

# Urban Heat Islands

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**Urban Heat Islands (UHI)** are **significantly warmer urban areas** than its surrounding rural areas **due to human activities**. Urban Heat Island is a major problem associated with rapid urbanisation.

The temperature increase is attributed to deforestation and the construction materials adopted for city building. Usually, under the urban heat island phenomenon, the central regions of urban centres exhibit higher mean temperatures than the surrounding areas.

The heat island effect has corresponding ecological consequences on resident species.

The phenomenon, 'Urban Heat Island' was first investigated and described by Luke Howard in the 1810s.



## Causes for the formation of heat islands in the urban habitat of the world

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1. Heat islands form in urban and suburban areas because many common construction materials absorb and retain more of the sun's heat than natural materials in less developed rural areas. Temperatures of dark, dry surfaces

in direct sun can reach 88°C during the day, while vegetated surfaces with moist soil under the same conditions might reach only 18°C.

2. Concrete, cement, and metal surfaces in urban areas tend to absorb heat energy rather than reflect it, contributing to higher urban temperatures.
3. Cities have a low albedo, the reflecting power of a surface. The increased surface area of buildings results in more solar radiation absorption than reflection.

### Remedies :

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Cooler, shaded spaces in our parks, near buildings, in streetscapes and alongside homes can reduce heat stress, particularly for those in our community who are most vulnerable to high temperatures.

Note: Cities in desert environments show a different trend known as the “urban oasis effect”. This effect is characterised by a cooler city centre compared to the surrounding environments

