Southwest Florida Archaeological Society (SWFAS)
OUR 46th YEAR
January 2026 Newsletter

https://swflarchaeology.org/

PRESIDENT'S CORNER *By John F. Furey M.A., RPA,* jffurey@charter.net

Happy New Year to everyone from SWFAS. We have another interesting year of presentations and Newsletters planned for you, and we invite you to become members and join us and FAS promoting archaeology, history, and preservation in Florida. Application and renewal forms can be found at the end of this newsletter. Don't forget that donations to both SWFAS and FAS are tax deductible.

Ice ages and the cause of glaciation, is there only one cause or are there many? In this month's Newsletter we publish two competing or perhaps two complementary theories of glaciation and one study that credits glaciation with contributing to the development of higher life forms. The Milankovitch theory of earth's wobble versus the role of volcanic carbon dioxide. You be the judge! Also, new information available on the volcanic super-eruption in Guatemala 79,500 years ago adds to our knowledge of the resiliency of the planet.

AWIARE is again offering a 2026 Spring archaeology training camp in St. Petersburg at the Weedon Island site. The course runs from March 23-27 and is limited to 8 people at a cost of $ 550.00 each. To register go to: https://awiare.org/2026-adult-archaeology-camp/ .

Plan to attend our special Meet & Greet, book signing, and presentation by local author **Robert N. Macomber at the IMAG on Wednesday, January 21, at 6:00 pm.** (Please note earlier time.) His presentation discusses a critical role of *Key West in the Civil War*. Refreshments will be served. See page 3.

I would like to thank everyone for wishing me well after my recent surgery.

2026 CY PROPOSED SWFAS OFFICERS AND BOARD ANNOUNCED

The proposed 2026 SWFAS officers and board are listed below. They were announced at the November 2025 meeting and will be voted on at the January SWFAS meeting. Open positions on the Board are available to interested individuals, come join us. The following are the proposed officers and Trustees for the 2026 calendar year. All the officers and board members from 2025 have agreed to remain on for 2026.

Officers
President: John Furey
First Vice-President: *open*
Second Vice-President: *open*
Treasurer: Charlie Strader
Secretary: Susan Harrington
Editor: John Furey
Craighead Lab Director: Susan Harrington

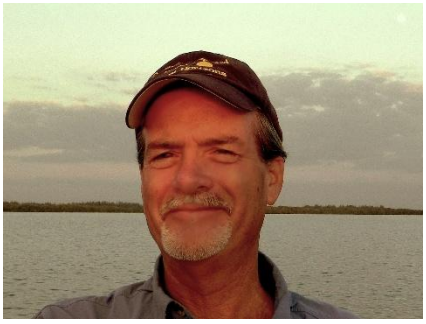
Directors
First of 3-year term:
open
Second of 3-year term
Dr. Tiffany Bannworth
Amanda Townsend
Third of 3-year term:
Theresa Schober (Chapter Rep.)
Mary Southall

SWFAS DUES REMINDER 2026

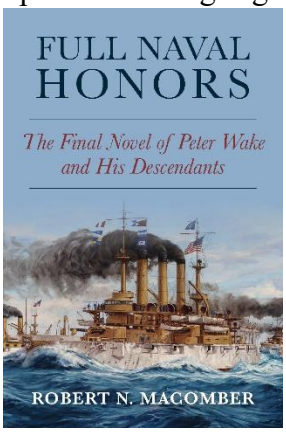
SWFAS dues for 2026 are due. Your support of archaeology, history, preservation, and education in Southwest Florida is critical. Our sole source of income is your dues and your gifts. SWFAS is a 501(c)(3) registered non-profit organization. Donations and gifts to SWFAS in December are tax deductible and benefit us both. Thanks to everyone that has already renewed their 2026 tax

deductible membership. If you have not done so, we have two ways, you can renew online with a credit card at https://swflarchaeology.org. On the Home page, go to " Select Member Level" and then " Add to Cart." Or send a check to: Charlie Strader, SWFAS Treasurer, 27655 Kent Road, Bonita Springs, FL 34135. If you have question re membership status, you may call/text Charlie at 239-992-6133.

JANUARY 21, 2026, 6:00 PM, PRESENTATION AND BOOK SIGNING
Key West in the Civil War by Robert Macomber, Acclaimed Author and Speaker



After a meet & greet and book signing session with refreshments served, Robert Macomber will give a presentation on the crucial role of Key West in the U.S. Civil War. The lecture will describe places in Key West that you can visit today including the 1852 U.S. Naval depot, 1845-built Civil War Fort Taylor, two Martello Tower forts built during the war, the 1860 rescued-slave cemetery, the origins of famous Mallory Square, and an overview of seven Civil War shipwrecks on the Southwest Florida coast. He captivates a variety of audiences with storytelling expertise creating eager readers and listeners alike.



As the author of the 17 book Honor Series and an internationally acclaimed lecturer, Robert N. Macomber has been described as "The O'Brian of the Caribbean" by Randy W. White. Macomber's novels chronicle the naval escapades of his protagonist Peter Wake that begin in the early days of sailing naval vessels in the Civil War in Southwest Florida. As an accomplished seaman, Macomber inserts his knowledge of sailing and the sea into his character and his knowledge of historical events into the events here in Southwest Florida. When not traveling for research treks, lecture tours, or book signings, Macomber lives on the southwest coast of Florida in Lee County where he grew up.

DECEMBER 6, 2025, SWFAS FIELD TRIP – *Pineland Archaeological Complex*

On December 6, 2025, over two dozen members and guests of SWFAS enjoyed a wonderful day at the Pineland Archaeological Site and Randell Research Center (RRC) on Pine Island. Not only was the weather wonderful, the remaining massive mounds at the site were a wonder to see in person. Our guide, archaeologist Theresa Schober, showed her usual skill at explaining the complexities of Calusa archaeology. She helped put the site's architecture into cultural, space and time context, and relate to the broader history of the Calusa including through Spanish contact. She shared some of her experiences working at this, one of South Florida's most studied sites, and the many resulting discoveries about the lives of the Calusa and their adaption to the environment.

As mentioned in Schober's discussions, more details about the site and Spanish Contact by Dr. John Worth can be found in at: https://pages.uwf.edu/jworth/Worth%202013_Pineland.pdf
John Worth (2013) Pineland During the Spanish Period. In *The Archaeology of Pineland: A Coastal Southwest Florida Site Complex, A.D. 50-1710, Wm Marquardt and K Walker (Eds.).*

And, Luer, George M. and Ryan J. Wheeler (1997) How the Pine Island Canal Worked: Topography, Hydraulics, and Engineering. *The Florida Anthropologist 50(3):115-131.*
Available online at: https://ufdc.ufl.edu/UF00027829/00095/images/3.

We were also pleased to meet Natalie Binder, the new operations manager for the RRC. You can read about details and her impressive background at: https://www.floridamuseum.ufl.edu/science/florida-museum-of-natural-history-welcomes-new-operations-manager-for-the-randell-research-center-on-pine-island-fl/

While the main education building was not yet open, we were pleased to see the restroom facilities were. Overall, the site, signage and trails were in good condition, especially considering the past storm damage. The site is the largest Calusa site in southwest Florida that one can easily visit by car and should not be missed. We are all so fortunate that Donald and Patricia Randell donated land that started the RRC! You can learn more about the site and support at: https://www.floridamuseum.ufl.edu/rrc/ After the tour most walked across the road and had a wonderful lunch and fellowship at the Tarpon Lodge Restaurant.

SWFAS PRESENTATION SCHEDULE 2026

NOTE THAT ALL SWFAS PRESENTATIONS ARE FREE TO THE PUBLIC

JANUARY 21, 2026, 6:00 PM, FT. MYERS, IMAG MUSEUM (Note earlier time)
Robert Macomber, Acclaimed Author and Speaker
Topic: Key West in the Civil War
Meet & Greet, Book Sale and Signing

FEBRUARY 18, 2026, 7:00 PM, FT. MYERS, IMAG MUSEUM
Dr. Jonathan Harrison, Adjunct Professor Hodges University
Visiting Professor FGCU
Topic: The Rise of Jim Crow in Fort Myers 1885-1930

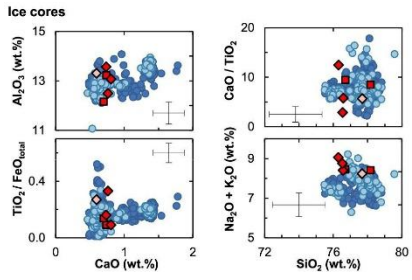
MARCH 18, 2026, 7:00 PM, FT. MYERS, IMAG MUSEUM
Alf Monoghan, Lecturer
Topic: Ireland: A Sacred Island Before Christianity

APRIL 15, 2026, 7:00 PM, BONITA SPRINGS, BONITA SPRINGS FIRE STATION 24
Presentation: TBA

MAY 8, 9, and 10, 2026 **Florida Anthropological Society ANNUAL Meeting**

RECENT RESEARCH

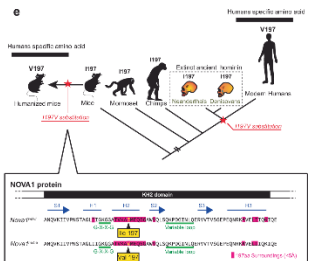
THE LOS CHOCOYOS SUPER-ERUPTION IN GUATEMALA 79,500 YEARS AGO



Credit: Communications Earth & Environment (2025).

Recent data from ice core samples in Greenland and Antarctica dated the Los Chocoyos super-eruption in Guatemala at 79,500 years ago, did not trigger an ice age, and the planet bounced back within decades. The research team questions theories that suggest that super-eruption could produce an ice age that could kill off humanity. The atmospheric ash caused global changes, but cleared, allowing the planets rapid return to its former position. Source: *Phys.Org at https://phys.org/news/2025-02-date-los-chocoyos-supereruption-years.html*

GENE BELIEVED TO BE ADVANTAGEOUS FOR US OVER NEANDERTHALS



From: Nature Communications

CRISPER gene-splicing technology has recently isolated NOVA1 and FOXP2 genetic variants that may have proven advantageous to Homo sapiens over Neanderthals. It turns out that the FOXP2 genetic variant was a shared trait with Neanderthals and is linked to human speech and may be used in treating speech disorders. NOVA1, it turns out is found exclusively in our species and, while linked to speech, the necessary anatomical features of the throat must also be present. Source: *Nature Communications at* [*https://www.nature.com/articles/s41467-025-56579-2*](https://www.nature.com/articles/s41467-025-56579-2)

ARTICLES

WHAT IS THE MILANKOVITCH THEORY OF THE CAUSE OF THE ICE AGES?

Do minor changes in the earth's orbit, wobble and axis angle trigger the beginning and ends of ice ages? In 1911 Milutin Milankovitch, a Serbian engineer and mathematician first proposed this theory of the causes of glaciation. See below.

SCIENTISTS DISCOVER THE CAUSE OF EARTHS LONGEST ICE AGE 700 MILLION YEARS AGO

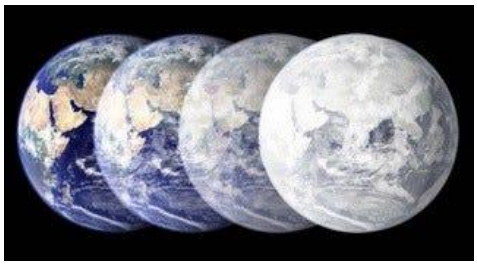
A sharp drop in volcanic eruptions is posited as the leading cause of worldwide glaciation 700 million years ago. Known as the Sturtian glaciation, the planet was encased in ice from the poles to the equator and the oceans were frozen. A publication in the journal Geology believes that the cause was a drop in volcanic carbon dioxide that triggered this event. See below.

EARLY LIFE ON EARTH GOT A BOOST FROM GLACIATION

How did glaciation help early life on earth? 700 million years ago life existed only in the deep oceans and on the continental shelves. As glaciers pulverized the landscape, they released key minerals that flowed into the oceans that triggered ocean chemical transformations at a time when complex life was starting to evolve. See below.

A LOOMING ICE AGE? SCIENTISTS FIND A STRIKING PATTERN IN EARTH'S HISTORY

By: Jeanine Santucci
February 28, 2025
From USA Today at [*https://www.usatoday.com/story/news/nation/2025/02/28/ice-age-prediction-climate-change/80840180007/*](https://www.usatoday.com/story/news/nation/2025/02/28/ice-age-prediction-climate-change/80840180007/)



Courtesy: Matt Perko

A group of scientists think they can now predict when the next ice age could grip Earth, but don't worry, it's not for a very long time. An ice age should begin in about 10,000 years, but its onset is most likely delayed due to man-made climate change, an international team of scientists found in their analysis published this week in Science.

Scientists have long known that small changes in how Earth orbits the sun influence glacial cycles over thousands of years. This analysis is the first time anyone has been able to determine which orbital characteristic has the most influence on the start and end of ice ages, according to a news release from the University of California at Santa Barbara. The team found that the changes in the Earth's climate, from ice ages to warm periods like today called interglacial conditions, synced up to the orbital behavior. "We were amazed to find such a clear imprint of the different orbital parameters on the climate record," said Stephen Barker, a professor at Cardiff University in the UK, in the release. "It is quite hard to believe that the pattern has not been seen before." The Milankovitch theory, which was proposed a century ago, says that the small variations in the Earth's orbit, its wobble and axis angle influence long-term changes in climate, and trigger the beginning and ends of ice ages. In a review of the last nearly 1 million years, the team observed a "pattern" in the record of

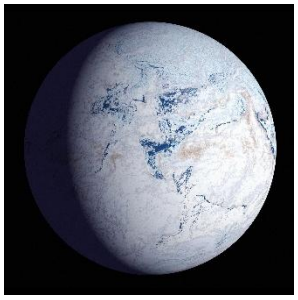
climate change. That observation made it possible to make predictions, too. The period we live in now, called the Holocene, began some 11,700 years ago when the last ice age ended. It's known as an interglacial period, or a time between ice ages. The current period should be a stable interglacial, which means the next ice age would begin in about 10,000 years, the researchers said in their findings.

“But such a transition to a glacial state in 10,000 years’ time is very unlikely to happen because human emissions of carbon dioxide into the atmosphere have already diverted the climate from its natural course, with longer-term impacts into the future,” said study co-author Gregor Knorr, of the Alfred Wegener Institute's Helmholtz Centre for Polar and Marine Research in Germany. Just how much of an impact humans have caused isn't yet known. The researchers will next turn their study to how anthropogenic changes will impact the start of the next ice age. "This is vital for better informing decisions we make now about greenhouse gas emissions, which will determine future climate changes," Barker said.

SCIENTISTS DISCOVER THE CAUSE OF EARTH’S LONGEST ICE AGE 700 MILLION YEARS AGO

By: Joseph Shavit

From MSN at https://www.msn.com/en-us/science/earth-science/scientists-discover-the-cause-of-earth-s-longest-ice-age-700-million-years-ago/ar-AA1A1dc8



Over 700 million years ago, Earth experienced a dramatic climate event known as the Sturtian glaciation, one of the most extreme ice ages in history. During this period, the planet was encased in ice from pole to equator, with temperatures plummeting to levels that could have frozen entire oceans. Scientists have long debated what caused this prolonged global freeze, but new research is shedding light on the forces that triggered and sustained it.

The Role of Volcanic Carbon Dioxide Emissions

A team of geologists in Australia recently published a study in the journal Geology, revealing that a drop in volcanic carbon dioxide (CO_2) emissions played a crucial role in initiating this glaciation. Lead author Dr. Adriana Dutkiewicz, an ARC Future Fellow, describes the event: "Imagine the Earth almost completely frozen over. That's just what happened about 700 million years ago; the planet was blanketed in ice from poles to equator and temperatures plunged. However, just what caused this has been an open question." To investigate, scientists turned to advanced plate tectonic models. These simulations traced the movement of Earth's landmasses and the volcanic activity associated with them. They discovered that around 717 million years ago, CO_2 emissions from mid-ocean ridges dropped to a historic low. Volcanic activity at these ridges usually releases significant amounts of CO_2, a greenhouse gas that helps warm the planet. When these emissions decreased, Earth's atmosphere lost a critical heat-trapping component, setting the stage for global cooling.

The Supercontinent Connection

Another factor influencing the climate at the time was the breakup of Rodinia, an ancient supercontinent. As tectonic plates shifted and fractured, they exposed vast areas of fresh rock to weathering. This process, known as silicate weathering, removes CO_2 from the atmosphere by locking it into minerals. The Franklin large igneous province (LIP), a massive volcanic region in what is now Canada, played a major role in this process. Rapid weathering of its rocks further reduced atmospheric CO_2, reinforcing the cooling trend. While previous studies have suggested that volcanic eruptions could contribute to cooling by releasing sulfur aerosols that reflect sunlight, the new research points to a long-term reduction in CO_2 emissions as the primary driver.

Co-author Professor Dietmar Müller from the University of Sydney explains, "Geology ruled climate at this time." The prolonged ice age, which lasted for an astonishing 57 million years, aligns with a period of extremely low volcanic CO_2 outgassing, suggesting that tectonic forces played a dominant role in regulating Earth's climate.

A Prolonged Ice Age

One of the most puzzling aspects of the Sturtian glaciation is its extraordinary duration. Most ice ages in Earth's history have lasted a few million years, but this one stretched from 717 to 660 million years ago. Researchers propose that the combination of reduced volcanic CO2 emissions and extensive silicate weathering created a feedback loop that kept Earth locked in a frozen state. Numerical models support this hypothesis. Studies indicate that once CO2 levels fell below 200 parts per million (ppm), less than half of today's levels, a runaway ice-albedo effect took hold. This process occurs when ice reflects more sunlight, causing temperatures to drop further and expanding ice coverage. As a result, Earth remained in a deep freeze for tens of millions of years. Eventually, the ice age ended when volcanic activity increased again, releasing enough CO2 to warm the planet. This warming, likely fueled by a combination of mid-ocean ridge activity and terrestrial volcanism, gradually melted the extensive ice sheets and returned Earth to a more temperate state.

Implications for the Future

The findings from this study offer insight not only into Earth's past but also its potential future. Dr. Dutkiewicz notes, "The Earth is currently on a trajectory of lower volcanic CO2 emissions, as continental collisions increase and the plates slow down." This raises the possibility that our planet could enter another prolonged ice age in the distant future. However, she cautions that the timescales involved are vastly different from the rapid climate changes caused by human activities today. NASA and other climate organizations emphasize that while geological processes influence Earth's climate over millions of years, human-induced CO2 emissions are driving changes on a much shorter timescale. The burning of fossil fuels is increasing atmospheric CO2 levels at an unprecedented rate, counteracting any long-term cooling trends associated with plate tectonics.

Understanding Earth's climate history helps scientists predict how tectonic activity, CO2 levels, and other factors might shape the planet's future. The Sturtian glaciation serves as a reminder that Earth's climate is a complex system influenced by both natural geological processes and human activities. As research continues, scientists will refine their models to better understand these intricate interactions and their implications for the world we live in today.

STUDY FINDS EARLY LIFE ON EARTH GOT A BOOST FROM …. GLACIERS AND URANIUM?

By: N'dea Yancy-Bragg
February 27, 2025
From USA Today at https://www.usatoday.com/story/news/nation/2025/02/27/ancient-glaciers-bulldozers-evolution-life/80702326007/

Trevor Hughes/USA TODAY Network

About 700 million years ago, enormous glaciers flowed across the Earth's surface in powerful frozen rivers like "giant ice bulldozers" that pulverized our planet's crust and may have contributed to the evolution of complex life along their way, new research shows. A study published in Geology, a journal published by the Geological Society of America, on Tuesday found glaciers in rivers sometimes more than a mile deep scraped parts of the Earth's crust, releasing key minerals and setting off "chemical chain reactions that reshaped the planet," study author Chris Kirkland, who teaches and leads the Timescales of Mineral Systems Group at Curtin University in Australia, said in a statement. "When these giant ice sheets melted, they triggered enormous floods that flushed minerals and their chemicals, including uranium, into the oceans," Kirkland said. "This influx of elements changed ocean chemistry, at a time when more complex life was starting to evolve."

Kirkland and researchers the University of Portsmouth in England and St. Francis Xavier University in Canada chemically analyzed crystals in rocks from Earth's Cryogenian period. Earth was so cold at the time that the oceans were frozen all the way to the equator, and life only existed in the oceans and on continental shelves, study co-author Donnelly Archibald, of St. Francis Xavier University, said in a statement. "Our research shows

that ancient glaciers did far more than shape the landscape - they triggered chemical transformations that helped set the stage for complex life," said study co-author, Rob Strachan, emeritus professor at the university. "These findings highlight the deep connections between Earth's geology, climate, and the evolution of life itself."

The planet experienced at least two "extreme global glaciations" during the Cryogenian period, traces of which can be observed in sedimentary rocks, Kirkland wrote in The Conversation. It's not clear what triggered those events, but high levels of carbon dioxide in the atmosphere produced by volcanic activity may have later caused the planet to warm and the ice to melt, according to Kirkland. He wrote that while many scientists believe that this caused changes in the ocean's chemistry that set the stage for the development of complex life, his new research found that the paths carved by the retreating glaciers may also have been a factor. The glaciers ground surface rock into fine sediment, which flowed rapidly into the oceans, Archibald said in a statement. "Some of this sediment carried essential nutrients to the oceans and fundamentally changed ocean chemistry and oxygen levels in the atmosphere, which may have stimulated the evolution of multicellular life," he said. The uranium that was released into the ocean by the movement of melting glaciers, for example, boosted oxygen levels in the water, helped cycle nutrients and fueled underwater heat sources, all of which may have contributed to the early development of life, the University of Portsmouth said in a release.

Kirkland said the research can not only help understand ancient climate shifts, but also modern, human-influenced climate change. "These ancient climate shifts demonstrate that environmental changes, whether natural or human-driven, have profound and lasting impacts," Kirkland said. "Understanding these past events can help us better predict how today's climate changes might reshape our world."

SWFAS OFFICERS AND BOARD OF DIRECTORS FOR 2026

Officers

President: John Furey
First Vice-President: *open*
Second Vice-President: *open*
Treasurer: Charlie Strader
Secretary: Susan Harrington
Editor: John Furey
Craighead Lab Director: Susan Harrington

Directors

First of 3-year term:
open
Second of 3-year term
Dr. Tiffany Bannworth
Amanda Townsend
Third of 3-year term:
Theresa Schober (Chapter Rep.)
Mary Southall

Find us on Facebook at Southwest Florida Archaeological Society!

Check out our website at http://swflarchaeology.org/

SWFAS AND FAS MEMBERSHIP APPLICATIONS

We encourage those interested in Florida archaeology to become members of The Florida Anthropological Society (FAS) and The Southwest Florida Archaeological Society (SWFAS). Annual dues are due in January and membership applications to both organizations are attached. Membership in the FAS provides you with four annual volumes of *The Florida Anthropologist* and occasional newsletters on anthropological events in Florida in addition to the annual statewide meeting. More information on FAS can be found online at: www.fasweb.org. Membership in SWFAS offers you a local series of talks on archaeological and anthropological subjects that you can attend. The SWFAS monthly newsletter keeps you up to date on local events as well as other important archaeological topics. We urge you to support both with your membership. All of the SWFAS Lecture Series are open to the public at no charge.

JOIN US!

The Southwest Florida Archaeological Society

http://swflarchaeology.org/

The Southwest Florida Archaeological Society (SWFAS) was founded in 1980 as a not-for profit corporation to provide a meeting place for people interested in the area's past.

Our goals are to:

- Learn more of the area's history
- Create a place for sharing of this information
- Advocate for preservation of cultural resources

Its members include professional and amateur archaeologists and interested members of the general public. Members come from all walks of life and age groups. They share a lively curiosity, a respect for the people who preceded them here, and a feeling of responsibility for the conservation of the places and objects they left behind.

The Society holds monthly meetings between October and April, attracting speakers who are in the forefront of archaeological and historical research. Occasionally members join in trips to historical and archaeological sites.

A monthly newsletter, Facebook page, and website keep members abreast of our events and happenings.

The organization is a chapter of the Florida Anthropological Society, a statewide organization that publishes quarterly newsletters and a journal, *The Florida Anthropologist,* and holds an annual conference.

I want to help The Southwest Florida Archaeology Society preserve and interpret Florida's heritage!

Name (please print) _____

Address_____

City/Town_____ State _____ ZIP _____

Phone _____ Email _____

Check One:

Individual ($20) _____ Sustaining Individual ($50) _____ Family ($35) _____

Student ($5) _____ Life ($500) _____

Donation to Support SWFAS Speakers and Programs _____

Skills, training, interests: _____

I hereby agree to abide by the rules and bylaws of the Southwest Archaeological Society. I further release from any and all liability due to accident and injury to myself, dependents and any property owners cooperating with the society.

Signature: _____Date _____

Please make your check out to SWFAS and mail to:

Charlie Strader
SWFAS Treasurer
27655 Kent Road
Bonita Springs, FL 34135

REV. 12052017

FAS Membership Categories

Membership in the Society is open to all interested individuals who are willing to abide by the Florida Anthropological Society Statement of Ethical Responsibilities, which can be found on our website **fasweb.org.** *Membership is for one year.* SELECT LEVEL BELOW.

___Student*	$20	___Institutional	$50
___Regular	$40	___Sustaining	$100
___Family	$45		

*Student membership is open to graduate, undergraduate and high school students. A photocopy of your student ID must accompany payment. ****Add $25 for foreign addresses.**

Member Name:_____

Email:_____

Address:_____

City:_____State:_____ZIP:_____

Phone:_____ FAS Chapter:_____

Please choose how you wish to receive the quarterly journal, *The Florida Anthropologist*.

___Digital Only (via a password protected web link) Note: Student members only receive digital access.

___Both Digital and Printed

This is a Gift Membership from: _____

In addition to this Membership, I also wish to make a donation to:

$_____ Dot Moore/FAS Student Grant Fund $_____ Florida Archaeology Month Account

$_____ Florida Anthropologist Monograph Fund $ _____ Florida Anthropologist Endowment Fund

Total Enclosed: $_____

_____ I agree to abide by the Code of Ethics of the Florida Anthropological Society.

_____

Signature Date

Send Membership Form and Dues Payment to:

Florida Anthropological Society, P O Box 1561 Boynton Beach, FL 33425

You can join online or pay Membership dues renewals via PayPal on our website fasweb.org.

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