

Reef Arches

Ais Lookout Point



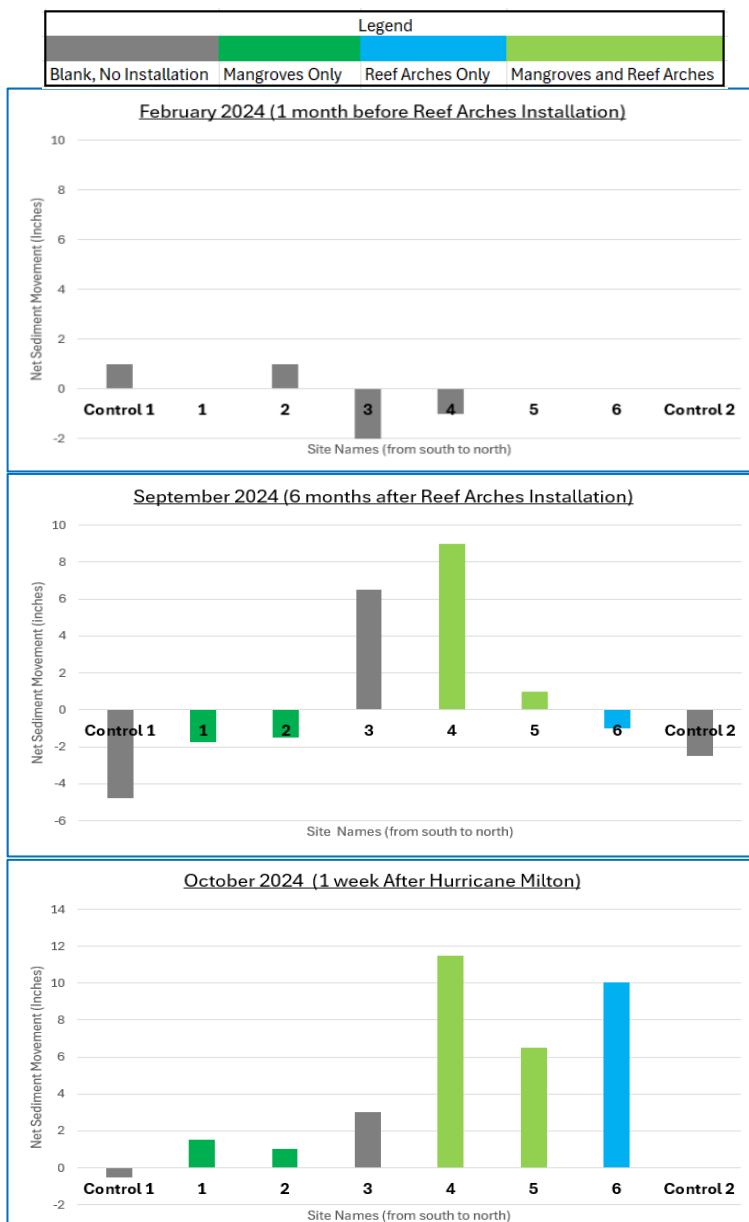
Project Description

This installation is located at Ais Lookout Point, MRC's Palm Bay headquarters. In late March of 2024, MRC partnered with Reef Arches to install 37 breakwater units to help stabilize an eroding bluff and protect a nearby historical Ais Shell Midden from collapse. The units were deployed into three 50-foot sections to shield 150 feet of the shoreline. In July of 2024, over 130 red mangroves were planted with the breakwaters to create a hybrid living shoreline.

MRC researchers have been closely monitoring this deployment area, where they are experimentally testing the efficacy of varying shoreline restoration techniques. Monitoring includes water quality measurements, assessments of sediment health and movement, and the presence of animals like fish, dolphins, wading birds, oysters, and benthic invertebrates.



All Data and Graphics provided by Jessica Cline, Research Coordinator at the Marine Resources Council



What is Sediment Accretion?

Sediment accretion, the opposite of damaging erosion, is the build-up of sediments by natural means. On this hybrid living shoreline, accretion occurs by “alluvion”, or the washing up of sand and soil onto the shore, which helps to widen the beach.

How Accretion is Measured

Sediment movement is monitored by MRC using a standard USGS sediment pin methodology. A 72-inch PVC pole was placed in each site and hammered into the sand until exactly 36 inches remained above the sediment surface under the water. Researchers then measure how much of the pin is still exposed monthly. If there is more PVC exposed than the original 36 inches, erosion has occurred as sand has been moved away. If less of the pin is exposed, sediment has been accreted, and the beach has grown.

Effective through Obstacles

It should be noted that this Reef Arches deployment has only been in place for 7 months as of October 2024. During this time, the breakwaters have not only survived but continued to build sediment through Tropical Storm Debby, multiple king tide events, and Hurricane Milton.