

## **Climate Change and Housing Relocation in the New York Metropolitan Region**

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Climate Change will make a significant impact on global cities in the next 50 years. The percentage of people living in cities has moved from 50% of the world's population in 2010, to a projected 60% in 2030 to 70% in 2050. Historically, due to location, most major global cities with the largest populations are located in coastal environments. These environments are the most vulnerable to climate change as extreme weather events and sea level rise coupled with the high percentage of impervious surfaces in cities will lead to severe flooding. There are significant populations in these coastal global cities, mostly the poor in many developing countries, who are the most vulnerable and will be forced to relocate due to flooding. In developed economics such as the United States, the demand for proximity in premium urban locations has generated the construction of housing on marginal sites such as floodways.

These locations are now subject to extreme vulnerability, forcing governments to develop policies and strategies designed to: determine which specific locations are the most vulnerable to flooding; establish the procedures, protocols, and financial and legal mechanisms for housing relocation; and to create plans for utilizing the purchased property for green infrastructure and flood abatement. This paper focuses on the housing relocation process in Passaic County, New Jersey, located in the urban-suburban belt of the New York Metropolitan Area.

The first deliverable will be to develop a layered GIS model to determine specific locations of the most vulnerable parcels for flooding and to prioritize these locations for immediate housing purchase and relocation. The second deliverable is to analyze the specific legal and financial mechanisms used for purchase and housing relocation and measure their effectiveness in terms of social, economic, and environmental criteria. And finally, the paper seeks to provide planners, decision-makers, and governments a set of "best practices" for the purchase, relocation, and reuse of parcels in highly vulnerable flooding locations in global cities.