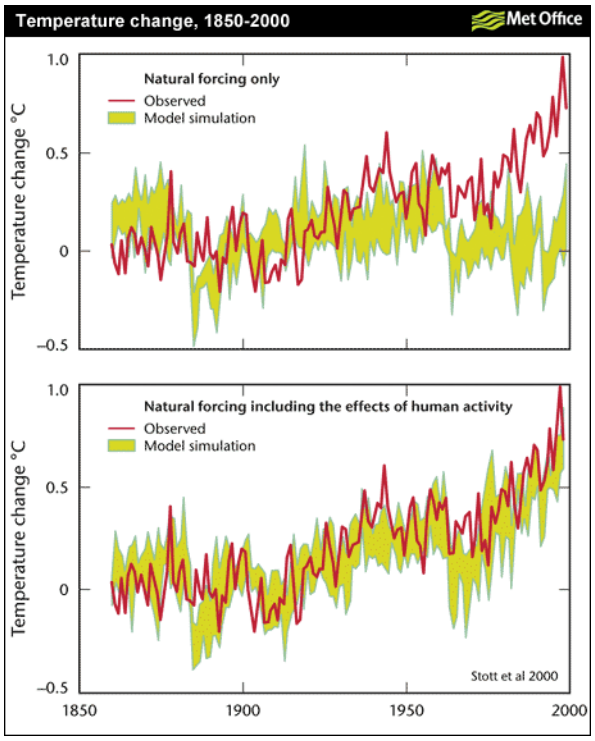
CLIMATE CHANGE: THE FACTS



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The MET Office explain...

Temperatures provide the clearest evidence that the climate is changing and globally the average temperature has risen by more than 0.7 °C over the last 100 years.

The natural greenhouse gas effect keeps Earth much warmer than it would otherwise be, without it Earth would be extremely cold. Greenhouse gases such as carbon dioxide, methane and water vapour behave like a blanket around Earth. These gases allow the Sun's rays to reach Earth's surface but impede the heat they create from escaping back into space.

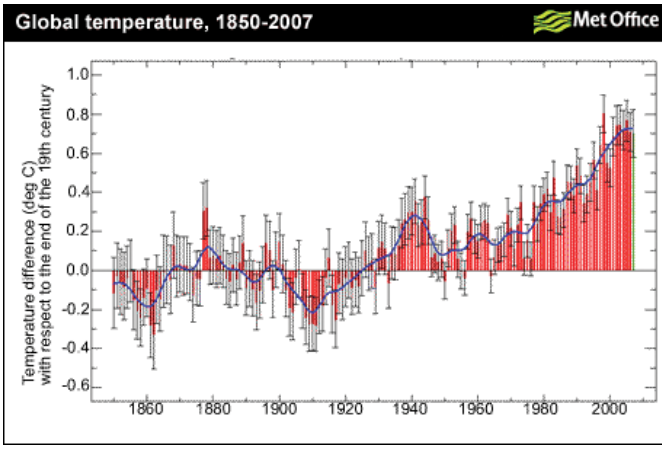
Any increases in the levels of greenhouse gases in the atmosphere mean that more heat is trapped and global temperatures increase - an effect known as 'global warming'.

There is indisputable evidence that this observed global warming is predominantly caused by increases in greenhouse gas concentrations. Concentrations of CO2, created largely by the burning of fossil fuels, are now much higher, and increasing at a much faster rate, than at any time in the last 600,000 years. Because CO2 is a greenhouse gas, the increased concentrations have contributed to the recent warming and probably most of the warming over the last 50 years.

TEMPERATURES ARE CONTINUING TO RISE...

The rise in global surface temperature has averaged more than 0.15 °C per decade since the mid-1970s. Warming has been unprecedented in at least the last 50 years, and the 17 warmest years have all occurred in the last 20 years. This does not mean that next year will necessarily be warmer than last year, but the long-term trend is for rising temperatures.

A simple mathematical calculation of the temperature change over the latest decade (1998-2007) alone shows a continued warming of 0.1 °C per decade. The warming trend can be seen in the graph of observed global temperatures. The red bars show the global annual surface temperature, which exhibit year-to-year variability. The blue line clearly shows the upward trend, far greater than the uncertainties, which are shown as thin black bars. The recent slight slowing of the warming is due to a shift towards more-frequent La Niña conditions in the Pacific since 1998. These bring cool water up from the depths of the Pacific Ocean, cooling global temperatures.



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