

Links between the Built Environment, Climate and Population Health:
Interdisciplinary Environmental Change Research in New York City
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Abstract

Global climate change is expected to pose increasing challenges for cities in the following decades, placing greater stress and impacts on multiple social and biophysical systems, including population health, coastal development, urban infrastructure, energy demand, and water supplies. Simultaneously, a strong global trend towards urbanisation of poverty exists, with increased challenges for urban populations and local governance to protect and sustain the wellbeing of growing cities. In the context of these 2 overarching trends, interdisciplinary research at the city scale is prioritised for understanding the social impacts of climate change and variability and for the evaluation of strategies in the built environment that might serve as adaptive responses to climate change. This article discusses 2 recent initiatives of The Earth Institute at Columbia University (EI) as examples of research that integrates the methods and objectives of several disciplines, including environmental health science and urban planning, to understand the potential public health impacts of global climate change and mitigative measures for the more localised effects of the urban heat island in the New York City metropolitan region. These efforts embody 2 distinct research approaches. The New York Climate & Health Project created a new integrated modeling system to assess the public health impacts of climate and land use change in the metropolitan region. The Cool City Project aims for more applied policy oriented research that incorporates the local knowledge of community residents to understand the costs and benefits of interventions in the built environment that might serve to mitigate the harmful impacts of climate change and variability, and protect urban populations from health stressors associated with summertime heat. Both types of research are potentially useful for understanding the impacts of environmental change at the urban scale, the policies needed to address these challenges, and to train scholars capable of collaborative approaches across the social and biophysical sciences.

Key words: adaptation, cities, planning, urban heat island

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