Hot spots in Singapore

A recent study measuring urban heat in Singapore between 2008 and 2014 identified parts of the island where warming is felt more strongly.

What is the urban heat island effect?

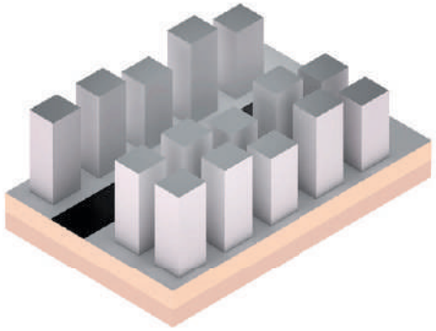
Singapore is experiencing warming which is higher than the global average due in part to the urban heat island effect — a phenomenon where urban regions are hotter than nearby rural, undeveloped areas.

Which places experience urban heat more intensely?

Hot ← → Cool

HOT URBAN AREA

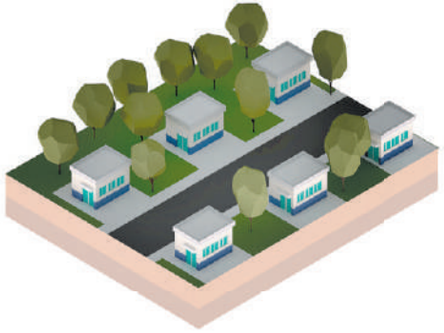
Compact high-rise and mid-rise buildings



Example: Offices at Raffles Place

COOL URBAN AREA

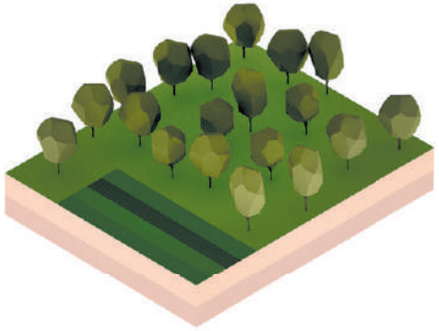
Sparse low-rise buildings with some vegetation



Example: Housing estate near Holland Village

RURAL AREA

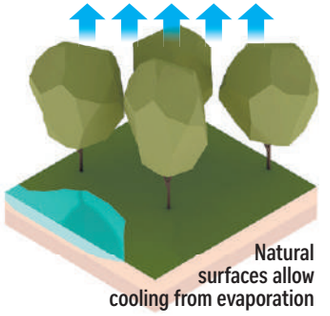
Green spaces with plants and trees



Example: Farms in Lim Chu Kang

Why do some urban areas experience heat more intensely at night?

- Many urban building materials such as concrete absorb a lot of energy from the sun. This is particularly felt at night when this energy is released as heat.



- In some areas, heat released from cars and buildings can add to the warmth.
- Unlike porous natural surfaces which can hold water, urban surfaces are often waterproof and drier, which means less water is available for cooling brought about by evaporation.
- An area with high-rise buildings may feel cooler in the day due to the shade cast by them, but the area will still emit heat at night.

Why are some urban areas cooler than others?

- Generous tree cover provides shade and reduces heat absorption in the day so less heat is released at night.
- Areas with fewer buildings that trap heat and release it at night are cooler.

Source: MATTHIAS ROTH

PHOTOS: GOOGLE EARTH STRAITS TIMES GRAPHICS