

## What is Climate Change?

Climate change refers to the shift in the Earth's usual weather conditions over many years. Our world has been getting hotter due to things humans are doing, like burning huge amounts of fossil fuels, cutting down too many trees and over-farming crops and animals.

### Key Facts:

The average temperature of the earth is rising, a process called global warming. Global warming is causing changes to normal weather conditions in places all over the world. As a result, it is having serious effects on people's lives.

Each year the amount of carbon dioxide in the atmosphere is increasing and this is contributing to causing global warming. Carbon dioxide is referred to as a greenhouse gas because, along with other gases such as methane, it stops heat bouncing back into space from the Earth's surface.

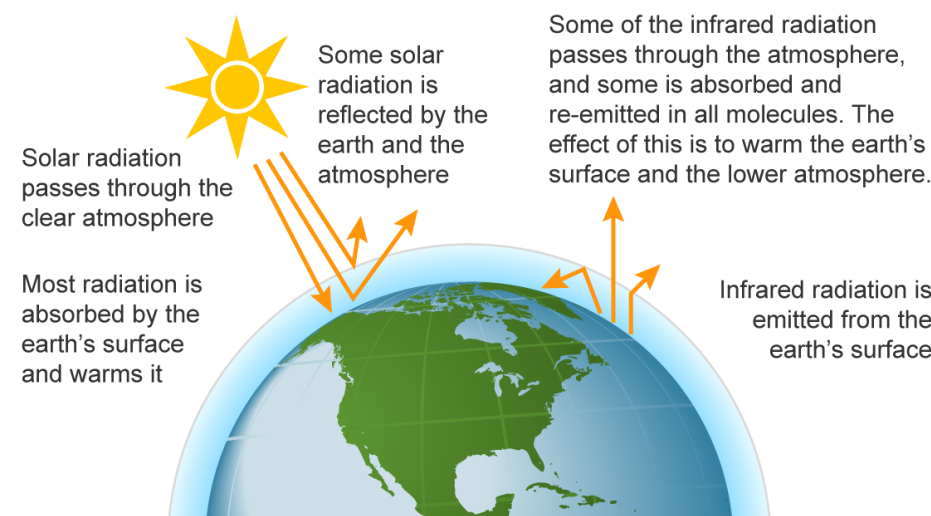
Global warming is causing things to happen: ice sheets, sea ice and glaciers around the North Pole and South Pole and in high mountain ranges are thawing; there are more extreme weather events around the world such as long heat waves and droughts in some places and short intense storms with very heavy rainfall and flooding elsewhere; sea levels are rising.

The main reason that the amount of carbon dioxide is increasing is that 85 per cent of all the energy consumed in the world comes from burning fossil fuels, in particular petroleum (oil), gas and coal. Because fossil fuels are made of the dead remains of plants and animals that lived millions of years ago, they contain a lot of carbon dioxide, which is released into the atmosphere when burnt.

# CLIMATE CHANGE

## How is climate change affecting the world?

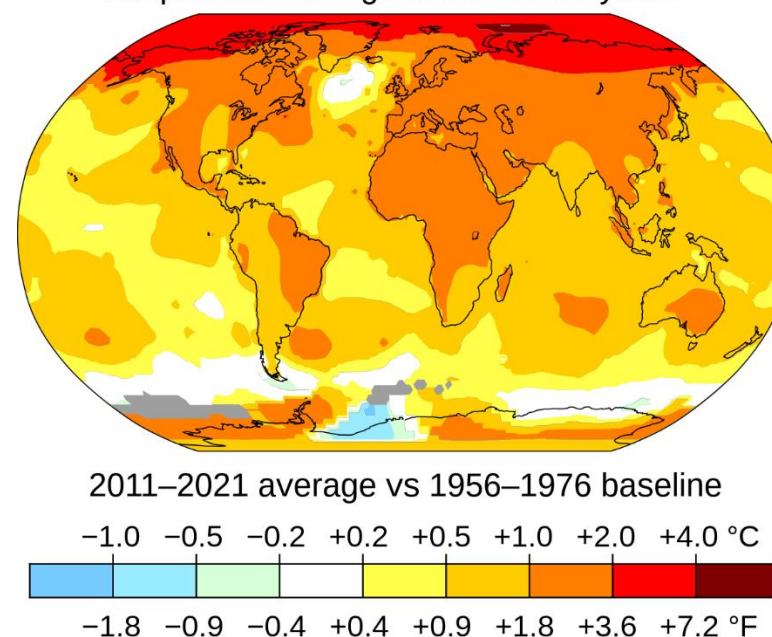
### The greenhouse effect



The greenhouse effect is a naturally occurring effect. Energy from the sun bounces off the earth's surface as some of this energy is absorbed by the gases forming the atmosphere. Roughly, 30% of this absorbed energy is then radiated back towards the earth. This effect causes the earth's average temperature to be around 15°C.

Without the natural greenhouse effect, the earth's average temperature would be around -18°C. This would be far too cold to sustain many forms of life.

Temperature change in the last 50 years



**Landscape** everything that can be seen when looking at a particular place

**Renewable** energy from a source such as wind that is never used up  
**Conservation** the protection of environments to prevent their loss or destruction

**Estuary** the place where a river widens as it enters the sea and fresh and salty water mix

**Hazard** something natural or human that is a risk or a danger

**Drought** a very long period of time without rainfall

**Desertification** the process by which fertile land becomes desert, typically as a result of drought, deforestation, or poor farming

**Ice sheet** a thick layer of ice covering a large area of land or sea

**Raw material** things found in nature that are used to make things for people

**Heatwave** a long period of unusually hot weather

**Mitigation** reducing the serious effects of something

**Atmosphere** the layer of gas that surrounds the Earth, often called air

**Emission** the release of something such as a gas

## KEY GEOGRAPHICAL CONCEPTS

**Climate** the average weather conditions of a place over a long period of time

**Environment** the particular physical and human features which make places distinctive

**Processes** the natural events and human actions that bring about change in an environment

**Interdependence** how people and their environments are connected and rely upon each other

**Interaction** the links or connections within and between different natural and human processes

**Economic activity** manufacturing a good or providing a service that is bought by people

**Settlement** any place where people are living such as a village or city

**Land use** how people have decided to use an area for a specific purpose such as farming or building towns and cities

**Energy** the power needed to make something work  
**Sustainability** improving the quality of life of people without having a negative impact on the environment

**Region** an area of land that has common features such as a particular climate or religion

**Carbon footprint** the amount of carbon dioxide released into the atmosphere as a result of the activities of an individual, organisation or community

There is lots being done to try and help stop the effects of global warming and to help us live more sustainably.

**Scale** the size or extent of an area or place – local, regional, national, international and global

