

POSTER PRESENTATION

EVALUATION OF DIATOM MIGRATION THROUGH SAND AT LOW TIDE ON ST. SIMONS ISLAND, GA

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Barrier islands incorporate various types of ecosystems including: open beaches, tidal streams, tidal ponds, mixed estuaries, and tidal marshes. The ecology of these habitats is largely unknown for the Georgia coast. Diatoms are a common algal group in sediment and beach samples. Diatom functional groups are based on the ability to move or attach to substrates. Diatoms move to the sand surface during low tide to access light. The goals of this study were first to document species composition of algae on exposed to desiccation sand at low tide. Second, to classify all diatoms based on their ability to move or attach. Third, to estimate species specific distance of movement along the known gradient. The distance travelled was measured by taking known heights (0.5 cm, 1 cm, and 2 cm) of sand samples at the same time of the day during low tide using Petri dishes. Collections were repeated, resulting in 27 samples collected from May and June 2016. Algal communities were dominated by live diatoms (99%). Within the diatom community, biraphid diatoms such as representatives of the genera *Nitzschia* and *Navicula* had 50% and 25% relative abundance respectively. Chain forming marine planktonic diatoms like *Cymatosira belgica* Grunow (20%) were probably deposited on the surface as the ocean retreated. Species richness was significantly different between distances to reach the surface, but biodiversity remained high in all samples. There was a higher percentage of biraphid diatoms at 2 cm compared to 0.5 cm. Biraphid nitzschioid diatoms presented a higher probability for survival deeper in the sediment.