

HAWKESBURY FOREST EXPERIMENT

We're working on it at the University of Western Sydney



Professor Jann Conroy with a team of researchers from the **Centre for Plant and Food Science**, and the University of New South Wales, University of Technology Sydney, NSW Department of Primary Industries, the Swedish University of Agricultural Sciences, and Macquarie University is conducting a major experiment at the Hawkesbury campus to investigate how increased CO₂ (the Greenhouse Effect) will affect Australian forests.

'The climatic changes accompanying the Greenhouse Effect could either magnify or reduce direct CO₂ effects on forest growth and water use' explained Professor Conroy. 'Understanding the impact of rising CO₂ on forest behaviour in Australian conditions is central to our ability to manage water and forest resources into the future.'

The centre-piece of the project is a field facility with twelve CO₂ and temperature-controlled whole-tree chambers (WTCs) that can house trees up to ten metres tall and allow continuous measurement of tree water use and CO₂ concentrations. The chambers, valued at over \$2 million, have been provided by the Swedish University of Agricultural Sciences.

Experiments using two species of eucalypt, the fast growing *Corymbia maculata* and the slower growing *Eucalyptus sideroxylon*, will be used to test the response of water-limited forests to elevated CO₂. These experiments involved controlled irrigation and fertilisation will provide a better understanding of how forest growth, forest water and wood development may be affected by elevated CO₂ and will guide the development of ecosystem models in the future.

Project

The Hawkesbury Eucalypt Forest Experiment: Impacts of Precipitation and CO₂ on Trees.

Funding

\$1.2 million

Collaborating Partners

University of NSW, University of Technology, Sydney, NSW Department of Primary Industries, Swedish University of Agricultural Sciences, Australian Greenhouse Office.

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