



# 2016

## FUTURE ARCHAEOLOGY

DRONES IN  
THE ARCHAEOLOGIST'S TOOLKIT

TRAILS  
ARE ARTIFACTS TOO  
CAN LEAD US FROM THE  
PRESENT INTO THE PAST

### FEATURING:

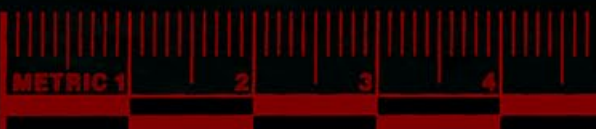
JERALD T. MILANICH  
KATHLEEN A. DEAGAN  
JOHN J. SCHULTZ  
CHARLES T. MEIDE, JR.  
C. ANDREW HEMMINGS  
AND MORE

# ADVENTURES

IN FLORIDA ARCHAEOLOGY

## FROM POND TO PANELS

THE PEOPLE OF WINDOVER  
ARCHAEOLOGICAL SITE  
EXHIBIT AT THE BREVARD  
MUSEUM OF HISTORY AND  
NATURAL SCIENCE





# EDITOR'S LETTER

# WELCOME



**PATRISHA L. MEYERS, MA**  
DIRECTOR, FHS ARCHAEOLOGICAL INSTITUTE &  
BREVARD MUSEUM OF HISTORY AND NATURAL  
SCIENCE

At its core, anthropology and therefore archaeology, is about viewing the human condition in all of its vast diversity through a lens of inclusiveness. As you read these articles I hope you will hear each writer's individual voice come through the pages and draw you into their world. Many of the articles were written by archaeologists actively working in the field, while others were written by historians offering a unique perspective on some of Florida's most interesting archaeological sites.

Instead of structuring this magazine to follow a dictated format, the authors were offered a great deal of latitude in subject matter and approach, thereby allowing a true representation of the diverse nature of archaeology in Florida. Archaeology is not only about the past, it is about protecting our collective cultural heritage for the future. For this reason you will find articles ranging from the futuristic use of technology in archaeology, to the methods used in the forensic recovery of human remains, to articles weaving stories of travel and discovery into an understand-

ing of the value of trails as artifacts. By taking such a wide-ranging approach to archaeology, this volume is intended to engage and inspire a diverse audience. And now we invite you to sit back, relax and join us on a journey from the past to the future as you explore Adventures in Florida Archaeology.

This magazine is a publication of The Florida Historical Society Archaeological Institute, which is dedicated to education, outreach and stewardship of Florida's unique cultural resources.

## ON THE COVER:

The Windover Woman sculpture by artist Brian Owens, based upon a forensic reconstruction. The sculpture is on display at the Brevard Museum of History and Natural Science.



FLORIDA DIVISION OF  
*Historical Resources*

This project is sponsored in part by the Department of State, Division of Historical Resources and the State of Florida.

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# FROM POND TO PANELS:

PATRISHA L. MEYERS, MA  
DIRECTOR, FHS ARCHAEOLOGICAL INSTITUTE &  
BREVARD MUSEUM OF HISTORY AND NATURAL SCIENCE

The People of Windover Archaeological Site Exhibit  
at the Brevard Museum of History and Natural Science

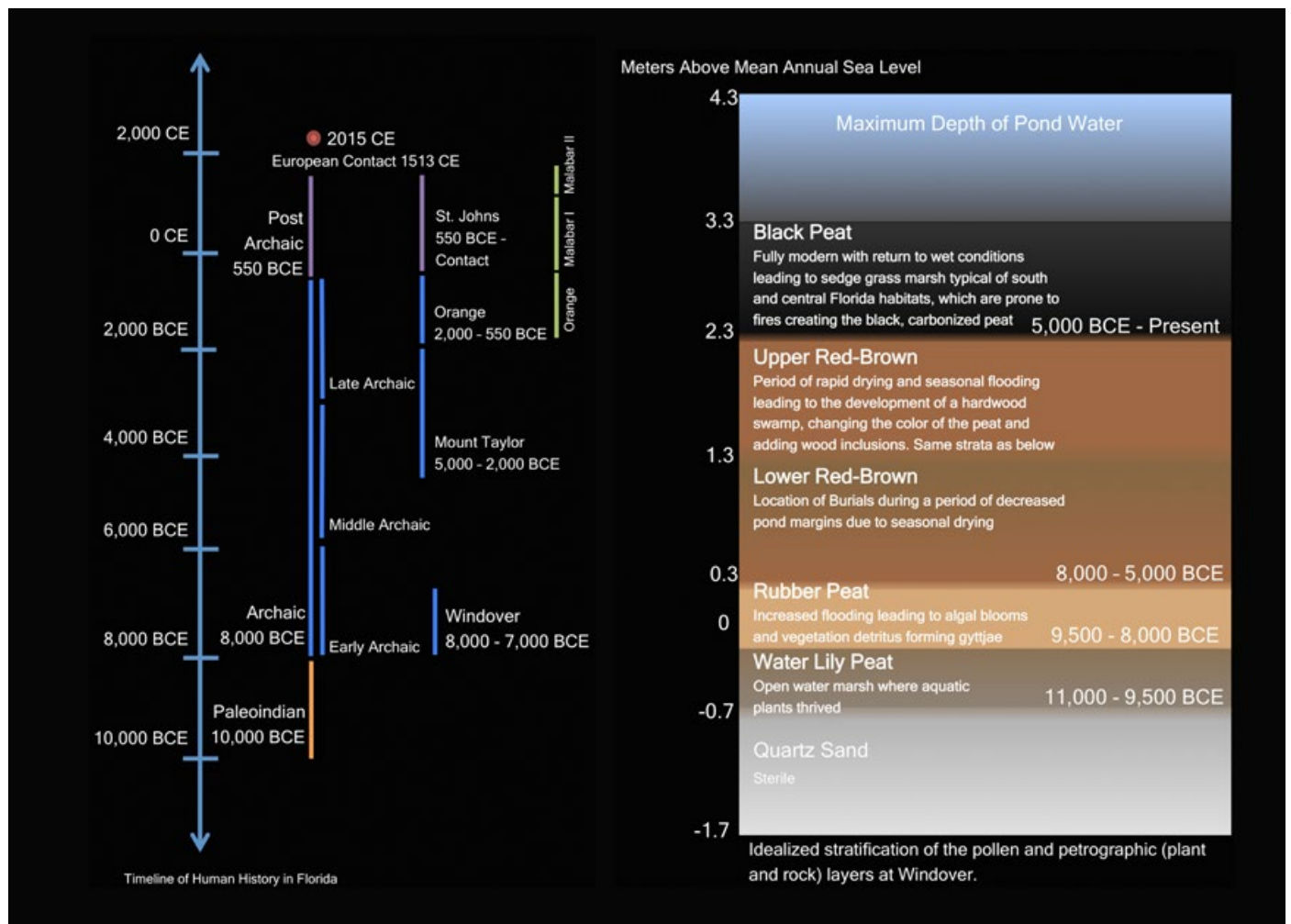


Windover pond as it looks today (image courtesy of Bill Walls).

I feel incredibly lucky to be the director of the Florida Historical Society Archaeological Institute (FHSI), as well as director of the Brevard Museum, home to FHSI. Watching children's faces light up as they explore the museum and come face to face with the bust of a woman who lived right here in Brevard County between 8,000 and 7,000 years ago is the highlight of my day. Children (and adults) often want to know the story of the Windover people, who they were, how they lived and why they were buried in the pond. They also often ask, "How do we know this?" This is the story of how we know what we know and the role museums play in sharing this information with the public. But first, a bit of background about archaeology.



In the United States, anthropology takes a four-field approach to studying how human lifeways change through time and space. Each of the four fields (cultural anthropology, linguistics, archaeology and physical anthropology) contributes to our overall understanding of what it is that makes humans who and what we are. Cultural anthropologists compare and contrast different cultural groups to understand their values and beliefs, while linguistic anthropologists study how language influences social interactions and document endangered languages. Both archaeologists and physical anthropologists study past populations in an attempt to reconstruct past lifeways. Archaeologists do this by studying the material culture (anything made or used by humans) left behind, while physical anthropologists study human skeletal remains to learn about evolution, health, nutrition, activity patterns and cultural practices. Bioarchaeology uses methods applied by both archaeologists and physical anthropologists to reconstruct past lifeways by combining osteological analysis (studying human bones) with an analysis of the material culture recovered from archaeological sites.



A comparison of the stratigraphic layers from Windover Pond with a timeline of human history in Florida.



Archaeology is often seen as an exciting adventure – think *Raiders of the Lost Ark* and *The Mummy*– and for those of us who work in the field it is exciting, but in a different way. As so aptly put by Dr. Indiana Jones himself,

*“Archaeology is the search for fact. Not truth. If it's truth you're interested in, Doctor Tyree's Philosophy class is right down the hall. So forget any ideas you've got about lost cities, exotic travel, and digging up the world. We do not follow maps to buried treasure, and 'X' never, ever marks the spot. Seventy percent of all archaeology is done in the library. Research. Reading” (Hirst, 2009:32).“*





Grave goods found with Burial 90. From top to bottom: worked bone fishing barb, lithic point, worked and incised bone shaft straightener, large worked bone pin or point.

For every hour we spend in the field, an additional five to six hours are spent in the lab analyzing any artifacts or human remains recovered. So with this very basic background about what archaeology is and is not, let's return to the People of Windover Pond Archaeological Site and discover who these people were, how we know what we know about them and why it is so important to share their story at the Brevard Museum.

## Telling Time by Stratigraphy, or Getting a Date in Archaeology

Archaeologists tell time in a variety of ways. There are different forms of both "absolute dating" and "relative dating." While "absolute" sounds as though archaeologists are able to pinpoint a moment in the past, it really reflects a date range within which a sample falls. Some examples of absolute dating include radiocarbon dating, which is used to date organic materials and was used to date materials from the Windover Pond Site; dendrochronology, which is

used to date trees; and thermoluminescence dating, which is used to date inorganic material such as pottery sherds (in America fragments of pottery are called sherds, while fragments of glass are called shards, although other countries use other naming conventions). These are just a few of the absolute dating methods available to archaeologists. Dating by stratigraphy is a form of relative dating based on the law of superposition, which simply means that items found in a higher layer of soil are likely younger than items found in a lower layer of soil. This is barring any intrusions from upper layers into lower layers. At the Windover Archaeological Site a combination of absolute and relative dating methods was used. As you can see in the stratification image on the previous page, most of the burials were found in the red-brown stratigraphic layer (relative dating). Radiocarbon dates (absolute dating) narrowed the burial period to between 8,000 and 7,000 years ago (Doran 2002). Through a combination of these dating methods we know that the people of Windover Pond were an Archaic Period, pre-ceramic culture, meaning that they did not use pottery, but may have used items such as gourds and turtle shells as containers.



## Burial Practices

In addition to the knowledge that the people of Windover Pond were pre-ceramic what else do we know about their cultural practices? We also know that they intentionally buried their dead in a mortuary pond environment (Dickel 2002). But how do we know these were intentional burials? Remnants of posts used to stake the bodies down were recovered (Adovasio et al. 2002), as were remnants of some of the oldest textiles ever recovered. These textiles were woven from palm fiber and wrapped around the deceased before they were placed in the pond (Andrews et al. 2002; Wentz 2012). The pattern of weaving tells us that looms were likely required to create the textiles. From this we can infer that the population was not completely nomadic, as transporting looms represents an investment of time and resources. It is likely that the people of Windover Pond were semi-nomadic, possibly traveling based on seasons or hunting and gathering strategies.

Grave goods are items that are placed with an individual at the time of death and often hold significance to either the deceased or other members of their group. What types of items were interred with the people of Windover Pond and what can they tell us about their lifeways? Two individuals were found in Burial 90, an older child approximately 11.5-12 years of age at the time of death and a neonate. This burial contained the largest collection of artifacts found in a single burial at Windover pond and included a worked bone barb, possibly used for fishing; a lithic point which may have been used as a dart head and thrown with an atlatl, an early hunting tool; a worked and incised shaft straightener; and a bone pin, possibly used to hold a garment together (Penders 2002). Items such as lithic points, worked bone and intricately incised bird bone offer glimpses into the lives of these early peoples. Interestingly, incised bird bone was only found with the graves of women. While we do not know exactly what the incised bone was used for, it offers us an opportunity to ask questions about division of labor, status within the community and gender roles.



Reproduction of an atlatl found at the Windover Pond site. This hunting tool was used prior to the advent of bow and arrow technology and allowed hunters to remain at a greater distance from their prey, while propelling a spear or dart further than it could be thrown by hand.

## Health in the Archaic

How do we know about health in populations without written records? One way is by observation of pathological conditions (signs of disease) on skeletal remains. Burial 72 was an older woman who broke her right femur, the upper leg bone, sometime during life and lived long enough for the fracture to heal (Wentz 2012). However, the bone was not aligned as it healed and the two ends were displaced. This resulted in her right leg being shorter than her left leg, which would have created a limp, placing added strain on her body. This raises the question of caregiving. Can we infer care in past populations? Did this woman require care as her leg healed? Did she need help finding or preparing food? This is a question that has raised a great deal of academic debate in recent years. There are many assumptions that go into interpreting what level of disability requires support from other members of a group (Tilley and Oxenham, 2011). Assumptions regarding perceived disability, pain and tolerance levels and the personal need or desire for assistance are difficult to make without a cultural understanding of the population. For those interested in learning more about this fascinating topic I would encourage reading Dettwyler's (1991) article, "Can Paleopathology Provide Evidence for 'Compassion'?" and Tilley's (2015) book *Theory and practice in the Bioarchaeology of Care*.



## The Museum's Role in Archaeological Outreach



Five of the six lithic points found at the Windover Pond site.



A variety of materials were used to make tools. From top to bottom: worked bone fishing barb, worked bone pin or batten, antler projectile point, worked bone projectile point.

Having traveled back in time and explored just a small portion of the world that the people of Windover Pond lived in, what is the museum's role in sharing this information with the public? Museums use a variety of methods to reach their visitors and provide platforms to allow the artifacts to tell their own stories. The best museums recognize that learning is a multisensory activity and the best learning occurs when you are immersed in your environment. The People of Windover Archaeological Site exhibit incorporates visual, auditory and tactile components, which invite

our visitors into the world experienced by the people of Windover Pond. Our interpretive panels are a key component, providing visual representations of the world of Windover Pond as well as written information to guide and engage the visitor in the experience of discovery and interpretation. One of the most exciting additions to the exhibit is our hands-on laboratory component, which allows visitors to try their hand at interpreting casts of skeletal remains. Did the skull belong to a man or a woman? How old were they? How tall were they? Visit the museum and see how you would fare as a physical anthropologist!



Incised bird bone, which was found only with burials of female individuals.

But the question remains: Why? Why present and interpret archaeological sites for the public? The simple answer is that education and outreach are not only guiding principles of museums in general, but are also two of the key tenets of archaeological investigation. The Society for American Archaeology includes public education and outreach as one of their Principles of Archaeological Ethics, stating in part that:

“Archaeologists should reach out to, and participate in cooperative efforts with others interested in the archaeological record with the aim of improving the preservation, protection, and interpretation of the record. In particular, archaeologists should undertake to: 1) enlist public support for the stewardship of the archaeological record; 2) explain and promote the use of archaeological methods and techniques in understanding human behavior and culture; and 3) communicate archaeological interpretations of the past. . . . Archaeologists who are unable to undertake public education and outreach directly should encourage and support the efforts of others in these activities.”



The broken and remodeled (healed) right femur (upper leg bone) of Burial 72, an older adult woman.

## What Can a Skeleton Tell You?

Bioarchaeologists study human remains from archaeological contexts in order to learn more about past lifeways. Applying these methods, you too can practice some of the techniques we use to learn about individuals and populations such as Windover's Early Archaic population.

### Female

The cranium and mandible, or skull, of females is generally smoother and more gracile than males

The pelvis, or os coxa, widens after puberty in females to allow adequate space for pregnancy

To estimate the height of an individual it is best to use their femur:

1. Measure the maximum length of the femur using an osteometric board
2. Report your measurement in cm
3. Use the regression formula for the appropriate sex of the individual:

Male Stature (cm) =  $63.89 + 2.262 * (\text{femur cm})$

Female Stature (cm) =  $47.25 + 2.588 * (\text{femur cm})$

### Male

The skulls of males typically demonstrate pronounced muscle attachment sites leaving their bones roughened, or more robust than females

The pelvic bones in males retain their high, narrow structure

Sometimes, a femur may not be recovered during an excavation but you can use other bones like the humerus, instead. While not as accurate, the maximum length of the humerus will also allow you to estimate height using one of the following equations:

Male Stature (cm) =  $83.52 + 2.505 * (\text{humerus cm})$

Female Stature (cm) =  $32.35 + 4.160 * (\text{humerus cm})$

### Stature

Right Femur      Right Humerus

Note: These are just a few of the methods physical anthropologists use to assess age, sex and stature from skeletal remains

Interpretive panel providing information on how physical anthropologists assess sex and estimate stature (height) from skeletal remains. One of the activities (using casts provided by Bone Clones, Inc.) in the hands-on laboratory area of the People of Windover Archaeological Site exhibit.

With these principles in mind, the Brevard Museum of History and Natural Science and the Florida Historical Society Archaeological Institute invite you to visit, explore your past, and imagine the future. We hope that by educating and engaging our visitors in the importance of archaeological research and preservation, we are mentoring a new generation of stewards for Florida's amazing cultural resources.



## ACKNOWLEDGMENTS

The recent update to the Windover exhibit was made possible through the generous support of many organizations and individuals. Appreciation is extended to Dr. Marrinan and Dr. Thomas for answering my numerous questions regarding the Windover site and to the Florida State University Department of Anthropology for the loan of the Windover artifacts on display here in the museum. Thanks are also extended to Bone Clones, Inc. who donated the casts which made our hands on lab area possible and to the sponsors of the Windover refresh including the Jessie Ball DuPont Fund, Florida Humanities Council, Florida's Space Coast, Florida Today, Florida Department of State Division of Cultural Affairs, Shutts and Bowen, LLP, Jon's Fine Jewelry, Scott & Kim Glover, Thomas P. Warlow, III, Lorraine Hoff, David & Rob Hopkins, Len & Lynn Lempel, Lawrence & Emily Lisska and Delores & Guy Spearman.

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The Boas 1, FPAN's research drone prepares for liftoff.

# FUTURE ARCHAEOLOGY:

## DRONES AND PHOTOGRAMMETRY IN THE ARCHAEOLOGIST'S TOOLKIT

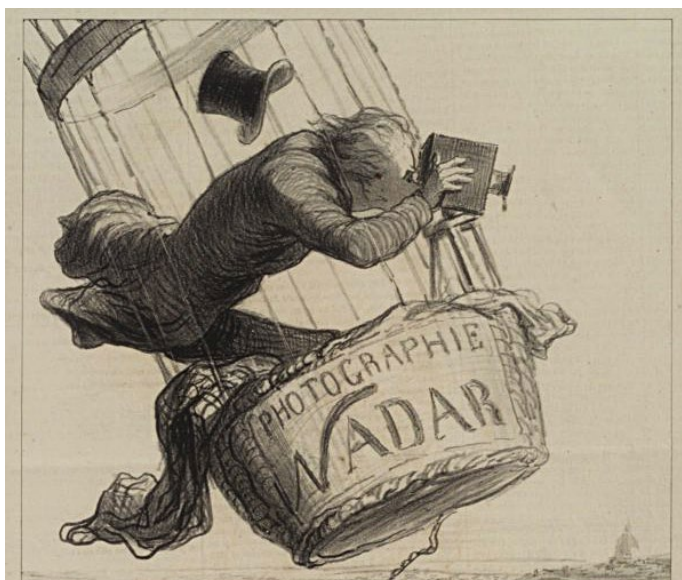
KEVIN A. GIDUSKO FLORIDA PUBLIC  
ARCHAEOLOGY NETWORK; DEPARTMENT OF  
ANTHROPOLOGY, UNIVERSITY OF CENTRAL FLORIDA

The field of archaeology seems to undergo punctuated bursts of change, often brought about by methodological or technological advancements. Methodological shifts, such as Lewis Binford's New Archaeology, and technological shifts, such as Willard Libby's development of radiocarbon dating processes, propel the field of archaeology forward. Often, this creates whole new avenues of interacting with data that, in many ways, changes the way that archaeologists go about doing our job. One of those pieces of technology that is presently shifting our perspectives, quite literally, is the introduction of drones, or unmanned aerial vehicles (UAVs), into the archaeologist's toolkit. Drones are being used by archaeologists all over the world; drone research is being produced on everything from the pyramids of Egypt to the henges of England to the shell mounds of Florida.

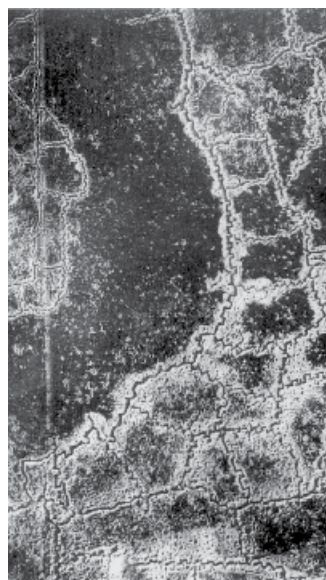


# DRONES TODAY

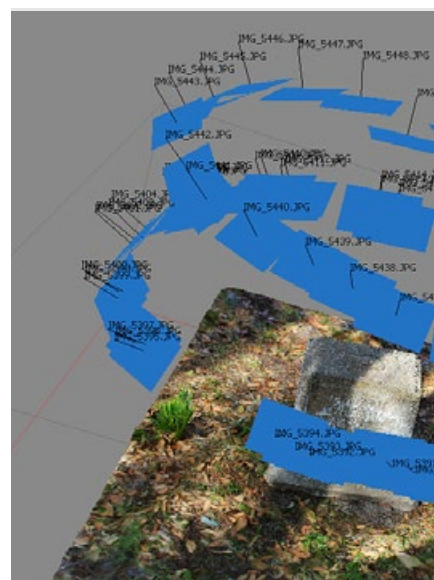
Drones are not new. Until recently, the public was probably most familiar with hearing about drones in the context of military action. Although, for several decades before that the use of small, remote-controlled aircraft has been a popular hobby in the United States. What has changed are the capabilities of drones being manufactured today and the relative ease of use by those who may never have used remote-controlled vehicles of any kind. Drones come in all shapes and sizes, but many just weigh a few pounds, making them easy to transport to distant archaeological sites. Many drones are also capable of



Aerial photography garnered a great deal of attention early in the development of manned flight. This caricature from 1863 depicts popular photographer Nadar taking to the skies. Image courtesy of the Brooklyn Museum via Wikipedia Commons.



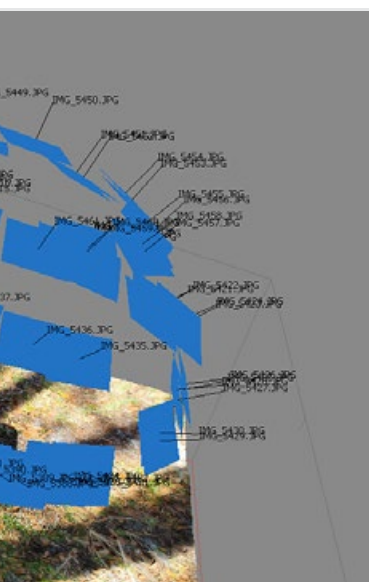
Soon after its introduction aerial photography was put to use in conflict zones. Here, an aerial photograph depicts trench works in France during WWI. Image courtesy of HMSO Crown via Wikipedia Commons.



taking high-quality pictures and video with either built in or removable cameras set on stabilizing gimbals. The remote-control of yesteryear pales in comparison to the controllers used today; many can be attached to tablets allowing for live-feeds of the camera as well as providing the user with an array of flight pattern data and movement options. Lastly, the drones of today and tomorrow have increasingly adept gps capabilities. For archaeologists this is important because all metadata collected with the picture will have gps coordinates included which, as we will see, allows for some extraordinary site overview visualization. All of this comes at a cost that is not too prohibitive, making the recent trend of increased drone use in the U.S. one that is projected to continue to rise. In the field of archaeology, this intersection of ease of use, utility, and cost is making the drone a tool that has astounding future possibilities for archaeological research.

# AERIAL APPLICATIONS

A rchaeological sites come in all shapes and sizes. Often, it is important to understand a particular site in the context of either the larger site itself, or the surrounding landscape. Almost as soon as photography was invented in 1839, people started taking cameras to the sky in any number of ways: balloons, kites, or even just climbing atop tall buildings. This continued through the First and Second World Wars as cameras were mounted on airplanes to collect information to better understand regional geography and to gather intelligence. Some of these early wartime aerial reconnaissance pilots were quick to see the use of aerial photography in locating things other than roads, trenches, or troop movements. Earthworks, old canals, long disused roads, even whole cities became more evident when viewed from above. Almost immediately this significantly shortened the amount of time archaeologists had to spend surveying an area in search of sites. Although this was a great leap ahead in terms of technological innovation, it was, and is, still expensive and time consuming to commission aerial surveys.



Collecting a series of digital pictures is the first step in creating a three-dimensional model using photogrammetry processing software. Pictures are taken entirely around or over an object or site.



IMG\_5388.JPG



IMG\_5389.JPG



IMG\_5390.JPG



IMG\_5391.JPG



IMG\_5403.JPG



IMG\_5404.JPG



IMG\_5405.JPG



IMG\_5406.JPG



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IMG\_5435.JPG

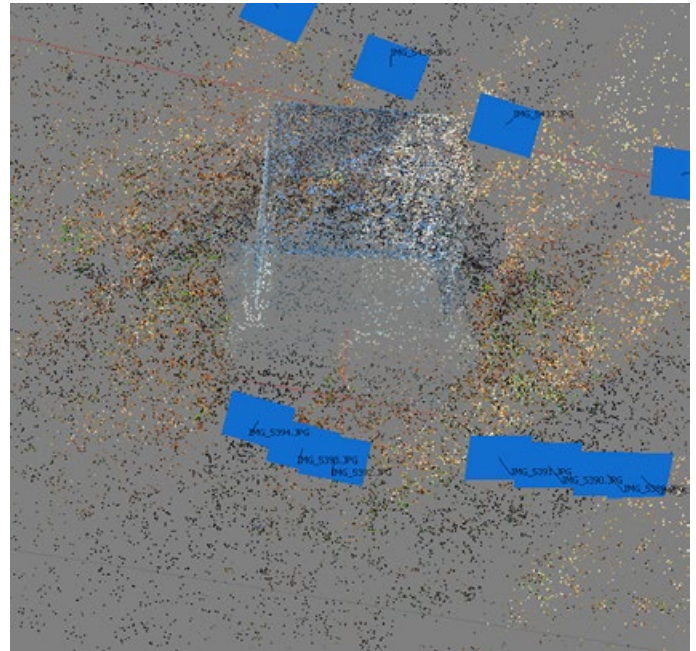


IMG\_5436.JPG

Photogrammetry processing software aligns the digital images, looking for matching points of reference.

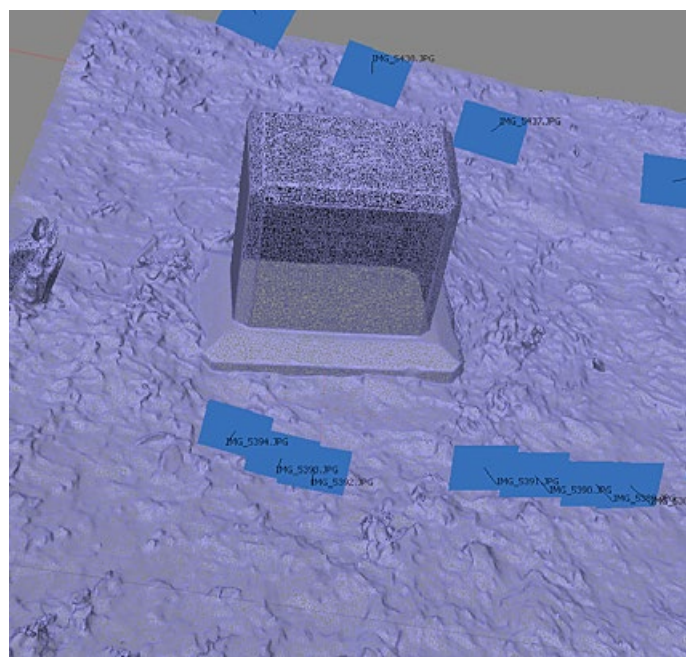


Drones have a certain number of advantages over traditional manned aircraft surveys. They can be used almost anywhere and are capable of reaching heights that allow for excellent aerial photographs. Real-time visualization of the camera shots also cuts down on time collecting unneeded information as well as allows for in-flight camera setting changes if needed. Many of the most recent generation of drones are beginning to be manufactured with specific industries or disciplines in mind. Drones marketed to the archaeological community have mapping programs that are built into the drone's array of capabilities. This means that a flight path may be generated for the drone as well as parameters set for photo collection at points on the flight path. The drone is launched and follows the flight path, collecting data, while the archaeologist simply needs to monitor the sur-



The geometry of the object is produced from the point cloud.

vey. The gps coordinates captured from the drone's flight path make it easy to map the survey into a geographic information system, powerful mapping software that allows researchers to manipulate spatial data. Another powerful technological advancement often used in addition to drone surveys is a photogrammetric processing program. Photogrammetry is not a new science, just as drones and aerial surveys are not necessarily new either. At the basic level, photogrammetry is the work of deriving measurements or other spatial information from photographs. Photogrammetry could, for example, tell the size of a building in a picture, or the area of a field. Increasingly, the term photogrammetry is being applied to an aspect of that analysis, the processing of photos using a structure from motion (SfM) program. SfM uses a series of digital photographs taken with about 60% overlap



A point cloud is produced based on the data derived from the alignment of the digital pictures.

vey. The gps coordinates captured from the drone's flight path make it easy to map the survey into a geographic information system, powerful mapping software that allows researchers to manipulate spatial data. Another powerful technological advancement often used in addition to drone surveys is a photogrammetric processing program. Photogrammetry is not a new science, just as drones and aerial surveys are not necessarily new either. At the basic level, photogrammetry is the work of deriving measurements or other spatial information from photographs. Photogrammetry could, for example, tell the size of a building in a picture, or the area of a field. Increasingly, the term photogrammetry is being applied to an aspect of that analysis, the processing of photos using a structure from motion (SfM) program. SfM uses a series of digital photographs taken with about 60% overlap



The model is texturized and ready to be shared.

## PRESERVING CULTURAL RESOURCES

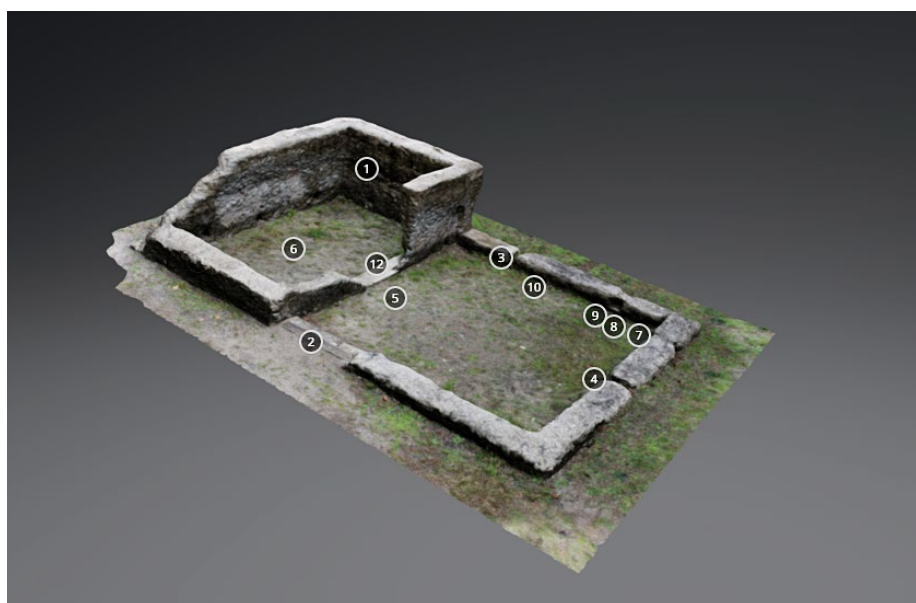


Accurate 3D models of artifacts such as this pottery sherd can be created and shared using photogrammetry software.

Drones are excellent tools for data analysis, but they can also help to preserve cultural resources. In using the combination of drone surveys and photogrammetry processing software, we have the ability to digitally store accurate three-dimensional models of archaeological sites, structures, or artifacts. This is especially useful to researchers far-afield, who now have access to sites and artifacts without having the expense of travel and time in the field to contend with. As drone surveys are non-invasive, meaning the site is left as is, this also promotes the long-term stewardship of cultural resources.

An example of this type of preservation can be found in the Florida Public Archaeology Network's program to record historic cemeteries. Historic cemeteries are among the most threatened cultural resources in the state; many have been largely abandoned and there are thousands that are not recorded with the Florida Master Site File, the state's collection of information on all cultural resources. Recording sites with the FMSF is the first and best step to preserve these sites. Part of that recording process is getting accurate information about where the site is and what is actually there. FPAN works with volunteers to record information about these historic cemeteries which includes gathering historic information available about each location, a marker-by-marker survey, and ample photography of the markers and the site in general. In creating three-dimensional models of the grave markers we are able to track changes in the marker should there be a concern that it is degrading; we can share these files with anyone who would like them; and we are able to potentially recreate a marker should it be destroyed or stolen—things that happen more than anyone would like.

3D models can have additional information attached as annotations. In this model of a tabby slave cabin from King'sley Plantation, the numbers are clickable and activate additional information about archaeological work conducted on this site.





# BRAVE NEW ARCHAEOLOGY WORLD

The use of drones by the public and by professionals is sure to increase into the foreseeable future; advances in drone technology are allowing users to implement the use of drones in a dazzling array of new endeavors that was largely unheard of just a few years ago. Drones allow archaeologists to quickly and accurately survey whole sites or structures in a matter of hours instead of days. Coupled with photogrammetric processing software, drones are powerful tools that allow for the creation of share-able three-dimensional models that can be used for research. These non-invasive data collection techniques allow for the better preservation of archaeological sites and can help promote better stewardship by the public through better sharing of information about archaeological research.



Whole cemeteries can be preserved through drone documentation. Here, a portion of Pine Grove Cemetery near Fort Pierce was mapped in during recording efforts conducted on this site.



This cypress marker in Greenwood Cemetery near Orlando has withstood the test of time. This 3D model of the marker can help site management to document any degradation and works to preserve it for future research.



Bosque Bello Cemetery in Fernandina Beach seen from the nearby salt marsh; collected during site recording to highlight the application of drones to heritage preservation and planning. Drones allow for quick, easy ways to document potential threats to cultural resources.



Bosque Bello Cemetery in Fernandina Beach being recorded by drone.



Drone aerial recording a site along the shore of Lake Apopka.





Pine Grove Cemetery in Fort Pierce. This cemetery is being recorded by students from Indian River State College. Part of the work involves showing the use of drones for mapping resources like historic cemeteries.

Drone technology and production is fast-paced and changing constantly. Regarding drone use in our everyday lives, we have a long way to go. Companies may not be dropping off online purchases at your doorstep just yet. But drones are helping researchers in many fields, not just in archaeology, to do their jobs cheaper, quicker, and more accurately. This benefits us all. And while the drone might never replace the lowly trowel as the archaeologist's most cherished piece in their toolkit, it's sure going to give it a run for its money.



St. Luke's Episcopal Church on Merritt Island. Picture taken as part of project to generate 3D model of chapel and associated historic cemetery.



# FHSAI - EDUCATIONAL TRAILS MAP

AT THE BREVARD MUSEUM

2201 MICHIGAN AVENUE, COCOA, FLORIDA.



## LEGEND

Paved —————  
Unpaved —————  
Water ~~~~~

## TRAIL DISTANCES

- (1) Planetarium Tr.----.1
- (2) Indian Tr.-----0.07
- (3) J. Johnson Tr.-----0.04
- (4) Swamp Tr.-----0.15
- (5) Hammock Tr.-----0.1
- (6) Clear Lake Tr.-----0.2
- (7) Travis Tr.-----0.2
- (8) Scout Tr.-----0.02





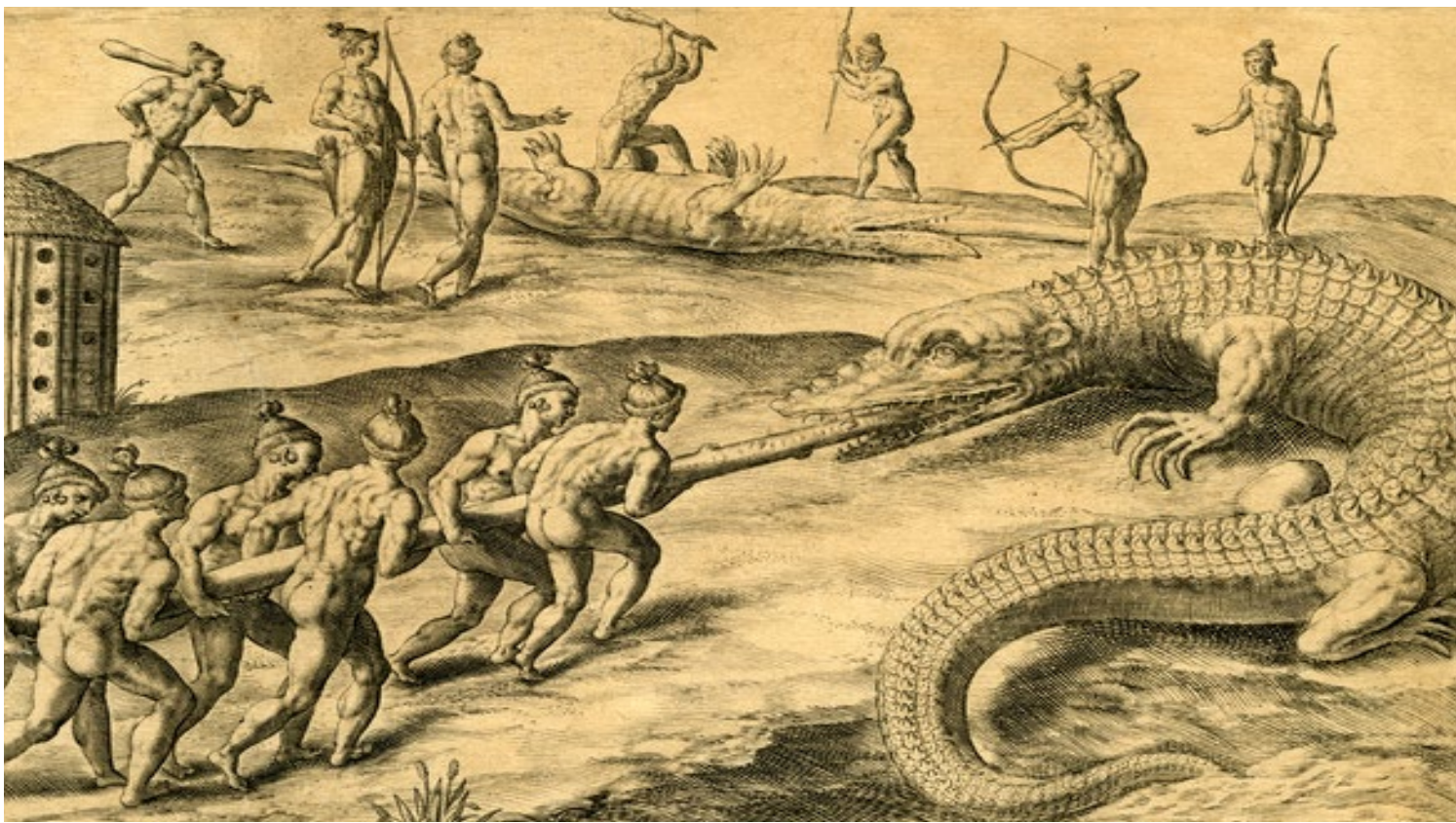




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Killing Crocodiles - Theodore de Bry, 1591 (State Archives of Florida/Bry)

# Fact or Fiction:

THEODORE DE BRY'S 1591 ENGRAVINGS OF EARLY  
FLORIDA INDIANS

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I am not certain if it was the nautilus shell from the Pacific Ocean atop the Florida Indian mound or the very human-like ears on the alligator that first tipped me off that something was amiss. That such obvious mistakes existed in the oft-reproduced engravings of Florida's Timucua Indians first published in 1591 by Theodore de Bry gnawed at me for several decades. Were the engravings actually based on paintings by the Frenchman Jacques le Moyne who drew on his observation of Timucua Indians near the St. Johns River in 1564-1565? Was I justified in using the engravings to learn about the artifacts—bows and arrows, baskets, houses, village palisades, and a host of other items—made, used, and worn by Florida Indians?

Unfortunately I believe that I now can say that de Bry's images of Florida Indians are bogus. They are not based on paintings done by Jacques le Moyne. Everything depicted in them, whether deerskin hunting disguises, canoes, or headdresses, should be questioned. De Bry's depictions of artifacts were made up and his engravings of Timucua Indian men and women are based on two paintings done by sixteenth century English artist John White who never saw a Timucua Indian in his life.

“How did the engravings garner such veracity that they provided a muse for books, museum exhibits, and paintings”

How did the engravings garner such veracity that they provided a muse for books, museum exhibits, and paintings and how have they become discredited? It is quite a story, the relating of which has benefited from the scholarly investigations of many individuals, not to mention the words of Theodore de Bry himself. The story begins in the sixteenth century soon after Christopher Columbus's 1492 voyage made the people of the Old World aware that a new world lay west across the Ocean Sea. The Americas—two huge continents whose geographical expanse dwarfed Europe—loomed large. Europeans were hungry for knowledge about the other side of the Atlantic Ocean.

The printing press, a fifteenth-century invention, came into its own in the sixteenth century when it is estimated that 150-200 million books were published. Among those millions of books were accounts of the Americas written by colonists, victims of shipwrecks, travelers, and armchair authors who never left Europe.

## NEW WORLD; NEW KNOWLEDGE



Drying fish, wild animals and provisions - Theodore de Bry, 1591  
(State Archives of Florida/Bry)



Tilling and Planting - Theodore de Bry, 1591  
(State Archives of Florida/Bry)

Narratives about the Americas were hot sellers in Europe where readers also sought information on Africa and Asia. There was a fascination and a curiosity about the non-European world. Among the best-selling sixteenth century books on the Americas are Hans Staden's 1557 account of living among the Tupinambá Indians in Brazil (*True Story and Description of a Country of Wild, Naked, Grim, Man-eating People in the New World*); Jean de Léry's 1578 *History of a Voyage to the Land of Brazil*; and André Thevet's three volumes, including his 1557 book about Brazil, his illustrated two volume 1575 *Universal Cosmography*, and his 1584 *The True Lives and Portraits of Illustrious Greek, Latin and Pagan Men (including the Americas)*. Another was Richard Hakluyt's 1582 *Divers Voyages Touching the Discoverie of America* that contained the 1562 account of the Frenchman Jean Ribault's voyage to La Florida along with a host of other documents and letters. From 1589-1600 Hakluyt published additional narratives in his multi-volume opus *Principal Navigations of the English Nation*, including one by Thomas Hariot about the ill-fated Roanoke colony in the Carolinas. Hakluyt also was instrumental in the 1586 publication of René de Laudonnière's *Histoire Notable de la Florida* (Hakluyt published an English edition the next year; Laudonnière had died in 1574). Hakluyt, with his connections to both the English and French courts and with Sir Walter Raleigh as a patron, was a major force in promoting English colonization in eastern North America. He also was concerned with countering Catholic Spain's American colonies.

How does Theodore de Bry fit into all of this? A successful goldsmith and metallurgist de Bry, living in the 1580s in what today would be Belgium, was earning an international reputation as a skilled engraver who could create wonderful printed images. Up into the 1560s books had featured wood block prints. The newest rage, copper engravings like those being produced by de Bry, resulted in clearer, more complex images. Even people who could not read—the majority of Europeans, could look at pictures.



In September 1588 de Bry and his family moved to Frankfurt and two years later began a book publishing business that took advantage of copper engravings. At the time Frankfurt was the center of book production in Europe and for nearly four decades the de Bry firm was what Dutch historian Michiel Van Groesen calls “one of the most remarkable publishing houses of early modern Europe.” During that nearly 40-year span the de Bry firm would publish 193 titles. When Theodore de Bry died in 1598 his son took over the firm. After the son’s death in 1623 others continued the business for nearly a decade before the company was dissolved.

Prior to moving to Frankfurt in 1588 Theodore de Bry had spent more than three years in London with his family, moving there in early 1585 from Belgium. In London de Bry engraved 45 sea charts for the book *The Mariners Mirror* and he did several engravings of important English personages all of which added to his reputation. It was in London in 1587 that de Bry celebrated his 60th birthday and where he came into contact with Richard Hakluyt and Jacques le Moyne, whom Hakluyt had met previously. Le Moyne who had been one of the French colonists at Fort Caroline, a French settlement of Fort Caroline near the mouth of the St. Johns River in 1564-1565, likely told stories about the colony to Bry and Hakluyt.



Preparations for a Feast - Theodore de Bry, 1591 (State Archives of Florida/Bry)

In London Hakluyt and other English investors convinced de Bry to publish a series of illustrated books containing accounts by Europeans who had visited the Americas, many of which Hakluyt had already published or would publish. Hakluyt had access to John White's paintings of Algonquian Indians in North Carolina and he had the account by Thomas Hariot about the unsuccessful Roanoke colony. Hakluyt also was working to convince le Moyne to produce paintings of Florida Indian, suggesting that Sir Walter Raleigh would pay him.

Hakluyt and the other investors, all Protestants with ties to Sir Walter Raleigh, were willing to invest in de Bry's new publishing venture. De Bry's first volume was to feature Hariot's Roanoke narrative that was to be illustrated with engravings of John White's paintings. There were to be English, French, Latin, and German editions all dedicated to Sir Walter Raleigh. De Bry, however, only lauded Sir Walter in the English edition and he, Hakluyt, and the other backers had a falling-out.

As it turned out de Bry did not need the others. The four editions of the first volume, all issued in 1590, were a financial success. The second volume, the account of the French in Florida which Hakluyt also had suggested to de Bry, was published in 1591 in Latin and German editions, and a third volume with Hans Staden's and Jean de Léry's accounts of Brazil appeared in Latin in 1592 and German in 1593. For all of the books de Bry provided engravings.

In subsequent years the de Bry firm published other volumes on the Americas, and then went on to publish books on Africa, southern Asia, and the Far East. By the time the de Brys and their various artists, engravers, and translators were done there would be 13 volumes on the Americas and 14 on Africa and Asia. The Americas volumes often are referred to as the "Grand Voyages" while those of Africa and Asia are the "Petit Voyages." "Grand" and "Petit" have nothing to do with the nature of the voyages, but with the size of the books' pages. Smaller pages were used for the Africa and Asia books, probably to save production costs.

All total the 27 volumes contain 50 individual narratives and nearly 600 copper engravings. The books were a hit. The German version of the Florida book was republished in 1603 and the Latin version in 1609. In 1631 other publishers reissued all of the America-related books in abridged form. The 18th century saw still other editions of the books published in Europe, sometimes with colorized engravings modeled on de Bry's originals.

All of the Grand and Petit Voyages books after the first one on North Carolina were published in Latin and German editions, the former for a Catholic audience and the latter for Protestants. In his book *The Representations of the Overseas World in the De Bry Collection of Voyages* Michiel Van Groesen, University of Amsterdam Historian, notes that the texts in some corresponding editions are so different from one another that they could be said to be different books. The de Brys targeted books to their audiences and German volumes were much more anti-Spanish/anti-Catholic than the Latin versions. In a few cases engravings in corresponding volumes also differed.

## VOLUME 2:

### THE 1591 BOOK ABOUT FLORIDA AND THE FRENCH COLONY AT FORT CAROLINE

Van Groesen points out that the 1591 Florida volume, among all the volumes, is peculiar for several reasons. First, the text is the only one of the 50 narratives that does not have a version published elsewhere. Nowhere does any descriptive narrative of le Moyne's time in Florida exist other than in the 1591 book. The text itself is also peculiar because it combines le Moyne's account (or at least information apparently derived from le Moyne) with René de Laudonnière's narrative, previously published by Hakluyt. The title pages of both the Latin and German editions mention both le Moyne and Laudonnière as contributors while the German edition which was translated from the Latin edition also lists Jean Ribault and Dominique de Gourges. John Ribault had led a French attempt to settle in South Carolina in 1562 and returned to Florida in 1565 when he was killed by the Spaniards. In 1568 de Gourges had avenged the 1565 Spanish attack on Fort Caroline with his own attack on the Spaniards. An account of his raid—perhaps a bit embellished—later was published in English by Hakluyt, who also published Ribault's account of his 1562 expedition. Information from both de Gourges and Ribault appears to be contained in the 1591 Florida text as is information from another of the Fort Caroline colonists, Nicholas Le Challeux. Le Challeux's Florida account, first published in France in 1566, was published by de Bry in 1596 (in a volume with narratives about Peru and the Canary Islands). In reality the 1591 Florida volume, often mistakenly attributed solely to le Moyne, is a composite of multiple accounts all of which are known from other sources except for anything that came from le Moyne. The narrative was assembled from multiple sources.



Another peculiar thing about the Florida volume is that de Bry states that in order to publish the text it needed to be translated from English into Latin, not from French into Latin. Did someone other than le Moyne put the text together, somewhat like Hakluyt who had the English versions of Laudonnière, Ribault, and the others? That is very likely.

The Florida volume also is odd because it is the only one of all 27 books for which the art from which some of its engravings were derived cannot be directly correlated with published or extant firsthand images, such as John White's paintings of North Carolina Indians or Hans Staden's and Jean de Léry's published drawings and woodcuts of Brazilian Indians. Making up images, however, was a common practice of de Bry. Van Groesen has shown that about 45% of the nearly 600 engravings in the 27 volumes were invented in de Bry's shop. Many other of the engravings are composite images that draw on multiple sources. Van Groesen writes:

Arguably the most intriguing part of the engraving process was the decision-making which preceded it. Whether simply to copy, or instead omit, combine, separate or modify illustrations of the original accounts, or whether to add completely new engrav-

ings, constituted the heart of the editorial strategy.... It could have been done only by the De Brys who co-ordinated the various tasks to be performed in the making of a volume. Some 260 of a total of around 590 engravings... were profoundly altered or newly invented by the Frankfurt illustrators. Many of these constructions were based on familiar sixteenth-century iconography. The De Brys routinely copied elements from other prints and paintings, and relocated these artistically attractive scenes to the Orient or to the New World. This technique was common practice in the early modern period, and may have helped readers to understand the illustrations. (p. 96-97)

Van Groesen goes on to say that when the de Brys invented an image, basing it on written accounts, they often included in the book caption a phrase that went something like: "The history recounts that" or "derived from the account." According to Van Groesen at least 22 of the 42 Florida engravings were invented by the de Brys, who drew their artistic muse from the written accounts of Ribault, Laudonnière, possibly Le Moyne, and the others. Included among those 22 invented engravings is the one depicting the building of Fort Caroline. Interestingly, the caption in the German edition of the engraving depicting the completed fort surrounded by water says it depicts Charlesfort, the 1562 French fort on the South Carolina coast, not Fort Caroline. Fort Caroline likely looked nothing like it is portrayed in the 1591 engravings.



Proceedings of the Indians in deliberating on important affairs - Theodore de Bry, 1591 (State Archives of Florida/Bry)

How about the other 20 engravings in the Florida volume? Did de Bry indeed acquire information, drawings, or paintings from Jacques le Moyne or his widow in London and, if so, were any of the latter used as models for the engravings? De Bry states in the introductory remarks to the Florida volume that he did receive drawings from le Moyne's widow in 1588 (after le Moyne had died in May 1588). An earlier attempt to acquire information from le Moyne in 1587 had not been successful, though apparently de Bry and Le Moyne had conversations about Florida. In 1587 Hakluyt noted that le Moyne was writing about Florida and intended to do paintings. What exactly did the art that de Bry received from le Moyne's widow in 1588 consist of? We don't know. Some or all may have been the paintings and drawings le Moyne did of European plants and animals, nearly a hundred of which are extant in archival collections in London and in New York.

I am convinced, after studying the 42 Florida engravings, that if le Moyne supplied de Bry with sketches or drawing or paintings, it was not much if it was anything at all. And I am not alone in that hypothesis. Of the 20 Florida engravings not overtly designated by de Bry to have been invented, Van Groesen has shown that 10 contain elements from other images, such as borrowed backgrounds. I would note that a large number of those 20 also contain elements taken from Staden's and Léry's Brazil images, both of which the de Brys later engraved. De Bry also borrowed from André Thevet's books who in turn borrowed from Staden and Léry. In the late 16th and 17th centuries attributing Brazilian Indian traits to images of North American Indians was a common practice. Some of the Florida engraving depict scenes from 1562, pre-dating le Moyne's sojourn in Florida. Clearly those engravings cannot be based on anything le Moyne may have painted or described.

At least one researcher, Frank Lestringant, believes that for the Florida engravings de Bry even borrowed from the *Codex Mendoza* (compiled in Mexico in 1535 and describing the Aztec Indians) which was then owned by Hakluyt. It would not be surprising if Hakluyt were involved in the initial planning of the de Bry Florida engravings just as he may have been involved in assembling the text.

Did de Bry have any idea of what the Timucua Indians looked like? I think he did, but I don't think it came from Jacques le Moyne's art. I think the images he used to engrave Timucua Indians came from John White. Perhaps having not gotten what he needed from le Moyne—who was dead—de Bry, and likely Hakluyt, got John White to paint a Timucua man

and a woman. I believe that White used his firsthand knowledge of North Carolina Indians and the descriptions in the narratives of Jean Ribault and René de Laudonnière, all available to him in England, to construct his two portraits of what he thought the Timucua looked like. For instance, Jean Ribault wrote:

“The most part of them cover their waists and privities with hart [deer] skins painted most commonly with sundry colors; and the forepart of their bodies and armes, be painted with pretty devised works of [blue], red, and black.... The women have their bodies painted with a certain herb like unto moss whereof the cedar trees and all other trees be always covered. [The men are] naked and painted...; their hair ... long and trussed up, with a lace made of herbs, to the top of their heads.”





The chief applied to by women whose husbands have died in the war or by disease - Theodore de Bry, 1591 (State Archives of Florida/Bry)

And that is what White painted and what found its way into de Bry's engravings, the engravings that erroneously have come to represent Florida Indians.

It is likely that le Moyne never painted or drew a single Florida scene, but he did provide information, perhaps orally, to de Bry in 1587 and perhaps in written notes or an account that de Bry received in 1588 after le Moyne's death. Hakluyt might have played a role in combining such information with the accounts of Ribault, Laudonnière, and others to make up the text published in the Florida volume. Information apparently from le Moyne also found its way into some of the captions, providing a written basis for some details in the corresponding invented engravings.

There is still work to be done, but what seems certain is that the Florida engravings, like others done by the de Brys, cannot be accepted at face value as ethnographically accurate. De Bry's representations of Florida Indians are his best interpretations based on the written accounts of Moyne, Ribault, Laudonnière, and others, and John White's two paintings. Like modern writers, de Bry wanted illustrations to help sell books and entertain his readers. That he did, and he continues to do so today.



# APPLIED ARCHAEOLOGY:

APPLICATIONS IN  
FORENSIC ANTHROPOLOGY

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Dr. Sandra Wheeler, a bioarchaeologist at UCF, excavating a juvenile burial from the archaeological site of Kellis 2 cemetery in the Dakhleh Oasis, Egypt (image courtesy of Dr. Tosha Dupras). The methods used to excavate archaeological burials are adapted by forensic archaeologists to excavate forensic burials.





Dr. Tosha Dupras, a bioarchaeologist at UCF, directing her undergraduate class during a line search for a forensic archaeology class activity.

In the spirit of the archaeology theme of this journal, I want to discuss how archaeological methods have become an essential component of the forensic anthropology methodological tool kit. Forensic anthropologists are most often associated with analyzing skeletal remains from forensic contexts and working with law enforcement, medical examiners, coroners, crime scene investigators, and attorneys. At the same time, many forensic anthropologists routinely utilize archaeological methods in their forensic archaeology casework that involves searches and recoveries for buried bodies, skeletal remains deposited on the ground surface, and scattered skeletons. Furthermore, their forensic archaeology skills are occasionally used to undertake forensic archaeology research and to provide real-world forensic archaeology training to a variety of death investigation practitioners such as homicide detectives, crime scene investigators, and search and rescue personnel. Although the application of forensic archaeology methods is typically used for processing modern forensic scenes most often involving single individuals, a number of other notable examples where forensic archaeologists have routinely utilized archaeological methods include the excavation of mass graves containing individuals who died from human rights abuses (Haglund et al., 2001; Tuller, 2012), and searching for and recovering the remains of missing US servicemen from prior areas of conflicts throughout the world (Holland et al. 2008). More recently, archeological methods have become standard practice when processing mass fatality scenes (MFI) that can involve highly fragmented bodies, such as plane crashes (Dirkmaat, 2012).

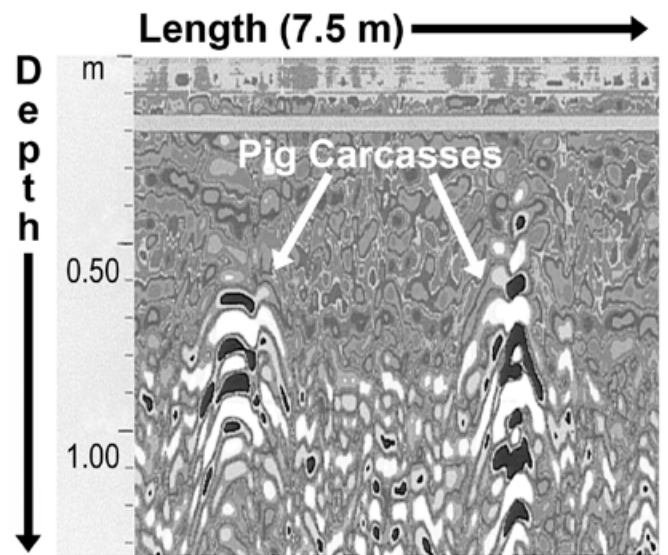


Dr. Schultz pushing the GPR unit over a grid line during a research project.

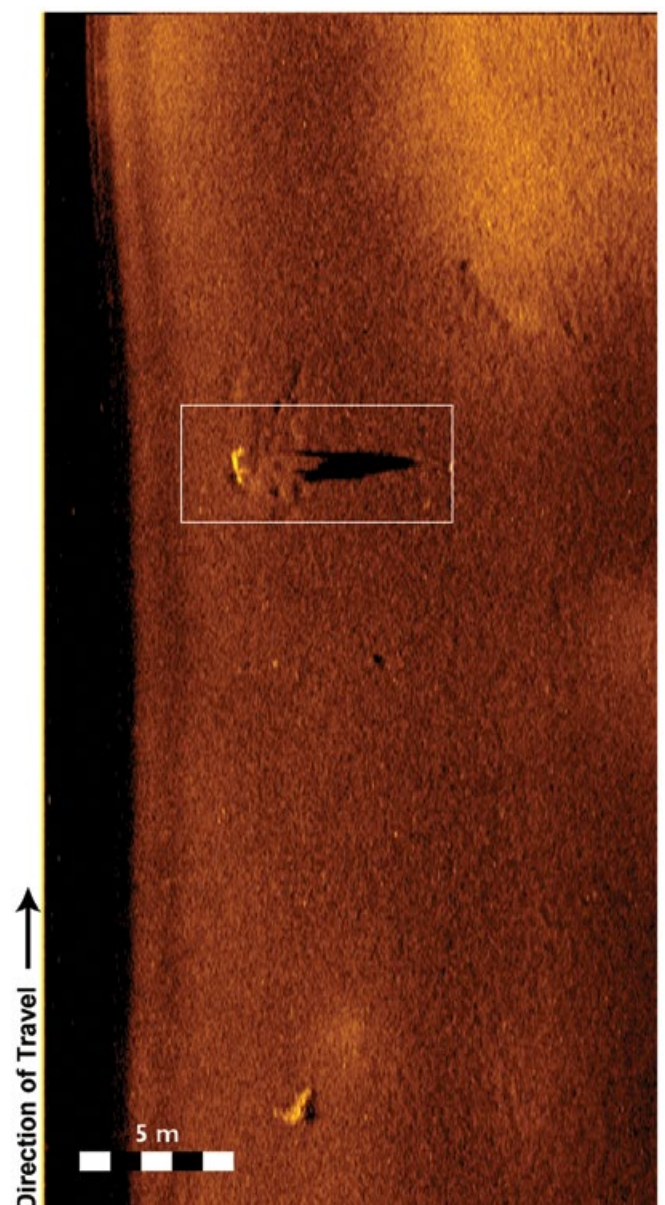


Although forensic anthropology traditionally developed as a lab-based forensic science, the development of forensic archaeology within forensic anthropology is considered a key development within the discipline (Dirkmaat et al., 2008). While the development of forensic archaeology occurred over decades, it was initiated during the 1970s, when a number of publications by prominent forensic anthropologists stressed the important contribution of archaeological field methods when processing scenes with human remains (e.g., Bass and Birkby, 1978; Kerley, 1978; Morse et al., 1976). The continued proliferation of publications (e.g., Conor and Scott, 2001; Dirkmaat and Advosio, 1997; Haglund et al., 2011; Hoshower, 1998), during the 1990s and 2000s was a clear indication that forensic archaeology methods had become accepted within the discipline of forensic anthropology. As a result, the majority of forensic anthropology students now receive some type of formal archaeology or forensic archaeology training as undergraduates or in graduate school along with their skeletal training.

However, it is important to note that forensic archaeology differs from traditional archaeological methods in a number of aspects. The first and most important difference is the medicolegal context of forensic archaeology that involves working with law enforcement and the medical examiner, as well as testifying as an expert witness during depositions and in court. At the same time, forensic archaeologists also have a number of restrictions compared to traditional archaeologists that can influence their goals for a recovery: they generally have limited time to perform recoveries; they must work in different types of weather and cannot plan their recoveries around optimal weather patterns; they may have to excavate decomposing bodies and utilize universal precautions; and they must be aware that the media is usually present and possibly taping conversations at the scene. Due to the constraints that forensic archaeologists may encounter with recoveries, Hoshower (1998) points out that forensic archaeologists customize their recovery approach for each type of scene by using flexible archaeological strategies. In other words, forensic archaeologists may have to adapt archaeological methods differently for forensic archaeology contexts based on the unique constraints posed by each type of recovery.



GPR reflection profile exhibiting two generalized reflections or anomalies that are the result of two buried pig carcasses.



Sonar imagery exhibiting detection of a pig carcass tethered to the bottom surface of a large pond. Note the detected pig outline and the accompanying shadow in the box (image courtesy of Carrie Healy).





Alex Mitchell, MA, Anthropology graduate student at UCF, documenting early decomposition changes to a pig carcass.



There are numerous advantages for using proper field methods when processing forensic scenes (Schultz and Dupras, 2008; Dupras et al., 2012). There is a greater chance of locating clandestine graves, and increasing the likelihood of locating the majority of skeletal remains and evidence when recovering a skeleton that has been scattered at a scene. At the same time, proper field documentation and methods can provide an understanding of site context and reconstruction of past events at a scene, as well as limiting postmortem damage to the skeleton. For example, site context includes analyzing how a skeleton may have been dispersed and then an understanding of the dispersal pattern can be employed to locate missing bones during a search. Finally, another advantage of incorporating a forensic anthropologist in the field is their extensive osteological (study of the skeleton) knowledge of the human skeleton and non-human osteology, as well as recognizing and differentiating bone fragments and isolated teeth. They can provide an immediate assessment in the field differentiating non-bone material from bone material. They can also differentiate human from non-human bones and bone fragments, and perform a skeletal inventory so search personnel are aware of the bones types that they are still missing. In addition, Dirkmaat and Cabo (2012) assert that there are other advantages of utiliz-

ing proper archaeological methods when processing forensic scenes. For example, a more comprehensive trauma analysis of the skeletal remains is possible when the scene is processed correctly, and the chain of custody is established at the beginning of the recovery, which is essential for forensic cases.

It is common for forensic archaeologists to conduct applied archaeological research that evaluates how search methods developed in archaeology can be transitioned to forensic contexts (e.g., Healy et al., 2015; Schultz, 2008; Schultz and Martin, 2012). In particular, my research program has involved many of my former graduate students at UCF by testing a variety of geophysical search methods to evaluate their applicability for forensic contexts and provide guidelines to death investigation personnel for forensic searches. For example, the main tool that I have tested for forensic contexts has been ground penetrating radar (GPR), which is an important tool used to locate buried archaeological features at sites and to locate unmarked cemetery graves (e.g., Dionne et al., 2010). The unit is normally configured as a cart that is pushed over the ground surface while following a grid pattern as the GPR operator views the data on the monitor in real-time in the field. The unit is operated by emitting electromagnetic waves into the ground, which detect areas of disturbance contrasting with undisturbed ar-



An example of a pig carcass exhibiting bloating and color changes prior to vulture scavenging.



areas around the grave. Contrasts may be due to soil disturbance in the grave, decomposing remains or items added to the grave that may have been placed over the body for concealment or used to wrap the body (Dupras et al., 2012; Schultz, 2007; Schultz and Martin, 2012). When GPR is used for a forensic search, it is normally used in conjunction with other search methods to locate subsurface targets while providing a below-ground view without disturbing the ground surface. This is the main advantage of using GPR for forensic and archaeological applications since the ground is not disturbed. For forensic contexts, GPR is used regularly by law enforcement personnel when searching for clandestine graves when site conditions are appropriate such as open areas with limited trees, brush, and debris on the ground surface. In addition, GPR is an ideal search method to use for contexts where it is not possible to use other methods, such as searching for a body that is either buried under a cement slab or blacktop. It is important to note that unlike many forensic television dramas, GPR does not locate an actual body or skeleton on the GPR monitor. Only a generalized reflection or anomaly is noted on the monitor, and in most instances, some type of invasive testing is required to determine the origin of the target. After suspicious areas are located and mapped with the GPR during a search, focused follow-up invasive testing of suspicious areas is performed to determine the origin of the targets. This protocol limits the overall disturbances to the site and reduces the time involved in the search so resources can be directed elsewhere.

The applicability of using GPR for forensic applications was the result of controlled research to provide experience to GPR operators, and to understand the limitations and advantages of using this search tool. This research typically involves constructing graves with pig (*Sus scrofa*) carcasses as proxies for human bodies and controlling for a variety of grave variables such as body size, soil type, burial depth, and length of postmortem interval. More recently, testing has focused on understanding how burial scenarios that are commonly encountered in real-life forensic casework, such as wrapping bodies in tarps and placing items on the graves, can affect grave detection (Schultz and Martin, 2012). The ultimate goal of the geophysical forensic research has been to provide guidelines and recommendations to death investigators that are considering using GPR for cases involving buried bodies.

It is also important to note that my geophysical research has also included working with a local law enforcement agency on a number of research projects designed to improve search guidelines for locating buried weapons and submerged bodies. An example of this applied research involved improving



Alex Mitchell, MA, Anthropology graduate student at UCF, documenting remaining remnants of a scavenged pig carcass (skin and bones) after it was scavenged, disarticulated and dispersed by vultures.

search guidelines for submerged body searches using side scan sonar (Healey et al., 2015), and my former graduate student Carrie Healy completed her M.A. thesis research through this project. Side scan sonar has become a common search tool that is used in forensic contexts to locate submerged bodies and vehicles in a variety of water bodies (Schultz et al., 2013). The equipment is operated by dragging a tow fish in the water by a boat that sends a real-time image of the water bottom back to a monitor on the boat. The sonar operator locates targets by recognizing a combination of the shape of the object such as a body or vehicle, as well as the accompanying shadow that is also produced. When a potential target is located, the water surface above the object is marked with a buoy so that it can be evaluated by divers or investigated through the use of a remotely operated vehicle (ROV) with real time video imaging. The research project involved securing pig carcasses to a lake bottom and scanning them for a period of time to understand how the imagery of the carcasses changed over time

due to decomposition and disarticulation. While the project provided valuable guidelines for water searches involving bodies, it also provided valuable training to personnel from the agency.

More recently, my forensic archaeology research involves my graduate student Alex Mitchell who is completing his M.A. thesis research through a project designed to study vulture scavenging, disarticulation, and dispersal of bodies on the ground surface. Since different types of animals will interact with bodies that are dumped into the woods, it is essential to understand how different animals can interact with a body and change the scene. However, there is limited forensic research with vulture scavenging. The project involved placing small-sized pig carcasses on the ground surface in an enclosed and protected research site in both open and shaded areas. Decomposition and vulture scavenging were studied using game cameras and regular trips to the site. It is important to note that archaeological methods of documentation and analysis were then used to map and analyze the patterns of dispersal and disarticulation.

The application of archaeological methods when processing scenes containing human remains has become an integral methodological approach employed by forensic anthropologists involved in skeletal recoveries. In particular, forensic archaeological methods can be utilized and adapted for all types of forensic scenes involving single skeletons to large MFI scenes involving numerous scattered and fragmented bodies. Forensic archaeology research is also essential for the forensic anthropologist to continually learn how to improve and adapt our methods for recovering and interpreting scenes. Furthermore, we should also be working in collaboration with law enforcement agencies when implementing forensic archaeological methods, when processing scenes with skeletal remains, and when undertaking forensic archaeology research projects to improve field methods.

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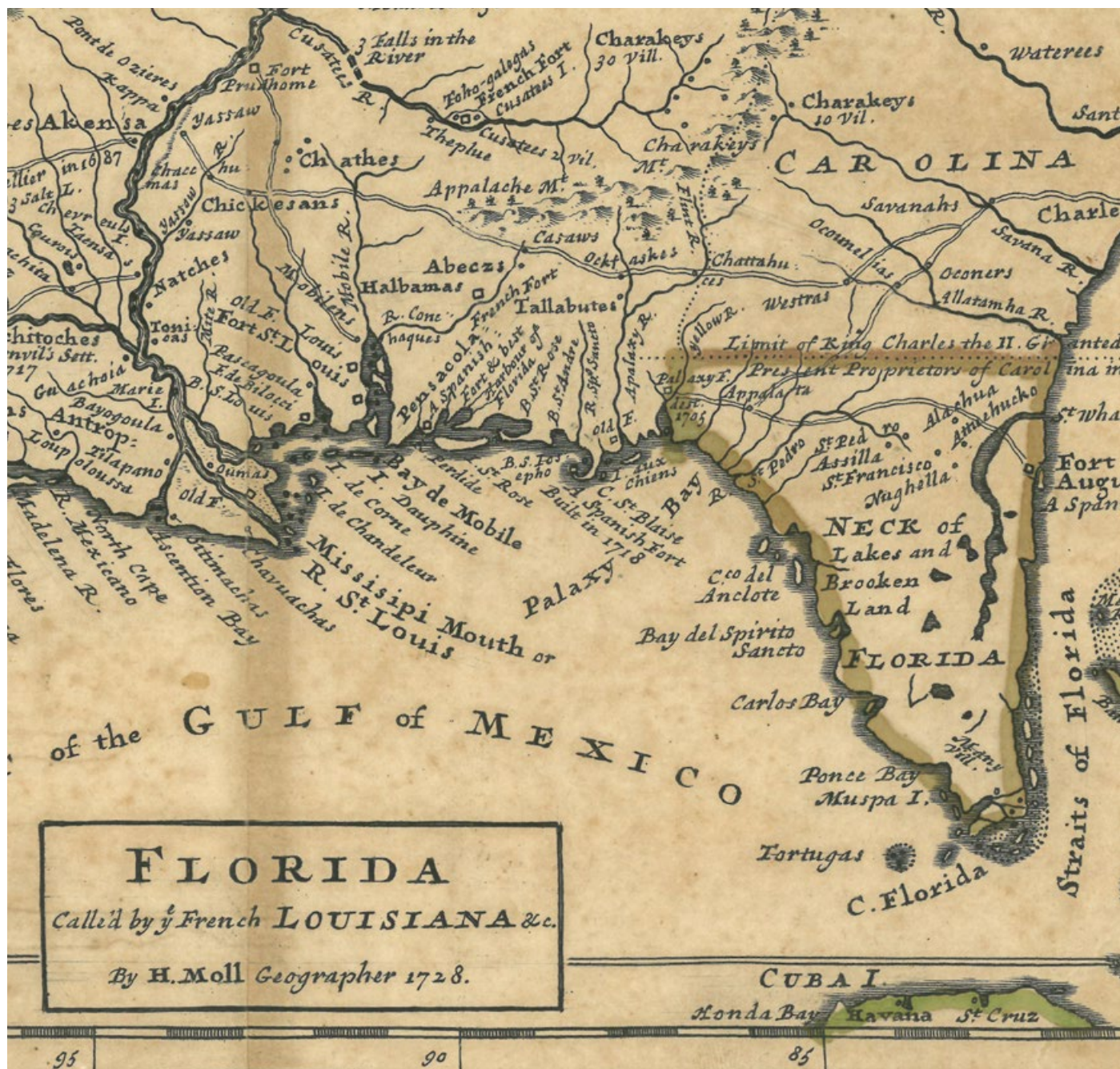
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"Florida" Calle'd by y French LOUISIANA by H. Moll, Geographer 1728  
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# Trails Are Artifacts, Too

CAN LEAD US FROM THE PRESENT INTO THE PAST

JERALD T. MILANICH, PhD CURATOR EMERITUS OF  
ARCHAEOLOGY FLORIDA MUSEUM OF NATURAL HISTORY, EMERITUS  
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Several years ago I gave a talk in Jacksonville, Florida. Afterwards I immediately left for a meeting in Tallahassee. My route by car across northern Florida was Interstate 10, four almost non-curving lanes that allowed me to travel the 170 miles in a fast two and one half hours while whizzing past the towns of Lake City, Live Oak, and Madison.

Had I more time or been more adventurous I could have driven on highway U.S. 90, which roughly parallels I-10 and was constructed many years earlier. Several decades ago I also could have made the same journey by train aboard the Seaboard Coast Line railroad.

Even on my journey to Tallahassee I had been interested in exploring the back roads of northern Florida: there are a number of options across that region. Indeed, the system of local, county, state, and federal roads creates a veritable transportation mosaic from northeast Florida to Tallahassee. What is interesting is that portions of these highways and railroads follow earlier paths and trails known to date from the 1820s and 1830s and even earlier.

One of those earlier trails is the Bellamy Road that led from St. Augustine to Tallahassee. Sections of that road, the first federally funded highway in Florida when it was contracted in 1824, are ap-

proximated by modern paved highways. Other portions are clearly visible in aerial photographs and still others exist as unpaved rural roads that are still used by local residents.

When cleared in the early nineteenth century the Bellamy Road largely followed an earlier trail, one mapped by a British surveyor in 1778 when the British Crown held Florida. That late eighteenth century artery is nearly the same as the seventeenth century trail known to modern scholars as the Mission Trail or Mission Road, because it led from Spanish St. Augustine through the mission province of Timucua into the province of Apalachee. Indeed, many of the Spanish Franciscan missions in the later seventeenth century were located on or adjacent to that trail. As a consequence that British chart, known as the Stuart-Purcell map for the two individuals responsible for it, is a major source of information about the geography of seventeenth-century Spanish missions in northern Florida. Indeed, the locations of several missions--San Lu s (in Leon County), San Pedro (in Madison County), and Santa F  (in Alachua County)--are noted on the map, as are intersecting trails that led southward to other missions. The Mission Trail, known to the Spaniards as the camino real, the royal road (or main road), is an artifact, a thing made and used by people who lived in the past (Mark F. Boyd published an article about the map in the *Florida Historical Quarterly* in 1938).





Along with the map another important source of information on mission locations is a 1675 Spanish document written by Díaz Vara Calderón, Bishop of Cuba, that lists the missions that were on or near the Mission Trail and gives the number of leagues between them (that document is available in a second article by Mark Boyd published in 1948 in the *Florida Historical Quarterly* and in a 1936 Smithsonian *Miscellaneous Collections* article by Lucy L. Wenhold). Together the 1778 map and the 1675 document have been instrumental in allowing modern scholars to locate and identify missions. The two also have been responsible in large part for the depiction of Timucuan missions as spread along the camino real from St. Augustine west to the Aucilla River, the latter marking the eastern boundary of the Apalachee Indians.

From the Aucilla River the trail depicted in the Stuart-Purcell map continues into Jefferson and Leon counties past several Apalachee missions to of San Luís in modern Tallahassee, the foremost Apalachee Indian mission in the seventeenth century. As indicated on the 1778 map the trail continued further west across the Apalachicola River through the Florida panhandle to the vicinity of Pensacola. In the late 1600s and in the 1700s missions also were established in that region.

With the map and the Spanish document we can begin to reconstruct the geography of the Timucuan missions, right? Well, yes and no. As is often the case when studying portable artifacts such as a ceramic vessel, a small stone point, or a charred corn cob, there often is more to the story than what is apparent at first glance. Like those smaller items, Indian trails and Spanish documents must be carefully studied to tease out additional information. What is the context of the artifact? For what purpose was it made? How was it used? When was it used? What patterns of behavior are associated with it? In the case of the Trail we might ask: which came first the road or the missions?



Above & below from the article "A Map of the Road from Pensacola to St. Augustine, 1778 (with 9 plates)" by Mark M. Boyd, from the *Florida Historical Quarterly*, Vol. 17, No. 1, July 1938, pp. 15-23.



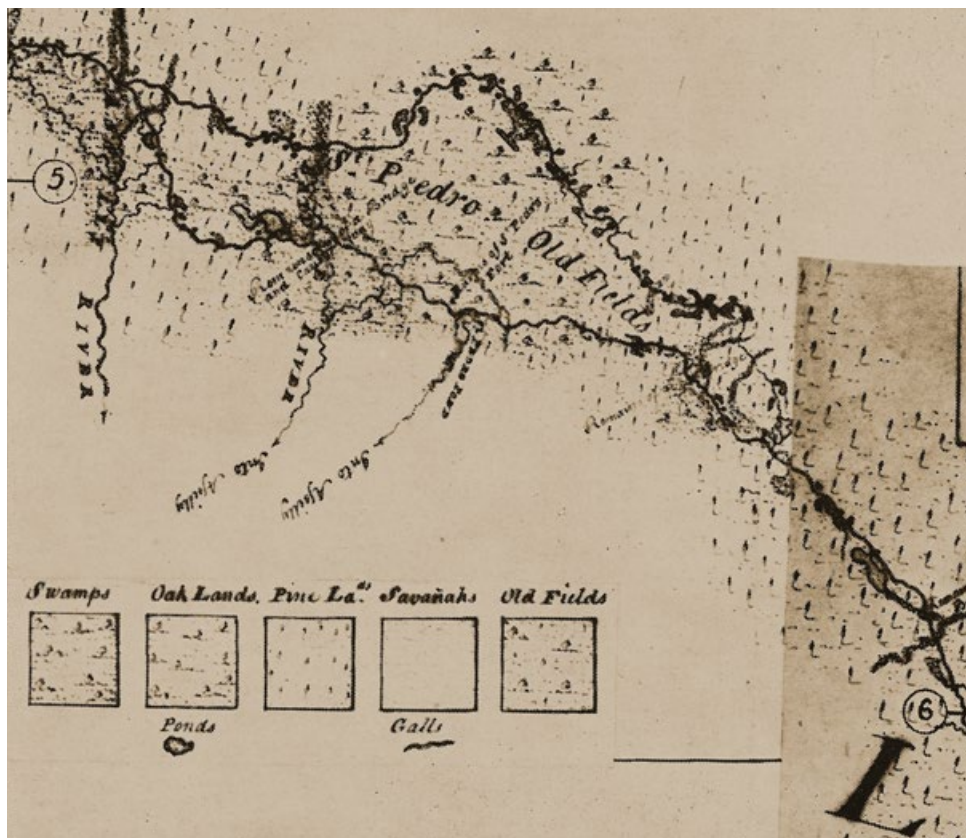
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From the article "A Map of the Road from Pensacola to St. Augustine, 1778 (with 9 plates)" by Mark M. Boyd, from the *Florida Historical Quarterly*, Vol. 17, No. 1, July 1938, pp. 15-23.

## MAPS, TRAILS, AND MISSIONS

That the Timucuan missions were established along the Mission Trail (depicted in the later 1778 map) with a few located off the main route on side trails, was an accepted fact up into the 1970s. But that depiction—a string of missions along the road across northern Florida—was questioned when two University of Florida students found an archaeological site in southern Suwannee County that was certainly was the location of a Spanish mission. Subsequent excavations revealed a native village that included a small clay-floored mission church fronting on a plaza. Nearby was a second building, likely a convento, residence for Franciscan friars who served the mission. Spanish pottery from the site dated from early in the seventeenth century and two radiocarbon dates suggested the site was occupied at least during the period A.D. 1595-1621.

But what mission was it? Using the 1675 Spanish account and the British map, the late Calvin Jones of the Florida Bureau of Archaeological Research had previously found and identified the mission of San Juan de Guacara near Charles Spring on the Suwannee River several leagues to the west of the newly discovered site. The 1675 account indicated another mission, Santa Cruz de Tarihica, was located several

leagues to the east of the new site. There was no mission on the Mission Trail between San Juan and Santa Cruz. Something was not right.

In the late 1980s archaeological investigations in northern Florida produced more information that conflicted with the 1675 mission list and the 1778 map. Kenneth Johnson, then a University of Florida graduate student and now a professor at Georgia Gwinnett College, found two additional Spanish mission sites about twelve miles apart along an old east-west trail which ran roughly parallel to the more southerly Mission Trail. Neither of the two missions is mentioned in the 1675 list. At that point we had three Timucuan mystery missions not accounted for in the archival record, two of which were well north of the Mission Trail as represented in the 1778 map. Later Johnson would find still another mission site that was unaccounted for, one north of the Mission Trail in western Columbia County. What was going on?

The answer began to emerge from research carried out by John Worth in the Spanish archives in Seville, Spain. Worth, also a University of Florida graduate student at the time and presently a professor at the University of West Florida, found documents indicating that follow-

ing a rebellion by Timucua mission Indians in 1656, Spanish authorities reorganized the Timucuan missions. Prior to that rebellion most of the missions had been established in Columbia, Suwannee, and Madison counties north of the trail that would become the Mission Trail of the 1675 document, the same trail mapped by the British in 1778. Those missions had been established at existing Timucuan Indian towns that likely were interconnected by trails.

During the 1656 rebellion some of the Timucuan missions were destroyed, either by rebelling Indians or by Spanish soldiers who had marched west from St. Augustine to quell the uprising and punish its leaders. In the aftermath of the rebellion the governor of Spanish Florida ordered that rather than being reestablished at their former locations some of the missions would be moved to what would be the Mission Trail. Many of the pre-rebellion missions were abandoned. Another reason to reorganize the missions was the horrendous depopulation that had taken place among the Timucua Indians over the previous half century, a result of introduced diseases. Because there were many fewer villages, the Governor sought to consolidate some missions, though it is not certain how successful the latter was.

With one exception—mission San Francisco located just north of Gainesville and south of the Mission Trail—all the Timucuan missions were placed roughly a day's travel apart along that trail. Missions also were situated where the trail intersected the St. Johns, Suwannee, and Aucilla rivers where Indians were needed to man canoes to ferry travelers. In essence the Timucuan missions became way-stations supporting what became the major overland route between Apalachee province and St. Augustine. Food from Spanish-owned farms and ranches in Timucua and especially in Apalachee could be transported along that trail to St. Augustine. Mission villagers would be used as labor to transport the goods and they would keep the road in repair and man the ferries at the rivers. Even some of the Timucuan missions already on the Mission Trail were moved east or west so new locations that fit in with the governor's reorganization plan.



From the article "A Map of the Road from Pensacola to St. Augustine, 1778 (with 9 plates)" by Mark M. Boyd, from the *Florida Historical Quarterly*, Vol. 17, No. 1, July 1938, pp. 15-23.



Our first mystery mission, the one discovered by the two University of Florida students, was such a mission. From John Worth's research we learned that site was the pre-rebellion mission of San Juan. After the rebellion San Juan was moved west to the Suwannee River near Charles Spring where it was known as San Juan de Guacara, Guacara being the Timucua Indian word for the Suwannee River. The other missions that were found off the Mission Trail all predated the rebellion and had either been abandoned or destroyed and their villagers moved down to the Trail.

The Mission Trail that looms so prominently in modern scholarship is largely an artifact of the colonial period. And although the earliest Anglo-settlers in northern Florida in the 1820s choose to refurbish that trail in the guise of the Bellamy Road. Later the advent of travel by stagecoach, then train and automobiles caused most of the Mission Trail and the Bellamy Road to be abandoned in favor of roads located on higher, drier ground. Indeed it is only near modern Tallahassee in the heart of the Apalachee mission province that the dynamics of landscape and past and present human settlement place the Mission Trail, Interstate 10, and U.S. 90 within a few miles of one another. Not surprisingly, new transportation demands and new systems of settlement led to new roads. Or, to say it another way, roads reflect the transportation demands and the settlement systems of the people who use them.

Together the Stuart-Purcell map, information taken from Spanish archival sources, and data gathered from archaeological excavations have provided new understanding about an extraordinary artifact: the Mission Trail. An artifact alone tells us little. But when it is placed in its cultural, historical, and geographical context our ability to describe and understand past human behavior is greatly enriched.

“

Well, yes and no. As is often the case when studying portable artifacts such as a ceramic vessel, a small stone point, or a charred corn cob, there often is more to the story than what is apparent at first glance.”

# CONVERSATIONS ABOUT ARCHAEOLOGY

FROM FLORIDA FRONTIERS



BENJAMIN D. BROTEMARKLE, PhD  
FLORIDA FRONTIERS

Dr. Ben Brotemarkle is Executive Director of the Florida Historical Society. He's also producer, writer, and host of *Florida Frontiers: The Weekly Radio Magazine of the Florida Historical Society*, heard on public radio stations throughout the state, and the public television series *The Florida Historical Society Presents: Florida Frontiers*. The following articles are based on interviews conducted by Dr. Brotemarkle for *Florida Frontiers*. More information can be found at [www.my-floridahistory.org](http://www.my-floridahistory.org).



## KATHLEEN DEAGAN AND FORT MOSE

Historical Archaeologist Kathleen Deagan led a series of excavations that identified the original encampment of Pedro Menéndez de Avilés from 1565.

From that encampment, the city of St. Augustine was established as the oldest continuously occupied European settlement in what is now the United States.

“We began that project in the 1970s, thinking we were going to be studying an Indian village,” says Deagan, Distinguished Research Curator and Professor Emerita from the University of Florida.

“Over the years as our sample became larger, we realized ‘wait a minute. This isn’t like anything we’ve ever seen in a Native American town.’ Square buildings made with nails. We found a barrel well made of white Spanish oak filled with mid-16th century Spanish artifacts. We realized that this must be the Menéndez encampment.”

For more than 40 years, Deagan led annual excavations in St. Augustine, in what is now the Fountain of Youth Archaeological Park, and at the adjacent Mission Nombre de Dios.

Identifying the starting point of America’s oldest continuously occupied city would seem to be the crowning achievement of any archaeologist’s career. It is not her four decades of work in the heart of St. Augustine, though, that Deagan identifies as her most significant accomplishment.

Deagan believes that her most important work was the excavation of Gracia Real de Santa Teresa de Mosé, better known as Fort Mose.



Established in 1738 by Manuel Montiano, Governor of Spanish Colonial Florida, Fort Mose was the first free black settlement to be legally established in what would become the United States. The community was located just north of St. Augustine.

“I first learned about Fort Mose when I was a student at the University of Florida in the early 1970s,” Deagan says. “One of my professors, Charles Fairbanks, was very interested in learning more about Fort Mose, and I was a student on one of the digs he brought over here to St. Augustine to try and locate it.”



The Bloody Battle of Fort Mose is reenacted annually at Fort Mose Historic Park, two miles north of St. Augustine. Florida Historical Society.



Deagan built on the work of Fairbanks, leading her own excavations at the Fort Mose site in the mid-1980s. She was able to conclusively identify the location of the fort on an island in the middle of a wet, marshy area.

“For archaeologists it was a matter of putting on your high boots, and slogging through the mud,” says Deagan. “Once you’re on the actual site itself, which is a small marsh island, its high ground. We learned that the site actually has been occupied by people for hundreds and hundreds of years. There was a prehistoric Timucua Indian site there, and then very briefly there was an Apalachee Mission after 1704, and then Fort Mose. Once you’re on the site its normal excavation, digging through shell and dirt and tree roots.”

Deagan and her team uncovered the moat that surrounded the architectural structure of Fort Mose. They then discovered key artifacts associated with soldiers including uniform buttons, tobacco pipes, and lots of rum bottles. They also found items associated with family life in the community, such as thimbles, pins, and pottery for cooking and eating.

“

For archaeologists it was a matter of putting on your high boots, and slogging through the mud”



Historical Archaeologist Kathleen Deagan stands on a boardwalk that provides a view of the marsh island where she discovered the site of Fort Mose from Florida's Spanish Colonial period. Located just north of St. Augustine, Fort Mose was the first legally sanctioned free black community in what would become the United States. Photo by Jon White.

The population of the community at Fort Mose consisted primarily of former slaves who had escaped from British colonies to the north into Spanish controlled Florida. The Spanish government encouraged this immigration of British slaves by granting them freedom in exchange for their conversion to Catholicism and a pledge to defend St. Augustine from British invasion.

The community of Fort Mose was short lived. When the British took control of Florida from Spain in 1763, Fort Mose was abandoned.

“All of the people of Mose went to Cuba,” says Deagan. “The records of their lives have been uncovered in Cuba by Jane Landers, who is learning their fate. There might even be some descendants today.”

The archaeology at Fort Mose has expanded our understanding of history.

“The story of Fort Mose is really important for all of American history, not just Florida,” says Deagan. “It provides an alternate vision of what African American heritage is all about. It wasn’t just a story of slavery and oppression. It was also this very successful story of resistance, and flight, and rebuilding a new place in a new time.”





Dr. Andy Hemmings supervises a team of archaeologists doing new excavations at the Old Vero Man Site. Photo from the Florida Historical Society Archaeological Institute.

## ANDY HEMMINGS AND NEW DISCOVERIES AT THE OLD VERO MAN SITE

More than a century after prehistoric human remains were discovered among the bones of extinct animals in Vero Beach, new archaeological discoveries are being made in the same location.

Andy Hemmings is the on-site lead archaeologist for the Old Vero Ice Age Sites Committee and Florida Atlantic University/Harbor Branch.

When a large drainage ditch was dug in Vero in 1913, the bones of prehistoric animals such as mammoth, mastodon, extinct horses, and giant armadillo were discovered. Two years later, as naturalist Frank Ayers walked along the banks of the canal, he noticed what appeared to be a human skull protruding from the dirt.

Ayers quickly went to get his friend Isaac Weills, and the two men carefully uncovered the skull and additional human bones. The human bones were mixed in with animal bones that neither man could identify. The bones were discovered within undisturbed stratifications of earth, a black layer over a brown layer.

“That piqued the curiosity of the state geologist, Elias Sellards, who came down with his assistant, Herman Gunter, and basically went to work,” says Hemmings. “In 1916, early in April, they found some (human) bones themselves, with the extinct animals. The extinct animal list continued to grow, and it really started to get the interest of the whole scientific community. So, then the critics start showing up.”

With the discipline of archaeology in its infancy, geologists and anthropologists from Yale University, Johns Hopkins, the University of Chicago, the Carnegie Institution, and the Smithsonian all showed up to offer their opinions.

The geologists, led by Sellards, believed that the human bones discovered at the Vero site were from the same Pleistocene period as the extinct animal bones that they had been found with. That meant that humans were here during the Ice Age, at least 11,000 years ago.

The anthropologists, led by Ales Hrdlička, clung to the prevailing belief of the early twentieth century, that humans did not occupy North America until just 4,000 years ago. They disregarded the geological evidence and relied instead on skull measurements to reach their conclusions. Skull measurements are no longer considered a reliable method of determining the age of bones.

Without modern carbon dating techniques available to them, the scientists were unable to reach a consensus, and the controversy over the true age of what had been named the Vero Man remained unresolved.

“We have reasons to believe that this really is a Paleoindian site, that we have some evidence of human occupation between eleven and fourteen thousand years ago, much like Sellards suggested initially,” says Hemmings. “Whatever the earliest human occupation of the site is, whatever kinds of activities we can demonstrate that they were engaged in while on site, we want to talk about that. Whatever it is, we just want to get it right. We want to end that controversy.”

Discoveries of Clovis points and other tools near the Vero Man Site have proven that people did inhabit Florida at least 13,000 years ago. Hemmings believes that new discoveries at the Vero Man Site could eventually prove even earlier human habitation.

Unfortunately, the original Vero Man bones cannot be tested using modern dating techniques, because they have been misplaced over the past century.

“

We have reasons to believe that this really is a Paleoindian site, that we have some evidence of human occupation between eleven and fourteen thousand years ago...”



“Material from this site is housed in at least twenty-two institutions around the world that I know of” says Hemmings. “The human remains went back and forth between here, the Florida Geologic Survey, the Smithsonian Institution, and maybe some other places. We think we will eventually turn them up. We don’t think they’re gone, just hidden, filed away.”

Even more controversy emerged from the original excavations at the Old Vero Man Site. It was determined that the Vero Man skeletal remains were actually those of a four foot nine inch tall woman. The bones identified as “skeleton 2 and 3” turned out to be bones from one individual, also a woman. So, while there are two Vero Women, there is no man from the Vero Man Site.

“I think it’s probably safer at this point to just say the Old Vero Site, man,” says Hemmings.



Dr. Andy Hemmings examines newly uncovered evidence of human habitation at the Old Vero Man Site. Photo from the Florida Historical Society Archaeological Institute.



Erik Denson from Diving with a Purpose documents the remains of the slave ship *Guerrero* off the coast of Key Largo. Photo courtesy of DWP.

## ERIC DENSON AND DISCOVERING THE SLAVE SHIP *GUERRERO*

The slave ship *Guerrero* was lost off the coast of south Florida on December 19, 1827, with 561 Africans aboard.

Underwater archaeologists believe that the ship has been found.

The Diving with a Purpose Underwater Archaeology Program began in conjunction with the National Park Service and the National Association of Black Scuba Divers, to have African Americans participate in the search for the slave ship *Guerrero*.

That effort was filmed for the PBS documentary series "Changing Seas" in the episode "Sunken Stories." The program is produced by WPBT2 in Miami, and can be viewed on their web site at [changingseas.tv](http://changingseas.tv).

One of the main stars of the documentary was the late Brenda Lanzendorf, who was the underwater archaeologist for the Biscayne National Park," says Erik Denson, lead diving instructor for the Diving with a Purpose Underwater Archaeology Program. "The National Park Service has over a hundred shipwrecks in the Biscayne National Park Area. She needed help to document the shipwrecks."



Lanzendorf taught Denson and his group of mostly African American divers the basics of underwater archeology so they could assist in the discovery and documentation of the *Guerrero*.

“They gave us the skills to do a good job and to actually understand what we were doing as far as underwater archeology is concerned,” says Denson.

The illegal slave ship *Guerrero* was operated by pirates. The *Guerrero* was bound for Cuba with about 700 slaves aboard when the British Navy ship *Nimble* pursued and attacked. A storm came and both ships were shipwrecked on the reef off the coast of Key Largo.

As a result of the shipwreck, 561 of the Africans aboard the *Guerrero* perished.

Wreckers came to help get the ships off of the reef, but received an unexpected greeting.

“The pirates actually took one of the wrecker’s ships and ended up going to Cuba with some of the remaining slaves,” Denson says. “Some of the slaves were rescued and they ended up going to Key West, and eventually made their way back to Liberia.”

There were several possible places where the remains of the *Guerrero* could be located. Working with the Mel Fisher Heritage Society and the National Oceanic and Atmospheric Administration during excavations in 2010 and 2012, Denson believes they found and identified the slave ship.

“Through historical documentation we got an idea where this battle took place and where the shipwrecks came about,” says Denson. “We had a few different sites that we wanted to explore. We did magnetometer and site scan sonar to get hits in certain areas, so we narrowed it down.”

Positive identification of particular shipwrecks can be challenging.

Some of the artifacts uncovered that are believed to be from the *Guerrero* include a cologne bottle from the early 1800s, bone china, lead shot, blue edged earthenware, metal rigging, copper fasteners, and wooden plank fragments.

“Those key pieces of artifacts and evidence really point to that time frame,” says Denson. “We know that the *Nimble* lost its anchor during the battle, and we found an anchor for that type of ship, that era. So a lot of empirical evidence points to that site, that wreck.” The artifacts from shipwrecks are not as easy to spot as it might seem. It takes experienced divers with trained eyes to locate these objects.

“These things have been down there for hundreds of years, and they’re covered with coral,” says Denson. “You have to look for things that don’t occur in nature, right angles and shapes that look man made.”

Denson and his divers meticulously document shipwrecks with trilateration mapping, drawings, measurements, and photographs.

The members of Diving with a Purpose are not treasure hunters searching for gold and other valuable objects.

“We abide by a code of ethics,” says Denson. “These are historical sites that need to be preserved and protected. In the case of the *Guerrero*, there may be human remains there.”

Since forming in 2005, Diving with a Purpose Underwater Archaeology Program has trained many underwater archaeology advocates who have become DWP instructors themselves. The organization has assisted with the search for slave shipwrecks around the world, including off the coast of Africa.

“These ships are an important part of our history,” says Denson.



The painting "High Priests" is one of six Theodore Morris paintings included in the traveling "ArtCalusa" exhibition. Courtesy Florida Historical Society Press.

## ARTIST THEODORE MORRIS DEPICTS FLORIDA'S INDIGENOUS PEOPLE

When the Seminole Indians first appeared in Florida in the 1700s, they occupied lands where other Native Americans had lived for thousands of years. Tribes such as the Calusa, Timucua, and Apalachee lived in Florida long before European contact in the 1500s.



While the archaeological record contains tools, pottery, and other artifacts, the visual record of pre-European contact people in Florida is very limited.

Since 1992, artist Theodore Morris has dedicated his career to creating realistic oil paintings depicting Florida's prehistoric and indigenous populations.

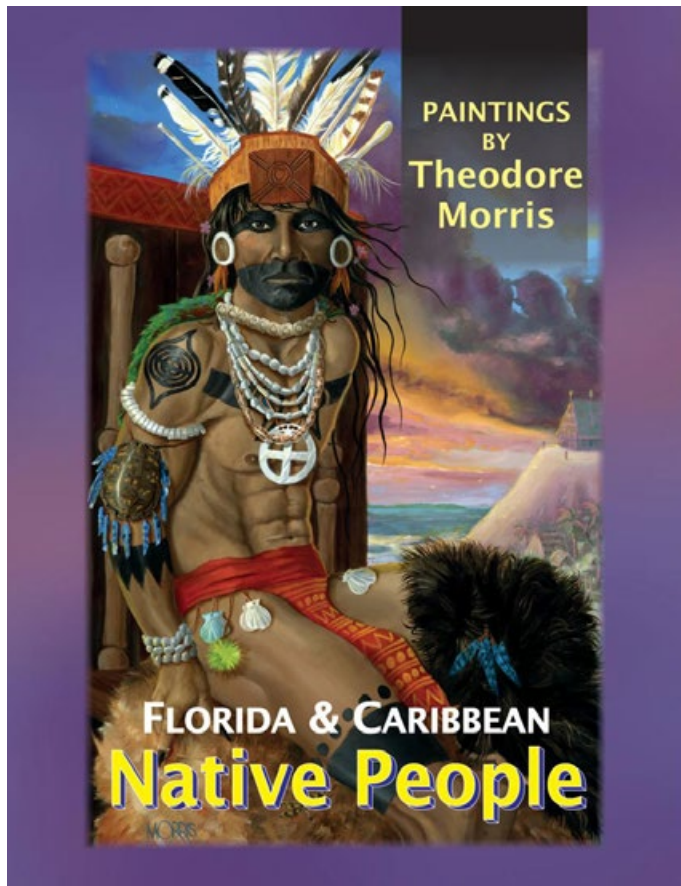
“About 1988, I started getting into Florida history,” says Morris. “I got involved with archeological digs and the archaeology community.”

Morris was asked to create a fundraising poster depicting Florida's native people for the Florida Anthropological Society.

“I went to the library to get some visual reference material, and there was none,” says Morris. “There was some weird, far out things that people had drawn over the years, so I went back with the archaeologists and we pieced together what they would have looked like.”

With experience as both a commercial artist and painter, Morris used descriptions from reliable historical documents together with artifacts discovered by archaeologists to create realistic representations of Florida's first people.

“From feedback I get from the archaeologists, they love to have their work put in context,” says Morris. “They’ll find a piece here and another piece over there, and to see them actually on an Indian (in a painting) makes it a little more fulfilling for them in a way, so they really like the idea.”



The painting "Cacique Carlos" is shown here on the cover of Theodore Morris's latest book. Courtesy Florida Historical Society Press.

"I love history and I love art, and it kind of all just melded together," Morris says.

Before Morris started painting depictions of Florida's indigenous peoples in consultation with archaeologists, images of prehistoric and early tribes were either non-existent, notoriously inaccurate, or so fanciful that they had no real educational value.

Morris does extensive research to ensure that his images are realistic, going as far as participating in archaeological excavations.

"Well, that was the number one priority, to make them as historically accurate as possible," says Morris. "When I first got into it, of course, I didn't know that much about them either. I knew about Seminoles, but not the early tribes, so it was a learning process for me."

In addition to being shown in exhibitions throughout the state, Morris's work has been assembled in the book "Florida and Caribbean Native People: Paintings by Theodore Morris." Each chapter of the book focuses on different tribes, with Morris's colorful paintings introduced by leading Florida archaeologists such as Keith Ashley, Bonnie McEwan, Brent R. Weisman, and Ryan J. Wheeler.

"From feedback I get from the archaeologists, they love to have their work put in context," says Morris. "They'll find a piece here and another piece over there, and to see them actually on an Indian (in a painting) makes it a little more fulfilling for them in a way, so they really like the idea."

Archaeologists and anthropologists are scientists, but they embrace Morris's artistic efforts to document Florida's indigenous people.

"Ted's artwork gives us a glimpse into the past that we don't have records of," says archaeologist Rachel Wentz.

Through his research and his meticulous attention to detail, we're able to see what Florida's early natives might have looked like, some of their activities in life, really get a visual idea of what their life was like, prior to (European) contact. Of course we have no record of that. All we have is the LeMoyne engravings from the time of contact, before then all we know is what we can discover through the archaeological record."

Morris's oil paintings range from lifelike portraits of specific individuals to scenes of everyday life, with Native Floridians using tools and wearing body ornamentation that archaeologists can verify as being realistic depictions.





Dr. Keith Holland researched, located, and excavated the steamship *Maple Leaf*, sunk in the St. Johns River by a Confederate mine. Photo by Jon White.

## KEITH HOLLAND AND THE *MAPLE LEAF*

At 4:00 a.m. on April 1, 1864, an explosion disrupted the still waters of the St. Johns River as a Confederate mine ripped through the hull of the steamship *Maple Leaf*. The ship was transporting Union supplies during the Civil War.

“It was participating in the Southeast Atlantic Blockade as a troop transport,” says Keith Holland, founder of St. Johns Archaeological Expeditions, Inc.



Before the Union supplies could be unloaded from the *Maple Leaf*, the ship was ordered to go to Palatka and deposit some provisions there, including a group of horses. The ship went to Palatka, but never made it back to Jacksonville.

“They were ordered to travel at night with no lights, only the binnacle light was allowed in the pilot’s house,” says Holland.

“It was a full moon, no wind, the river was as clear as the surface of a mirror. Romeo Murray, the pilot, was heading north. He saw nothing on the water, but there was a contact explosive mine submerged under the water. He struck that directly under the hull, approximately at the foremast, and it imploded a huge hole into the bow of the boat.”

The front deck of the *Maple Leaf* caved in and the pilot house fell forward. The ship’s whistle started to blow as its wire was stretched. The pilot turned the boat in an attempt to get to the east bank of the river, but it was too late.

After five or six revolutions of the paddle wheel, the *Maple Leaf* sank to the bottom of the St. Johns River.

The Confederate mine that sunk the *Maple Leaf* was about a yard wide. The center looked like a small barrel, but tapered wooden points on both sides made it resemble a torpedo.

The mine blast killed four people, but the rest of the crew was able to escape in life boats.

“After the Battle of Olustee, which was a major Union defeat, all troops were called from surrounding areas, especially Charleston, to come to Jacksonville immediately. They had camped on Folly Island, an entire brigade, for about 20 months. It took the Quartermasters approximately a month to break down the entire camp, and load up all of the thousands of soldiers personal effects into boxes. They were all placed into the *Maple Leaf*.”



“The officer in charge said that he thought it would be ‘the better part of valor’ to get out of there before the Confederates approached,” says Holland. “They spent the rest of the night, from four o’clock in the morning, rowing to Jacksonville, and arrived there about 8:30 in the morning.”

Today we view the materials left aboard the ship as having great cultural significance, but the artifacts remained undisturbed and forgotten for more than 125 years.

In 1984, Jacksonville dentist and diving enthusiast Keith Holland became aware of the *Maple Leaf* story and formed St. Johns Archaeological Expeditions, Inc. to research, locate, and excavate the ship.

Years of research led Holland to the conclusion that 800,000 pounds of personal items belonging to Union soldiers would still be aboard the *Maple Leaf*, preserved in an anaerobic environment.

Holland and his team of divers dragged a metal detector across the bottom of the river, looking for the exact location of the ship. It snagged on a shrimp net, which in turn had been caught on the paddle wheel axel of the *Maple Leaf*. It was the only part of the ship sticking up from the river floor.

“The main deck was buried under seven feet of St. Johns River mud,” says Holland. “This was going to take a very big deal to get to.”

Holland’s team was able to clear away enough mud to gain access to the ship and begin recovering artifacts from the *Maple Leaf*. Much of that material is on display for the first time at the Mandarin Museum and Historical Society in Jacksonville along with a detailed model of the ship, a replica of the mine that sank it, and a diving suit worn by one of the excavators.

Only a very small portion of the *Maple Leaf* cargo has been recovered. Most of the ship’s contents remains buried in the St. Johns River.



A model of the *Maple Leaf* is on display at the Mandarin Museum and Historical Society in Jacksonville, along with artifacts recovered from the ship.  
Photo by Jon White.



A replica of the Confederate mine that sunk the Union ship *Maple Leaf* in 1864.  
Photo by Jon White.





## ANNETTE SNAPP ON SEARCHING FOR FORT SHACKLEFORD



Dr. Annette Snapp leads an archaeology field school for Florida Gulf Coast University students in 2009 at the possible site of Fort Shackleford, built in 1855 during the Third Seminole War. Photo from Ah-Tah-Thi-Ki Museum.

Many Florida towns were built around Seminole War forts and some, such as Fort Pierce, Fort Lauderdale, and Fort Myers, retain their fort names.

Fort Shackleford was constructed in 1855 during the Third Seminole War. Archaeologists continue to search for its exact location.

Archaeologist Annette Snapp is formerly Operations Manager for the Ah-Tah-Thi-Ki Seminole Indian Museum in Clewiston, and is leading the effort to find Fort Shackleford.

Seminole Indians moved to Florida in the 1700s, to avoid the expanding American colonies. Runaway slaves found sanctuary here with the Seminole. White settlers also began coming to the area after the American Revolution to take advantage of Spanish land grants. The First Seminole War started in 1816, when General Andrew Jackson began a series of invasions into Spanish controlled Florida.

“At the time he is very interested in wresting Florida from Spain, and also in the movement of Indians away from the white settlers,” says Snapp.

By 1821, Florida was a Territory of the United States. Andrew Jackson was President in 1830 when the Indian Removal Act was passed, empowering him to arrange the relocation of the Seminole and other Native American groups to land west of the Mississippi River.

“There was this sense that everybody will agree to do this, but of course, it leads to the Trail of Tears,” says Snapp. “The Cherokee and other tribes are forced to walk west to Oklahoma and other areas out west. With Andrew Jackson turning his eyes on, and the Federal Government turning their eyes on Florida, it leads to the Second Seminole War.”

The Seminoles had been pushed onto a reservation in the central part of Florida. During the Second Seminole War, which lasted from 1835 to 1842, tensions rose between Native Americans and white settlers. The Seminole resorted to sporadic guerilla warfare to defend their land.

Following the Second Seminole War, the tribe had been pushed even further south. Florida is named a state in 1845.

The Swamp Land Act of 1850 allowed the Federal Government to give swamp land to states, who could then sell the land to settlers who agreed to drain the swamp. This legislation encouraged an influx of white settlement in Florida.

“Now they’ve created a huge conflict,” says Snapp. “They’re asking people to go into this area where the Seminole are living, and of course, the Seminole are unhappy about it.”

Sporadic guerilla warfare from the Seminole resumes throughout the state, and the Third Seminole War begins in 1855.

“The Federal Government feels like the only solution is to have the Native Americans, the Seminole, agree to move out west, or incite violence from the Seminole, so they have a reason to exterminate them,” says Snapp.

Fort Shackleford was built in 1855 on Seminole land at Big Cypress Reservation, so the U.S. Army could monitor Seminole activities more closely. By the end of the war in 1858, the fort had been destroyed and its exact location is now uncertain.

Four historic markers identifying the corners of Fort Shackleford were placed in 1943. The accuracy of the markers is not assured, since they were placed nearly a century after the fort’s existence. Only one of the markers remains today, and it does not specify which corner of the fort it represents. Still, the one remaining marker provides archaeologists with a starting place.

“There are military records that say that Fort Shackleford was built, and when it was built, and who built it,” says Snapp, “so we have at least a general idea of where they’re located.”

Archaeologists have collected 260 artifacts from various time periods on the possible site of Fort Shackleford, but none of them has definitively proven that the fort was located there. Snapp says the research will continue.

The Seminole Tribe of Florida remains unconquered. At the end of the Third Seminole War the Native Americans in south Florida were left alone. Today the tribe owns the entire Hard Rock franchise, including two Florida casinos and Hard Rock Cafes around the world.





The Key Marco Cat is in the Smithsonian Institution collection.

## CRAIG WOODWARD ON THE KEY MARCO CAT

The Key Marco Cat, a part feline, part human wood carving, is one of the most intriguing Native American artifacts discovered in Florida.

In 1896, archaeologist Frank Hamilton Cushing led an excavation on Marco Island that uncovered the six-inch-tall Key Marco Cat along with thousands of other Calusa Indian artifacts. The excavation was one of the first formal, organized archaeological expeditions in the state.

In addition to the Key Marco Cat, Cushing's team excavated vibrantly colored ceremonial masks and other carved objects, identifying the Calusa as one of the most artistic tribes to inhabit Florida prior to European contact.

“Because they lived in this very rich environment with the estuary system, the fish was plentiful, the shellfish was plentiful, so they didn't spend any time worrying about food,” says Craig Woodward, director of the Marco Island Historical Museum.

“They were not an agricultural tribe, they were able to get food (from the water), and had plenty of time to devote to artistic things, which is fascinating to us today.”

The Calusa artifacts discovered on Marco Island date from 300 AD to 1500 AD, prior to European contact in Florida.

Spanish conquistador Juan Ponce de León landed on the east coast of Florida and gave our state its name in 1513. When Ponce returned to southwest Florida in 1521, he was attacked by the Calusa and died from the wounds they inflicted.

Within about two centuries the Calusa were extinct, either having died from diseases brought by the Europeans, been captured as slaves, or been absorbed into the Seminole Tribe who arrived in Florida in the 1700s.

Created in 2010, the Marco Island Historical Museum is dedicated to remembering the Calusa. The museum campus was designed to have visitors walk through an interpretation of a Calusa village before they enter the museum.

“When you drive down the road, you look over and see a shell mound that's been built, and we built an estuary system around the shell mound which lowers that area,” says Woodward. “We put cypress trees and native plants down there. Then on the shell mound you have a lagoon area which has a waterfall at one end and a fish weir at the other end, and a bridge crossing it to a chickee hut.”

The three large buildings of the museum complex are also designed to resemble a Calusa village. Taking a cue from Disney World, the museum designers used an extruded plastic product to create a thatched roof appearance, rather than actual palm fronds. Woodward says that before visitors to the museum enter the main buildings, they walk from the present into the past.



“To get to the shell mound you have to cross the bridge from the parking lot, so you leave the modern world from the parking lot to the shell mound and enter a whole new world. We wanted to bring the inside out. So, unlike a regular museum where it’s all inside, a lot of our museum is outside, too.”

As visitors make their way through the village to enter the museum, they encounter a human size bronze sculpture of the Key Marco Cat, one of the most enduring symbols of the Calusa tribe. Inside the museum is a replica of original six-inch wooden figure.

“The Key Marco Cat is at the Smithsonian (in Washington, D.C.). It has come to Collier County twice,” says Woodward. “It was in Naples on display as a visiting item, and then it came to Marco Island. When it was at Marco, 18,000 people came to see it, so there’s a huge amount of interest in having it here.”

In an effort to have the Key Marco Cat permanently returned to the place it was found, the Marco Island Historical Museum contains a climate controlled cement structure with thick glass windows, specifically designed to house the unique artifact.

“The main part of the museum is dedicated to the Calusa, and hopefully, the items that we can get from that (Cushing) expedition,” says Woodward.

Some of the Calusa artifacts uncovered on Marco Island in 1896 are currently displayed at the British Museum in London, the University Museum of Philadelphia, and the Florida Museum of Natural History in Gainesville.



A large bronze statue depicting the six-inch-tall Key Marco Cat is at the entrance of the Marco Island Historical Museum.



A replica Calusa shell mound and Calusa village is part of the Marco Island Historical Museum.



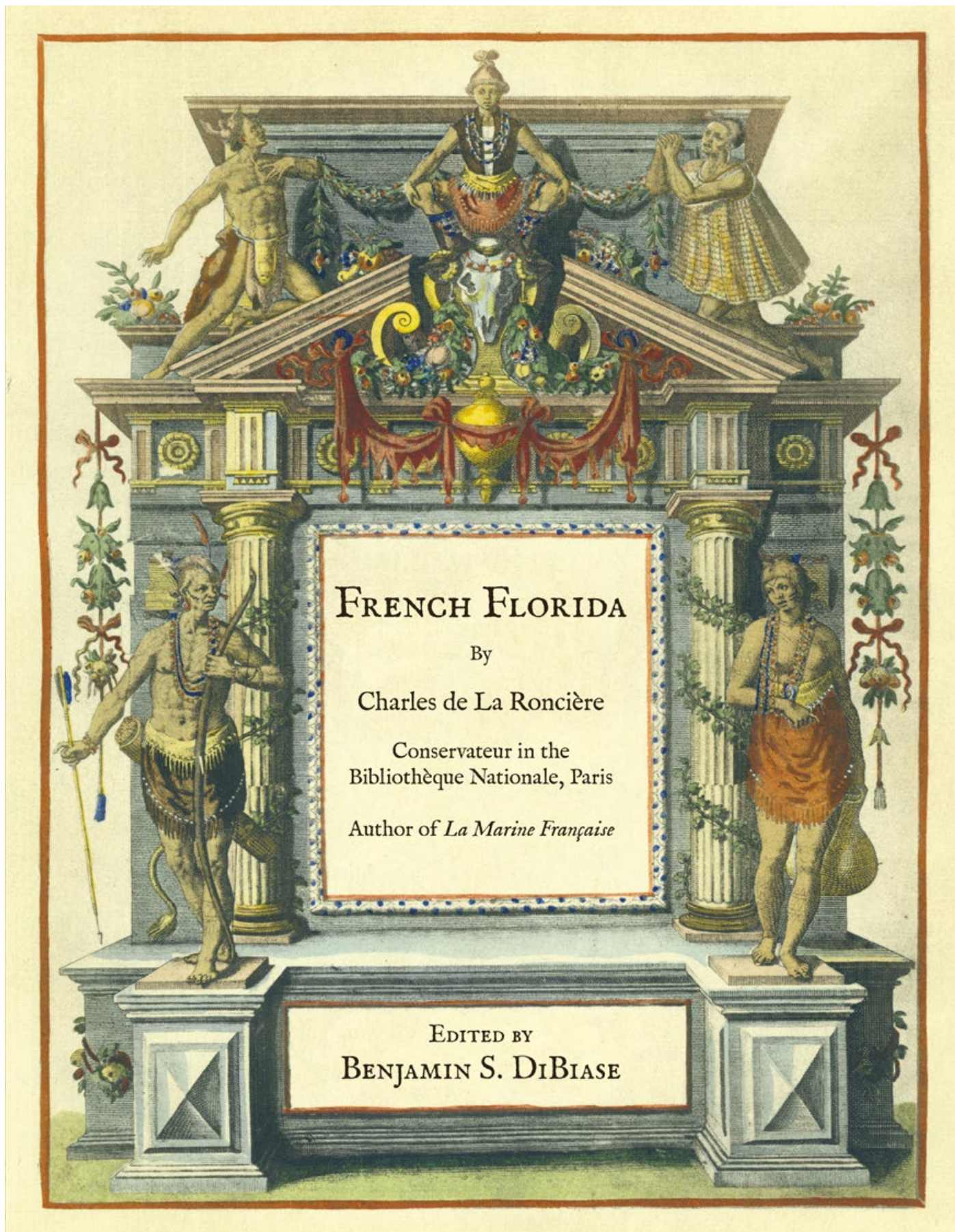
A 1564 drawing of French Fort Caroline near present-day Jacksonville by resident artist Jacques le Moyne.

## CHUCK MEIDE AND BEN DIBIASE ON THE FRENCH IN FLORIDA

2014 marked the 450th anniversary of the French in Florida, recognizing the establishment of Fort Caroline in 1564.

2015 marked the 450th anniversary of the Spanish establishment of St. Augustine, the first permanent European settlement in North America.





Cover of the book "French Florida" edited by Benjamin S. DiBiase.

The Spanish sent Pedro Menéndez de Avilés to Florida to wipe out the French Huguenots, and reclaim the land for Spain. Menéndez attacked Fort Caroline, killing everyone except the women and children, a group of musicians, and a few French soldiers who claimed to be Catholic. A hurricane helped the Spanish cause by sinking a fleet of French ships led by Jean Ribault.

Chuck Meide, director of the Lighthouse Archaeological Maritime Program, spent the summer of 2014 searching for the lost fleet of Jean Ribault off the coast of Florida between Daytona Beach and Cape Canaveral, and is continuing those efforts.

“I’m a Jacksonville native,” says Meide. “I grew up hearing the stories about Ribault and the French at Fort Caroline, and Menéndez and the Spanish in St. Augustine. It’s our national origin story. It’s how the first settlement here in the present-day United States happened. So it’s very exciting that we’re in a position to find these ships.”

Menéndez and his men arrived near the Timucuan village of Saloy on September 8, 1565, where they established St. Augustine. Ribault had arrived with a fleet of seven supply ships just days prior to restock Fort Caroline, near present-day Jacksonville. Ribault decided to launch a preemptive strike against the Spanish and his four largest ships set sail for St. Augustine on September 10.

Before Ribault’s ships could even attempt to navigate the dangerous inlet at St. Augustine, an unexpected hurricane forced the ships further south, where they wrecked off the coast between Daytona Beach and Cape Canaveral.

“Those ships are out there,” Meide says. “Menéndez wrote a letter to the King (Philip II of Spain) giving at least a description of the locations of *La Trinité* and the other three French wrecks. We also have a clue from an archaeological site known as the Armstrong Site that was found by relic hunters in 1970 and ‘71.”

Meide says the relic hunters found French coins, iron spikes, tools, and other shipwrecked material. “The archaeologists from the National Park Service who followed up with excavations in the 1990s agreed

with the relic hunters that this appears to be the survivor camps of the 1565 shipwrecks. It seems to me the logical place to search for the shipwrecks is near where the survivors were.”

During the same hurricane that sunk Ribault’s fleet, Menéndez and his men spent two days marching from St. Augustine to Fort Caroline. After capturing the French enclave, the Spanish executed 145 shipwreck survivors, including Jean Ribault. Before being put to death, the French were given the opportunity to renounce their Protestant faith and accept Catholicism. All but a few refused.

Original sixteenth century French and Spanish documents describing the establishment and destruction of Fort Caroline are few, and good English translations of those documents are rare. The Florida Historical Society Press has published the first English translation of “French Florida: A Narrative Based on the Earliest Accounts of the French Presence in Florida” by Charles de La Roncière.

“In this book he included a few word-for-word translations of those original documents, and that’s what’s really important,” says Benjamin S. DiBiase, editor of the book. “There are very few of these documents that have been translated in their entirety into English, for English speaking scholars to utilize.”

The book “French Florida” was originally prepared for publication in the late 1920s, but was never printed. After traveling around the state with the Florida Historical Society for about 70 years, the manuscript sat on the shelves at the Library of Florida History in Cocoa for another 17 years until it was rediscovered by DiBiase.

“With a keen eye we can parse out a lot of details from this narrative, and from the contemporary Spanish narratives of the attack on Fort Caroline and the establishment of St. Augustine, and through these sources get a little closer to what happened.”

Milestone anniversaries provide inspiration to reexamine these stories.





An artist's rendering of the landing of Don Tristan de Luna at present-day Pensacola in 1559.

## GREGORY COOK AND JOHN APPLEYARD ON THE DON TRISTAN DE LUNA SETTLEMENT

A fleet of ships carrying 1,500 colonists sailed into what is now Pensacola Bay on August 15, 1559. The men, women, and children aboard the ships were led by Spanish conquistador Don Tristan de Luna.

De Luna's plan was to establish the first permanent European colony in North America. He called the settlement site Ochuse. La Florida. We call it Pensacola, Florida. The colony at Ochuse was to be the first in a series of settlements that would spread west along the gulf coast and north into the heart of the continent, securing the territory for Spain.

Before the colonists could finish unloading their ships, a violent hurricane struck, sinking the fleet.

Although the colonists persevered for two years in difficult circumstances, de Luna was forced to abandon his attempted settlement in 1561. The colonists were dispersed to Mexico, Cuba, and Spain.

Today, de Luna's misfortune is providing amazing research opportunities for professional archaeologists and students at the University of West Florida. The Emanuel Point Shipwreck Site was discovered at the bottom of Pensacola Bay in 1992, revealing two ships from de Luna's doomed colonization attempt.

Every summer, the University of West Florida conducts a field school at the Emanuel Point Shipwreck Site, allowing students to dive in teams, searching for lost artifacts in the murky water.

"Both ships are very well preserved. They are both buried to various degrees," says UWF faculty member Gregory Cook. "A variety of items have been found on both of them, from armaments, to supplies, faunal remains, animal remains, plant remains."

Among the most exciting items to be excavated from the de Luna ships are stone cannon balls, copper arrow tips to be used with a crossbow, and a small wooden carving in the shape of a Spanish galleon.

“We’re continually surveying and searching for other vessels in the fleet,” Cook says. “It’s really pretty unprecedented to have two vessels and possibly as many as four or five in the bay from a single fleet.”

The discovery of the Emanuel Point Shipwreck Site confirmed conclusions drawn by Pensacola author John Appleyard in his 1977 historical novel *De Luna: Founder of North America’s First Colony*.

Appleyard carefully studied all of the available documentation of de Luna’s expedition, and determined the correct location of de Luna’s landing site. Two other popular theories placing the settlement attempt at different locations were shown to be incorrect by the archaeological discoveries in Pensacola Bay. Today, evidence of the Luna landing site is being excavated on land near the shipwrecks.

Like any writer of good historical fiction, Appleyard logically fills any gaps in demonstrable fact with reasonable supposition and a slight bit of artistic license. A new paperback edition of his novel was published by the Florida Historical Society Press for the 450th anniversary of de Luna’s attempted colony.

In addition to being a writer, Appleyard was one of the first successful proponents of cultural and heritage tourism in Florida, helping to organize the Fiesta of Five Flags.

“De Luna was a historical figure that had largely been lost in the pages of history,” says Appleyard. “In 1949, a group of local businessmen came together recognizing that Pensacola needed something of a magnet for tourism. Someone suggested that a Fiesta, an annual celebration be held, and that de Luna become the magnet at the center of it.”

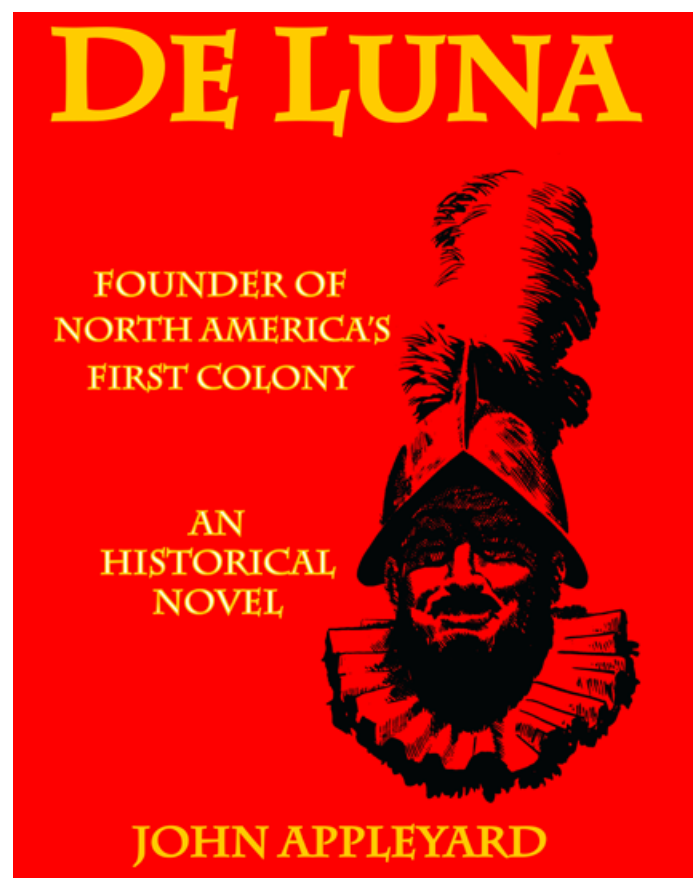
Since 1950, the Fiesta of Five Flags has been held every year in Pensacola. A series of events recognizes de Luna’s attempted colony and the Spanish, French, British, Confederate, and American flags that have flown over Florida.

St. Augustine, established by Pedro Menendez de Aviles in 1565, is recognized as the oldest continuous European settlement in North America. Had de Luna been able to create a permanent colony at Pensacola six years earlier and expand northward and westward as he had planned, American history may have been quite different.

The power of a hurricane should never be underestimated.



A piece of wood carved into the shape of a Spanish galleon, discovered at the Emanuel Point Shipwreck Site.



Cover of the historical novel *De Luna: Founder of North America’s First Colony* by John Appleyard.



## CHUCK MEIDE ON THE AMERICAN REVOLUTION ERA SHIPWRECK



Underwater archaeologist Chuck Meide excavates a 1780 cannon from a British Loyalist shipwreck off the coast of St. Augustine. - Photo courtesy of LAMP

Every Fourth of July, Floridians celebrate Independence Day with cookouts, hometown parades, and of course, fireworks as America's victory over the British in the American Revolution is commemorated.

Not all American colonists supported the war, though. Many remained dedicated to King George III and England. As the American Revolution progressed, these Loyalists became refugees and were forced to flee the colonies.

From 1763 to 1783, Florida remained under British control; so many Loyalists came here from the American colonies to the north.

On December 17, 1782, as the end of the American Revolution approached, 16 ships left Charleston, South Carolina bound for the Loyalist port of St. Augustine, Florida. The ships carried hundreds of people, civilian as well as military.

Just before the ships could make port in St. Augustine, all 16 were lost on December 31, 1782.

Chuck Meide, director of the Lighthouse Archaeological Maritime Program (LAMP), was determined to find the Loyalist ships that were lost off the coast of St. Augustine in a violent New Year's Eve storm.

"The first step is really to try to look at the old historic maps and figure out how the landscape has changed," Meide says, adding that the St. Augustine inlet "was very notorious for being dangerous for ships and for changing a lot. Every time a storm would come, the channels would shift around. That's why we have so many shipwrecks, because of the shoals."

Today, modern engineering keeps the inlet in place, but historic maps show how the location of the inlet has shifted over time. Meide determined that in the late 1700s, the inlet was about 3 miles south of its present location. That's where he decided to look for the Loyalist shipwrecks.

Meide and his team used high-tech equipment such as a magnetometer to search for objects made of metal, and a side-scan sonar that produces an acoustic image of the ocean floor.

"Basically, it's like we're mowing the lawn," Meide says. "We're going back and forth and covering an area that we feel is high probability to find shipwreck sites, and it works."

When the equipment indicated that a shipwreck might be located at a particular spot, it was time for Chuck Meide to go diving. He says the conditions were difficult to work in because it was "black as midnight down there" and communication with the other archaeologists was impossible. "Imagine if you were doing archaeology on land, gagged and blindfolded."

Chuck Meide was working alone in the dark water when he made the first discovery of the expedition. The magnetometer had indicated the presence of metal, so Meide was working with a ten foot pipe jetting water to clear away sand. At first he didn't feel anything unusual. After a few times sinking the pipe "to the hilt," Meide hit something hard.

In quick succession, Meide uncovered ballast stones that were common in colonial era sailing ships, an unidentifiable man-made iron object, and a wooden plank.

"Now my heart's beating pretty fast," Meide says. "The next thing I found really sealed the deal. It was another large, concreted object. It was round, it was hollow. I felt a rim and could feel inside and I realized we had a big cooking pot or a cauldron. I even felt one of the three legs on the bottom. So that suggested colonial shipwreck."

That first series of discoveries was in August 2009, and the excavation has continued every summer since.

Subsequent discoveries helped to confirm that the shipwreck was from the colonial period, from the late 1800s, and more specifically that it was carrying British Loyalists. Meide's team uncovered lead shot, buckles, buttons, a wine glass base, and other objects.

Perhaps the most definitive artifact found was a canon marked with the year 1780.

When the American Revolution ended in 1783, the British period was over and Florida once again became property of the Spanish. Florida became an American Territory in 1821, and was named a state in 1845.

As citizens of the United States, Floridians would celebrate Independence Day until 1861, when the state seceded from the Union. After Florida became part of the United States again in 1868, Fourth of July celebrations resumed and continue today.



# CONTRIBUTORS

**Benjamin D. Brotemarkle** earned his Ph.D. in Humanities from the Union Institute and University, a Master of Liberal Studies degree and a B.A. in Humanities from Rollins College, and an A.S. in Music/Voice Performance from the Florida School of the Arts. He is currently Executive Director of the Florida Historical Society. Dr. Brotemarkle's books include *Beyond the Theme Parks: Exploring Central Florida* and *Crossing Division Street: An Oral History of the African American Community in Orlando*. He is a current part-time Professor of Humanities and former Department Chair at Eastern Florida State College where he was named Distinguished Educator and the Barnes and Noble College Booksellers Endowed Faculty Chair of Academic Excellence. An award winning broadcast journalist, Brotemarkle's features have been heard around the world on Voice of America Radio, across the country on National Public Radio, and throughout the state on Florida Public Radio. He is currently producer and host of *Florida Frontiers: The Weekly Radio Magazine of the Florida Historical Society*, and the public television series *The Florida Historical Society Presents: Florida Frontiers*. His documentary *The Lost Years of Zora Neale Hurston* is currently airing on public television stations across the country.

**Kevin A. Gidusko** earned his B.A. in Anthropology from the University of Central Florida and is currently the Public Archaeologist for FPAN's East Central Region. He has been involved in historic and prehistoric archaeology in the Central Florida region since 2009 and served as president of the Central Florida Anthropological Society from 2009-2015. In addition to his work in public outreach and education, Kevin is a graduate student earning his Master's degree in Anthropology at UCF where his research focuses on the use of ground penetrating radar, photogrammetry, geographic information systems (GIS), and other remote sensing applications in archaeology. His research interests include Florida archaeology, prehistoric archaeology, geophysical applications in archaeology, and public archaeology.

**Patrisha L. Meyers** earned her M.A. in Anthropology from the University of Central Florida, and holds a graduate certificate in Biological and Forensic Anthropology from Mercyhurst University. She is currently the Director of the Florida Historical Society Archaeological Institute and the Brevard Museum of History and Natural Science. Recent research has focused on the skeletal analysis of pre-Columbian human remains found during renovations of the Red House, Trinidad and Tobago's Parliament building. Her research interests include bioarchaeology, paleopathology, forensic anthropology and trauma analysis.

**Jerald T. Milanich** earned his Ph.D. in Anthropology from the University of Florida. He is currently Curator Emeritus of Archaeology at the Florida Museum of Natural History and Emeritus Professor of Anthropology at the University of Florida. Dr. Milanich specializes in Native American culture in Florida and has written and edited numerous articles and books. His books include *Laboring in the Fields of the Lord: Spanish Missions and Southeastern Indians*, *Florida Indians from Ancient Times to the Present*, *Florida Indians and the Invasion from Europe*, *Archaeology of Precolumbian Florida*, and most recently, *The Florida Adventures of Amos Jay Cummings, 1873-1893*. In 2005, Dr. Milanich received the Lifetime Achievement Award from the Florida Archaeological Council and in 2013, he received the Dorothy Dodd Lifetime Achievement Award from the Florida Historical Society. Dr. Milanich serves on the Advisory Board of the Florida Historical Society Archaeological Institute (FHSAI).

**John J. Schultz** earned his Ph.D. in Anthropology from the University of Florida, and is currently an Associate Professor of Anthropology at the University of Central Florida. He specializes in forensic anthropology with a primary research focus in taphonomy and forensic archaeology methods. In addition, he is a consulting forensic anthropologist in the central Florida area for various law-enforcement agencies and the local medical examiner's office. His research interests include forensic and archaeological applications of ground-penetrating radar (GPR) for grave detection.

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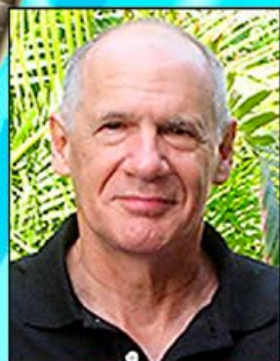
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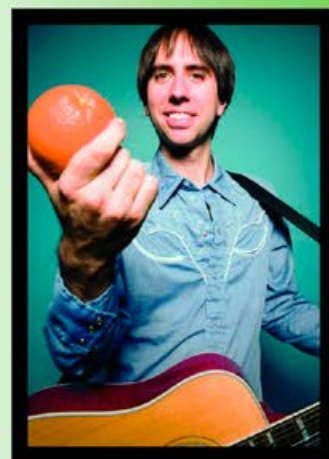


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The Brevard Museum of History and Natural Science, home of the Florida Historical Society Archaeological Institute.

From the skeletons of prehistoric beasts, to pioneer artifacts, to the latest images from the Hubble Space Telescope, the Brevard Museum of History and Natural Science brings the past to life for the whole family with exciting exhibits. Home of the Florida Historical Society Archaeological Institute, the museum centerpiece is an exhibit on the People of Windover, who methodically buried their dead in a local peat bog more than 7,000 years ago. The amazingly well preserved burials are 2,000 years older than the Great Pyramids in Egypt and 3,200 years older than King Tutankhamen. Nature trails on 20 acres wind through three ecosystems. The Brevard Museum of History and Natural Science is conveniently located at 2201 Michigan Avenue in Cocoa, just two turns from I-95.



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