

Helping Nature Help Us: Co-Benefits of Environmental Solutions



Lora Eddy
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Lora Eddy is a coastal geologist working for The Nature Conservancy in North Carolina as their Coastal Engagement Coordinator. She has spent her career working with coastal communities in Florida, Oregon, and Washington on environmental permitting, regulation, planning, and stormwater topics. Since joining the Conservancy in 2016, she has brought this knowledge and experience to the Conservancy's Coastal Resilience project to help communities examine nature's role in reducing coastal hazards. She is working with several communities in eastern North Carolina to design decision support tools that enable communities to evaluate the role that coastal habitats play in risk reduction and adaptation. She holds a bachelor's degree in geology from Old Dominion University.



Coastal Forests

Oyster Reefs

Coastal Marshes

Floodplains

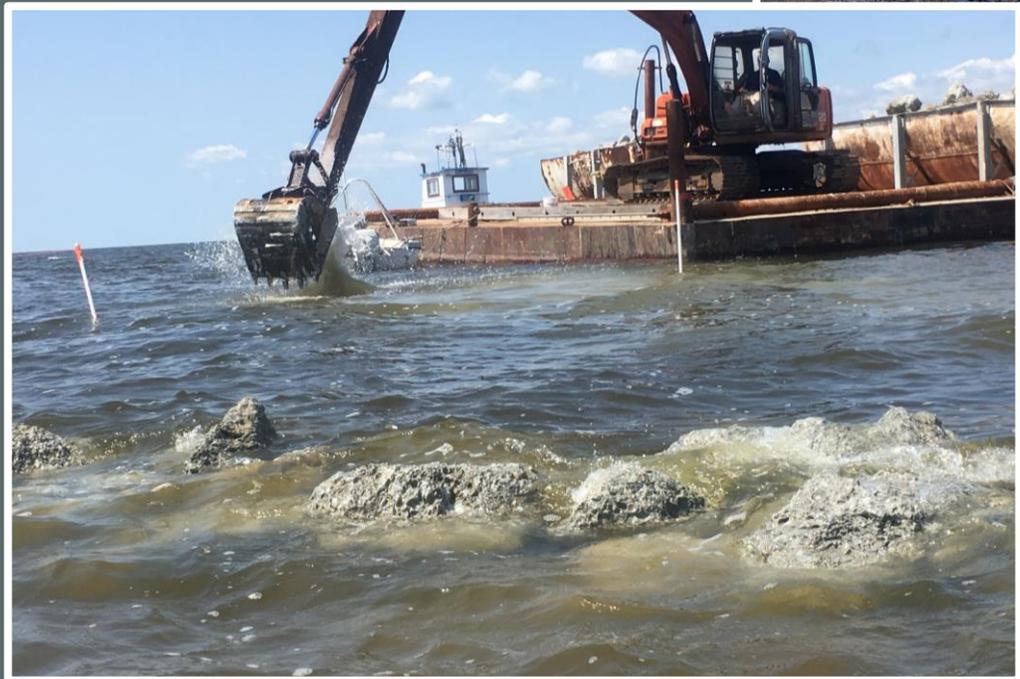
'In areas where marshes were intact there is significant reduction in damages.'

Wetland Benefits
\$625 million in damages prevented.



Information provided by The Nature Conservancy

**Coastal
Wetlands
22% less
damages**



The Tool(box)

North Carolina

Find address or place

Imagery

+

-

Measure

Zoom to Extent

Create Map

Save & Share

Tour



Coastal Flood & Sea Level Rise

Coastal Resilience North Carolina

Find address or place

Flood and Sea Level Rise

Select a County: Currituck

Select a Hazard: Coastal Flooding (NC Emergency Mgm)

Sea Level Rise: Current 20cm 40cm 100cm (0in (7.8in) (15.7in) (39in))

Flood Extent: MHHW 10yr 100yr Fran

Acres at Risk Under Various Flood Events and Sea Level Rise Scenarios

| Sea Level Rise | MHHW | 10 yr Flood | 100 yr Flood |
|----------------|------|-------------|--------------|
| Current | ~50 | ~20 | ~10 |
| 20 cm | ~10 | ~50 | ~15 |
| 40 cm | ~30 | ~35 | ~15 |
| 100 cm | ~70 | ~25 | ~30 |

Map Legend

Impact Adjusted Floodplain / SFHA

- Zones A and AE
- Zone VE

Community Boundary

OSP Eligible Areas

Currituck County, 40 cm Sea Level Rise, 100-yr Event

- Greater Than 36 in
- Between 12 and 36 in
- Less Than 12 in
- MHHW

State of North Carolina DOT, Esri, HERE, Garmin, INCREMENT P, NGA, USGS

esri



**Restoration
Explorer**



**Living
Shorelines**



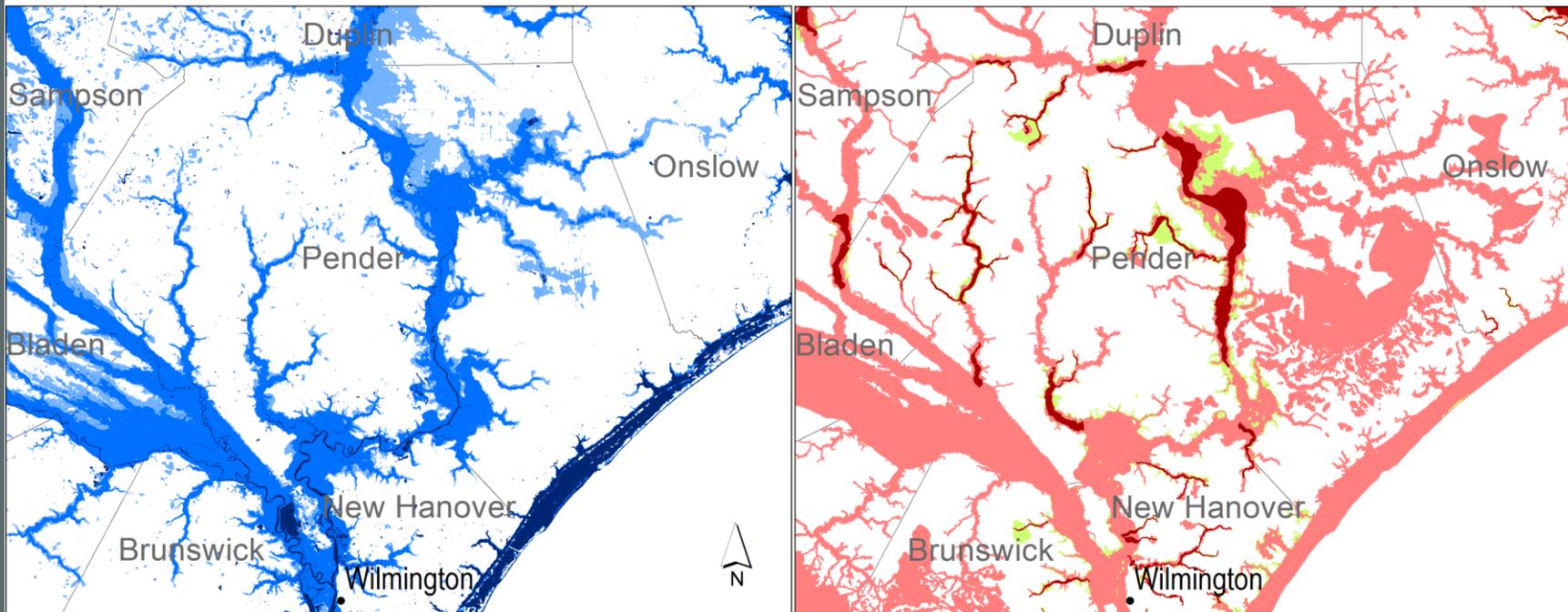
**Community
Rating
System**

Detected Flooding
(Hurricane Matthew 2016, Hurricane Florence 2018)

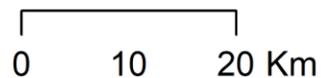
*The Nature Conservancy,
manuscript in preparation*

Mapped Flood Hazard

NCDEMS



-  Flooded 2x
-  Flooded 1x
-  Permanent water



-  Floodway
-  1% annual chance
-  0.2% annual chance

