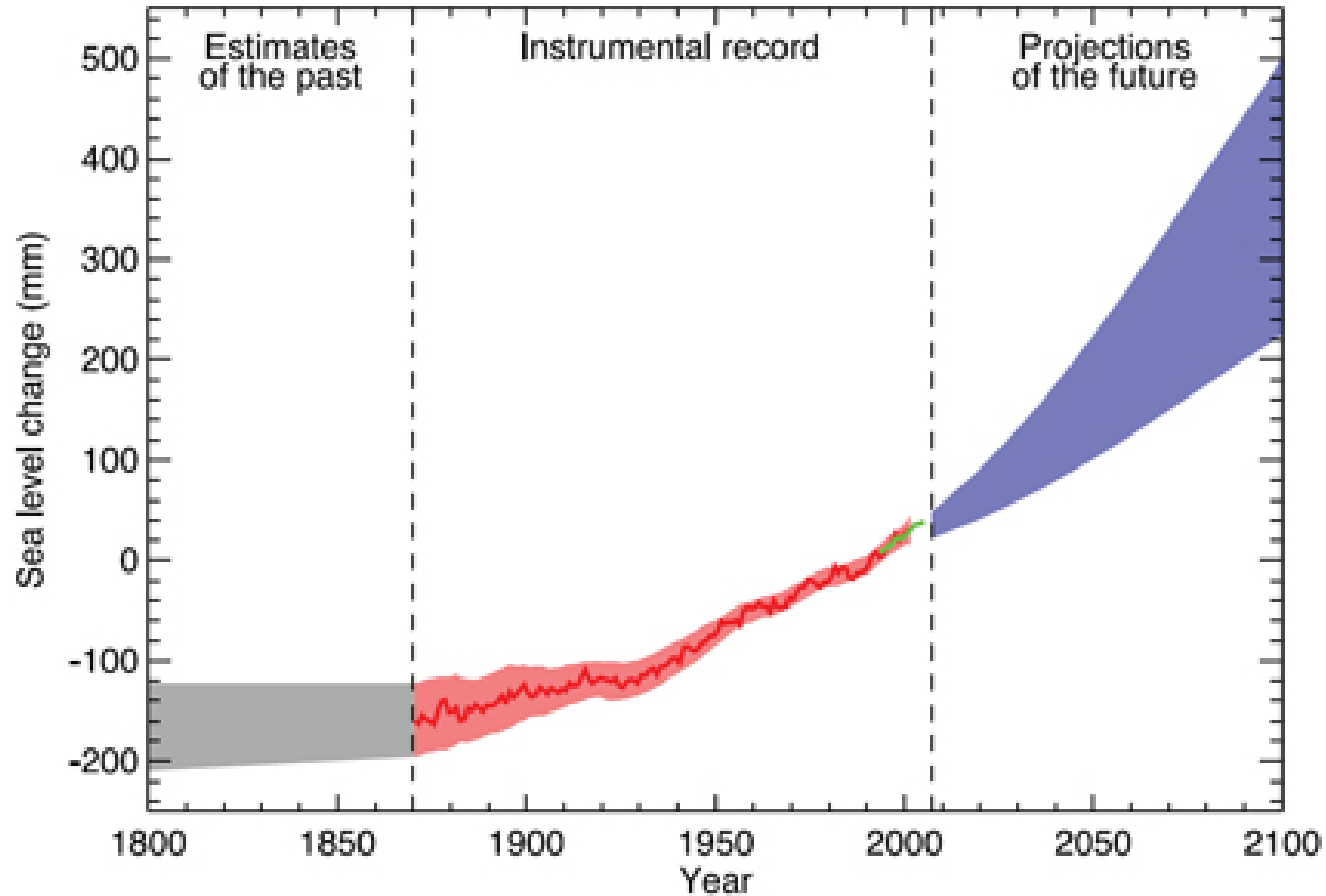


Planning for Sea Level Rise in Florida

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College of Design, Construction and Planning
University of Florida

February 28, 2012

Sea Level Rise Projections



Some planning initiatives consider up to 2.5 m by 2100

Source: IPCC, 2007

Potential Impacts of Sea Level Rise

- More frequent inundation at high tides
- Higher storm surge
- Higher water table and saltwater intrusion
- Increased flooding (lack of drainage)
- Greater coastal erosion
- Vegetation changes (affect storm buffering)
 - The Nature Conservancy video:
<http://blog.nature.org/2011/07/nature-brains-the-race-against-sea-level-rise/>

Sea Level Rise Planning

- Prominent cases across Florida - examples
 - South Florida (Miami-Dade, Broward, Palm Beach, Monroe)
 - Tampa Bay region
 - Collier County
 - Charlotte Harbor and Estuary, City of Punta Gorda
 - Satellite Beach, Cape Canaveral (Volusia County)
 - Lower and upper Big Bend



Sea Level Rise Planning

- Projects for which I am Principal Investigator
 - Levy County
 - Florida Sea Grant
 - Two years
 - Matanzas Basin
 - National Estuarine Research Reserve Science Collaborative
 - Guana Tolomato Matanzas NERR
 - Three years



Project Goals

- Initiate community conversations about sea level rise
- Provide basic locally relevant information about potential impacts of sea level rise and options for adaptation

University-Community Partnership

**Sea Level
Rise
Project**



**Local
Group or
Initiative**

Levy County Project



Rural Planning for Sea Level Rise
Goal: Initiate planning

Project Management

Fundamental Research

Literature Review

Research Questions

Evaluation

Transferable Planning Process

Big Bend Conditions and Needs
 Big Bend Steering Committee

Planning Process Optimization and Transferability

Project Transfer to Big Bend

Levy County Pilot Study

Technical Analyses
 Conduct vulnerability assessments, and conservation design

Background, Visualization and Communication
 Conduct background info, visualization and communication tools

Collaboration
 Facilitate Levy Co steering committee, public workshops, media

Future Planning and Policymaking
 Conduct conflict and readiness assessments, strategies toolbox, plan to plan

F, L, Reiss

All

F, Reiss

L

F

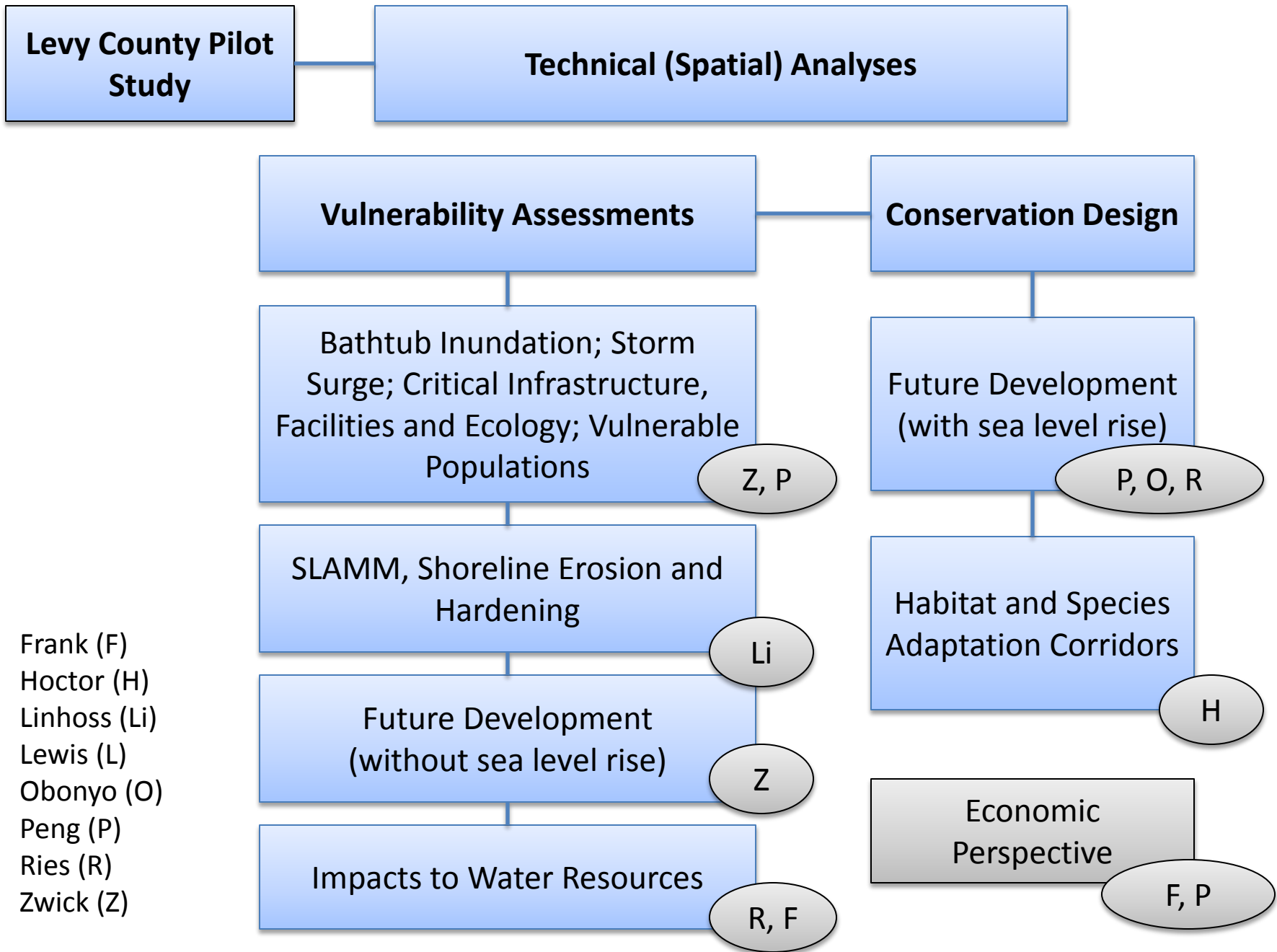
Next pg

F, G, J, L

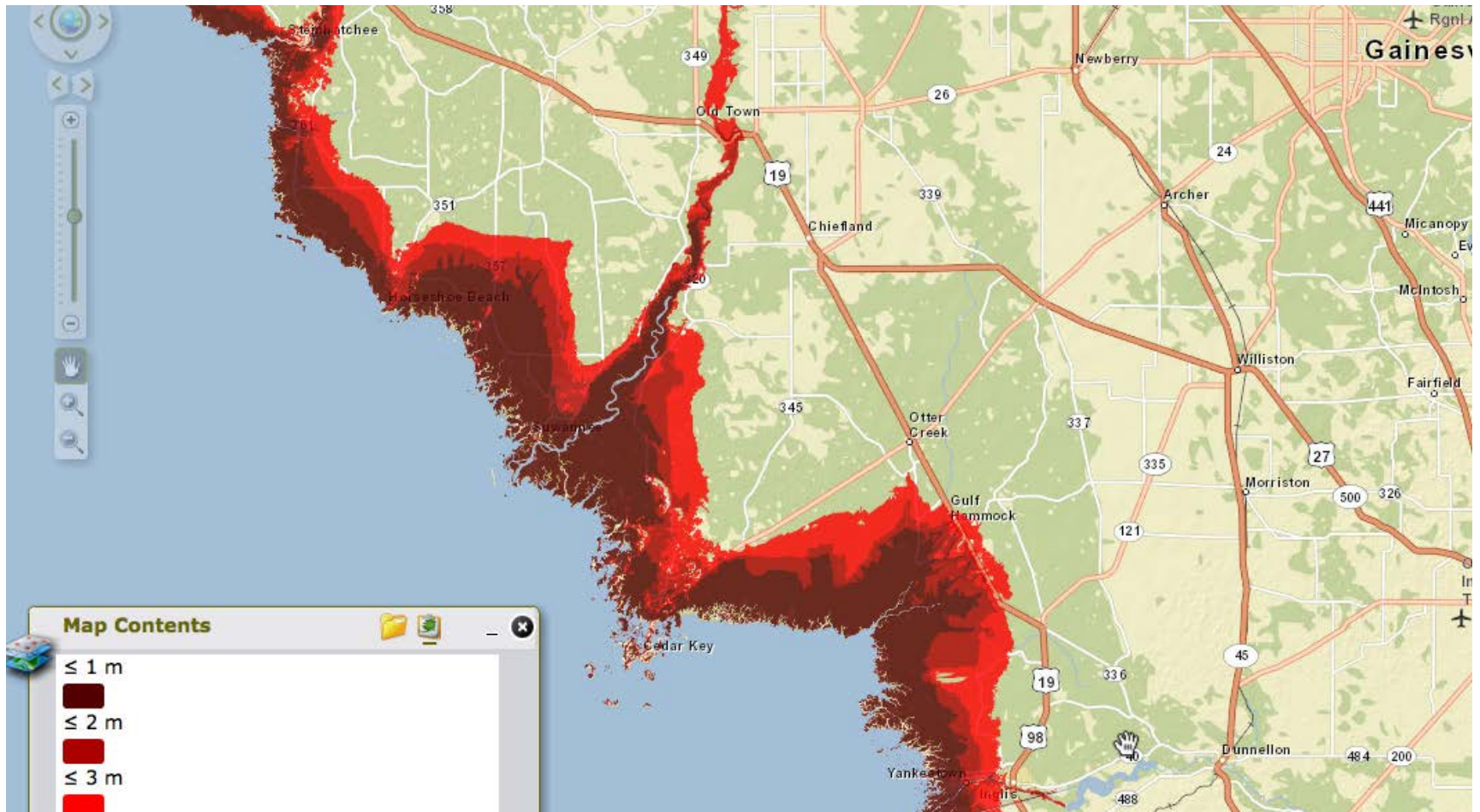
J, E, L

F, J, Ru, O, R, P

- Easley (E)
- Frank (F)
- Grist (G)
- Jourdan (J)
- Lewis (L)
- Obonyo (O)
- Ries (R)
- Ruppert (Ru)

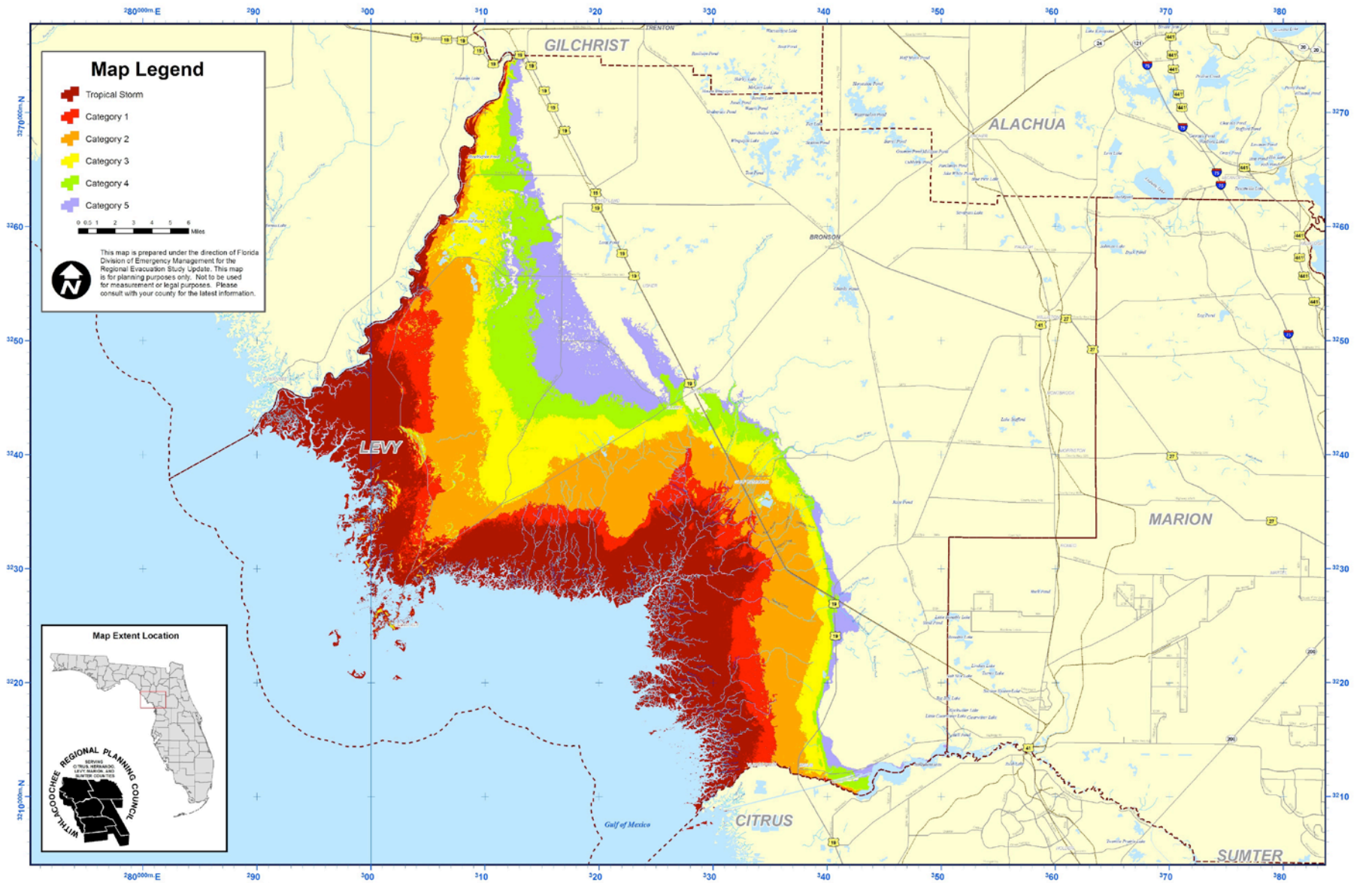


Bathtub Inundation



<http://climategem.geo.arizona.edu/slr/us48prvi/index.html>

Levy County Surge Zones



Map Legend

- Tropical Storm
- Category 1
- Category 2
- Category 3
- Category 4
- Category 5

0 0.5 1 2 3 4 5 6 Miles



This map is prepared under the direction of Florida Division of Emergency Management for the Regional Evacuation Study Update. This map is for planning purposes only. Not to be used for measurement or legal purposes. Please consult with your county for the latest information.

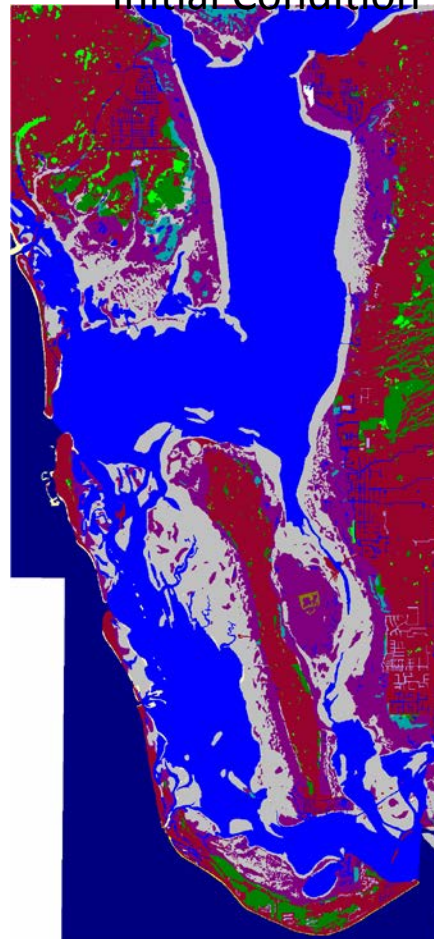
Map Extent Location



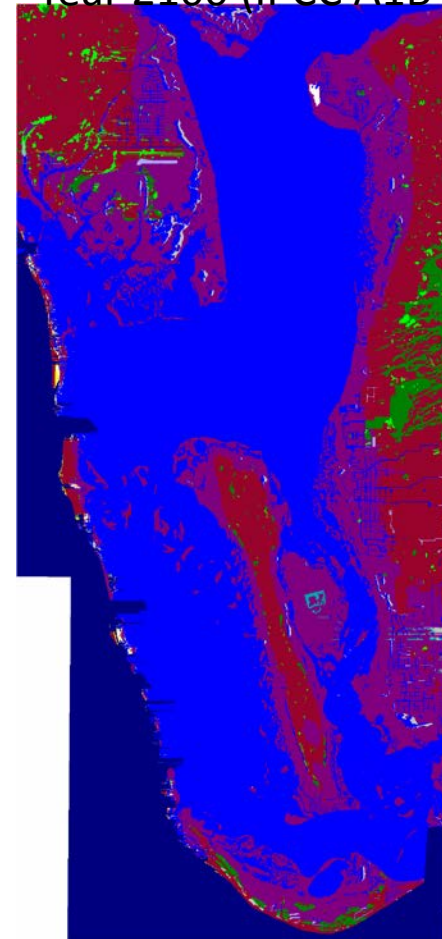
Vegetation Change - Sea Level Affecting Marshes Model (SLAMM)

Charlotte, FL

Initial Condition

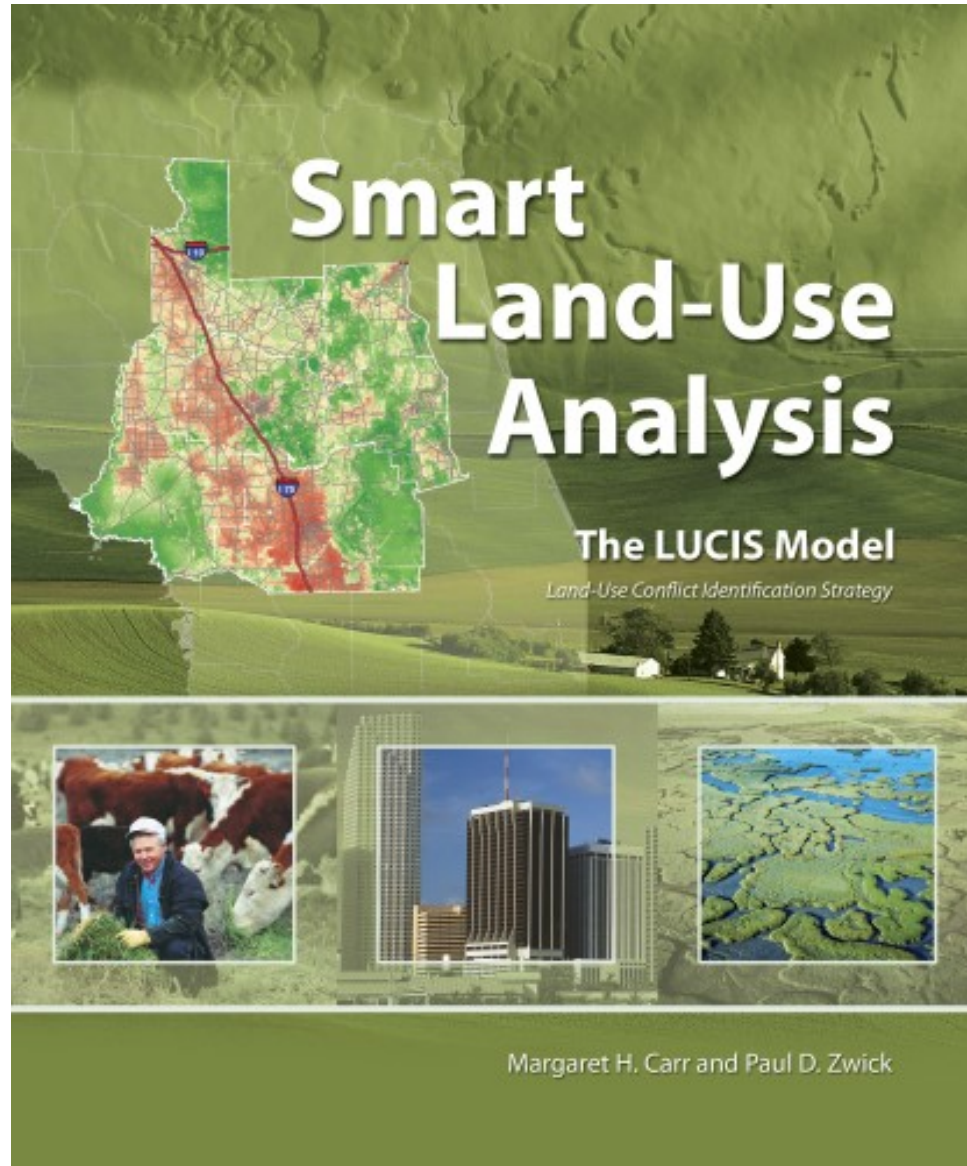


Year 2100 (IPCC A1B Mean)

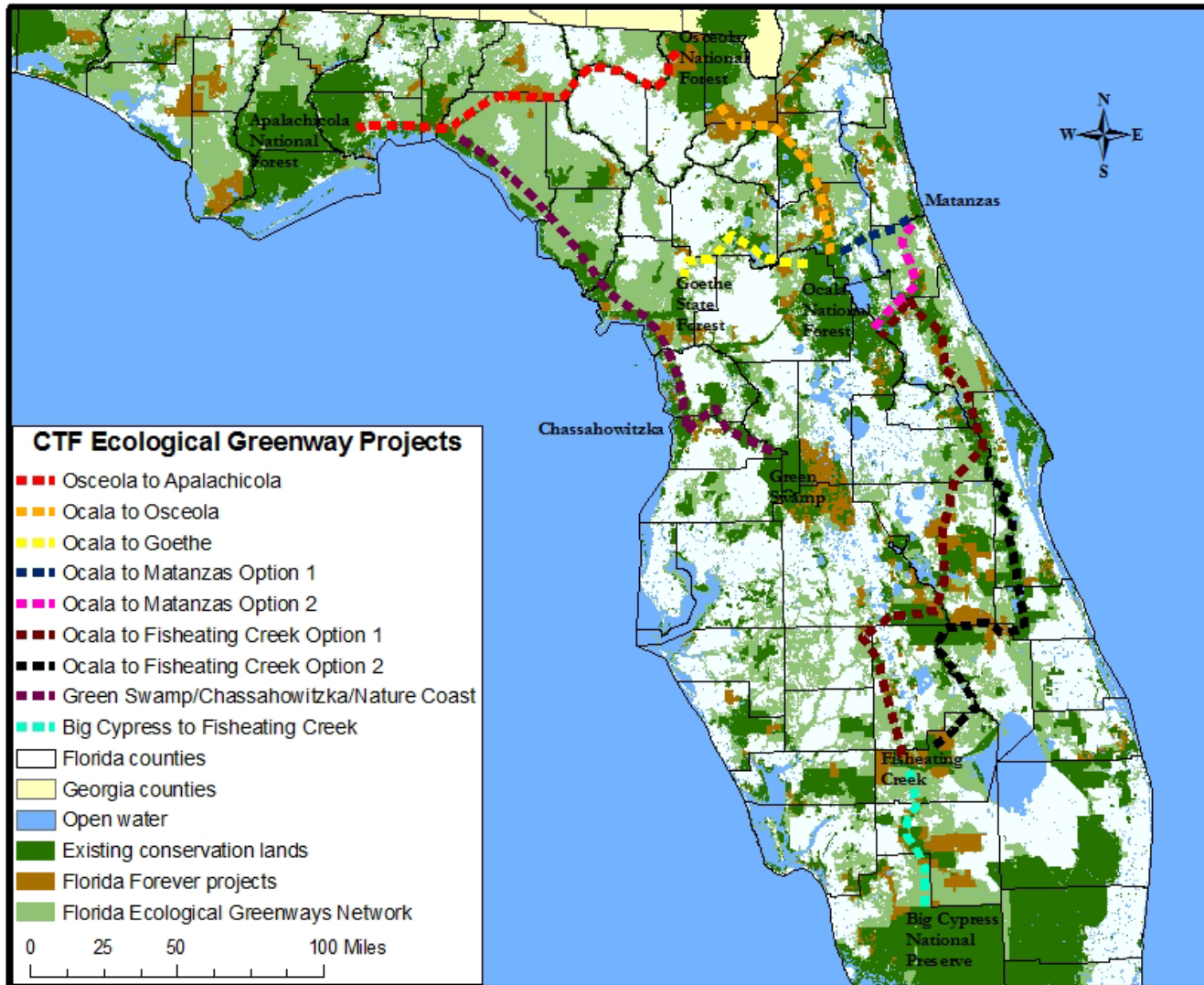


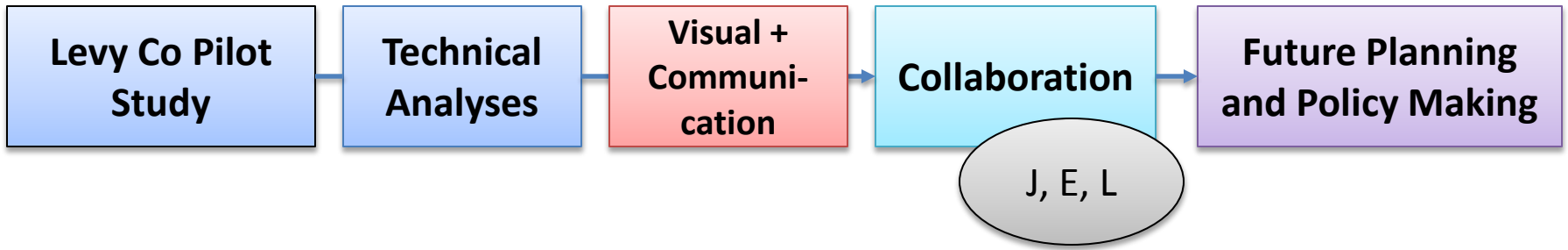
Legend	
Dev. Dry Land	
Undev. Dry Land	
Hardwood Swamp	
Cypress Swamp	
Inland Fresh Marsh	
Tidal Fresh Marsh	
Transitional Salt Marsh	
Saltmarsh	
Mangrove	
Estuarine Beach	
Tidal Flat	
Ocean Beach	
Ocean Flat	
Rocky Intertidal	
Inland Open Water	
Riverine Tidal	
Estuarine Open Water	
Tidal Creek	
Open Ocean	
Blank	

Future Development



Habitat and Species Migration Corridor Design

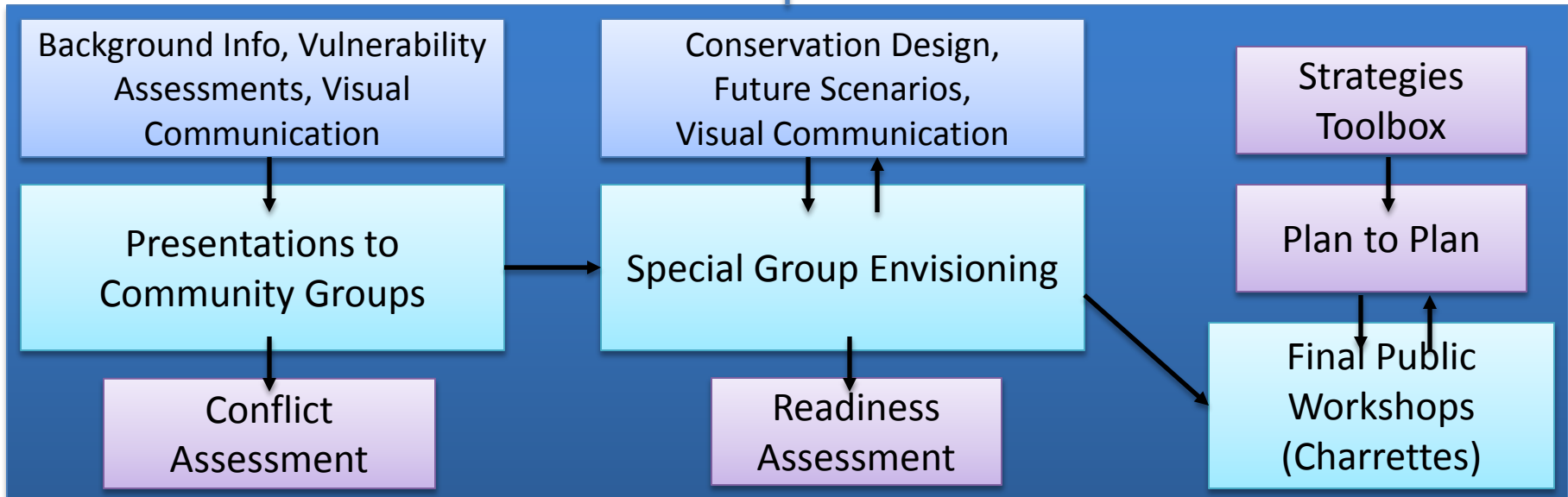




Levy County Steering Committee

Public Relations, Media, Website

Public Workshops



SCHEDULE	1-Sp	1-Su	1-Fa	2-Sp	2-Su	2-Fa
Levy Co Steering Committee; Website and Communications	█	█	█	█	█	█
Background Info; Vulnerability Assessments; Visual Communication	█	█	□	□	□	□
Presentations to Community Groups; Conflict Assessment	□	□	█	□	□	□
Conservation Design; Future Scenarios; Visual Communication	□	□	█	█	█	□
Special Group Envisioning	□	□	□	█	□	□
Readiness Assessment; Strategies Toolbox; Plan to Plan	□	□	□	□	█	█
Final Public Workshops (Charrettes)	□	□	□	□	█	□