A convenient remote sensing approach for the dry biomass estimation of the trees in urban areas

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**Abstract.** The severe intensification of atmospheric carbon recognizes the importance of urban tree contributions considering a sustainable urban green planning and management system. Explicit and timely information on urban tree dendrometry and its roles in Above Ground Biomass (AGB) estimation are essential for policymakers to take immediate actions to recover the effects of deforestation and their worsening outcomes. This study will help the prospective research in the case of a non-destructive AGB estimation for the dominant tree species in the cities based on Remote Sensing (RS) data sources. In this study, a detailed methodology on the urban tree AGB calibration was done for two urban areas one of which was in Sassuolo (MO), a smaller city in Italy [1]. The other one was conducted in the capital region of Belgium (Brussels). In Sassuolo, AGB estimation was done utilizing the WV3 image data for a smaller study area of 22 plots (10m×10m each) where the 7 plots were utilized to validate the results. Later in Brussels, the approach was performed with the WV3 image data for a larger study area of 75 plots (10m×10m each) where 20 plots were utilized for the validation of the outcomes [2]. The field estimations of each plot were done utilizing an allometric model based on the field data on tree dendrometry i.e., Height (H) and Diameter at Breast Height (DBH). The results were found quite evident for both cities which did approve the approach as an efficient and convenient way of AGB computation. No doubt, this study will assist the city planners to understand and decide the applicability of remote sensing data sources based on their availability and the level of expediency, ensuring a sustainable urban green management system.

**References**

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