

Water Information Seminar

presented by the Bureau of Meteorology



Presenters

Dr Zhang

is a Principal Research Scientist with CSIRO Land and Water.

Dr Benyon

is a Principal Research Scientist with CSIRO Sustainable Ecosystems.

Recent findings on plantation water use and the impacts of plantations on water availability in southern Australia

**Dr Richard Benyon
and Dr Lu Zhang,
CSIRO**

9.30 – 11.00am
Friday 8 August 2008
CSIRO Black Mountain Laboratories,
Canberra, ACT

Forestry plantations can provide substantial economic and environmental benefits in rural areas of Australia. The past decade has seen more than 800,000 ha of grazing land converted to forestry plantations: a 70% increase since 1994. This trend is likely to continue.

Seminar details

Chaired by

Dr Rob Vertessy,
Deputy Director (Water),
Bureau of Meteorology

Venue

Conference Room
Christian Laboratory
CSIRO Black Mountain
Laboratories
Clunies Ross Street
Canberra, ACT 2601

MAP:

[www.clw.csiro.au/division/
canberra/location.html](http://www.clw.csiro.au/division/canberra/location.html)

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RSVP

Please RSVP to
t.jacobson@bom.gov.au

Light refreshments
will be served.

There is no charge for
attending this seminar.

While the area converted so far is a tiny fraction of Australia's total agricultural land area, these plantation developments have been concentrated in a few regions with potentially significant local and regional impacts on water availability. Under the National Water Initiative, the effects of such land use changes need to be accounted for and managed.

Dr Zhang will describe the Forest Cover Flow Change (FCFC) model and how it was linked to the Integrated Quantity and Quality Model (IQQM) for the Murrumbidgee River Basin. The effects of two plantation expansion scenarios of 30,000 ha in the basin were modelled. The results show that at the regional scale the impacts on mean annual water yield would be small. However, at the local scale mean

annual stream flow reductions can be as high as 23%, with larger percentage reductions in low flows than in high flows. Linking of the two models provides insight into the temporal and spatial impacts of plantation development on water resources in a regulated river system.

Dr Benyon will summarise recent research on plantation water use in the Green Triangle and describe the main factors influencing spatial and temporal variation in plantation water use. Current evapotranspiration models provided accurate estimates of plantation water use, except where trees had access to groundwater from shallow depth. Models need to account for substantially lower water use in the early part of each rotation.

water information
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