

Meeting Multiple Demands for Forest Information

By Dr Jim O'Hehir, Deputy Coordinator of IUFRO Working Party [4.01.05](#) – Process-based models for predicting forest growth and timber quality

The theme of the IUFRO Conference held 17-20 August 2009 in Mount Gambier, South Australia was 'Meeting Multiple Demands for Forest Information: New Technologies in Forest Data Gathering'. It picks up on the emergence of new data collection technologies and the potential of using data collected for one purpose for multiple other purposes as well. For example airborne LiDAR data collected for inventory purposes may also be used for operations planning or ecological assessments. Data captured by harvesters for optimisation purposes may also be used for monitoring of harvesting operations, yield mapping, yield auditing and the development of predictive models for future harvesting operations.

The objective of this conference was to review the latest research and practical developments relating to this theme. The six plenary sessions covered the following subthemes:

- New sensor technologies for forest data collection.
- Remote sensing for forest management.
- Precision forestry and value chain optimisation.
- Forest carbon assessment and monitoring.
- Collect once use often: Multiple uses of forest data.
- Economics of plantation productivity inputs.

Professor Jerry Vanclay, Head of School, Environmental Science & Management at Southern Cross University opened the conference challenging attendees to think of different ways about methods of data acquisition in the future. These new methods included: remote controlled drones and ground based vehicles; laser sensors and remote sensing tools; and, site preparation and harvesting equipment. He cautioned that whatever methods are chosen they must be 'coordinated, integrated and fit for purpose'.

Professor Ian Ferguson (University of Melbourne) and Doctor Sadanandan Nambiar (CSIRO) closed the conference by summing up the major learnings which included:

- The need for continuous efforts to strengthen coherence in forest science.
- Technological change is rapid and there is a need to change forest industry attitudes to ensure faster uptake of this technology.
- Technology should serve the 'business of the house' because when applications are problem driven, outcomes will make better impacts. Greater strategic investment will be required in research and development transfer and training to take advantage of the new technology.
- The skills of technical forestry advisors will need strengthening in collaboration across countries and agencies to ensure skills are not the rate limiting step for progress.



Photo by Tim Murphy:
Professor Jerry Vanclay, Head of School, Environmental Science & Management at Southern Cross University presents the keynote address to open the conference.

Analytical techniques are available for analysing the data that are now available including Bayesian and other adaptive methods.

- Multiple purpose data may have different regional and national contexts and these need to be considered and allowed for in forest management systems.
- Precision forestry may provide some quick benefits especially for herbicide risk management.
- Tree breeding is a highly developed area of technological development and offers the possibility of becoming more so if value gains can be more clearly demonstrated.
- Progress derived from the availability of new data will represent steps to sustainable forest management and this will be incremental not massive leaps.

Meeting website:

<http://www.alloccasionsgroup.com/IUFRO>

IUFRO Units involved: [4.01.00](#), [4.02.03](#), [6.15.00](#), [3.01.00](#)

Participation:

65 participants from countries including Canada, Japan, New Zealand, Sweden, USA, and Australia.