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Spatial Variability of Environmental Parameters and Its Relationship with an Environmental Injustice on the Bike Paths of Santiago, Chile

Authors : Alicia Muñoz, Pedro Oyola, Cristian Henriquez

Abstract : Pollution in Santiago de Chile has a spatial variability due to different factors, including meteorological parameters and emission sources. Socioenvironmental aspects are also significant for pollution in the canopy layer since it influences the type of edification, vegetal mass proportion and other environmental conditions. This study analyzes spatially urban pollution in Santiago, specifically, from the bike path perspective. Bike paths are located in high traffic zones, as consequence, users are constantly exposed to urban pollution. Measurements were made at the higher polluted hour, three days a week, including three transit regimes, on the most polluted month of the year. The environmental parameters are fine particulate matter (Model 8520, DustTrak Aerosol Monitor, TSI), temperature and relative humidity; it was also considerate urban parameters as sky view factor and vegetal mass. Identification of an environmental injustice will be achieved with a spatial modeling, including all urban factors and environmental mediations with an economic index of population.

Keywords : canopy layer, environmental injustice, spatial modeling, urban pollution
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