



## Videos for climate change pages

- Video one – What is climate?

To be able to understand climate change, we need to understand climate. What is it? How does it work? What is the difference between weather and climate? In this short video we'll explain what climate is, how our climate works and how different factors affect our climate.

First of all, let's answer the question of what is the difference between weather and climate? Weather is elements which we see daily, such as temperature, rain and wind. These can change hour by hour, day by day. Climate on the other hand looks at how the weather changes over a long period of time, typically over 30 years. It can be thought of as the average weather over a long period. Scientists have been able to define climate zones around the world. Here in the UK, we have a 'temperate' climate that is neither especially hot nor cold, wet nor dry, when compared to other climates. It is a very different climate to that in the Sahara for example, which is known as arid because throughout the year the weather is dry and hot. Scientists have to look at how the atmosphere interacts with the oceans, ice sheets, land masses and vegetation. These different interactions create a Climate System. These interactions, as well as the composition of the atmosphere itself, create a very complex system.

The sun also drives our climate. Sunlight provides energy which heats the earth. Without the Earth's atmosphere and certain gases, the climate would be very different to what it is now. Our atmosphere stops the heat from escaping into space. If it didn't do this, our planet would be a very cold place indeed. Certain gases allow the sun's energy through but stop it from escaping back into space, acting like a greenhouse. That's why it's called the Greenhouse Effect. The gases responsible for this effect, such as water

vapour, carbon dioxide and methane, are called Greenhouse Gases. Scientists explained the heat-trapping effects of greenhouse gases more than 150 years ago. They discovered that, without the greenhouse effect, the Earth would be 30°C cooler, making it uninhabitable to most forms of life. Greenhouse gases are so effective at keeping the earth warm that any changes will affect the Earth's temperature.

For more information about our weather and climate, visit the climate change pages on our website.