

CREST CAChE _ Arti Shoreline: Bio-Tile

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Goals

- The objective is to find design solutions for the current erosion problem along the Miami's shoreline to prevent further disintegration of beaches, help mangrove restoration along the coastal area, and create an attractive habitat for different species.
- Using 3D printing technology and material system to design and fabricate a multipurpose manmade shoreline to not only slow down the corrosion on the coastline but also re-attract to habitat marine wildlife in the new modular structure.



Figure 1. Proposed Site at FIU BBC Campus

Research Methodology

- Development of several Parametric design schemes using new software, materials, and fabrication technologies, which have the potential to improve the environmental performance of current systems deployed at the shoreline.
- The project addresses the question of how well the proposed architectural design options are helping to raise awareness of marine and coastal environmental issues among the students attending university or any visitors come and interact with the design landscape.

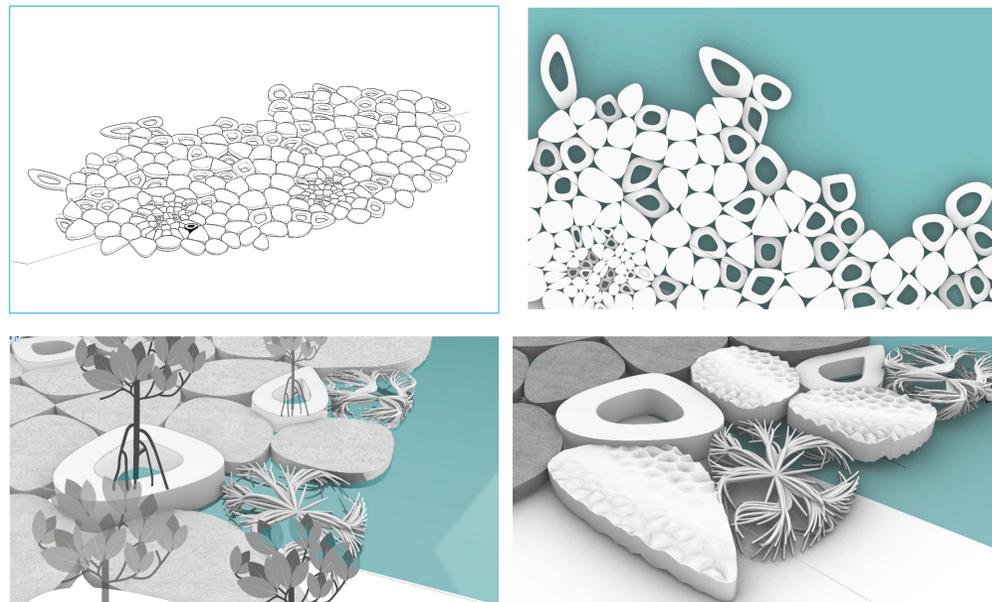


Figure 2,3,4,& 5. Parametric Design using Rhino, Grasshopper plugin

Results

- A series of material and geometrical tests have been conducted in order to discover the possibilities and limitations during the early stage of design.
- The latest samples, is constructed as container that holds mangrove seeds along the shorelines.



Figure 6,7 & 8. Concrete and PLA Tiles at the Shoreline



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