



# *Climate Resilience in coastal Georgia*

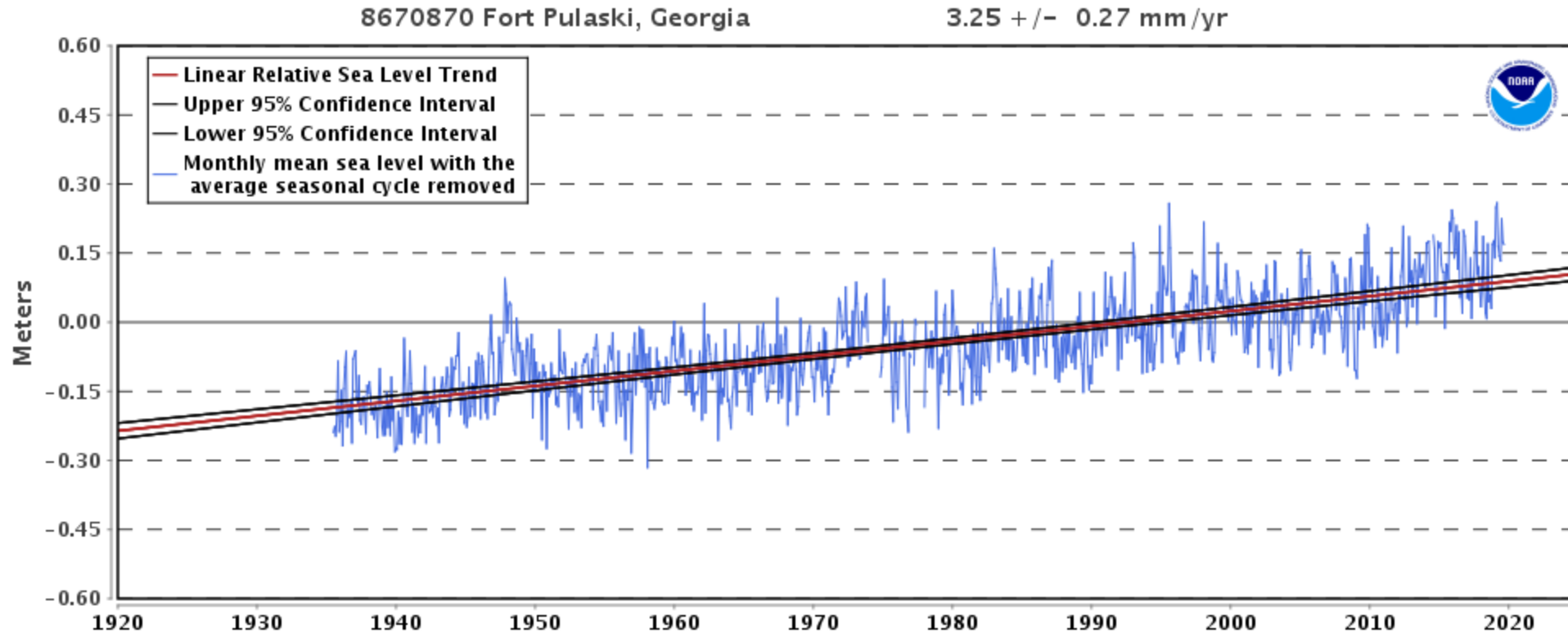
Jan Mackinnon

# Coastal Program areas of service



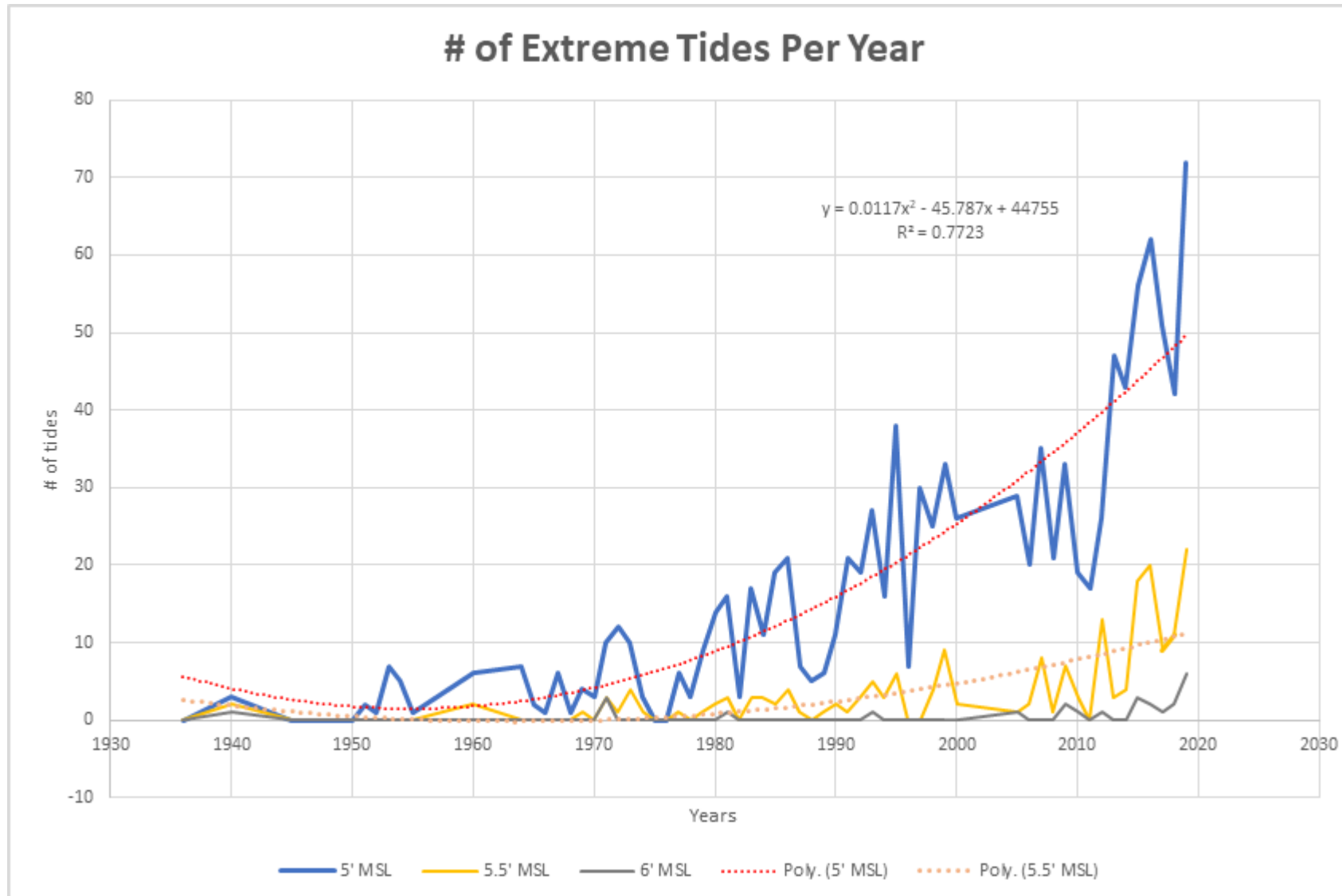
- Public and private property owners
- Partnership with the Army Corps of Engineers
- Local government partnership

# Sea level rise



The relative sea level trend is 3.25 millimeters/year with a 95% confidence interval of +/- 0.27 mm/yr based on monthly mean sea level data from 1935 to 2018 which is equivalent to a change of 1.07 feet in 100 years.

# Extreme tides



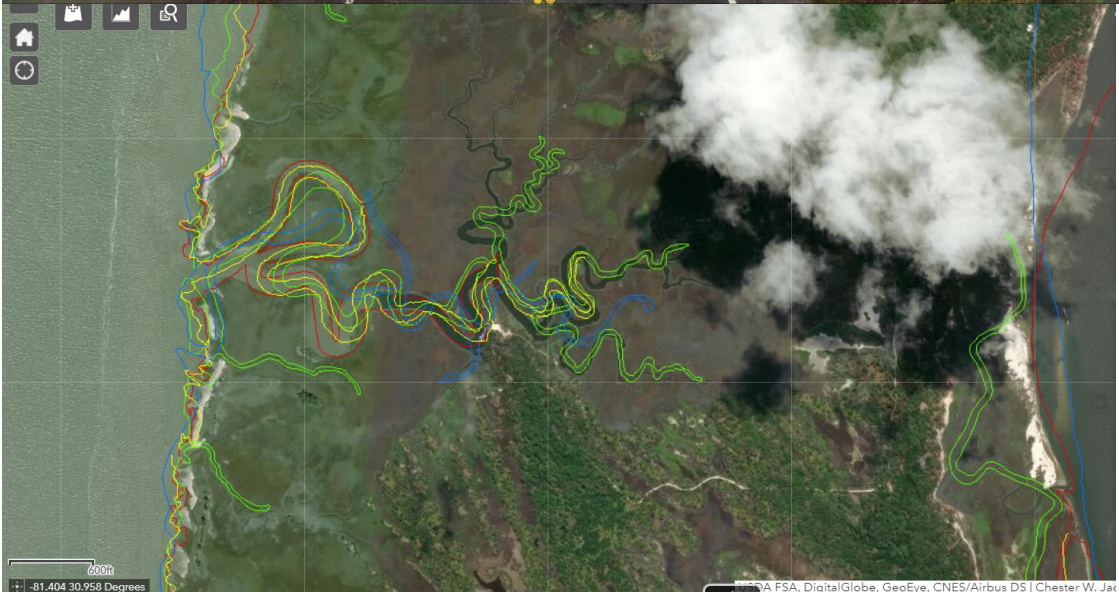
J. Lee  
DNR WRD



# A changing environment



U.S. 80 Tybee Island, 2015



Historic Shorelines  
Historical Shorelines  
— 1800s  
— 1930s  
— 1970s  
— 2000s

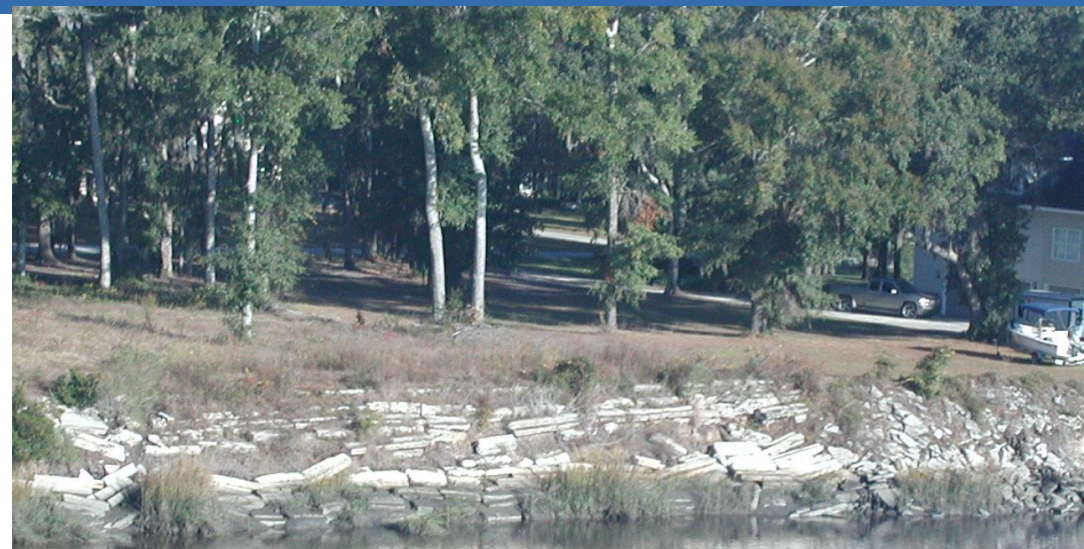


Erosion after supermoon event, January 2019, Coastal Regional Headquarters, Brunswick, GA

C. Jackson,  
Georgia Southern  
University



# Traditional armoring





# Sapelo Island



<https://coastalgadnr.org/LivingShorelines>



# Little St. Simons Island



<https://coastalgadnr.org/LivingShorelines>



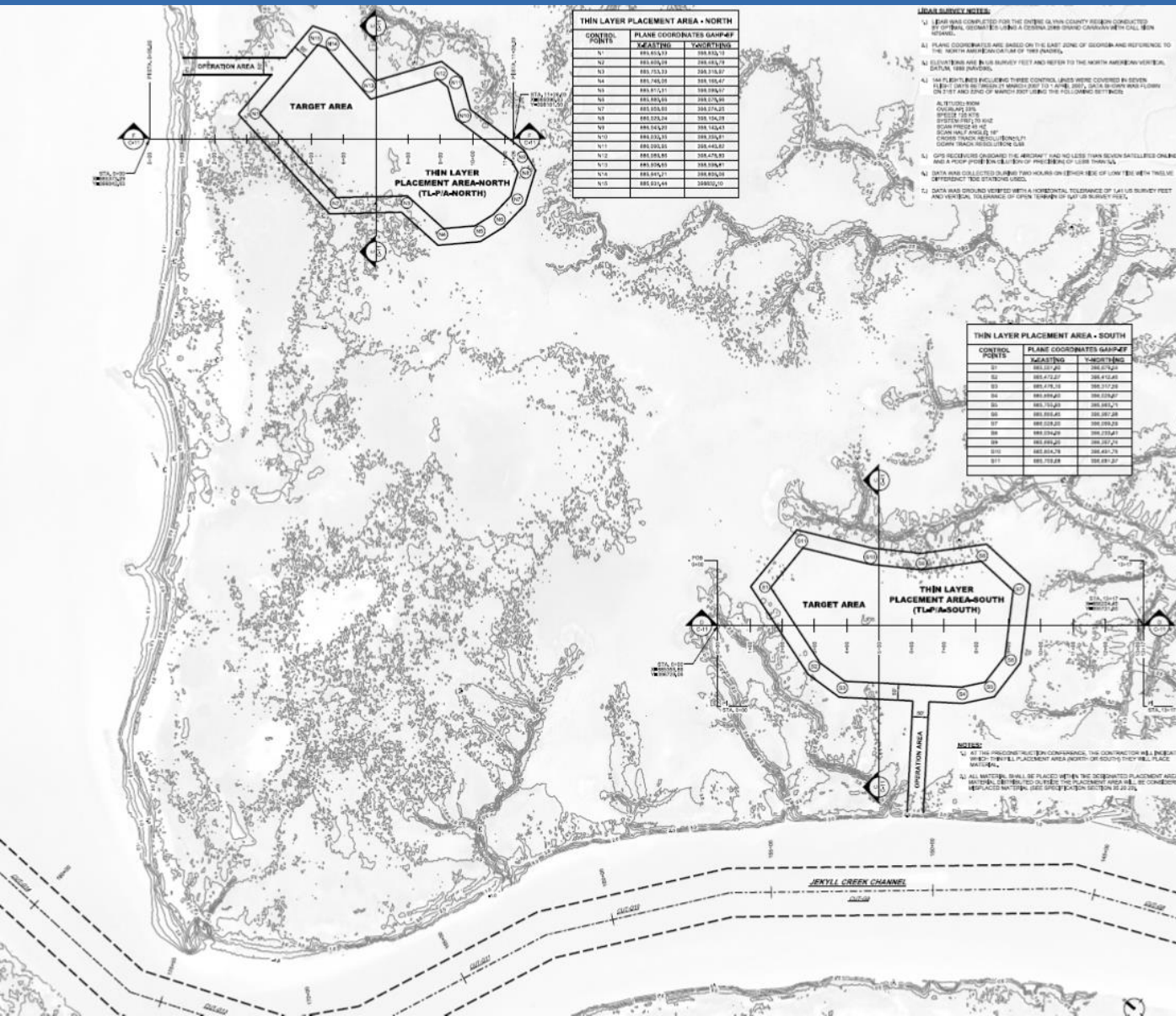
# Cannon's Point Preserve



<https://coastalgadnr.org/LivingShorelines>



# Beneficial Use - Thin Layer Placement



Pilot project to develop economically efficient and environmentally acceptable methods of managing dredge material.



# Beneficial Use - Thin Layer Placement



- 2019 placement
- Georgia Southern University monitoring pre-and post-construction for biological recovery



# Beneficial Use - Thin Layer Placement





# Dune restoration and enhancement

## EXISTING CONDITIONS - 16<sup>TH</sup> STREET WASHOUT

The section between the Marine Science Center and 18th Street represent the most off used and populous area of Tybee Island. During Hurricanes Matthew and Irma, this area experienced a massive washout and complete destruction of the constructed dune system, exposing and damaging local businesses crucial to Tybee Island's tourist economy.





# Vehicular emergency access



2/18/2019

EXISTING CONDITIONS - HURRICANE DAMAGE



3/28/2018

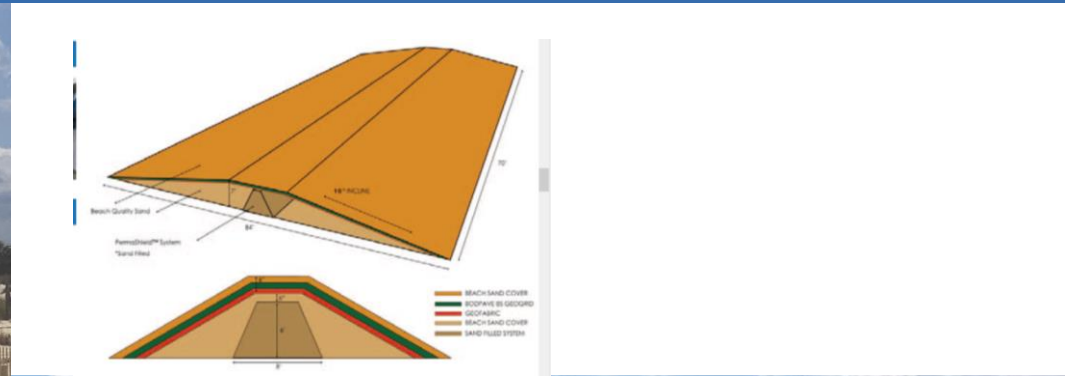


19<sup>th</sup> Street 10/29/2018

5/1/2019



# Vehicular beach access and dune plantings



5/1/2019





# Questions?



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