

## Simulated volcanic eruptions to block sun

A geoengineering project to block the sun by simulating volcanic eruptions would be 100 times cheaper than cutting greenhouse gas emissions, climate change scientists said.

By [Alastair Jamieson](#)

Published: 8:51AM GMT 28 Jan 2010

A global plan to put man-made particles into the atmosphere to deflect the Sun's heat would rapidly lower global temperatures until cuts in carbon dioxide emissions took effect, they argued.

They acknowledged concerns about geoengineering but said multi-national experiments should begin soon before it is too late to reverse climate change or in case a rogue state carried out separate measures.



One proposal is for a fleet of ships that would spray seawater into the sky that would leave behind salt crystals to brighten clouds Photo: NASA

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The environmental scientists, David Keith of the University of Calgary in Canada, Edward Parson of the University of Michigan and Granger Morgan of Carnegie Mellon University, were writing an editorial in the journal, *Nature*.

They called for governments to establish a multimillion-pound fund for research into the simulated volcanoes and other solar-radiation management techniques for shielding the Earth against sunlight.

"The idea of deliberately manipulating Earth's energy balance to offset human-driven climate change strikes many as dangerous hubris," they wrote.

"Many scientists have argued against research on solar radiation management, saying that developing the

capability to perform such tasks will reduce the political will to lower greenhouse gas emissions. We think that the risks of not doing research outweigh the risks of doing it.”

They said the cost of solar radiation management was 100 times lower than the price tag for cutting emissions to achieve the same effect, raising the risk that small groups of nations or even rogue states could act alone.

They wrote: "It is plausible that, after exhausting other avenues to limit climate risks, such a nation might decide to begin a gradual, well-monitored programme of deployment, even without any international agreement on its regulation.

“In this case, one nation – which need not be a large and rich industrialised country – could seize the initiative on global climate, making it extremely difficult for other powers to restrain it.”

Natural sulphate particles in the upper atmosphere lowered global temperatures by 0.5 degrees Celsius in less than a year following the eruption of Mount Pinatubo in the Philippines in 1991.

Among other potential geoengineering solutions is spraying fine droplets of seawater into the air to create low-level clouds that would lower daytime temperatures over the oceans.

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