

# Leaked IPCC report reaffirms dangerous climate change

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A draft of a major report on climate change, due to be published next year, has been leaked online. Climate-sceptic bloggers have seized on it, claiming that it admits that much of global warming has been caused by the sun's variability, not by greenhouse gas emissions. In fact, the report says nothing of the kind.

The report in question is being produced by the [Intergovernmental Panel on Climate Change](#) (IPCC), which releases detailed assessments of climate science every few years. The [last report](#) came out in 2007, and the next is scheduled to be published, section by section, beginning in September 2013.

The report was leaked by Alec Rawls, who signed up to be an expert reviewer of the next report – something anyone can do. Rawls posted the latest draft of the report's first section on [his website](#). It was swiftly picked up by bloggers critical of mainstream climate science, such as [Anthony Watts of Watts Up With That](#) and [James Delingpole](#), who writes for the UK's *Daily Telegraph* newspaper.

Rawls highlights a paragraph on page 43 of [chapter 7](#), which he calls "a killing admission that completely undercuts the main premise and the main conclusion of the full report, revealing the fundamental dishonesty of the whole".

## Cosmic influence

The paragraph discusses the [purported effects of galactic cosmic rays \(GCR\) on Earth's climate](#). We know that the sun's activity, or solar irradiance, varies on an 11-year cycle, and at its peak it can slightly raise global temperatures. GCRs could, in theory, amplify the effects of the solar cycle and lead to even more warming.

This is because GCRs, which can in theory trigger cloud formation that cools the planet, are deflected away from Earth when the sun is most active. In the late 1990s it was suggested that changes in the sun's brightness can have a significant influence on the climate once this GCR mechanism is taken into account.

Rawls highlights this sentence from the IPCC draft report: "The forcing from changes in total solar irradiance alone does not seem to account for these observations, implying the existence of an amplifying mechanism such as the hypothesized GCR-cloud link."

Essentially, this says that observed changes in the sun's brightness over the last century have been small, and that their apparent effects on Earth's climate have been larger than might be expected. Therefore, you might think that some other mechanism was amplifying the sun's effects – such as the aforementioned cosmic rays.

Rawls claims this means that [the sun's effects on Earth's climate](#) have been much larger than climate scientists have been prepared to admit, and that the sun could therefore be the reason for the warming Earth has experienced in the last century. He writes: "Once the evidence for

enhanced solar forcing is taken into account we can have *no* confidence that natural forcing is small compared to anthropogenic forcing."

## **Wishful sceptics**

Climate scientists are lining up to debunk this claim, and to explain that the bloggers have simply got it wrong. "They're misunderstanding, either deliberately or otherwise, what that sentence is meant to say," says solar expert [Joanna Haigh](#) of Imperial College London.

Haigh says that if Rawls had read a bit further, he would have realised that the report goes on to [largely dismiss the evidence](#) that cosmic rays have a significant effect. "They conclude there's [very little evidence](#) that it has any effect," she says.

In fact, the [report summary](#) reaffirms that humanity's greenhouse gas emissions are the main reason for rising temperatures. It goes on to detail the many harmful effects, from more frequent heatwaves to rising sea levels.

## **What the sun does**

Haigh points out that the sun actually began dimming slightly in the mid-1980s, if we take an average over its 11-year cycle, so fewer GCRs should have been deflected from Earth and more Earth-cooling clouds should have formed. "If there were some way cosmic rays could be causing global climate change, it should have started getting colder after 1985." The last three decades have seen [continuing warming](#), with the last decade [the warmest on record](#).

Changes in the sun's brightness do have an important effect on the climate, but not in the way climate sceptics would like to think. The sun's brightness changes very little on human timescales, so the amount of heat Earth receives does not change much.

But the type of radiation the sun puts out changes more significantly, and this has complex effects on atmospheric circulation patterns like the [jet streams](#). As a result, the sun has a significant effect on regional climates. Climatologists anxious to figure out how global warming will affect specific places, [particularly Europe](#), must pay close attention to the sun (see [The sun joins the climate club](#)).

"The most interesting aspect of this little event is it reveals how deeply in denial the climate deniers are," says [Steven Sherwood](#) of the University of New South Wales in Sydney, Australia – one of the lead authors of the chapter in question. "If they can look at a short section of a report and walk away believing it says the opposite of what it actually says, and if this spin can be uncritically echoed by very influential blogs, imagine how wildly they are misinterpreting the scientific evidence."