

**Predicting the effects of climate change on the terrestrial vascular
vegetation of subantarctic Macquarie Island**

C.E. Tweedie and D.M. Bergstrom

The University of Queensland, Department of Botany, Australia

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Abstract

Some of the highest rates of global warming are occurring in high southern latitudes (ca. 0.25°C per decade, Jones 1988). The effect of this warming on the terrestrial vegetation is not yet fully understood. Using an altitudinal temperature gradient as an analogy to temperature change a study has been initiated with the aim of predicting the effects of climate warming on subantarctic Macquarie Island's terrestrial vegetation. The study applies a multidisciplinary approach and focuses on the functional ecology of six key vascular plant species. Levels of intraspecific and ecotype plasticity and signs of adaptation and or acclimation to this temperature gradient are being sought through both in-situ and transfer experiments. Detailed microclimatology measurements are being made using automatic weather stations. Aspects of general plant ecology, phenology and physiology and soil mediated processes are being examined in relation to this microclimatic study. Twenty-one months of field work have been completed and laboratory and data analysis are underway.

Notes to readers

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The author may be reached at:

The University of Queensland

Department of Botany
Brisbane Qld 4072
Australia

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