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Estimation of Urban Heat Island Intensity in the Megacity of Hyderabad

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Urban Heat Island is a more threatening meteorological phenomenon in the longer summer tropical cities with already critical thermal regime than in the longer winter temperate cities. Further, the population growth in the tropical megacities is far greater than their counterpart temperate cities. The present paper enquires the changing trends in the urban climates. Cities are recognized as urban heat islands because their temperatures are higher by 3°C to 9°C in comparison to the temperatures of the surrounding rural areas. This thermal differential is generally proportional to the city size and morphology. Larger is the city size and more diverse are its residential, industrial and commercial functions, larger and higher is its heat dome. Urban Heat Island has become a major environmental issue particularly in view of rapid urban sprawl in the developing countries. Urban Heat Islands are the nuclei of global warming and climate change. Urban Heat Island is not a cognizable problem of towns and small cities. It is a matter of great concern to the urban planners, environmentalists and citizens of the large cities, particularly the million and megacities. However, this problem is assuming a serious dimension in a fast emerging megacity of Hyderabad. The present paper estimates heat island intensity of Hyderabad. In the wake of its rapidly growing economy, size and population, the city has experienced a population growth from 1.79 million in 1971 to 7.74 million in 2011. The corresponding built-up area has recorded a growth from 298.5 sq.km. to a sprawling 851 sq.km. The paper enquires the adverse impact of this built-up growth on the daytime as well as nocturnal temperature rise. This has rendered the urban climate increasingly taxing to the human health and comfort.

Biography

Ghazal Salahuddin is DST-INSPIRE Senior Research Fellow in the Department of Geography at Aligarh Muslim University. She is President of India's Gold Medalist for the Overall Best Performance and Academic Excellence in the University. She has won three Gold Medals. She has also won the Postgraduate Science Merit Scholarship of the University. She is doing her doctoral work on "City Morphology and Urban Heat Island in the Megacities of Ahmadabad, Hyderabad and Bangalore – A Comparative Analysis". She specializes in Urban Climatology. The researcher has qualified UGC-NET and Junior Research Fellowship and acknowledges her research funding by the DST-INSPIRE.

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