

Thousands of observations of tree growth and environmental data were collected and analysed to develop reliable predictions for the Scenario Planning and Investment Framework (SPIF) tool.



The CEF project has greatly improved knowledge of the growth and sequestration of carbon of commercial species and environmental plantings in low-medium rainfall areas.

Data on tree growth and biomass

Robust information is needed to develop a predictive framework in which users may have confidence.

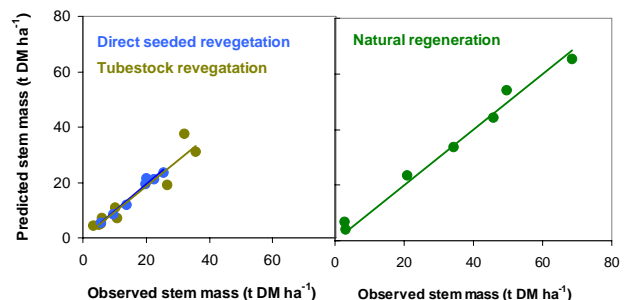
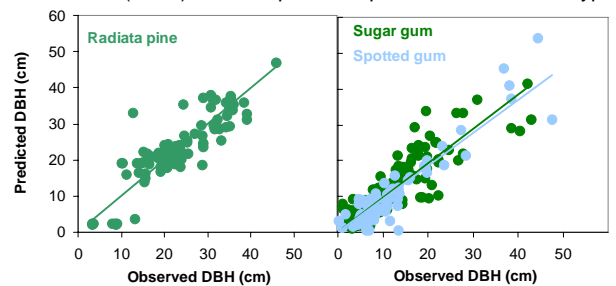
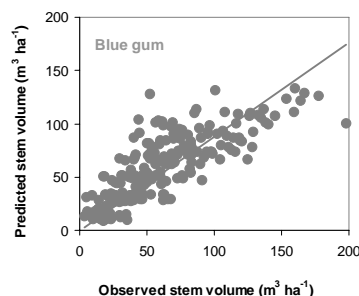
The CEF program invested much effort into collecting new and published growth and biomass data for:

- Sugar gum: from 135 stands
- Spotted gum: from 80 stands
- Blue gum: from 177 stands
- Radiata pine: from 129 stands
- Environmental plantings: from 38 stands



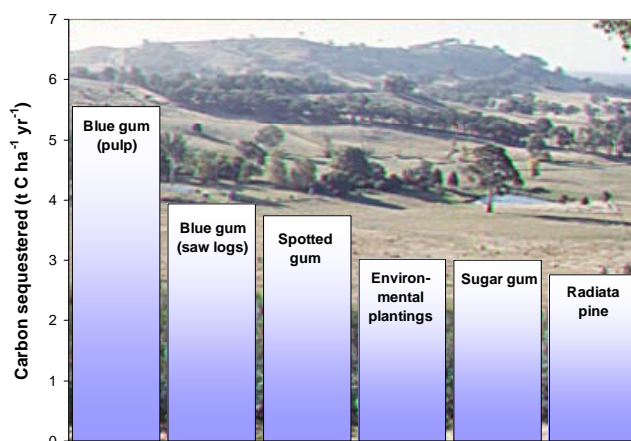
Prediction of growth

These data were used to calibrate a forest growth model (3-PG) for four species of plantations and three types of environmental plantings.



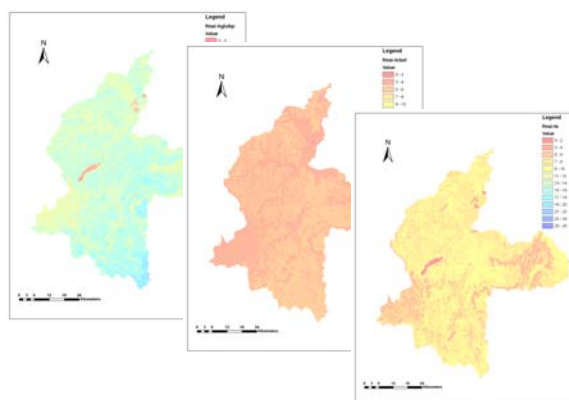
Prediction of sequestration of carbon

Using growth predictions from 3-PG together with new and published data on stem wood density, predictions of sequestration of carbon in live biomass were made using the National Carbon Accounting Toolbox.



Spatial growth and carbon predictions

Using various management scenarios of each planting type a grid of climate and soils data were used to provide spatial predictions of growth and sequestration of carbon across the south-west Goulburn Broken (SWGB) target area. These growth and carbon surfaces were used in the Scenario Planning and Investment Framework (SPIF) tool.



Climate variability and climate change

Analysis of data showed how blue gum growth was reduced during the severe drought of 2002-03. However, simulations of climate change effects in the years 2030 and 2070 suggested that growth rates may be increased by rising concentrations of atmospheric carbon dioxide. More work is needed to verify these predictions.

THE JOINT FORCES OF CSIRO & SCION

ensis

All enquiries

From Australia: 1800 231 051

From New Zealand: 0800 231 051

From International: +61 3 9545 2176

Email: enquiries@ensisjv.com

Web: www.ensisjv.com

For further information on growth prediction and carbon accounting, please contact:

Trevor Booth

Ensis

Ph: +61 2 6281 8259

Fax: +61 2 6281 8312

Email: Trevor.Booth@ensisjv.com

Keryn Paul

Ensis

Ph: +61 2 6218 8269

Fax: +61 2 6281 8312

Email: Keryn.Paul@ensisjv.com