Senate Standing Committee on Economics
ANSWERS TO QUESTIONS ON NOTICE
Innovation, Industry, Science and Research Portfolio
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AGENCY/DEPARTMENT: OFFICE OF THE CHIEF SCIENTIST

TOPIC: IPCC – Amazon forest

REFERENCE: Question on Notice (Hansard, 10 February 2010, E65)

QUESTION No.: AI-101

Senator McGAURAN—The next icon the IPCC has relied upon is 40 per cent of the Amazon forest being wiped out, I guess, by 2035 under existing circumstances. It had no scientific backing or expertise to it at all. It was just the WWF—that is not the wrestling organisation. It was just their comment and their basis. So, do you now accept that 40 per cent of the Amazon forests being wiped out by 2035 has no scientific backing or expertise, because the IPCC does? Do you?
Prof. Sackett—I would have to investigate that question in more detail to give you a precise answer. But the important thing to realise is that projections going forward about how climate change will affect particular pieces of the earth are matters that require further study, but that is not the basis upon which we know the globe is warming.
Senator McGAURAN—All right, so you have ducked that one, now here is another icon that has fallen. It concerns the extremes of weather that was put up as yet another icon of scientific evidence of man-made climate change. We all understand natural climate change—how that is measured is another story. Again, that is an icon was fallen, because all that was relied on was some student's thesis. Do you accept that? Another backdown by the IPCC. Do you accept that that had shallow science, if it was science at all.

ANSWER

Amazon Forest
The IPCC statement on the Amazon rainforest is consistent with findings in peer-reviewed publications that indicated that up to 40 per cent of the Amazon rainforest is extremely sensitive to minor reductions in the levels of rainfall.[1] The leading author of these publications has subsequently confirmed in a public statement that the IPCC's position is correct. The IPCC citations on this matter could have been comprehensive by including primary sources that support the 40 per cent statistic.

Extremes of weather and climate change science
Projected extremes of weather in the Australian context are documented in the *Climate change in Australia: technical report 2007*[2], developed by CSIRO and the Bureau of Meteorology. Findings in this report include projected:

- Changes in temperature extremes, with fewer frosts and substantially more days over 35 ºC.

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[1] Nepstad et al, 1999, *Nature* **398**, 505-508 (8 April); Nepstad et al, 2002, *Nature* **372**, 666 - 669 (15 December); Nepstad et al, 2004, Global Change Biology 10, 704–717
[2] CSIRO, Australian Bureau of Meteorology. 2007. *Climate change in Australia: technical report 2007*. CSIRO. 148 pp.

- Increases in the number of dry days and when it does rain, rainfall is likely to be more intense.
- Increases in the frequency of droughts, particularly in the south-west.
- Increases in high-fire-danger weather in the south-east.
- Increases in the intensity of tropical cyclones.

Although the nature, frequency and intensity of extreme events and their correlation to human induced climate change are areas that require better understanding, there are indications that some weather events would, in a warming environment, become increasingly destructive. For instance, an increase in the destructiveness of tropical cyclones over the last 30 years has been reported.[3]

[3] Emanuel, K, 2005. Increasing destructiveness of tropical cyclones over the past 30 years. Nature 436, 686-688