

# ‘Sharp rise in heat waves in urban areas’

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Over the last 40 years, the world’s cities and towns have seen a sharp rise in heat waves they experience while cold snaps have become more infrequent, according to research just published.

A team of scientists from India and the U.S, which examined data from 217 urban areas across the globe, found that such prolonged periods of high temperature had increased significantly between 1973 and 2012. The largest number of heat waves had occurred in the most recent decade.

Moreover, extremely hot days had become significantly more frequent in almost half of those urban areas. Two-thirds of them had to endure more extremely hot nights, reported a paper by Vimal Mishra of IIT-Gandhinagar in Gujarat and the other scientists in *Environmental Research Letters*.

The analysis suggested that urban areas were affected by the warming occurring as a result of climate change as well as the ‘urban heat island’ effect whereby built-up places trapped heat more than surrounding rural areas, Dr. Mishra told this correspondent.

However, the study also found that although heat waves over urban areas in India had gone up over the 40-year period, the increase was not statistically significant. Similarly, the increase in the number of hot nights was also not significant over India.

High levels of fine particles in the atmosphere (known as aerosols), which reduce the amount of sunlight reaching the ground, may be partly responsible for a slower rate of warming over this country, Dr. Mishra said.

Over half the world’s population already lived in urban agglomerations, which were centres of wealth and infrastructure as well, he pointed out. It was therefore important to understand how such places would be affected by a changing climate and climatic extremes.

“Vulnerability of mega cities is clearly something to worry about,” remarked Raghu Murtugudde of the University of Maryland in the U.S., who was not involved in the study, in an email. “While they are typically hotspots of innovation, are they also growing to be hotspots for the worst of climate impacts?”