



## Examining Race and Class Disparities in Urban Heat in Australia and New Zealand: Towards Environmental Justice in Urban Planning

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Environmental (in)justice arising from Climate change and urbanization exhibit uneven distributions, specifically impacting disadvantaged communities. While studies in the USA highlight the elevated heat exposure faced by low-income and ethnic minority groups, similar insights are lacking for other countries. This knowledge gap impedes a comprehensive understanding of environmental (in)justice experienced by various socio-economic and ethnic groups and hampers the identification of inadequacy in urban planning policies.

This research seeks to bridge the gap between social and environmental sciences to address environmental (in)justice by establishing a link between extreme heat (at both regional and country level) and socio-economic disparities for Australia and New Zealand. Using remotely sensed satellite data for Land Surface temperature mapping for summer (night time) and Census data of countries, the analysis explores various socio-economic indicators—such as education levels, age demographics, and the proportion of foreign populations.

Australia and New Zealand serve as pertinent case studies due to their distinct socio-economic landscapes and Indigenous populations. By recognizing the unequal distribution of urban heat and its disproportionate impact on vulnerable communities, there emerges a critical mandate to prioritize equitable urban planning policies. This research underscores the urgency for policymakers and urban planners to prioritize environmental justice interventions and integrate strategies that aim to reduce race and class disparities concerning urban heat. The findings also serve as a template for similar analyses globally; fostering inclusive, equitable and resilient urban landscapes.