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Influence of urban trees on the climate change adaptation in Boadilla del Monte (Spain)

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Urban green infrastructures are considered useful tools to mitigate air pollution, increase the resistance of cities to climate change, optimize energy consumption expenses and promote the integral management of economic, social and cultural development, according to a "sustainable cooperation". However, there are few studies that quantitatively support this contribution and there is also a lack of knowledge about which species are the most suitable for an urban area in order to improve air quality.

Therefore, the research project proposes to analyze the improvement of air quality and the contribution to reducing the effects of climate change by trees of an entire urban area. *i-Tree* Eco software and the inventory of the urban trees of the Madrid Municipality of Boadilla del Monte, with which the project has been developed, have been used. Results about air pollutants reduction have been compared with the Municipality's emissions in order to see how urban greenery helps to the improvement of air quality. Finally, an annual monetary estimation of the Ecosystem Services (ES) offered by the urban trees of the city has been made through the software, then compared with the annual costs (planting, maintenance, removal) agreed with the Municipality of Boadilla, reaching a Cost-Benefit Analysis representative of the contribution given by urban green areas to the surroundings.