

Continuation of Discussions  
between IAGA and SCOSTEP  
about Solar Influences on  
Climate

Hi Marv,

How are you? Hope all is well.

I have recently joined the Executive Committee of IAGA. As you may know, Eigil Friis-Christensen is the president (succeeding Charlie Barton). At our meeting in Montreal, Eigil asked me if I would help undertake a matter for IAGA. In essence, the request was to try to put together a small, distinguished panel to assess how well/completely the IPCC had looked into the role of "forcing from above" when considering global climate change. Given Eigil's role in such research, he wanted to see this undertaken, but did not want to influence the evaluation in any significant way.

I am writing to ask whether you would be willing to be involved in such an evaluation effort on behalf of IAGA? I would think that your self and 2 to 3 others might form a committee that would look into this issue and report back in a timely fashion. I realize that these matters are highly controversial, but I also think that proper science demands that a fair assessment be made.

Would you consider undertaking such an effort? I hope so.

I look forward to hearing from you.

Best wishes

Dan

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Hi Dan,

Okay, now to the topic of your e-mail. Through the auspices of SCOSTEP CAWSES, I am working with others on a review paper (title page attached). This involves solar/magnetospheric types (Mike Lockwood), climate types (Ulrich Cubasch and Juerg Beer), middle atmosphere types (me and others), and cosmic ray/cloud types. This review may serve the desired purpose, or I could ask the group to write a 1-pager on the IPCC implications, but we do cover this a bit in the review. What do you think?

I am copying Bob Vincent on this since this might represent a collaboration between IAGA and SCOSTEP.

Marv

Hi Marv,

This sounds quite timely--when will the paper be published (do you expect)? Do you think the various mechanisms will all be critically assessed? (It sounds like it). I will be very interested to see the paper!

Let me think about this for a bit and I'll be back in touch, OK?

Best wishes

Dan

I have sent him a copy  
of the submitted review.

Now, what's happened  
recently!

# Solar Influences on Climate

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M. Lockwood<sup>5,6</sup>, K. Matthes<sup>7</sup>, U. Cubasch<sup>7</sup>,  
D. Fleitmann<sup>8</sup>, G. Harrison<sup>9</sup>, L. Hood<sup>10</sup>, J. Luterbacher<sup>11</sup>,  
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There have been conversations between SCOSTEP, IAGA, and other parts of IUGG to seek support for doing such an assessment. I have been charged by Bob Vincent, SCOSTEP President, to deal with this on their behalf.

....., and now a little comic relief.

# Professor sheds light for climate sceptics



Medicine: Martin Geller of Stony Brook University is a big name when it comes to the world's Australian Institute of Physics and was a congressman in Adelaide

PHOTO: KELLY BURNER

Lightly  
Science writer

THE sun is a powerful player in the planet's climate as the energy it sends to Earth warms and cools. But the sun is not driving recent global warming as climate change sceptics claim.

That is the message from atmospheric scientist Martin Geller of Stony Brook University in New York, using a bygone speaker at this week's Australian Institute of Physics national congress in Adelaide.

"Solar physicists and climate scientists agree that while the sun affects climate (they) cannot account for the last several decades' warming trend without including human influence," he said.

"There is no doubt humans

are making the earth warmer by adding greenhouse gases (like carbon dioxide)."

According to Professor Geller, solar radiation varies in an 11-year solar cycle but it has changed only one-tenth of 1 per cent since 1978 when solar irradiance measurements began.

"By any direct means, the sun would not have a very strong influence," he claimed.

In contrast, the rate of global warming has escalated rapidly, increasing on average by about 0.6°C between 1950 and 2005. As of 2005, 11 of the previous 12 years were warmer than any other since 1850, said Professor Geller.

He dismissed the claim by climate change sceptics such as Martin Durkin — producer and director of the controversial film

*The Great Global Warming Swindle* — that global warming peaked in 1998 then declined slightly.

"That was a year of a massive El Niño. It's well known that El Niño causes a temporary increase in global temperature. One has to distinguish between a steady and consistent (upward) trend and annual fluctuations in the internal system," said Professor Geller, pointing to a common confusion of "weather" and "climate".

He noted that weather refers to current atmospheric phenomena like rain, temperature and wind. Climate is the average atmospheric conditions over years, decades or even millennia.

According to Professor Geller, sceptics are incorrect when they

claim CO cannot cause warming as it collapses only a small, though increasing, fraction of the atmosphere.

In fact, CO<sub>2</sub> is highly reactive in the atmosphere, he said. "Just because it's a small fraction doesn't mean it's unimportant. If you don't believe me, try surviving in a room with a small concentration of cyanide gas."

It also incorrectly argues that since CO<sub>2</sub> levels only rose after the end of the ice ages over the past half a million years, it cannot cause global warming now despite the fact that human activity has released unprecedented amounts of CO<sub>2</sub> and other greenhouse gases, such as methane and water vapour, into the atmosphere since the 1850s.

In fact, while the initial warming that ended the ice ages and

released the CO<sub>2</sub> was due to shifts in Earth's orbit, once the gases released from the oceans, it accelerated the warming by absorbing solar radiation.

And further back in geological time there were examples of warming triggered by rises in CO<sub>2</sub>, noted Professor Geller, who helped draft the American Geophysical Union position statement *Human Impact on Climate*.

The AGU is the world's largest scientific society of Earth and space scientists. The statement said "Many components of the climate system ... are now changing in ways and at rates that are not natural and are best explained by the increased atmospheric abundance of greenhouse gases and aerosols generated by human activity during the 20th century."