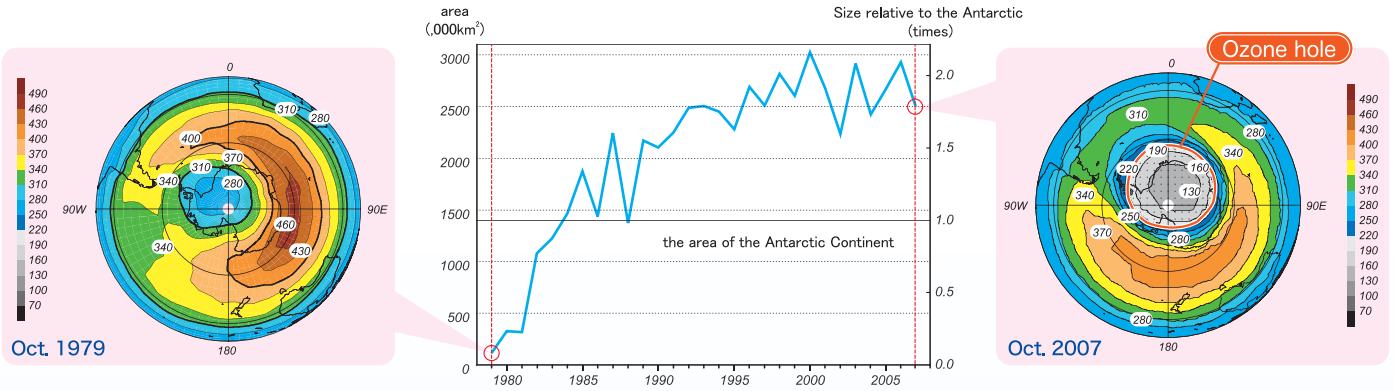
Ozone Layer Depletion

Ozone layer depletion continues unabated

The Ozone Layer is 10-50km above the Earth's surface and absorbs harmful UV rays from the Sun. However, CFCs and HCFCs which are emitted into the air reach the ozone layer and decompose ozone by chemical reactions. The depletion of ozone above the Antarctic is so serious that in September - October each year the ozone density decreases drastically. This is called "Ozone Hole", because it looks like a hole in the sky.Still now, there is no clear sign of recovery of the Ozone Hole.



Chronological change of the size of the ozone hole and the distribution of the ozone above the Antarctic in October
Source: Japan Meteorological Agency Ozone Layer Observation Report 2007

Impact on Climate Change

Fluorocarbons are about 100-10,000 times stronger greenhouse gases than CO_2

Currently, climate change caused by man-made emissions of CO_2 is becoming more and more serious. Climate change is not only caused by CO_2. Fluorocarbons such as CFCs, HCFCs and HFCs also have strong greenhouse effects.Their impact on climate change is known to be extremely strong -- ranging from a hundred times to over ten thousand times stronger than CO_2. For example, fluorocarbons used in air-conditioners and mobile air-conditioners are more than 1,000 times stronger greenhouse gases than CO_2. If 1 kg of fluorocarbons are emitted into the air accidentally, they will have the equivalent impact of more than 1 ton of CO_2.

Geographical pattern of surface warming

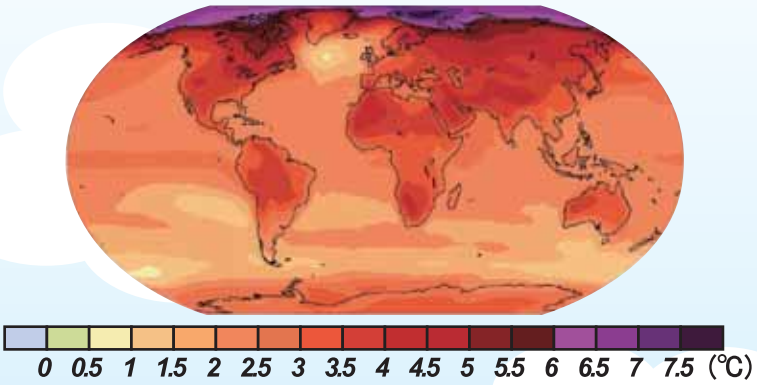
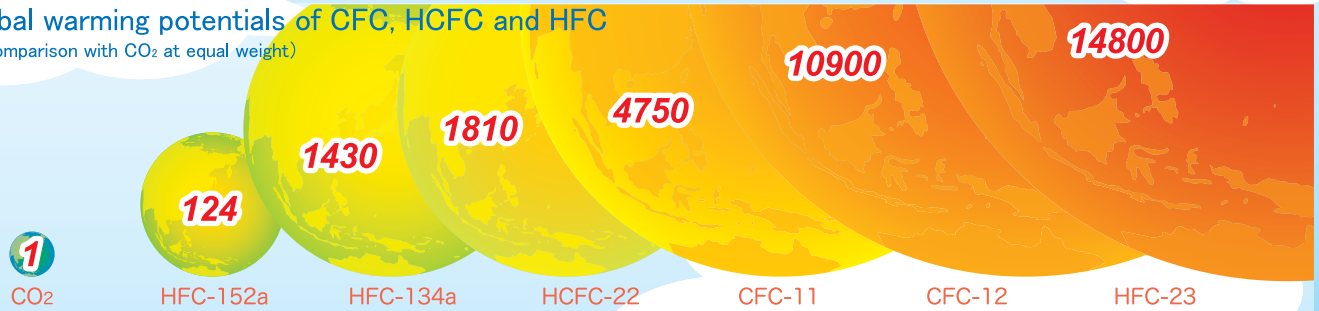


Figure : Projected surface temperature changes for the late 21st century (2090-2099). The map shows the multi-AOGCM average projection for the A1B SRES scenario. Temperatures are relative to the period 1980-1999.

Figures have been taken from IPCC third assessment report(2007)

Global warming potentials of CFC, HCFC and HFC

(in comparison with CO_2 at equal weight)



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