

Senate Standing Committee on Economics
ANSWERS TO QUESTIONS ON NOTICE
Industry, Innovation, Science, Research and Tertiary Education Portfolio
Additional Estimates Hearing 2011-12
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AGENCY/DEPARTMENT: COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION

TOPIC: Snow Cover

REFERENCE: Written Question –Senator Bernardi

QUESTION No.: AI-64

In May 2008 CSIRO's Dr Penny Whetton warned that mountain snow cover in Australia could be reduced by up to 54 per cent by 2020 ('Global warming to shorten ski season: CSIRO', ABC News, 28 May 2008). Yet reports state that the last few years have seen great skiing conditions on our mountains (for example: Arthur Stanley, '2m mark in our sights', Daily Telegraph blog, 31 July 2008 and Nathan Mawby, 'It's a chiller thriller at ski resorts this Queen's Birthday long weekend', Herald Sun, 11 June 2011).

Given these conditions, and that 2020 is now only eight years away, does the CSIRO still stand by Dr Whetton's prediction?

If not, how does the CSIRO explain the failure of its prediction methods?

ANSWER

CSIRO stands by the statement made by Dr Penny Whetton and the full range of projections for future snow amounts published in a technical report in 2003, in the *Climate Change in Australia* projections in 2007 (CSIRO, 2007), and in a peer-reviewed journal paper in 2008 (Hennessy *et al.*, 2008). This is the scientific analysis from which Dr Whetton was drawing in her comments in May 2008, which have been selectively reported in the media.

Dr Whetton's comments were not a prediction for the year 2020; they were projections averaged over a 20-year period centred on 2020 compared with the average observations for the 20-year period centred on 1990. As a result, year-to-year variability is averaged out in the projections. The range of projections accounts for different results from nine climate models and for different greenhouse gas and aerosol emission scenarios.

For the 20-year period centred on 2020, the low impact scenario only has a minor impact on snow conditions. The high impact scenario leads to reductions of 30-40 days in average snow season lengths.

The 2003 technical report and 2008 paper noted that snow depth data from four alpine sites from 1957-2002 indicated a weak decline in maximum snow depths at three sites. A moderate decline in mid-late season snow depths (August-September) was evident at three sites.

Peer-reviewed research by Nicholls (2005) shows that spring snow depth at Spencers Creek in the Snowy Mountains has decreased by about 40% since the 1950s.

References

CSIRO (2007) *Climate change in Australia*. Technical Report. CSIRO, Canberra.
http://climatechangeinaustralia.com.au/technical_report.php

Hennessy, K. J., P. H. Whetton, K. Walsh, I. N. Smith, J. M. Bathols, M. Hutchinson, J. Sharples (2008). Climate change effects on snow conditions in mainland Australia and adaptation at ski resorts through snowmaking. *Climate Research*, **35**, 255-270. <http://www.int-res.com/articles/cr2007/35/c035p255.pdf>

Nicholls, N., 2005, Climate variability climate change an the Australian snow season, *Australian Meteorological Magazine*, vol 54, issue 3, Bureau of Meteorology, Australia, pp. 177-185.