

Heat Islands

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Heat Island Compendium

Urban areas are usually warmer than their rural surroundings, a phenomenon known as the "heat island effect." As cities develop, more vegetation is lost and more surfaces are paved or covered with buildings. The change in ground cover results in less shade and moisture to keep urban areas cool. Built-up areas also evaporate less water, which contributes to elevated surface and air temperatures. Properties of urban materials, in particular solar reflectance, thermal emissivity, and heat capacity, also influence the development of urban heat islands, as they determine how the sun's energy is reflected, emitted, and absorbed.

Heat islands can affect communities by increasing summertime peak energy demand, air conditioning costs, air pollution and greenhouse gas emissions, heat-related illness and



Compendium of strategies

USA

Voluntary efforts including demonstration projects, incentives, urban forestry programs, weatherisation, outreach and education programs and awards.

Communities Combatin

Heat island awarenes

Cooling strategies

11 SUSTAINABLE CITIES
AND COMMUNITIES