Identifying Impacts of Sea Level Rise on Coastal Archeological Sites, a Project of the Southeast Florida Regional Climate Compact

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1. Southeast Florida Regional Climate Compact
• Agreement across 4 counties on the southeastern peninsula of Florida
• The goal is to coordinate efforts to mitigate and adapt to climate change
• Addresses environmental, social, and economic disruptions
• Check out southeastfloridaclimatetockompact.org for more info!

2. Archeology in South Florida
• Native American archeological sites are ubiquitous in South Florida
• Site ages typically exceed 1,000 years, but can exceed 4,000
• Most sites are comprised of mounds (man-made dirt piles) or middens (trash heaps)
• Humans remains are present at most sites (Figure 2)
• Some ancient burial sites are already submerged under the sea, e.g. Manasota Key (7,000 yr old) is now 100 ft from shore.
• The Palm Beach County is current working to prioritize sites for preservation under various sea level rise scenarios
• Rapid wetting of sites causes artifact destruction.

3. This Project
• A barrier island archeological site was excavated in 2018 and 2019 as commissioned by the climate compact
• Shovel tests were used to determine site extent
• Three habitation sites were discovered and excavated a 1 x 1 x 1 m units.
• Units were excavated in 10 cm layers
• Artifacts (bone, shell, pottery) were retained for analysis
• After excavation ~600 g of sediment was sampled from the most intact unit wall
• Sediment was dried and sieved to attain moisture and grain size

4. Results
• Archeological sites on Florida barrier islands are at risk of destruction due to sea level rise
• Increased moisture due to sea level rise has already been observed at low elevation barrier island sites
• Site preservation and excavation plans must be adjusted to account for current impacts

References
3. Hughes, S. (2019) Low Archaeology Sites Found In Palm Beach County