

# old forests NEW MANAGEMENT

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## VICTORIA'S FORESTS 'AT RISK'

The forests of Victoria's Central Highlands could be in trouble under global warming - unless human intervention can help them to keep their cool.

Forests trying to scramble higher up the mountain in order to avoid heat and drought in the lowlands could run out of land on which to grow, a University of Melbourne scientist told the Old Forests, New Management Conference in Hobart today.

Dr Craig Nitschke said results of research simulating the impact of climate change on the Central Highlands region indicate that most tree species would be able to regenerate over the short term (2010-2039) - but that their vulnerability was likely to increase significantly from 2040 onwards.

“Our works suggests that a threshold may be reached in the 2055 period that will result in a loss of ecological resilience as various climatic thresholds for particular trees are exceeded.

“By around 2070-2100, 18 out of 22 species are classified as extremely vulnerable. By this time all trees still have the ability to regenerate above 1500 m in elevation - but none of them could regenerate naturally following disturbance or harvesting below 400 m.” In other words land below 400m could potentially lose its current forest ecosystems.

The shortage of land at higher elevations was a major constraint as trees contracted from warmer, lower elevations in order to escape rising temperatures and drought conditions, he added.

However Dr Nitschke said species vulnerability was much lower where forest canopy cover was modified to simulate a stand-modifying harvest or disturbance, which helped to reduce local temperatures. Only 10 of 22 species were rated as extremely vulnerable by 2085 using these techniques.

“Stand-modifying treatments such as shelterwood and selection harvesting rather than clearfell regeneration mechanisms may improve future species resilience. A shift from seed-based regeneration to seedling-based regeneration (planting) could also lift the chances of successful regeneration across the Central Highlands under predicted climate change,” he said.



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“We conclude that many forest tree species that currently dominate Victoria’s Central Highland are vulnerable in their regeneration niche to future climate change due to their specific regeneration requirements, relatively narrow environmental distribution and the topographic characteristics of this region.”

The Old Forests, New Management Sir Mark Oliphant Conference is being held in Hobart from February 17-21, 2008, at the Hotel Grand Chancellor. It features more than 160 scientific presentations and papers about advanced temperate forest management.

The conference is hosted by the CRC for Forestry, Forestry Tasmania and the International Union of Forest Research Organisations and sponsored by the Department of Innovation, Industry, Science and Research (DIISR) under the International Science Linkages Programme, the Australian Academy of Technological Sciences and Engineering and the Australian Government Department of Agriculture, Fisheries and Forestry.

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