

## Relocation of the Air Quality Monitoring Stations Network for Aburrá Valley Based on Local Climatic Zones

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**Abstract :** The majority of the urban areas in Latin America face the challenges associated with city planning and development problems, attributed to human, technical, and economical factors; therefore, we cannot ignore the issues related to climate change because the city modifies the natural landscape in a significant way transforming the radiation balance and heat content in the urbanized areas. These modifications provoke changes in the temperature distribution known as "the heat island effect". According to this phenomenon, we have the need to conceive the urban planning based on climatological patterns that will assure its sustainable functioning, including the particularities of the climate variability. In the present study, it is identified the Local Climate Zones (LCZ) in the Metropolitan Area of the Aburrá Valley (Colombia) with the objective of relocate the air quality monitoring stations as a partial solution to the problem of how to measure representative air quality levels in a city for a local scale, but with instruments that measure in the microscale.

**Keywords :** air quality, monitoring, local climatic zones, valley, monitoring stations

**Conference Title :** ICEPRM 2016 : International Conference on Environmental Pollution, Restoration and Management

**Conference Location :** Barcelona, Spain

**Conference Dates :** August 11-12, 2016