

Relocation Working Group  
**Studies, Research and Best Practices**

Agenda:

1.Introduction

2.Presentations by Dr. Robert Young

Title: **Thinking about Buyouts and Managed retreat**

3.Discussion on worksheet

4.General Discussion and Comments

5.Public Comments

6.Adjourn

# Thinking about Buyouts and Managed retreat

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PROGRAM FOR  
THE STUDY OF  
DEVELOPED  
SHORELINES

# Mission

- PSDS serves as a nexus between coastal science and policy. PSDS seeks grant funding to apply innovative approaches to studying and understanding coastal processes, as well as translating new coastal science into sensible, science-based management recommendations. The center also seeks to communicate this science to the general public through traditional and non-traditional outlets.

**Before There is a buyout you have to have buy-in**



# Socastee, SC

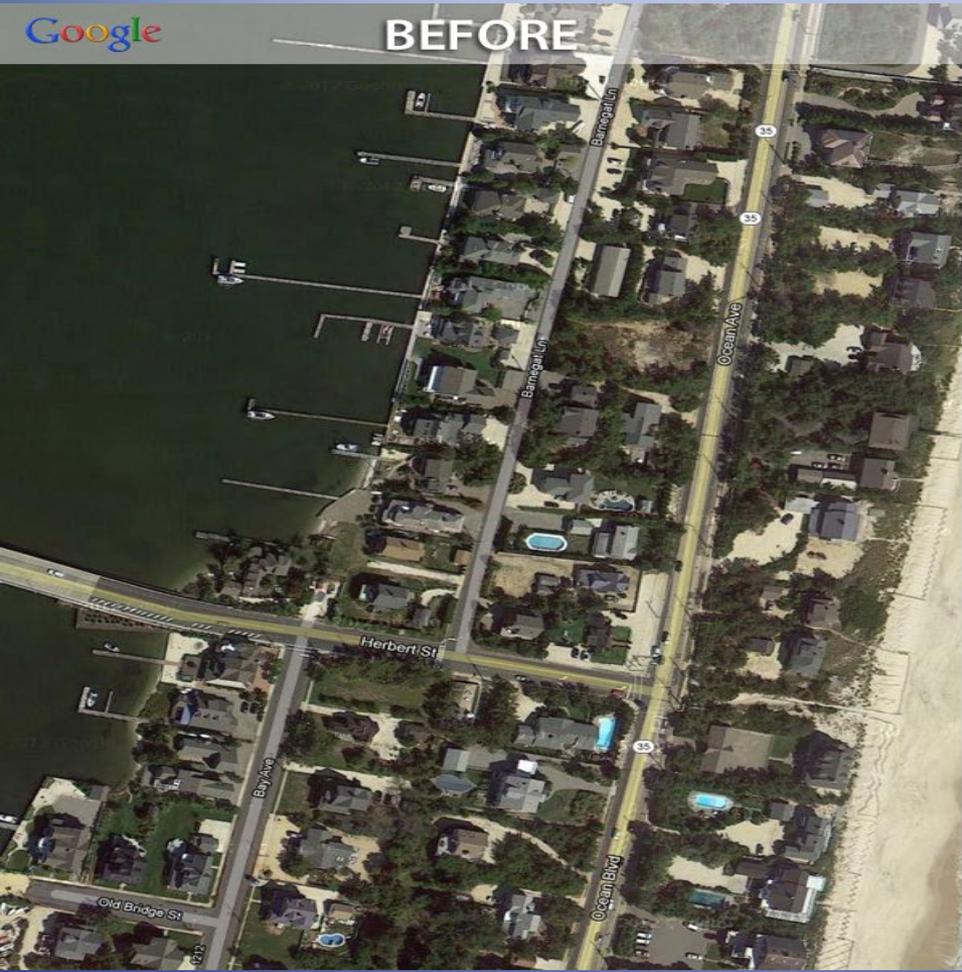


# Bucksport, SC

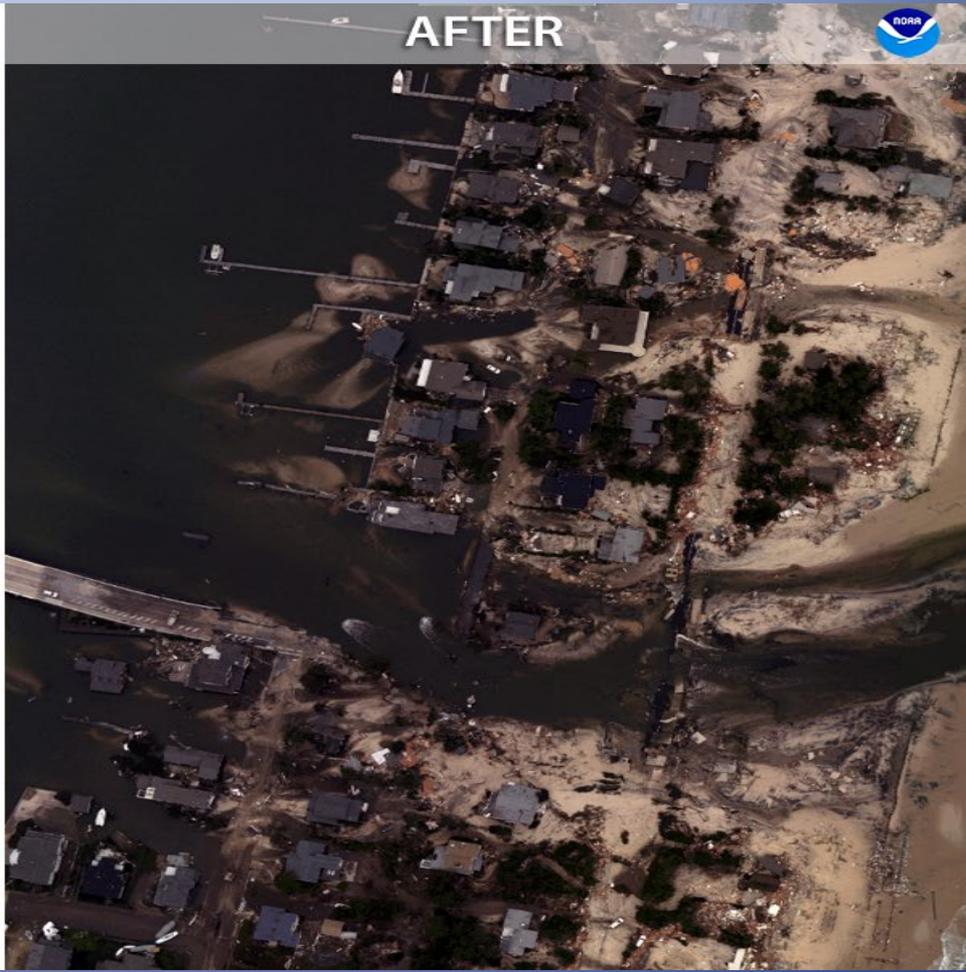




BEFORE



AFTER



**Mantaloking 2018**

**Legend**

 Mantaloking

 Mantaloking

Google Earth

1000 ft



# Coastal Resort Communities

- Largely investment property
- Highly exposed and vulnerable
- Buyout plans have gained little traction
- Hazard exposure mitigation heavily subsidized by the public sector

# Factors Determining Interest

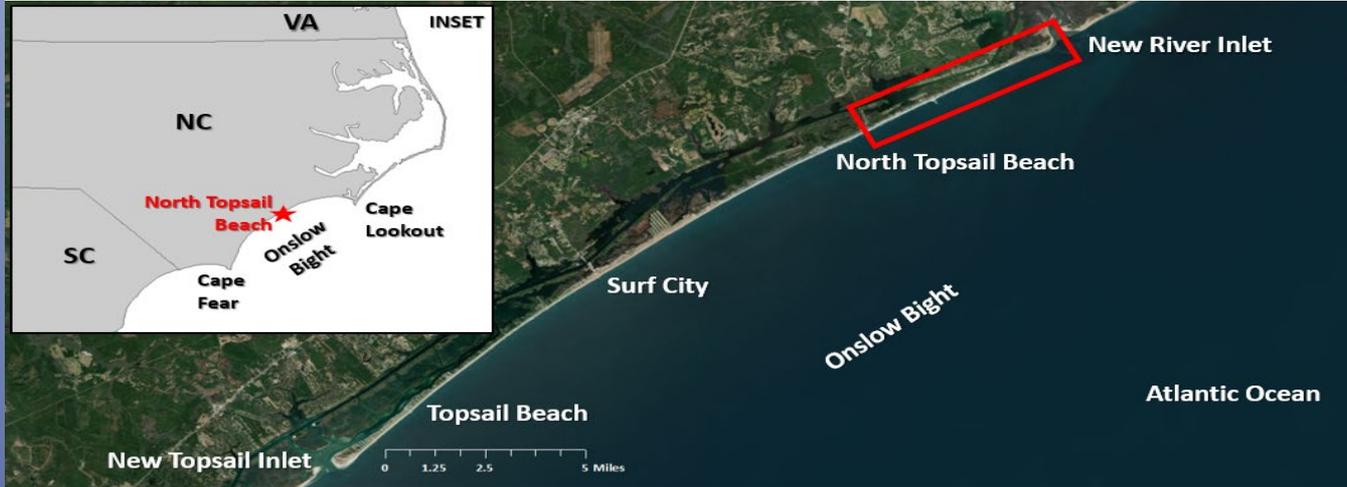
- Are public funds supporting property values through coastal protection projects?
- Primary residence vs. investment property
- History/culture
- Elected officials vs. professional staff
- Who pays? Timing
- No good data itemizing the cost savings and benefits to a locality

# Dauphin Island, Alabama post Katrina



# Goals of NTB Buyout Plan

- Create science-based approach to targeting properties
- Draft financial analysis to spur discussion
- Build support for serious consideration







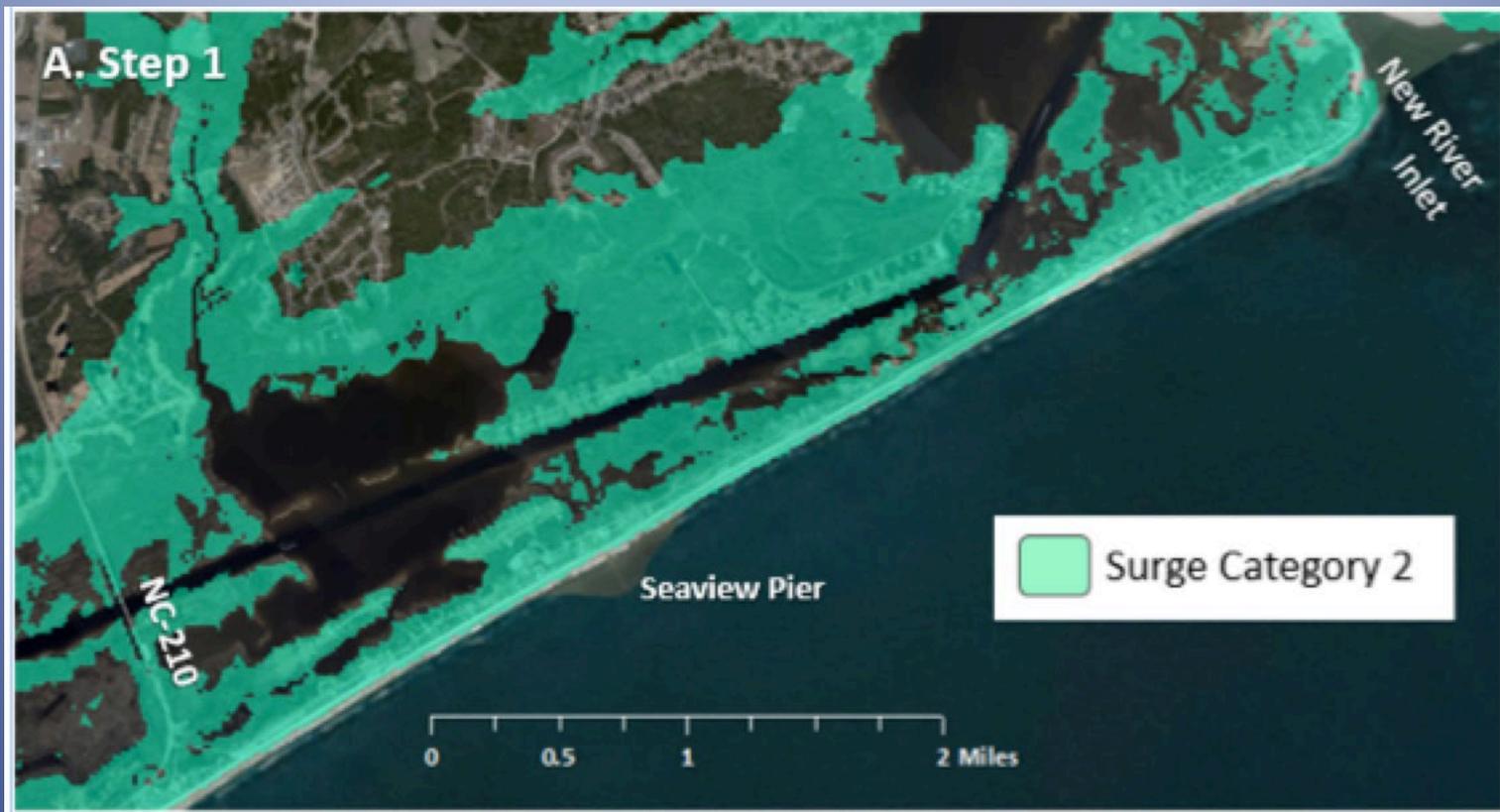
**Table 1.** Data utilized in the coastal hazard exposure assessment of NTB.

Hazard/Data	Agency	Description
Parcels	Onslow County	North Topsail Beach <a href="#">Parcels</a>
Storm Surge	NOAA NWS	National <a href="#">Storm Surge</a> Hazard Maps - Version 2
Inlet Migration	NC DEQ DCM	Inlet Hazard Areas – 2018 Draft*
Flooding	FEMA	Special Flood Hazard Areas - <a href="#">FEMA VE</a>
Erosion	NC DEQ DCM	Oceanfront <a href="#">Erosion</a> Rates

\*Data obtained by direct request

**Table 2.** Summary of Exposure Assessment Results

Hazard Assessment Step	Parcels Affected	Acres Affected	Reference Figure
Initial NTB Parcels	2,525	2,886	Figure 3
Step 1: Storm Surge	2,525	2,886	Figure 4A
Step 2: Inlet Migration	556	73	Figure 4B
Step 3: Flooding	367	57	Figure 5A
Step 4: Erosion	290	42	Figure 5B
<b>Exposed Parcels (All Hazards)</b>	<b>290</b>	<b>42</b>	<b>Figure 6</b>



## B. Step 2

-  Proposed IHA
-  IHA Parcels ( $\geq 50\%$ )



### A. Step 3

 FEMA VE

 FEMA VE Parcels ( $\geq 50\%$ \*)

\*Step 2 IHA parcels were used as a baseline for this selection



## B. Step 4

-  Erosion Hazard Zone
-  Erosion Parcels ( $\geq 50\%$ \*)

\*Step 3 FEMA VE parcels were used as a baseline for this selection



## A. Overview



**NTB Final Results:  
Highest Exposure Parcels**



## B. Inlet Area



### Final Target Area for Strategic Retreat



Preliminary Area: Highest Exposure



Parcels Added for Retreat Continuity



**Table 3.** Fiscal impacts of strategic retreat to NTB tax revenue

	Total NTB FY19		<u>Loss of Revenue with Strategic Retreat</u>	
	Revenue	Initial	30-Year	30-Year NPV
Property Tax <sup>1</sup>	\$3.24 million	\$103,494	\$3.1 million	\$4.2 million
Sales Tax <sup>2</sup>	\$1.7 million	\$53,271	\$1.6 million	\$2.2 million
Accommodations Tax <sup>2</sup>	\$1.3 million	\$40,965	\$1.2 million	\$1.7 million
<b>Totals</b>	<b>\$6.24 million</b>	<b>\$197,731</b>	<b>\$ 5.9 million</b>	<b>\$8.1 million</b>

<sup>1</sup> Based on a property tax rate of 0.3435 per \$100 in assessed property value. <sup>2</sup> Based on removal of 3.15% of NTB tax base. <sup>3</sup> Using a discount rate of 3% and property appreciation rate of 5%.

**Table 4.** Fiscal impacts of strategic retreat to Onslow County tax revenue

	All NTB FY19		<u>Loss of Revenue with Strategic Retreat</u>	
	Revenue	Initial	30-Year	30-Year NPV
<b>Property Tax<sup>1</sup></b>	\$97 million	\$203,163	\$6.1 million	\$8.3 million
<b>Sales Tax<sup>2</sup></b>	\$44 million	\$92,378	\$2.8 million	\$3.8 million
<b>Accommodations Tax<sup>2</sup></b>	\$1.8 million	\$3,945	\$118,350	\$0.2 million
<b>Totals</b>	<b>\$142.8 million</b>	<b>\$299,486</b>	<b>\$9 million</b>	<b>\$12.3 million</b>

<sup>1</sup> Based on a property tax rate of 0.6743 per \$100 in assessed property value. <sup>2</sup> Based on removal of 0.21% of county tax base. <sup>3</sup> Using a discount rate of 3% and property appreciation rate of 5%



Figure 8: NTB Beach Nourishment Phase 1. Inset - Sand bag revetment location.

**Table 5: Summary of 30-Year Costs and Benefits of Strategic Retreat in NTB**

<b>Public Costs</b>		<b>Public Benefits/Savings</b>	
Capital costs of property acquisition	\$30.1 million	Costs of future stabilization avoided	\$47.4 million
Lost municipal & county tax revenue (with inflation & appreciation)	\$14.9 million (\$20.4 million)	Costs of sandbag maintenance avoided	\$5 million
Structure demolition/removal costs	\$5 million		
Sandbag revetment removal costs	\$1 million		
<b>Total Costs</b> (with inflation & appreciation)	<b>\$51 million</b> (\$56.5 million)	<b>Total Benefits</b>	<b>\$52.4 million</b>

# Unquantified Benefits

- Focus resources on the sustainable portion of a coastal community
- Transfer of amenity value (property value and rental rates)
- Environmental benefits
- Cost savings at all levels

# Conclusions

- First, do no more harm
  - Enforce existing regulations
  - Remove public funding for coastal protection of oceanfront, investment property
- Create detailed, pre-storm plans that can be discussed and maybe implemented