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Hints of methane's renewed rise

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Levels of the greenhouse gas methane in the atmosphere seem to be rising having remained stable for nearly 10 years.

Data from the National Oceanographic and Atmospheric Administration (Noaa) in the US suggest concentrations rose by about 0.5% between 2006 and 2007.

The rise could reflect melting of permafrost, increased industrialisation in Asia or drying of tropical wetlands.

The rise in carbon dioxide levels was significantly higher than the average annual increase for the last 30 years.

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Geir Braathen, WMO

Noaa figures show CO₂ concentrations rising by 2.4 parts per million (ppm) from 2006 to 2007. By comparison, the average annual increase between 1979 and 2007 was 1.65ppm.

Concentrations now stand at 384 ppm, compared to about 280 ppm before the era of human industrialisation began.

Upwards curve?

The rise in CO₂ is not exceptional compared with the previous few years, but does add more evidence that concentrations are rising faster than they were a decade or so ago.

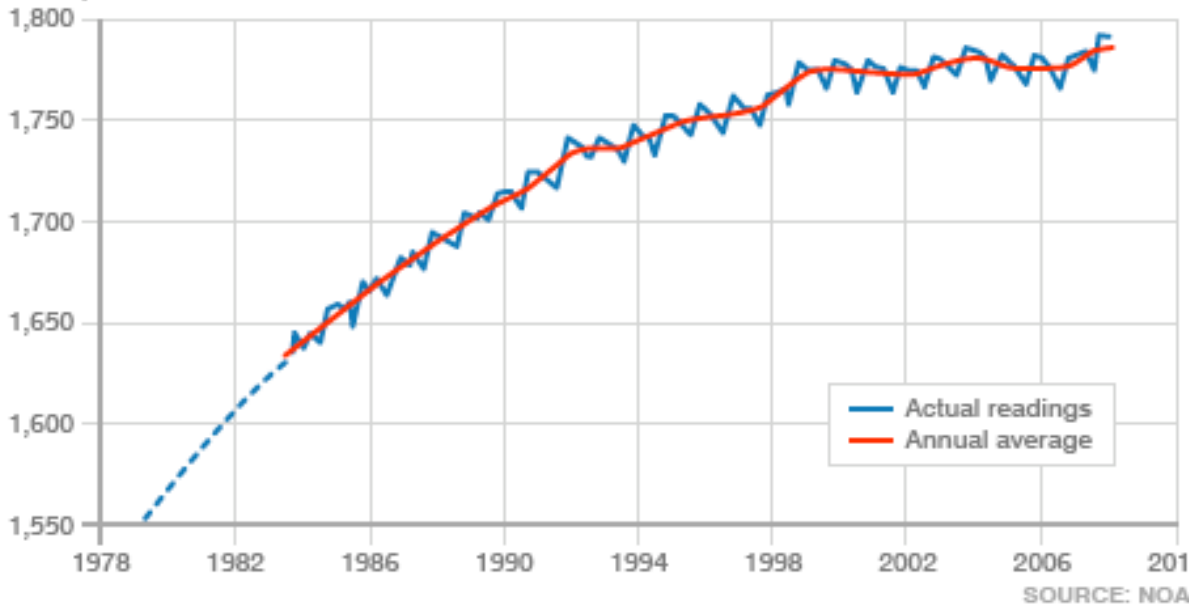
The methane figure is more interesting, and potentially of more concern.

Concentrations have been more or less stable since about 1999 following years of rapid increases. Industrial reform in the former Soviet bloc, changes to rice farming methods and the capture of methane from landfill sites all contributed to the levelling off.

But the 2007 figure indicates that levels may be on the rise again.

RISING METHANE

Parts per billion



"Looking at the curve, there is a sign that methane is showing some increase," commented Geir Braathen, senior scientific officer with the World Meteorological Organization, who was not involved in the NOAA publication.

"But the mechanism behind that would be uncertain; and it's too early to say if this is the start of a new increase or not.

"We will need several years of increase before we can state that there is a rising trend."

Warming trend

Methane concentrations have shown small rises and falls during the years of stability, but rises have been associated with El Niño conditions which are known to induce more wildfires.

Currently, the world is experiencing La Niña conditions, the opposite of El Niño.

A sustained rise could be due to several reasons. Asia's spectacular industrialisation, reversion to older rice farming techniques, and a drying out of tropical wetlands would all be candidates if the rising trend is confirmed.

Equally possible would be the release of methane from frozen zones of the world, notably the Arctic permafrost, as they warm.

Methane is the second most important gas causing man-made climate change. Each molecule causes about 25 times more warming than a molecule of CO₂, but it survives for shorter times in the atmosphere before being broken down.

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