

Ocean currents affect climate on a global scale but also at a more local level. The warmer water of the Gulf Stream (see diagram) makes the UK much milder in winter than other places at the same latitude.

Timeline

1800s

Industrial Revolution transforms industry

1988

The public start to become aware of changes in climate and how it might be linked to burning fossil fuels