

Bill

I would much appreciate your comments on this paper by you know who ( Santer, Mann, and England !). One interpretation by simpletons like me would be that “we got it wrong this time but it doesn’t mean that our dangerous warming thesis is wrong. That remains a threat we have to deal with”

Des

## Inconvenient truths surface amid climate model doubts



Temperatures are returning quickly to pre-El Nino levels.

[Graham Lloyd](#), The Australian, 12:00AM July 1, 2017

With preparations under way for the Intergovernmental Panel on Climate Change’s next report, a key challenge for scientists remains to explain properly the 20- year slowdown in surface temperature rises and the failure of models to predict it.

The so-called pause has been a totemic issue for sceptics, who have earned derision from much of the climate science community since bringing it to global attention. The slowdown or hiatus was mentioned, however, in the IPCC fifth assessment report, and behind the vitriol there has been a lot of work done to provide some answers for the sixth assessment report to be published next year.

The latest instalment is a paper by a group of the world’s leading climate scientists who now admit climate models have been wrong and must be adjusted to better reflect the results of satellite temperature measurements. During the past two decades, these results have shown a slowdown in temperature rises in the troposphere, which is the lowest layer of the atmosphere where almost all of our weather occurs.

The admission is contained in a new paper published in Nature Geoscience, which says a combination of factors including natural variability and unforeseen events have been responsible for models over-estimating the temperature rise. Natural variability includes the El Niño and La Niña weather patterns and oscillations on a decadal scale in the Pacific and Atlantic oceans. Unforeseen factors that contributed to cooling included volcanic eruptions, a weaker sun in the last solar cycle and increased particulate pollution from Chinese coal-fired power plants.

The paper, Causes of Differences in Model and Satellite Tropospheric Warming Rates, is lead-authored by Benjamin Santer from the Lawrence Livermore National Laboratory in the US, and includes Michael Mann from the Earth System Science Centre at Pennsylvania State University and Matthew England from the University of NSW.

Sceptics have claimed the paper as evidence to support the pause. But the authors say their paper rules out claims the atmosphere is less sensitive to carbon dioxide or that future warming was not a concern.

“None of our findings call into question the reality of long-term warming of Earth’s troposphere and surface, or cast doubt on prevailing estimates of the amount of warming we can expect from future increases in (greenhouse gas) concentrations,” the authors say.

“Even though the most recent 20-year warming trend is smaller than in earlier parts of the satellite record, it is still significantly larger than the range of 20-year trends caused by internal climate variability alone.”

The paper says that in the early 21st century, satellite-derived tropospheric warming trends have been generally smaller than trends estimated from a collection of models run many times. After analysing satellite temperatures and model simulations the scientists found internal variability could explain differences between modelled and observed tropospheric temperature trends in the last two decades of the 20th century.

However, it cannot explain the divergence for the past two decades of this century, the time of the pause. The latest paper follows on from another with many of the same authors, including Santer and England, published in Nature in February last year.

That paper, Making Sense of the Early 2000s Warming Slowdown, was one of the first signs of a building consensus position between key climate scientists and sceptics on the existence of a slowdown. The paper rejected the finding of other scientists that “claims of a hiatus in global warming lack sound scientific basis”. Those scientists sceptical of the hiatus had “benchmarked the recent slowdown against a baseline period that includes times with a lower rate of increase in greenhouse forcing”, it said.

In keeping with the latest research findings, last year’s paper said the reduction arose though the combined effects of internal decadal variability, volcanic and solar activity, and decadal changes in anthropogenic aerosol forcing. These findings contrast with the harsh criticism levelled at sceptics who first highlighted the existence of the slowdown or pause.

It is why many sceptics advocate a more robust contest of climate science alongside the peer-reviewed process.

The immediate dispute is over whether the spike in global temperatures during the most recent El Nino represented an end to the pause. The latest evidence is that temperatures are returning quickly to pre-El Nino levels.

Noted contrarian Judith Curry argues there are better ways to assess science for policymakers than a consensus-seeking process that she says serves to stifle disagreement and debate. “The climate community has prematurely elevated a scientific hypothesis on human-caused climate change to a ruling theory through claims of a consensus,” Curry says. “Premature theories enforced by an explicit consensus-building process harm scientific progress because of the questions that don’t get asked and the investigations that aren’t undertaken.”

Curry argues “our understanding of climate dynamics on decadal to century to millennial timescales is far from complete”, something supported by the latest research. But Mann — who characterised Curry as a “denier” in a recent US house committee hearing — says “we understand the science of climate just about as well as we understand the science of just about anything”.

The election of Donald Trump and pending withdrawal of the US from the Paris Agreement has emboldened many who want to promote a more rigorous debate. Scott Pruitt, the new head of the US Environmental Protection Agency, has put his weight behind calls for a red team v blue team examination of the climate science.

Under such a proposal, two teams would review a published scientific report such as the UN Summary for Policymakers or the US government’s National Climate Assessment. A red team would critique the document and a blue team would challenge the critique. A commission would moderate the process and conduct public hearings to highlight points of agreement and dispute.

Pruitt says the American people deserve “a true, legitimate, peer-reviewed, objective, transparent discussion about CO2 ... what we know, what we don’t know and what risk does it pose to health, the US and the world. It’s something we hope to provide as part of our leadership.”

In The Wall Street Journal last month Steve Koonin, a theoretical physicist and former undersecretary during Barack Obama’s first term, said the outcome of a red-blue exercise was not preordained.

“It could reveal the current consensus as weaker than claimed,” he said. “Alternatively, the consensus could emerge strengthened if red team criticisms were countered effectively.”

The suggestion is that any red team-blue team exercise be co-ordinated by the National Security Agency rather than the major science academies. Critics argue it is just another attempt to muddy the waters with uncertainty. They say healthy scepticism and competition already exist in the peer review process.

