

## Are climate scientists overselling their models?

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*At the [UN climate negotiations](#) under way in Poland this week, politicians will be poring over forecasts of climate change. It's an*

happenstance from model details kick in?

**Do you worry that the doubts you express about climate models could fuel the arguments of climate sceptics?**

Yes I do. Effective application of climate science hinges on clear communication of which results we believe are robust and which are not. Any discussion of such limits can be abused by those seeking only to confuse. But failing to discuss these limits openly can hinder society's ability to respond, and also compromise the future credibility of science.

**How do climate scientists react to your criticisms?**

Most of the working scientists, especially the younger ones, are worried about over-interpretation. In some countries, though, national research centres are charged with both advancing the science and selling their results commercially. This must be a difficult position. It is hard for a salesman to lead his presentation with uncertainty, even if that's what the science says.

It's interesting to compare these debates with what happens in other disciplines. Seismologists practically throw rocks at each other when arguing about earthquake predictions. The climate community presents a more unified front. That's not unreasonable, because the basic physics does make sense and deserves unanimity. The downside is that if someone goes too far in interpreting model results, they don't always face proper scrutiny.

**So should we believe the reports produced by the [Intergovernmental Panel on Climate Change](#)?**

Broadly yes - we understand a lot. You have to read the qualifiers carefully, though. In the most recent report, for instance, there is an explicit acknowledgement that the range of simulations in today's models is too narrow. That is, future warming could be greater or less than what is suggested by the diversity between models in the report. It's good that the qualifier is in there, but it is a hell of a qualifier to find on page 797.

**Doesn't this risk undermining the science of climate change?**

It could. I see three dangers for climate science. The first is politically or financially motivated naysayers. The second is the risk of over-interpretation. The third is the risk of over-interpretation.

**How did you get interested in the whole issue of uncertainty in modelling?**

In New York I worked with Jim Hansen, the climate scientist, and looked at the codes of the early computer models. I did my thesis with Ed Spiegel, an astrophysicist who had worked on chaos since the 1960s. I had to grapple with uncertainty at every turn.

These days, my work involves ways to better interpret and improve our models. Some of that is about climate and weather, but I also study fluid dynamics and signals in everything from the national electricity grid to simple circuits. You'd think an electric circuit was completely predictable, but it isn't.

**Profile**

Lenny Smith gained a PhD in physics from Columbia University, New York. He is now