New York City's Response to Summer Heat

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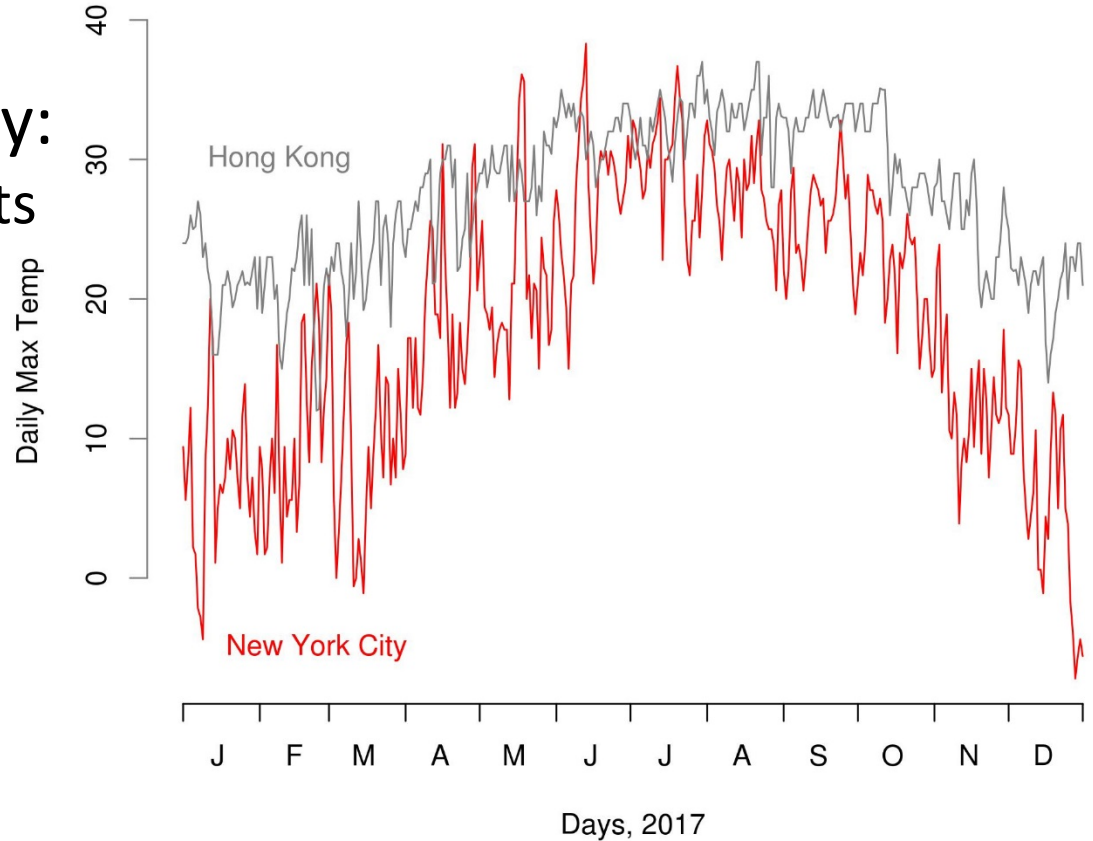
- Population: 8.6 million people
- Economic disparity: Very high (e.g., Gini coefficient = 0.54)
- Air conditioning prevalence: ~90% citywide, but <80% in some neighborhoods

- On average, each summer in New York City:
  - 450 heat-related emergency department visits
  - 150 heat-related hospital admissions
  - 13 heat-stroke deaths
  - 115 *excess* natural cause deaths



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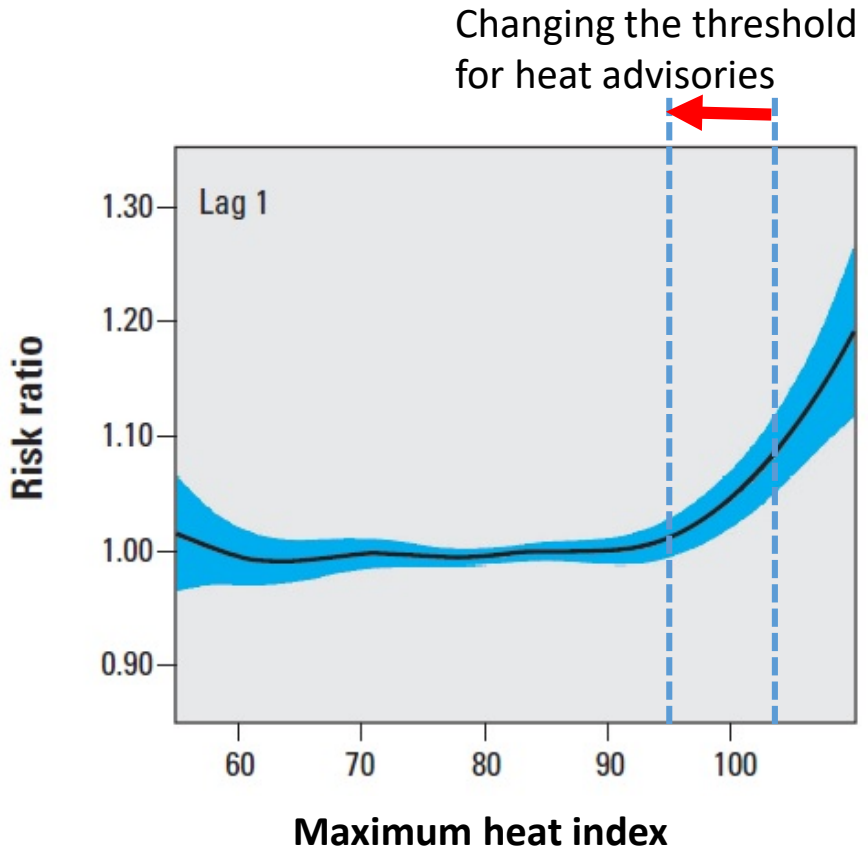
Some relevant findings from heat impacts studies in New York City:

- Associations with excess deaths are lagged and non-linear, resulting in a revision of the threshold for heat advisories (Metzger et al., 2010)
- Most heat-stroke deaths occurred at home with no working air conditioner (Wheeler et al., 2011)
- Estimated impacts of extreme heat on excess deaths have declined over the years (Petkova, 2015)
- Survey: those with AC never/rarely used it on hot days because of disliking the “cold”, not feeling hot, or the cost (Lane et al., 2013).
- Case-only analysis identifying excess death risk factors: (1) poverty; (2) percent African-American; (3) lack of green space; and (4) high surface temperature, development of Heat Vulnerability Index (Madrigano et al., 2015)
- Indoor temperature without AC can remain high days after a heat-wave (Vunt-Hull et al., 2018).



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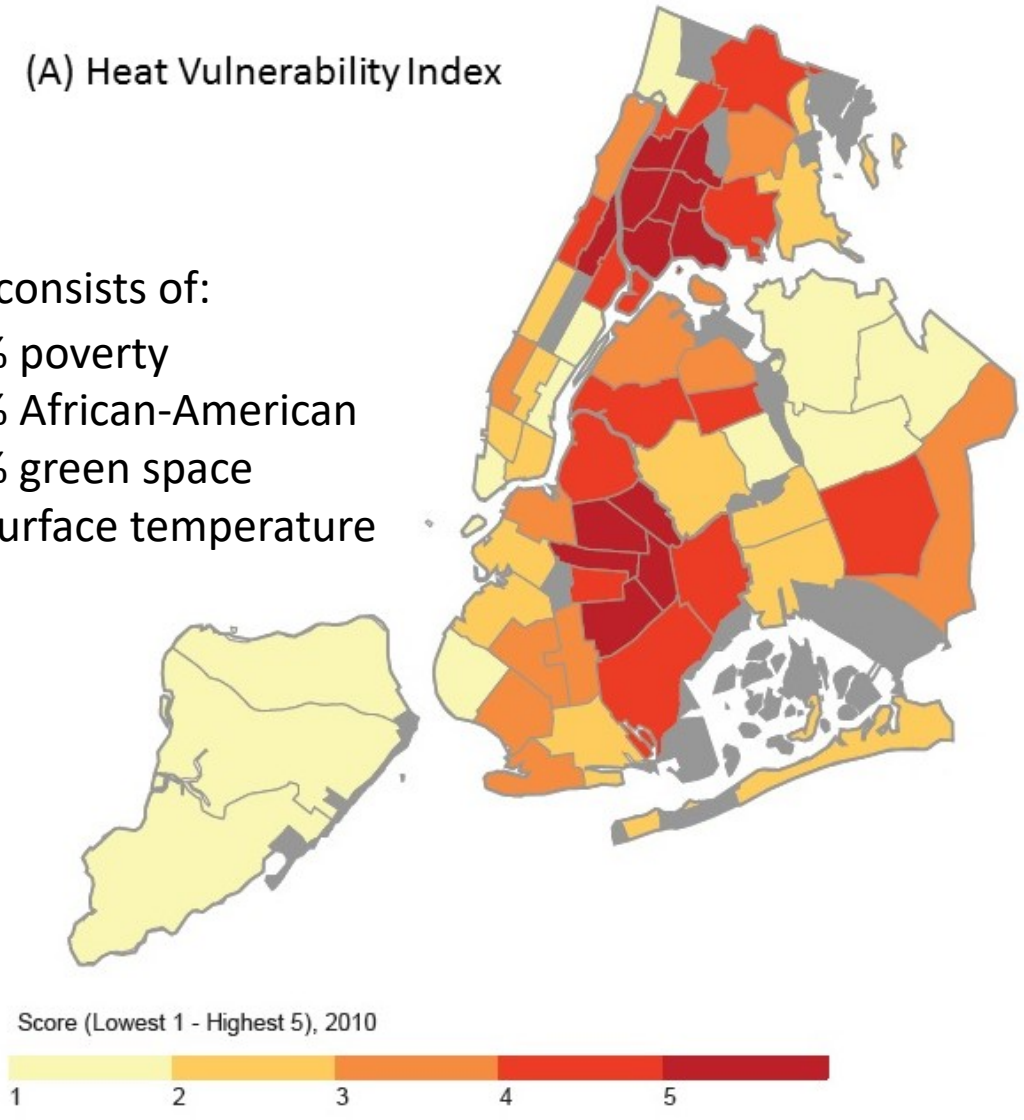
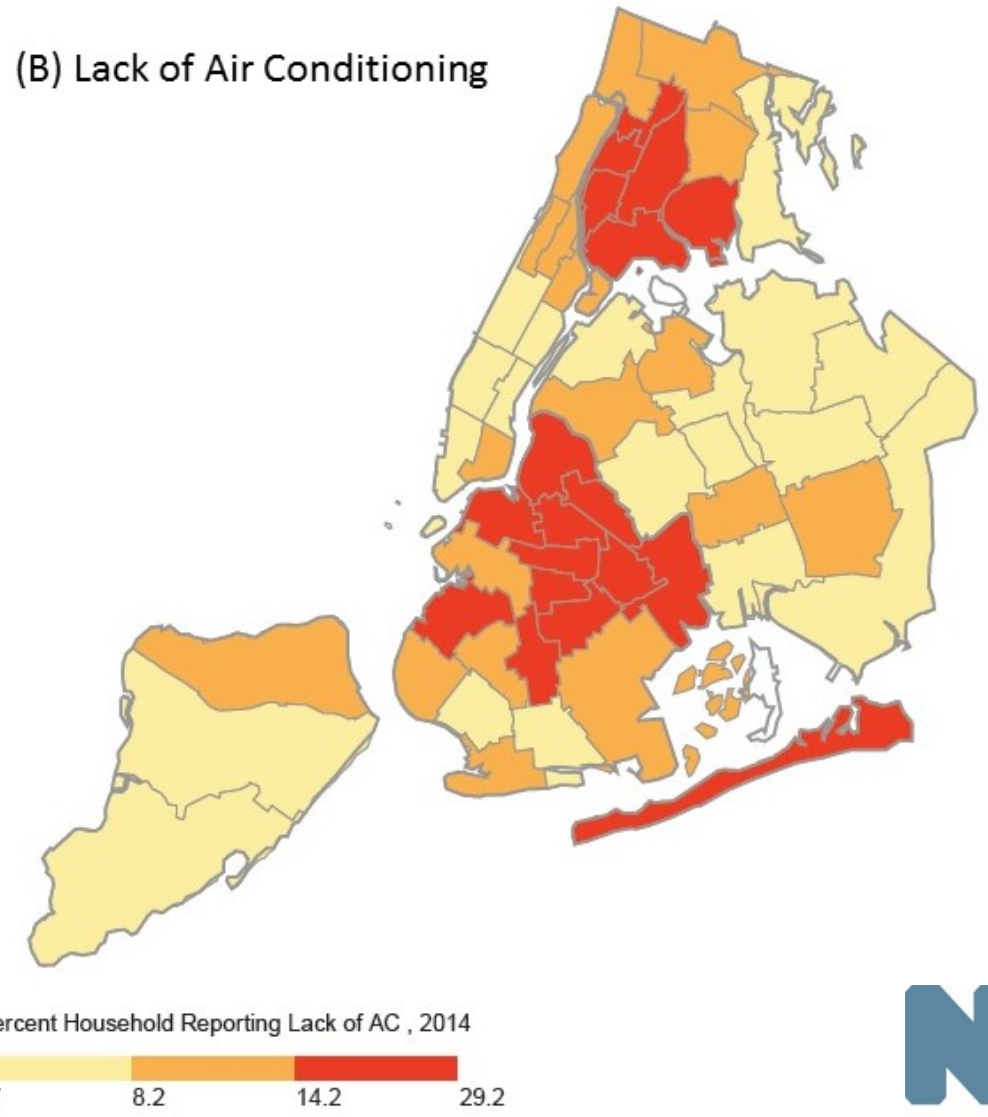
Heat Vulnerability Index (HVI) and Air conditioning prevalence in New York City

HVI consists of:

- % poverty
- % African-American
- % green space
- Surface temperature





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What New York City is doing to mitigate heat impacts:

Emergency Response:

- The Office of Emergency Management coordinates heat-response activities involving 20+ agencies and utility companies when a heat advisory is triggered
- The health department conducts heat-related illness syndrome prediction modeling for situational awareness
- Risk communications through social media to the public and health alerts to healthcare providers

Heat Resiliency Initiatives (Mayor's Office of Resiliency, Parks Department, Health Department):

- Street tree planting in the high heat vulnerability neighborhoods
- Capacity building to help community organizations reach out to vulnerable populations ("Be A Buddy") in the high heat vulnerability neighborhoods

Research:

- Support to increase AC prevalence and usage
- Estimating the health impacts of specific policy scenarios

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