

Mitigating urban heat island through green roofs

ABSTRACT

One of the key measures to fight urban heat island (UHI) phenomenon is by increasing the use of green approaches including green technologies and vegetation. However, there is a shortage of available space for establishing greening elements due to high density of urban development and high cost of urban land. By using green roofs, the hottest spots of a city can be mitigated. Further advantages of green roofs include mitigating air pollution, improving management of run-off water, improving public health and enhancing the aesthetic value of the urban environment. This paper reviewed, analyzed, and discussed previous literature on green roofs and their role in alleviating UHI. Previous researches acknowledged the ability of green roofs in UHI mitigation. This paper recommends using green roofs as a main strategy for decreasing the harmful impacts of UHI especially the high air temperatures as well as their ability to add to the greening of cities.

Keyword: Urban heat island; Green roof; Air temperature; Mitigation strategies; Evapotranspiration