



# SPATIAL INFORMATION DAY 2010

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## Spatial Information Day 2010 Abstract

**Title:** The use of MODIS imagery for monitoring soil erosion risk in SA agricultural land

**Session:** 2 – Agriculture

**Presenter:** Ken Clarke – The University of Adelaide

### Abstract:

We report progress on a collaborative research program that is developing procedures for use of MODIS imagery for monitoring soil erosion risk across the cropping agricultural lands in South Australia. The image-based monitoring aims to enhance the current field-based assessment of land condition conducted by government agencies, and provide objective and comprehensive reporting for State erosion protection targets.

The initial stage of the project involved a comparison of Moderate Resolution Imaging Spectrometer (MODIS) image indices for understanding seasonal dynamics of soil exposure. Empirical relationships were established to test sources of error inherent in the image indices.

Preliminary research in phase two of the project involves analysis of time-series MODIS BRDF imagery using relative spectral mixture analysis (RSMA) recently developed by the University of California. The technique is designed to be especially useful in regions with significant cover of non photosynthetic vegetation, arid regions and regions with seasonal snowfall.

The paper introduces the first use of RSMA technique in Australia and presents preliminary findings on applying the technique to BRDF product in cropping districts of South Australia.

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