Linking Gap Model with MODIS Biophysical Products for Biomass Estimation

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With the development of earth observation technology and data processing technology, biophysical data from remote sensing means such as MODIS LAI and NPP are accessible now. However, it is still difficult for direct measurement of biomass from remote sensors. One possibility for overcoming this problem is using ecological models to link the vegetation parameters currently available from remote sensing to biomass. In this paper, a combined work is done for estimating forest biomass. A calibrated gap model ZELIG was run to simulate the forest development in a temperate forested area in NE China. The output relationship between age and biomass was linked to registered MODIS LAI, NPP and land cover type images of the same area. From the above work, forest age or biomass was estimated from existing remote sensed data. Obviously, there is a lot of work to be done, such as optimal combination of biophysical parameters, to improve the linkage between MODIS product and ecological modeling.