



Estimation of biophysical parameters from Terra surface reflectances

N. Shabanov, W. Yang, D. Huang, B. Tan, Y. Knyazikhin and R. B. Myneni
Boston University, Boston, USA

Land surface processes are important components of the terrestrial climate system. Accurate descriptions of the interaction between the surface and the atmosphere require reliable quantitative information on the fluxes, mass, and momentum, especially over terrestrial areas, where they are closely associated with the rates of evapotranspiration and photosynthesis. Many of these processes can be related to the spectral reflectance of the surface. The vegetation canopy is classified as a special type of surface not only due to its role in the energy balance but also due to its impact on the global carbon cycle. Its reflection results from bio-physiological, chemical and physical processes, and is characterized by spatial, seasonal and diurnal variations. Modern satellite-borne sensors (e.g., MODIS, MISR, POLDER, SeaWiFS) allow for rich spectral and angular sampling of the radiation field reflected by vegetation canopies. This presentation will provide an analysis of global leaf area index and fraction of photosynthetically active radiation absorbed by vegetation derived from MODIS and MISR data.