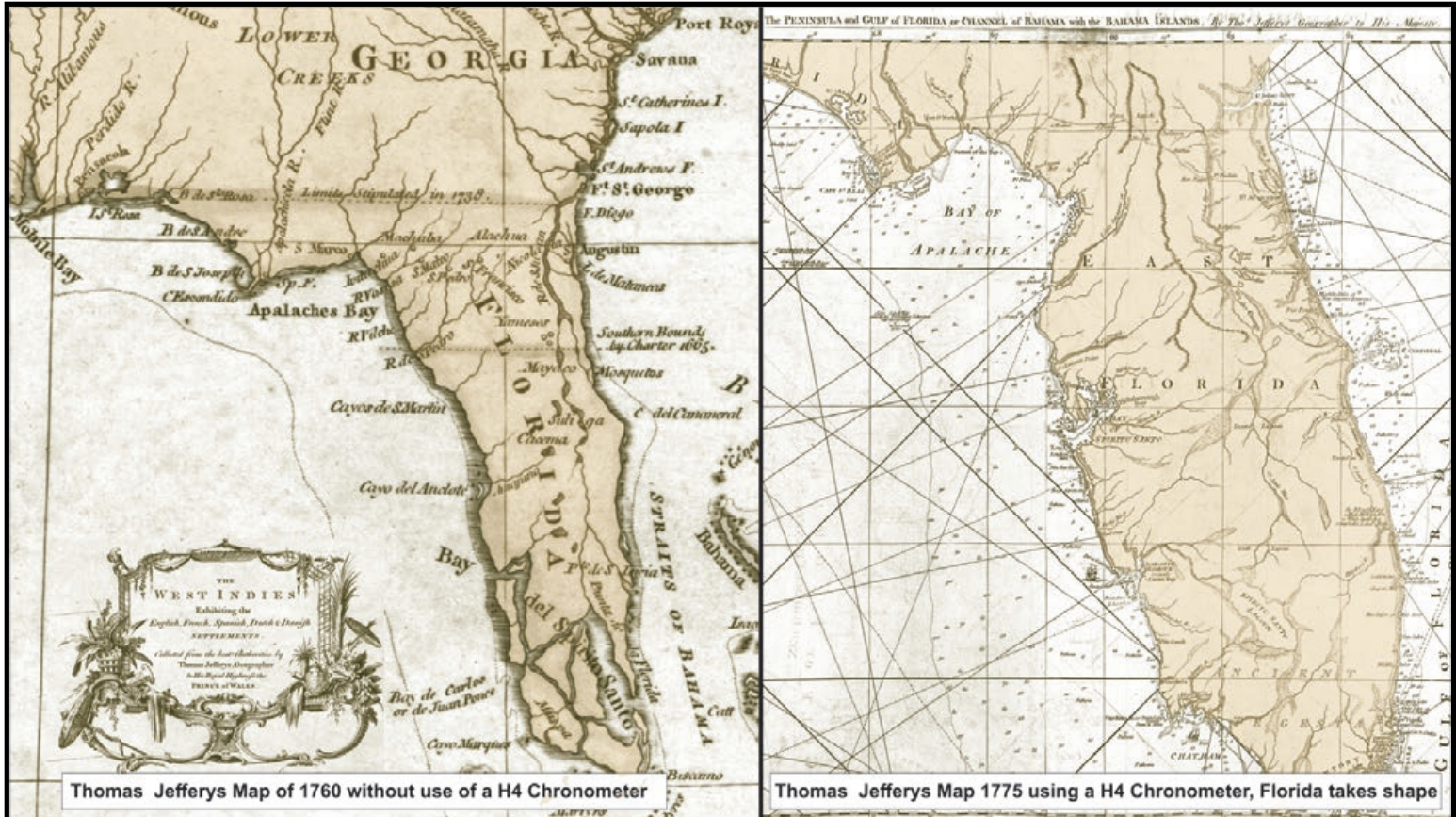


THE CURRENT

Through Which Research Flows

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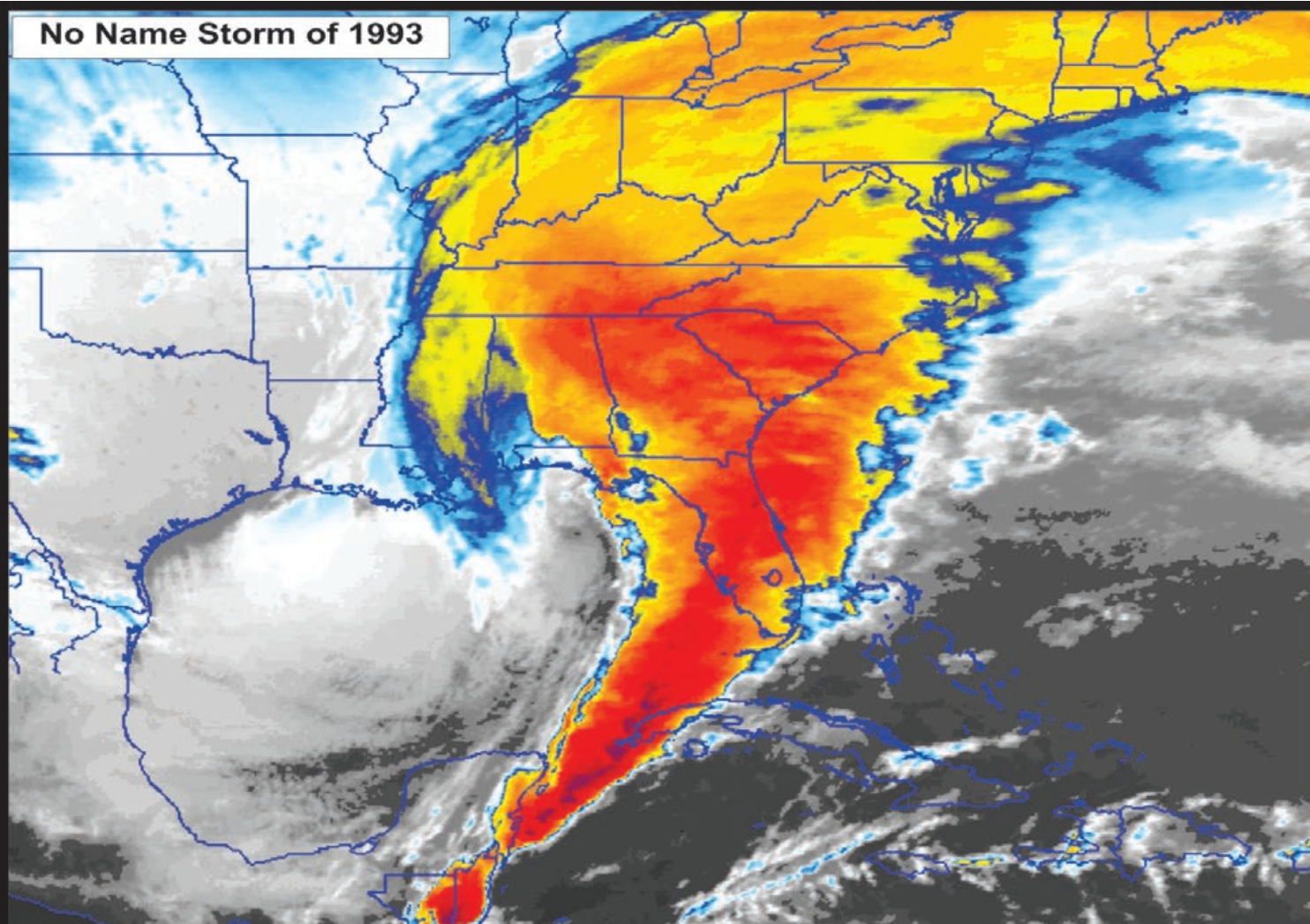
Gulf of Mexico



On the Edge, Where the Saltmarsh Meets the Gulf of Mexico in Apalachee Bay

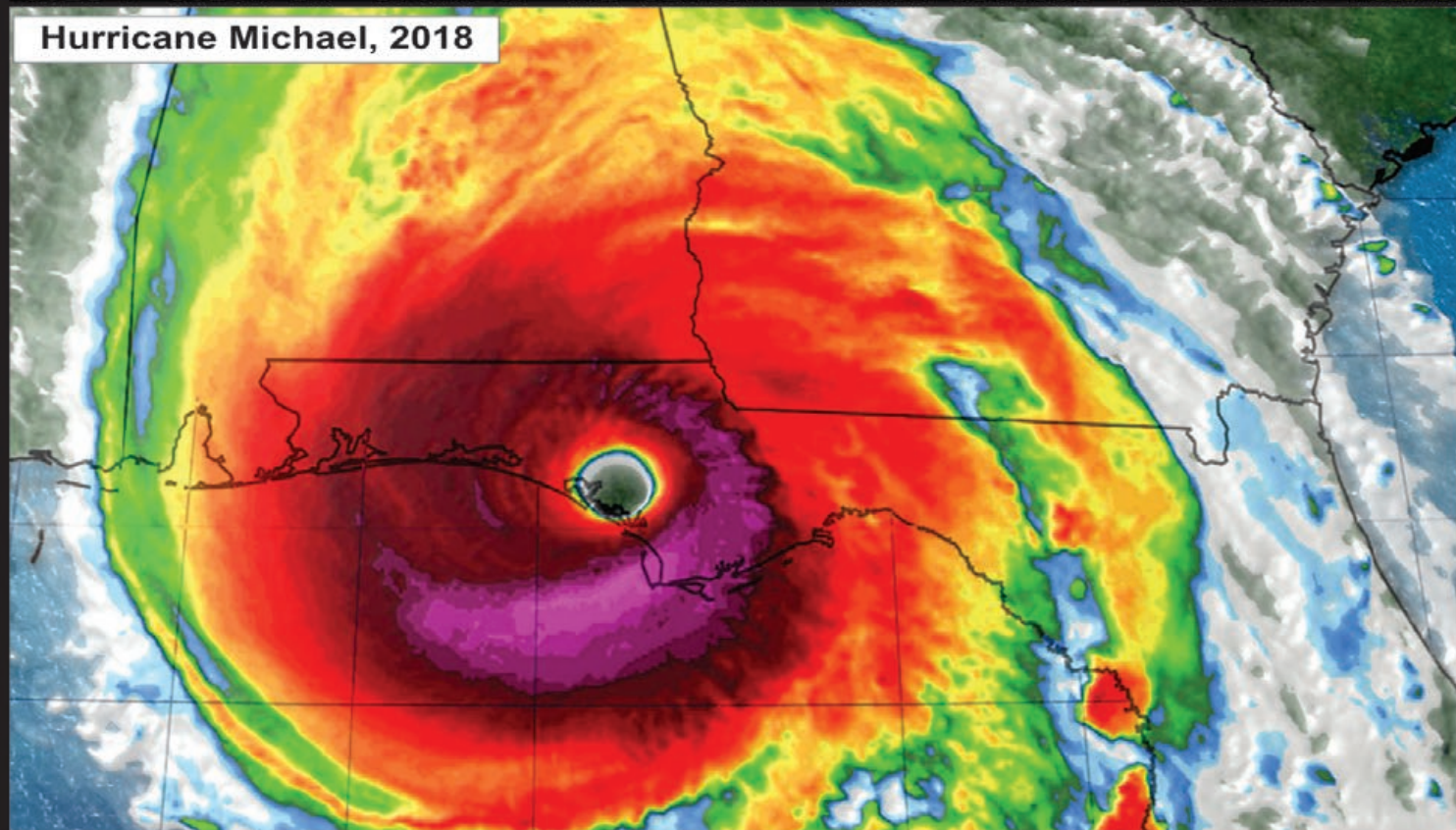


No Name Storm of 1993



GOES-7 COLOR IR "STORM OF THE CENTURY" MARCH 13, 1993 @ 0601 UTC McIDAS

Hurricane Michael, 2018



<https://spectrumlocalnews.com/nc/triad/news/2018/10/10/hurricane-michael-moves-inland>

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ARI members, scientists and associates are committed to understanding all facets of the Earth Sciences including Cultural and Natural History as well as their complex connections with Earth's climate change, sea levels, and sustainability. As well, the institute acts as a center of innovative thinking and activity relative to the prehistoric and historic past. ARI is dedicated to training future generations of scientific researchers in discovering the health and wealth of our earth resources and history. This is essential not only to advance knowledge about our planet, but also to ensure society's long-term welfare. Exploring the past to help envision the future to instill good stewardship practices to protect our historic treasures and promote good practices for ensuring a bright tomorrow.

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The Wilderness Coast: Storms and Land Loss in Florida

ARI Staff

Among these United States, Florida is unique because of its geography. Being primarily a peninsula projecting out into the surrounding waters of both the Atlantic Ocean and Gulf of Mexico, the state's shoreline has been subject to constant change since its formation. Those changes make an interesting study. Two causes of changes, those due to storms and those due to sea level changes, along the northern Gulf of Mexico coastline, the so-called Wilderness Coast, make for an interesting study.

Changes due to Hurricanes and Bomb Cyclones

Across the Southeast there are two types of cyclones that have the ability to alter the land, particularly coastline areas. Hurricanes are most common while intense winter cold fronts, bomb cyclones, are less common but no less impactful. Hurricane Michael in 2018 is an example of a hurricane while the so-called Storm of the Century which impacted the eastern Gulf Coast and many areas far beyond Florida is known as a bomb cyclone (see inside cover image). That storm was a hurricane-like winter storm stretching from Canada to Honduras. In Franklin County wind gusts reached 110 mph. At Dekle Beach in Taylor County, the storm surge reached 11.8 ft above normal resulting in property loss and fatalities (Figure 1).

For hurricanes, eyewall size matters. In 1992, Hurricane Andrew struck Homestead Florida as a category 5 storm with an eye wall about 10 miles in diameter. In 2018, Hurricane Michael hit the Tindal Air Force Base/Mexico Beach area as a low-end category 5 storm. Michael had an 18-mile-wide eyewall diameter. In 2022, Hurricane Ian came ashore as a high-end category 4 hurricane at Cayo Costa Key. In comparison, Ian had an eyewall diameter of about 30 to 35 miles diameter.

The storm-surge from Michael was from the eyewall eastward and from Ian from

the eyewall southward. Hurricane storm surge is a function of the counterclockwise rotation of the storm and where the storm makes landfall. Therefore, along the eastern Gulf coast storm surge is directed south, in the northern Florida Panhandle the winds are directed east and along the Atlantic coast directed north. The takes place on the other side of a hurricane's counterclockwise rotation simply because the wind is directed offshore and pulls coastal water in bays and rivers offshore. For example, north of the Hurricane Ian eyewall, coastal waters were sucked out of coastal rivers and bays as far north as the Big Bend area and as far west as Mobile Bay, Alabama.

The difference between a storm surge caused by hurricane versus that of a bomb cyclone relates to the intensity of the wind, the timing of tidal fluctuations and size differences between hurricanes and cold

fronts. Tropical hurricanes are small in comparison to cold front cyclones. Both are cyclones. Yet, cold fronts are much larger and their storm surges come to shore in a line of frontal activity. Storm surges came ashore in the Storm of the Century impacting at least 200 miles of the Gulf Coast.

The centers of tropical storms versus frontal systems differ. An intense bomb cyclone pushes a wall of water from west to east until it makes land fall. On the other hand, until landfall, tropical hurricanes are confined over open water. Hurricanes accumulate a dome of water under the low-pressure eye that becomes a storm surge on the right-side when it makes landfall (Figure 2). The center of a cold front is often centered over land well north of its frontline expression in the Gulf of Mexico and thus forms a diagonal line that hits the Gulf Coast of Florida.

An Historic look at Coastline Alteration due to Storms¹

Since the 1970s Florida has established and maintained costal construction setback lines, marked by survey monuments, in most coastal counties along high energy sandy beaches. The intent of such lines has been to restrict new construction inshore of the line to prevent bungalows and mansions from being destroyed and washed out to sea. One example of where beachline recession can be documented is in Indian River County at survey monument R-104. In 1974 a new home (Figure 3) had a beach-side entrance some west 115 ft from the high tide beach line. By 2021, protective seawall construction has taken place and the beach-side entrance of the same house is now some 116 ft east (offshore) from the high tide line of the beach. The home is literally in and out of the ocean depending on the tides.

Northern Gulf of Mexico Coastline (The Wilderness Coast)

Ironically, the low energy Wilderness Coast is an area where the potential for storm surge is greatest and unfortunately



Figure 1. Showing the level of coastal flooding. Please keep in mind that the figures for coastal flooding are muted in some cases. For example, in Spring Creek in Wakulla County the 4.6 ft. above normal is simply because it is not a westward facing part of the coastline area and is upstream in a creek. Also note that many of the lesser flooding figures such as 6 ft above normal at Apollo Beach and 6.8 ft above normal at the USGS Old Town Gauge are located in protected bays and well up rivers in upland areas (for more information go to <https://www.weather.gov/tbw/93storm>).

Continued on page 10

Part II

Towards the Nomination of a National Historic Landmark:
Page-Ladson Site Discovery in the Aucilla River North Florida

By James Dunbar, Jessi Hailigan and C. Andrew Hemmings

Things have been busy so here is a quick update on some of the new information about the Page-Ladson site, the inundated archaeological site in the Aucilla River. Between the project conducted by the Aucilla River Research Project in the late 1990s by Dr. David Webb, Dr. Andy Hemmings, and Dr. James Dunbar and the project headed by Dr. Jessi Hailigan of FSU and Dr. Michael Waters of Texas A&M in the 2000s numerous radiocarbon dates were acquired. Figure 1 shows the results of radiocarbon dates from all the Pleistocene levels at the Page-Ladson site.

Twenty-six radiocarbon dates from Unit 3 were determined to be statistically related at a 95% level of confidence which is an unusual circumstance in archaeological research. Figure 2 shows the results of

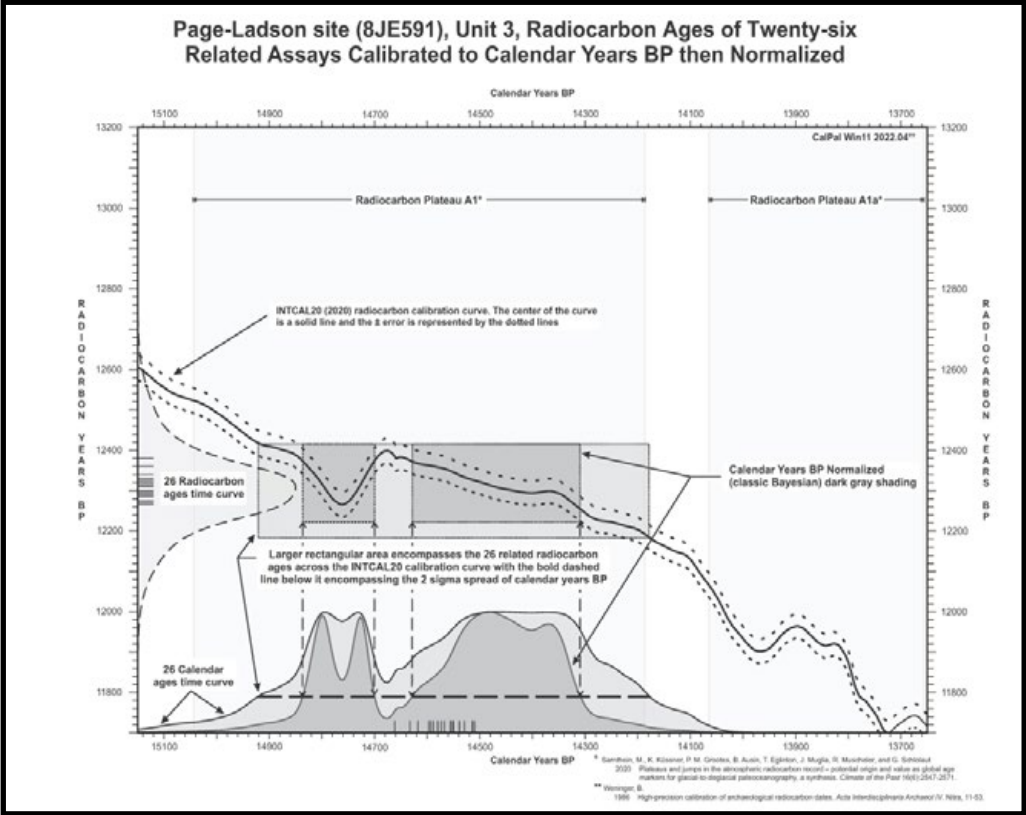


Figure 2. The results of averaging the 26 radiocarbon dates

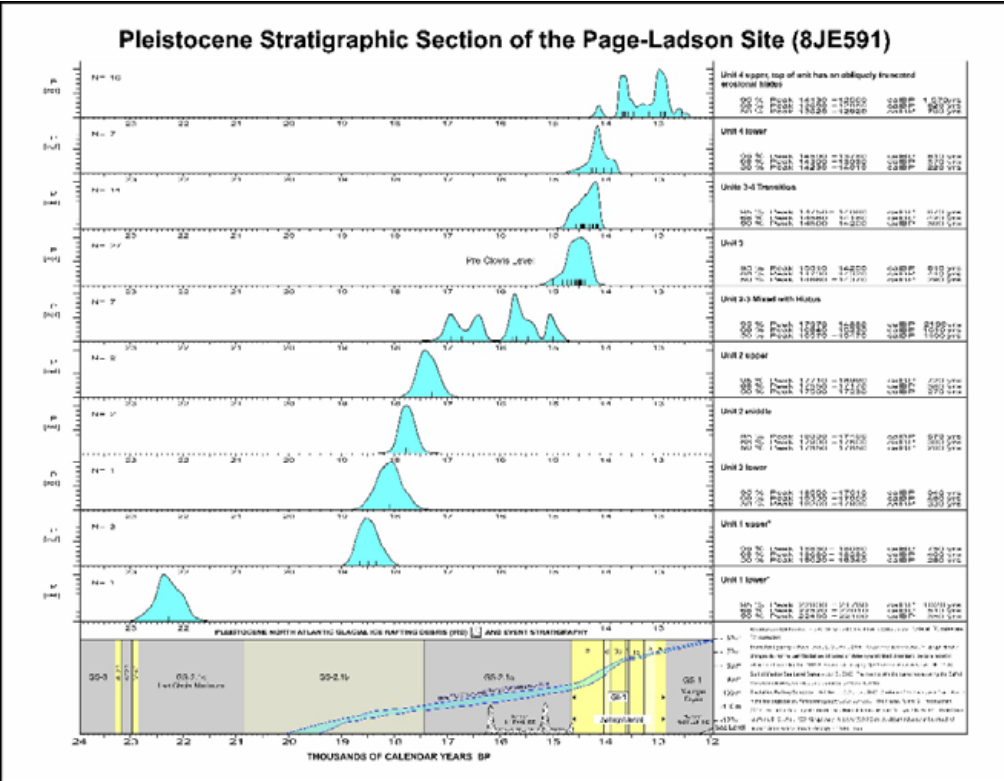


Figure 1. Radiocarbon age given in years before present by stratigraphic level at the Page-Ladson site. Ages are plotted against climate events and sea level of the Pleistocene.

averaging those dates and Figure 3 shows the averaged age in radiocarbon years with its two sigma standard deviation as well as the calendar year before present in calibration with its standard deviation. The probability of that result is 1. Therefore, of the total of forty-one ¹⁴C dates twenty-six were related and provide an averaged age of 14,570 ± 190 years before present for the Unit 3 bone bed. The fifteen unrelated dates were older than the twenty-six related dates.

Weighted Average				
¹⁴ C Age	STD	Calendar Age	26 STD	Probability
12,411	8	14,570	190	1

Figure 3. The results of averaging the 26 ¹⁴C assays.

Hickory Mound #6 (8TA295) on the Edge of the Gulf

By C. Andrew Hemmings

A crew of ARI staff in partnership with G-Fast has been mapping and test excavating what has been called the "Saltworks" site on the Taylor County coast on and off for the last several months. This is a multi-component site, most noted for what is believed, but not yet proven, to be remnants of a Civil War confederate saltworks installation.

The hammock portion of the site has been known to locals for quite a number of years and was later initially added to the Florida Master Site File with the more exposed historic component after Robert Daniels brought Gary Ellis and co. to the site in 2001. The FMSF was expanded and updated by the notorious Dr. James Dunbar in 2004. Prior to our work both historic and prehistoric components had been identified from surface finds that suggested repeated uses or occupation of the immediate area over the last 2,500 years or so. Based on our present work we have pushed the earliest occupation to nearly 10,000 years ago, and found an exhausted, used up, fluted point just outside the present site boundaries that probably dates to 13,000 years ago.

Based on finding a mixture of large metal (boiler and/or drying pans?) vessel fragments, identifiable historic ceramics, and 19th century metal fasteners near two rockpiles, shown below, it has been thought this area was a Civil War saltworks location. As saltwater destruction of the large metal parts has accelerated and the covering sediments continue to erode it looks less and less like a salt making facility. It may well be a saltworks but it is getting harder and harder to tell

without full excavation of the entire area as it continues to degrade in place.

One rock formation is roughly circular and the other looks like a rectangle divided by a center wall. This site was not previously indicated to be a Civil War saltworks by contemporary documentation and we have a suspicion these may represent some other form of 19th architecture or perhaps even ballast from small wrecked vessels (admittedly an untested idea).

In 2018 Hurricane Michael removed approximately one third of the normally dry portion of this island overnight. Since Michael washed ashore there has been a considerable die off of trees and plants that cannot take severe amounts of saltwater (front cover bottom image). A very clear floral succession is taking place because of continued storm and tidal related erosion. Hardwood trees are the first to go, followed by salt intolerant, nominally more upland species, of plants,

While the work has progressed, I've had a growing sense of dread that these sites are going to erode and deteriorate no matter what we do and am simultaneously awed by the wealth of information telling us how very little we really know about the area at any period in the past. In superimposing a 20m grid to base our site map on across the entire site area we realized that close to 70% of the site is no longer ever actually dry. A good example of this problem is seen in the Saltworks image at low tide. Many of our test units had to be completely dug between tides and refilled immediately to prevent slumping. Often, the ground surface would be dry at low tide yet within 5cm our units would start to seep water in

from the sides making proper excavation almost impossible.

The truth is we can't fight the damaging effects of the sea on these sites. The coast can not be walled off and if we could it would destroy the existing ecosystems anyway. Perhaps critically important areas can be preserved with a concerted effort.

If this area was able to duck severe storms for a century it would not matter now as the sea level is up just enough that Michael and other recent high water events have killed so much covering vegetation that normal seasonal and monthly tidal patterns are slowly but surely eroding the thin layers of sediment that blanket these sites. One important observation seems to be holding across the area at present though: Outside of storms this is a very low energy destructive process. Meaning, while the fine sediments are being winnowed away the artifacts are not yet moving. Repeatedly we have found stacks of flakes that look like they could mend sitting there exposed, or partially exposed, at the surface. As bad as things are, and are going to be, the preserved archaeological information is not being destroyed as quickly as the landscape. The clock is running but there is a window of opportunity that we should not let pass.

Our best hope is to document and recover as much information as possible before it is gone. The blue image shows the area from the Econfina to the Fenholloway with one foot of sea level rise above today. Our site and Rock Island are among the very few places in a massive area that would remain above water at all. If fully inundated the sites would probably be

Continued on Page 16

What's in the Name: History as Seen Thorough Maps

By James S. Dunbar

The coastline of Wakulla, Jefferson, Taylor and Dixie Counties is a place where the salt marsh meets the Gulf of Mexico. Known as the Nature or, more aptly, the Wilderness Coast there are few beaches and none that are extensive. Literally the brackish water marshes face the Gulf of Mexico's Apalachee Bay directly. The Wilderness Coast supports an environmentally rich ecosystem with its island hammocks, creeks and rivers, marshes and offshore shallow seagrass beds. Much of this wilderness is located in the St. Marks National Refuge, the Big Bend Wildlife Management Area and offshore in the Big Bend Seagrasses Aquatic Preserve.

Early Maps and Accurate Positioning

Past populations that were new to, or unfamiliar with, Apalachee Bay had little knowledge about the coastline between the Ochlocknee and Suwannee Rivers. They had to rely on local pilots to safely navigate the bay. The bay waters were shallow and treacherous in places for the inexperienced. By the time the Spanish missions were established in the 1600s, a Native American group, the Tocobago from the Tampa Bay area settled along the Wacissa River. The Tocobago were known for their navigation skills and transported goods from the area missions by water rout along the coast to landings on the Suwannee and Santa Fe Rivers. From there pack animals transported the goods over land to St. Augustine.

Maps during the First Spanish Period were inaccurate. Yet the need-to-know navigation and overland routes were much needed. New maps (for land routes) and charts (for navigation the near shore) were needed particularly when a sovereign nation such as Spain transferred Florida to England, or England back to Spain and finally, Spain to the fledgling United States. Updated maps and charts were also in demand when hostilities broke out between sovereigns and with allied or adversarial Native American tribes. The challenge was to understand how to get from one

place to another efficiently with accuracy.

A major breakthrough for navigation came with the ability to calculate longitude. With it, historic places and features could be placed on accurate charts and sailing routes more precisely plotted. The maps cartographers drew from the first discovery of the Americas until the middle of the 18th century was guess-work due to the inability to determine longitude. It was as if one tried to draw a chart with only one axis (X without Y). John Harrison, a British horologist, solved that problem by developing the marine chronometer. By 1752 Harrison's Model H4 shipboard clock was found to have an accuracy of 1/3 to 1/4 of one second per day which made the calculation of longitude possible (Figure 1). It was the revolutionizing technology of its time and became the standard for navigation charts. This was particularly true for near-shore course plotting because, for the first time, the need for local pilots was reduced and verbal navigation guides such as *The American Coastal Pilot* first edition 1796¹, complemented the charts with direction for navigating. Demonstrating the before and

after look of charts can be clearly seen on the two charts drafted by Thomas Jefferys in 1760 without longitude versus his chart of 1775 with longitude of the Florida peninsular (Cover Image). Jefferys' 1775 (right cover) map actually depicts Tampa Bay as well as an accurate shape for the peninsular Florida compared to his 1760 version (left cover). Thomas Jefferys was the geographer-cartographer for King George III.

Around the same time that longitude determination assisted charting the coastline, Colonel Henry Bouquet and Ensign Thomas Hutchins of the British Army developed a survey system that became the general outline for the U.S. government lands survey system. The Englishmen developed the system in 1765 a version of which became the Public Land Survey System (PLSS). It was eventually employed in Florida to Plat the land into Township, Range blocks (six miles square) that were further divided into thirty-six sections of 640 acres each. Thomas Jefferson had the PLSS system adopted by the United States Congress in 1785. Almost immediately after Florida became a territorial possession in 1821, the land surveying began using a modified Bouquet-Hutchins methodology. In Florida the land is divided into Townships East or West and Ranges North and South based on the Principal Meridian located in Tallahassee. This is how Florida was, and is, subdivided today except for the land grant deeds issued under Spanish rule prior to 1821.

English Cartographers

It is not surprising that the first accurate charts of Florida using longitude and latitude were British. They were field surveyors working on behalf of Thomas Jefferys for the Crown and there were cartographers/surveyors in America that became patriots when Revolutionary War broke out. Chief among the loyalists was Bernard Romans who was considered by some to be a genius as a botanist, engineer, surveyor, writer and cartographer among other talents. He was given the opportunity



Figure 1. James Harrison's H4 Chronometer allowed longitude determination.

to chart the coast of Florida, including its islands and the mainland. "While sailing along the coasts of Florida, Romans busied himself charting the waters and surveying the coastline²" (see back inside cover). It is important to note that two surveyors-cartographers charted the Florida coastline. Both provided details about places along the coast the other did not.

Navigational charts of Florida were concerned with providing landmarks that sailors could recognize as they piloted vessels near the coastline. Navigation of the Florida Keys and shallow Gulf of Mexico was risky. Pilots needed to avoid navigation hazards and the Wilderness Coast was particularly fraught with rock outcrops hidden by the shallow water of Apalachee Bay.

Maps showing the location of towns and roads changed through time during the Colonial, Territorial and early statehood times. For example, the Creek/Seminole name Tallahassee is a derivative from the Creek talwa, "town," and hasi, "old" - hence "old town" or "old fields". Clarence Simpson pointed out that "Indian dwellings were constructed of very perishable materials which would disappear within a few years after abandonment of a site, leaving few clues to their former presence excepting the fruit trees and 'old fields' adjacent to the abandoned village". There is also evidence that the name Tallahassee also indicated an "old town" that was sometimes reoccupied after a period of abandonment. As for early roads, they were not the two-rut off-road jeep trails of today. Once a "road" was established from one place to another, storms including cold fronts and hurricanes sometimes fell trees that blocked the road. Unless there was a community effort to clear the debris from a road, a new path was formed around the obstruction. Early roads in the wilderness might look like a series of work-around paths emanating from the original "road" and rejoin it a distance away.

Progression and Place Names Ochlockonee River

Despite the inability to calculate longitude, First Spanish Period maps of uniquely shaped or detailed maps of small geographic areas provide details

that are more or less interpretable. In the limestone terrain of the Wilderness Coast, natural land bridges over rivers were sought out and used as a means of easy passage.

For example, the designation of today's Ochlockonee River was given the name *Rio de Lanás* (wool river) on Spanish maps of 1700 (Map 1) and 1706. However, by 1744 (Fr) it was listed as *Rivière des canards dont le cours est inconnu* (River of the Ducks whose course is unknown). After that it was named the River of Ducks (1748, 1768 & 1775 En, 1780 Fr), the River of Another Place 1778 (Fr). In 1799a (Sp) it is listed as the River of Ducks or Ocolacny and finally in 1799 (Sp) Ocolacni. The place names for Ochlockonee today was initially given as given as Ocolacny or Ocolacni at the dawn of the 19th century. It is also of interest that for almost one-hundred years the first names applied to the river were the European terms for animal products (wool) or animals (ducks). More on that later.

After 1800 the spellings for the Ochlockonee varied. For example, Okatokana (1808 En), Okalokana (1810 Sp), Occalocny (1817 Sp), Oke-lock-onne (1820 Fr 1823a En), Ocklockonnee (1822 US) and Ocklockonne (1823b). The modern spelling, Ochlockonee, appears on the 1935 Florida Department of Transportation Road map for Wakulla County. It is now an official United States Geological Survey (USGS) geographic place name. According to Clarence Simpson, Ochlockonee is a Hitchiti word derived from Oki = water and Lagana = yellow³.

St. Marks and Wakulla Rivers

The Wakulla and St. Marks rivers were known by various names through history. A Dutch map of 1630 shows the St Marks River but does not name it. Rather it places the Apalachee village of Aute on the eastern bank of the river upstream from the fork of the Wakulla River. A French map of 1681 places the Aute village on the west side of the river of *S. M. d'ochus*. In the First Spanish period, the St. Marks River was known as the Palache (1705 Fr.), Palache (1706 Sp) (Map 2), Sⁿ Marcos (1707 Sp), Touskache (1717 Fr), Thaoabina (1739 to 1763? Sp), Apalache River (1748 En), and as the Apalache (1749 Fr).

The Wakulla was sometimes shown on First Spanish Period maps as the arm of *the river*

that rises from the (... at?) Guacara (1707 Sp), Talacatchina (1717a Fr), Apalaches (1718 Fr), Apalalochee (1721-1724 and 1731 En), Apalatche or Ogelagana (1733 En), and the Guacara (1739-1763 Sp). To confuse things, a French map of 1744 listed the St. Marks River as the Lanás (Wool) River and the Wakulla as the Apalaches River. Another French map of 1748 lists the St. Marks as the Apalaches.

On the French map of 1717 and English maps 1721, 1732 and 1764 have notes that Fort San Marcos de Apalache was destroyed by Col. James Moore's Anglo-Creek troops in 1705. The Spanish mission chain had been destroyed a year earlier.

In the British Period (1763 to 1784) the St. Marks River was known as the Touskache (1764 En), the N.E. River (1767 En), Apalache (1774 En), St. Marks (1775b En), (1776a En), St. Marks (1776b En), Lanás (Wool) River (1778 Fr) and the Apalache (1780 Fr).

The Wakulla River was variously named the Talacatchina (1764 En), as well as a French map of 1717, the N.W. River (1767 En), Apalache (1768 and 1775a En), Tagabona (1774, 1775b, 1776 En, and 1777), Apalachi or Ogelagana (1778 Fr), Apalache (1780a Fr.), Ogelagana (1780b Fr), and the St. Marks (1781 En & Fr).

In the Second Spanish Period (1784 to 1821) the St Marks River was known as Northeast River (1799a Sp), Tagabona (1794, 1799b), Rio de San Marcos (1800 Sp), St. Marks (1806 US) Samalgahatche (1808 En), Tagabona (1810 Sp), St. Marks (1813, 1816 and 1817 US), Sⁿ Marcos (8171 Sp), and the S. Marks (1820 Fr).

The Wakulla River was known as the Tagabona (1776 En), Rio de Nordeste (Northeast River 1799a Sp), Tagabona (1806 US), Sanliago de Guacara (1810 Sp), Wackhulla (1817 US), Wakhulla (1817 Sp).

Note to the reader

When the nationality of maps are not identified in the text, designations are as follows - (Du) for Dutch, (En) for English, (Fr) for French, (Sp) for Spanish and (US) for United States. Sections of maps 1 to 21 cited and shown in this article are located on pages 13, 14 and 15.

Ground Penetrating Radar (GPR) Study of *Hickory on Mound #6* in a Saltmarsh

By Tom Harmon

Can Ground Penetrating Radar (GPR) be used on offshore islands and in saltmarsh hammocks? What conditions will help to boost our chances of success? These were among the questions we asked when considering the use of our GSSI ground penetrating radar on 8TA295, a hammock island located in the coastal saltmarsh. Because of saltwater's high Dielectric value (81) conventional wisdom suggested it might not be conducive to collecting meaningful data. On salt water soaked land there we felt there was a chance, floated over saltwater it will simply not work as it did over fresh water when we used the unit as a sub bottom reader in the Wacissa River at the Alexon Bison kill site (8JA570). See the December 2022 publication of *The Florida Anthropologist* Vol 75, Number 4, "A Reexamination of the Reexamination of the Alexon Bison Site (8JA570). However, we felt that using the new 350HS digital antenna at low tide after a strong rain storm may maximize our ability to retrieve usable data by avoiding salt water as much as we could.

We were able to make the trip out to the island with the help of Richard Connell and his son Kash who have provided the excellent logistics and transport for this entire project. We arrived just before slack tide giving us several hours to work the exposed sand flats around the salt works and a couple more hours to work in the hammock between our excavated units on higher ground. We wanted to start out on the flats in the open area that is inundated at high tide located south and east of the salt works to see if we could get a good signal and, if so, determine what the sub strata looks like. The first six GPR lines were marked with the total station at the beginning and end of each. We therefore know precisely where they are located. In reviewing the GPR data for all of the runs it looks like there is uniform strata across this portion of the site. Namely, limestone and dolomite bedrock with blocks of possible chert inclusions. It appears that there is a stratum at around 4 meters of depth that is triggering the

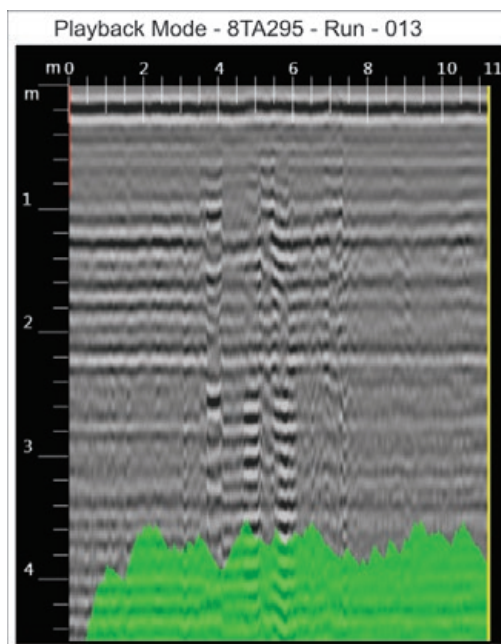
signal floor. The signal floor is an estimation of the effective depth of each scan based on an analysis of the noise to signal loss ratio (attenuation). This prevented the machine from collecting meaningful data below the 4m return.

We then focused on the area of the historic stone structures. Mayanist, and total station guru, Patrick Rohrer needed to move the total station in order to record a number of artifacts in the hammock, and also, because of the very uneven nature of the area, we were unable to put in a straight-line grid. Instead, we set up a perimeter around the site and did a diagonal across it. The runs that go around the structure indicate the same sub surface strata that is out in the rest of the sand flats. However, the 13th run across the middle of the site shows a very strange anomaly. At 4, 6, and to a lesser extent 7 meters, there is what is called a downward ringing signal. It does not appear to be metal as the signal would be much brighter if it were. Also, the "ringing" starts about 40cm below ground surface. This may be chert or hard dolomite imbedded in the surrounding matrix. Or it could indicate a man-made component. This should be further investigated because of its possible connection to the Civil War period. It could have something to do with boiler pans or kettles associated with a salt works.

After lunch we moved the equipment into the hammock area of our little piece of paradise. Once again because of the nature of the landscape we were unable to use the total station to give us precise line locations. We therefore started at a known grid point on our site map and used bearings and distance to chart our progress. We proceeded to work our way from west to east across this area. We ran across several looter pits and spoil dirt piles. They are clearly visible every time they are covered. Several indications of metal were also seen. In the areas where there is no sign of looter activity we see a uniform, undisturbed strata. As we proceeded eastward, and to slightly a higher elevation, there is no sign of disturbed earth in the immediate area of our most informative excavation unit.

Our next lines were further north within the elevated hammock. We had no good reference points to start from so we went to the east end of the clearing and proceeded to crisscross the area. We believe we see one of our excavation pits in the runs as well as another possible looter pit. The strata in this area looks to be thicker layer of sediment above the limestone bedrock than seen elsewhere. It looks pretty homogeneous before the signal floor starts to kick in at about 4.5 meters deep.

In conclusion we feel that we have successfully answered the questions we posed in the beginning. Yes, you can use GPR in a saltwater soaked situation. It helps to have a hard rain and/or a long period of dry weather with just tidal action effecting the ground surface and soil column. You need to keep the antenna head in direct contact with the ground surface at all times. Work at low tide. We also feel that without the capabilities of the new GSSI digital 350 HS stacking antenna, with the improved 4000 control unit, we would not have been able to make it all work. The trial run tells us this site is a good candidate for further GPR studies with a more elaborate ground truthing to follow up.



 END

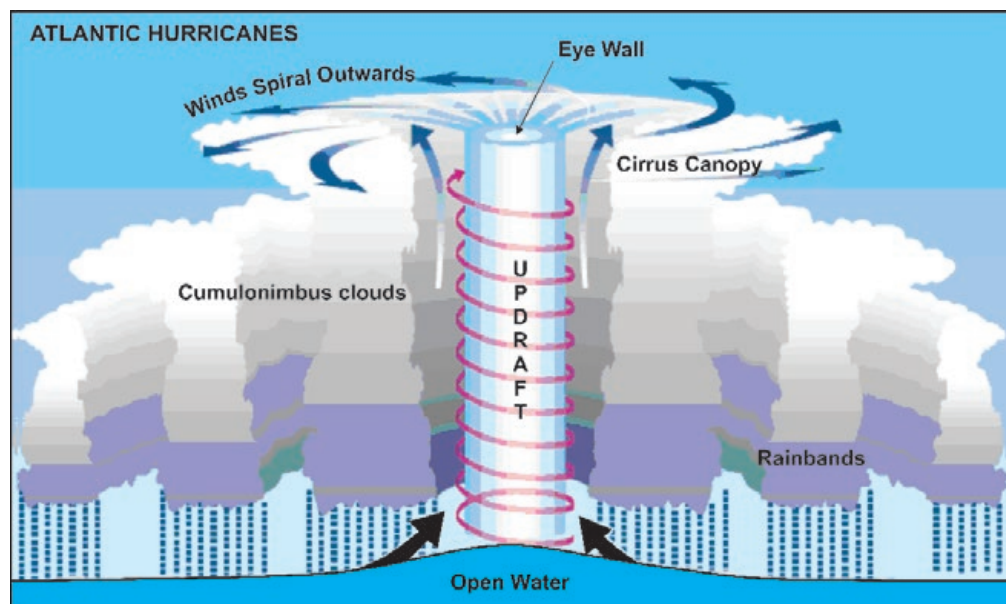


Figure 2. Strong winds and low pressure create suction that forms an elevated dome of water below the eye wall. Upon land fall, the water is pushed to the right side of the eye wall causing storm surge and coastal flooding. On the left side of the eye wall a siphoning effect pulls water out of coastal rivers and bays exposing normally inundated areas.

Continued from page 3

few setback lines exist. In DEP's report entitled *Critically Eroded Beaches in Florida*, Dixie County is listed as having three islands that have been substantially eroded. These are Shired Island about six miles east southeast of the town of Horseshoe Beach and the islands of Bird and Cotton Islands just offshore of Horseshoe Beach. To understand where storms have altered the shoreline historic maps, documents and aerial photographs are good sources of information.

The first navigation charts that show islands along the Shired Island part of the Dixie County coast were published in 1808 (Foss et al. London) and 1810 (Pintado, the Surveyor General of Spanish West Florida). The island cluster around Shired Island were not named on these early charts but the islands around Horseshoe Bay (and today's Horseshoe Beach) were collectively named the Cabbage Islands or by the Spanish the *Isla de Coles* (islands of cabbages). The Cabbage Islands were most likely named for their abundant cabbage palm trees. The islands clusters at Horseshoe and Shired Island are shown but not named on the Lt. Swift military map of 1829, the Baldwin map of 1834, the Norie chart of 1837, the Burr and Mitchell maps of 1839. All of these maps were prior to the first surveys conducted by the U.S. General Land Office.

After Spain ceded Florida to the United States in 1821 as a new US territory, the new owners were faced with a daunting task, developing survey plats of the land². The original General Land Office survey of the Shired Island area took place in 1857. That map did not follow the sinuosities of the shoreline, but cut straight lines along the coast for Township 13 South and Range 11 East (Figure 4 top image). After the Civil War the island cluster offshore from Shired Island were mapped in 1879 as lying in Section 9, 10, and 15 of that Township and Range. The largest of the five islands were in sections 10 and 9. The two northern islands were Hugh's and Hodges Islands that together represented 143.75 acres of land (Figure 4 bottom image).

Afterward, Hughes and Hodges Islands were depicted on the 1885 Colton and Company Section Map of Florida as well as subsequent sectional (real estate) maps of the area. A 1914 county map of Lafayette County also shows Hughes and Hodges Islands as does the first Florida DOT road map of Dixie County published in 1935³.

When these islands were renamed is uncertain, however, by 1954 the USGS 7.5-minute quadrangle map shows the island names as little Bird, Crutchman and Coon Islands as well as two unnamed islands in sections 9 and 10. Hence there is a discrepancy between the 1879 plat map and

the 1954 USGS quadrangle map. On the quadrangle map the islands are shown as being further offshore mostly in section 9 and there are five islands not the two shown on the 1879 map. These discrepancies are likely related to two reasons. In 1879 survey instrument quality is likely one problem. The survey line began from a point of land at the mouth of the Suwannee River some four and a half miles away. The survey line was extended to Cat Island and another island in section 23, then to four unnamed islands in section 15 before reaching Hodge's and Hugh's Islands in sections 9 and 10. In 1879, the total acreage of both islands was 143.75 acres yet by 1954 the acreage had been greatly reduced (Figure 5). Hugh's Island was not only reduced in size, it was broken up into separate islands. The former Hodge's Island was renamed to Coon Island. Coon Island was more stable because it had elevations extending five to 10 feet above sea level yet it too had been reduced in size. Coon Island had a prehistoric site of the same name 8DI59. Coon Island had a fishing cabin on the highest point of land that was destroyed by the No Name Storm of 1993.

To determine changes of the land over time an USGS 7.5' quadrangle aerial photos are informative. The 1954 USGS quadrangle map shows three islands for Little Bird and one each for Coon and Crutchmans Islands (Figure 5). The 1983 aerial photograph shows salt marsh for

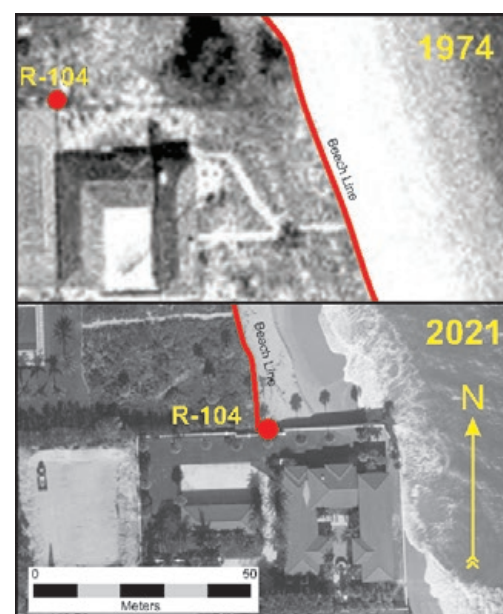


Figure 3. Shoreline recession 1974 to 2021 referenced to DEP coastal construction monument R-104, Indian River County.

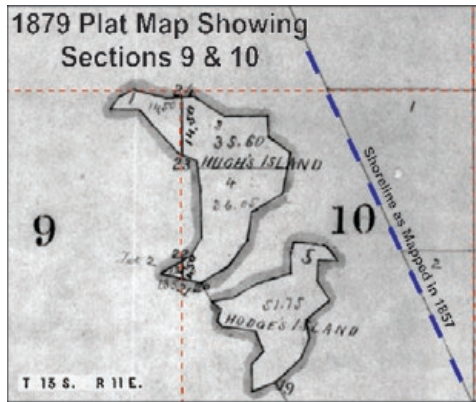


Figure 4. Closeup of a part of the 1879 Plat Map showing Hugh's and Hodge's Islands. The two islands were eroded and later renamed Crutchman, Little Bird, and Coon Islands.

Crutchman Island and Little Bird was mostly a shoal awash as were parts of the other islands. Coon Island was once part of Hodge's Island and unlike the others had high ground. Coon Island had salt marsh and non-vegetated beach areas, but also retained an upland area supporting an oak and cabbage palm hammock. A fishing cabin was built on the high ground overlooking the Gulf of Mexico. On the leeward side of the island there was a boat dock that provided safe dockage and easy access to the cabin (Figure 6 top image). Recent 2022 aeriels of the area show that all island areas have been eroded away with one possible shoal awash representing the remnants of Coon Island (Figure 6 bottom image).

End Notes

1 Coastline changed have been detailed in the Florida Department of Environmental Protection's Critically Eroded Beaches in Florida report published in 2022 (<https://floridadep.gov/rcp/coastal-engineering-geology/documents/critically-eroded-beaches-florida>).

2 In the United States, a plat is a cadastral map,



Figure 5. Closeup section of the USGS quadrangle map showing the islands.

drawn to scale, showing the divisions of a piece of land. United States General Land Office surveyors drafted township plats of Public Lands Surveys to show the distance and bearing between section corners, sometimes including topographic or vegetation information. (Wikipedia)

3 In 1921 Dixie County was separated and created from the southern part of Lafayette County.

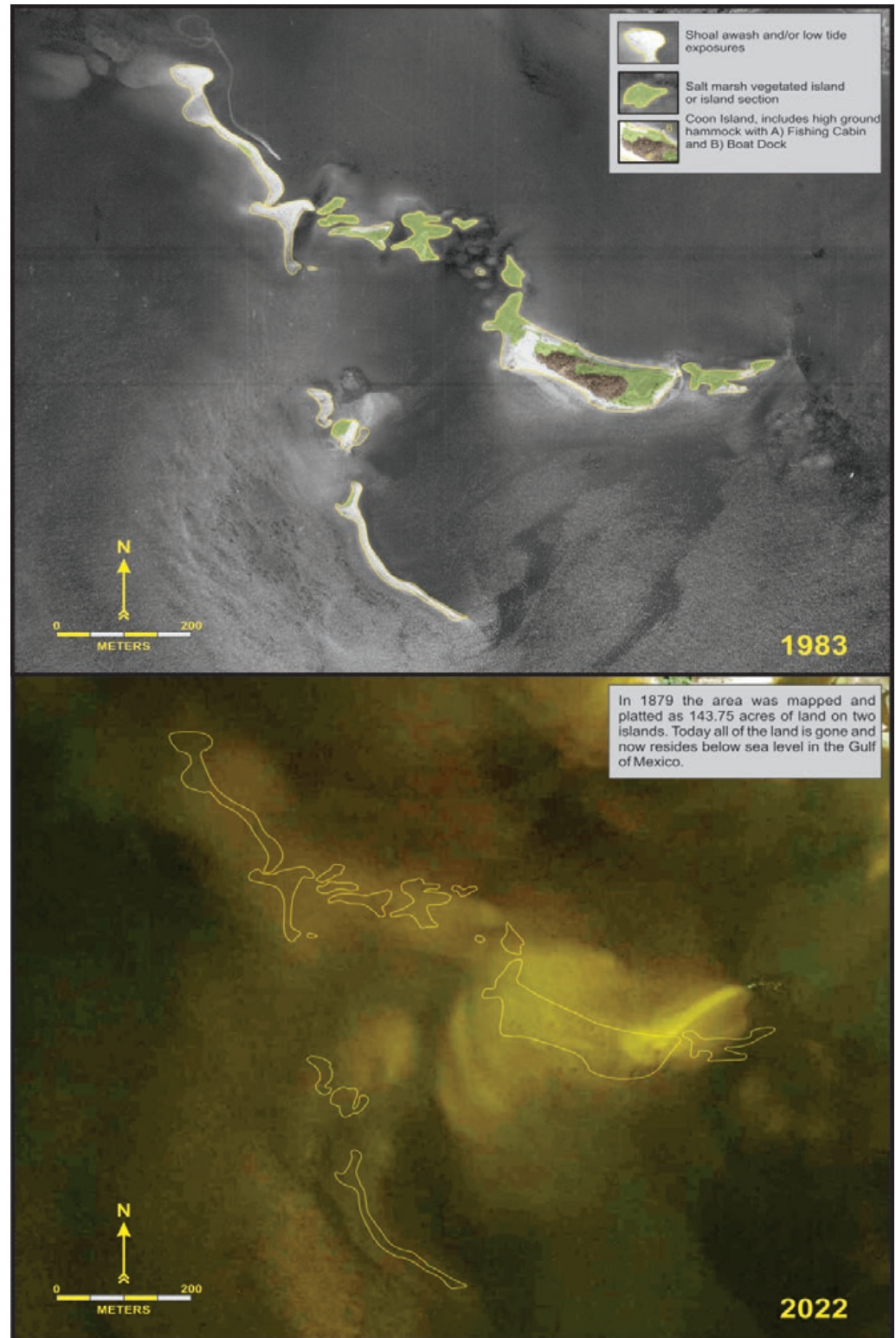


Figure 6. Top image shows Little Bird, Crutchman and Coon Islands in 1983 when a fishing cabin and boat dock were being used. It appears that Little Bird was more or less a shoal awash. Crutchman island as well as some of the unnamed islands supported march grass and other low-lying vegetation. Coon Island was the only remaining island with "upland" hammock trees confined to elevations five feet or more above sea level. The bottom image shows no land masses have survived and there is only one shoal where Coon Island once stood.

SEA LEVELS

George M. Cole, PE, PLS, PhD

Over the history of the Earth, there have been a continual series of long-term climate cycles that have altered sea levels. These cycles have included periods with cooler temperatures, commonly known as ice ages, followed by periods with warmer temperatures. These periods lasted for thousands of years. During the cooler periods, a large percentage of the waters of the Earth was locked up in glaciers resulting in lower sea levels. Then, during the warmer interglacial periods, the melting glaciers resulted in higher sea levels. Geologic evidence of these periods is clearly visible along Florida's Big Bend Coast.

The Florida Geological Survey (FGS) has identified three past high-water marks visible in Jefferson County, Florida. The most prominent of these is the very visible Cody (Wimico in other places, see Figure 1) Escarpment which has changes in elevation as much as 100 feet in places. This feature lies about 15 miles north of the current shoreline in Jefferson County. The base of the scarp is roughly 40-45 feet above the current mean sea level and was formed during the interglacial period between two past ice ages.

Moving closer to the current shoreline, another, somewhat smaller, scarp, identified by the FGS as the Pamlico Shoreline, lies about 10 miles north of the current shoreline of the county and was also formed during a past interglacial period. This feature is especially noticeable near the Fanlew Community, near the border between Jefferson and Wakulla counties, where it occurs at an elevation of about 26 to 30 feet above current sea level with about 8 or 10 feet of relief.

The FGS has also identified another, far more recent, scarp in the county named the Silver Bluff. That feature occurs at an elevation of about 10 feet above the current sea level and lies about 4 to 6 miles north of the current shoreline. Similar to the other two features, this scarp also represents the high-water mark of a past sea level stand during a warm period.

Sea Level Change Since the Last Ice Age

During the last ice age which ended about 20,000 years ago, sea level was much lower than today. At that time, the Gulf of Mexico shoreline is believed to have been as much as 90 miles southerly of its current location. A study of sea level rise after that time,

based on geological evidence, has also been conducted by the FGS. A graphic plot of the data from that study provides an interesting view of sea level rise since the last ice age (Figure 2).

The data from that study indicates that, after rising at a slower rate for several thousand years, sea level began to rise fairly rapidly as the glaciers melted. Periods with rises as high as 20 – 40 mm/year were experienced at times. Then, the rate of rise gradually slowed to an average rate of about 2 mm/year in the last 5000 years or so. During those periods, there were numerous short-term trends with sea level trends considerably different from the averages. As examples: a downward trend in sea level, between 12,835 and 11,735 years before present, has been associated with a sudden short-term cooling episode called the Younger Dryas that some believe was triggered by the impact of an asteroid with Earth. That cooling is believed to have caused the sudden extinction of the mammoths and a decline of the Clovis population in North America. Data from that study also suggests that sea level rose above the

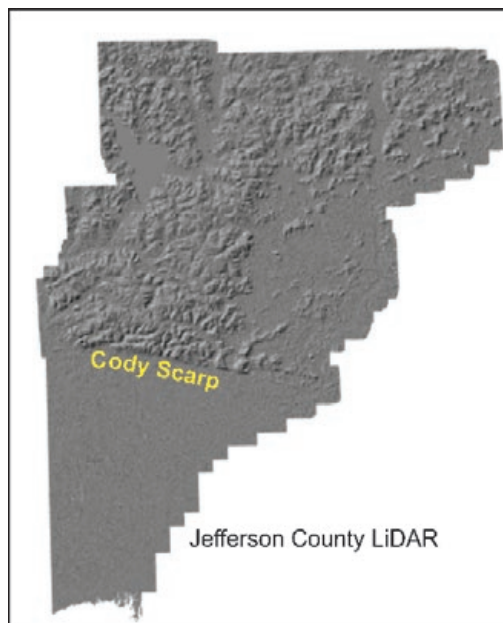


Figure 1. Map of Jefferson County showing LiDAR and the Cody Scarp

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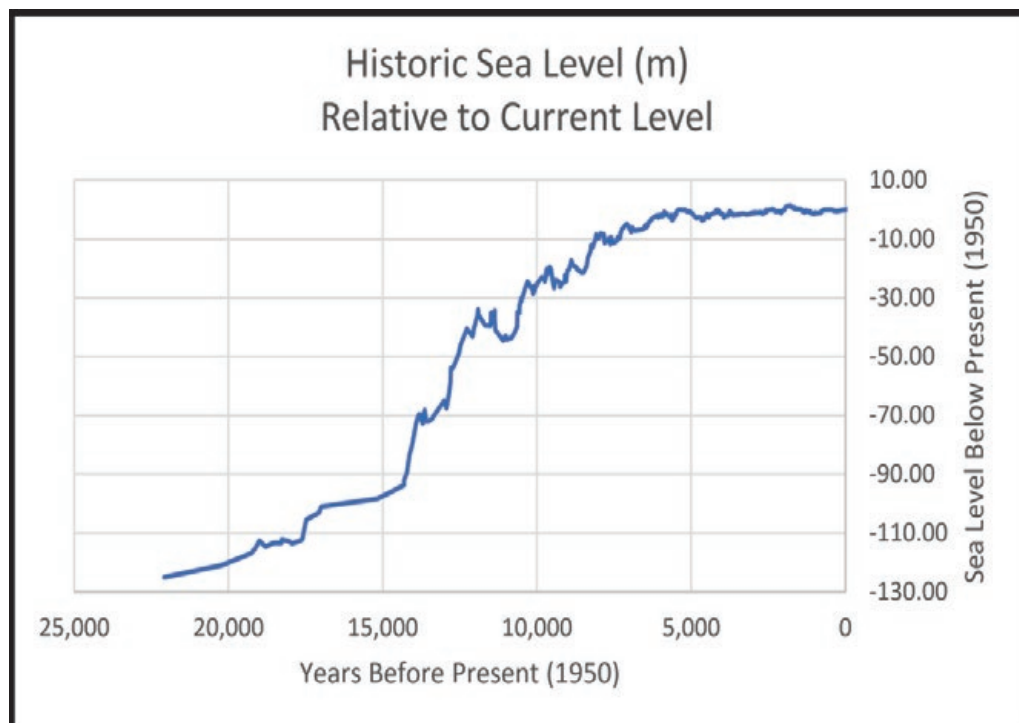


Figure 2. Historic sea level rise in the Gulf of Mexico since the last ice age



Map 1. Section of Jaime Lajonk and Juan de Siscara 1700 chart showing **A**, the *Rio de Lannas* (the Ochlocknee), **B**, approach to St. Marks River through the *Casina* with depths varas (about 3 ft) and **C**, *Apalache* at the location of the fort as well as showing the missions to the north - Library of Congress.



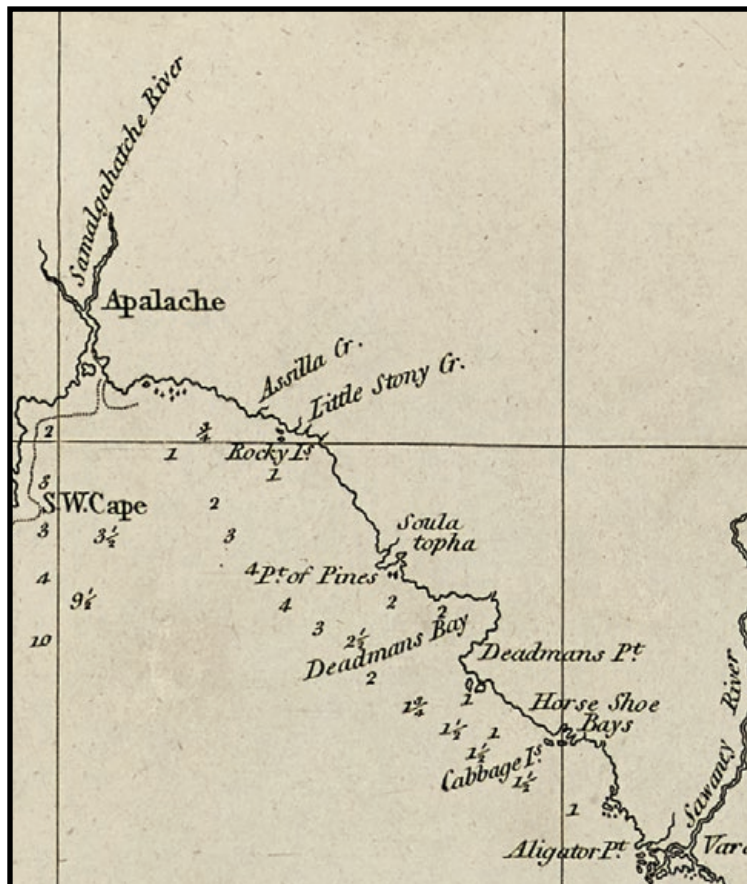
Map 2. Section of a Spanish map of 1706 from the Archivo General de Indias, Madrid, Spain showing the *Rio de Lanas* (Ochlocknee) to the *Rio dea Palache* (St. Marks river) and a fishery between those rivers in the area of the historic seineyard in the Wakulla Beach area - Library of Congress.



Map 3. Section of a 1717 French map showing the *R. de Vasiza* (*Aucilla* & *Wacissa*) and the *les Tocopata errans* (Tocobago) village on the *Wacissa*. The *Wacissa River* was more navigable compared to the *Aucilla* which has underground sections making navigation above Nutall Rise impossible - Library of Congress.



Map 4. Section of the 1839 MacKay-Blake map showing the area between the *Ocilla River (Aucilla)* and *Occttota Funka* today's *Big Spring Creek*. The *Econfinee Rivertoday's Econfina* and the *Fenahallowa River* today's *Fenholloway*. The Fenholloway had a natural land bridge or log bridge crossing that connected the road from *Ocilla Natural Bridge* to *Fort Andrews* and from there across the *Occttota Funka* - Library of Congress.



Map 5. Section of the 1808 J. Foss et al. chart showing the *Samalga-hatche* River (St. Marks) to the *Suwaney* River (Suwannee). Other rivers are the *Assilla* (*Aucilla*) *Little Stoney* Creek (no modern equivalent), *Soula topha* (perhaps today's *Spring Warrior* Creek), and *Suwaney* River (Suwannee). Published in London when the British were still allied with Creek/Seminole factions and still had hopes of retaking the fledgling US.



Map 7. Section of an 1826 map of East Florida by the Topographical Bureau. Shows the Ashley, (Aucilla), Aiknfinna (Econfina), Little Stoney Creek & Hatcha Hollowaggy (Fenholloway) in the correct relationship to Rock Key today's Rock Island - Record Group 77, National Archives



Map 8. Section of the 1827 J. Williams map showing the Foenahalloway River in the wrong location as a tributary of the Oscilla. Also, the *Achenahatchee* and Chattahatchee Rivers are Seminole-Creek place names lost to history. Note the deep channel of the Histahatchee River - State Library Florida.



Map 9. Section of the Township 6, Range 6 Plat Map of 1849 showing the locations of *Ocitra funka* (Big Spring Creek) and the *Warrior River* today's *Spring Warrior Creek* in relation to one another - The Land Boundary Information System, LABINS.



Map 10. Section of Thomas Jefferys' 1775 chart entitled *The coast of West Florida and Louisiana*, showing the *San Pedro or St. Peters River* and *St. Pedro Mount*. It is also shown on his 1768 chart - Library of Congress



Map 11. 1536 *Mapa de las Antillas, golfo de Méjico y Norte de la Florida*. This chart shows the *Apalachee Bay* region before the DeSoto expedition of 1539 but after the Narváez's expedition of 1529 - National Archives Madrid, Spain.



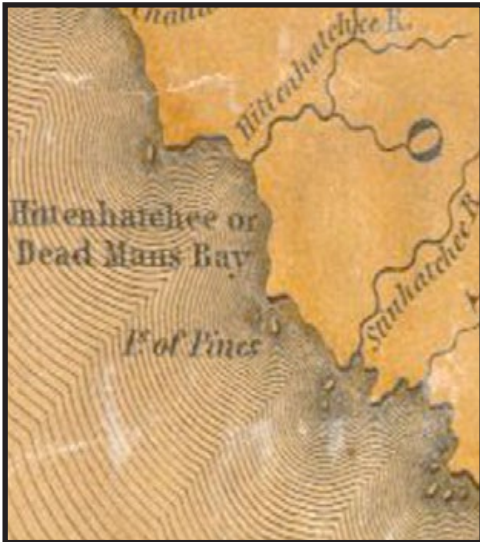
Map 12. Dutch map of 1630 in Latin entitled *Florida, et regiones vicinae* showing Aute, Tacobago (Bay?), and the *R. del Spiritu Santo* (*Suwannee*) and drafted by Joannes de Laet - Yale, Beinecke Rare Book & Map Library.



Left Image - Map 13 1635
Dutch map showing the *R. del Spiritu Santo* (*Suwannee*) and the high ground, *Arenas gordas*, between *Spring Warrior Creek* and *Steinhatchee River* (Harvard Map Collection).

Right Image - Map 14
1767 map of the St. Marks River showing
The Needles - Univ. of Michigan Library.





Map 15. Section of 1835 map to accompany Samuel Mitchell's booklet *An Index of the Rivers*. It lists the *Hittenhatchie River and Bay* (see page 165 of his booklet) - Hathi Trust Digital Library, University of Michigan.



Map 16. Section of the 1820 B. de. Beaupre's *Map of Florida*, showing *Deadmans Bay* and the *Suwannee River*. Note the unnamed island southeast of the Suwannee that are today's Cedar Keys - Florida Memory Project.



Map 17. Section of the 1696 Nicolaes Visscher Dutch map showing *Tacobago Bay* and the *Arenas Gordas*. Map Title translated - *The American Islands in the North Ocean and adjacent regions*. Map is in Latin - Univ. of Wisconsin Libraries.



Map 18. Section of Romans 1776 map showing the road from Ft. St. Marks on the west end and the native villages along the lower road between St. Marks and the St. Juan River (Suwannee) to the east. The villages include the Ivitachuna and Okone on the Aucilla River, S. Matheo which is perhaps located on Spring Warrior Creek, and S. Pedro near an unnamed river, which today is the Steinhatchee River. This map shows the St. Pedro River in the incorrect location, a mistake sometimes made on Colonial maps. The San Pedro River flows into Deadmans Bay. The red dots mark the locations of the villages mentioned. The green area is Roman's representation of the swamp(s) (San Pedro Bay and Mallory Swamp) located north of the of the lower road from Ft. Saint Marks east to St. Augustine. This is map not a navigation chart like the one he compiled in 1774 and had reprinted. This map's purpose was to show the villages, roads and natural inland features known at the time



Map 19. Section of Herman Moll's map of 1715 showing Palaxy Bay. Note: "A Spanish Fort Deserted" is believed to be the Apalachee town-fort of Ivitachuna, Ivitachma and various other spellings - Leventhal Map Center, Boston Public Library.



Map 20. Section of the 1829 Lt. William H. Swift's US military map of the Territory of Florida showing the *Suwannee River* and Arbuthnot's old store at the mouth of the river. This map employed the military's version of the Bouquet-Hutchins PLSS system - Library of Congress.



Map 21. Section of a 1834 map of the Territory of Florida shows the lower road from St. Marks east passing through the native village of *San Pedro* on the *San Pedro River* (Stienhatchee). The short-lived name *Santa Fee Bay* is *Deadmans Bay* - State Archives, Florida Memory.

Continued From Page 12

current levels for short periods in recent times. Other fairly recent unusual trends indicated by this study include a period of rapid rise between 1000 – 700 years before present (950 – 1250 AD) during the so-called “medieval warm period”; and another of rapid decline during the “Little Ice Age” from 650 – 100 years before present (1300 - 1850 AD) when much of the world was subjected to cooler weather.



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Continued from page 5

better protected than they are at this moment as they cycle above and below water and are slowly but surely eroding away.

One of the most striking features of this site, and the larger area in general, is evidence of prehistoric utilization of natural landscape features into what should really be considered monumental architecture that is not in the form of mounds. This exposed limestone bedrock has several hundred unusual loose limestone cobbles/boulders laying piled on its surface that have all been partially colonized by oysters. Shown below at low tide you can see a good amount of water trapped in a shallow weir less than two feet deep and filled with several hundred fish when I took this picture.

Over a dozen test excavation units have been completed thus far, with two more to finish. A unit located on higher ground is still producing flake stone artifacts at over a meter of depth and has produced well in excess of 7,000 flakes thus far. The vast majority of these flakes are incredibly tiny and were first noticed when they fell

through 1/16th inch window screen. We adapted our collection strategy and collected all dirt from the important layers and have run it through graduated screens down to 235nm (the larger screens at top eliminate the larger plant remains, pebbles and bigger artifacts). Recovery of the tiniest flakes is aided by shining a very strong blacklight at them as they fluoresce blueish white or sherbet orange depending on material type.

Below you see a small sample of three size classes of flakes. The largest of which is less than 5 by 5mm on a side. The tiniest ones are barely 2 by 2 or 3mm and we could easily fit 25 of them on 1cm² of the scale shown.

Noticing the vast quantities of very small flakes in time to recover thousands of them has greatly aided our interpretation of the site use in the Middle Archaic period circa 4,500 to 7,000+ years ago based on fragmentary diagnostic projectile points recovered multiple levels.

Considerable numbers of truly prismatic blade flakes, diagnostic manufacturing debitage, and specialized cores have been found and await further analysis when data recover is completed. The prismatic flake shown is in fact only the midsection. The thousands of tiny flakes and hundreds of larger pieces indicate that genuine prismatic blades were being manufactured on site, snapped or broken into very sharp triangular slivers, and used to bore or drill. We strongly suspect they were working shell on site but have only found tiny delicate fragments thus far. Lacking any of the finished shell products it is not yet possible to say if they were making shell beads, engraving conch or whelk with

images, making plaquettes or other ornamentation, or all or none of these specific items. We can say that whatever they were making on this specific spot was being done intently and for a considerable amount of time.

When cleaned, curated, and properly described, additional analysis will include microscopic use wear on a select number of pieces and attempts to refit mending flakes.

Thus far our efforts have added nearly 10,000 years to the sites useful life history, discovered an intense stone tool manufacturing and use location from the Middle Archaic, located numerous examples of previously unknown or unrecognized monumental utilitarian architecture, and most importantly, giving us a clear idea of exactly how very little we collectively know about this area of Florida.

A lifetime of future work possibilities for an army of researchers and students exist here. Some of our next steps will focus on finishing the work at hand, protecting the most sensitive areas from nature as well as we can, and from even well meaning visitors. And of course, continuing to learn as much as we can while the opportunity to do so exists.

The work described here could not have been accomplished without the incredible interest and dedication of G-Fast's finest: Richard Connell, Kash Connell, Jake Burnett, and ARI's own Tom Harmon, Patrick Rohrer, and Samantha McClure. Additional thanks are offered to Drs. Dunbar and Boyer for their intellectual, technological, and logistical assistance.

 **END**





Figure 1. Floyd's Mound

Continued from page 7

One such site is the site of Asile, the westernmost chiefdom of the Timucuan Indians. The accounts of the Hernando de Soto expedition indicate that Soto and his advance guard spent a night at the town of Aisle before crossing the “River of Ivitachuco” – the modern Aucilla River – by building a bridge and fighting off an attack by the Apalachee Indians, whose territory began west of the Aucilla in modern-day Jefferson County. After beating back the attack, the Spaniards came to the first town of the Apalachee, Ivitachuco, and found that the Apalachee had set fire to the town before retreating. Soto and his men spent the night camped near the burning town before advancing to the Apalachee principal town of Anhaica, in modern-day Tallahassee. Asile was recorded as being “subject to Apalachee”. During the 1600s, Asile continued to be an important chiefdom, with the Spanish mission San Miguel de Asile being founded in their territory. In addition, the Spanish hacienda of Governor Benito Ruiz de Salazar was founded in the territory of the Asile, on the western

bank of the Aucilla River, and served as a wheat farm and cattle ranch until the hacienda was abandoned in 1651.

In 2020-2022, ARI conducted archaeological testing at a cluster of sites on the eastern side of the Aucilla, in Madison County, and on the western side of the river in Jefferson County. These sites were found to be a part of the *Suwannee Valley* archaeological culture, associated with the westernmost Timucuan chiefdoms. One of the sites tested, the Floyd's Mound site (Figure 1), had an additional upper layer with *Fort Walton culture* artifacts – the types of artifacts and ceramics associated with the historical Apalachee Indians. Radiocarbon dates suggested this site was occupied in the later precontact period, and the location of these sites is the area where the historical Asile chiefdom would have been. Further research at the sites will help to determine whether these sites may be the site of the early contact town of Asile described in the Soto expedition chronicles.

Since 2015, the Aucilla Research Institute has worked a number of field seasons at Wakulla Springs State Park in Wakulla County. During this research, a series of Fort Walton culture sites were discovered by volunteers working with ARI archaeologists. Several of these sites were found to have *optically stimulated luminescence* (OSL) dates which showed the sites were occupied during the early contact period, and, at one of the sites, Spanish artifacts dating to the early contact period have been located. The location of these sites and the dates from both Native American and Spanish artifacts recovered suggests these sites may represent the early contact town of Aute, first encountered by the Narvaez expedition in 1528, and later visited again by the Soto expedition in 1539 – one of only three sites associated with both explorers.

In addition to field research on the early contact period, ARI is also doing laboratory studies on early contact Spanish artifacts to learn more about their manufacture and transport to the Americas. Recently, Dr. Willet Boyer co-authored, with Dr. John E. Worth and Caroline Peacock of the University of West Florida, a paper presented at the 2023 Society for Historical Archaeology conference in Lisbon, Portugal, entitled “Revising Sixteenth-Century Olive Jar Chronology: The View from Two Early Contact Sites in Florida”. This study analyzed Spanish olive jar sherds recovered from the Governor Martin site in Tallahassee, the 1539 winter encampment of the Hernando de Soto expedition, and the Tristan de Luna settlement site from 1559 – 1561 in Pensacola. Boyer, Worth, and Peacock's research showed that sixteenth century olive jar sherds can be used to date historical sites from that period to within a decade or less, based on their shape and thickness. This information will be valuable in dating and identifying sites which have an early contact period component.

African-American Archaeology in Jefferson County: Historical Sites and Cemeteries

Since 2019, ARI's Jefferson County Historical Sites Survey has been working to identify historical sites and historical cemeteries throughout Jefferson County, particularly sites associated with the African-American community. When Florida was acquired by the United States in 1821, Jefferson County and neighboring Leon County became the center of plantation agriculture in Florida. In Jefferson County, numerous plantations were created which grew cotton using the labor of enslaved people. The Florida archives have numerous *freedmen's contracts*, all signed between 1866 and 1867, signed by newly freed people to work growing crops for that year, as well as militia rolls dating to 1870 for three African-American militia units created to protect African-American voters during the first elections after the 14th and 15th Amendments were passed. The freedmen's contracts and the militia company muster lists from the nineteenth century have men and women with family names that are still prevalent in Jefferson County today, providing documentary proof that African-American families in this region have historical roots dating back nearly 200 years into the past.

ARI's Jefferson County survey began in 2019 to identify historical cemeteries and historical

archaeological sites which had not previously been recorded in Florida's Master Site File. Sites recorded in the file are assigned site numbers and publicly recognized as cemetery sites and historical sites, providing them some protection against disturbance. Jefferson County originally had only 15 such recorded cemetery sites when ARI's survey began; today, 153 such sites have been recorded for the county, with more being discovered and recorded as the survey continues. Many of the cemetery sites are associated with historical plantation sites or with homes or small communities which no longer exist, which makes the recording and preserving of the sites even more important.

The recording of these sites has only been possible because of the willingness of local members of the community to share information about their family histories and community history with archaeologists and researchers studying Jefferson County's past. Many residents have been generously willing to help with identifying places, their ages and

importance to the community, including, among others, Rev. James Thompson (Figure 2), head of the Springfield Pallbearer's Association; Mr. Thomas Glenn, County Commissioner Eugene Hall, and Mr. Marsaun Harris, whose families are associated with the Old Mount Zion Family Cemetery in western Jefferson County; members of the Gallon family, including Dennis Gallon, Rev. Dr. Elizabeth Gallon McGhee, Washington Gallon, and others; Alonzo Hardy, local historian; Ms. Jacqueline Seabrooks, of the Property Appraiser's office, and head of the Jefferson County Cemetery Preservation Association; Dr. Sylvester Peck, of FAMU, author of a history of the pallbearer's societies; and many other members of the community whose knowledge of the sites and of their history has been critical in understanding the cemetery and archaeological sites and their ties to the people of the region.

Since 2021, students associated with Jefferson County schools have been working with archaeologists and volunteers on both archaeological digs



Figure 2. Rev. James Thompson on the left with Willet Boyer in the field.



Figure 3. Students investigating the Trelawn Plantation site (8JE2199).

and cemetery cleanups and preservation. Students learning American history helped to excavate the detached kitchen at the Byrd/Chamberlain archaeological site, associated with the Trelawn Plantation founded in 1836 (Figure 3), over the 2021-2022 field season, as well as assisting with testing at the Palmer site in the western part of Monticello. In 2022-2023, students have helped to clean and to restore damaged areas at the Stokes/Sanders cemetery in northeastern Jefferson County and at the 1821 City Cemetery in downtown Monticello. Through direct, "hands-on" educational programs involving local students, ARI and Jefferson County Schools have helped both to teach students local, American and world history through historical archaeology in the field, and to help students see their ties and their families' to the incredible historical and archaeological heritage of this region.

For the Future

Through the use of ground-penetrating radar, ARI archaeologists and volunteers hope to more clearly identify and define cemeteries in this region to allow for the sites' greater protection. Ground-penetrating

radar, or GPR, allows researchers to identify burial areas and structural foundations below the ground surface without digging and excavation, which lets sites remain undisturbed and thereby better protected and preserved for the future. As the field programs for both the Early Contact Initiative and the Jefferson County Historical Sites Survey continue, it is hoped that more local students and members of the community can be directly involved in working to preserve our community's past long into the future.

For anyone who would be willing to share their knowledge of the past, or who would like to find out more about ARI's field programs or historical research, please contact Dr. Willet Boyer of the Aucilla Research Institute at landoftherivers@hotmail.com.



END

Continued from Page 8

In the American Territorial and Statehood Period (1821 to present), the first maps show the St. Marks River as the Appalachee or St. Marks (1822 US), Appalachie or St. Marks (1823a, 1823b US), S. Marks 1825a Fr), St. Marks (1825b US), Appalachie (1827 US), St. Marks (1827 US). By the 1830s the river shows up on maps as St. Marks.

The Wakulla is shown as the Wakulla (1822 US), Tagabona or Wackhulla (1823a 1823b US), Wakully (1827 US), Wakullah (1829 US). When Wakulla County was formed in 1843 appears to be when the spelling "Wakulla" was settled.

In Clarence Simpson's book, *Florida Place-names of Indian Derivation*, he considers the name of the Wakulla River³:

The name Wakulla is corrupted from Guacara. Guacara is a Spanish phonetic spelling of an original Indian name, and Wakulla is a Muskogean pronunciation of Guacara. The Spanish Gua is the equivalent of the Creek Wa, and as the Creek alphabet does not exhibit an "R" sound, the second element Cara would have been pronounced Kala by the Creeks. The Creek voiceless "L" is always substituted for the Spanish "R". Thus, the word Guacara was pronounced Wakala by the Seminoles who are Muskogean in their origin and language. Since Wakulla was probably a Timucuan word, it is unlikely that its meaning will ever be known. It may contain the word Kala which signified a "spring of water" in some Indian dialects.

Aucilla and Wacissa Rivers

A French map by Claude Bermou published 1681 depicts an unnamed river between the St. Marks and Suwannee that might represent the Aucilla. Today's Aucilla River was named *Rio de Basisa* on a 1707 Spanish map entitled *Discxicion del Puerto de Apalache* (Division of the Port of Apalache). Curiously, it was later named on French and English maps the Vasiza (1717 Fr Map 3), Vasisa (1733 En), Varisa (1748 En), a place name that may be corrupted from original *Basisa* and may also be a variant of the modern place name Wacissa. A reason the Spanish may have referred to the Aucilla as the *Basisa* was that Tocobago, a tribe that resettled on the banks of the Wacissa, had located on the most navigable branch of the river system. The Aucilla has many land-locked channel segments. Thus, the Basisa was the name used for the Aucilla basin with a branch now known as the Wacissa due to its political importance of the time. The Tocobago were known for their navigation skills and were encouraged by the Spanish to carry cargo from the local missions by canoe or boat along the Gulf Coast to landings on Suwannee and Santa Fe Rivers.

The 1707 Spanish map indicates that the people of a village named Tocopacas (Tocobago) were settled along the *Rio de Basisa*. The Spanish professed the people of Tocopacas were less numerous compared to other Native American river settlements. A French map of 1717 depicts a Native American settlement on the Vasiza River naming it *les Tocopata errans* (the wander Tocopata [Tocobaga]). The French word *errans* (wander) may be related to the Tocobaga being seafaring and were employed to move products to and from the mission chain. Interestingly, a Dutch map of 1630 in Latin text places the name Tacobago off the R. del Spiritu Santo (River of the Holy Spirt), today's Suwannee River.

Bernard Romans' map of 1774 named it the Assilly River (back inside cover). Other English maps published in 1775, 1776, 1777, 1781, 1794 and 1806 called it Ashley River as did a Spanish map of 1799b. French maps of 1778 and 1780 (a&b) continued to refer to the river as the Vasiza or *Vaziza*. By 1808 a British navigation chart named it *Assilla Creek* as did a Spanish map of 1810. Some of the first

maps published in the United States depicting Florida name the river *Ausilly* (1822, 1823a&b, 1825, & 1827). However, in 1827 a map by John Lee Williams altered the spelling to *Oscilla* River, preferring the “O” over the “A”. The original plate map of 1829 also lists it with the “O” as the *Ocilla* River. By 1834 the “O” was in common use. The use of *Oscilla* was recognized by the US Coast Survey on their hydrographic charts of 1855 and 1856. In the American Civil War, a Confederate map by Major George Washington Scott showing saltworks locations along the *Apalachee Bay* coast and was first to use the modern spelling, *Aucilla River*.

Econfina River

According to Clarence Simpson (1956) “The name Econfina is a Creek [Seminole/Creek] designation for natural bridge from the Creek Ekana = earth, and Feno = bridge or footlog, and it is translated as Natural Bridge on the Bruff-McClellan map of 1846.” The Bruff-McClellan labels it as the “Econfinee or Natural Bridge” River³.

A 1733 (En) map lists it as *Vilches River* as do maps of 1748 (En) and 1749 (Fr). The river is located between the *Aucilla* and *Fenholloway* rivers. In 1760 Thomas Jefferys named the river *Vilche* but reverses the order of *Vasisa* and *Vilches* on his map of 1768 placing the *Vilches* north of the *Vasisa*.

The 1774 the map by Romans shows the location of Rocky Key (today's Rock Island) as well as the river mouths of the *Aucilla*, *Econfina*, *Little Stoney Creek* and *Fenholloway* in correct relation to one another (west to east). He named the *Econfina* the *Aikanfma*. Subsequently, two French maps continue to name it the *Vilches* (1778) and *Vilchez* (1780). A map published in the United States in 1806 does not name the river but shows it east of the *Aucilla*. An 1808 English map shows the middle of three drainages as *Little Stoney Creek*. An 1810 Spanish navigation chart also shows three rivers/creeks east of the *Aucilla River* and inshore from the *Isla de Piedra* (Island of Stone, today's *Rock Island*). Both the 1808(En) 1810(Sp) maps are very similar to Bernard Romans' map of 1774 yet the waterways were not named.

From 1827 over a span of about twelve

years, maps of the area were not correct. John Lee Williams' map of 1827 shows the *Fenholloway River* as a tributary of the *Ocilla*. That mistake was repeated many times until the 1839 Zachary Taylor (Map 4) of the Second Seminole War corrected the mistake. The Taylor map was developed by Capt. John MacKay and Lt. J. E. Blake of the US Army Topographical Engineers who used the PLSS land survey system developed in America by the British Army. The Taylor map of 1839 once again correctly placed the *Econfinee* (*Econfina*), *Aucilla* (*Ocilla*) and *Fenahallowa* (*Fenholloway*) rivers in the correct relation to one another. An interesting note, the 1839 map shows details of the hammocks, swamp land and pine barrens from the *St. Marks to Suwannee Rivers*. Yet the Topographical Engineers map of 1846 do not show those landscape details for the Florida Panhandle perhaps because the war had moved further east and south after 1839 and the war ended in 1842. In 1848 the original plat map for Township 5 South and Range 7 East shows the *Econfinee River* discharging into Gulf of Mexico in sections 15 and 16. Variations for the spelling for this river continued until the printing of the 1914 Florida Growers Atlas of Florida, Taylor County, Sheet 46 that used the modern spelling, *Econfina*.

Little Stoney Creek

This name and its location is lost to history. The Romans chart of 1774 (see inside back cover) as well as the Foss et al. map of 1808 show this creek between the *Econfina* and *Fenholloway* rivers inshore from Rock Island (Map 5 & 6). Using Romans map, the creek was north, northeast of *Rock Island* placing it in the vicinity of today's *Pitts Creek* or, just as likely, one of the next two tidal creeks to the east. The entire area has abundant rock outcrops but also provides sources of freshwater through ground water leakage and small springs. The second unnamed creek east of *Pitts Creek* is the only one that provides access to high ground on a series of island hammocks. The area is otherwise dominated by an expansive salt marshes.

Fenholloway River

Similar to the *Econfina*, the *Fenholloway* is derived from the Seminole-Creek fina=footlog and halwi or Halhauwe=high or high footlog or bridge with an overall meaning “high bridge”³. The name *Hatcha Hollowaggy* was the name given by Romans on his 1774 and 1776 maps. Maps

of 1775b and 1777 by Thomas Jefferys lists the name as *Hallowage*. In 1789 it was named the *Hallowaggy River*. It is depicted on an 1808 map as an unnamed river. After some years it is shown on two 1823 maps as *Hatcha-hollowaggy* or *Hatchahollowaggy* probably after from Romans 1774 map. A US Topographical Bureau map of 1826 shows the rivers locations correctly (Map 7). However, the John Lee Williams map published the next year in 1827 shown the *Fenholloway* in the wrong location as a western tributary of the *Oscilla River* (Map 8). This misplaced location is reflected again on maps of 1834, 1837 and 1838. It was not until the Taylor map military map of 1839 when the mistake was fully corrected. The original plat survey for Township 6 South, Range 6 East as well as Township 5 South, Range 6 East were initiated in 1825 and 1826 but were not completed until 1848 after the Second Seminole War. There are many notations on both maps of “low wet” land and swamps. The river was named the *Finholoway* and *Fenholloway* on the plat maps and the *Fenaholawau* on the 1851 Surveyor Generals map showing the progress of the Plat Surveys in Florida. The first modern spelling, of the *Fenholloway River*, appears on the 1848 plat map and again on a Civil War, US Coast Survey map of 1861.

Big Spring Creek

Two maps published in 1823(a&b) might show *Big Spring Creek* naming it *Stony Creek* (not to be confused with *Little Stoney Creek*). The plat map of Township 6 South, Range 6 East was first surveyed in 1825 with a pause in mapping possibly due to the buildup of hostilities leading to the Second Seminole War. The plat survey was completed in 1849 (Map 9). It shows the mouth of *Ocitla funka Creek* entering the Gulf of Mexico in section 17. The same plat map shows the *Warrior River* entering the Gulf in section 25, southeast of *Ocitla funka Creek*. This is an important distinction because Clarence Simpson thought the *Ocitla funka* had been renamed the *Warrior River*. The plat map shows they are separate systems. Today the *Ocitla funka* is named *Big Spring Creek*.

In 1839 the Taylor map named it the *Ocitlota Funka*. Located to the north, on the Fenholloway River, was Ft. Andrews established in 1838 and to its south Fort Hulbert on the Steinhatchee River

established in 1840. A military road connected both forts. The *Ocitlota Funka* was sandwiched between those forts and an 1864 Civil War map shows the old military road still existed. A Civil War chart of 1861 correctly shows the *Ocitlo Funca River* between the *Fenholloway* and *Warrior Creek*.

One of Read's⁴ (1934: 68) interpretations of the name *Ocitlot A Funka* (Ocitlota Funka) is taken from the Seminole-Creek *choli* or *chuli*, "pine," *oti*, "beach", and *fanki* "jutting" pine tree beach. There is a protruding arm of coastal marsh jutting into the Gulf on the north side of *Big Spring Creek* where there is a small hammock at its seaward extremity. *Big Spring Creek* is located about 2.5 miles southeast from the mouth of the *Fenholloway River* and about 4.5 miles east northeast of *Spring Warrior Creek*.

Spring Warrior Creek

The earliest map depicting *Spring Warrior Creek* was published in 1808 naming it *Soul topha* located just north of *Deadmans Bay* (Map 5) and the Point of Pines, both of which were established navigation landmarks. It is also shown but not named on a Spanish map in 1810. It is shown again on an 1837 map by John Norie, a London publisher, as *Soula Touphe*. As mentioned above, the original survey plat of 1825/1849 for Township 6 South and Range 6 south, shows the *Warrior River* entering the Gulf in section 25. Maps of 1776, 1794, and 1822 incorrectly name it the *San Pedro River* (*San Pedro* is the former name of the *Steinhatchee*) and again in 1823(a,b) as the *St. Pedro* or *Chatta-hatchie River*. The river is shown on a number of maps but not named. The first map to name it the *Warrior River* is the original plat map of 1825/1849. On the US Coast Survey navigation charts in 1861 and again in 1864 it is named the *Warrior River*. The Confederate salt works map of 1864 lists it as the *Warrior Creek*. Maps and navigation charts continue to name it *Warrior River* until the Florida Department of Agriculture Sectional Map of Florida named it *Spring Warrior* in 1922. In 1943 the US Coast and Geodetic Survey chart 1260 adopted the name *Spring Warrior Creek* as its place name.

Clear Water Creek and Blue Creek

These creeks are first depicted on the George Washington Scott map of 1864 and have retained their names since then. *Clearwater Creek* is located along an isolated stretch of the coastline while *Blue Creek* meets the *Gulf of Mexico* at Keaton Beach. Numerous Civil War saltworks were located along the coastline between these creeks.

Steinhatchee River

In terms of mystery and intrigue, the *Steinhatchee River* may have the most unusual history. Prior to Bernard Roman's map of 1774 this river was named the *Fleuve St. Pierre* (1705, 1717a Fr Map 3), *Rio de San Pedro* (1706 Sp, 1717a&b, 1718 Fr, 1715, 1732, 1733 En) *River St. Peters* (1748 En), a name that continued to show up on maps in some variation of the name until 1834 when it was discontinued. Bernard Romans changed the name to "*Hitten Hatcha* or *Deadmans Bay*" (see inside back cover) that eventually evolved to its modern name, *Steinhatchee*. It is a Creek/Seminole place name.

Most, but not all, pre-1774 maps place the *San Pedro River* as flowing into what became known as *Deadmans Bay*. A French map of 1780 shows an unnamed bay-like feature with three islands south of the bay, the *Cay St. Pierre* (Pepperfish Keys today). Another nearby landmark identified by Thomas Jefferys (1768 & 1775a) was a set of tall hills or dunes north of the bay that he named the *Mont de San Pedro* (Map 10)⁵. The *San Pedro* or *St. Pierre River* is shown within a bay-like feature. Although unnamed, the maps of 1806 and 1808 show a river entering at the top of *Deadmans Bay*. A Spanish map of 1810 again named the river *San Pedro*. Furthermore, a 1776 map shows a Native American village named San Pedro, a few miles upriver from the bay.

Clarence Simpson (1956) said the "name appears to be derived from Creek Ak = down, Isti = man, and Hatchee = creek, or "deadman's creek." *Deadmans Bay* at the mouth of the river is called *Hitten Hatcha Bay* by Romans (1774), and Simpson felt that it was very probable that the bay took its name from the river. Williams' book (1837: 48) states the "*Histahatche River* is formed by the junction of three streams, at the falls, nine miles from the Gulf. It spreads into a round bay before it enters the Gulf." It was Simpson's contention that the *Histahatche River* was unmistakably

today's *Steinhatchee* because it is the only coastal river with a water falls and that it empties into the bay. It should be emphasized the Creek/Seminole "*Hatchee*" means a flowing water creek thus Romans gave both the Native American Creek/Seminole name, *Hitten Hatcha*, and the English translated name, *Deadmans* to the bay and river.

The original survey plat of 1826 lists the river name as the *Stinnhatchee River*. On an 1837(a) map it is listed as *Deadman's Bay* and *Deadman's Creek* and, on the southern end of the bay, *Deadman's Point*. The 1839 Taylor map listed the river as the *Esteen-hatchee*. In 1839b(US) Sam Mitchell published a booklet and insert map (Map 15), *An Index of the Rivers* that listed the *Steinhatchee River* as the *Hittenhatchee River* with a length of 24 miles that flows into *Hittenhatchie Bay* (page 165).

In 1827 John Williams gave additional details about navigating this bay and river:

"*Histahatchee*, or *Deadman's Bay* is small, but offers a safe harbour for small vessels, which may enter and anchor perfectly secure in twelve feet water. Nearly the same draught of water may be carried up [river] nine miles to the falls" (1827: 17).

The US Coast Survey chart of the Northeastern Part of the *Gulf of Mexico* published in 1861 listed the river as the *Steinhatchee*, the spelling that is accepted as its modern name.

Suwannee River

Of all the rivers mentioned in this article, the *Suwannee* is the largest and most navigable. The place name *Suwannee* is a relatively new name applied to this river. as Clarence Simpson stated:

"Read (1934:53) relates that the Cherokees claim that the name of their village Suwani is of Creek origin. If this should be true, the derivation is probably from the Creek Suwani = echo. Good echoes are a feature of this stream. Attention may be called to the Guacara element of the mission name. It is impossible to say whether it is a Timucuan or an Apalachian [Apalachee] word. However, when pronounced by a Muskogee speaking Indian, it would sound as Wakala, owing to the absence of an "R" in the Muskogee phonetics. While its meaning is unknown, the circumstance that both the Suwannee and Wakulla Rivers are

characterized by large springs may have significance in their meaning.”

Sixteenth Century maps are confusing, however, because the *Suwannee River* is located on the eastern side of the Big Bend's, *Apalachee Bay*, just north of *Cedar Keys* makes it possible to identify it on most early maps. The Jacques Le Moyne map of 1591, in Latin, denotes the river as *Hic descendit Pamphilus Vieruaes Sinus Morguel* (Here Pamphilus [river] goes down to the bay of Morguel). These place name *Pamphilus* for the river and *Morguel* for the Gulf of Mexico are unique to the French. Keep in mind that the French claimed to Florida was short-lived. In 1565 the Spanish violently persuaded the Huguenot to leave Florida and claimed the lands for Spain. The Le Moyne map was published twenty-six years after the Spanish took Florida.

In 1533 a Spanish map named the *Gulf of Mexico* the “*Golfo de la Nveva Espana*” (Gulf of New Spain) yet features along the Gulf Coast are questionably placed and have place names not identifiable on subsequent maps. Spanish maps of 1536 and 1590 show a river in the general area of the Suwannee naming it the *Rio del Spiritu Santo* (River of the Holy Spirit). The *River of the Holy Spirit* is also found on Dutch maps of 1630, 1635, 1638, 1672, and 1696 as well as on a French map of 1681 and a Spanish map of 1636. On many of these maps the mouth of the *Suwannee* is shown near islands to the southeast which is consistent with the location of Cedar Keys.

The earliest Seventeenth Century map continued to name the *Suwannee River* the *River of the Holy Spirit* in 1700b (En) and 1703 (Fr) but after 1703 the name no longer shows up on maps. This may have something to do with Col. James Moore's Anglo-Creek forces war that decimated the mission chain and the Apalachee and Timucuan settlements. In 1705 a French map name it the *Diamabula River*. An English map of 1715 lists it as the *St. Martin River* as well as French maps of 1717(a) and 1780. Two other French maps names it the *Amaboulla River* in 1717b and 1718. English maps of 1731, 1733 and 1748 gave the name *St. Martin* whereas a 1742 Spanish map named it *Saint Marcia*.

Romans' maps of 1774 and 1776 named the river *St. Juan de Guacara vulgo Little Seguana* (Saint John of Guacara commonly known as Little Seguana) as did Moore in his map of 1796, Cary 1806, Melish 1813 and 1816 (En) and Pintado 1810 (Sp). Thomas Jefferys gave the name *St. Martins* on his maps of 1775(a) but not on his other maps of 1775(b) and 1777 and used the name *R. S. Juan* (River Saint John) similar to Romans' map. Other maps continued to use the name *St. Juan* in 1781, 1793, 1794 (En) and 1789 (US).

In the early 19th Century, the river became known as the *Sawaney River* in 1808 (US) Map 5 and again in 1820 (Fr Map 16). A map published in 1822 (US) uses the today's place name the *Suwannee River*.

Progression of Bay Place Names Apalachee Bay

The oldest recognizable Place Name shown on early Spanish maps is *Apalache* (1536 Map 11) or *Palacho* instead of *Apalache* (1590). Both are shown on the maps in the *Ochlocknee River* area and both came to represent the name of the Native American peoples who occupied the land. The original native peoples, the Apalachee, made a lasting impression on the Narváez expedition in 1529 so much so the name *Apalache* was published prior to the DeSoto expedition. A Dutch map of 1630 shows the Apalachee Territory extending from the Appalachian Mountains southward to today's *Apalachee Bay*. Much of the seemingly oversized Apalachee territory on that map was likely due to the absence of early European's geographic knowledge, the unfamiliar languages and the encounters with the Apalachee by Narváez in 1528-29 and later by DeSoto in 1539-40. A Dutch map of 1630 named the bay *Tacobaga* (Map 12) and another Dutch map of 1696 the *B. de Tacobaga* (Map 17). The *B. de Tacobaga* is also applied on an English map of 1700(b). Thus, *Apalachee Bay* was first named the *Bay de Tacobaga*. As previously mentioned, the *Tocobaga* was a seafaring tribe who first fought the Spanish before coming under their influence to act as seagoing mariners in the mission trade.

Digressing for a moment, a number of Dutch maps (1630, 1635, 1636, 1638, 1672, and 1696) show a place name on the shoreline of Apalachee Bay as *Arenas*

Gordas (thick or high sand Maps 13 and 17). It was very likely an important navigational land mark. It was also shown on a Spanish map as *Arenas Blacos* (White Sands) in 1700b. The location was northwest of the *Suwannee River* on the eastern shore of Apalachee Bay. All of these maps appear to have it plotted in the same location as do the Thomas Jefferys' maps of 1768 and 1775a as *Mount de San Pedro* (Map 10) as well as on a French map of 1780 as *Mont. St. Pierre*. From the perspective of physical geography, there is only one place this landmark could be located, between the *Fenholloway* and *Steinhatchee Rivers*, in the Keaton Beach area. Along the Wilderness Coast there are discontinuous white sand beaches and, more important, the only high ground directly approaching the coast of Apalachee Bay. This high ground is part of the Pamlico Escarpment which is in the 7m to 8m above sea level range (Figure 2: page 26). Behind the escarpment is higher ground. If this observation is correct, it means the *Arenas Gordas*, *Arenas Blacos*, *Mount de San Pedro* and *Mont. St. Pierre* are the same location and represent the oldest navigational landmark in Apalachee Bay.

French maps of 1703 and 1732 name Apalachee the *Bay de Palaxy* (the Bay of Grand Importance or noteworthiness) as does an English map of 1715 (Map 19).

The first map to show the name as the *Bay of Apalatachee* is a rather crude British map drafted between 1721 to 1724. English maps of 1731 and 1733 give it the name *Apalache Bay* and a French map of 1744 named it *Baye des Apalaches*. An English map of 1748 named it the *Bay of St. Marks de Apalache*. Thomas Jefferys named it *Apalaches Bay* as did another English map of 1764. Jefferys changed the name in 1768 to the *Bay of Apalache* and Bernard Romans in 1774 the *Bay of Apalacha*. Since the early 1720s, with a few exceptions and variations in the spelling, the bay has retained the name *Apalachee Bay*.

Deadman Bay

Related to the history of *Deadman Bay* is the river that flows into it, the *Steinhatchee River*. Both share an unexpected history. An 1820 Spanish navigators book published as a coastal pilot's guide provides the following translated passage

for the route between the *St Marks River* to *Deadmans Bay*:

“To the East of the eastern point of the Apalachee inlet [today's sea buoy and offshore entrance to the *St. Marks River*], called the *Casinas* [also *Casina* in 1700], there is a reef of stones for about two miles long and the coast, from there continues to form some bends along the coast at an angle of South 62° East for a distance of 33 miles to the northwest end of *Hombre Muerto* [*Deadmans Bay*], between which are the two islands one of stone [today's *Rock Island*] and the other of Pines [today's *Piney Point*] both of which are close to land along this shallows coast, as it is in this bay.

The bay *Hombre Muerto* has an embayment from its northern point to the southeast point of eight miles with a five [mile] deep bay into which the *San Pedro River* [*Steinhatchee*] flows. To the south of the southeast end of this bay are two small islets [today's *Pepperfish Keys*] at a distance of two miles” (page 496)⁶.

Navigability and the Coastal Rivers.

There are four rivers that have a history as navigation points. From west to east they are the *St Marks*, *Aucilla*, *Steinhatchee* and *Suwannee* rivers. There are also numerous drainages that may have been accessed, if for no other reason than to replenish freshwater supplies for coastal schooners. There are many freshwater springs in area creeks and rivers. That said, most of the creeks and river outlets along this coast are shallow, rocky and risky to access.

Navigation into the *St. Marks River* from today's sea buoy had to be approached with caution prior to its channelization. The approach was named the *Casina* in (1700) or *Casinas* in (1820) by the Spanish as a gamble for the navigator's passing through it. Once a vessel entered the river, caution was still needed because the river course was winding and narrow. Of particular concern were “*The Needles*” (1767, 1769 En Map 14), a very narrow passage and shallow point lined by shallow shoals. Once the *Needles* had been cleared navigation to Fort San Marcos became less stressful. The 1856 *Preliminary Chart of the St. Marks River* confirmed the offshore channel was narrow and winding near the river's mouth. Both sides of the offshore approach were lined with shoals said to be exposed “at very low water.”

Navigating the *Aucilla* was very treacherous. The river has deep pockets but also has exposed limestone bedrock section that are only a few feet deep and some are prone to be exposed at very low tide. The first navigation chart for the *Ocilla River* in 1855 was probably drafted to satisfy the plantation owners in Jefferson and Madison counties. There was a desire to ship plantation crops via specialized shallow-draft barges (lighters) down the *Wacissa* to the mouth of the *Aucilla River* to transfer the cargo to larger vessels. The *Slave Canal* section of the *Wacissa River* was created for this reason.

The *Steinhatchee River* is a largely unrecognized river port today. The Spanish 1820 account describing how to navigate the from the *St. Marks River* to *Deadmans Bay* provides a hint of its past importance as a navigation route. In 1827 John Lee Williams provides information about navigating the river itself some nine miles inland to the *Steinhatchee* falls. But is there more to this story?

A map by Romans in 1776 show the southern road connecting Fort St. Marks to St. Augustine. The road ran east southeastward from St. Marks to San Pedro near the falls at *Steinhatchee* and between extensive swamp land (AKA *The Terrible Swamp* 1783 En) to *Suwannee River*. The swamps are today's *Mallory Swamp* and *San Pedro Bay* to the north and *California* and *Pocoson Swamps* to the south. The road between them led to Billy Bowlegs Old Town on the *Suwannee*. Collectively the swamps posed an obstacles for travel through them prior to their channelization in the 20th century. The native towns of *Ivitachua* (near the *Aucilla River*), *San Matheo* (near the *Fenholloway*) and *San Pedro* (near the *Steinhatchee River*) were located on the road between *Fort St Marks* and *Suwannee Old Town* (Map 18). These village names should not be mistaken for the mission sites that were abandoned earlier in 18th century. The *Steinhatchee River* offered navigation up river to the falls. The people of *San Pedro* were among those who traded with British fur traders. Navigation to and from the *Steinhatchee* may have been the best means of transporting trade goods. A US military map of 1829 shows Arbuthnot's trading post (store) located at the mouth of the *Suwannee River* (Map 20). By 1834 the

only place names identified along the lower road were *St. Marks* and *San Pedro* (Map 21). The name *San Pedro* is not shown on later maps.

By far the *Suwannee River* was, and is, the most navigable river along the Wilderness Coast. It can be safely navigated to Branford, Florida. Captain Bob Ivey moved to Rowland's Bluff and renamed it Branford. He established a steamboat landing adjacent to a new railroad line that ran parallel to the riverbank. By 1888, Ivey had established a boatyard and constructed the most famous vessel to navigate the river, the steamboat *Belle of Suwannee*. Above Branford, the *Suwannee River* has numerous rocky shoals and, depending on the river's level, is not so navigable.

Native American Place Names

In closing, some of the today's USGS Geographic Place Names are derived from the original indigenous peoples, the Apalachees and the Timucuan followed by the Seminole/Creeks who fought against and replaced them. The place names Wakulla, Aucilla, Wacissa and Suwannee have Apalachee or Timucuan origins that have no translations. The Apalachee spoke a Muskogee dialect. The Timucuan spoke a language unrelated to the Muskogean-dominated languages of the Southeast. Both the Apalachee and Timucuan languages have largely been lost to history. Yet another Muskogean/Creek tribe located just west of Apalachee territory was the Hitchiti. They referred to the Apalachee as the people on the other side, presumably meaning on the other side of the Apalachicola River to the east. In the early part of the First Spanish Period the Hitchiti resettled to Alabama. When they returned to Florida again they settled on the west side of the Apalachicola River. Once they returned, the Hitchiti place name *Ochlocknee* shows up on maps as the *Ocolacny* or *Ocolacni* for the first time.

The Apalachees and Timucuan were displaced, enslaved, or put to death by the Anglo-Creek forces of Col. James Moore, who in 1704 wiped out the Spanish mission chain. In 1705 they took the fort San Marcos de Apalache. A number of maps have notations commemorating the Anglo-Creek victory over the Spanish-Apalachees-Timucuan inhabitants. An English map of 1715 provides the

following notes:

“Apalaxy or Appalata [Apalachee] old Indian Settlement, 1000 men, Good Ground, brought over by Coll Moore but now deserted. A Spanish Fort Deserted”.

Further to the west a note on the map says:

“Pensacola a Spanish Fort but all their Indians have deserted and gone to the French at Mobile”.

The Spanish did not provide firearms to their Native American allies, but the French and English did. Later maps have notations about Moore's victory included on maps of 1717 (Fr), 1721-1724 (En), 1732 (En) and 1764 (En). Seventy-three years after Moore's raid it is even noted on an Italian map of 1778 with the translated title *English Louisiana with Western Florida, Georgia, and South Carolina*, that says:

“Country of the Apalachee - Conquered and released to the Carolinians after two memorable battles won against them . . .”

Digressing, the Creek nation broke up into factional groups of different political views after the death of Chief Hoboi-Hili-Mikos in 1793. Most of the Seminole-Creeks maintained an affiliations with the British and the fur trade as a means of resupplying hardware including guns and other goods including gunpower. Not all Seminole-Creeks threw their allegiance to the English. For example, the Kennard brothers, part of the Lower Creeks, occupied the land around Wakulla Springs. A report entitled *The River Runs Short: the Second Spanish Period on the Wakulla River* states:

“A curiosity persists just how the Kennard families continually avoided losing land either to the successors of the Pantan firm (John Forbes), or the United States government after the Creek war in 1812-13. The Treaty of Fort Jackson that ended Creek ownership of more than 22 million acres of land in present-day Alabama and Georgia, omits from this cession all lands belonging to the Kennards.

Was it their status in Andrew Jackson's army as part of the 1,500 Lower Creeks who fought against the Upper Creeks and later the Seminoles? During this beginning of the Seminole Wars, after General Jackson returned from the *Suwannee River* to Fuerte San Marcos de Apalache after hanging the, Hillis Hadjo [the Profit Fancies a Creek just

returned from England], one can assume that the long ride from the fort back to Fort Gadsden on the Apalachicola River required a rest.

The two-story homes of Jack and William Kennard and son Noble near the crystal-clear *Wakulla Spring* provided a much-needed respite in Spanish Florida. . . ^{7 & 8,,}

George Arbuthnot was a Scotsman who maintained a trading post at the mouth of the *Suwannee River* until he was taken prisoner by Andrew Jackson in the First Seminole War. He was put to death by Jackson for trading with the Seminole-Creek peoples. Given the Revolutionary War, the War of 1812 and the Seminole-Creek raids on the settlers on the southern Georgia/Alabama frontier, Jackson's aimed to destroy the alliance between the British and allied Creeks. Arbuthnot was one in a long line of English fur traders (including the Pantan, Leslie Firm of John Forbes) that were both economically involved with and allied with the Seminole/Creeks. Jackson's raid into Florida successfully captured Arbuthnot in the wrong place at the wrong time. Jackson was committed to ending the interference by the British and their allies into the affairs of the fledgling United States. After all the British had torched the US Capitol on August 24, 1814 and patriot animosities were high.

Before Arbuthnot's demise, a *Gulf of Mexico* route from Arbuthnot's store at the mouth of the *Suwannee River* was ideally positioned to access native villages such as San Pedro by watercraft. The land route was winding caused by blocking swamps that prevented straight-line roads from one place to another. Thus, the location of Arbuthnot's store was well suited for boat access to the Seminole/Creek villages. It was also located at a placed where seagoing supply vessels could exchange cargo and goods shipped to and from the store.

Subsequent to Jackson's raid, Florida was ceded to the US in 1821. Soon after military roads and forts were strategically positioned in the early part of the Second Seminole War to drive out the English allied Seminole/Creeks. Many native villages, already under stress after the trade with the England had broken-down, were also at risk of attack. The punch of military actions in the Second Seminole War helped to insure native villages were abandoned and their occupants driven elsewhere.

Returning to our primary topic, the Seminole/Creeks had displaced the Apalachee and Timucuan by 1750 and lent a number of place names to this area of Florida. Place names include the Econfina, Fenholloway, Steinhatchee and other rivers. *Hitten Hatcha* or *Deadman's Bay* (Romans 1774) and the Spanish *Bahía del Hombremuerto* (1810 Pintado, also *Deadman's Bay*) were shared, recognized place names. Why Deadmans Bay was given its name remains uncertain? It may have been a shipwreck lost in a storm that drowned its crew in the bay or river, or form hostilities in the form of a retaliatory raid by Georgia-Alabama frontiersmen on Seminole/Creek coastal villages including San Perdo. Whatever the cause, the place name *Hitten Hatcha* is a Seminole-Creek term first placed on the chart by Romans in 1774. The name's origin was likely first applied sometime between 1704 and Romans' setting the place name on paper. The history of coastal shipping or hostilities during this interval may eventually provide the answer.

END NOTES

1. Lawrence Furlong, *The American coast pilot: containing, the courses and distance from Boston to all the principal harbours, capes and headlands included between Passamaquady and the capes of Virginia, Also--courses, directions, distances, &c. &c. from the capes of Virginia, to the River Mississippi, from the latest surveys and observations.* First edition. edition 1796, Published by Blunt and March, principal booksellers in the United States, Printed in Newburyport, Mass.
2. Bernard Romans, *A concise natural history of East and West Florida.* 1962 facsimile reproduction of the 1775 edition. University Press of Florida, Gainesville, FL. From the Introduction by Rembert Patrick.
3. Clarence J. Simpson, 1956 Florida place-names of Indian derivation, *Special Publication No. 1*, Florida Geological Survey, Tallahassee, FL. P 77-78. <https://en.wikipedia.org/wiki/Hitchiti>.
4. Read, William A. 1934 *Florida Place-names of Indian origin and Seminole personal names.* University Studies No. 11, Louisiana State University Press, Baton Rouge, LA.
5. Chart for the British Admiralty by Jefferys.
6. Derrotero de las islas Antillas, de las costas de tierra firme, Y de las del seno Mexicano. De Orden Superior Madrid en la Imprenta Nacional, 1820. Thanks to Dr. John Worth, University of West Florida for providing this passage.
7. Chapter 8 In *Wakulla Springs Mysterious Waters* Florida Master Site File manuscript 26243, Tallahassee, Florida.
8. What became Fort Gadsden was built in 1814 by the British army who named it the British Fort or Negro Fort. The British trained some 3,000 Creek/Seminoles and 300 black soldiers, nevertheless a hotshot from an American gunboat blew the fort to pieces in 1816 by striking the powder magazine with a hotshot cannon ball.

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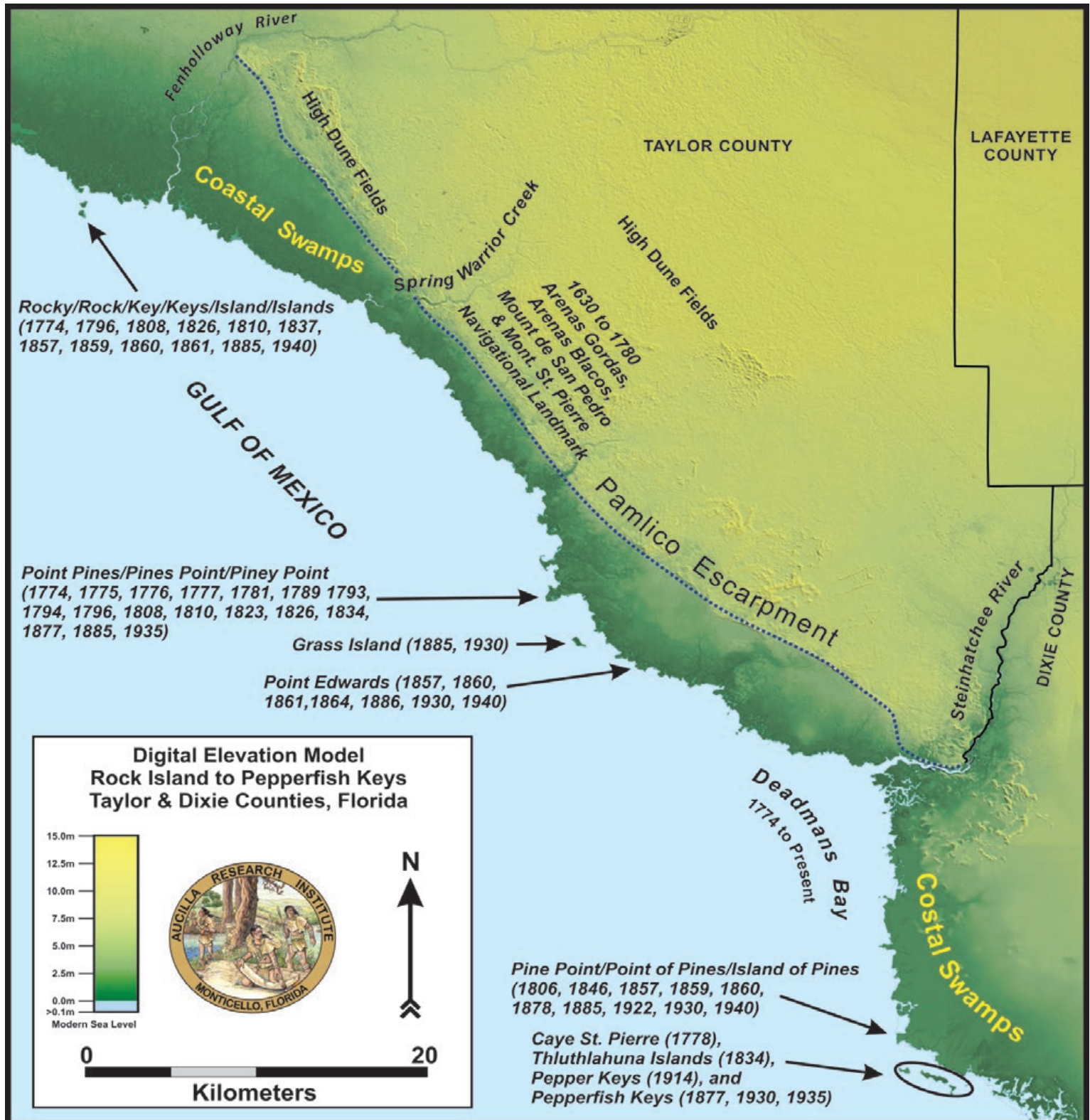


Figure 2. Digital Elevation Map showing the high ground above the Pamlico Escarpment & historic navigational landmarks along the coast.

PART OF THE PROVINCE OF EAST FLORIDA.

A

B

C

Indian Town

St. Johns River

Apalachicola River

Little Stoney Creek

Richards Hollow

Wetley

Winds prevail here constantly from June to August

Var. 6° 30' E.

Very clear Water

Very Broken Appearance

Hig Pine Island

Fish Water

Muddy Water

Excuse Cut

Small Coral

Duty Sown Green

for Transplant

Water

Plenty of Fine

Very Clear

White Water

Small Coral

14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

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12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

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12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87

Small Coral

17

Dutch Sago Green
Low Translucent

18 19 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

Appearance

Alfred
Little
Hatch Hollow
1884

Section of Bernard Romans 1774 Chart of the wilderness coast area of the Eastern Gulf of Mexico. Highlighted are the A) Rocky Key area (today's Rock Island) and the nearby rivers and B) Hitten Hatchee or Deadmans Bay. Both were navigational landmarks used as identification points for mariners sailing near the coast. Please note that the Hatchee in Hitten Hatchee is a designation for a creek, thus the modern place name Steinhatchee River was derived or corrupted from it.



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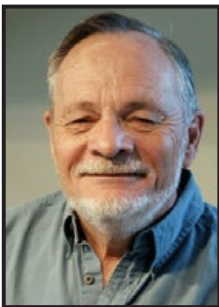
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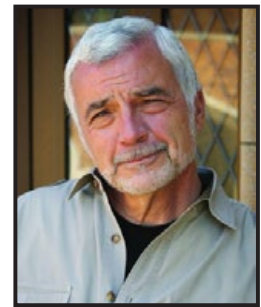
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