

ACADEMIC INVESTIGATIONS

ACADEMIC INVESTIGATIONS DESIGN STUDIOS IN ARCHITECTURE + LANDSCAPE ARCHITECTURE | 2011-2014

In 2009, the National Science Foundation ULTRA-Ex Program funded a grant proposal titled "Double Exposures: Socio-ecological Vulnerabilities in the Miami Dade Urban Region". The project engaged numerous disciplines at Florida International University in studying the effects of climate change on our natural and built environment. Beginning in 2011, the departments of architecture and landscape architecture became part of its funded explorations.

Basing their work on inundation maps created at the FIU Southeast Environmental Research Center using LiDAR [Light Detection and Ranging] technology; and with a fundamental understanding of South Florida hydrogeology, students proposed ways to enhance regional resilience. The design approaches employed in student projects can be loosely classified as employing: Hard Infrastructure Strategies: Strategies that rely on technologically sophisticated approaches to a broad range of environmental management problems. Soft Infrastructure Strategies: Strategies that work in concert with natural systems

rather than in opposition to them. Hybrid Strategies: Strategies that combine elements of soft and hard infrastructure solutions for multiple levels of protection and maximum effectiveness.

Completed over three years in graduate seminars and research studios in the Departments of Architecture and Landscape Architecture + Environmental and Urban Design at Florida International University, these projects propose a range of responses to the potential changes that are predicted to accompany sea level rise. Almost without exception, students envisioned the emergence of a higher, more compact, energy independent city with a mixed-use urban core, well-developed multi-modal public transit, decreased automobile dependence, and an expanded public realm in which water and natural ecosystems played a key role as essential elements of a new identity for a resilient city and region.

Studios held during the 2011-2012 and 2012-2013 academic years focused on the Miami River corridor, extending from the mouth of the river at Biscayne Bay, to the South Florida Water

Management District structure at NW 36th Street, near Miami International Airport. Projects completed in the 2013-2014 academic year expanded the study, focusing on Biscayne Bay, and on the barrier island of Miami Beach.

With the help of university and professional consultants, architecture and landscape architecture students proposed a range of strategies for resilient urban development and water management in the face of rising sea levels. Their proposals were presented, in March 2013, as part of *MIAMI BEACH 2100 Design Challenge: A Workshop on Sea Level Rise + Planning for Resilience*, a one-day symposium held at the Florida International University Miami Beach Urban Studios, which convened community and expert discussion on the topic. An exhibition of student projects accompanied the symposium. At scheduled Poster Sessions and throughout the day, guests and panelists discussed and critiqued the developing projects. A representative example of student work on this important topic can be seen here and on the video monitor.

