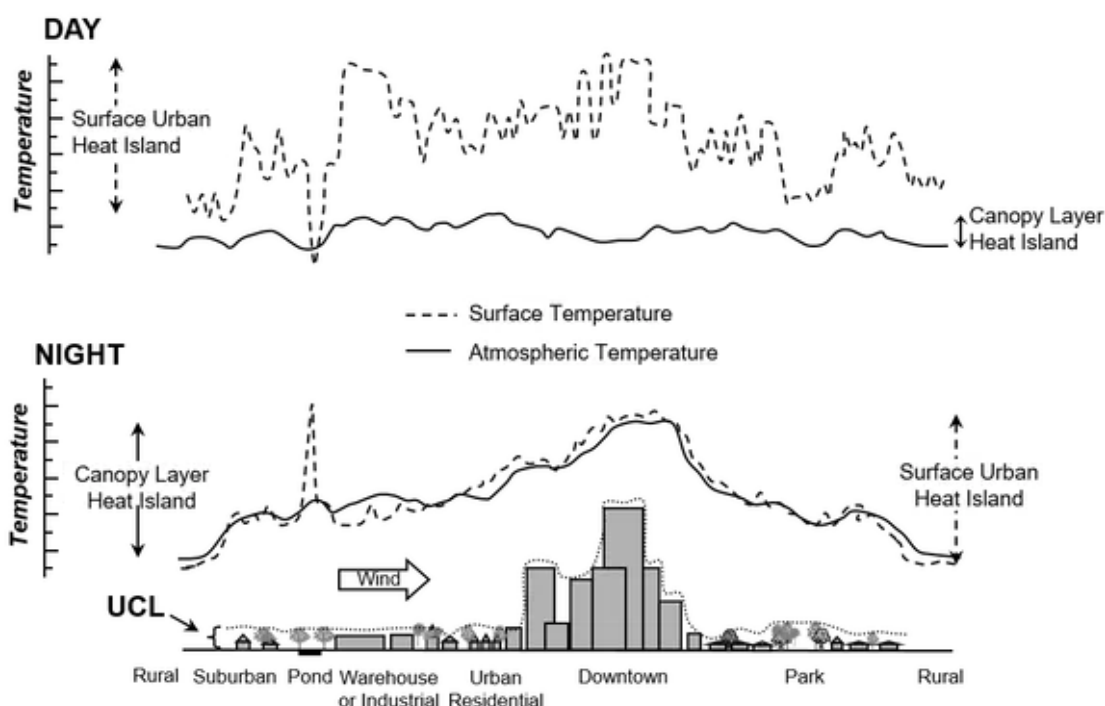


Urban Heat Islands: How we can cool our cities

Many large cities across the world are in danger of becoming all but unlivable due to [rising local temperatures](#). In cities, air, surface and [soil](#) temperatures are [almost always warmer](#) than in rural areas, with temperatures often [up to 10C hotter](#). This is the urban heat island effect. Urban heat islands are most evident in both [warmer surfaces](#), and aerial temperature observations near the ground.



The geography of the Urban Heat Island. Jamie Voogt, University of Western Ontario, Author provided

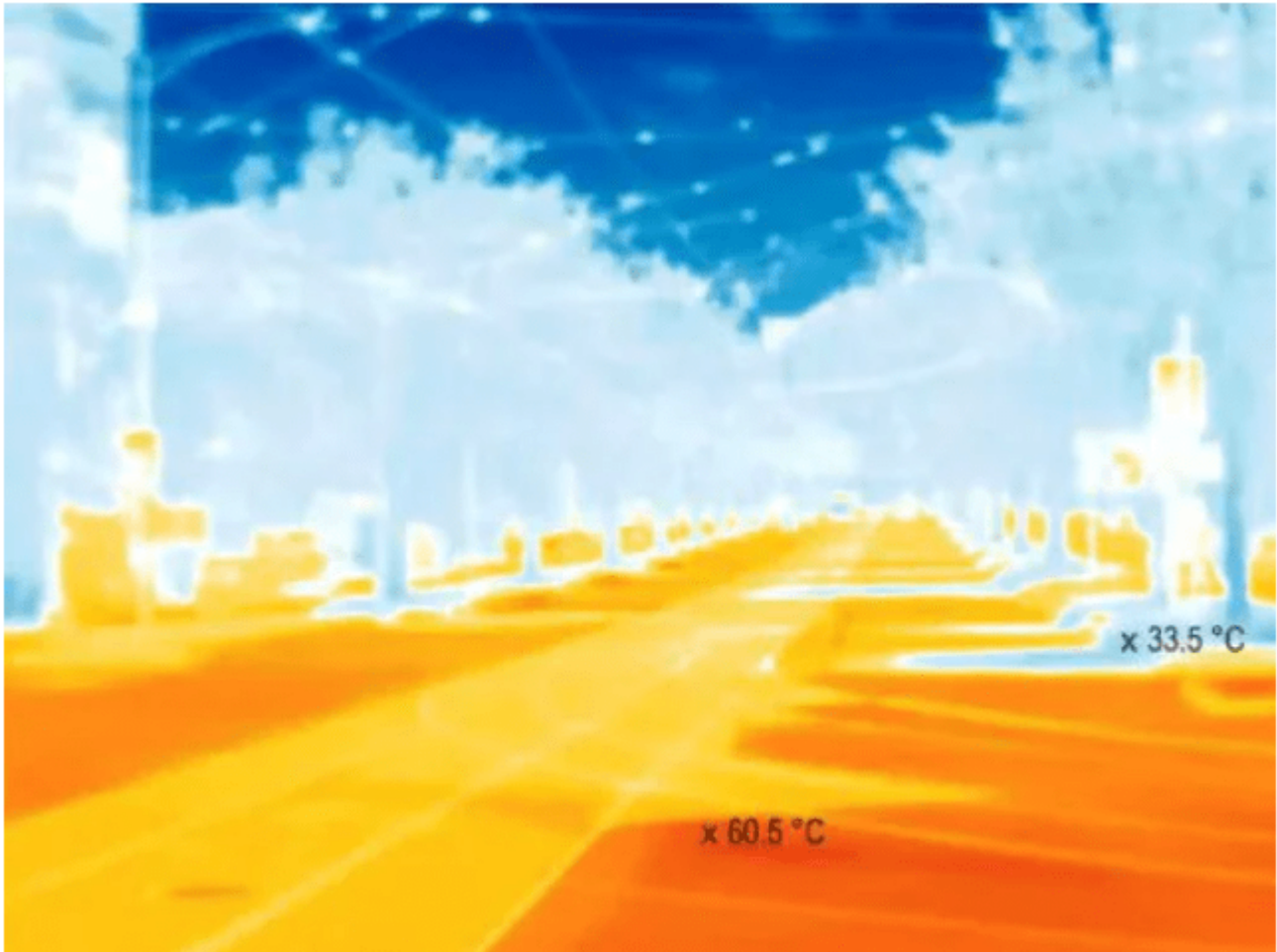
Source: [The Conversation](#)

WHAT CAUSES THE URBAN HEAT ISLAND EFFECT?

A major reason is the [reduced number of trees](#) and plants in urban areas. While vegetation tends to [cool down](#) surrounding areas by evaporating water, paved urban landscapes often absorb heat. As a result, [water](#) runs off instead of [seeping into the ground](#).

The below thermal image of Melbourne's Royal Parade shows how trees can cool urban areas. While the road is around 60°C, areas under trees are [around 30°C cooler](#) on average. Even a 5% fall in urban tree cover can lead to a [1-2°C rise](#) in

air temperature.



On Melbourne's Royal Parade, exposed road surface temperatures can be almost 30C hotter than surfaces shaded by trees. Pictures: City of Melbourne. Source:Supplied

Source: [News.com.au](https://www.news.com.au)

The placement and design of [buildings](#) can also increase temperatures. Tall buildings are often built close to one another, [trapping heat](#) by slowing air movement. Also, dense and dark-coloured building [materials](#) such as asphalt can store [large amounts of heat](#). These combine with excess heat from [industry](#) and [transport](#), to create urban heat islands.

REDUCING THE URBAN HEAT ISLAND EFFECT

If temperatures continue to increase, the health and [wellbeing](#) of our communities could be [under threat](#). Air conditioners are often turned to as a solution, feeding a vicious cycle as these tend to [emit waste heat outside](#). Though urbanisation often causes urban heat islands, we can reduce it by changing our cities to absorb less heat. Some ways include building with [light-reflecting materials](#), and [planting trees](#) in places with less vegetation.

So how exactly do trees lower temperatures?

They [provide shade](#) to cool building interiors while blocking the sun's heat to [cool the surrounding air](#) and soil, and helping water evaporate. This means buildings will not need air conditioning as often, allowing people to save energy and reduce [air pollution](#).

GREENER MEANS CLEANER

Urban [forests](#) could make all the difference between healthy cities and unbearable ones. Hence, we should encourage regulations that motivate [more greenery](#) in our cities. Several [cities across the world](#) have done this, including Seattle, Berlin, Toronto and Singapore.

Otherwise, you can help by growing plants in your backyard or balcony, or joining a tree planting club such as [Trees For Life](#). Every tree helps reduce temperatures and makes your city healthier.