

**Senate Standing Committee on Environment and Communications**  
**Legislation Committee**  
Answers to questions on notice  
**Environment portfolio**

**Question No:** 108  
**Hearing:** Additional Estimates  
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**Programme:** Climate Change Authority  
**Topic:** McKittrick paper  
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**Senator Canavan asked:**

Senator CANAVAN: Are you familiar with a paper by Dr Ross McKittrick that came out late last year analysing the HadCRUT4 temperature series database?

Ms Harris: It is not springing to mind right now, sorry.

Senator CANAVAN: He produced a paper which did some new analysis of that temperature series and he did some new tests for heteroskedasticity and autocorrelation and found that there are 19 years of, basically, no warming in that data series. How do you explain that result? The predictions have been for warming and there have certainly been more carbon emissions over that timescale. Why haven't we seen warming in these datasets?

Ms Harris: We will probably take it on notice to get you a more detailed response from the scientists who are members of our authority, but there is some information about this in our targets and progress review that we released in February last year. It is actually incorrect to say that there has been no warming at all. There has been some continued warming of atmospheric temperatures. There is also been considerable warming in our oceans over that period of time. As I am sure you are aware, the long-term climate has a good deal of natural variability. Actually, in terms of natural variability, we have not been in an El Nino. We have not had lots of solar activity. We have not had any of the other sorts of—

Senator CANAVAN: We have had El Ninos over that timescale. And I do apologise; I should have said no statistically significant warming over those timescales. We can obviously debate over what timescale, but clearly there has been a flattening in the series and it does not seem to me to be well explained by the theory of climate change.

Ms Harris: We do have some information on page 32 of our Targets and progress report. There is a box on that particular issue. I am sure, if there is any more information that we can provide, we would certainly be very happy to. Basically, however, the Climate Change Authority is a policy advisory body. We are not a scientific advisory body. We do have scientists on our board, but our job is not to provide scientific advice.

**Answer:**

The Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) confirms that the world is still getting warmer because of greenhouse gas emissions from human activities. The long term trend has not changed.

The climate can experience a high degree of natural variability over short periods of time. Selection of data over particular short periods can suggest different trends to those obtained when longer periods are considered. The IPCC report identifies, for example, that the warming of surface temperatures for the period 1998 to 2012 was relatively slow. This was due to a combination of factors, including volcanic eruptions that increased the amount of cooling aerosols in the atmosphere, redistribution of heat within the ocean and lower solar radiation levels due to the natural solar cycles. Warming was, however, relatively fast from 1990 to 2006 so, over the longer timeframe of 1990 to 2012, warming has been in line with projections.

Short-term reductions in the rate of climate warming do not mean climate change has 'paused'. Many other observations of changes in the climate system confirm that warming continues. Globally, average surface temperatures over land and oceans have been successively warmer in each of the last three decades compared with any preceding decade since 1850. The first decade of the 2000s was the warmest on record. Sea levels have continued to rise, warming is occurring at greater depths of the ocean and ice sheets have been melting at greater rates compared to earlier periods.

Further information:

- Climate Change Authority, Targets and Progress Review Final Report (2014), online at <http://www.climatechangeauthority.gov.au/reviews/targets-and-progress-review-3> (see especially Chapter 2).
- IPCC Fifth Assessment Report (2013-14), online at <http://www.ipcc.ch/report/ar5/> (see especially The Physical Science Basis: Contribution of Working Group 1, Summary for Policymakers, sections B.1 and D.1).