



# All Hazards Emergency Preparedness

Don Hughes

City of Satellite Beach Fire Chief

# Mitigation

Reducing the loss of life and property  
by lessening the impact of disasters

**Recovery**  
Putting a community  
back together after a  
disaster



**Preparedness**  
Getting people and  
equipment ready to  
quickly and  
effectively respond  
before a disaster  
happens

**Response**  
Saving life and property  
during and immediately  
following a disaster

# FEMA Whole Community Approach

- A philosophy that builds upon the strengths of public partners and local communities
- Focus - foster development of a community-oriented model for emergency management that increases the resilience of communities
- Resilience refers to the ability to adapt to changing conditions and to withstand and rapidly recover from disruption due to emergencies

Understand and meet the actual needs of the whole community

Engage all aspects of the community to define and address essential life-saving and sustaining needs

Strengthen community assets, institutions and social processes that work well in communities on a daily basis

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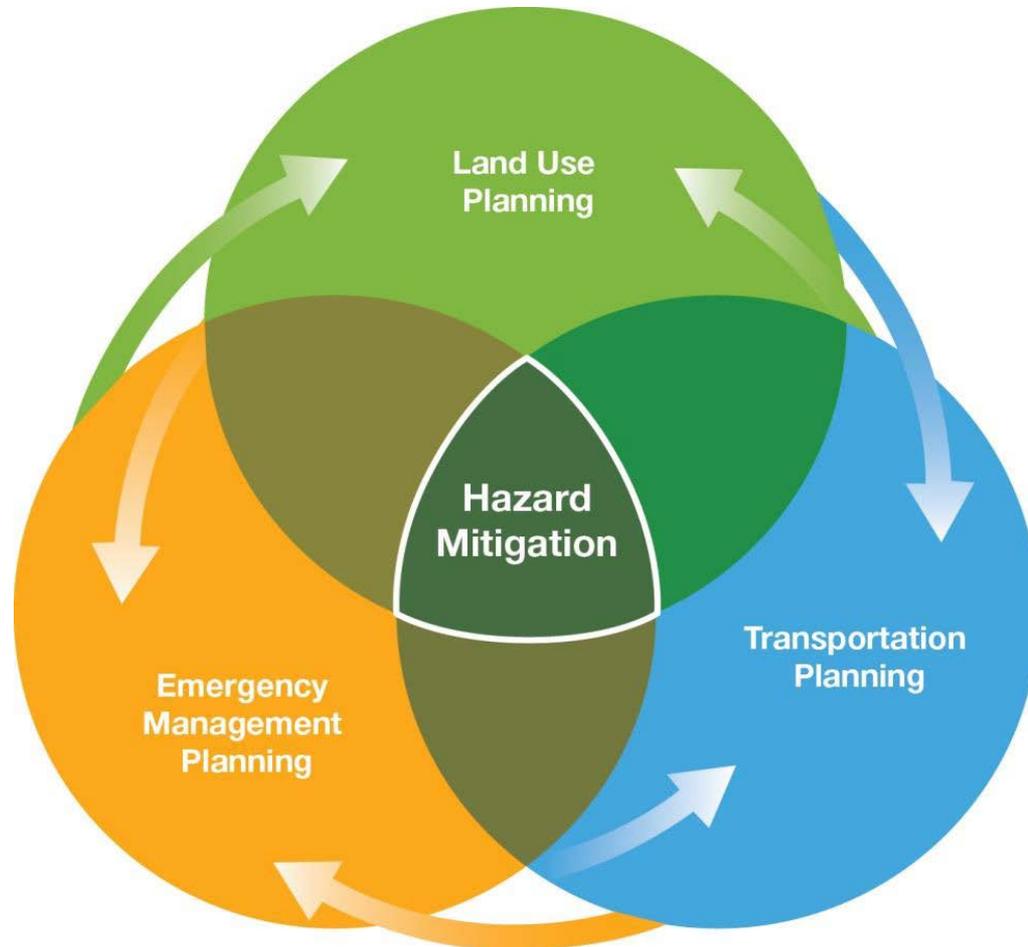
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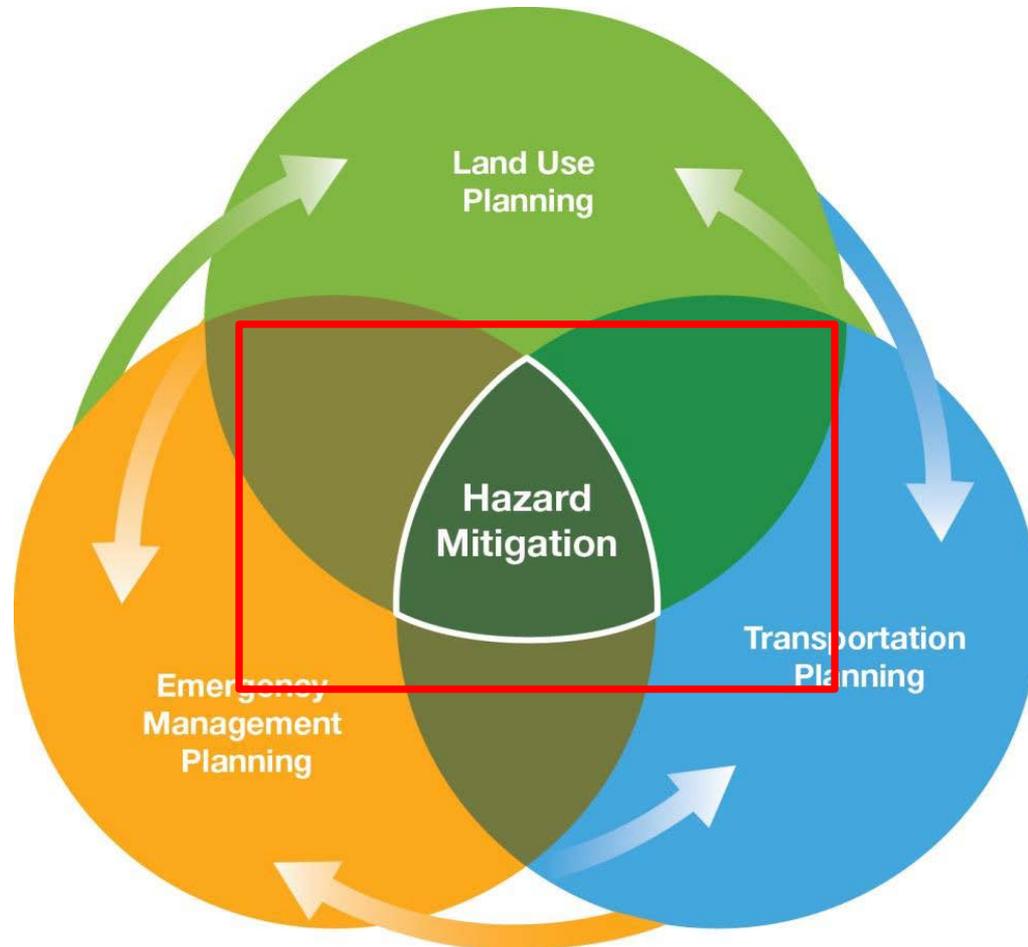
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# Hazard Mitigation and Local Planning



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# FEMA Climate Change Adaptation Policy Statement



FEMA

ADMINISTRATOR POLICY

2011-OPPA-01

## FEMA CLIMATE CHANGE ADAPTATION POLICY STATEMENT

### I. Purpose

The purpose of this policy statement is to establish an Agency-wide directive to integrate climate change adaptation planning and actions into Agency programs, policies, and operations.

### II. Scope

This directive applies to all Agency activities and is intended to guide FEMA personnel responsible for the oversight and implementation of organizational plans, policies, and procedures.

### III. Background

While the scope, severity, and pace of future climate change impacts are difficult to predict, it is clear that potential changes could affect our Agency's ability to fulfill its mission. The challenges posed by climate change, such as more intense storms, frequent heavy precipitation, heat waves, drought, extreme flooding, and higher sea levels could significantly alter the types and magnitudes of hazards faced by communities and the emergency management professionals serving them. Some specific areas where climate change could influence our capabilities and the need for our services are:

- *Impacts on mitigation, preparedness, response, and recovery operations:* as coastal regions become increasingly populated and developed, more frequent or severe storms may increase the requirements for emergency services and response and recovery capacity.
- *Resiliency of critical infrastructure and various emergency assets:* continuity of operations, delivery of services, and emergency response efforts may be challenged and made increasingly complex by damages or disruptions to the interconnected energy and infrastructure networks.
- *Climate change could trigger indirect impacts that increase mission risks:* intensifying droughts, heat waves, and periods of heavy precipitation could create human and economic suffering that may lead to internal displacement, cross-border migration, and the spread of life-threatening diseases.

The need to address risks associated with future disaster-related events, including those that may be linked to climate change, is inherent to FEMA's long-term vision of promoting physical and economic loss reduction and life saving measures. Working within existing



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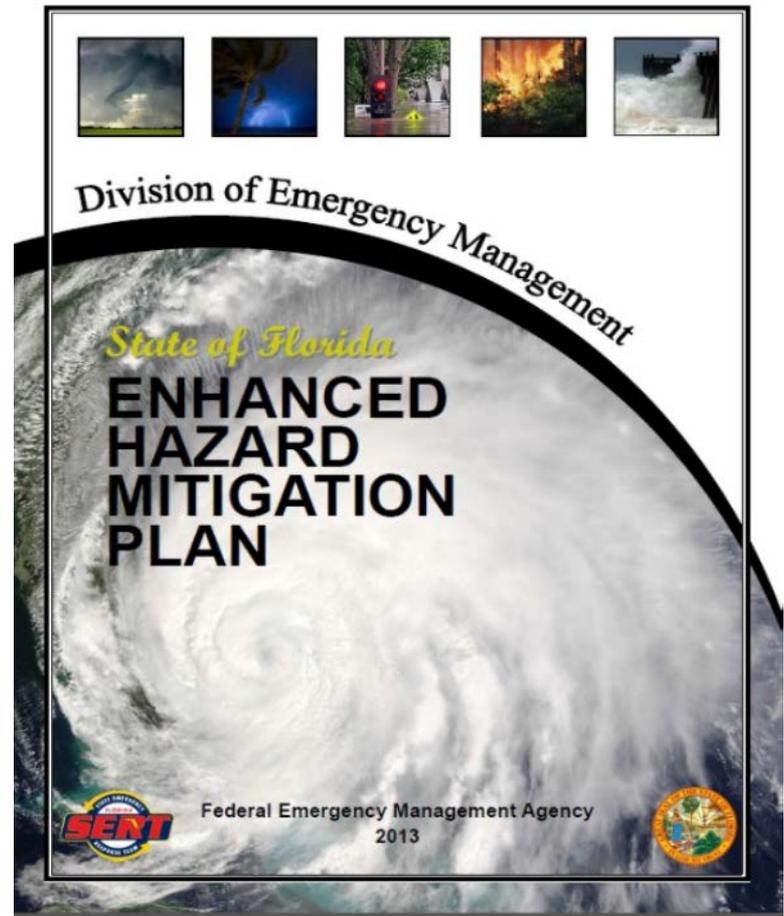
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# Local Plans and Climate Integration

- Enhanced Hazard Mitigation Plans
- Post Disaster Redevelopment Plans
- Comprehensive Emergency Management Plans
- Local Comprehensive Land Use Plans



# Brevard County Comprehensive Plan

## Post Disaster Redevelopment – Policy 10.3

*Criteria – H. The impact of sea level rise ... shall also be analyzed.*



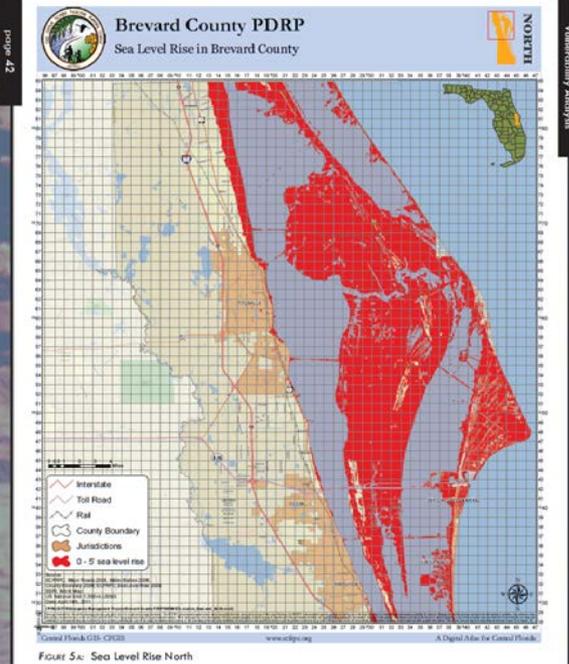


FIGURE 5A: Sea Level Rise North

# Sea Level Rise Analysis and Strategies Considered and Recommended in the Brevard Post Disaster Redevelopment Plan (2011)

(based on 2003 U.S. EPA Funded Study)

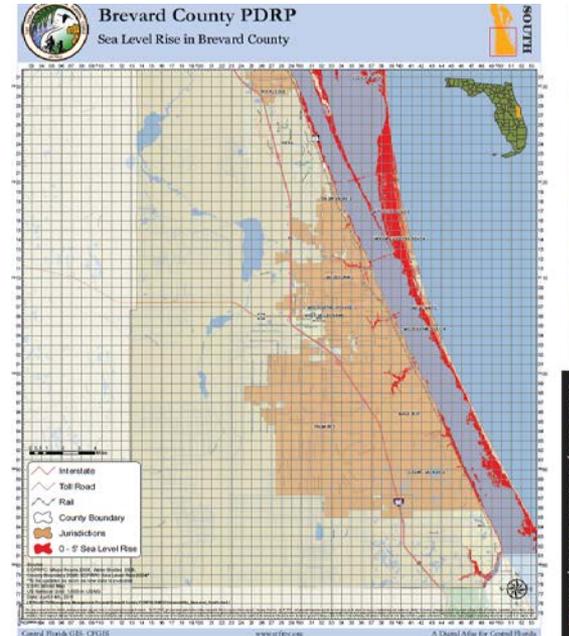
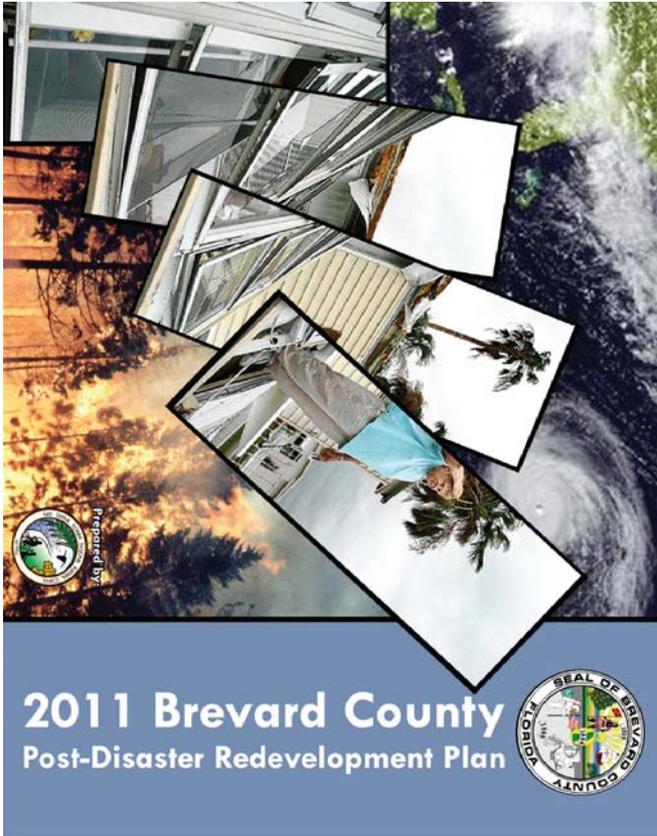


FIGURE 5B: Sea Level Rise South



The city of Satellite Beach and the Indian River Lagoon National Estuaries Program received funding from the EPA Climate Ready Estuaries Program to conduct a sea level rise analysis. The city, using LiDAR data, analyzed one to six foot sea level rise scenarios based upon the most recent data. Localized current water levels were used to depict a current and localized analysis. Using the results of the analysis, the city was able to determine not only the geographical extent of the city affected by each scenario but also the impact on the city's critical facilities. These data provided the basis for discussion of strategies and policies for the city to undertake in their adaptation, protection, and mitigation to sea level rise.

The city of Satellite Beach, being the first city in the county to take this step, serves as a pilot for the county and other cities to begin focusing on this issue. As another starting point, the *2003 EPA Sea Level Rise Study for Brevard and Volusia County*, analyzed the existing and future land use models to determine, based on a five foot sea level rise, what areas may be protected from rising seas and which areas may be left to be inundated. While this study is almost ten years old and future land use maps have since changed, it provides information to begin discussions concerning adaptation strategies and policies as well as an initial look at key areas that may be affected by sea level rise.

Figure 27 illustrates the extent of Satellite Beach anticipated to be affected by a one to six foot rise in sea level. As expected due to the topography of the barrier island and the Banana River, submergence begins on the western side of the city and moves eastward.

**INCREASE ENVIRONMENTAL CAPACITY**

Considerable open space areas, including urban forests, exist in the county and municipalities. Therefore, pre- and post-disaster strategies should be developed, as these areas may be critical for wildfire prevention, debris staging areas, and quickly improving quality of life for residents post-disaster.

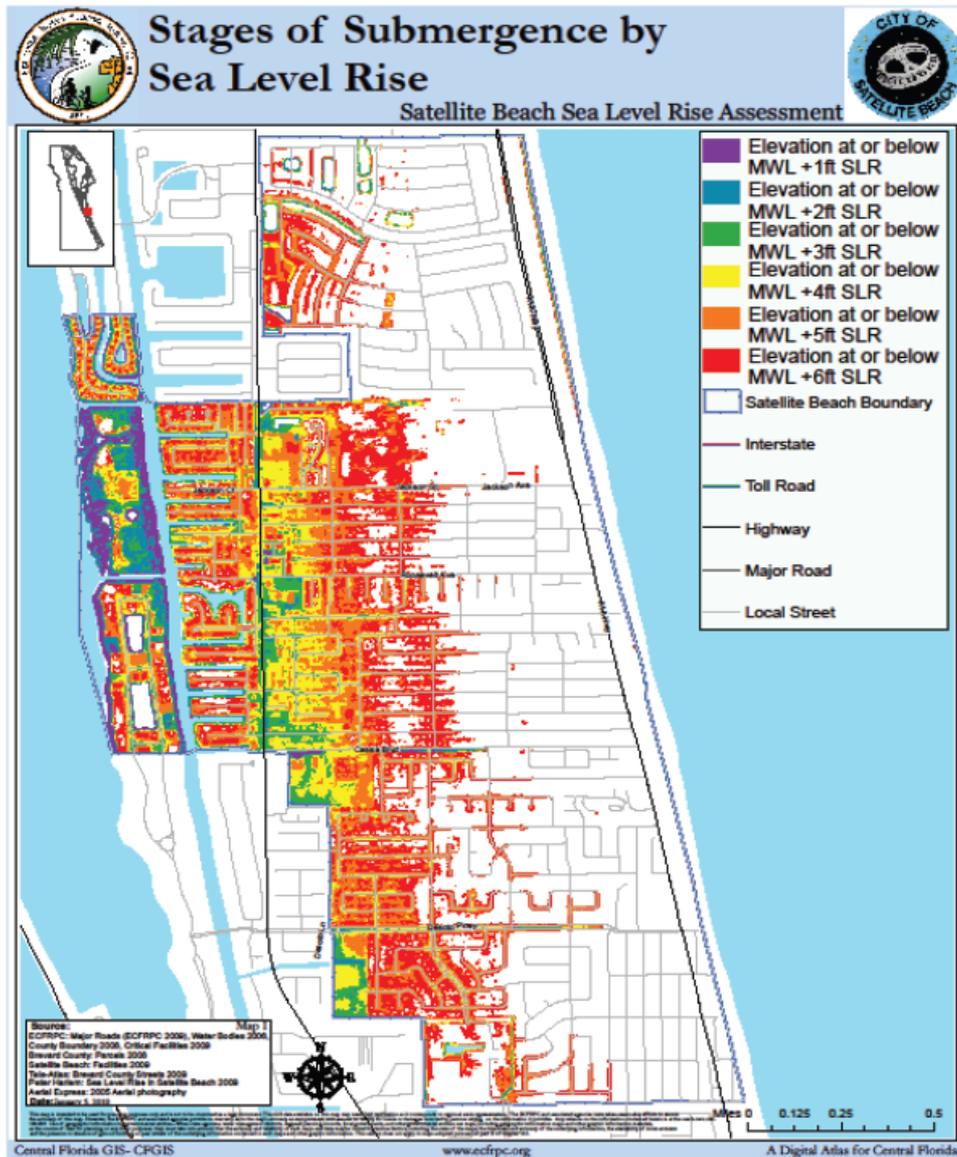
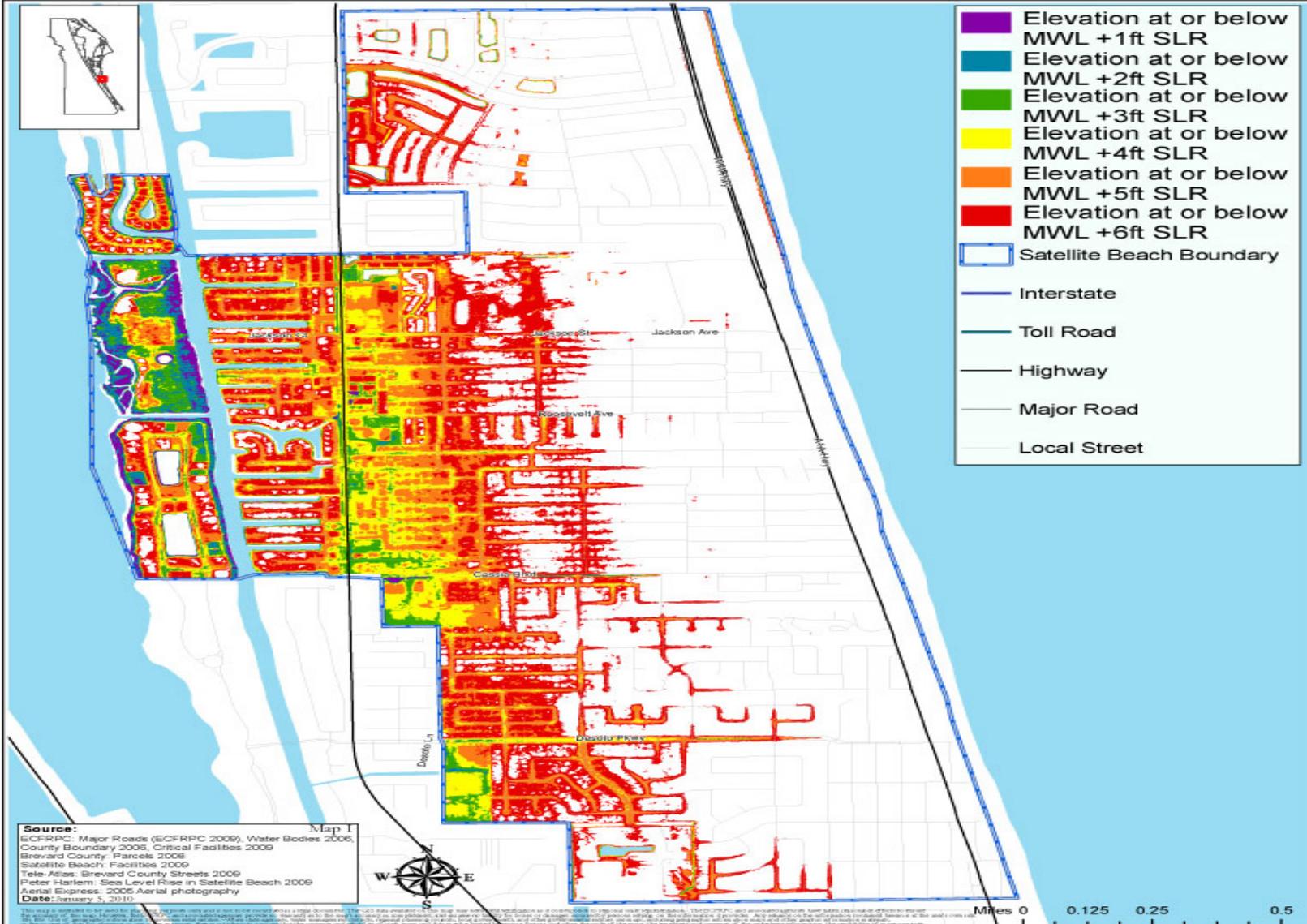


FIGURE 27: Satellite Beach Sea-Level Assessment

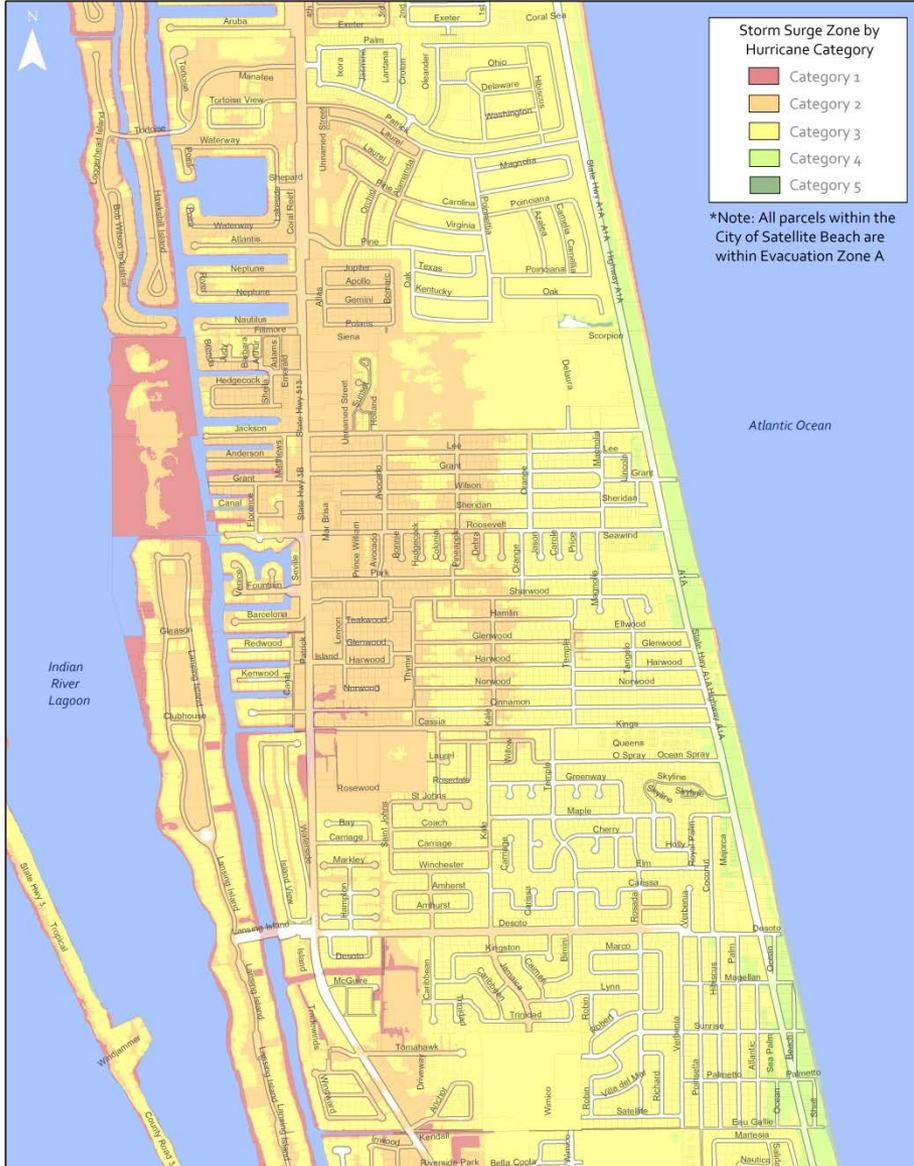


# Stages of Submergence by Sea Level Rise

## Satellite Beach Sea Level Rise Assessment



## Satellite Beach, Florida - Storm Surge Zones by Hurricane Category



Source(s): ECFRPC, Brevard County GIS, NOAA (SLOSH)

# Storm Surge



| *Storm Strength | Brevard   |
|-----------------|-----------|
| Category 1      | Up to 6'  |
| Category 2      | Up to 10' |
| Category 3      | Up to 16' |
| Category 4      | Up to 21' |
| Category 5      | Up to 26' |

*\*\* Surge heights represent the maximum values from SLOSH MOMs*

