St. Catherines Island RESEARCH AND CONSERVATION

No Wake Zone

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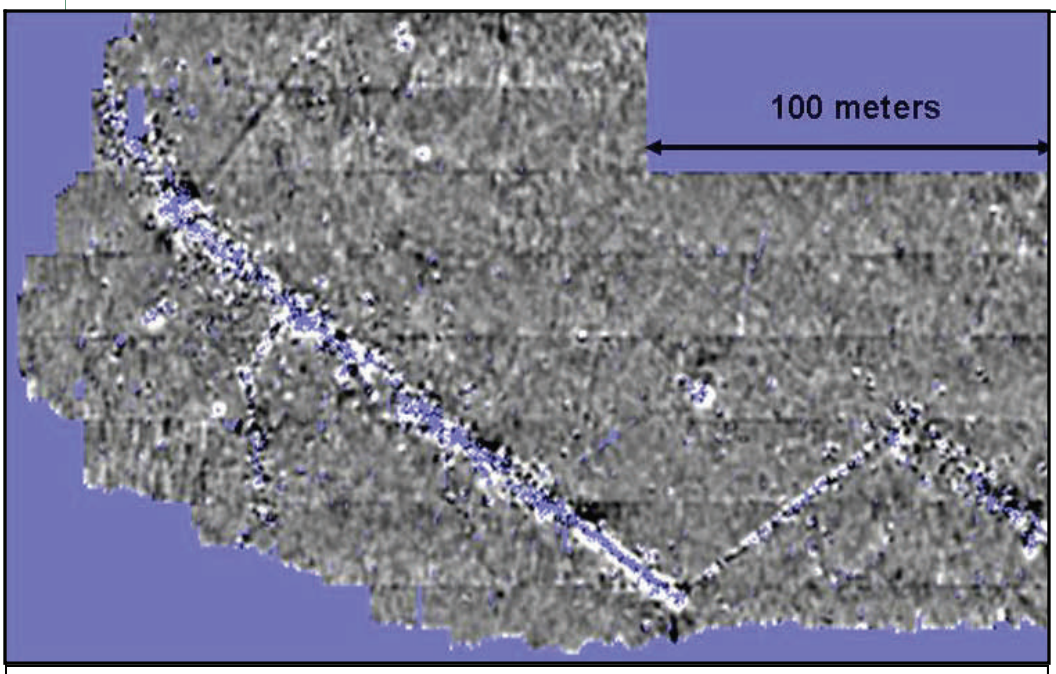


Figure #1. Recently collected gradiometer data from Meeting House Field. The blue section to the left and bottom of the image is the marsh-edge abutting the inter-coastal waterway and Cattle Pen Creek. The linear feature marked in black and white is the historic field boundary; the pre-historic features are lighter gray circles and lines throughout the image.

Sneaking a Peek into the Past: The Remote Sensing of Meeting House Field

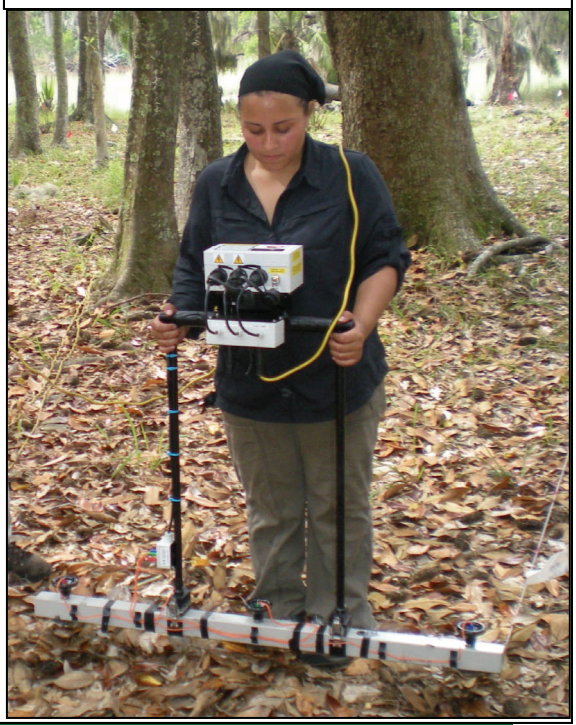
Ginessa Mahar – American Museum of Natural History

If you happened to visit us down at Meeting House Field during our last field season (in May) you saw thousands of red and white flags marking out a grid system all over the southwestern part of the site. This grid allows us to section off the site into manageable units so that we can conduct remote sensing surveys.

Remote sensing has become a very important part of the archaeology (and geology!) on St. Catherines Island; we have been using various methods here on the island since the late 1970s – that's how we found the mission. Before we excavate a site, we first survey the area using different geophysical techniques, to get a better feel for the layout and structure of the site. Over the years, we have found that soil resistivity and gradiometry are the most accurate and efficient methods for detecting the archaeology on St. Catherines Island.

Soil resistivity (figure #2) records the relative moisture of the ground by measuring the speed at which an electrical current can pass through it. Certain archaeological features will either hold onto moisture or resist it; for instance storage pits hold onto moisture, while buried building foundations or shell piles resist moisture. The gradiometer detects differences between the earth's magnetic field and the archaeological record, helping us find buried features like fire pits and burned walls or structures.

Fig. 2 Jennifer Salinas with the RM15D Soil Resistivity Meter



The heavy rainfall in May basically "flooded" our soil resistivity equipment, and we could only collect a limited amount of data. Fortunately, gradiometry is not as weather dependant, and we were able to survey over 100 20x20 meter blocks – roughly six football fields! Everyday, we came back to Bradford Hall to view the day's survey results on the big screen "Data Viewer" (otherwise known as the high definition flat screen TV).

These data have already informed our ongoing interpretation of the Meeting House Field site. Early excavation results, plus the new remote sensing data lead us to believe that this large, Pre-Contact village (800-500 years old) was part of the greater Native American community known as Guale. Looking at the geophysical data, we think that we're looking at buried archaeological features including round and square structures, trash pits, and central plaza areas (see figure #1)

Very rarely do archaeologists have the opportunity to look at an entire community structure, especially on a site this size. We look forward to future trips, when we will collect additional remote sensing data and "ground truth" (excavate) some of the most intriguing features still buried at Meeting House Field.

Editor-in-Chief Jenifer Hillburn

St. Catherines Island Sea Turtle Program SCISTP June Summary By Dr. Gale Bishop

The St. Catherines Island Sea Turtle Program completed its 18th year with the completion of 9 teaching units on May 12, 2009 by 2008 Teacher-Interns for use in their specific classrooms under the umbrella of a Spring Semester GSU course (Georgia Southern University GEOL 5741: Conservation of Sea Turtles). The St. Catherines Island Sea Turtle Program launched its 19th consecutive year conserving loggerhead sea turtles on St. Catherines Island on May 2, 2009. Beaches are annually monitored on a daily basis or 151 days from May 1 to September 30. By the end of June, 2009, Gale Bishop had monitored for 55 days and Alyse Eddy had monitored for 42 days validating and conserving nests as they were deposited.

Our total 2009 activity as of June 30, 2009 now includes 57 nests compared to last year's 81 nests at the end of June. Nesting for 2009, is thus 70.37 % of 2008's near record year for nesting through the end of June.

Significant events in June included a series of exceptionally high spring tides for eight days on the June new moon (June 22)... tides that seemed to be even higher than predicted (at 8.9 feet) due to continuing sea level rise. During this set of tides the marshes surrounding St. Catherines Island simply "disappeared" beneath the tidal flooding, even without the effects of a storm! These tides affected monitoring for sea turtle nests by making them hard to see (no visible crawlways when the tide was so high) and difficult to monitor using our "beach roads" due to rapid tidal flows (especially on flood tides!), trapping Bishop three days in a row on McQueen Dune Field at the north end of South Beach. This tidal set coincided with a spike in nesting ... so we expect to see several "wild nests" appear upon hatching in about 60 days. [Wild nests are nests that were not seen and documented when deposited, but are recognized upon hatching and emergence of hatchling at previously undocumented sites.]

The 2009 SCISTP is principally funded through the Georgia Improving Teacher Quality Program ($75,855) with significant in kind support from the St. Catherines Island Foundation.

The SCI GaDNR Database shows that through the end of June, St. Catherines Island (2009) has had:

False Crawls: 128

Nests: 57 (4 lost)

Ratio of Non-Nesting Crawlways to Nests: 2.25:1 [Note ... the ratio for all Georgia Barrier Islands is ~ 1.35:1.]

Relocated: 38 (66.6%)

Estimated Eggs to Date: 4556

Eggs Lost: 176 (3.8%)

No Hatch as Yet

Mean Clutch Size: 117.2 eggs

Picture of G-9 put onto backbeach on the Big Washover Fan before being high-tided on Friday morning, June 26, 2009.

Atlantic Triple Tail By Chuck Lambert

June was a good month for the fish crew from Augusta State University. The sun was warm and the light winds from the southwest kept the surf down which made working the beaches enjoyable. Our seine hauls yielded big numbers of baitfish such as Inland Silversides and Bay Anchovies as well as surprisingly large numbers of Atlantic Menhaden. These are good omens as they are the food supply many birds and larger fish including many species of gamefish sought by local anglers. Also encouraging were the numbers of large pregnant Atlantic Stingrays we encountered as well as the appearance of hardhead catfish.

The most exciting catch though was our first Atlantic Tripletail, *Lobotes surinamensis,* a juvenile which measured a mere 3cm caught in a haul on North Beach. Although found in other parts of the world, on the east coast of the Americas the Tripletail can be found from Massachusetts and Bermuda to Argentina and is most common in tropical and subtropical coastal waters. It is a semi-migratory pelagic (open water) fish but can be found hanging around pilings and buoys in bays, sounds and estuaries during the summer months. They can grow to a size of 35 inches and weight of 41 lbs. and have a delicate flavor. Large and rounded soft dorsal, caudal and anal fins give the impression of three tails and the origin of the common name. It's always exciting to add another species to our list of fish which live around Saint Catherines Island, but even more so when had it not been for sharp eyes this 3cm darkly-colored Tripletail could have easily been mistaken as just another piece of organic debris.