

## Research Highlights

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# Water vapour warming

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A loss of water vapour in the Earth's upper atmosphere may have slowed the rate of global warming over the past decade, suggests new research. Although the decade 2000–2009 was the warmest on record, average global temperatures levelled off during this period despite a continued rise in greenhouse gas emissions.

Now a team led by Susan Solomon of the US National Oceanic and Atmospheric Administration in Boulder, Colorado, reports that water vapour concentrations in the stratosphere fell by 10 per cent from 2000, offsetting — by 25 per cent — the warming that would otherwise have occurred since then. The team used an atmospheric model and a range of recent observations of stratospheric water vapour to reach their conclusion. Using more limited data, they also found that water vapour in the stratosphere probably increased between 1980 and 2000, a period of rapid warming. The increase in water vapour between 1990 and 2000 may have amplified the rapid warming of that period by as much as 30 per cent, they say.

The study confirms earlier work showing that water vapour has an important role in warming. It also partly explains the drop in warming over the past decade.



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