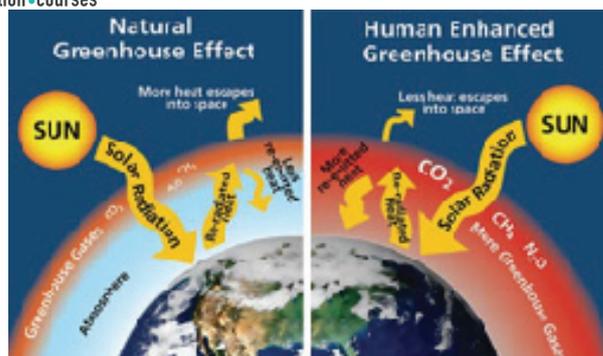


Global Warming

Global warming is one the biggest problems that we face some people believe. It is caused by the **greenhouse effect**.

The greenhouse affect is a **natural process that allows life to survive on earth**, without it would make it far too cold for us to survive (around 30°C less). It is the process by which the 'greenhouse gases' - water vapour (the biggest contributor), carbon dioxide, methane and nitrous oxides – absorb outgoing long wave radiation from the earth and sends some to the surface which is warmed (global average of 15°C).



The concentrations of carbon dioxide where keep **constant** at **280ppm** until the 19th century, and in **2007** were recorded to be **430ppm** as a result of human activities e.g. burning fossil fuels. This has lead to the **enhanced greenhouse effect** in which scientists believe that when it exceeds **450ppm** global temperatures will **rise to 2°C**, this is widely regarded as the **global tipping point** for **dangerous changes in our climate**.

Why is global warming so important?

- It affecting all areas of the world, with many **direct impacts**. Rising temperatures can exacerbate prior environmental issues.
- The changes in the climate will affect various ecosystems, and could potential lead to widespread malaria in some areas
- The increase in global temperatures will **increase the amount of evaporation**, making **hurricanes** and **more frequent** occurrence in the future
- As ice sheets and glacier melt the ocean is more diluted with fresh water, which impacts ocean circulation. Ice also has a higher **albedo (how much solar radiation a surface reflects)** and as it melts more heat from the sun will be absorbed, raising temperatures further.

Impacts of a 2°C rise in global temperatures as a result of global warming:

- Around **53% of the Arctic** tundra will be lost, with the ice sheet covering **80% of Greenland** in irreversible retreat
- The SE of England will suffer from permanent water shortages, with winters in **London being 3°C warmer** and **summers 5°C warmer**.
- Melt water from retreating glaciers will cause devastating floods in the Himalayas.
- **200 million more people** will be at **risk from hunger** as drought increases in Asia and Africa
- **Increase in insect borne diseases** such as malaria which already **claims 1.3 million per year**.
- **Crop yields in Africa will drop by 10%**, and **80% of S Africa's wild flowers will disappear**.

Solving the Problem?

It is very difficult to solve the issue of global warming for two main reasons:

1. it is very hard for us to make accurate predictions about the impacts of global warming
2. to reduce the effects of global warming it would require a global agreement to cut greenhouse gas emissions which is politically and economically unacceptable solution for many countries.

