

Global change and the world's forests

The Earth's atmosphere is changing at unprecedented rates with carbon dioxide (CO₂) being the main driver. The fact that the build up of greenhouse gases is largely due to human activity is no longer in question.

What is a large remaining unknown is: what are the long term implications of greenhouse gases and global warming for the world's forest ecosystems?

Visiting scientist Professor David Karnosky of Michigan Technological University, USA, today discussed the findings of a decade-long free-air carbon dioxide enrichment (FACE) experiment with scientists at the CRC for Forestry. In Professor Karnosky's experiment, a forest ecosystem was exposed for the first ten years of its life history to conditions similar to those that may be experienced by forests in the future under climate change (increased levels of CO₂ and/or increased tropospheric oxygen, O₃). The results showed that the plantations were more productive when exposed to higher levels of CO₂.

"What remains to be determined now are the effects of other climate change conditions, such as drought and higher temperatures, on forests," Professor Karnosky said today.

"This is of special concern to Australia, given its drought-prone nature and warmer climate."

Professor Karnosky this week visited:

- CRC for Forestry Programme Manager Dr Michael Battaglia to discuss modelling and innovative decision-support systems including carbon sequestration.
- Dr Jane Medhurst, a CRC researcher who works on temperature and CO₂ interactions, canopy structure and wood development.
- Dr Mark Hovenden of the University of Tasmania, who manages the longest running FACE experiment in Australia, using open air metre-wide CO₂ rings and heat lamps to measure the combined effects of CO₂ and increased temperature on native grass communities.

FACE scientists from around the world will meet in Rome in December to discuss research needs, including climate change impacts on tropical ecosystems and the effect of drought.

For more about Professor Karnosky please see <http://forest.mtu.edu/faculty/karnosky/>
For more information and to obtain PDFs of the Aspen FACE project's major papers, please see: <http://aspenface.mtu.edu>

Contact: Ms Taylor Bildstein, Communications Manager
Email Taylor.Bildstein@crcforestry.com.au
www.crcforestry.com.au
Phone 03 6226 7967, mobile 0410 489 107.