

Examining Race and Class Disparities in Urban Heat in Australia

Towards Environmental Justice in Urban Planning

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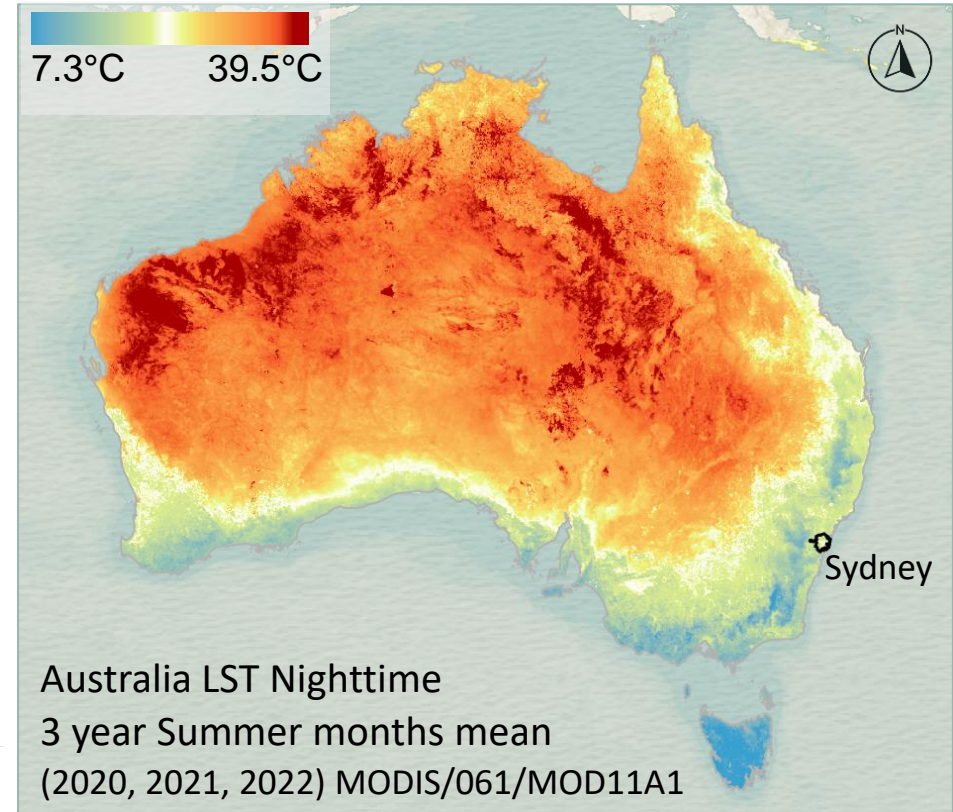
Research Questions:

- Who is affected by urban heat?
- Is the **environmental burden** on which our growing civilization is built, **distributed equally** among all its citizens?

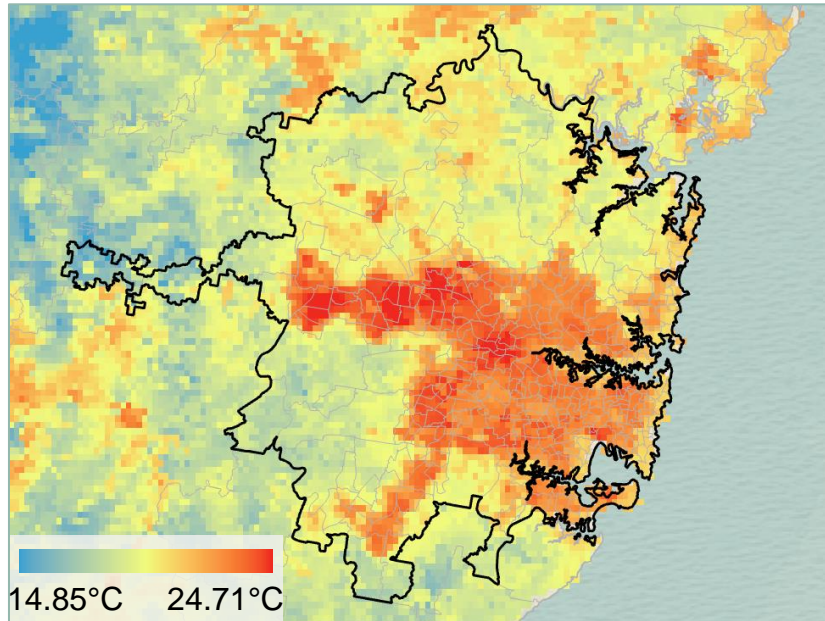
Earth's Future

Widespread Race and Class Disparities in Surface Urban Heat Extremes Across the United States

Susanne Amelie Benz ✉ Jennifer Anne Burney ✉

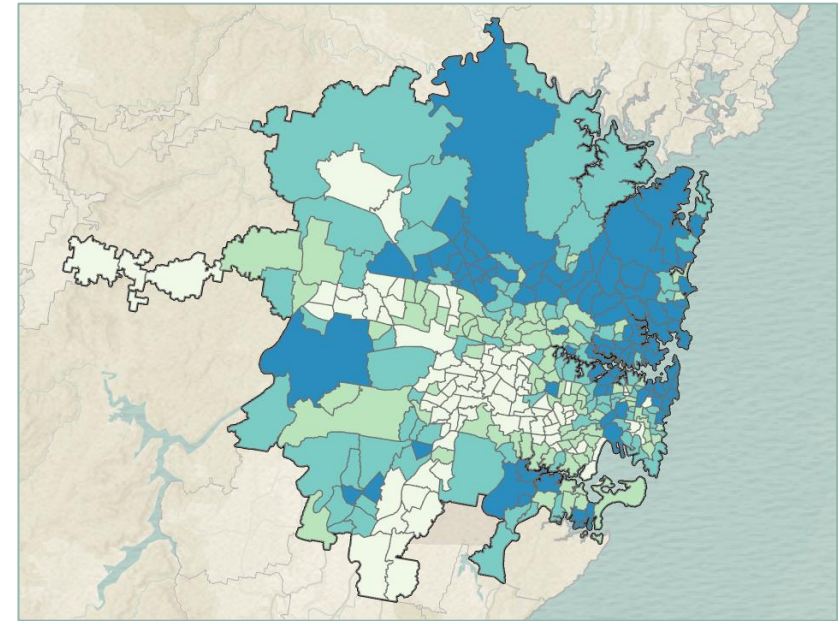


Case of Sydney



Sydney LST MODIS (Nighttime)

— SYDNEY SUA
— SA2 Census division



Sydney Income distribution

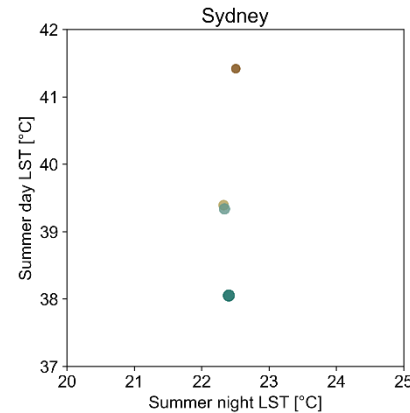
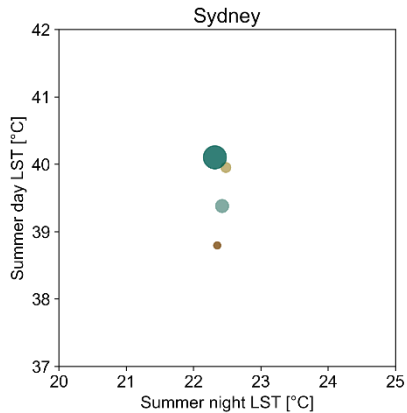
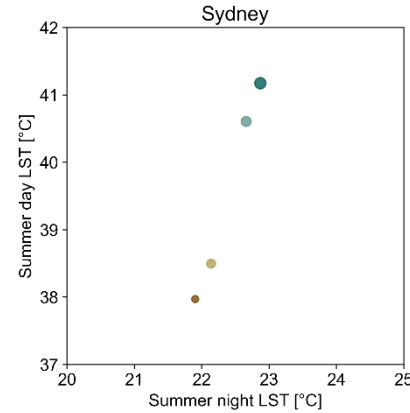
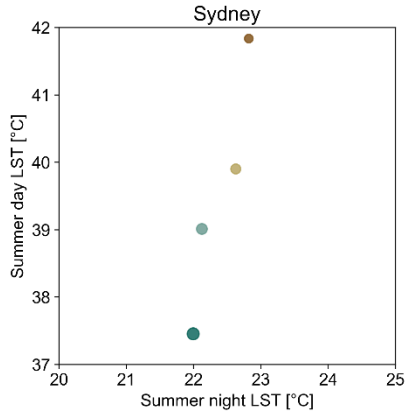
Data Source:

ABS Census Data 2021

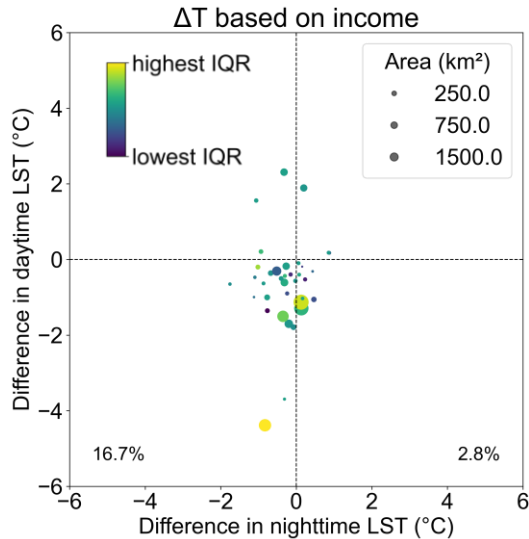
Mean household income

- Q1: AU\$ 1027 - 1808
- Q2: AU\$ 1817 - 2151
- Q3: AU\$ 2155 - 2547
- Q4: AU\$ 2550 - 3987

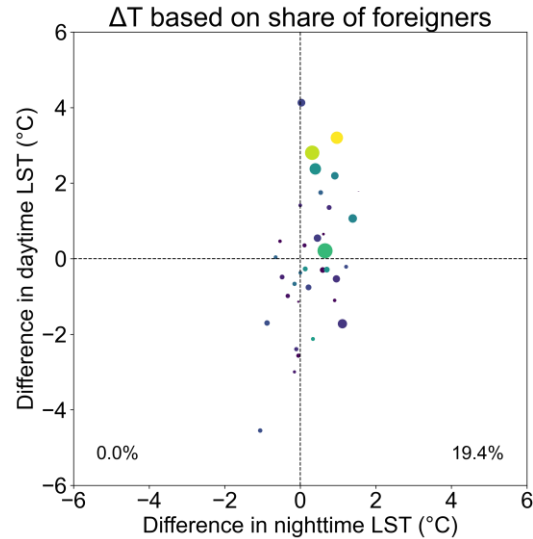
Day Vs Night Temperatures for Sydney



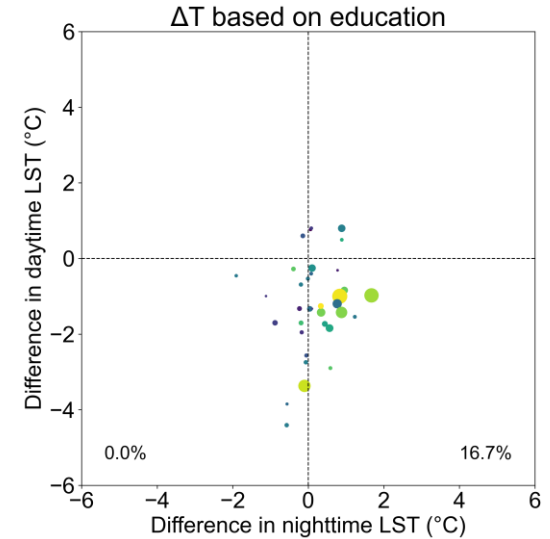
Temperature differences ΔT (Q4- Q1) for all SUAs



Based on income: 16.7% SUAs showed significant negative nighttime ΔT i.e. poorer communities live in area with higher nighttime LST.



Share of foreigners: 19.4% of SUAs showed significant disparities with positive ΔT .



Education: 16.7% of SUAs showed significant disparities with positive ΔT .

Future directions of Research

- Finding trends and drawing comparisons in past years as per Census Data availability.
- Performing similar analysis across multiple countries.

References

Benz, S. A.; Burney, J. A. (2021). Widespread Race and Class Disparities in Surface Urban Heat Extremes Across the United States. *Earth's Future*, 9 (7), e2021EF002016

**Link to the
research poster**



Thank you

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