

# Participatory modeling for Jean Lafitte

## Coastal Sustainability Studio | Community Project Proposal

Brendan Harmon

baharmon@lsu.edu

**Project description** I propose running a participatory modeling studio with the 3rd year graduate landscape architecture class to collaboratively model and visualize alternative futures for the town of Jean Lafitte in Jefferson Parish, Louisiana. The studio would address the impact of coastal change – of storm surge, flooding, erosion, and land-loss – on Jean Lafitte. In collaboration with Louisiana Sea Grant we would hold a series of participatory workshops in the community. Using geospatial modeling, tangible interaction, and virtual reality the students would work with community members to develop their own plans for adapting to and living with coastal change. As a thesis project another landscape architecture graduate student would use cognitive mapping to study the community's relationship with their environment and the impacts of coastal change. The goal of this studio and research would be to help community members map and document their cultural heritage, model scenarios, and develop and visualize plans for adapting to coastal change, while conserving vernacular heritage. At the end of the studio we will showcase the process and results in a report, exhibition, and website.

**Methods** As research the aim of this project is to study how tangible interfaces for geospatial modeling can be used for participatory modeling, planning, and design. We will use Tangible Landscape – an open source system that interactively

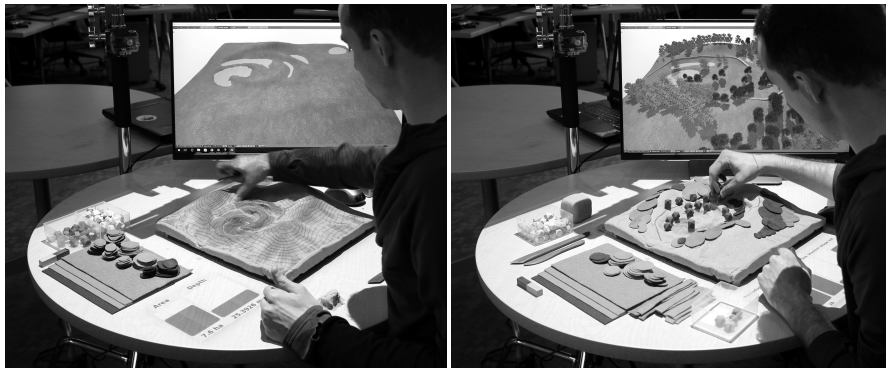


Figure 1: Tangible Landscape: a real-time cycle of 3D scanning, geospatial computation and 3D modeling, and projection and 3D rendering.

couples a physical model and digital model of a landscape in real-time – in participatory modeling workshops so that students and community members can intuitively, collaboratively model new landforms, planting, routes, and structures and see how these change geospatial analyses and simulations like water flow, erosion, and flooding in real-time (Fig. 1). See <http://tangible-landscape.github.io/> to learn more about Tangible Landscape. We will also use digitally fabricated models, 360 degree photography and video, and virtual reality as tools to help the community visualize how their dynamic environment may change. Our objectives are to a) intuitively visualize scientific analyses and models of coastal change, b) engage community stakeholders in modeling and planning through tangible interaction and immersive visualization, and c) develop a case study for participatory modeling with Tangible Landscape.

### Team

Role	Name
PI & Instructor	Brendan Harmon
MLA Thesis Student	Philip Fernberg
Visiting researchers	Anna Petrasova & Payam Tabrizian
Collaborators	Matt Bethel at LA Sea Grant

### Deliverables

Deliverable	Topic
Report for CSS	Participatory modeling for Jean Lafitte
Paper	Participatory modeling with Tangible Landscape
Thesis	Cognitive mapping of Jean Lafitte
Website & video	Record of the participatory process
Exhibition	Showcase the participatory process and its results

### Budget

Category	Item	Cost
Tangible Landscape	Parts & materials	\$1500
Digital fabrication	Materials	\$1300
360 Photography	Ricoh Theta V	\$500
Publication	Report writing & printing	\$1200
Exhibition	Materials & setup	\$500
Travel	Van rental & airfare for visiting researchers	\$1000
	<b>Total</b>	<b>\$6,000</b>