

Sustainable Development

Thermal Resilience of Activities in Public Space: Case Study of Adelaide, South Australia

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ABSTRACT: Due to the Urban Heat Island effect, often public spaces are warmer than is comfortable for humans. The question is to what extent contemporary public spaces can become more resilient to the higher temperatures that will come with the climate change? This paper defines thermal resilience in public space as the ability of the space to support its normal activities in higher temperatures. The paper also reports on the correlations between activity patterns, thermal conditions and urban greenery in three disparate case studies of Hajek Plaza, Rundle Mall and Hindmarsh Square in Adelaide. Data is collected when public spaces were experiencing temperatures between 20°C and 42°C. Results indicate that necessary and optional activities start to decline after the Apparent Temperature reaches the threshold of 28-32°C. Activities in public spaces with more urban greenery show more resilience to heat stress. Research findings contribute to urban design knowledge by providing thermal resilience as a quality indicator in public space.

Keywords: Thermal Resilience, Public Space, Public Life, Urban Heat, Outdoor Activity