

# **ABSTRACT: TREES, WATER, STORMWATER MANAGEMENT, IN A CHANGING CLIMATE**

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The implications of climate change on the availability of water in the landscape are profound, particularly in regard to environmental water requirements that maintain biodiversity and water quality. Water supply and quality are likely to be affected by higher air temperatures, increased evaporation rates and projected changes in amount and seasonality of rainfall. Higher air temperatures experienced in recent decades are indicative of future temperature scenarios for SA, and in urban environments comprised extensively of hard, impervious, radiant surfaces, the heat island effect will be evident.

Trees in urban environments provide several effective functions in ameliorating the affects of radiant air temperature from hard surfaces, storm water runoff, and an evaporative cooling function when located adjacent to buildings, particularly when in clusters. Trees improve air quality; provide summer energy savings, store carbon, and are of significant aesthetic value.

Several States in the USA have undertaken quantitative studies on the effect of trees in urban settings. Such studies argue that trees within urban environments impede and capture stormwater runoff, and are non-structural stormwater management facilities, which are saving Local Governments money.

This paper presents approaches to impeding and retaining surface water flow in urban landscapes.