

Coastal cities: Preparing for sea level rise and storms

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Cities are emerging as the first responders to climate change, especially cities located on the coasts. The Urban Climate Change Research Network (UCCRN) in its Second Assessment Report on Climate Change and Cities (ARC3.2) projects that cities around the world are facing a range of sea level rise depending on both global and regional factors. Responses presented in select cities in the ARC3.2 Case Study Docking Station include a range of pro-active measures including land-use planning for sustainable infrastructure and large-scale transformative changes to critical systems with accompanying restoration of coastal ecosystems. This presentation highlights current UCCRN ARC3.2 findings regarding sea level rise and coastal flooding, with a focus on New York.

In New York, the shoreline is densely lined by significant economic assets, population, and coastal wetlands vulnerable to sea level rise and coastal flooding. After Hurricane Sandy in 2012, New York City developed a comprehensive plan to reduce and prevent future climate risks, drawing upon the scientific expertise of the New York City Panel on Climate Change (NPCC), a special advisory group comprising university and private-sector experts, city and regional agencies.

Guided by NPCC findings and projections, New York City has embarked on a suite of initiatives to strengthen coastal defenses, employing various approaches tailored to specific neighborhood needs. NPCC continues its collaboration with the city to investigate vulnerability to extreme climate events, including heavy downpours, inland floods and coastal storms. Current research entails higher resolution neighborhood-level coastal flood mapping, exploring changes in storm characteristics, surge height interactions with sea level rise, and developing close connections between stakeholders and community-based organizations.

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