

Weather and climate



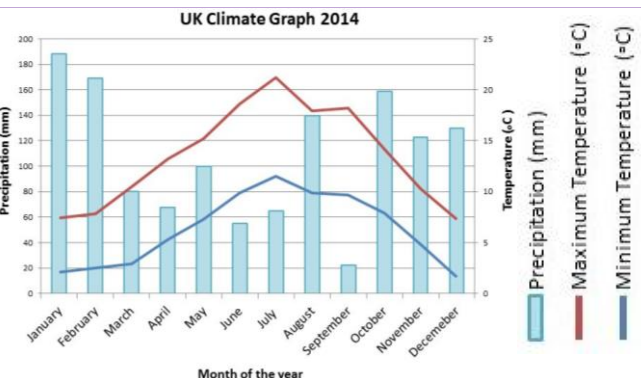
Weather = the day to day conditions in the atmosphere. For example, rain, cloud, wind.

Climate = the long term average weather conditions in a region. For example, a hot and dry desert climate, a cold and wet climate, summers are warm, winters are cold.

UK weather and climate



UK weather graph



Climate change - causes

Climate change = a change in the long term average weather conditions. This could be a change in average temperature and/or average rainfall.

Natural causes of climate change

The sun: The sun changes the amount of heat it produces over time. The spottier the sun, the hotter the sun!

Volcanoes: Volcanoes release greenhouse gases that can cause warming over time.

Earth's orbit: Sometimes the earth is closer to the sun than others. When it is closer, it is a little bit warmer.

Human causes of climate change

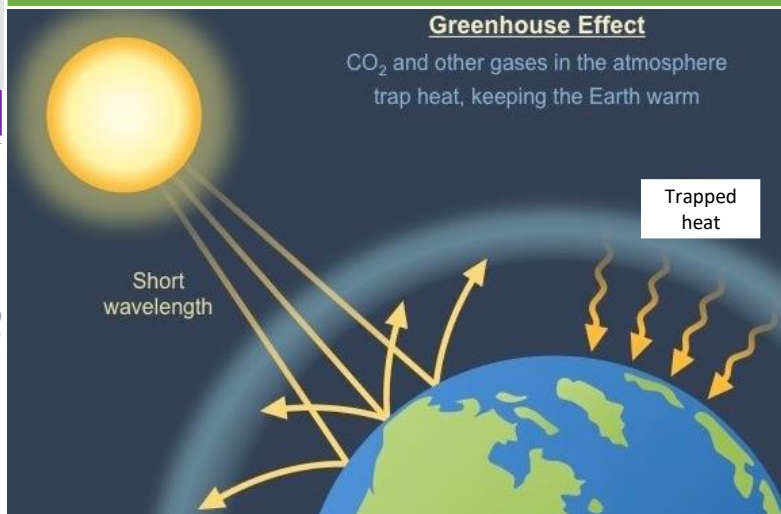


Burning fossil fuels: Burning fuels like coal and oil release lots of greenhouse gases into the atmosphere, like CO₂.

Deforestation: Chopping down trees stops them from taking in CO₂.

Weather and Climate

The greenhouse effect



Impacts of climate change

Temperature rise: More greenhouse gases in the atmosphere will cause the Earth's average temperature to increase.

Melting ice: The polar ice caps and glaciers could melt in warmer temperatures.

Sea level rise: Sea level around the world could rise as due to the extra water from the melting ice. This would flood many places.

Extreme weather: Extreme weather events could become more common, more storms.

Farming: Some places may be wetter, others drier. Farming may be harder in some places.

Responses to climate change

Mitigation: Preventing climate change from happening. This involves stopping the release of greenhouse gases or the removal of them from the atmosphere.

Examples: burning less fossil fuels, using renewable energy, capturing CO₂ from the air.

Adaptation: Accepting that climate change will happen and making changes to prepare for it.

Examples: Building on higher ground, building coastal defences, creating drought resistant crops.

What can we do?



We can all do our bit to help deal with climate change. Ideas include:

Using less electricity: turning off the lights, turn off things at the plug, use more efficient light bulbs

Use cars less: take the bus, train, walk or cycle.

Use less plastic: Re-use shopping bags, avoid over-packaged food

Fly less: planes release lots of greenhouse gases, using them less makes a difference

Support charities: some charities help the environment, for example, by planting trees