



# Using Stable Carbon Isotopes to Reconstruct Sea-Level Change in Georgia for the Late Holocene



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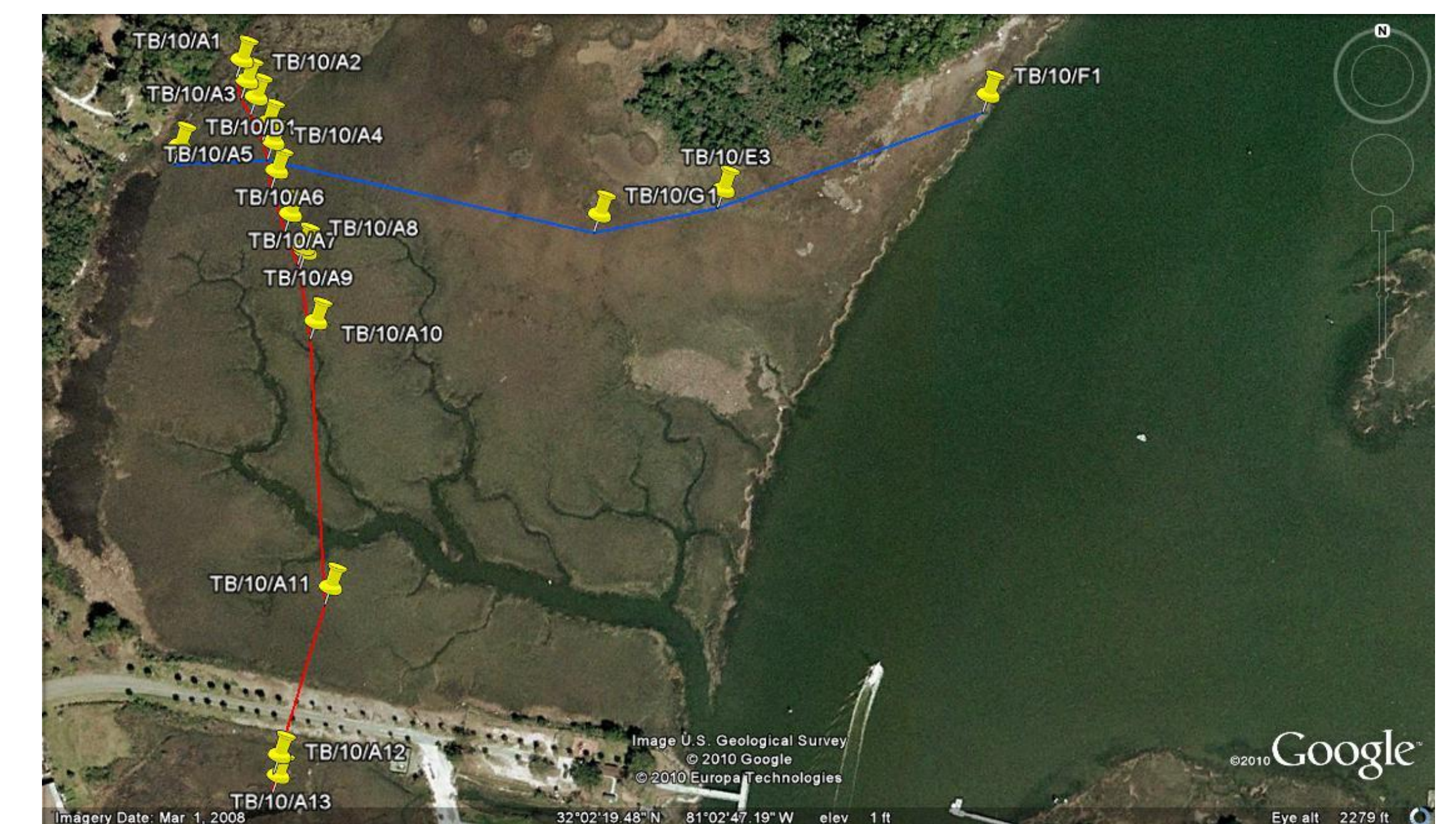
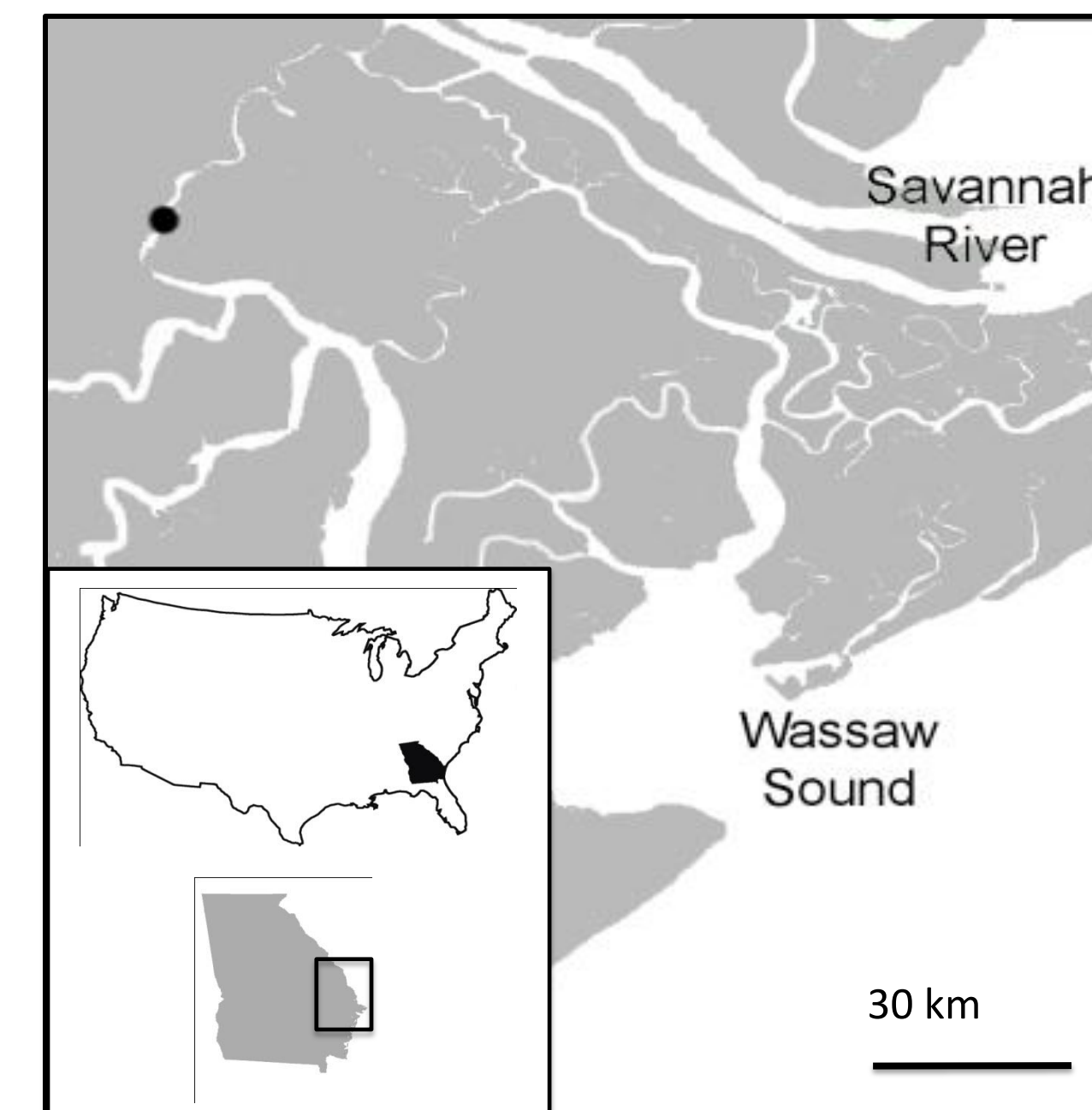
Research Question:

**Can we use  $\delta^{13}\text{C}$  as a reliable sea-level indicator in salt marshes to reconstruct past sea-level change?**

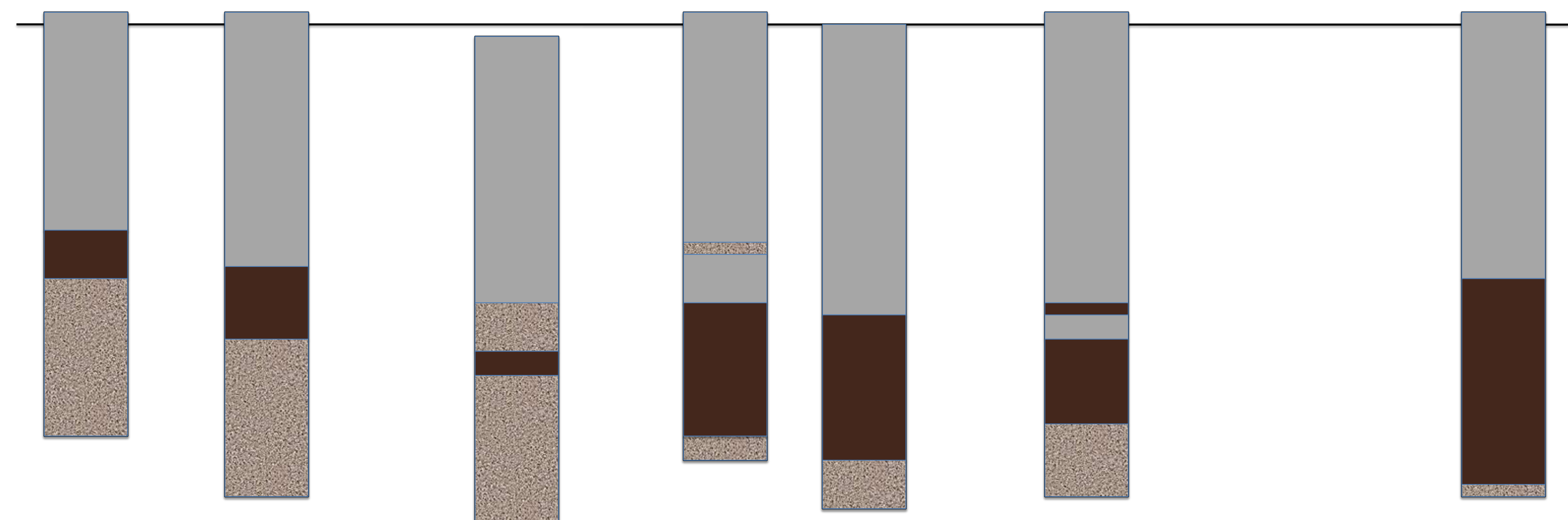
Project Aims:

- To construct a stratigraphy map representing the paleoenvironment
- To use mass spectrometry to analyze the geochemistry of a representative salt marsh core
- To use  $\delta^{13}\text{C}$  values to construct a sea-level profile for the coast of Georgia, USA

Sample Site: Thunderbolt, GA



Stratigraphy Map



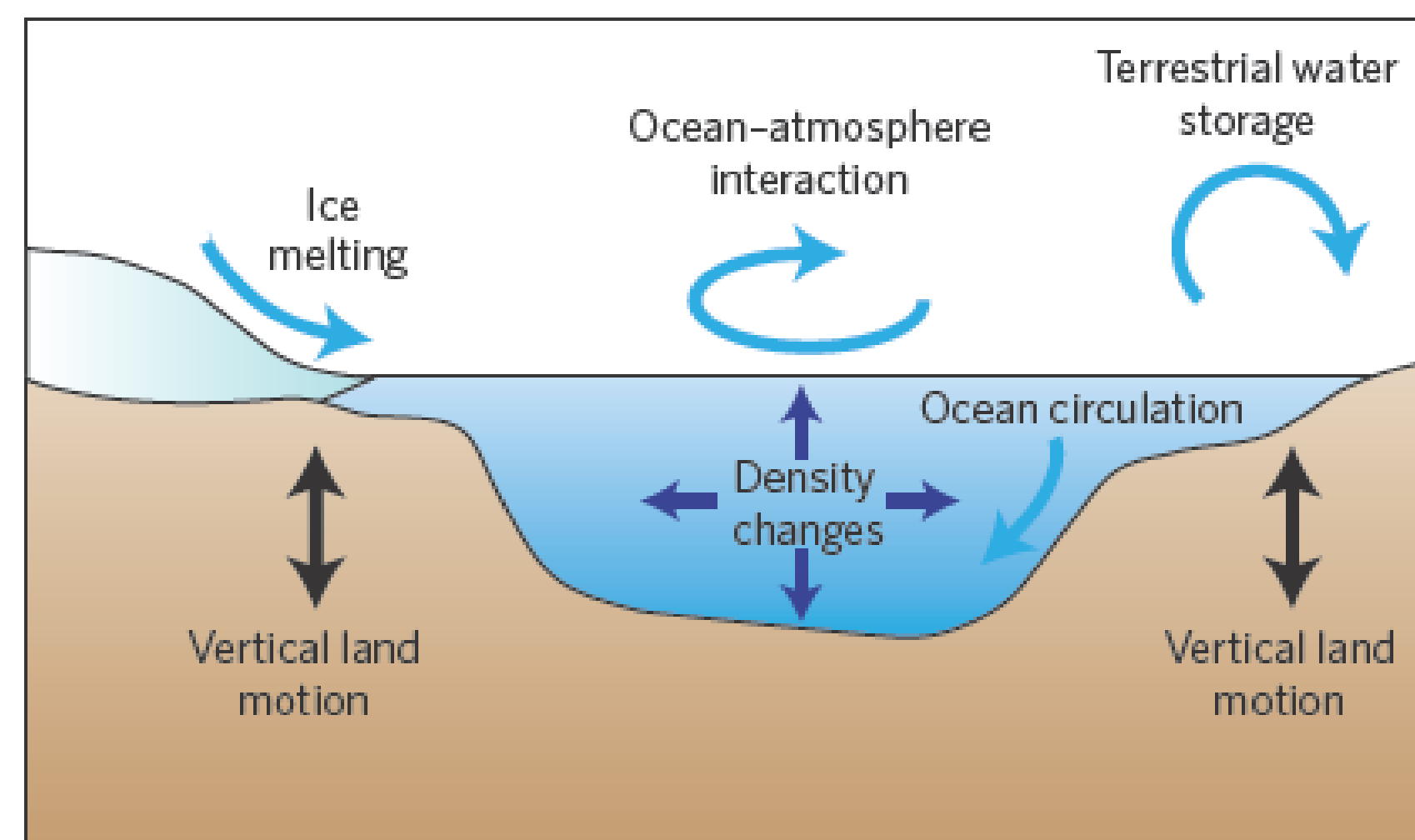
Clay  
 Peat  
 Sand

\*core widths not drawn to scale

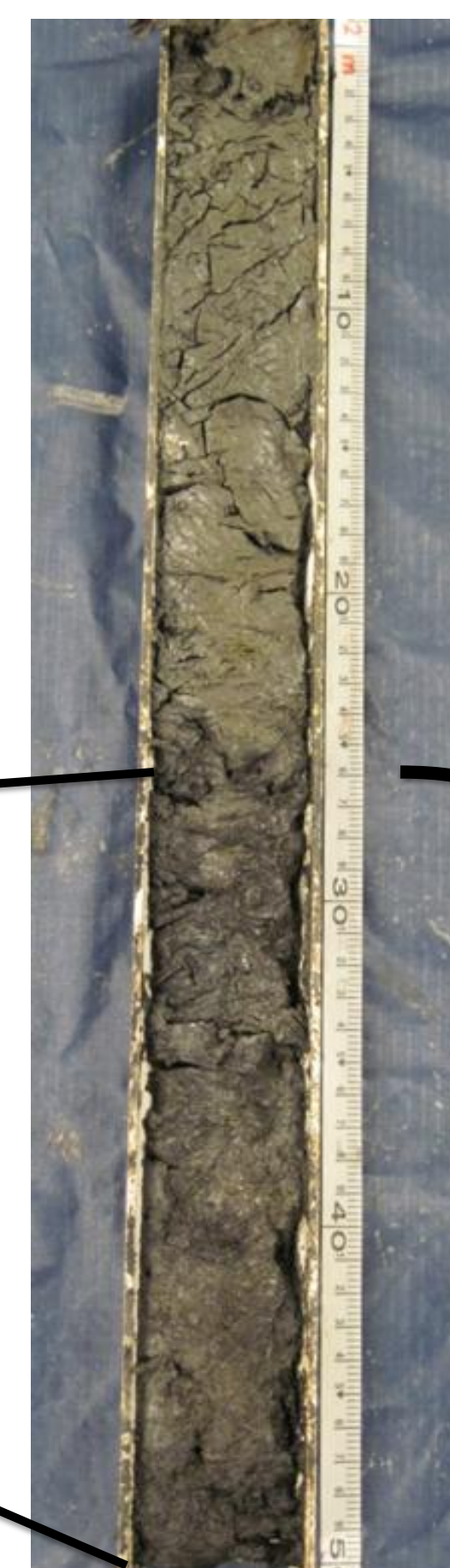
Horizontal 15 m

Vertical .5 m

Sea-Level Change Mechanisms

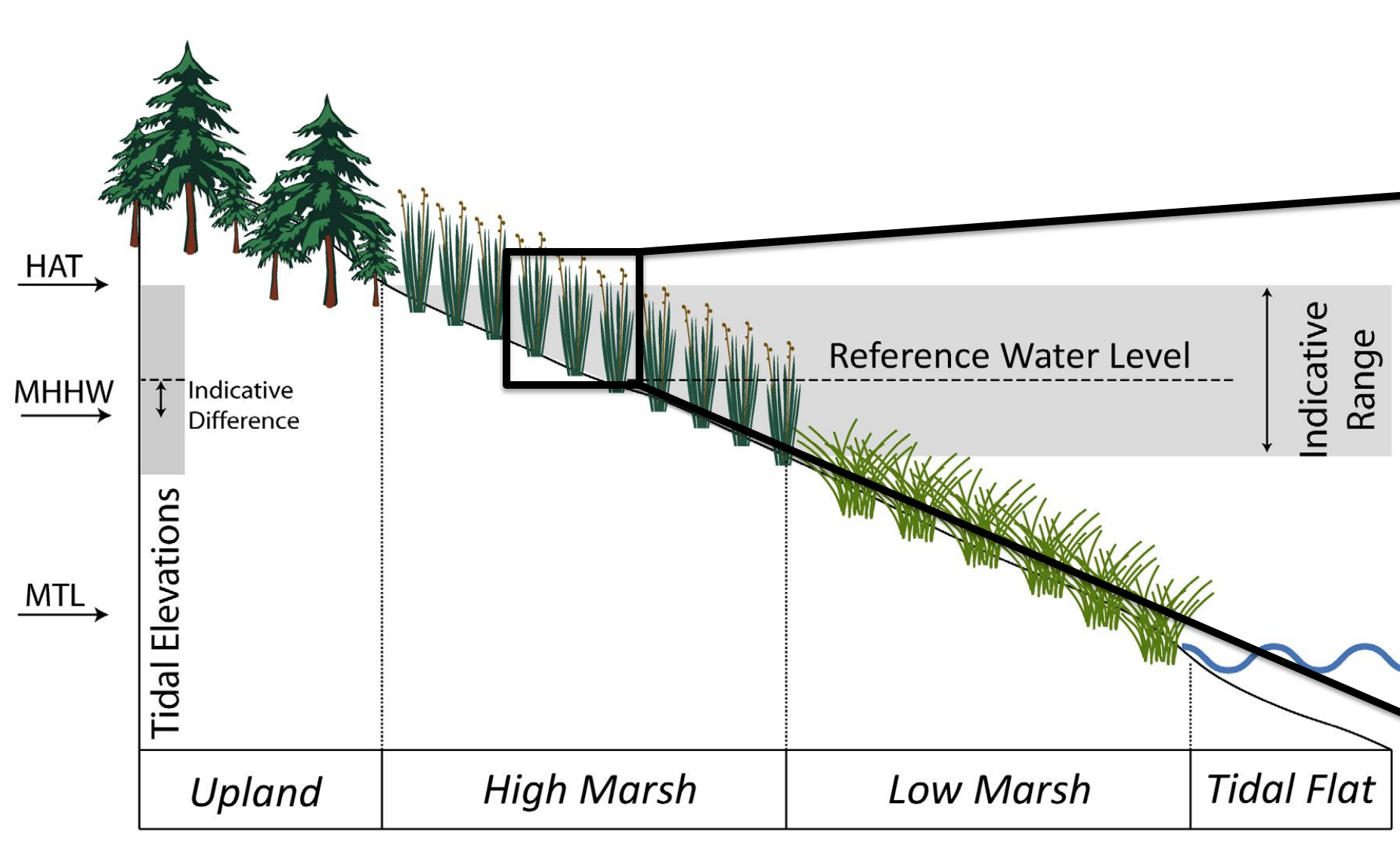


Paleoenvironment



High Marsh Peat

Modern Environment



Expected  $\delta^{13}\text{C}$  values:

- -17.6‰ to 16.1‰ (low-marsh *S. alterniflora*)
- -28.2‰ to -21.8‰ (high-marsh *J. roemerianus*)

Acknowledgements  
 Greg and Susan Walker Endowment  
 Earthwatch Institute