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The Influence of Small Green Space Type and Structure at the Street Level on Urban Heat Island Mitigation

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Highlights

- Small green spaces can reduce air temperature of an urban block where they belong.
- Polygonal type of small green spaces have cooling effect more than other types have.
- Multi-layered small green spaces contribute to cool down the block where they belong.
- Polygonal as well as mixed green space of over 2,000m³ can reduce 1°C of a block.

Abstract

The purpose of this study was to determine the types and structures of small green spaces (SGs) that effectively reduce air temperature in urban blocks. Six highly developed blocks in Seoul, South Korea served as the research sites for this study. Air temperature was measured at the street level with mobile loggers on clear summer days from August to September in 2012. The measurements were repeated three times a day for three days. By analyzing the spatial characteristics, SGs within the six blocks were categorized into the four major types: polygonal, linear, single, and mixed. The result revealed that the polygonal and mixed types of SGs

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