

Mapping Tree photosynthetic capacity across Land use types in the Greater Kruger Park

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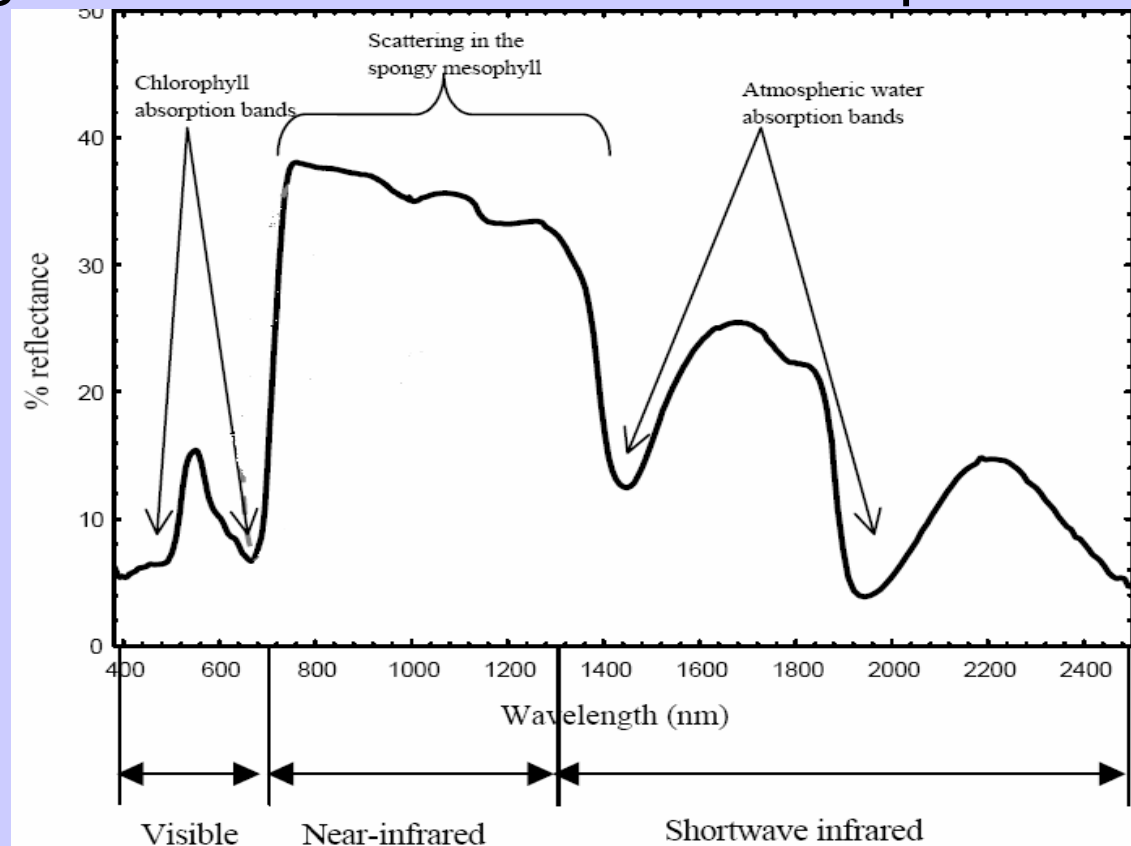
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Introduction

- Remote sensing provides the possibility monitor the effect of Global change on various ecosystems by providing timely estimates of vegetation conditions.
- Conventional RS techniques such NDVI have several limitations in estimating vegetation conditions, particularly from the satellite sensor such as Landsat, MODIS.
- The advent of hyperspectral RS has open up new opportunities for estimating vegetation condition at a finer scale.

Introduction (cont.)

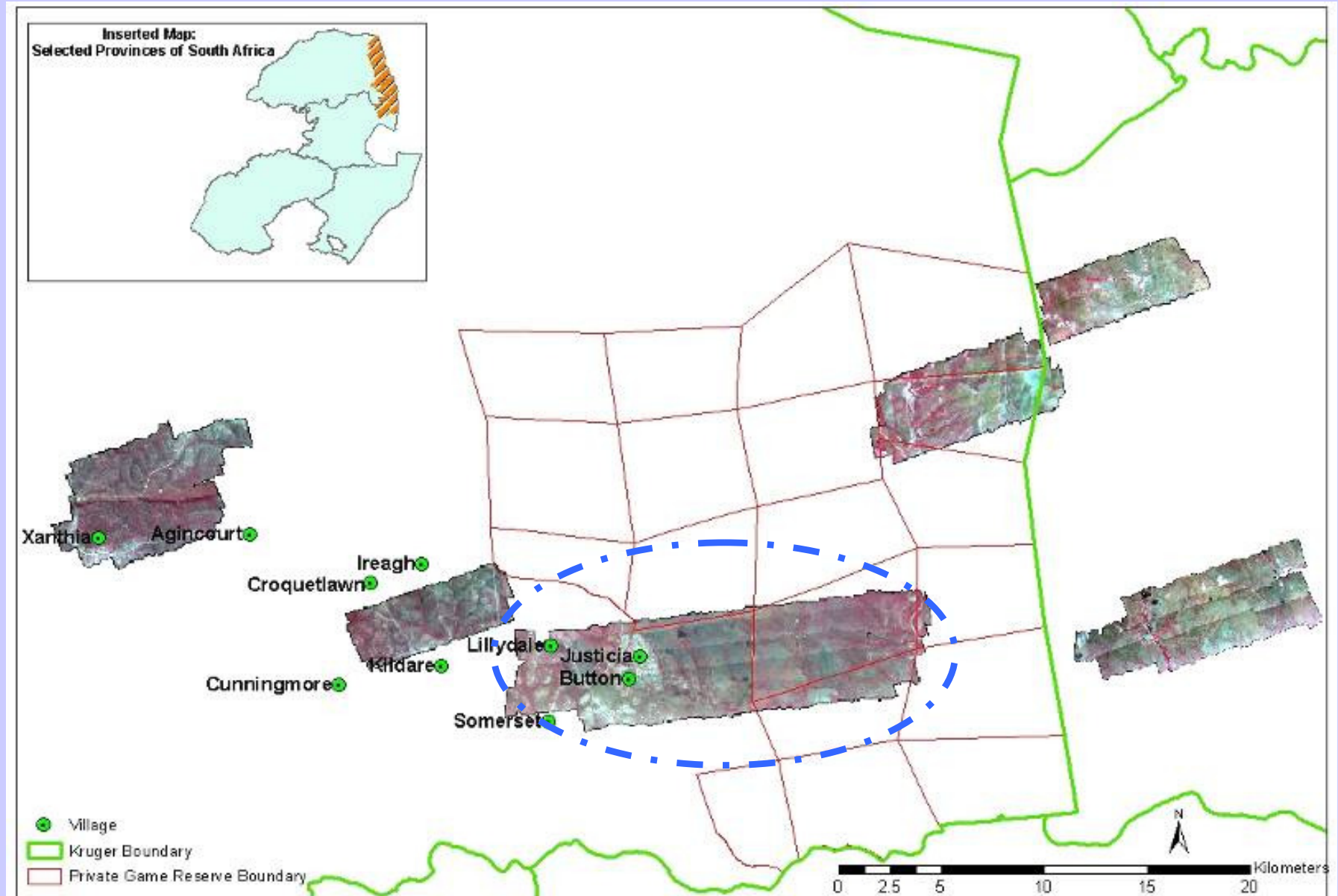
- For example, narrowband NDVI and the position of the maximum slope in the spectral red edge known as the red-edge position (REP) has shown to provide accurate estimates of vegetation condition as compared to conventional ones



Aim

To map vegetation photosynthetic capacity or condition using remote sensing indicators at the pixel of 1m derived from CAO hyperspectral data across land use types in Greater Kruger Park.

Study Area



Data used

- CAO LiDAR and Hyperspectral data
- LiDAR was used to extract all the trees above 1.5 m metres on the hyperspectral image.

Method

- Three hyperspectral red-edge measures were used

- Narrowband NDVI

- Newly developed index of shift in the red edge slope using spectral angle measure.

- The point of maximum slope in the spectral red-edge called the red edge position (REP)



Result and Discussion

- Trees with HIGH photosynthetic capacity are found in the riparian zones.
- Generally, Trees in the communal areas have high photosynthetic capacity than the ones in the Sabisands.
- This trends can be linked to rainfall gradient.
- Remote sensing is useful in mapping vegetation conditions on landscape level.
- **Please visit OUR POSTER.**

Acknowledgement

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THANK YOU