

Research Methods and Design Strategies to Improve Resilience in Coastal and Estuary Cities

Authors : Irene Perez Lopez

Abstract : Delta and estuary cities are spaces constantly evolving, incessantly altered by the ever-changing actions of water transformation. Strategies that incorporate comprehensive and integrated approaches to planning and design with water will play a powerful role in defining new types of flood defense. These strategies will encourage more resilient and active urban environments, allowing for new spatial and functional programs. This abstract presents the undergoing research in Newcastle, the first urbanized delta in New South Wales (Australia), and the region's second-biggest catchment and estuary. The research methodology is organized in three phases: 1) a projective cartography that analyses maps and data across the region's recorded history, identifying past and present constraints, and predicting future conditions. The cartography aids to identify worst-case scenarios, revealing the implications of land reclamation that have not considered the confronting evolution of climate change and its conflicts with inhabitation; 2) the cartographic studies identify the areas under threat and form the basis for further interdisciplinary research, complimented by community consultation, to reduce flood risk and increase urban resilience and livability; 3) a speculative or prospective phase of design with water to generate evidence-based guidelines that strengthen urban resilience of shorelines and flood prone areas.

Keywords : coastal defense, design, urban resilience, mapping

Conference Title : ICAECD 2020 : International Conference on Architectural Engineering and Coastal Defences

Conference Location : San Francisco, United States

Conference Dates : November 02-03, 2020