



SOUTHERN NSW Innovation Hub

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21 January 2025

Satellite technology helping pastoralists prepare for drought

A pilot project trialled in the Western Riverina has shown how a free, interactive online map can help pastoralists manage their stock before a drought hits and safeguard their business.

The *Managing Rangelands for Drought Resilience project* used satellite vegetation cover mapping technology in the rangelands to determine an early warning signal, allowing western NSW farmers to make timely decisions on feeding, selling stock, and adjusting stocking rates.

The GEOGLAM Rangeland and Pasture Productivity (RaPP) mapping tool was developed by the CSIRO, the Australian Government and the National Landcare Programme.

Director of Southern NSW Innovation Hub Cindy Cassidy said the initiative – which was delivered in partnership with NSW Farmers and Dr John Leys of Wind Erosion Consulting – tested how the technology can predict groundcover changes in rangeland up to six months ahead of drought.

“Providing pastoralists with the opportunity to foresee future dry events and give them adequate time to put plans in place to mitigate its impact, is invaluable,” she said.

“What’s also really exciting about this unique initiative, is that it reflects a growing interest by pastoralists to take advantage of agtech tools and systems on farm to monitor and manage their rangelands.”

The pilot took place on ‘Curragh’, a large 130,000-hectare property near Oxley in the Western Riverina owned by pastoralists Bill and Pip Ryan.

The couple worked with Dr Leys to understand how the RaPP mapping tool could support their on-farm management decisions.

“RaPP satellite data is available monthly and shows three fractions of vegetation cover: green growing cover, dead non-growing, or senescent cover, and bare ground,” he said.

“It was fantastic to see how the RaPP tool and the Ryan’s decisions aligned. Depending on the August vegetation cover level, the Ryans implemented different management strategies.

“The trigger for on-coming drought was having less than 55 per cent vegetation cover in August. Low cover in August was closely correlated to below-average pasture growth, which was observed in the “greenness” bands of the satellite data, in the preceding autumn and winter.”



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Bill Ryan said as part of the pilot they used the RaPP tool to analyse previous seasons' groundcover.

"The technology showed that if vegetation was below 55 per cent in August, then by the following summer that cover was very likely to get below 40 per cent," he said.

"Having such detailed information at our fingertips in spring provided us with confirmation and gave us the confidence and enough time to make effective decisions on managing our land, stock and business. This pilot showed the potential this kind of technology could provide farmers through providing reliable, independent data."

NSW Farmers Western Division Chair, Gerard Glover said the pilot demonstrated how valuable early information is for pastoralists in reducing potentially stressful situations.

"Having the tools available to predict the likelihood of drought and make timely business decisions can reduce expenditure and income loss, which will also help reduce stress levels for farmers," Mr Glover said.

"It's all about having knowledge you need to plan ahead with more confidence."

The Managing Rangelands for Drought Resilience project is a joint initiative between Southern NSW Innovation Hub, and the Northern Western Australia, Northern Territory Hub, South-West Western Australia, South Australia, Southern Queensland and Northern NSW, and Tropical North Queensland Hubs.

Farmers can access the RaPP satellite mapping tool at: <https://map.geo-rapp.org/>

For more information on the *Managing Rangelands for Drought Resilience project* visit the Southern Innovation Hub website: <https://bit.ly/3D0Zb6d>

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Media contacts:

For interviews, please contact Seftons Media Director, Shaun Devitt on 0400 906 451

About Southern NSW Innovation Hub

Southern NSW Drought Resilience Adoption and Innovation Hub connects farmers and rural communities with practical, modern solutions to adapt to a changing climate. As part of a national network, we collaborate with trusted organisations, experts, researchers, and community groups to drive sustainable change, with the long-term goal of improved drought resilience.

Southern NSW Innovation Hub is one of eight Hubs established nationally through funding from the Australian Government's Future Drought Fund. Southern NSW Innovation Hub works closely with its partners to create a skilled,



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flexible network that is able to identify and solve the challenges and harness opportunities posed by a changing climate. Southern NSW Innovation Hub partners include Charles Sturt University (Hub lead), Australian National University, NSW Local Land Services (LLS), NSW Department of Primary Industries and Regional Development (DPIRD), Rural Aid, University of Canberra, and the Farming Systems Groups Alliance.

Visit <https://www.csu.edu.au/research/southern-nsw-drought-resilience-hub/home> for more information.