

Robert Henson The Rough Guide to Climate Change – The Symptoms, The Science, The Solutions, Rough Guides, London and New Delhi, 2011 – 2

Part 4: Debates and Solutions – From spats and spins to saving the planet. Is the sun behind climate change?, page 275

Sceptics promoted the idea that increased solar activity has caused rising surface temperatures. The sun produced more sunspots in recent decades than in the 1800s. But this reflected in increased UV rays. UV rays form a tiny part of the spectrum of solar energy. Total solar energy reaching earth changes little over time. Since 1750 ('little ice age') solar output increased by 0,12 per cent (2007 IPCC Report). Solar contributed 10 per cent of 20th Century warming (Judith Lean, Naval Research Laboratory).

Increased UV rays might have helped shield earth from solar activity. UV rays limit cosmic rays that ionise particles in the stratosphere and troposphere. Some argue that ionisation of these particles enables them to clump and form clouds. These clouds would shield the earth from incident light. But absent the clouds there could be solar-induced surface warming.

It is an open question whether these particles enable more cloud formation in the real world. Studies show conflicting results. There is no clear evidence that cosmic rays have made it into the earth's lower atmosphere.

(summarised by Paul Hendler)