Oct 27th, 1:00 PM - 1:15 PM

Challenge 2: Community Resilience in Dania Beach

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Challenge 2: Community Resilience

DANIA BEACH

Resilient Redesign Workshop

- Models of resilience for redevelopment

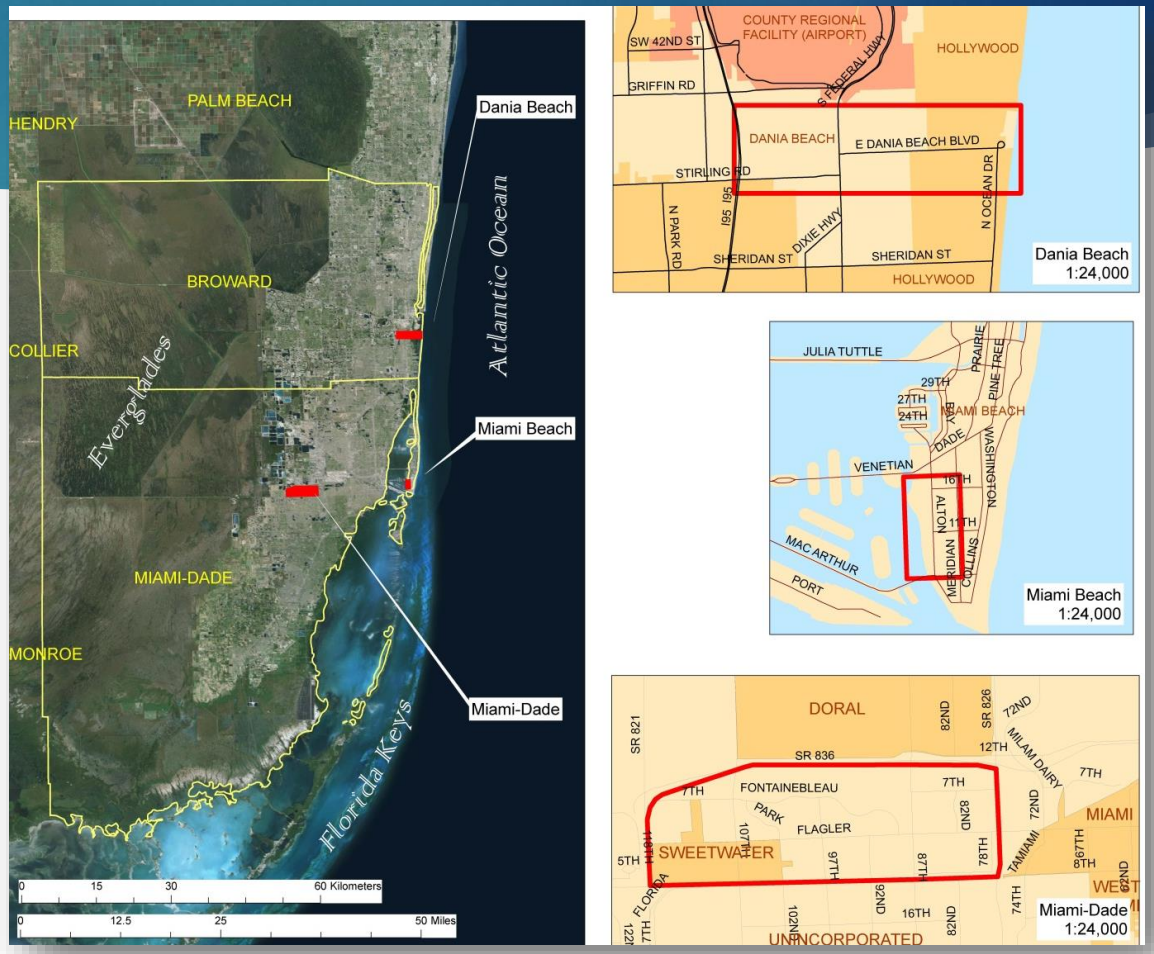
SOUTHEAST FLORIDA REGIONAL COMPACT CLIMATE CHANGE

Kingdom of the Netherlands

AIA Miami
A Chapter of The American Institute of Architects

Study Areas

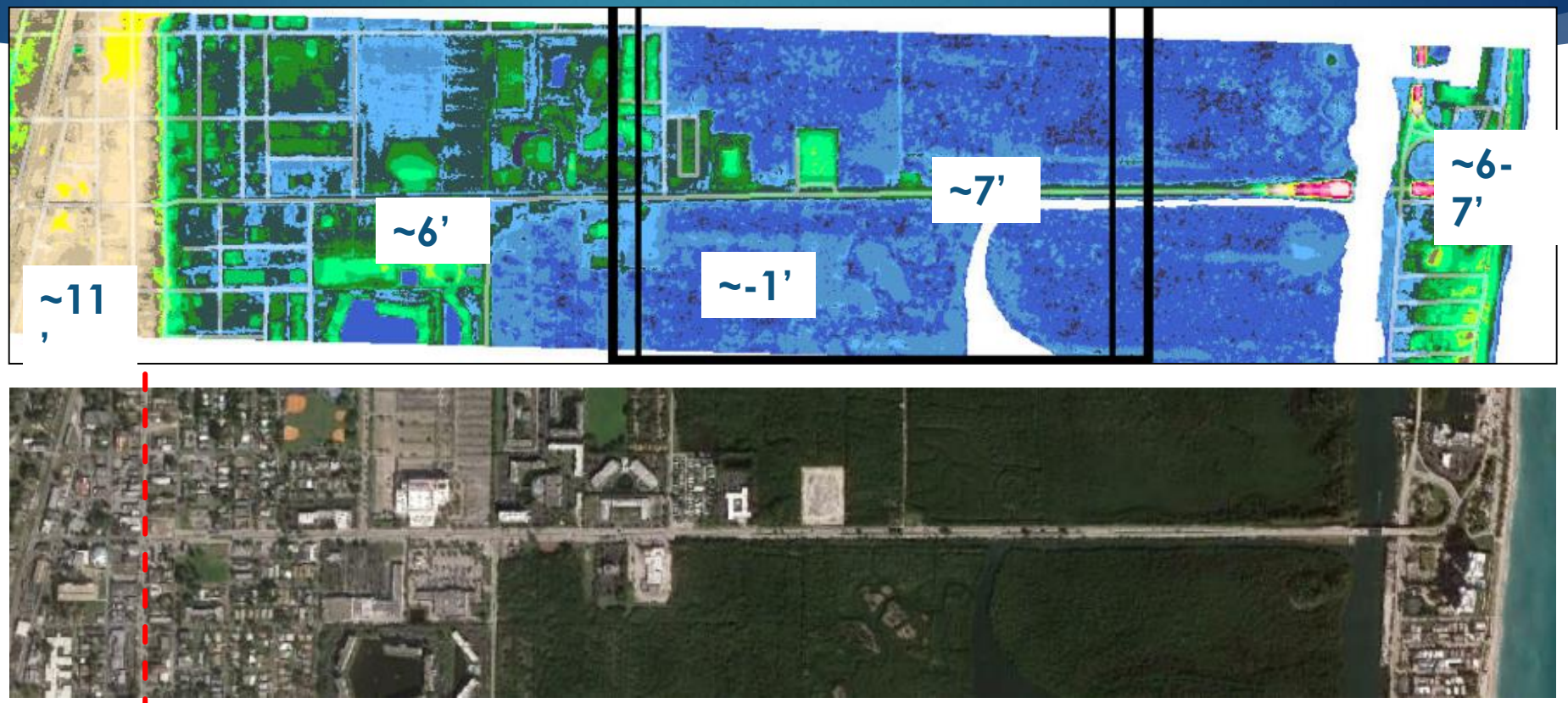
- Urban: Dania Beach Blvd
- Dense Urban: South Beach
- Suburban: West Dade



Design Questions

- Design a resilient community that responds to:
  - Climate Change
  - Disasters
  - Resource or area constraints
  - Increased pressures
  - Community Transitions

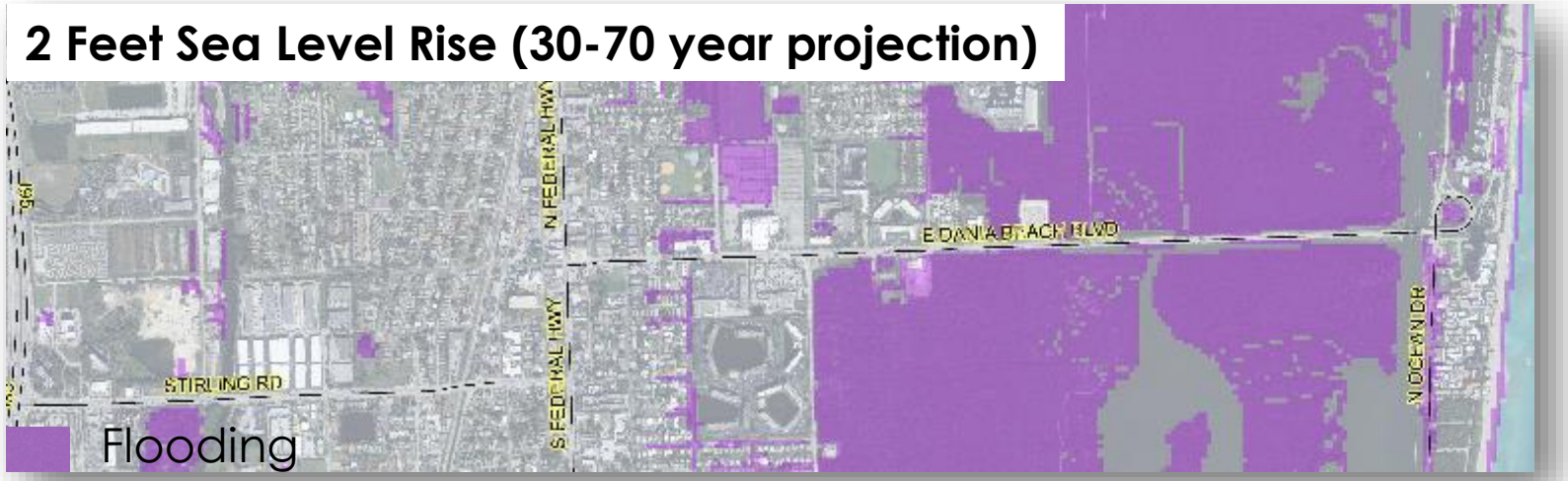
Site Topography



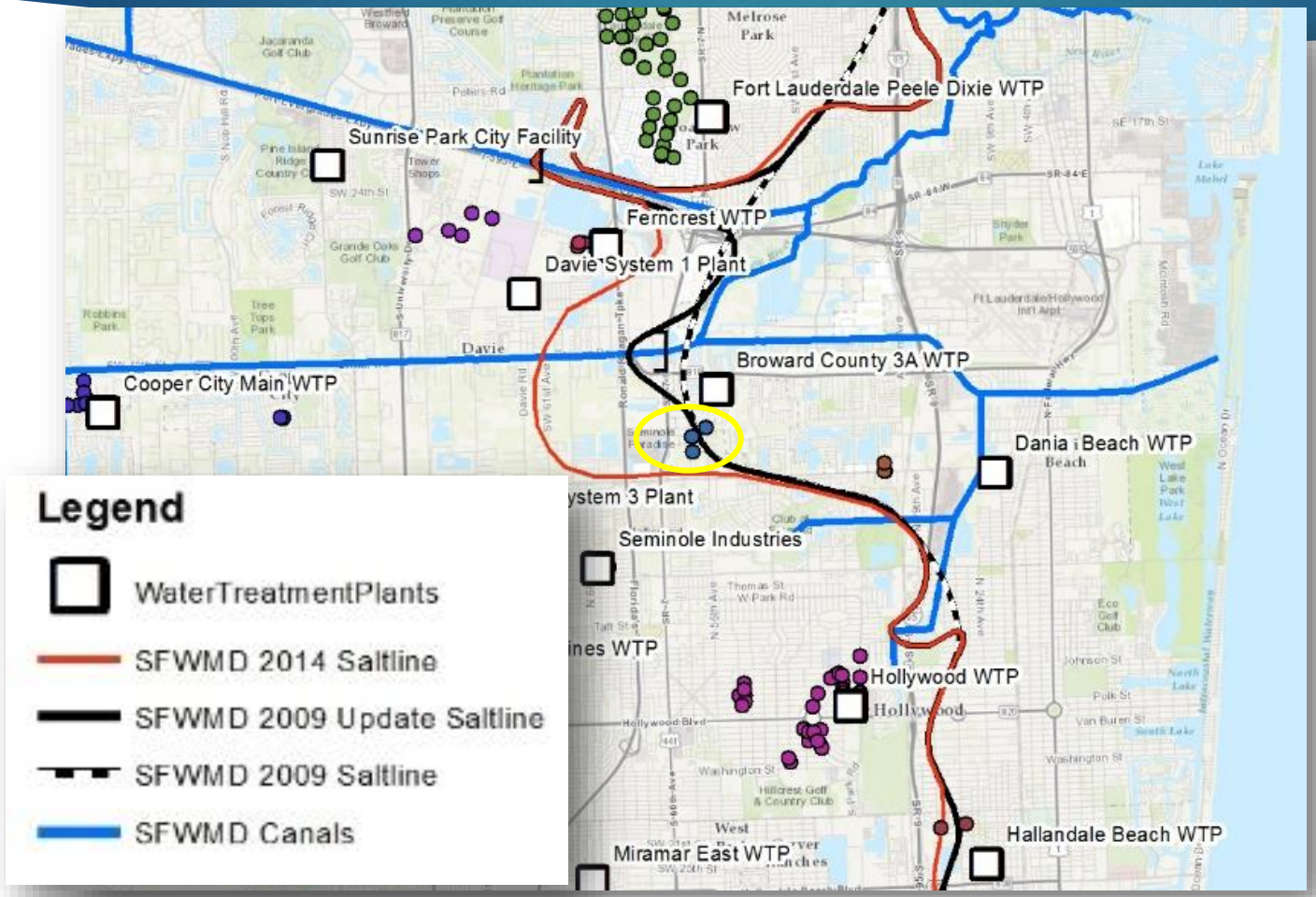
Sea Level Rise

- Critical infrastructure at risk
  - CRA, parks, school
  - Evacuation routes

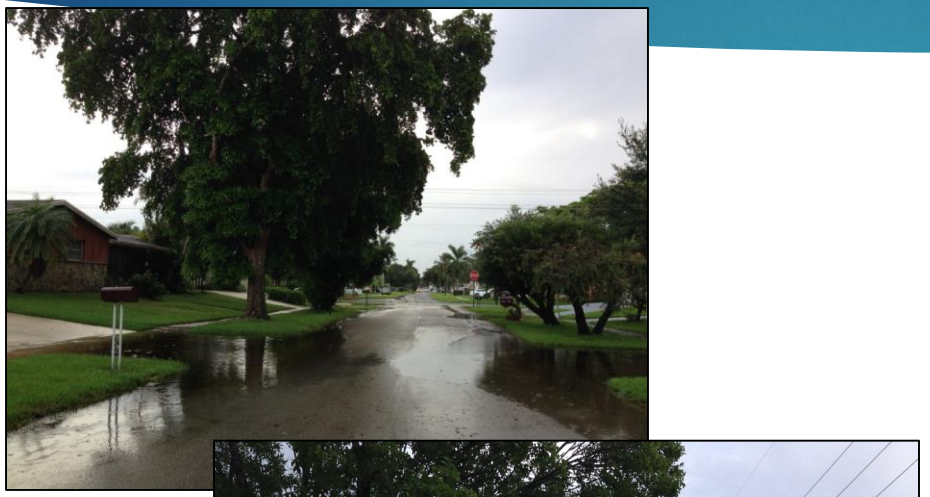
2 Feet Sea Level Rise (30-70 year projection)



Saltwater Intrusion

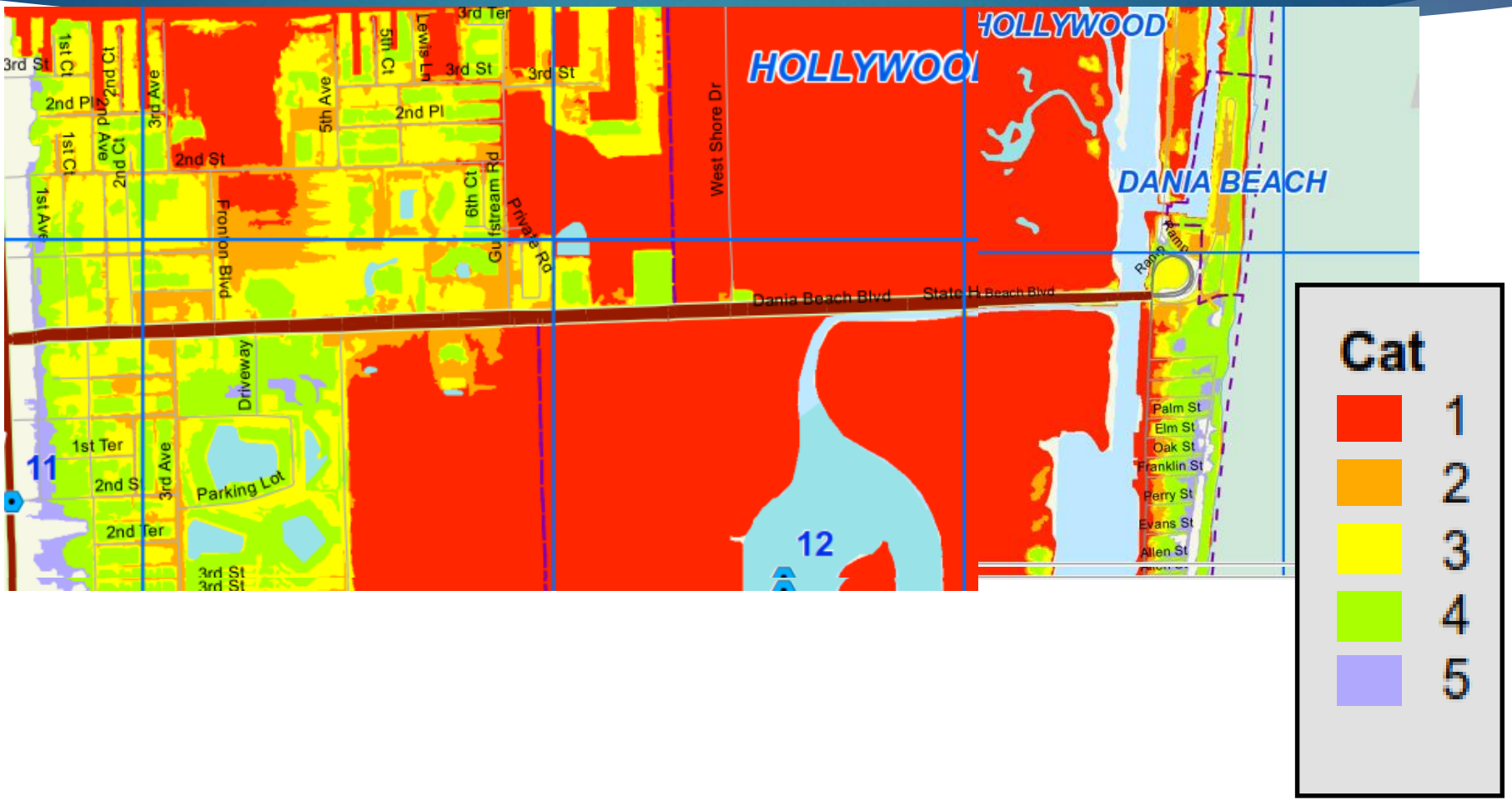


Drainage



- Limited piping
- 15 gravity wells with limited capacity
- Limited connections to Intracoastal
- Groundwater levels rise = sea level rise, reduced in-ground storage

Storm Surge


HOLLYWOOD
DANIA BEACH
Dania Beach Blvd
West Shore Dr
Gulfstream Rd
Private Rd
Fronton Blvd
Driveway
Parking Lot
3rd Ave
5th Ave
5th Ct
6th Ct
Lewis Ln
1st Ct
2nd Ct
2nd Pl
2nd St
3rd St
3rd Ter
1st Ter
2nd Ter
1st Ave
2nd Ave
Ramp
Palm St
Elm St
Oak St
Franklin St
Perry St
Evans St
Allen St
11
12
Cat
1
2
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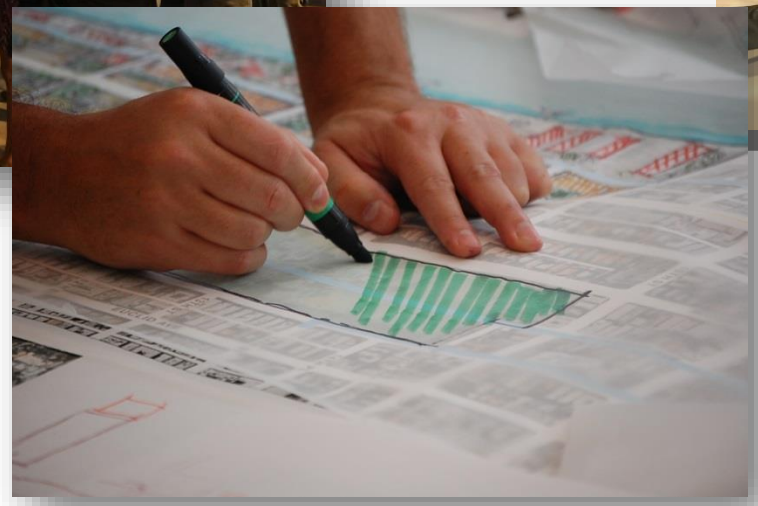
4
5

Working Group Sessions



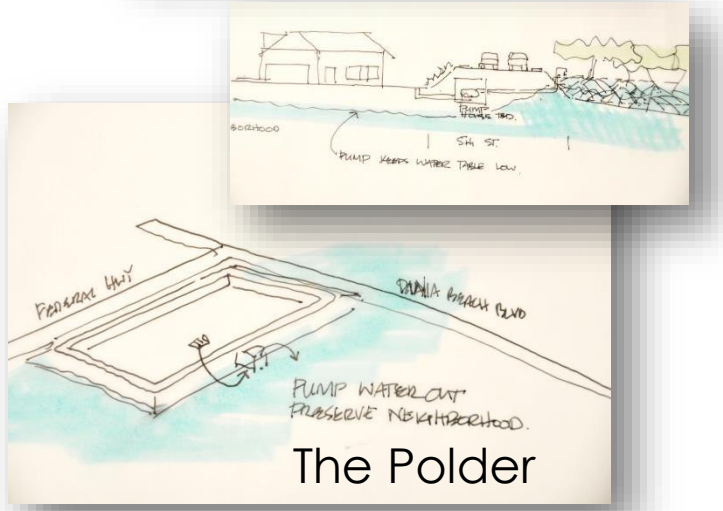
Team Focus

- Underutilized assets & economic opportunities
  - Natural infrastructure (beach and wetlands)
  - Airport (new runway)
  - Rail passenger transport
  - Port expansion
  - Population growth (40%)
- Flood hazards
  - SLR, surge, rainfall
- Limited infrastructure resilience
- Retain neighborhood and historic character

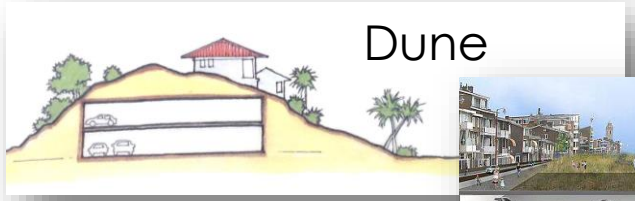
Design Concept Summary

- Distributed water storage
- Interconnectivity/ access to nature
- City center on coastal ridge
- Multi-purpose natural infrastructure/ restoration
- Isolate/ active water management: polders
- Dune (barrier island) enhancement with underground parking


City Center



The Polder


Dune

Building Momentum

Compact Resilient Redesign

August 2014

Joint City-County Meeting

October

EPA RESES Grant Award

December

SSB: Food Systems

2015

Metropole Project: Coast Model

EPA Stakeholder Workshop

September

Socio-economic Resilience

- Sustainability Stewards in Dania Beach
  - Food Systems Planning & Food Rescue
    - Food Deserts
    - Growing food locally
    - Planning inspiration

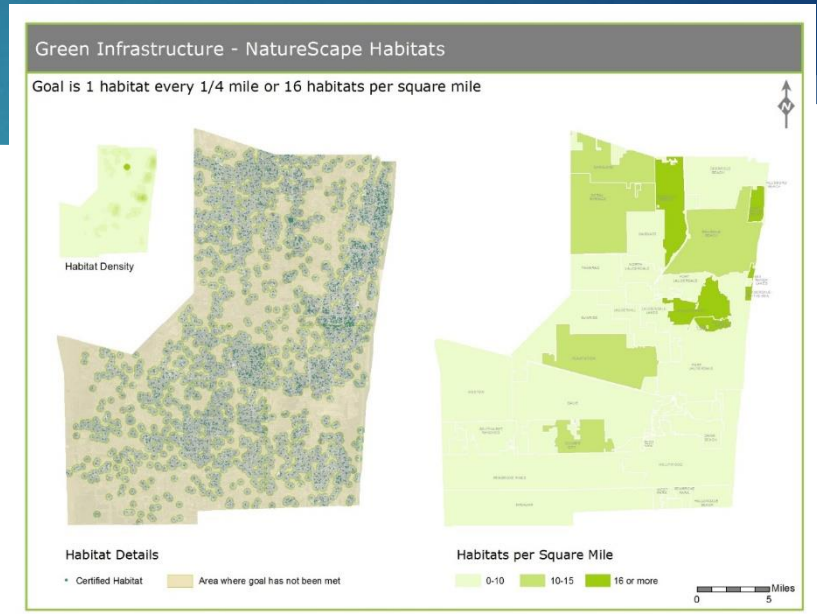
Infrastructure Resilience

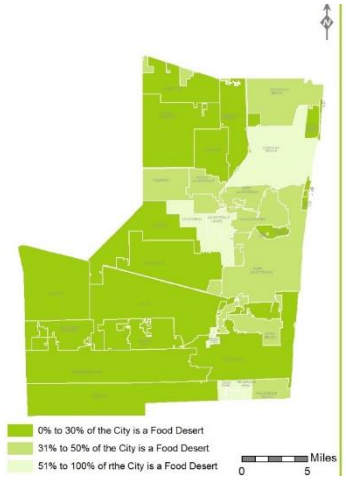
- Metropole Project: Coast Model
  - Cumulative Damage ($)
    - Surge
    - Tidal flooding
    - Sea level rise

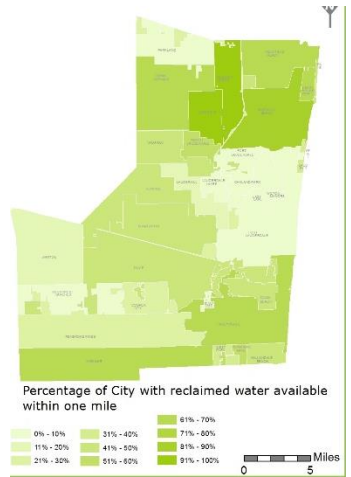
- Benefit Cost Ratios (not verified)
  - Elevation & Floodproofing: 11-31
  - Relocation: <0.6

Natural Resource Resilience

- Green Infrastructure Analysis
  - Dania Beach
    - Food Deserts 30-51%
    - >85% within ½ mile of park
    - <10 habitats per square mile
    - Sea turtle lighting intensity <-8 GiZ
    - Tree Canopy: 20-39%
    - Dune Vegetation >80%
    - Water Reuse <9%







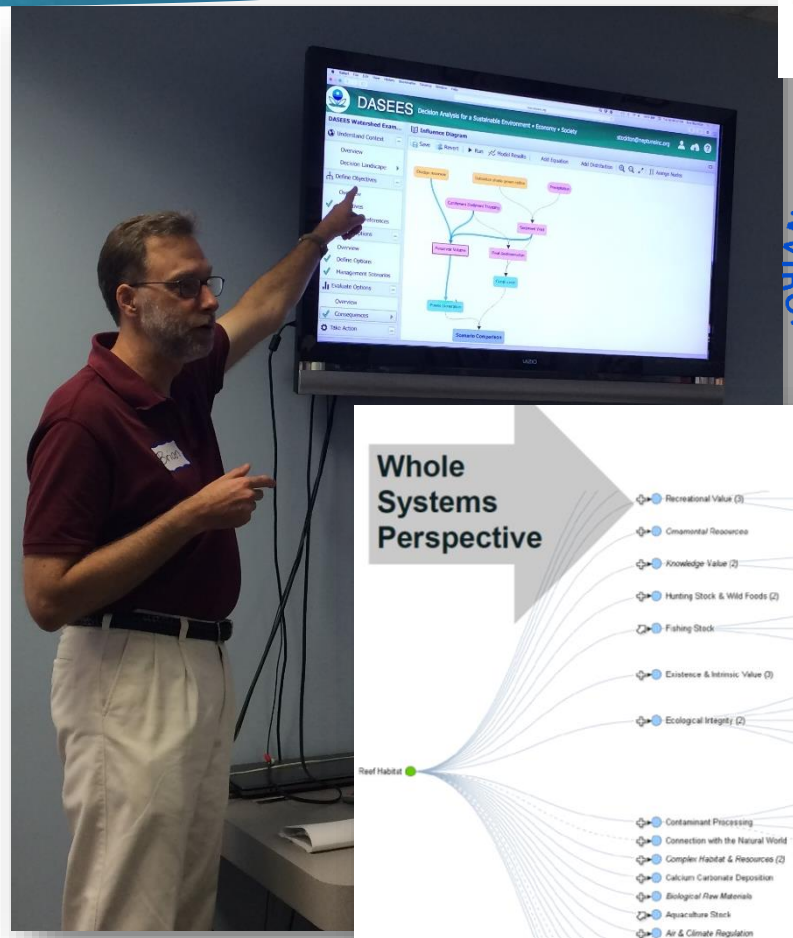
Advancements in Resiliency

- Policy
  - Zoning code, 1' above BFE
- Planning
  - Land Use Plan- Priority Planning Areas, AAA
  - City Beach Management Plan
- Projects
  - Culverts in West Lake
  - Complete Streets- Dania Beach Blvd
  - Stormwater Improvements
  - Sand Bypass

Resilience Decision-making Tool

- Structured Decision Making
  - DASEES

- Societal needs, community, equality
- Property values, affordability
- Quantify how long feasible
- Preserve development options
- Health, infrastructure, ecosystems



Challenge #2: Community Resilience

- Resources:
  - Socioeconomics- Census
  - Property Values
  - Risk layers
  - Development Age
  - Infrastructure Plans
  - LiDAR
- Needs:
  - Identify the most critical threats to human health and safety
  - Identify critical needs and strategies for addressing problems
  - Modeling strategies for decision-making tool (RESES grant- DASEES)
  - Integrating resilience by taking advantage of economic opportunities