

Benefits from this research

Methods and models developed from the project will provide an improved means of assessing the suitability or capability of land for agricultural production using perennial plant species and systems.

The project will also help to identify the distribution and location of environmental constraints to the implementation of productive perennial farming systems at a regional level within south-eastern Australia and Western Australia.

Project staff will also assist other CRC researchers in characterising soils and landscapes at trial sites.

The research will provide:

- Consistent and enhanced datasets for land resource assessment within south-eastern Australia (including the Murray-Darling Basin) and Western Australia
- Support for the quantification of the potential impact of the CRC by defining the land suitable for deployment of specific plant species and systems
- Data that will support other modelling projects providing estimations of recharge impact resulting from the implementation of new plant species and systems where they are suitable.



SPIO Spatial Analysis of Land and Water

Decision-support tools for assessing land suitability

This project will help answer the question of **where perennial plant species and systems can be targeted** to achieve the greatest level of productivity and recharge control in the Australian landscape.

By analysing and building on existing State resource databases, the CRC will be able to **develop practical tools** that will assist researchers and land managers to match land and soil capability to improved plant systems.



To find out more about Decision-support tools for assessing land suitability contact:

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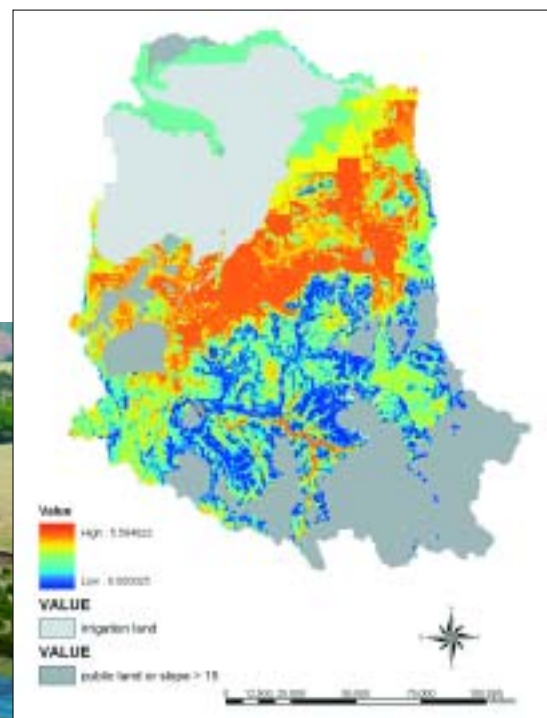


Decision-support tools for analysing land suitability

The project will use spatial analysis tools and existing soil and land resource databases to develop better information and datasets for land resource assessment within south-eastern Australia (including the Murray-Darling Basin) and Western Australia.

The data will also support other modelling projects that are providing estimations of recharge impact resulting from the implementation of new plant species and systems where they are suitable.

This work will also help contribute to measuring the likely impact of the CRC across major cropping regions in participating states.



The research challenge

We need to know where in the landscape to target new plant species and farming systems to maximise their impact on recharge control and profitability.

Information on how plants perform in different soils and climates will assist regional planning and allow catchment managers to effectively target landscape scale intervention.

Defining the constraints to plant growth in different regions will allow us to assess the overall economic return from particular perennial plant species or systems, and to understand the limits of using plants to manage dryland salinity.

These challenges can be addressed by analysing spatial data stored in various State and national databases.

Linkages with related CRC projects

Spatial diagnostic tools to aid deployment of perennial systems (Subprogram 9)

Water use by plants in a landscape context (Subprogram 9)

How research will be done

This research will

- Define the attributes needed to classify land suitable for plant species and systems being investigated by the CRC
- Develop spatial datasets of these attributes at appropriate scales (using State and national databases).
- Develop methods that use regional scale land attribute data to rapidly assess suitable locations for perennial plant species and systems.
- Provide regional-scale land suitability analysis for plant species and systems being investigated by the CRC.
- Develop regional-scale spatial data sets of the land attributes (such as soil, regolith or landscape) required to set parameters for plant suitability models and catchment models.

KEY RESEARCHERS

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