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 southeastfloridaclimatetcompact.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

*Under Florida Statute Chapter 267 archeological sites are protected and not to be disturbed without appropriate permitting.

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References

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