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CFD Simulations to Study the Cooling Effects of Different Greening Modifications

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Abstract : The objective of this study is to conduct computational fluid dynamic (CFD) simulations for evaluating the cooling efficacy from vegetation implanted in a public park in the Taipei, Taiwan. To probe the impacts of park renewal by means of adding three pavilions and supplementary green areas on urban microclimates, the simulated results have revealed that the park having a higher percentage of green coverage ratio (GCR) tended to experience a better cooling effect. These findings can be used to explore the effects of different greening modifications on urban environments for achieving an effective thermal comfort in urban public spaces.

Keywords : CFD simulations, Green Coverage Ratio, Urban heat island, Urban Public Park
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