

# *The Social and Racial Inequities of Climate Change in the US*

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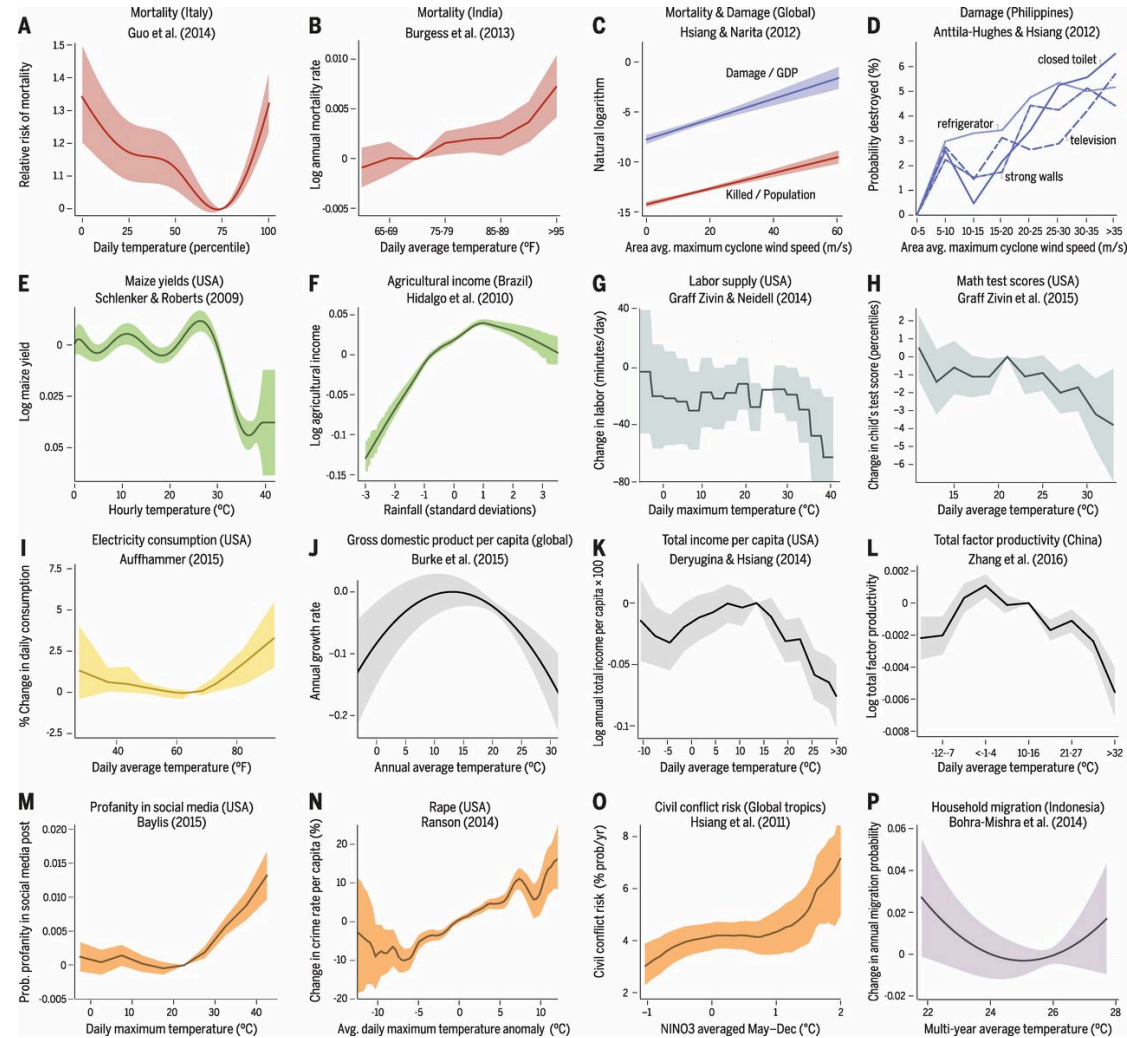
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Climate conditions -> social conditions

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**Fig. 3 Empirical studies demonstrate that climate variables influence social and economic outcomes in many sectors and contexts.**



**Tamma A. Carleton, and Solomon M. Hsiang** *Science* 2016;353:aad9837



# “Threat multiplier”

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Extreme weather

Coastal inundation

Volatile economic conditions

Labor market shifts/dislocations

Local resource scarcity (e.g., water)

# Compounded injustice: who will be hit hardest?

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Those already experiencing social inequity

- Racism and historical marginalization
- Poverty
- Lower access to jobs, safe housing, education, healthcare

Intersectionality framework (Rosenthal, 2016)

- Climate change further “interlocking system of injustice”

# Social inequities -> mental health susceptibility

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Racism and poverty linked to anxiety, depression, other mental health conditions (Murali & Oyebode 2004; Santiago-Rivera, Adames, Chavez-Duenas, Benson-Florez, 2016)

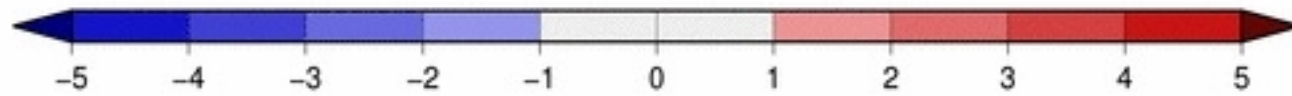
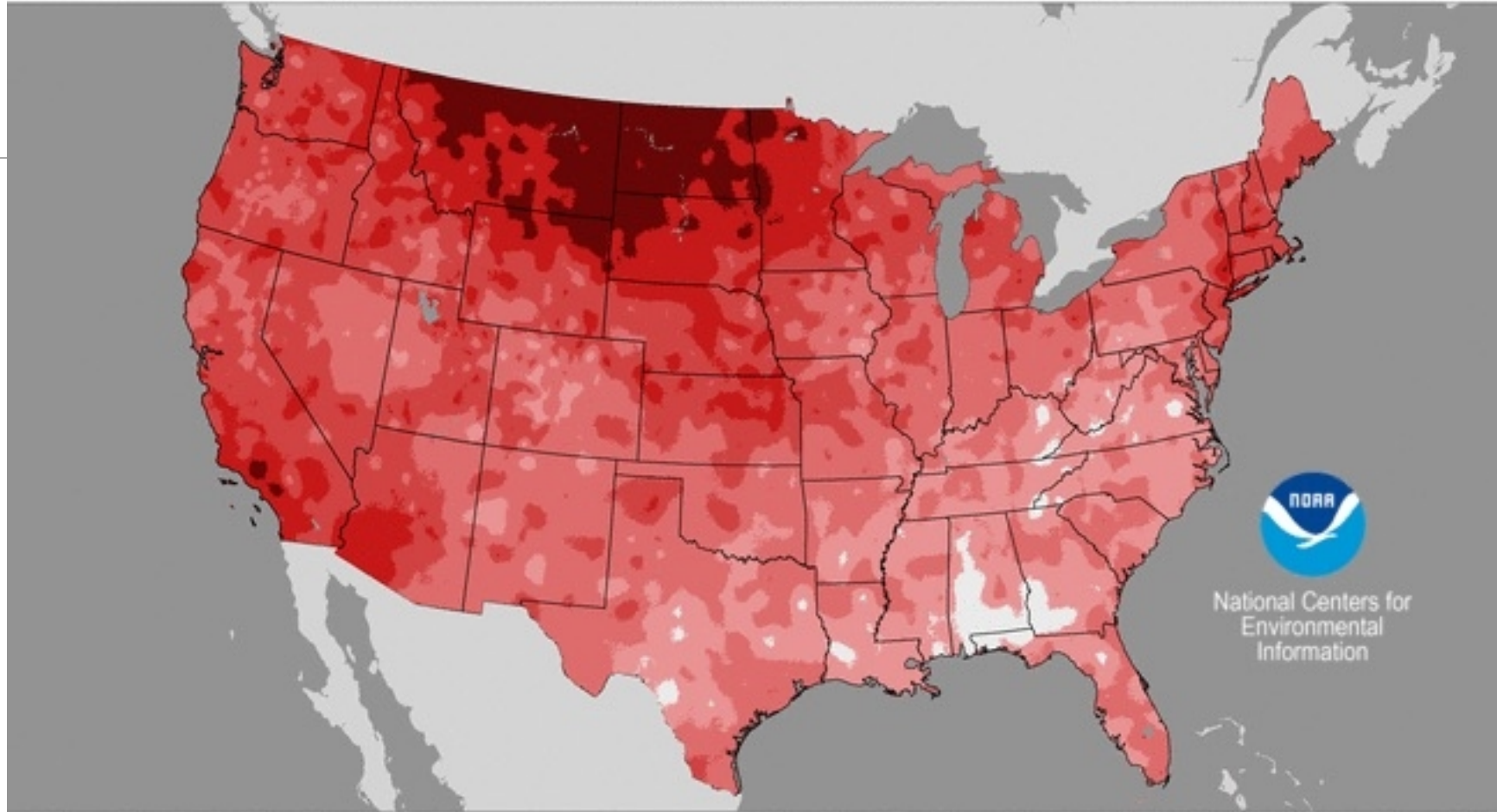
Example: impacts of urban heat

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# Mean Temperature Departures from Average

January–July 2016

Average Period: 20<sup>th</sup> Century



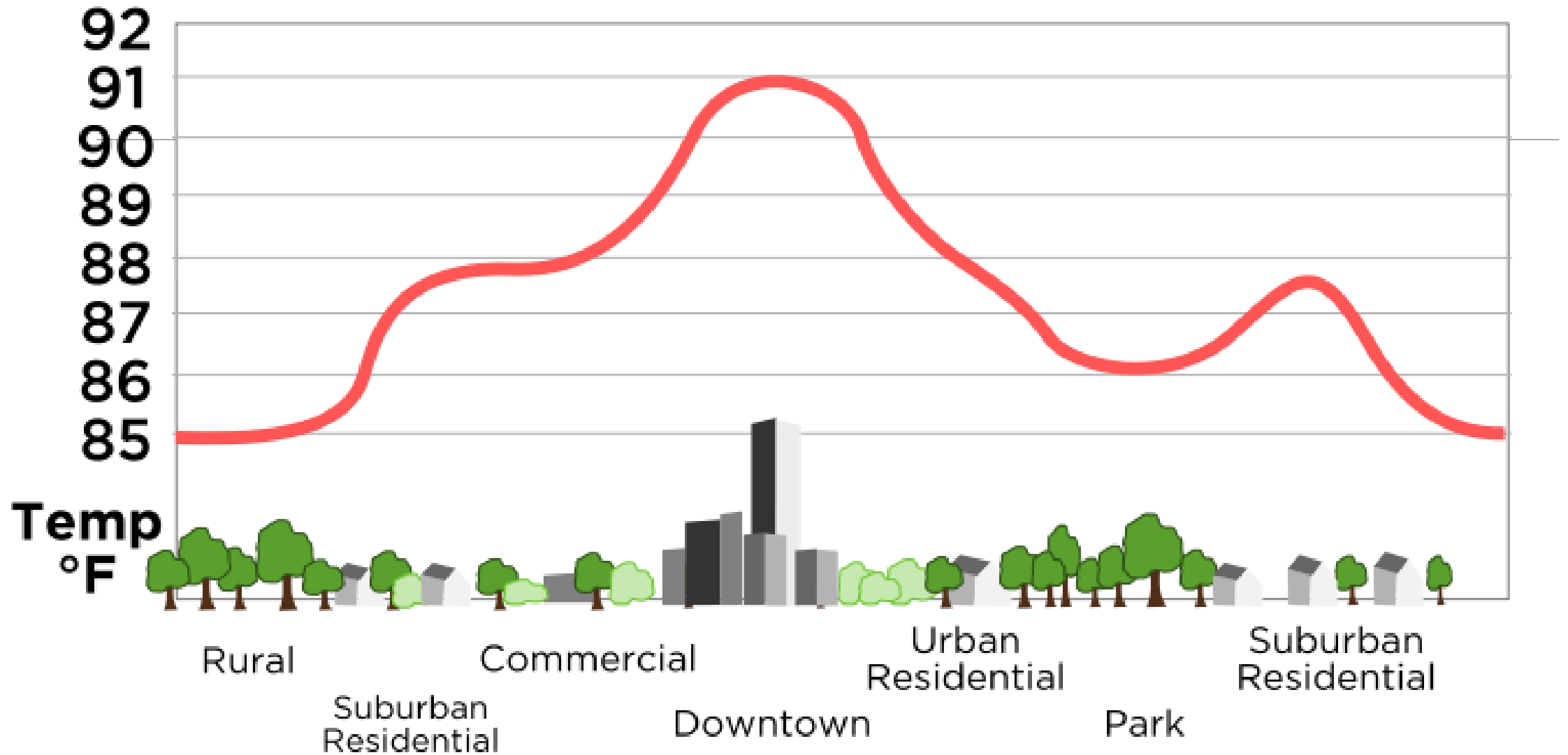
Created: Thu Aug 04 2016

Degrees Fahrenheit

Data Source: 5km Gridded (nClimGrid)



# URBAN HEAT ISLAND PROFILE



Source: NOAA

# Disproportionate heat island impacts

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Lower-income communities of color more likely located in areas with fewer trees and more concrete (Jesdale, Morello-Frosch and Cushing, 2013 )

People living in poverty are less likely to have (or be able to use) air conditioning

# Impacts of urban heat

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## Individual health impacts

- Stress, discomfort, risk of long-term impacts or death
- Increased exposure to air pollutants

## Community impacts

- Increased violence and aggression
- Breakdown in social cohesion
  
- Potentially increased vulnerability as community trust degrades

# Mental health outcomes

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Pre-existing stressors

Greater vulnerability to climate impacts

- Location
- Marginalization and access

Lower resources for coping

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# References

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Carleton TA, & Hsiang SM. (2016). Social and economic impacts of climate. *Science*, 353(6304). doi:10.1126/science.aad9837

Murali, V., Oyebode, F. (2014). *Advances in Psychiatric Treatment*, 10(3) 216-224; DOI: 10.1192/apt.10.3.216

Jesdale, B.M., Morello-Frosch, R. & Cushing, L. (2013). The Racial/Ethnic Distribution of Heat Risk-Related Land Cover in Relation to Residential Segregation. *Environmental Health Perspectives*, 121(7): 811-817.

Rosenthal, L. (2016). Incorporating intersectionality into psychology: An opportunity to promote social justice and equity. *American Psychologist*, 71(6), 474-485. doi:10.1037/a0040323

Santiago-Rivera, A.L., Adames, H.Y., Chavez-Duenas, N.Y., Benson-Florez, G. (2016). The impact of racism on communities of color: Historical contexts and contemporary issues. In: *The cost of racism for people of color: Contextualizing experiences of discrimination*. Alvarez, Alvin N., (Ed); Liang, Christopher T. H., (Ed); Neville, Helen A., (Ed); pp. 229-245; Washington, DC, US: American Psychological Association; 2016. xv, 356 pp.