

## The Effect of Vegetation's Surface in An Temperature Urban Area

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Presentation/Paper Type: Oral / Abstract

**Abstract-** Urban areas have less vegetation than natural environment that surround it. Differences between these types of areas affect climate, energy use, and habitat in cities. In urban areas, dark surfaces and reduced vegetation warm affect the air over urban areas, leading to the creation of urban heat islands. Urban vegetation can have a substantial effect on urban air temperature and, hence, can reduce cooling-energy use and smog. To estimate the impact of light-colored surface and urban vegetation (trees, grass, shrubs and grandcover) on meteorology and air quality of a city, it is essential to accurately characterize various urban surfaces. The characterization of the area fraction of various surface-types has significant important as well as the vegetative fraction.

Plants are essential in a dense urban environment not only because of their aesthetic value, but also for their cooling effect during hot time periods, which impacts directly on the local microclimate. The benefits of trees can be divided into direct and indirect effects on urban climate. Shade trees intercept sunlight before it warms a building. The urban forest cools the air by evapotranspiration. Trees also decrease the wind speed under their canopy and shield buildings from cold winter breezes. Urban shade trees offer significant benefits by both reducing building air-conditioning, lowering air temperature, and thus improving urban air quality by reducing smog.

However, certain trees cope better with high urban temperatures than others. The resolution of the presented urban surface temperature data for the first time allows to determine mean canopy temperatures of individual vegetation belonging to different species.

Leaf temperature is the outcome of the energy balance at leaf level, which depends on a series of anatomical, physical and biological phenomena. The resulting leaf temperature, foliage temperature has important consequences for the plant itself, but also for the environment surrounding the plant. Landscape planners have recognised the link between greenspace provision in the urban environment and environmental quality for a long time.

There is a growing body of analytical work on the beneficial impacts of urban greenspace on micro-climate and as well as biodiversity. Previous studies have shown that land uses have their own distinctive surface cover. This present study contributes a method and tools for analysing, understanding, planning, and managing urban environments. This is important given the increasing interest in green infrastructure planning that is what this study aim to contribute in a case of Erzurum. And this study reach its aim thermal camera.

**Keyword-** Temperature, Surface cover, Vegetation, Thermal camera, Erzurum