

عنوان مقاله:

The Influence of Urban Design Parameters on Urban Heat Island (UHI) Mitigation

محل انتشار:

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خلاصه مقاله:

The Urban Heat Islands (UHI) effect is a microclimatic phenomenon that significantly influences urban areas. UHI has become one of the main hazards for cities, which is a challenge for areas influenced by climate change. It is related to temperature increases in the local microclimate. UHI which is worsened by global warming leads to thermal discomfort as well as reducing the life quality in urban spaces. Rapid changes in the urban morphology has increased air temperature and air pollution during last decades. UHI which is generated by dense constructions in modern cities is influenced by various design parameters. Volumetric compactness, building aspect ratio, the sky view factor, applied materials on facades, and etc. are some of the urban design related parameters which influence microclimate and consequently the UHI in cities. Investigations have proved that building height to canyon width and also sky view factor control the amount of absorbed and reflected thermal radiation. Applied materials on urban fabric surfaces controls solar reflectance and infrared emittance, and influences UHI effect. Urban trees and vegetation are another important factor that mitigate the UHI by influencing the evaporation rate and reflection

کلمات کلیدی:

UHI, material, trees, urban design, thermal comfort

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