

# ecoTeka, Urban Forestry Data Management

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## Abstract

It is now well known that a healthy urban ecosystem is a crucial element to healthier citizens (Astell-Burt and Feng 2019), better air (Ning et al. 2016) and water quality (Livesley et al. 2016), and overall, to a more resilient urban environment (Huff et al. 2020). With [ecoTeka](#), an open-source platform for tree management, we leverage the power of [OpenStreetMap](#) (Mooney 2015), [Mappillary](#), and open data to allow decision makers to improve their urban forestry practices. To have the most comprehensive data about the ecosystems, we plan use all available sources from satellite imagery to LIDAR (light detection and ranging) and compute them with the DeepForest (Weinstein et al. 2020) learning algorithm. We also teamed with the French government to build an [open standard for tree data](#) to improve the interoperability of the system. Finally, we calculate a Shannon-Wiener diversity index (used by ecologists to estimate species diversity by their relative abundance in a habitat) to inform the decision making of urban ecosystems.

## Keywords

urban forestry, open data, GIS, taxonomy

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## Conflicts of interest

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