

DETAILED STRUCTURAL CHARACTERISATION OF THE SAVANNA FLUX SITE AT SKUKUZA, SOUTH AFRICA

Robert Scholes¹, Michel Verstraete², Sally Archibald¹,
Kathleen Menell¹ and Greg Asner³

Author Affiliations

1. Natural Resources and Environment, Council for Scientific and Industrial Research, Pretoria, South Africa
2. Global Environmental Monitoring, Joint Research Centre, Ispra, Italy
3. Carnegie Institute, Stanford University, United States of America

An exceptionally detailed structure and composition dataset has been assembled for a 200 x 200 m area surrounding the eddy covariance flux measurement tower near Skukuza in the Kruger National Park. The information includes (by species) individual stem mapping, biomass and leaf area, canopy cover and height. Several different techniques were used for most of the attribute estimates, allowing a comparison of methods and an estimation of accuracy. At the same time that the in situ information was collected (April 2008) using manual, photographic and laser scanning techniques, hyperspectral reflectance and lidar canopy structure information was gathered at 0.5 m resolution for this patch and a larger surrounding area, using the Carnegie Airborne Observatory sensors. The site also has a nine-year record of water, energy and CO₂ fluxes, phenology and various other ecological measurements. Initial findings relating to measurement techniques and basic structural parameters for the site are presented. The intention is to make the data available as a standard calibration site for remotely sensed products.