Vegatation Measured at Three Different Scales at Kanazawa University, Kakuma Campus

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Vegetation Measured at Three Different Scales at Kanazawa University, Kakuma Campus

Mamoru KUBO, Naoto KAMATA, Takuya KAWANISHI, Ryotaro KOMURA and Ken-ichiro MURAMOTO

Kanazawa University, Japan

Remote sensing is widely used for the monitoring of forests, and the VIS/NIR reflectance is commonly used for the identification and characterization of the vegetation. The reflectance data obtained at higher altitudes is a kind of average over a certain extension of area, and also the atmosphere that lies between the sensor and the object affects the data. Therefore, in the interpretation of remote sensing data, knowing the difference between data obtained at different scales and distances is important. In this research, we measured the spectra of trees at three different scales: 1) individual leaves, 2) part of a tree seen from a distance of 30 m, 3) mixture of several different trees seen from a helicopter, and investigated what affects the data during the scaling up of the measurements.

In July 2000, we measured the VIS/NIR spectra of trees around a parking lot at Kanazawa University, Kakuma Campus.

Photo1. Observation tree patch at Kakuma Campus.

Photo2. Measurement from helicopter.

Photo3 Measurement from a distance of 30m und.

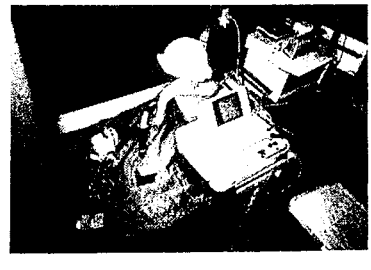
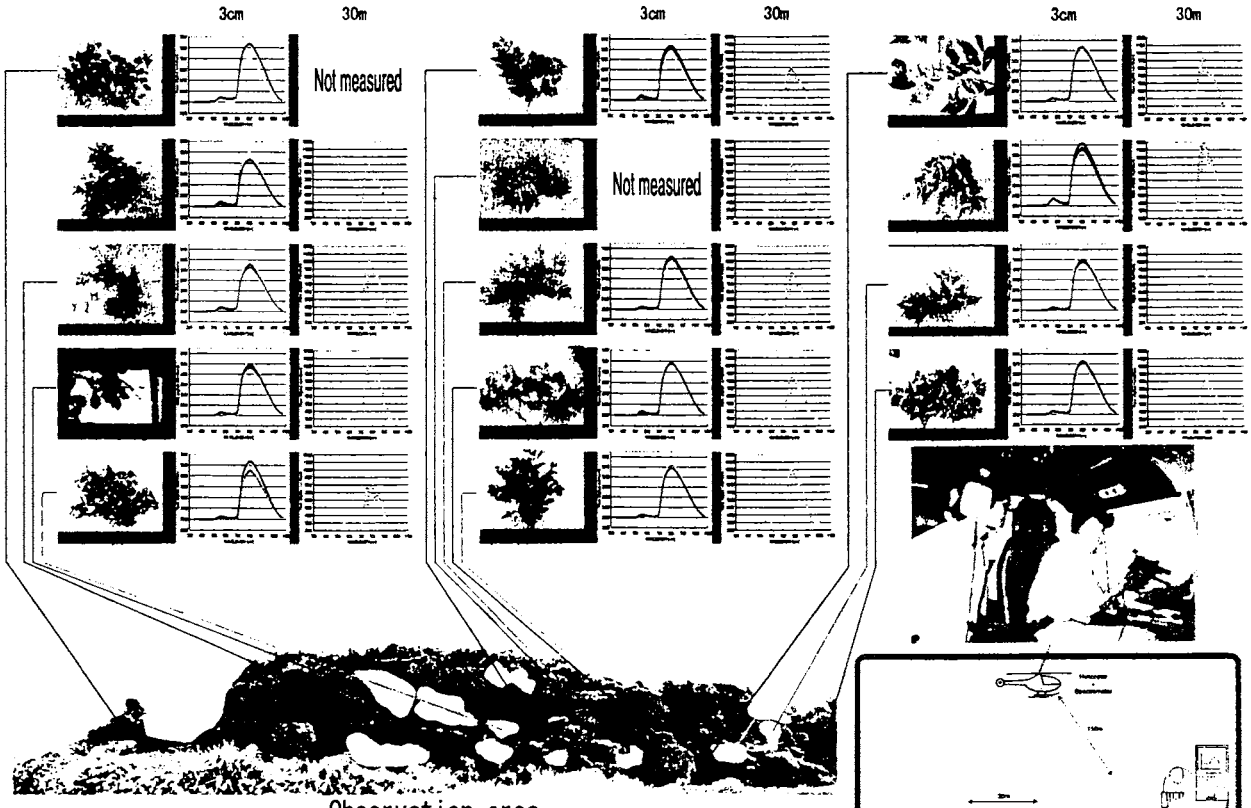
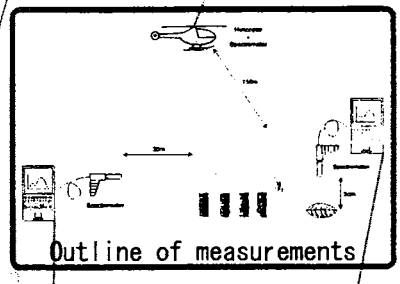


Photo4 Indoor reflectance measurement of individual leaves.

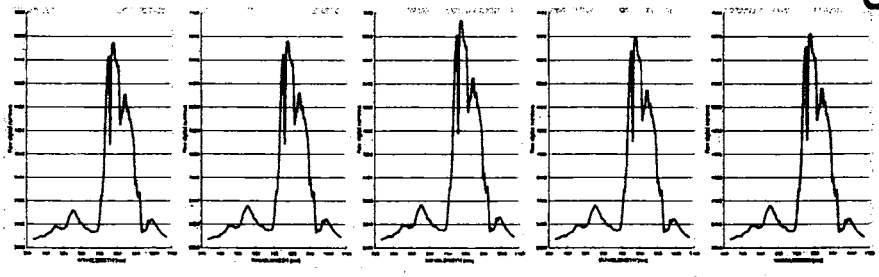
July 10, 2000



Observation area



Outline of measurements



Spectrum characteristics from helicopter (150m)

Research objectives

- Evaluate the effect of measuring distance
- Investigate seasonal differences
- Develop classification algorithms

Measurements are planned in
August, September and October 2000