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## Urban River Reserve Potentials as Passive Cooling Strategies

(Conference Paper) [\(Open Access\)](#)

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### Abstract

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In Malaysia, urban riparian refers to river reserve that reflects green space. As surviving greenery space amidst concrete jungle, urban riparian is essential for safe-keeping the river health, the surrounding environment, and the well-being of urbanites. The existing developments found by the Malaysian riversides are already in place prior to river reserves establishment, thus constricting expansion and synchronisation due to its guidelines applied in isolation within several related agencies. Prior studies have highlighted the potential of riparian vegetation as a viable method that lowers the temperature within urban space. Hence, this paper probes into the potential of river reserve as a passive cooling strategy by determining the vegetation technical requirements from the light of urban river physical planning and design guidelines in Malaysia. Thus, this study outlines the possibility of integration by comparing vegetation requirements for river buffer with vegetation function and ability in altering radiation, as well as heat transfer, through physical attributes. By focusing on vegetation physical structure, the riparian area can attain multiple functions and benefits. Thus, this finding serves as a basis for integration of passive cooling strategies with vegetation requirements for urban river reserve, and for further studies that investigate other essential physical attributes. © The Authors, published by EDP Sciences, 2018.

### SciVal Topic Prominence ⓘ

Topic: Thermal comfort | Climate | Outdoor thermal

Prominence percentile: 99.121 ⓘ

### Indexed keywords

Engineering controlled terms:

Cooling Vegetation

Engineering uncontrolled terms

Multiple function Passive cooling Physical planning Physical structures  
Riparian areas Riparian vegetation Surrounding environment Technical requirement

Engineering main heading:

Rivers

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