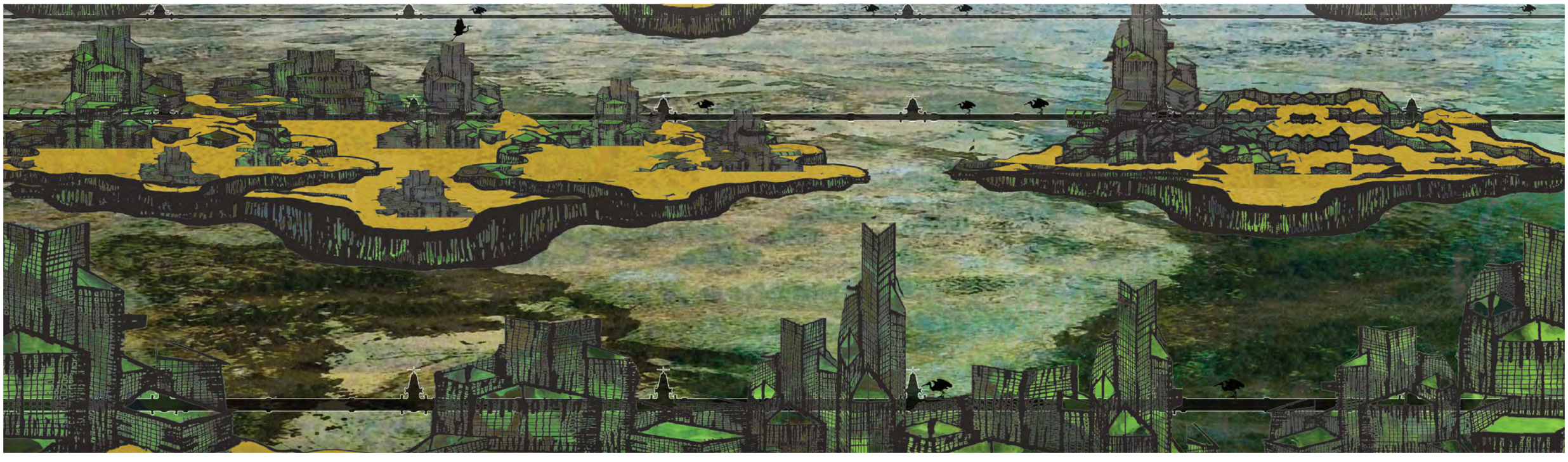

Country / City	**United States / New York**
University / School	**The City College of New York / SSA**
Academic year	**2017-2018**
Title of the project	**BUILDING WASTELAND**
Authors	**Ashleigh Bancel**

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PERFORMATIVE NATURE

Barcelona International Landscape Architecture Biennial

September 2018 Barcelona

SCHOOL PRIZE

X International Landscape Architecture Biennial

Máster d'Arquitectura del Paisatge -DUOT - UPC
ETSAB- Escola Tècnica Superior
d'Arquitectura de Barcelona
Avenida Diagonal, 649 piso 5
08028 Barcelona-Spain

TECHNICAL DOSSIER

Title of the project	BUILDING WASTELAND
Authors	Ashleigh Bancel
Title of the course	Comprehensive Studio
Academic year	S 2018
Teaching Staff	Catherine Seavitt Nordenson / Matthew Seibert
Department/Section/Program of belonging	Graduate Landscape Architecture
University/School	The City College of New York / SSA

Written statement, short description of the project in English, no more than 250 words

To utilize South Florida's extensive canal infrastructure in order to transport and distribute recycled waste down into the Everglades. In turn, this process will build land mass, supply fresh water, and capture carbon. The building of landmass, will help mitigate sea level rise as well as transform the Everglades existing ecology. This transformation will generate a new kind of landscape across the Everglades, the exact outcomes can only be a speculation, but the potential for new life forms and the emergence of productive biodiversity is critical to consider at this age of environmental degradation and uncertainty.

For further information
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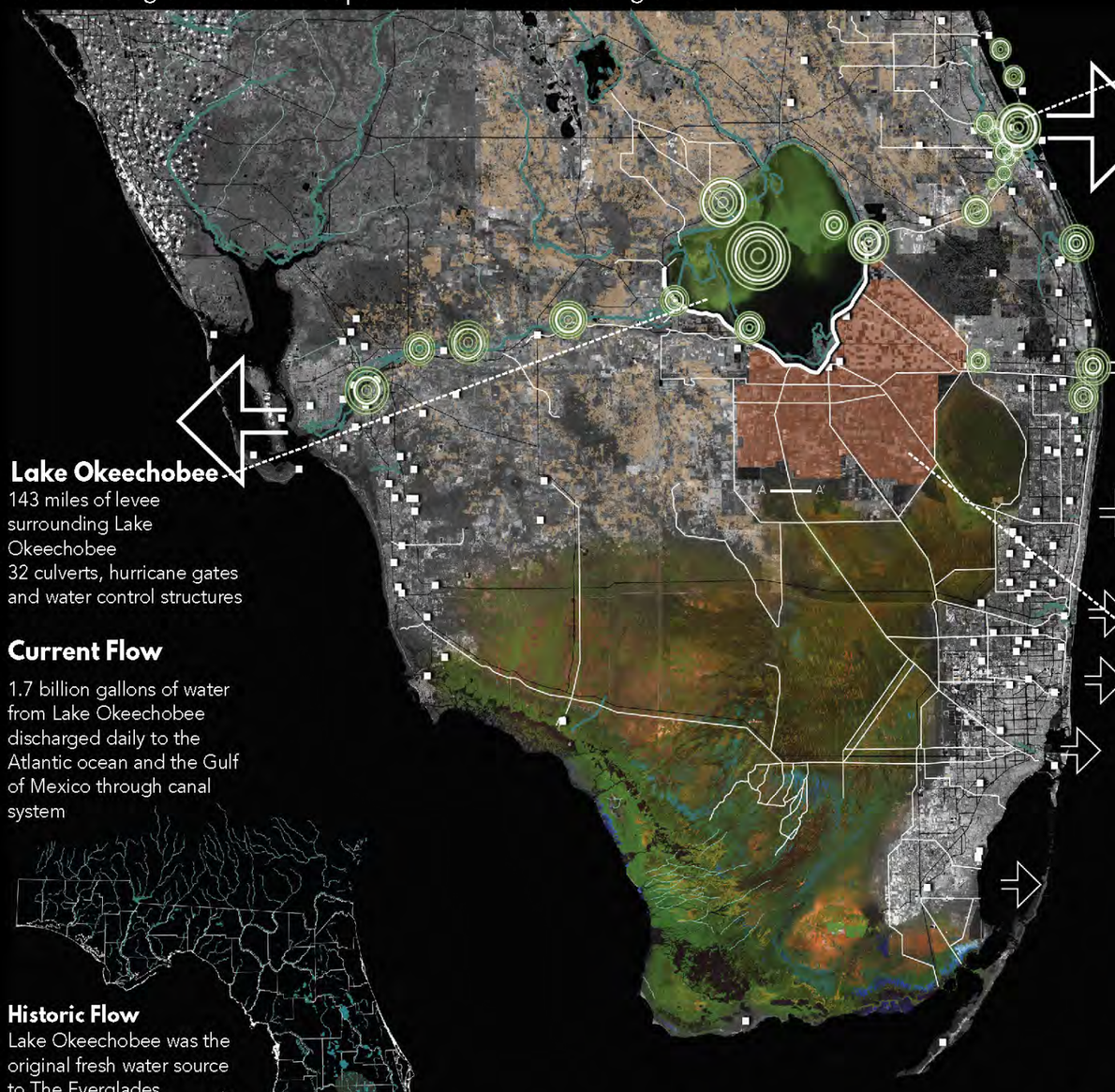
BUILDING WASTE LAND

Terraforming and Carbon Capture in the Florida Everglades



Toxic Algae Blooms

Phosphorous contributors to Lake Okeechobee:

Cattle Ranches
Dairy Farming
Biosolids and Fertilizer

Confirmed Algae Bloom (2016)
Toxic Algae: Concentrations above 10 micrograms per liter (mpl)
(Source: Florida Department of Environmental Protection)

400 mpl
300 mpl
200 mpl
100 mpl
50 mpl
25 mpl

Lake Okeechobee

143 miles of levee surrounding Lake Okeechobee
32 culverts, hurricane gates and water control structures

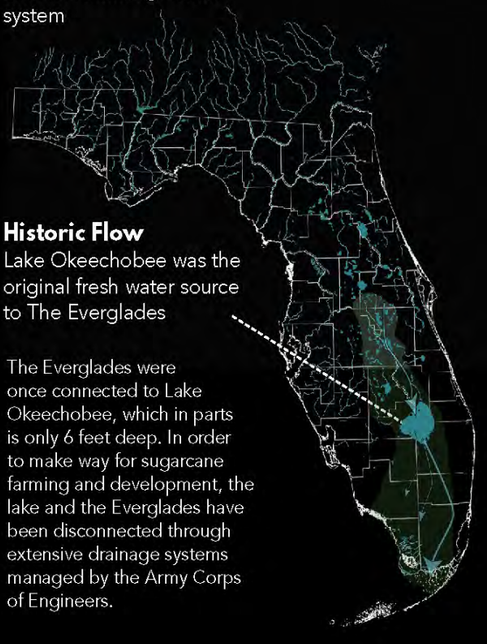
Current Flow

1.7 billion gallons of water from Lake Okeechobee discharged daily to the Atlantic ocean and the Gulf of Mexico through canal system

Sugarcane

450,00 acres of reclaimed wetland
Florida's second biggest economy
Barrier between Lake Okeechobee and The Everglades

Herbert Hoover Dike
Canals
Pasture-land
Sugarcane
Sewage Treatment Plants



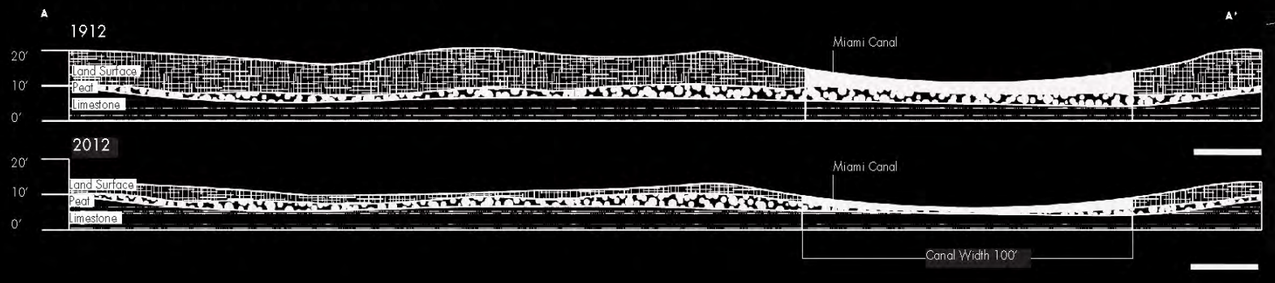
Historic Flow

Lake Okeechobee was the original fresh water source to The Everglades

The Everglades were once connected to Lake Okeechobee, which in parts is only 6 feet deep. In order to make way for sugarcane farming and development, the lake and the Everglades have been disconnected through extensive drainage systems managed by the Army Corps of Engineers.

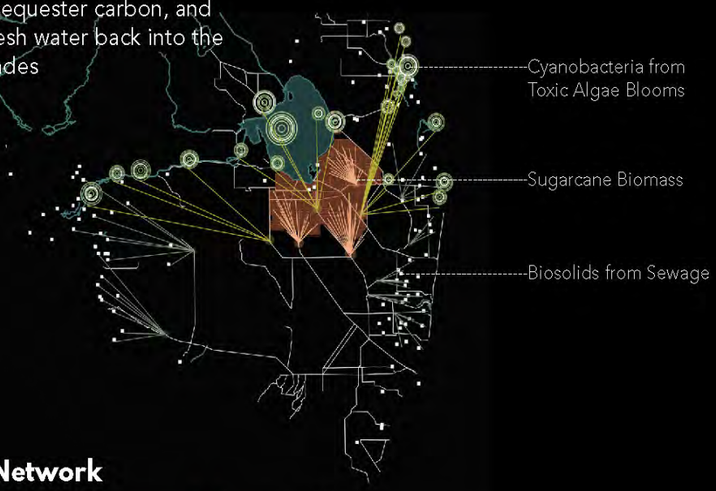
0 30 60 Miles

Land Subsidence Due to Drainage



Creating Waste Networks:

Transporting and distributing reusable waste to build land mass, sequester carbon, and filter fresh water back into the Everglades



Pipe Network

Utilizing the existing canal infrastructure to pipeline waste material

Filtration System

Containers placed along pipelines to hold and filter waste material

10

Peat Building Overtime

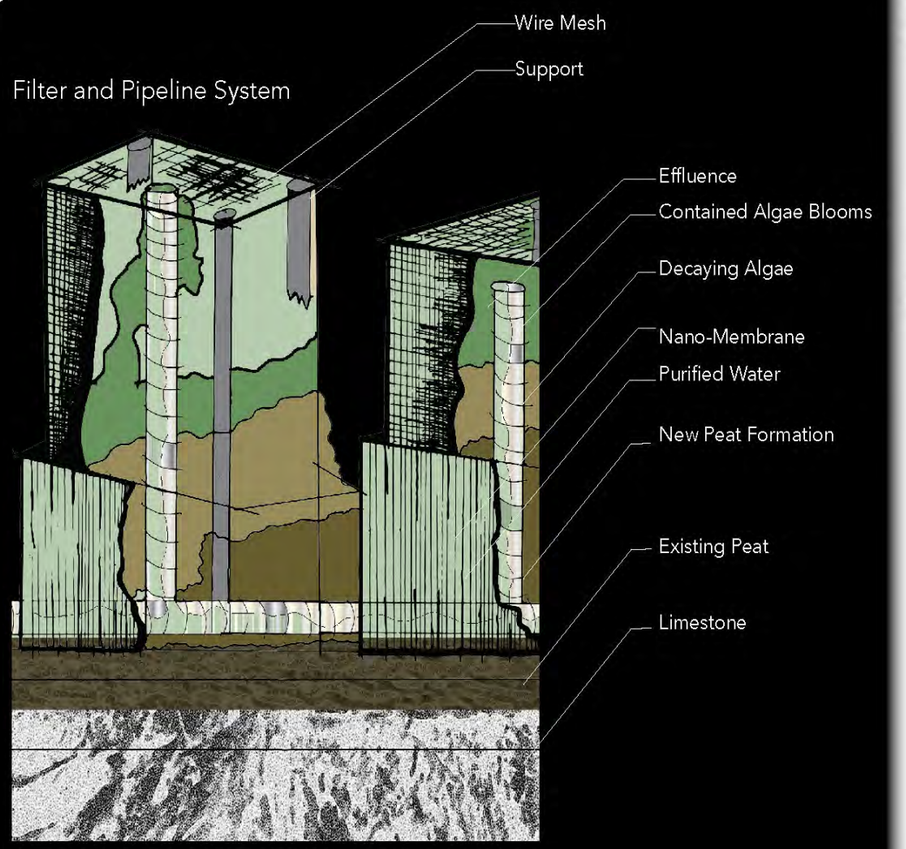
Forming Land Mass Through Filtration Network

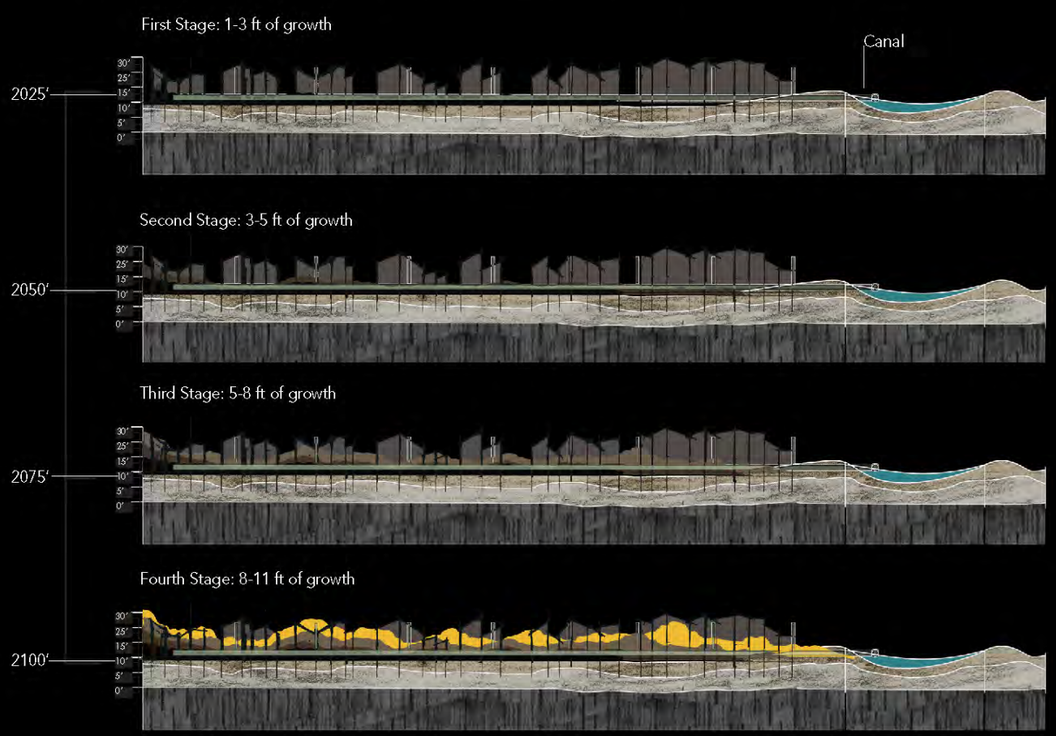
Using existing infrastructure i.e, Army Corps of Engineers maintain canals used to manage water and run-off in and around Lake Okeechobee. It is possible to transport and then sequester the bio material that has been burning and flushing for hundreds of years. This material can provide both carbon capture and increase land mass.

Types of usable waste in Florida:
a) Bio Solids (sewage)
b) Micro Algae (from toxic Algae blooms occurring within Lake Okeechobee)
c) Sugar Cane Biomass (400,000 acres a year of sugarcane excess is burned)

In each case- filtration and sequestration methodologies may vary, but the core concept remains. To deploy containments structures to store and over time terraform new land mass. As well as restore fresh water back into the everglades, that will ultimately prevent furthering land subsidence.

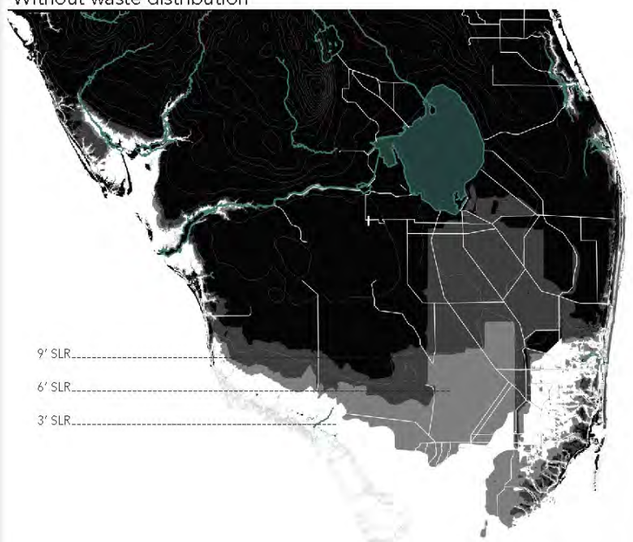
Filter and Pipeline System



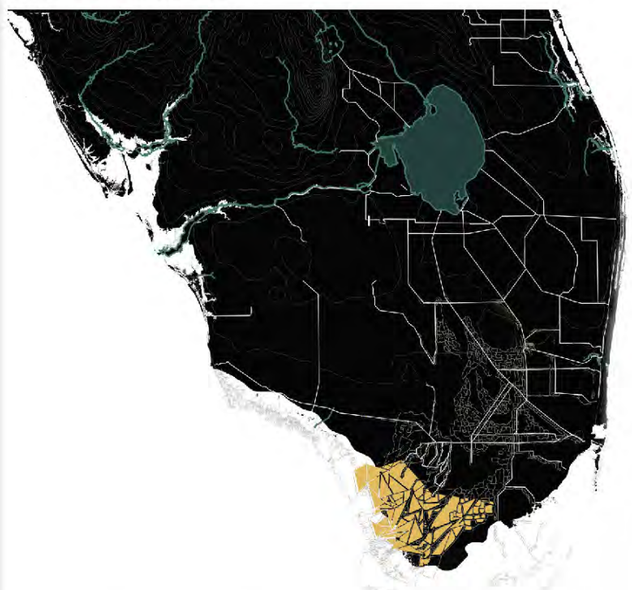


Using Waste Network to Mitigate Sea Level Rise

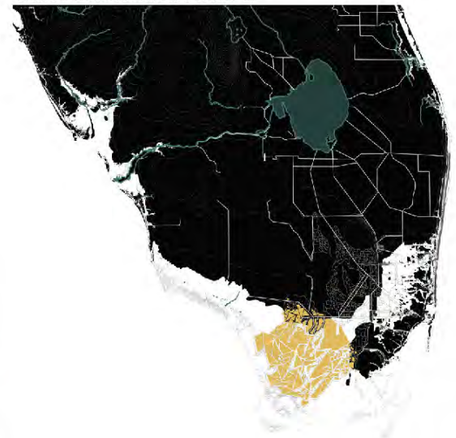
Projected Sea Level Rise
Without waste distribution



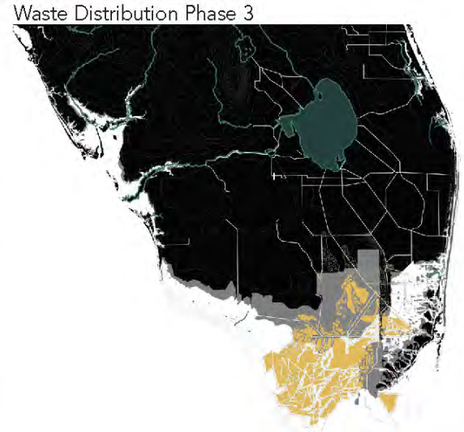
1' Sea Level Rise
Waste Distribution Phase 1



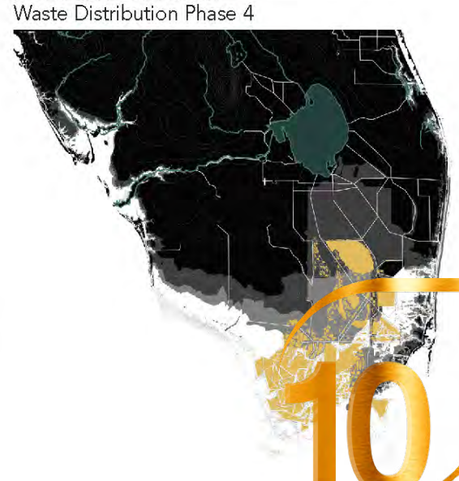
3' Sea Level Rise
Waste Distribution Phase 2



6' Sea Level Rise
Waste Distribution Phase 3



9' Sea Level Rise
Waste Distribution Phase 4



The Everglades Year 2100

Mitigating Sea Level Rise, Capturing Carbon, Filtering Fresh Water Back into The Everglades

Mitigating Sea Level Rise through the simultaneous distribution of waste material, grown into tall contained structures that allow for cyclical benefits of decomposed algae and plant matter.

This is a section cut representing an area most vulnerable to sea level rise . The bright yellow portrays the peat like substance and its growth. Distribution to the most vulnreable areas occur first, thus allowing peat to build simultaneously to rising sea levels.