

A WEB-BASED GIS OF VIRGINIA TECH'S URBAN FOREST

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Abstract

An urban forest is an assemblage of trees and associated organisms that exists in an area of dense human settlement. Due to their geographic extent and proximity to people, urban forests can provide substantial economic, environmental, and social benefits. The magnitude of these functional benefits is dependent on the urban forest's structure—the extent, location, and composition of the tree population. Urban foresters increasingly rely on remotely sensed and field inventory data to characterize urban forest structure and function. Geographic information systems (GIS) are used to analyze and display urban forest data for enhanced management decision-making. Due to their visual nature, GIS are also valuable public information and education tools. Virginia Tech forestry faculty and students have developed the first comprehensive web-based GIS for Virginia Tech's campus urban forest. Over 3,000 trees were inventoried on the campus during 2006 and 2007. A web-based GIS was created from the tree inventory using ESRI ArcIMS. The GIS contains composition data for each tree, including species name, size, condition, and structural defects. In addition, each record is hyperlinked to HTML fact sheets on the dendrology, silviculture, and arboriculture of each species. This GIS has enhanced undergraduate education in dendrology and urban forestry and has increased community awareness about urban forestry issues at Virginia Tech. In addition, the GIS has enabled university staff to better manage the campus urban forest. The purpose of this presentation is to describe the planning, development, and outcomes of the web-based GIS for Virginia Tech's campus urban forest.

[Abstract Only]

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