

Research Briefing Note

Implementing satellite-based grazing gradient methods for
rangeland assessment in South Australia

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BACKGROUND

Traditional ground-based methods to assess the impact of sheep and cattle grazing were used in northern South Australia but were unable to reliably separate grazing effects on the vegetation from that caused by variability in rainfall and landscapes.

Northern South Australia has many similarities with central Australia where a range of techniques had been developed for rangeland assessment based on satellite data. This grazing gradient method uses systematic change in cover with increasing distance from stock water to quantify grazing impact. The Pastoral Management Program (PMP) of the SA Department of Environment, Heritage & Aboriginal Affairs tested this method to assess the condition of these grazed areas.

AIM

Through cooperation between CSIRO and PMP: (1) adapt the grazing gradient method to the requirements of the client, (2) provide suitable training and documentation, and (3) test the method's ability to assess grazing impact in a trial area of northern South Australia.

RESULTS

- A procedure was developed which allowed the grazing gradient method to be used in northern South Australia. This required rapid mapping of the different landscapes present, adapting the procedure for determining vegetation cover from satellite data and extensively modifying existing software.
- Suitable training and documentation was provided allowing the PMP to implement the methodology within their own organisation.
- Early results show that the grazing gradient method can measure grazing impact in northern South Australia and is supported by local pastoralists and the Pastoral Board.

IMPLICATIONS

Satellite data provide a reliable means for measuring grazing impact using the grazing gradient method. This research method has been made operational within a State agency with responsibility for land management and administration.

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