

## The use of hemispherical photographs to estimate of the leaf area index in tropical individuals' urban trees

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Leaf Area Index (LAI) characterizes the canopy-atmosphere interface and is related to interception of the precipitation, canopy microclimate, extinction of radiation, the exchanges of water, carbon and energy with the atmosphere. In urban square, the tree can be used to improve the environmental comfort of users. We were interested in assessing the urban LAI estimated by photos hemispheric method's adaptability to use in urban settings for tropical trees species in Brazil. That despite work present a trial ease trees' modeling complexity as part of the bigger complex picture of urban climate to be linked with applied urban planning and design, more complication might be added to urban planning and design practice itself as trees modeling and LAI based no expansive approaches has to be included. This study was conducted urban environment located in the center of the city of Cuiaba, Brazil. Measurements of LAI obtained by ceptometer (AccuPAR, Decagon, Device, Pollman USA) were used to valid the LAI estimated by hemispherical photographic. In estimating the leaf area index method was used hemispherical photographs, and images were captured in October 2009, using a Nikon Coolpix camera with hemispherical lens (Nikon FC-E8 Fisheye, USA). The best relationships between the LAI estimated by hemispherical photography and those estimated by ceptometer were at local where the trees are denser. That despite work present a trial ease trees' complexity as part of the bigger complex picture of urban climate to be linked with applied urban planning and design, more complication might be added to urban planning and design practice and LAI based no expansive approaches has to be included.