



# Working Towards A Future Where Nature & People Thrive

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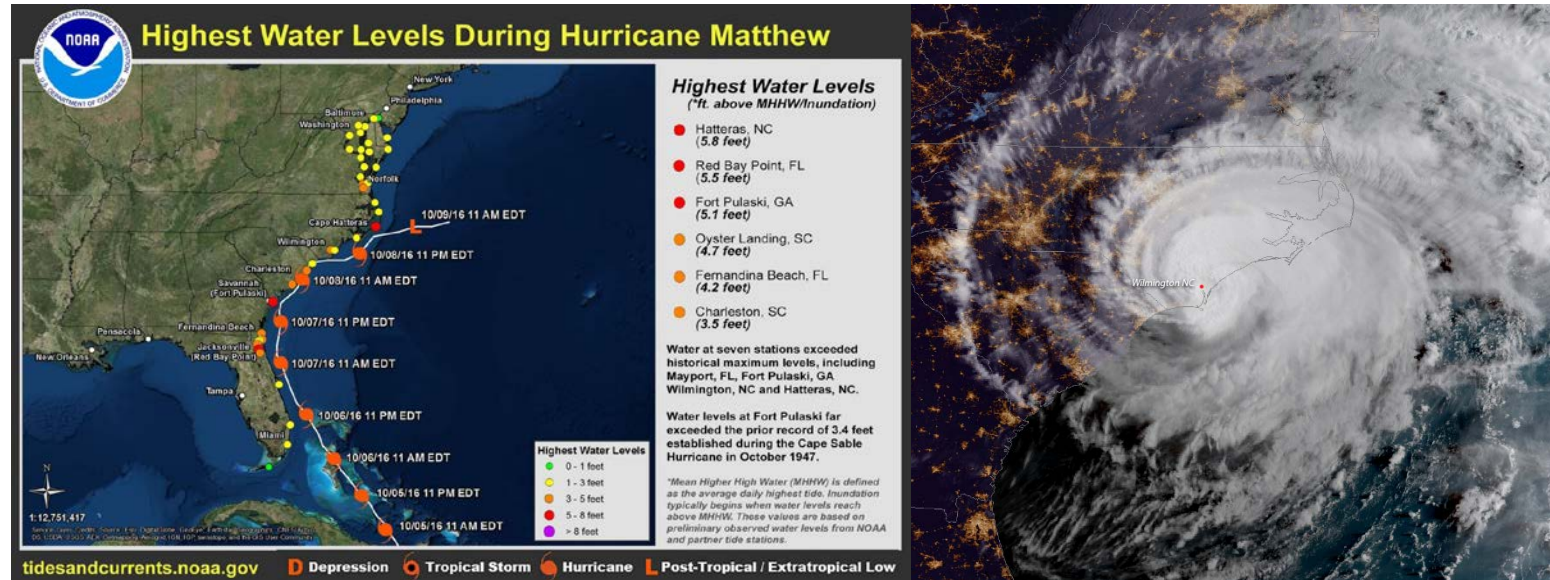
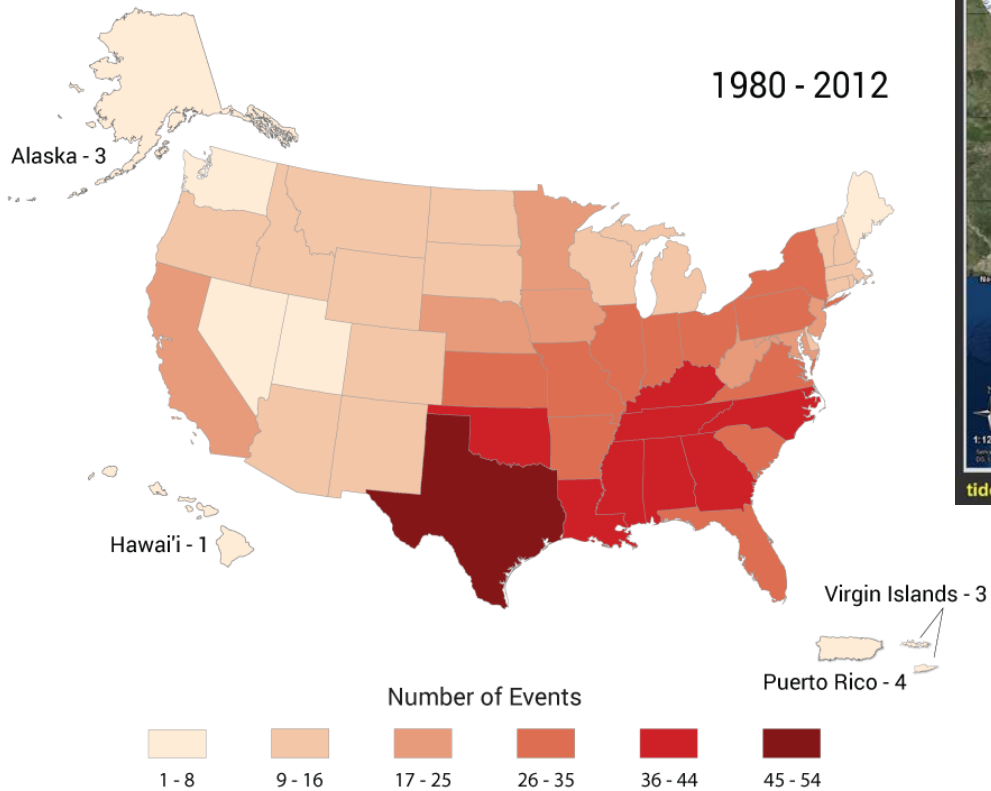
APRIL 2019

BRIAN BOUTIN, PH.D.

THE NATURE CONSERVANCY

# Extreme Weather

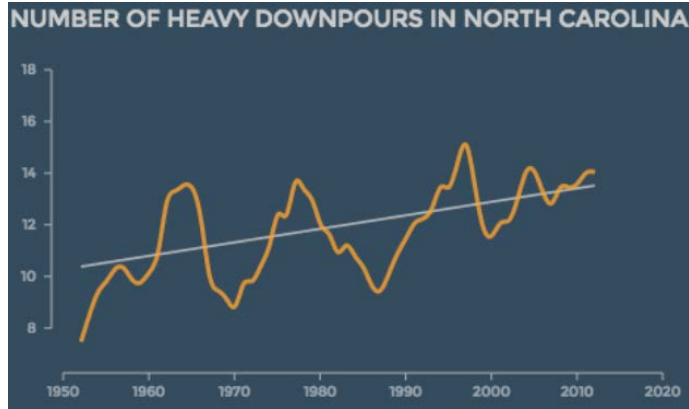
Billion Dollar Weather/Climate Disasters



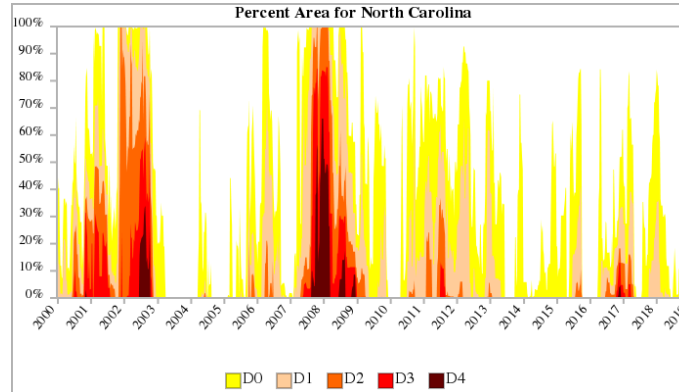
- 2016: Hurricane Matthew
  - 14 inches of rain; ~6 ft storm surge; \$1.6 billion in damage
- 2018: Hurricane Florence; Tropical Storm Michael
  - Nearly 34 inches of rain; \$17 billion in damage
  - ~5 ft storm surge; \$22 million in damage



# Rainfall



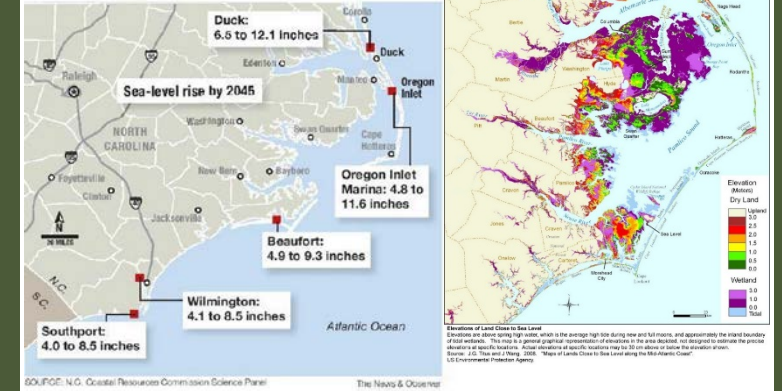
# Drought



# Sea Level Rise

## 30-year sea-level forecasts vary along N.C. shore

Citing geological and oceanographic forces that are stronger north of Cape Hatteras than along North Carolina's southern coast, a Coastal Resources Commission expert panel of geologists and coastal engineers says the sea-level rise by 2045 will range between a possible low of 4 inches at Southport and a possible high of 12.1 inches on the northern Outer Banks.

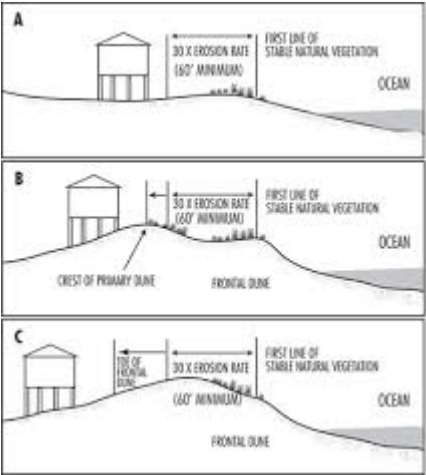


# Coastal Resilience



Absorb

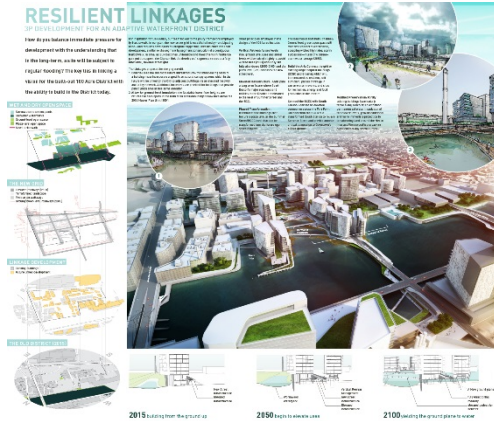
Adapt



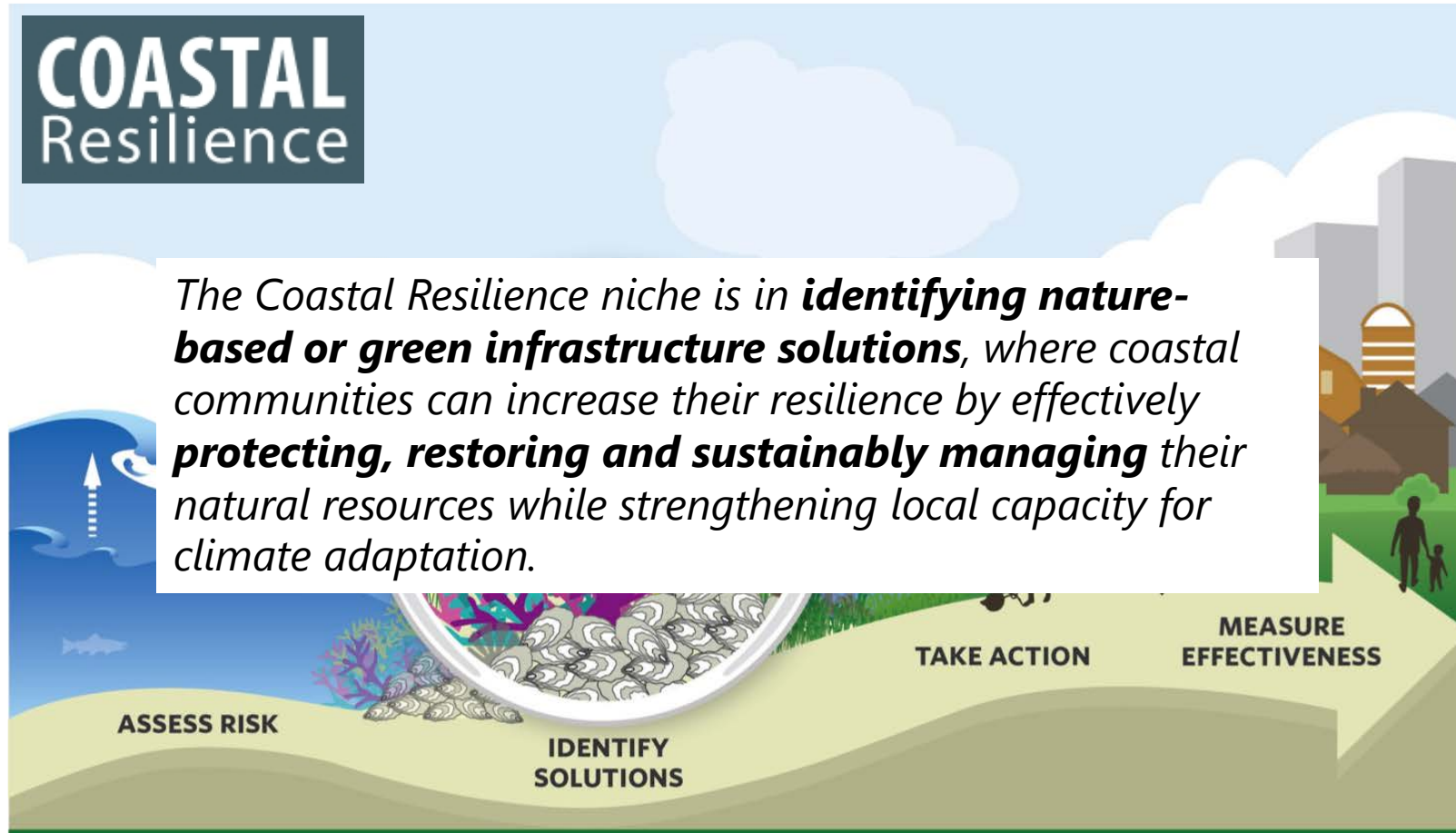
Avoid

Resilience

Accommodate

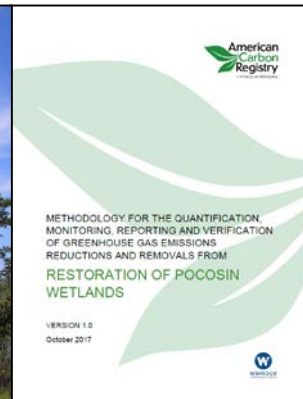
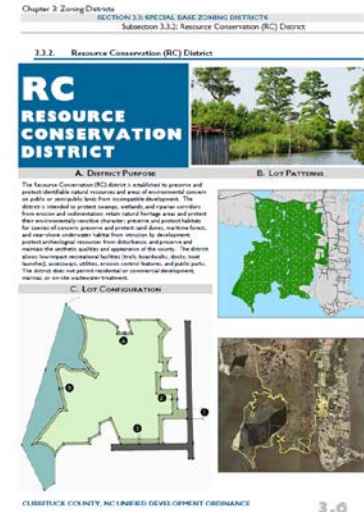
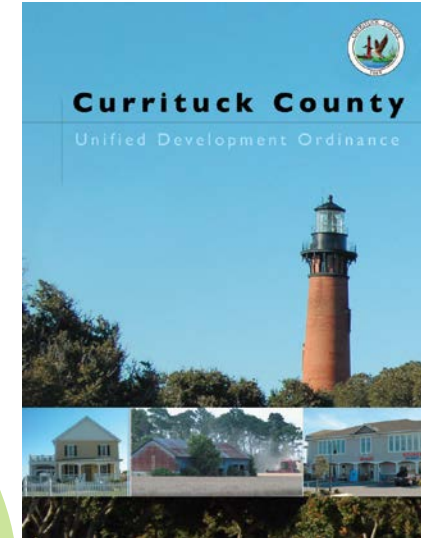


# Natural Resilience Solutions



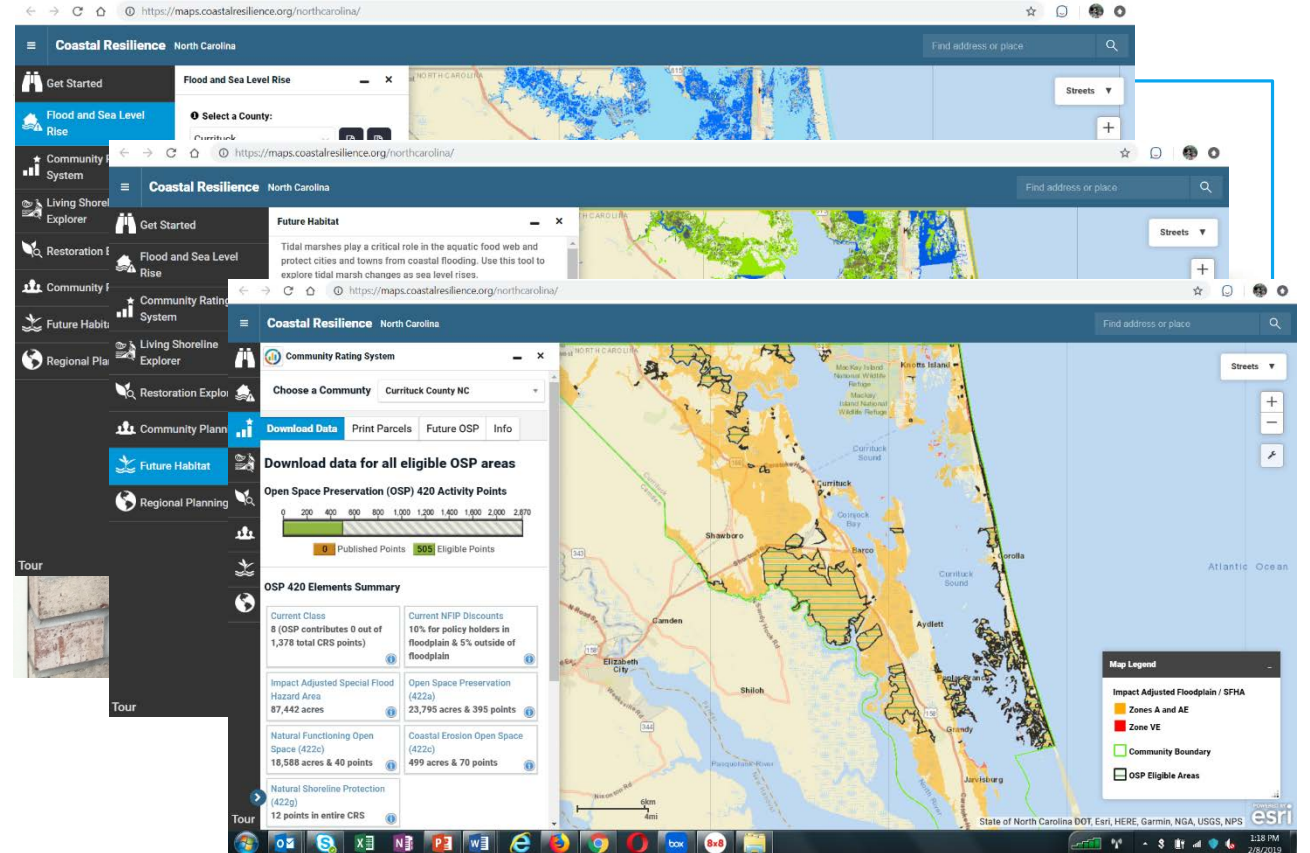


# Natural Resilience Solutions



# Currituck County

- Imagine Currituck Land Use Plan
  - Values: Natural Places, Hunting & Fishing
  - Concerns: Flooding, Water Quality
- Goal: identify areas at risk to flooding and develop community-supported strategies to mitigate risk
- Flood and Sea Level Rise
- Future Habitat
- Community Rating System



# Community Rating System Explorer



- National Flood Insurance Program's Community Rating System
  - Value's community's actions that reduce risk
  - Discounts on flood insurance premiums
- Identify parcels that count towards "Open Space Preservation" activities
- View and download the maps and supporting information necessary for CRS application
- Identify future open space in the floodplain

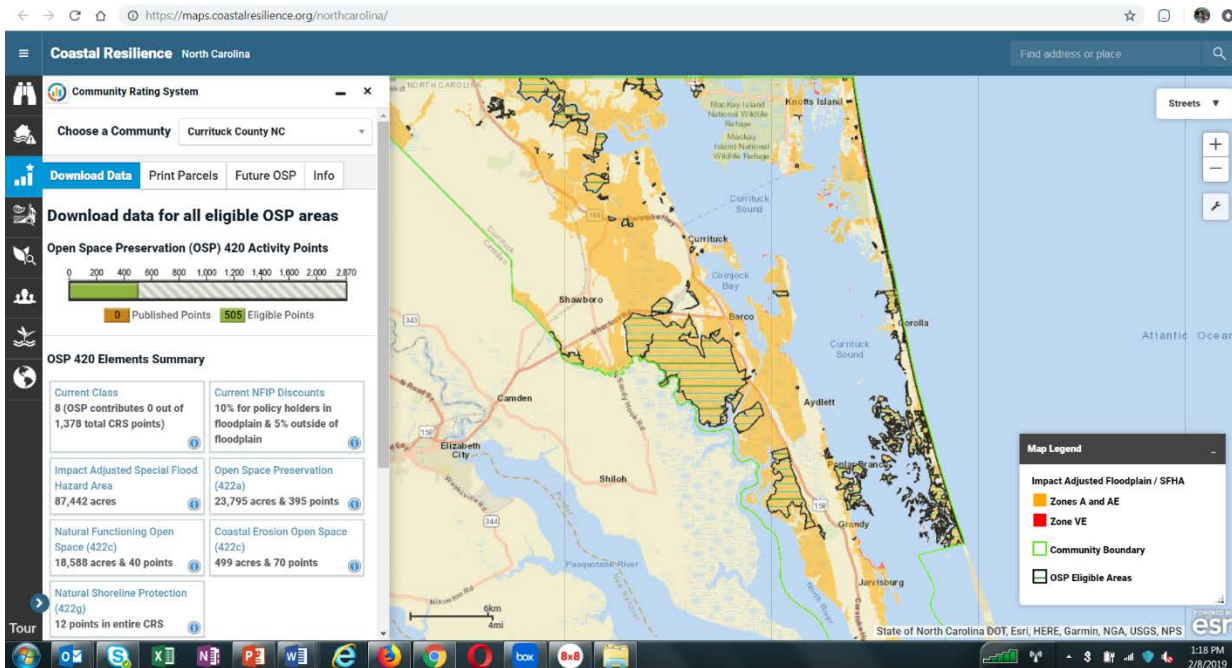


# Open Space Preservation Credits: Activity 420

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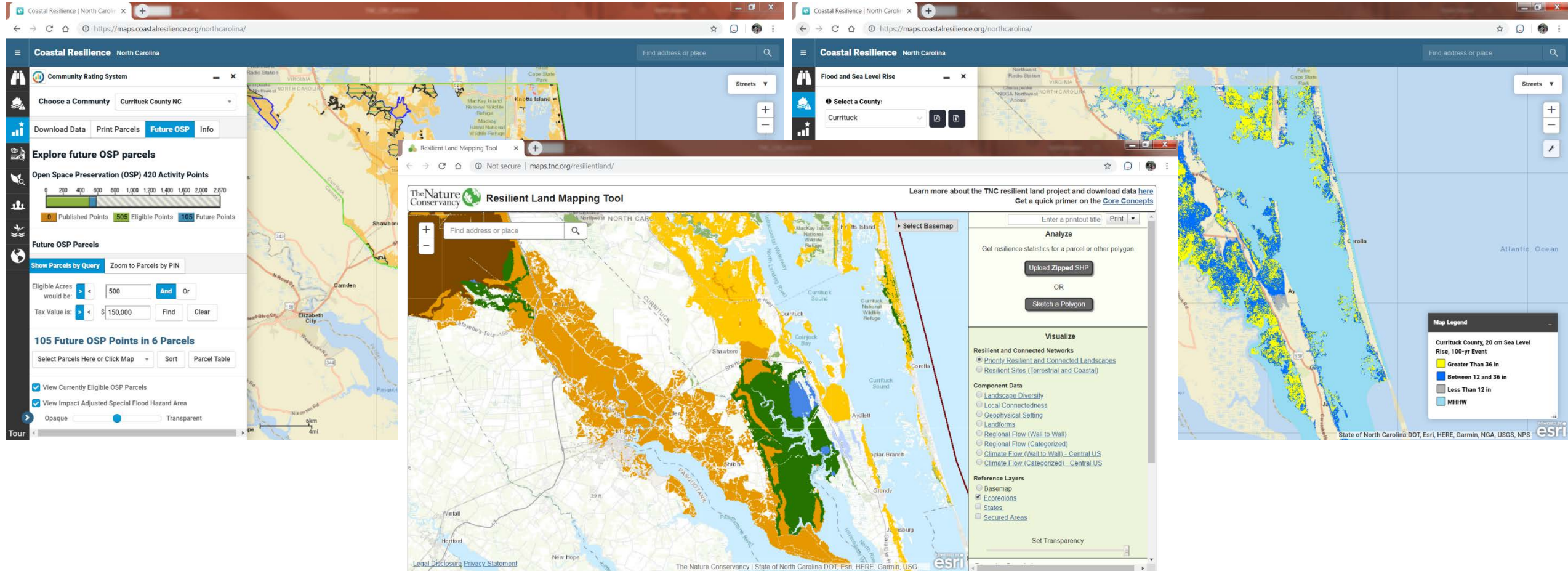
# Currituck County



- 505 OSP points identified
- 15% discount on flood insurance premiums
- Co-benefits
  - Flood risk reduction
  - Reduced premiums
  - Ecosystem services (water quality, fisheries, etc.)
  - Cultural preservation
- Momentum for additional action



# Currituck County – future opportunity

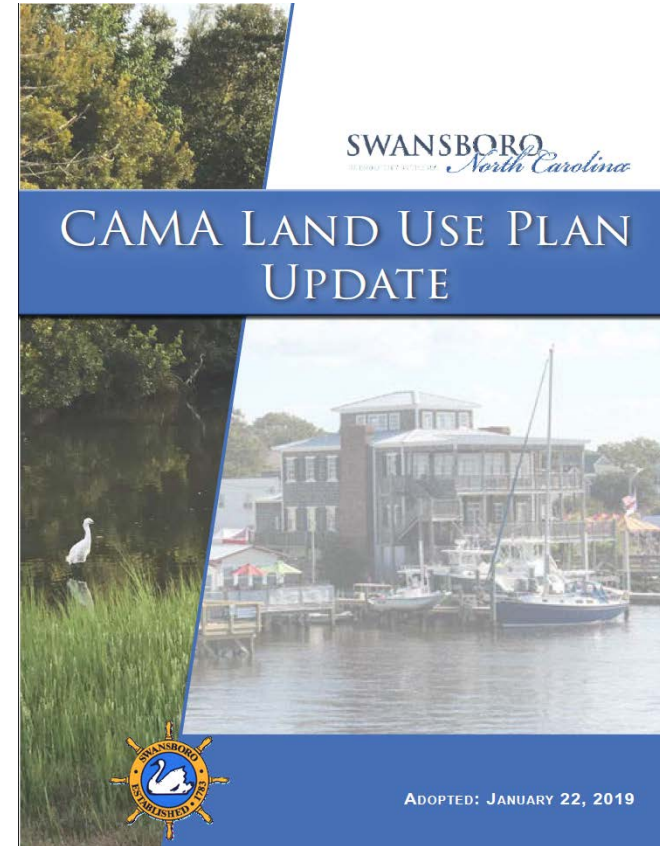




# Building on Success: Town of Swansboro



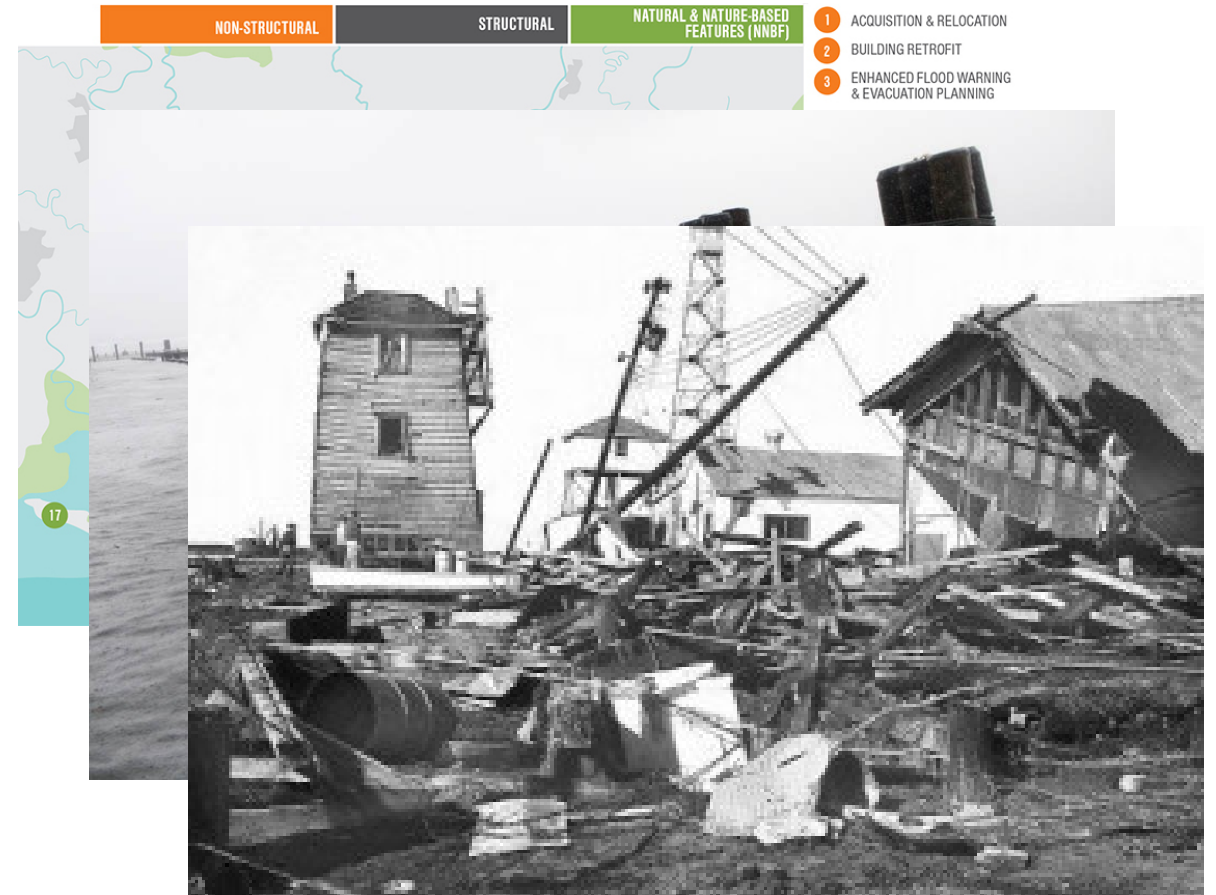
Vulnerability, Consequences, and Adaptation Planning Scenarios





# Coastal Resilience Considerations

- Comprehensive resilience approach
- All strategies have limits on their capacity to influence resilience
- These coastal hazards are not new...just different...and the associated challenges are not insurmountable





# State & CRC Coastal Resilience Support

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1. Create equitable resilience building
2. Develop strategies with, not for
3. Discourage maladaptive strategies
4. Enable calculated risk taking
5. Foster cross agency collaboration





Thank you for  
your leadership in  
tackling this  
important issue  
for our coast!

