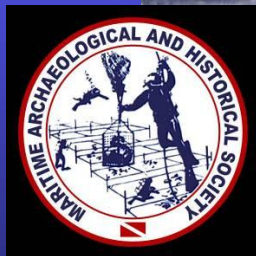
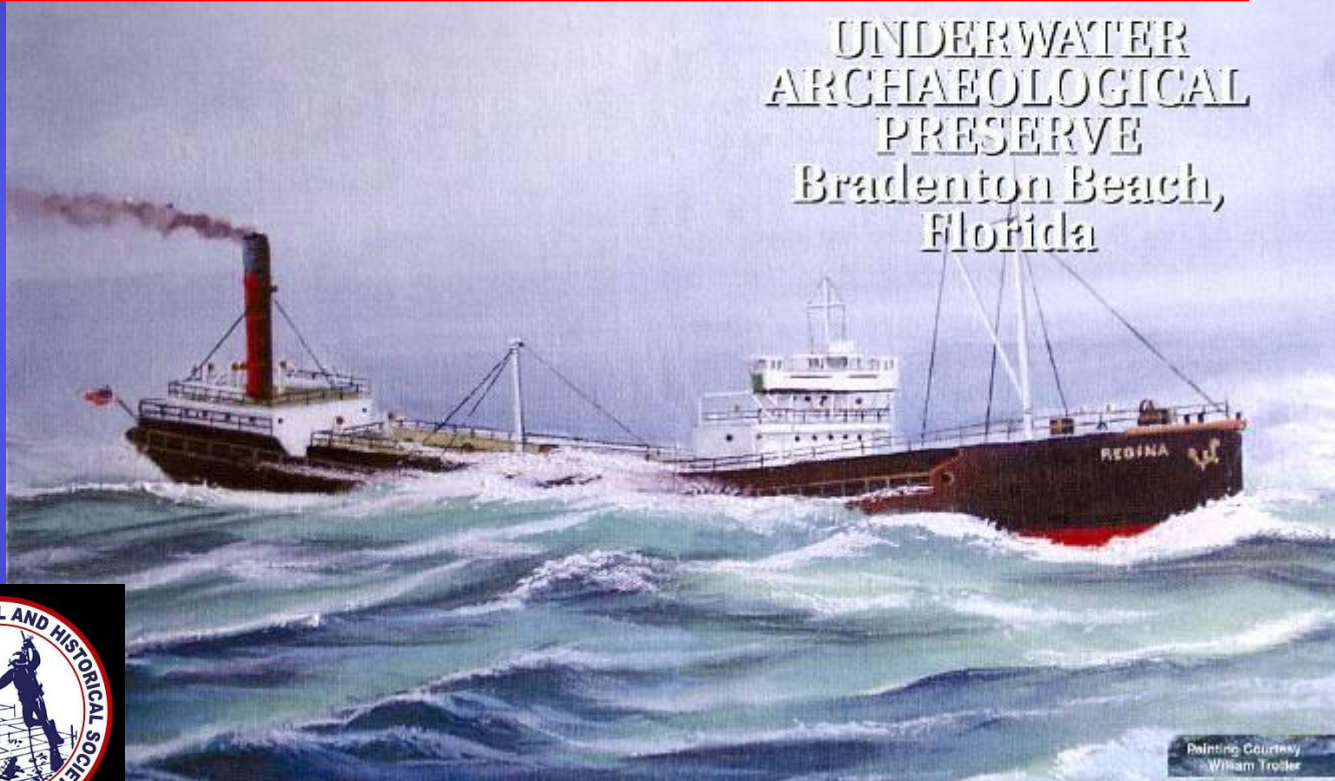


**MAHS FIELD SCHOOL
IN UNDERWATER ARCHAEOLOGY
JUNE 2007
SURVEY OF THE STEAMSHIP *REGINA***

REGINA

UNDERWATER
ARCHAEOLOGICAL
PRESERVE
Bradenton Beach,
Florida



MAHS held a field school in June 2007 at the site of the *Regina* shipwreck, one of Florida's newest Underwater Archaeological Preserves.

Some years we have held our field school locally in the Mid-Atlantic area, on sites in the Chesapeake Bay or one of the local rivers. In 2007 we chose a site in clear, warm water. Not surprisingly, student response was high, enough so that we ended up running two classes, end-to-end.



The site is located just off-shore along Anna Maria Island in Bradenton Beach.

Regina was built in 1904 in Belfast, Ireland, for the Cuban Molasses Transportation Co., based in Havana. She was 247 ft. in length, with a 36 ft. beam, a 14 ft. draft. She was one of a fleet of vessels specially built to haul molasses from Havana to New Orleans, where the material was distilled to make rum.

Specially built ships were needed to transport molasses because it is a dense liquid and thus is very heavy. In addition, it is extremely viscous when cold and requires special tanks, pipes and pumps for handling.



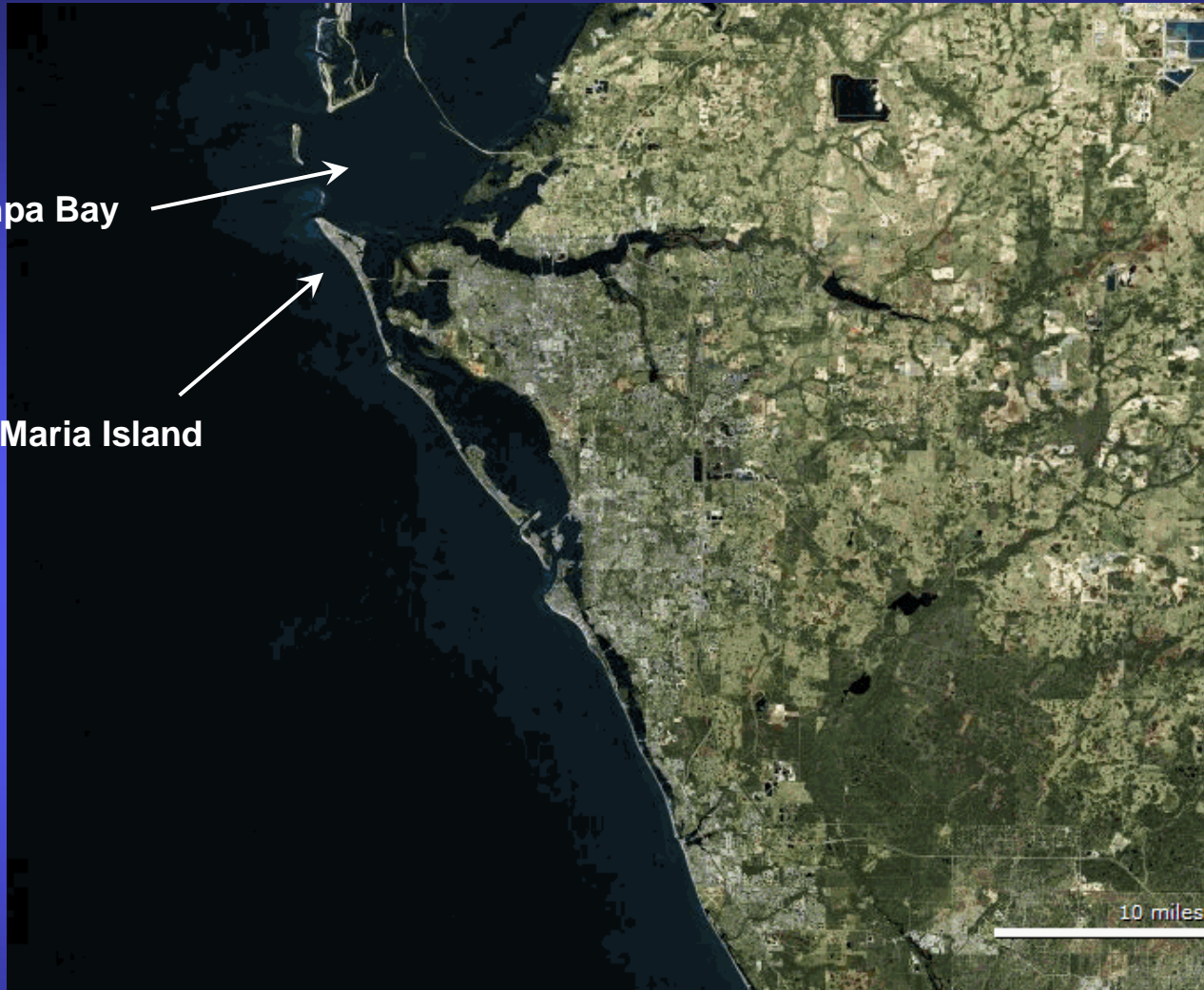
The image above is of the SS *Inverlago*, a tanker of the same size and age as *Regina*.

Because of their special construction, these haulers were not readily abandoned but were used long past what might be considered their normal life span. *Regina* served as a tanker for several decades and was eventually converted into a tanker barge when her engines finally gave out.

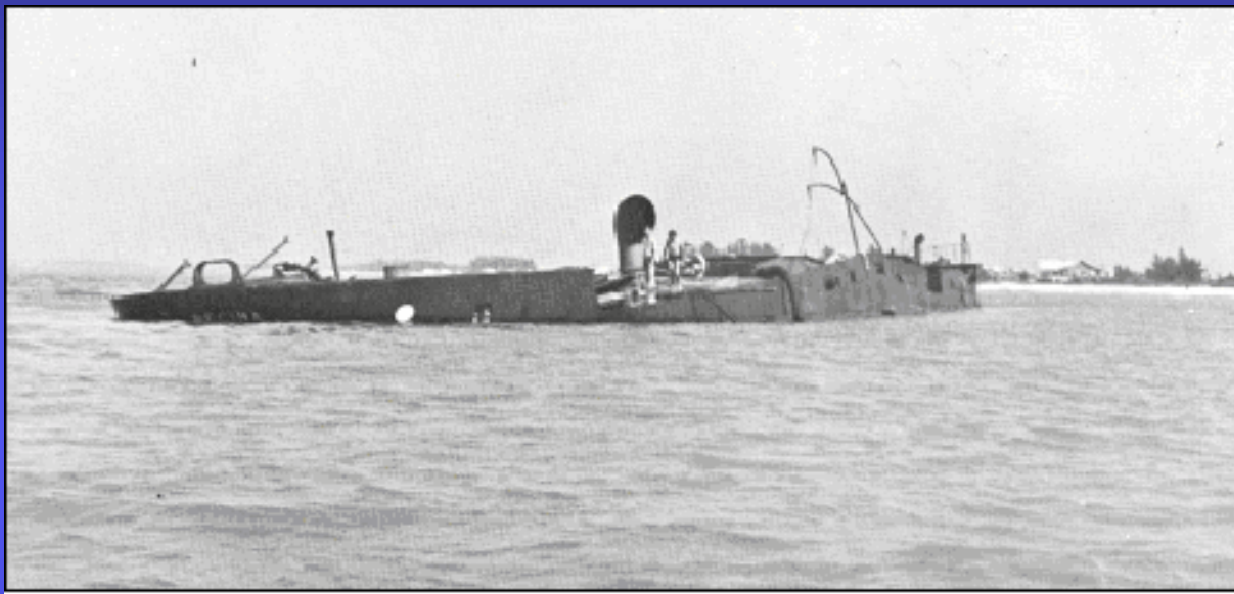
Still serving on the Havana to New Orleans route, the barge *Regina* was being towed across the Gulf in March of 1940 carrying 350,000 gallons of molasses when she was struck by a late Spring storm. Gale force winds, 8-10 foot seas, and freezing temperatures prompted the tug that was pulling her to head for the shelter of Tampa Bay.

Entrance to Tampa Bay

Anna Maria Island



She almost made it, but her tow lines parted as she neared the mouth of the bay and she drifted into a sand bar along Anna Maria Island.



The incident occurred in the afternoon. The local populace soon became aware of the plight of the barge and her crew and notified the Coast Guard.

The cutter *Nemesis* was dispatched to effect a rescue, but due to the high seas and shallow waters, the vessel could not get close enough to help.



The crew of 8 remained on-board overnight. In the morning a Douglas RD-3 Coast Guard patrol airplane dropped life preservers to the crew – all but one lifejacket missed and washed ashore.



In the end, there were only two casualties. One crewman (the cook) tried to swim ashore. His dog followed him – neither one made it.



The rest of the crew was safely rescued, but *Regina* was a total loss. She remained a derelict on the sand bar, slowly breaking up and sinking into the sandy bottom.



The rest of the crew was safely rescued, but *Regina* was a total loss. She remained a derelict on the sand bar, slowly breaking up and sinking into the sandy bottom.



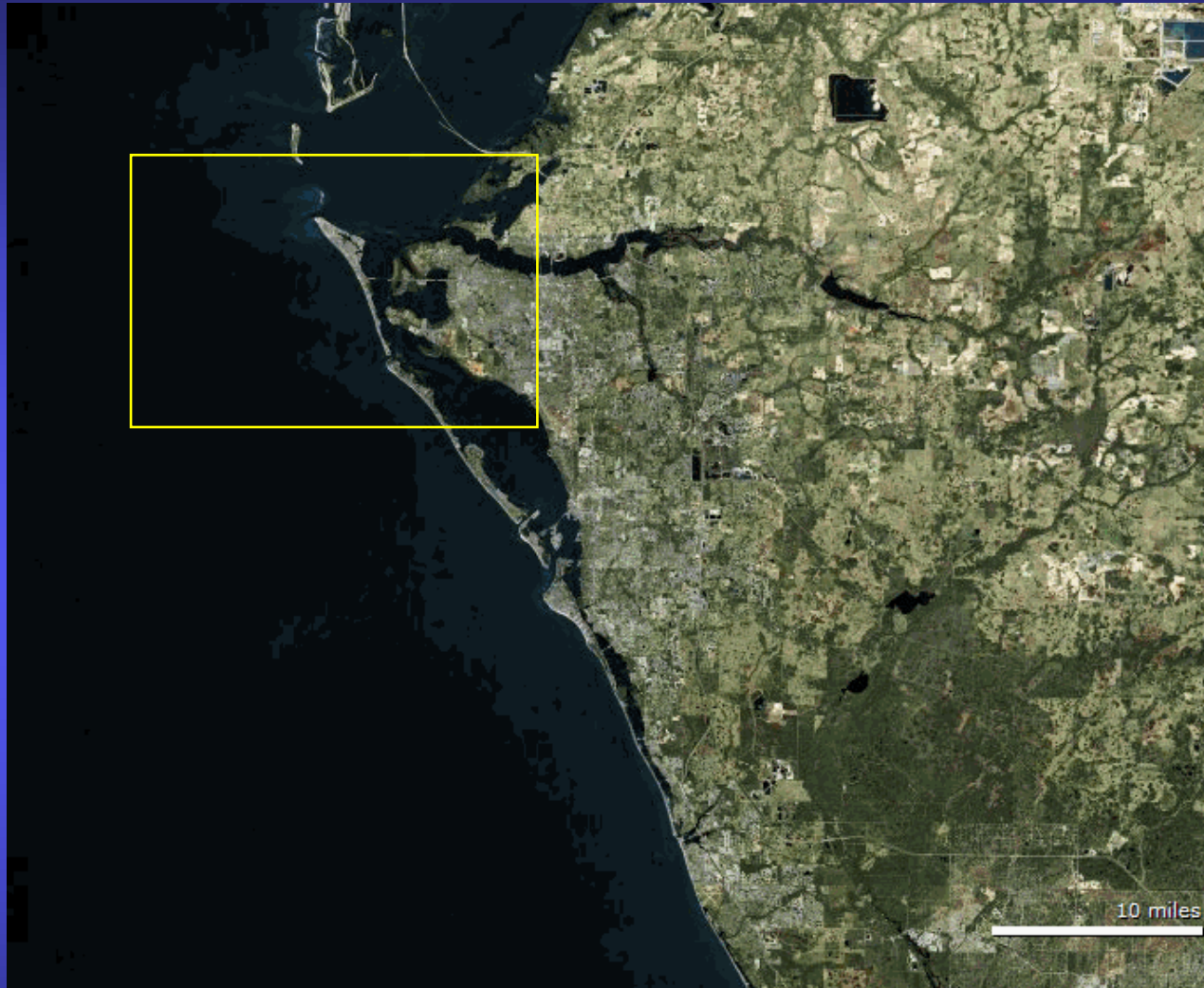
Fast-forward nearly 70 years. This is almost the same scene as in the previous slide. A kayak is anchored over the stern of the wreck as a buoy and work platform.



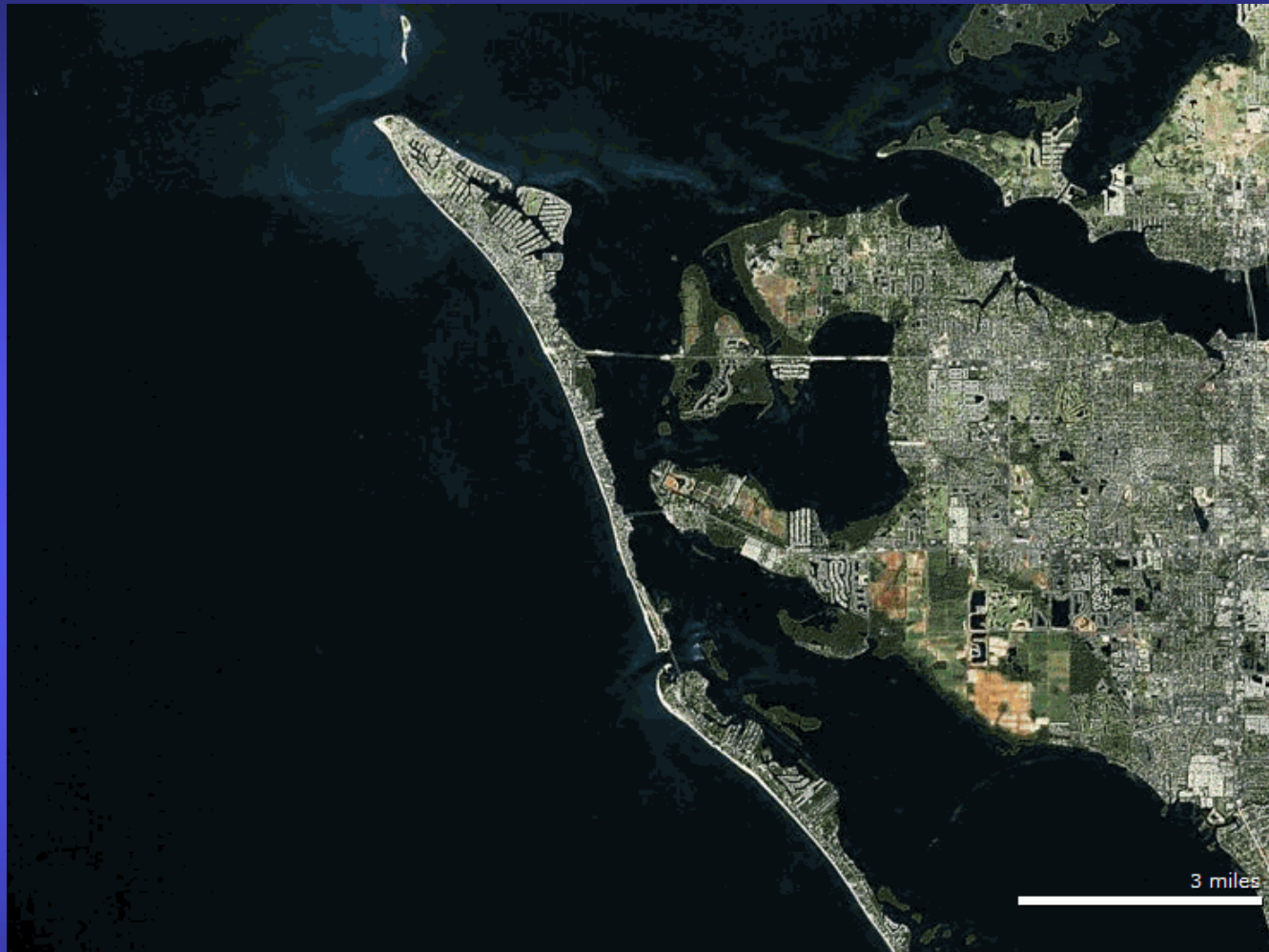
Fast-forward nearly 70 years. This is almost the same scene as in the previous slide. A kayak is anchored over the stern of the wreck as a buoy and work platform.



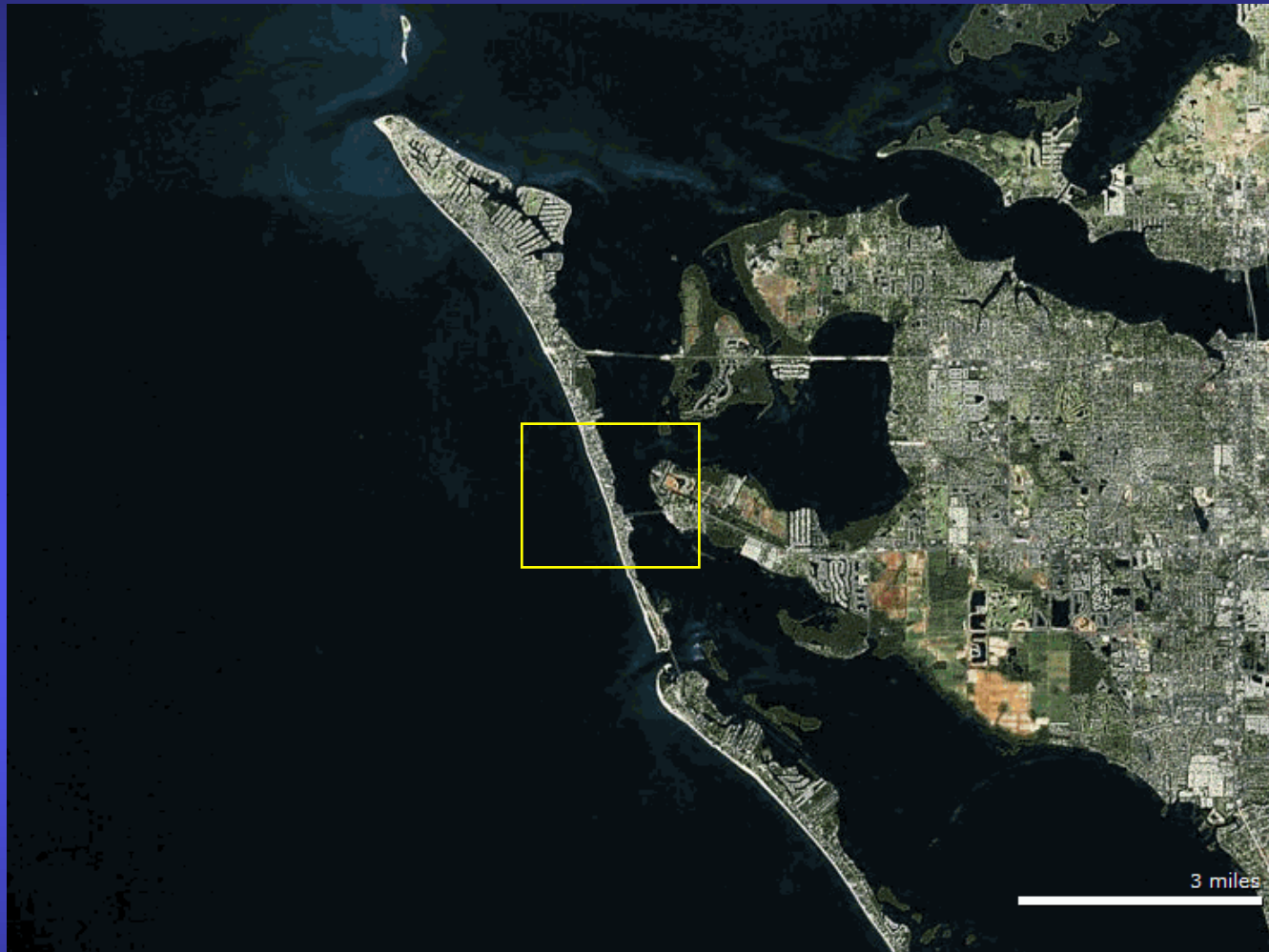
Anna Maria Island is one of a string of barrier islands along the Florida Gulf Coast.



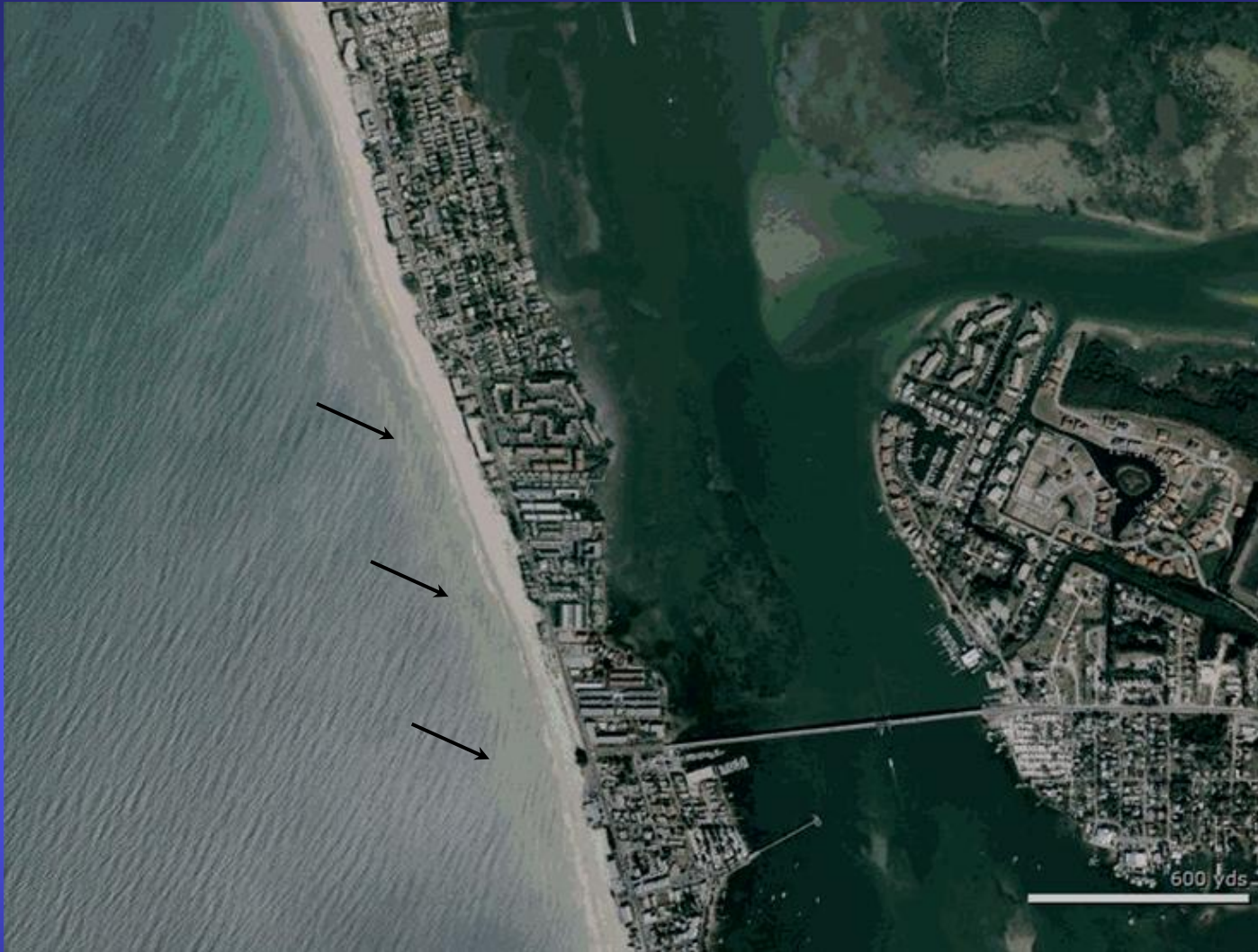
For many of us living near the Mid-Atlantic coast it is not news that barrier islands are not permanent shoreline features – they tend to come and go over time. Let's zoom in for a closer look at Anna Maria Island...




We spend millions to save Cape Hatteras lighthouse on the Outer Banks, for example. And the cut in Assateague Island below Ocean City, Maryland, is comparatively recent, formed during a hurricane in the 1920s.



Now we'll zoom in to Bradenton Beach, where the wreck is located.



Here we can see the remains of the sand bar on which *Regina* was grounded, part of the eroding edge of the island.



In recent years beach communities have tried to bypass the processes of erosion by which these islands evolve by “replenishing” the beach with sand dredged from a mile or two off-shore.

A beach replenishment project was conducted at Bradenton Beach a few years ago and, no surprise, the sand is now slowly washing back out into the Gulf. In the process it has all but buried the remains of *Regina* – good for the wreck, since the sand protects it, but bad for the visiting archaeologists, since you can’t see much.

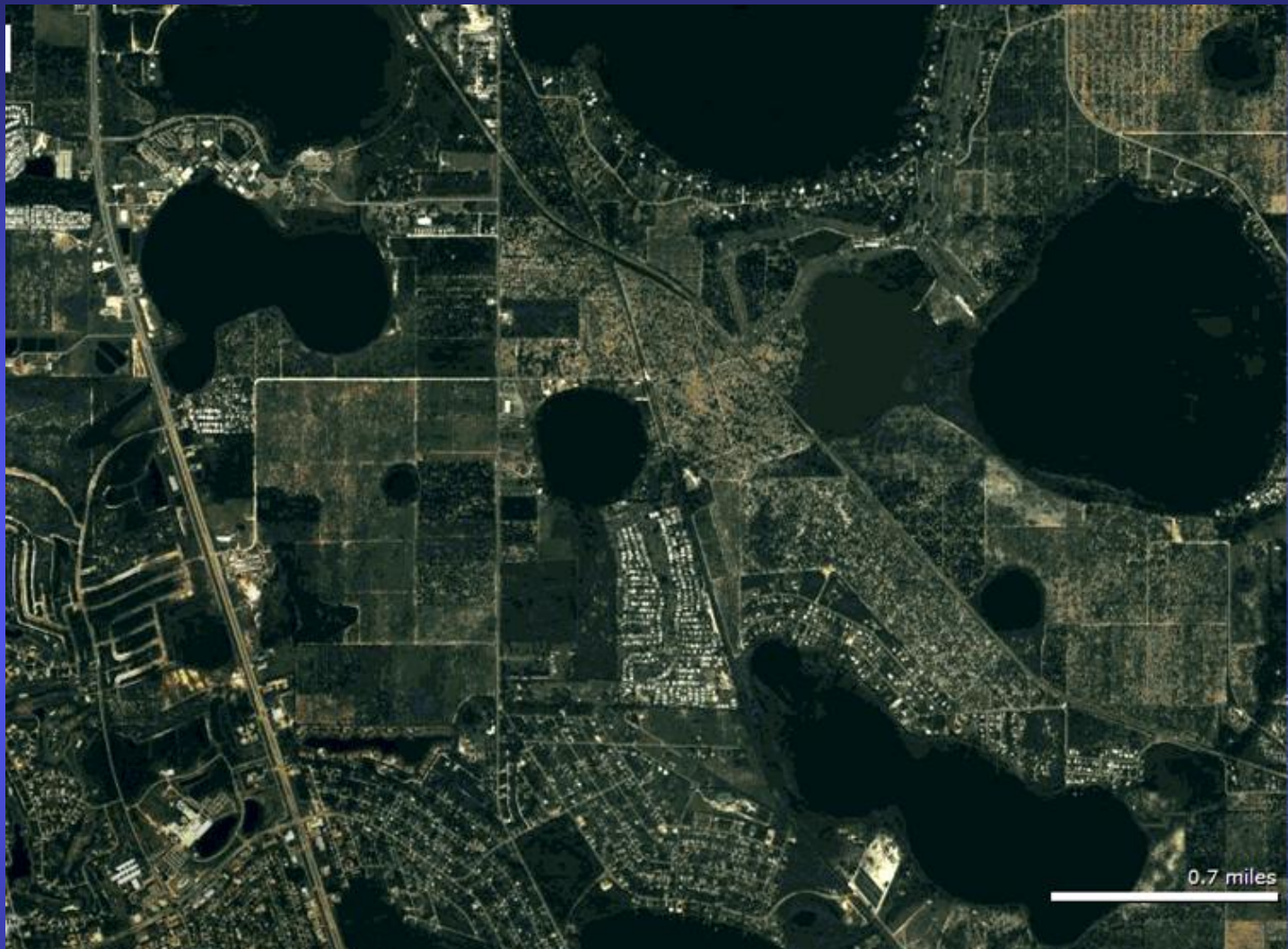


Weather is always a concern when planning a project in Florida in the summer. While we did not have a hurricane like this to contend with, we did arrive in Bradenton to 8-10 knot winds and 3-4 foot swells. We tried to swim out to the site, but the on-shore current was too strong.

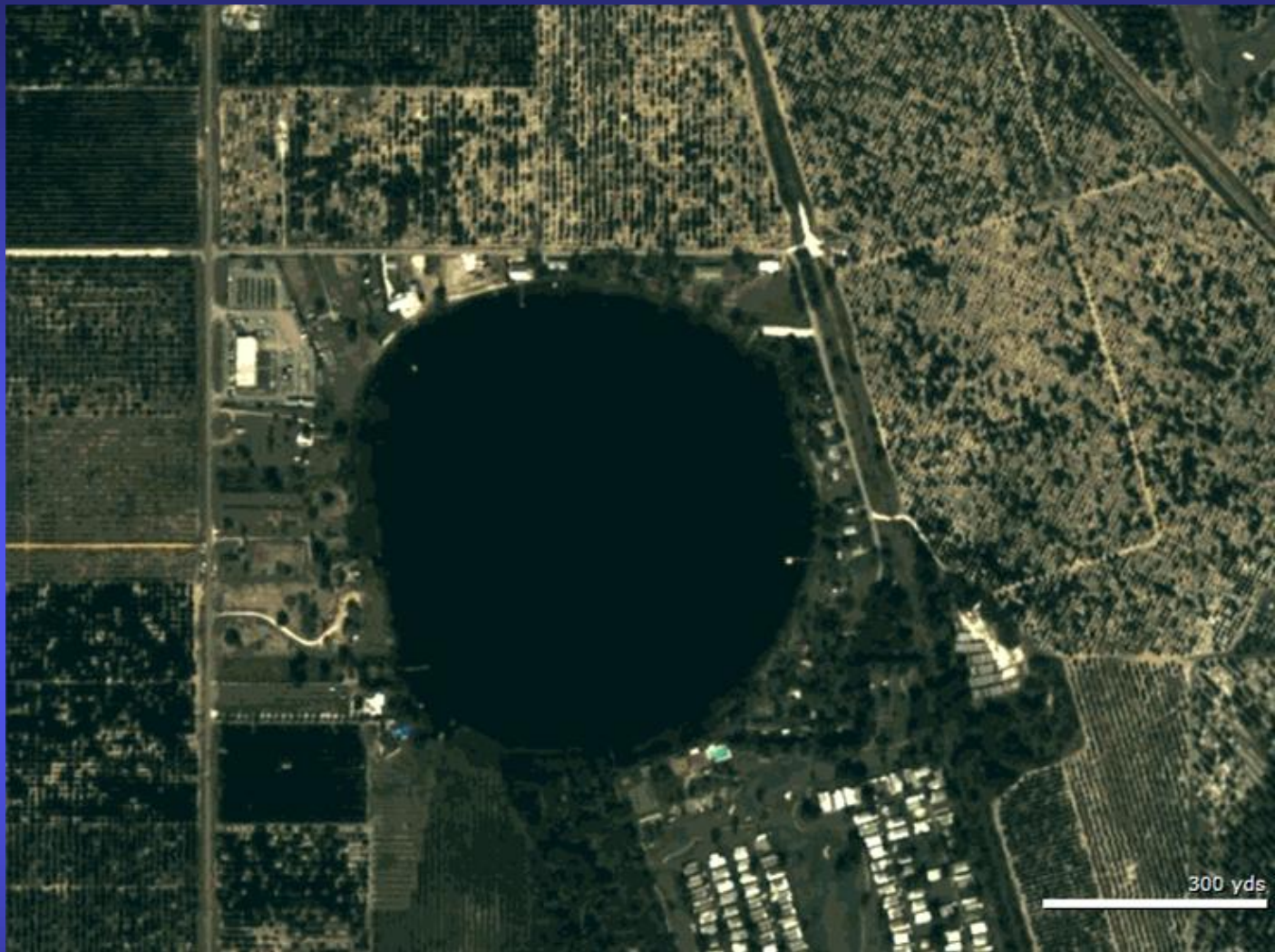
Thanks to one of our contacts in the area, who was also one of the students, we had a back-up site...



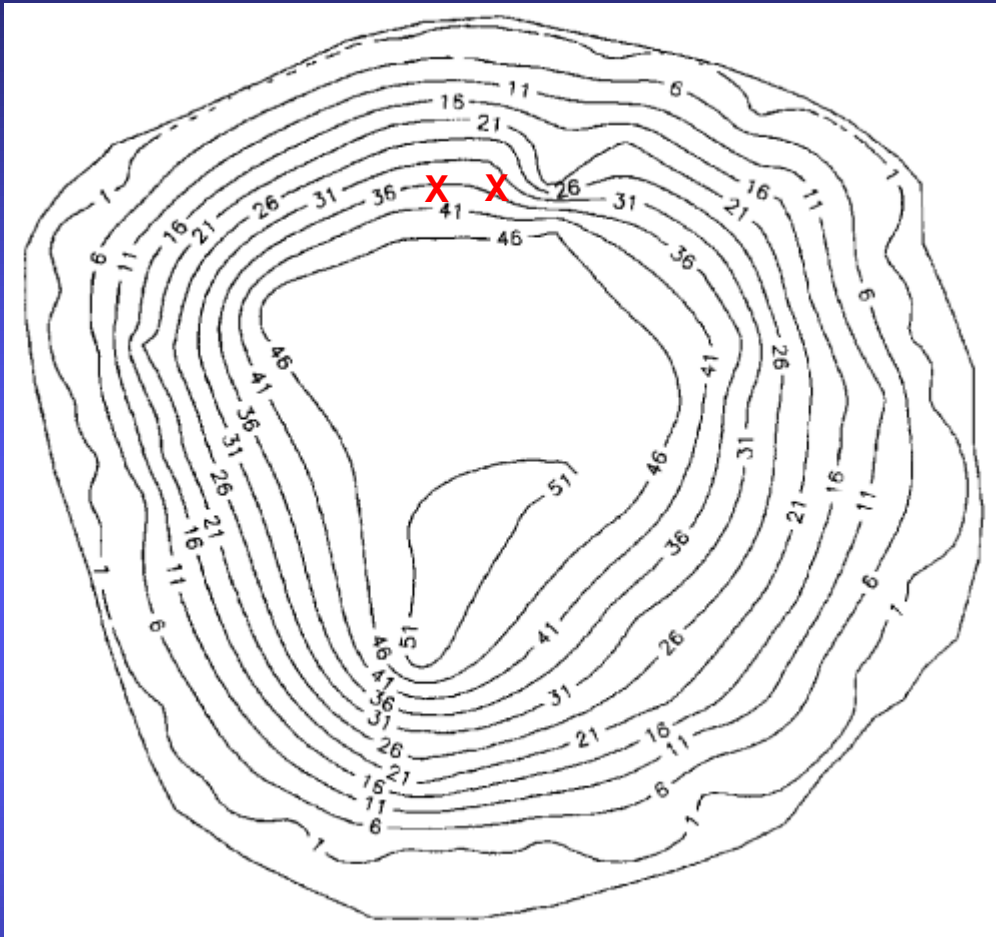
...Lake Denton, about a 2-hour drive to the east. It is one of a series of spring-fed sinkhole lakes that dot the center of the state.



All of the round lakes in this satellite photo are sinkhole lakes. Lake Denton is in the center of the picture, surrounded by orange groves and trailer parks.



The lake is used by area dive shops for check out dives, like the quarries up in our part of the country. Several boats have been sunk in the lake for divers to swim around. They're perfect subjects for mapping exercises.



This is a map of the bottom topography, or bathymetry, taken from the internet. The red crosses are approximately where we were working. The map indicates a depth of 36 feet, although in fact it was more like 20-25 feet. There has been a drought in Florida again, and lake levels are low.



This is a panoramic view of the lake as we arrived.



Tom Berkey, the MAHS Education Director, got the class off the hot beach and into the cool lake to do in-water weight and buddy checks.



The divers were ready to go.

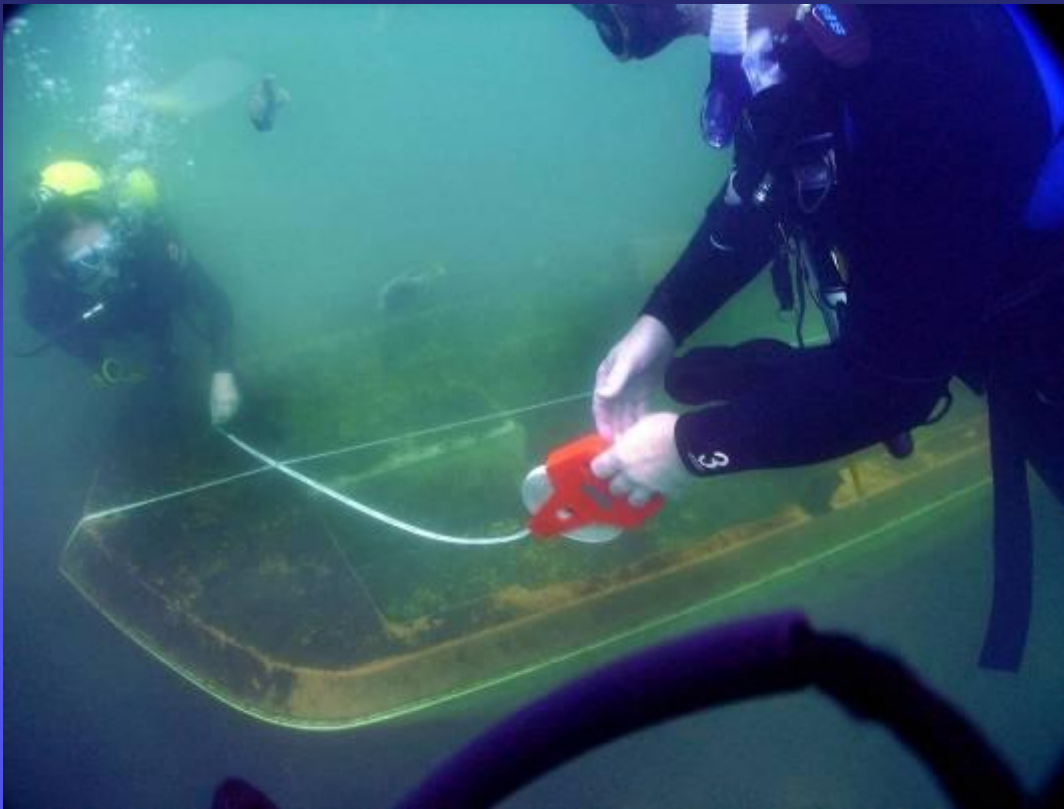


Finally, we're underwater.



The bottom sediments were sand,
with plenty of grasses and algae.
The water was relatively clear unless
divers stirred things up.

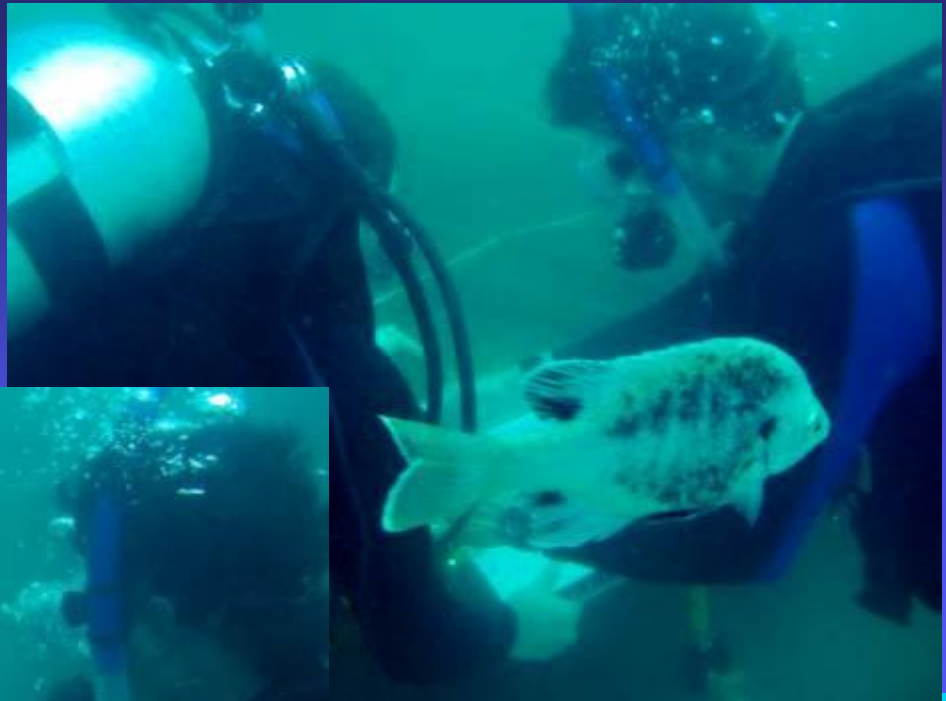




Above is one of the small fiberglass boats. We ran a baseline down the center and worked from that.



More mapping.









The small lake fish were pretty interested in what we were doing.



Some divers seemed to attract more than others.



Lots of fish.

The weather was better the next day so we were back on the beach. Here Tom and Steve are demonstrating trilateration.



We have the class run through the exercise on dry land to be sure that they understand the process and have a chance to practice their techniques and communication. Once underwater you lose the ability to discuss things with your buddy.



Steve gives instructions to the dive teams as they prepare to enter the water.





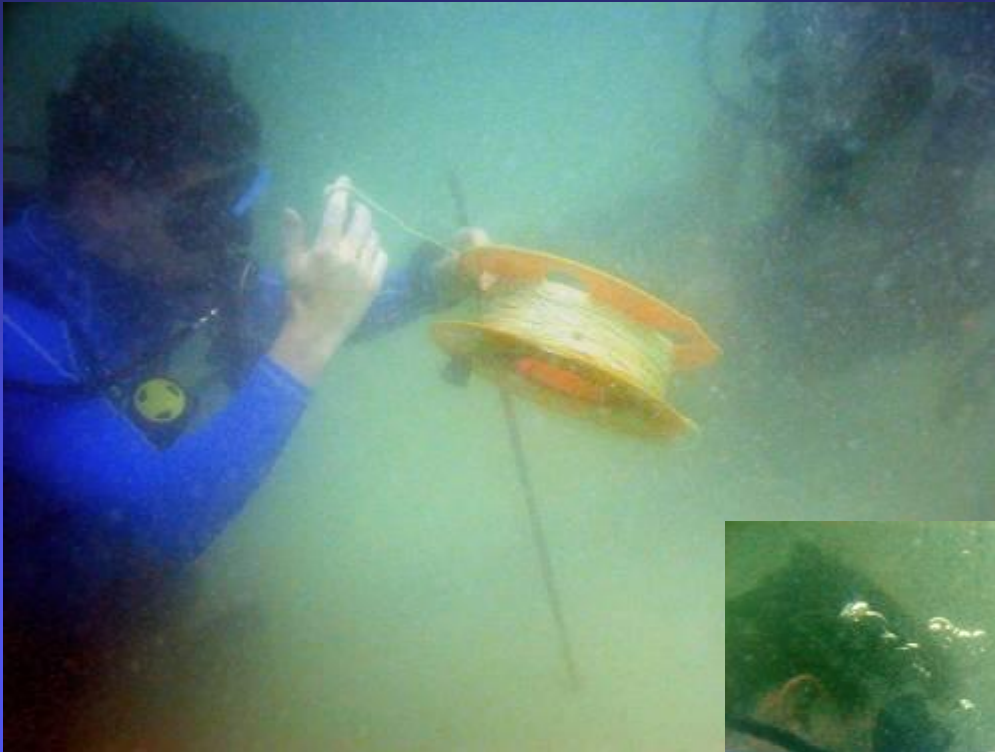
Gearing up...

...and ready to go.



This is a father and son team from the Atlanta-based Sea Scouts. They dive together frequently, but still go through a buddy-check before each dive.





Setting the baseline on the *Regina* site. To secure the ends, we used half-inch rebar driven into the bottom with a hand-sledge.





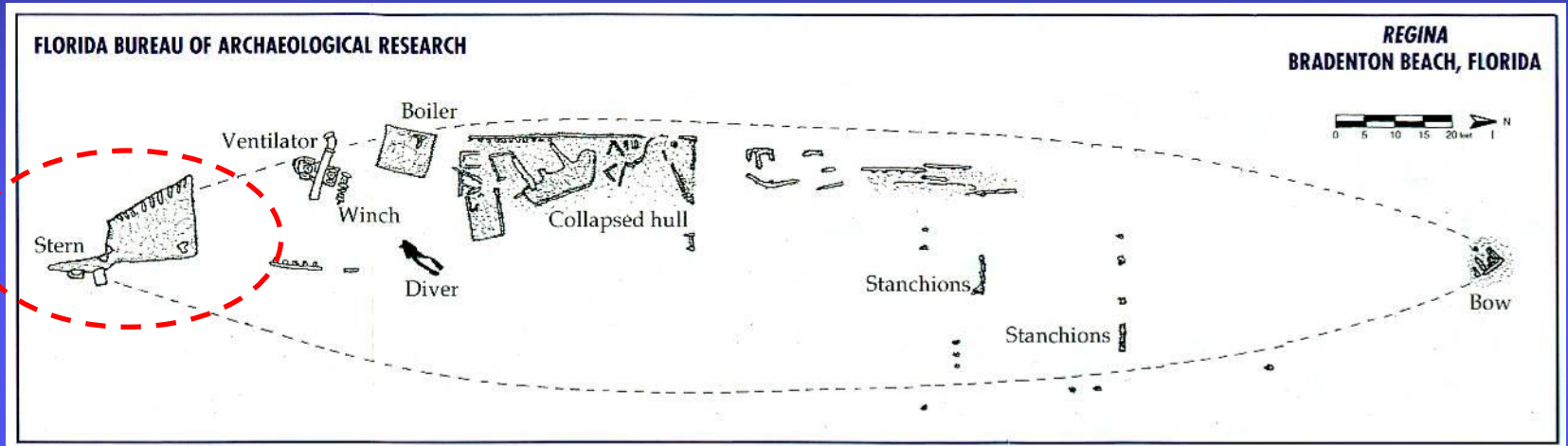
We stretch nylon line between the two datum points and pull it tight.

Then we run a measuring tape down the length of the line and secure it with small cable ties.





The water was not particularly clear. The material floating around is mostly the very fine sand that makes up the bottom sediments. We're only about 12-15 feet deep here, so wave action along with currents tends to keep the sand stirred up.



This is a map of the site drawn a few years ago by archaeologists from the State. Our work was concentrated at the stern end of the wreck. Because of the sand that had washed over the site from the newly replenished beach, only a portion of the stern features were visible. The rest of the wreck forward, or to the right, of the stern section was completely buried.





Divers discussed their upcoming work in detail before every dive.



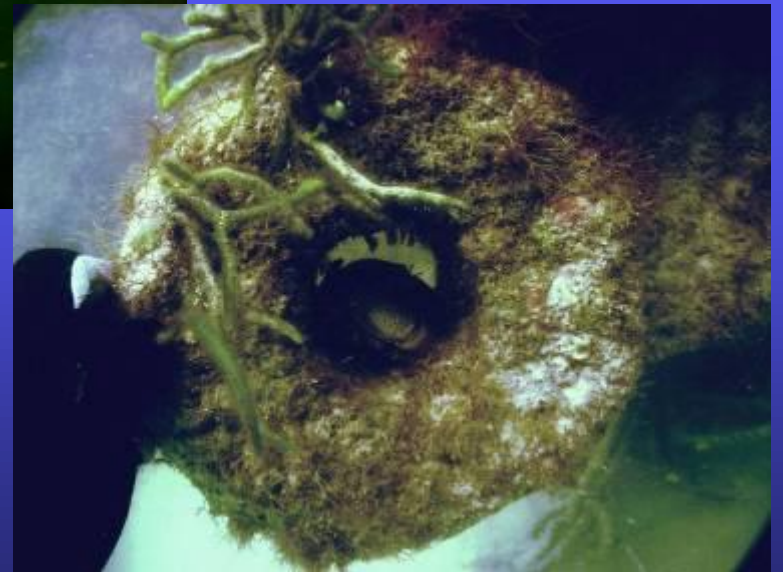
Turbid water resulted in decreased visibility on some dives, which made planning and communication techniques even more important.







This was one of the few non-structural features that was exposed at the stern – possibly part of a winch or pumping mechanism.



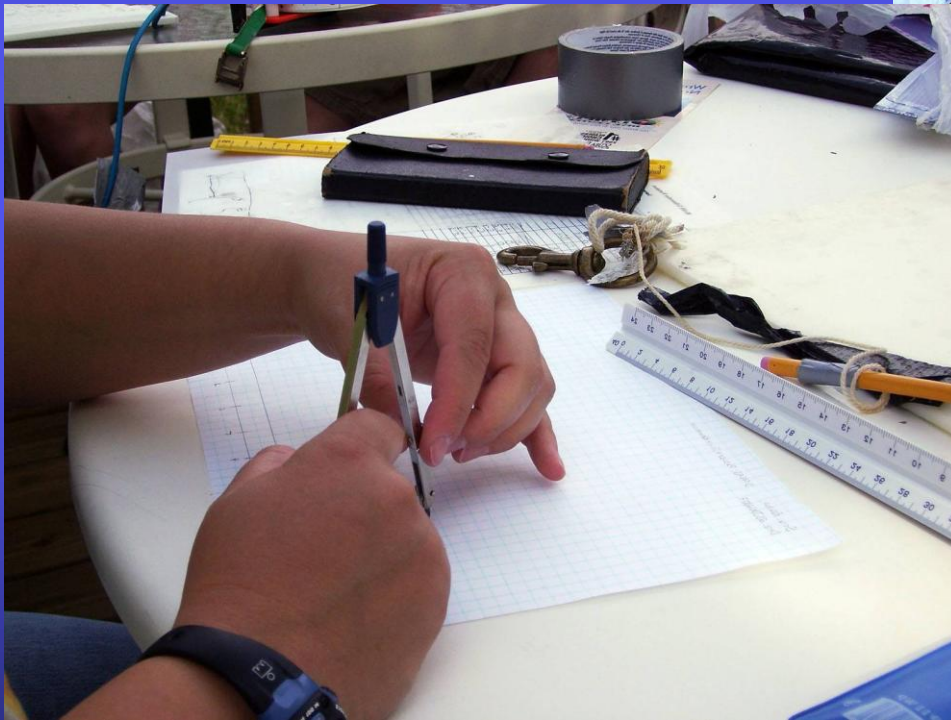




A concrete monument commemorating the site has been placed at each of Florida's Underwater Archaeological Preserves. They usually stand 3-4 feet above the bottom. We found *Regina's* monument with only about 1 foot showing, giving an indication of how much of the wreck is buried in recently washed in sand.



After a day of collecting data on-site, it's time for a little refreshment and some plotting.





Class pictures: this is the first class, comprised of 12 divers, all of whom are now MAHS-certified volunteer archaeological divers.



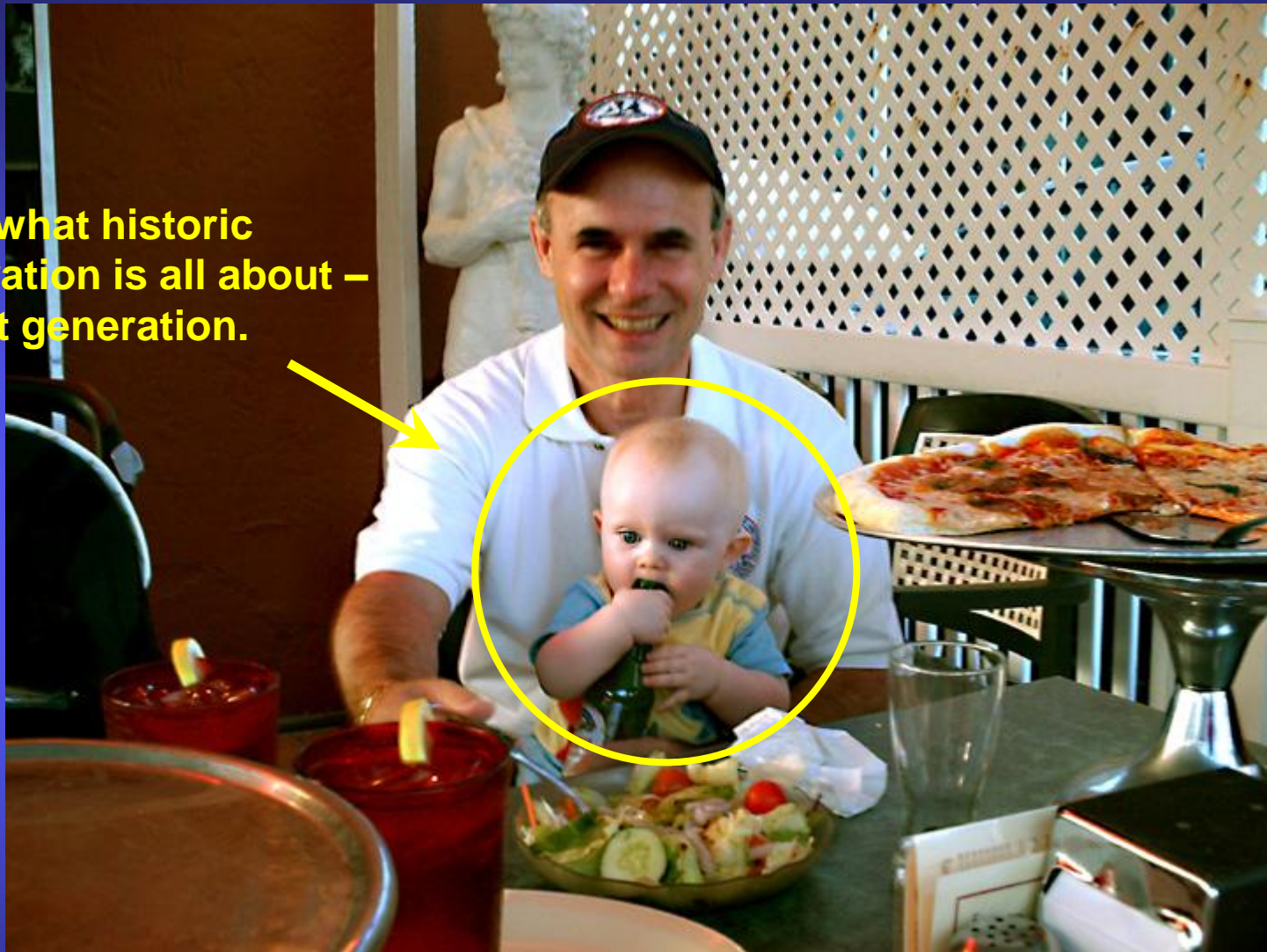


This is the second class, six divers and four MAHS trainers. Several in this class were instructors from the Sea Scouts, based in Atlanta. The Sea Scouts are planning to use the MAHS educational materials as an integral part of their curriculum.



And, last but not least, the youngest member of the team, Steve's 7-month-old son Christopher.

**This is what historic
preservation is all about –
the next generation.**





Photographs by Phillip Kalmanson, Jim Wright, Dave Shaw, Tom Berkey, and Dennis Knepper. Some of the background material and historical photographs were adapted from the State of Florida's Underwater Shipwreck Preserve website.