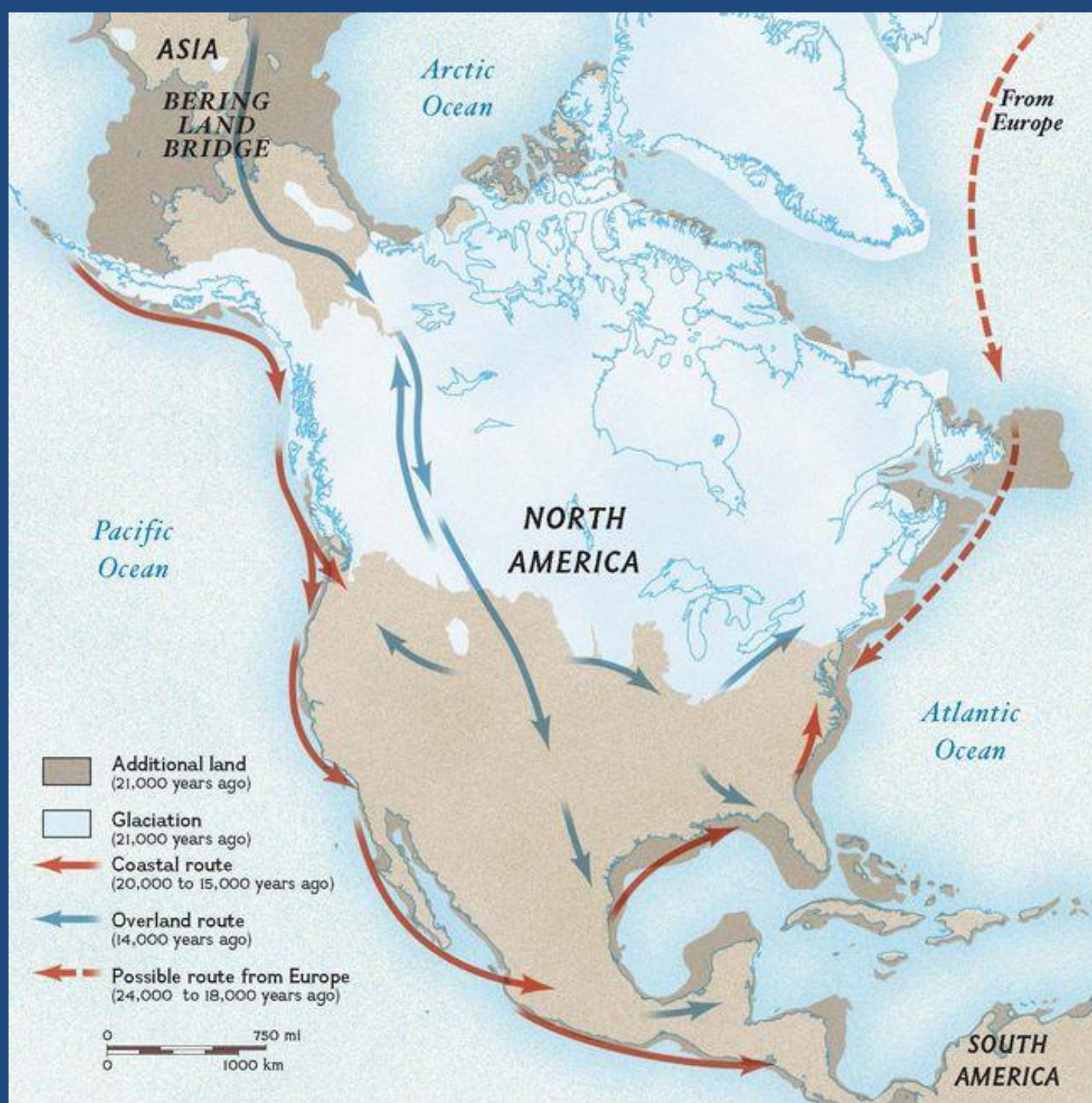
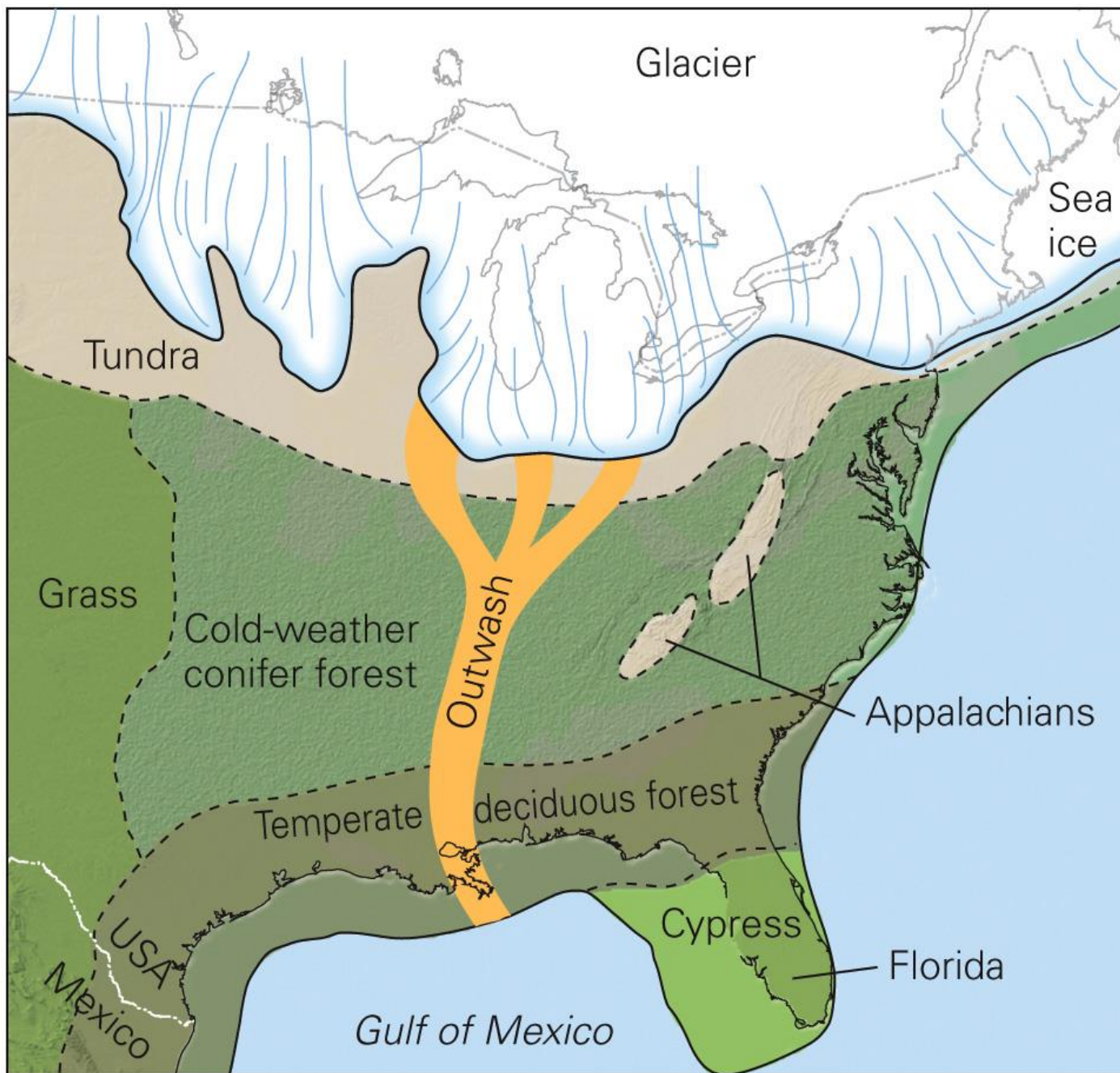


# Recent Developments in Florida Paleoindian and Early Archaic Archaeology

David K. Thulman, Ph.D.  
George Washington University  
President, Archaeological Research Cooperative, Inc.

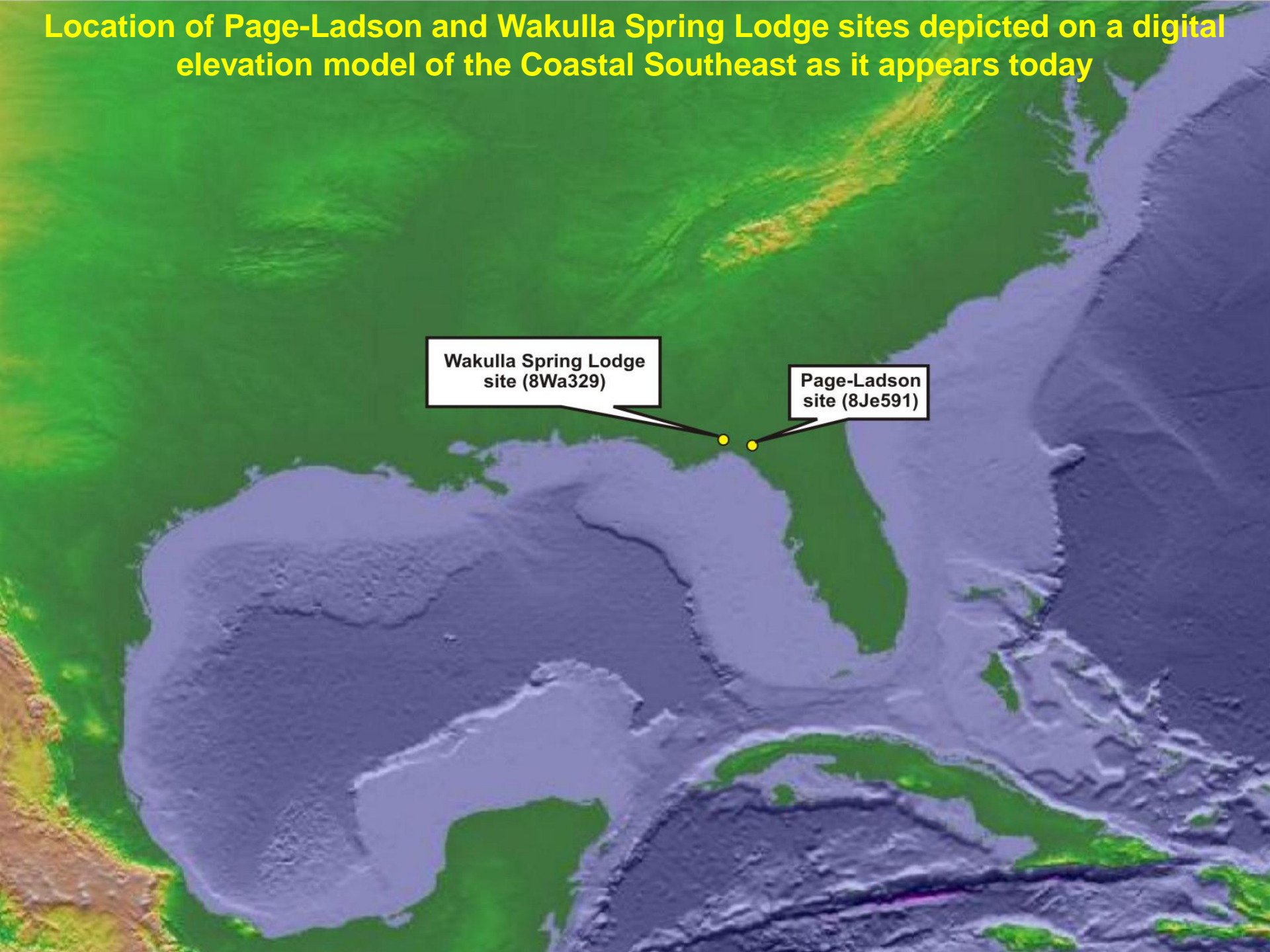








# Location of Page-Ladson and Wakulla Spring Lodge sites depicted on a digital elevation model of the Coastal Southeast as it appears today



Wakulla Spring Lodge  
site (8Wa329)

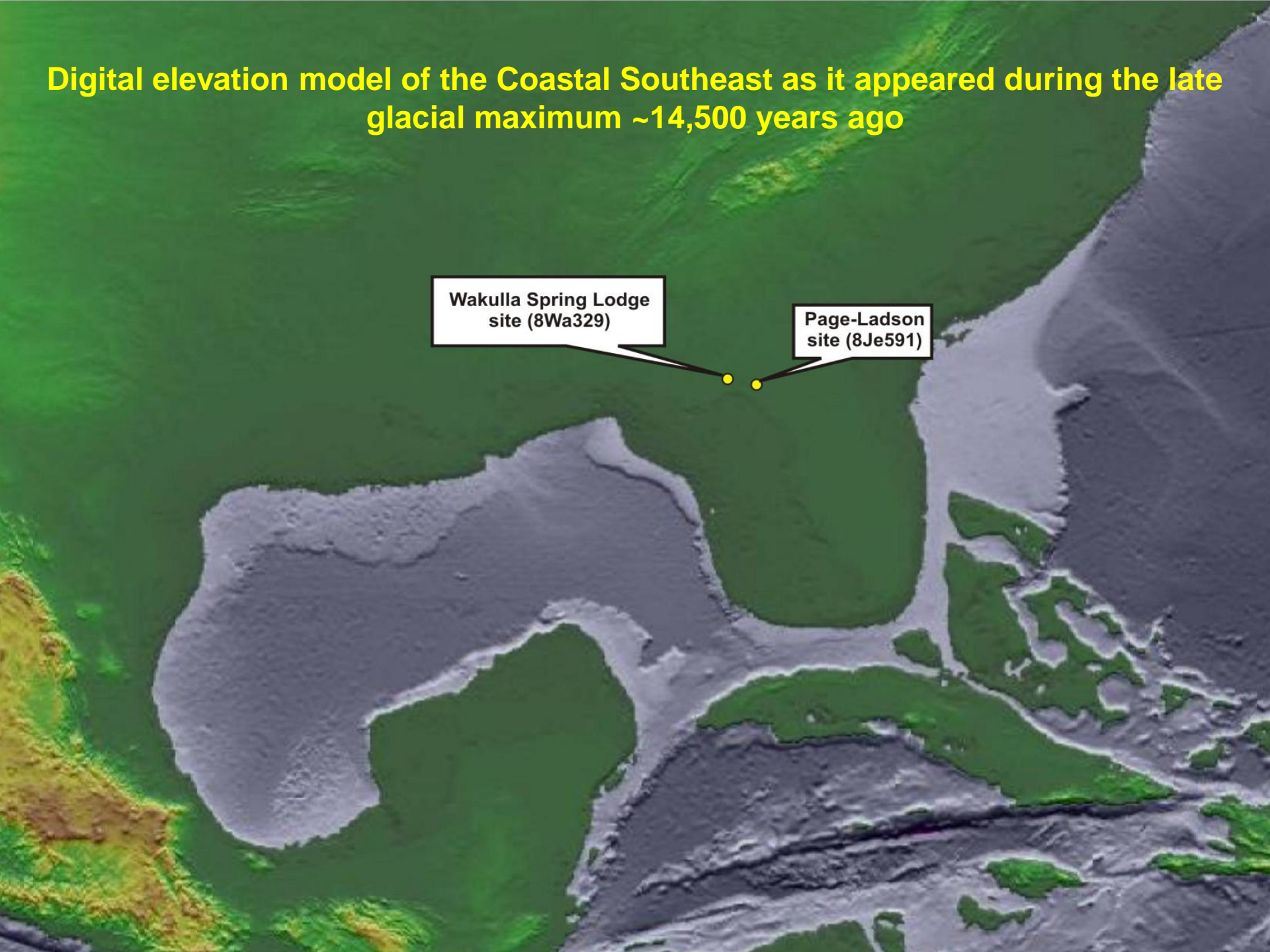
Page-Ladson  
site (8Je591)



**Digital elevation model of the Coastal Southeast as it appeared during the late glacial maximum ~14,500 years ago**

Wakulla Spring Lodge site (8Wa329)

Page-Ladson site (8Je591)







# Grasslands

# Scattered Sinkholes





# Santa Fe River, Florida

*Probably dry 14,000  
years ago*

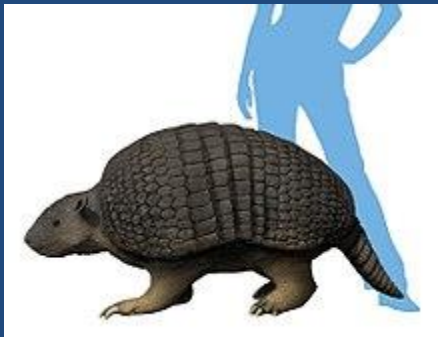




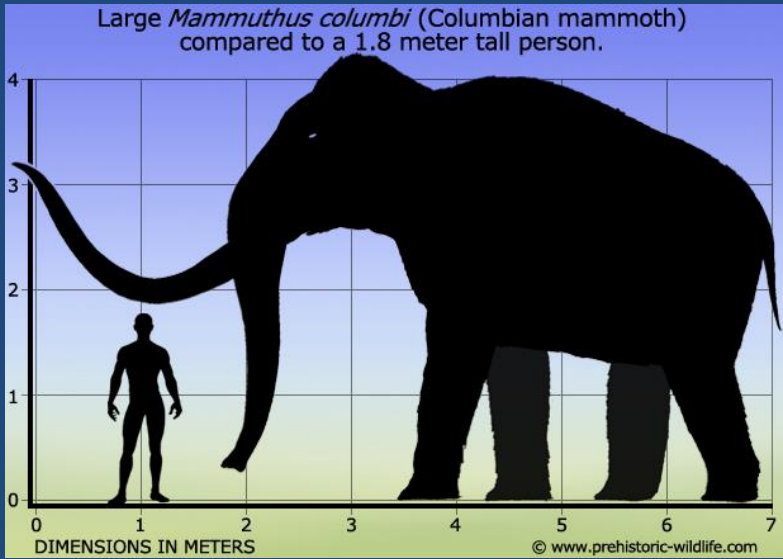
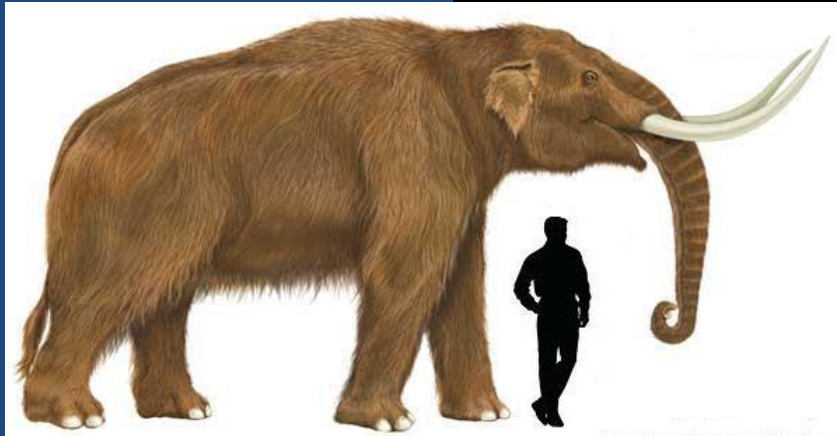


Hemiauchenia macrocephala

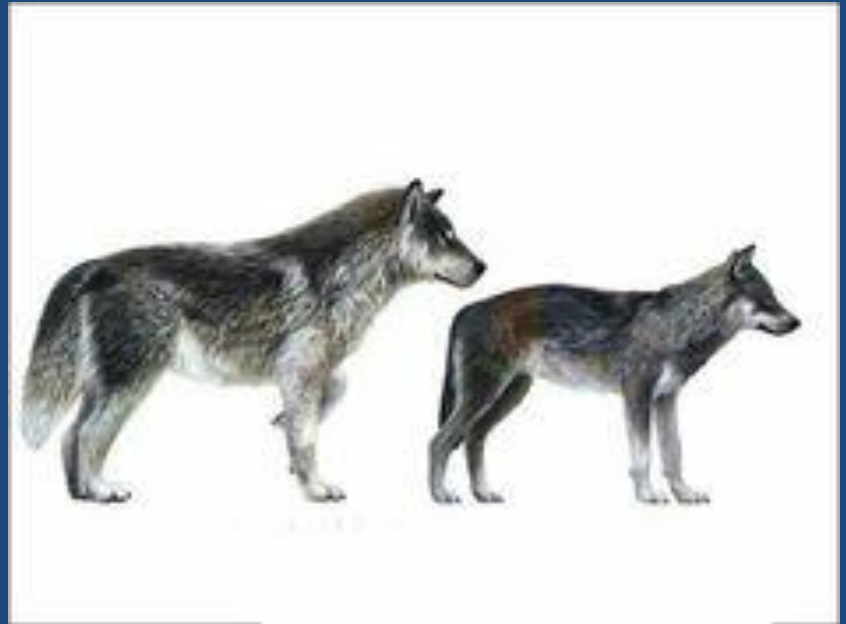
ROMAN UCHYTEL  
prehistoric-fauna.com



Bison antequus Human





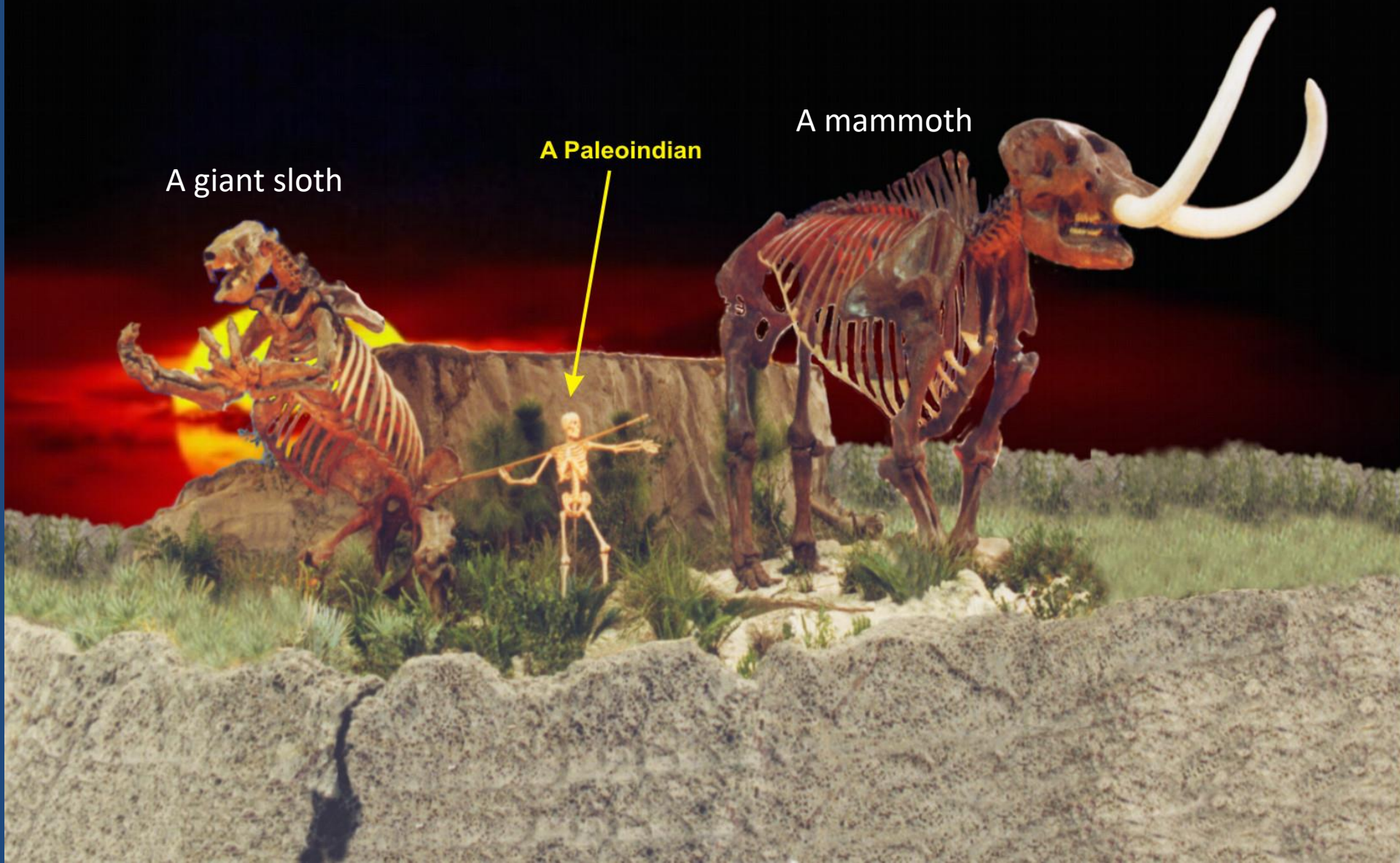


# Pleistocene Fauna to Scale!!

A giant sloth

A Paleoindian

A mammoth







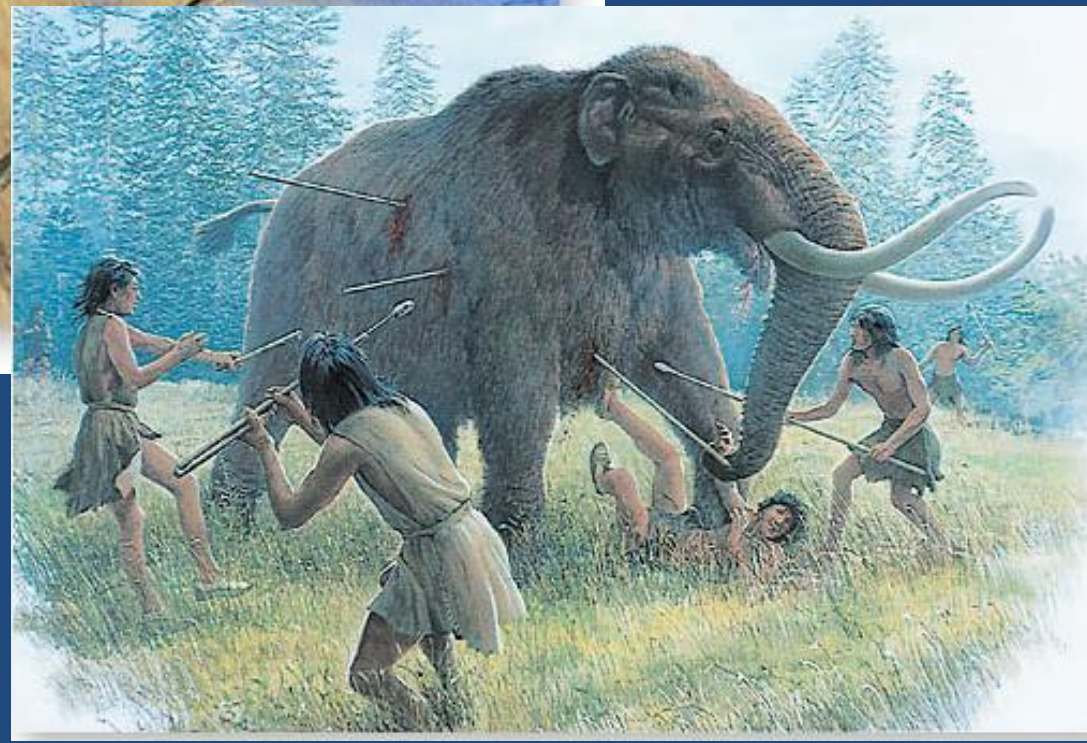


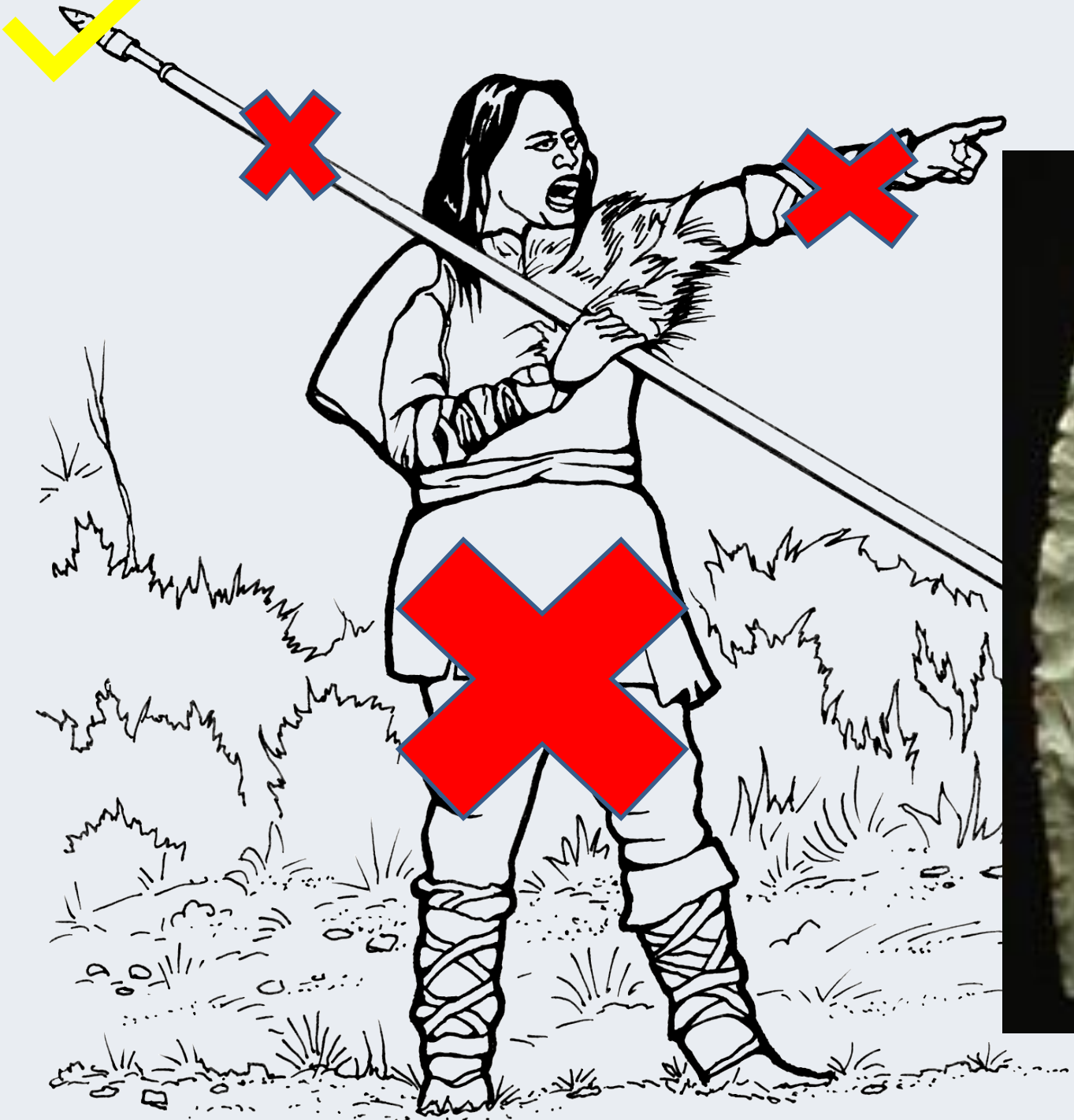






Ed Jackson

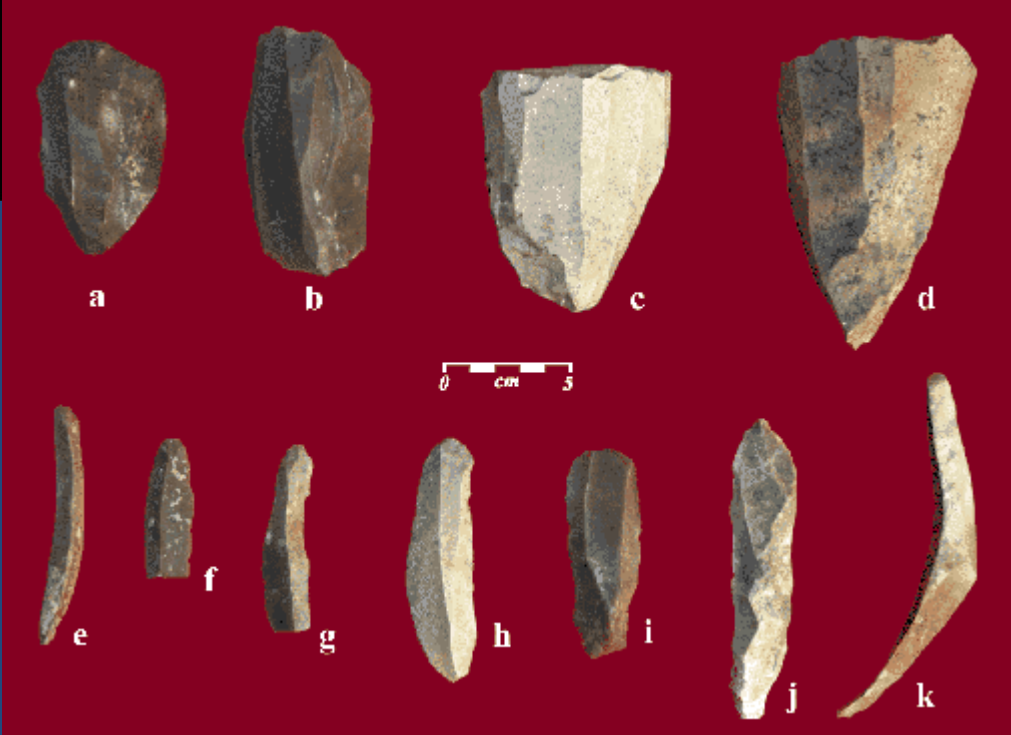






# Clovis Point ~ 13,000 years ago

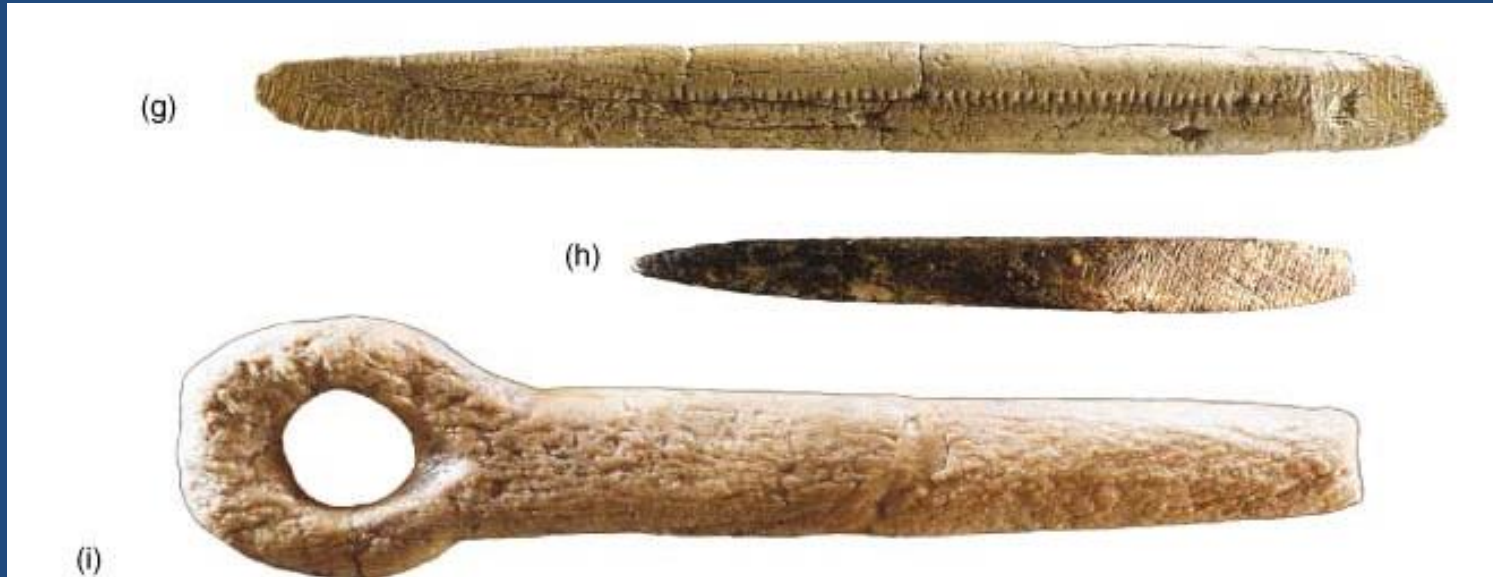




Not much to go on!



# A few organic tools



Where are 13,000 year old organic tools preserved?

Where it's cold and dry, like Alaska

Where it's been wet for 13,000 years,  
like Florida sinkholes



# Wakulla Springs



# Ben Waller



# Alvin Hendrix

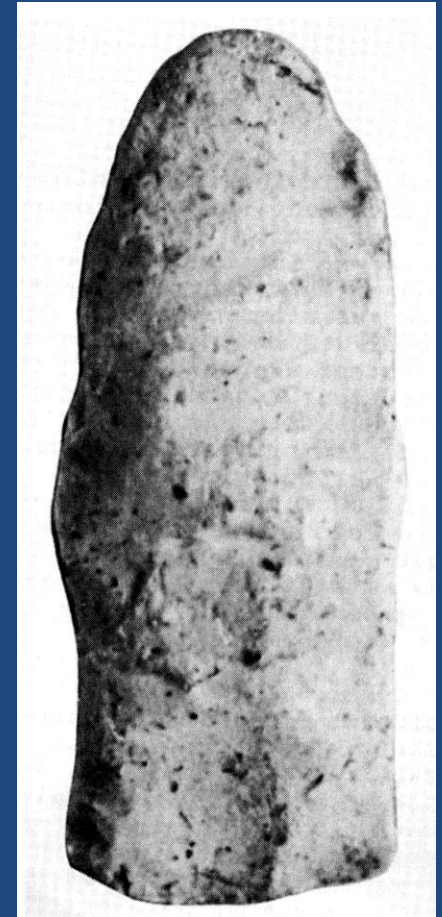


**Investigation of mammoth remains  
at Silver Spring, Florida in the early 1960s**





Guest Mammoth Site, Silver Springs



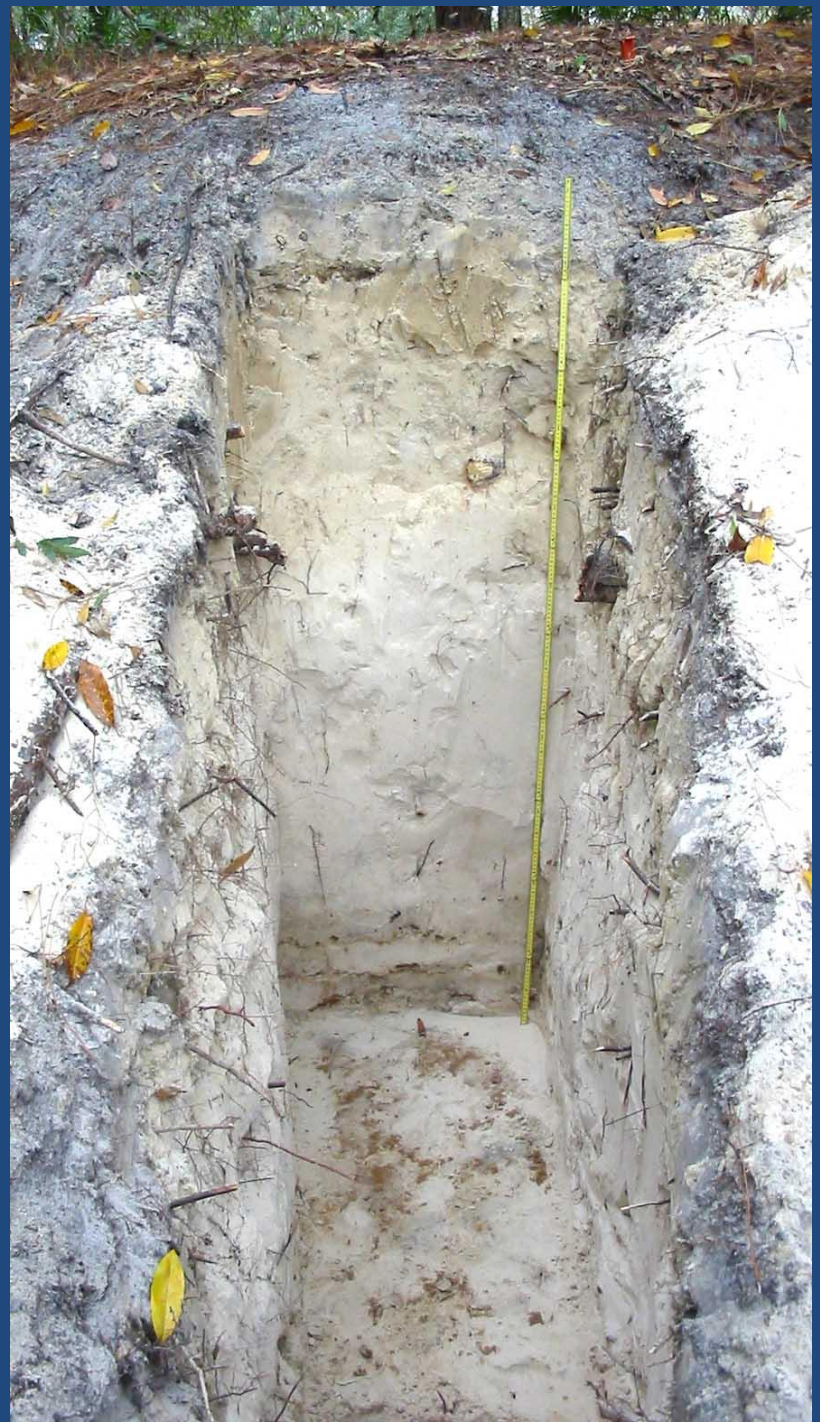






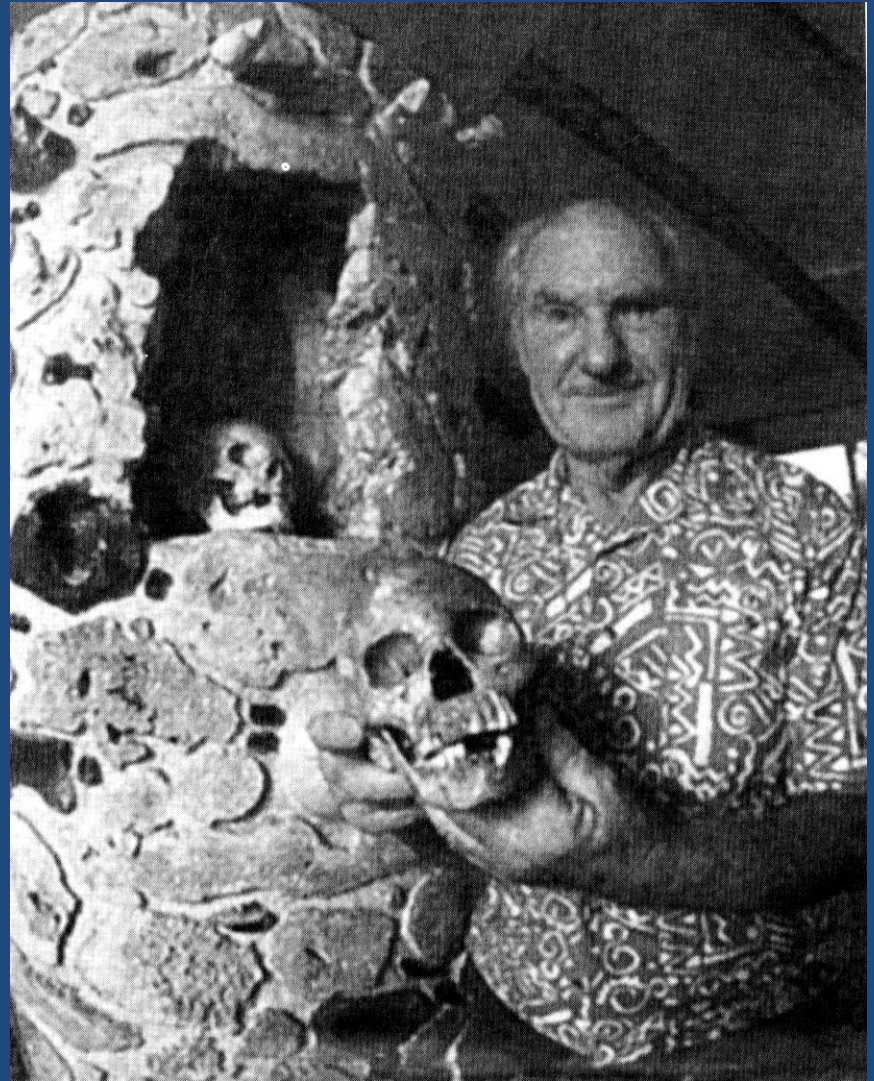


Silver Springs site, 2004





William Royal, Little Salt Springs





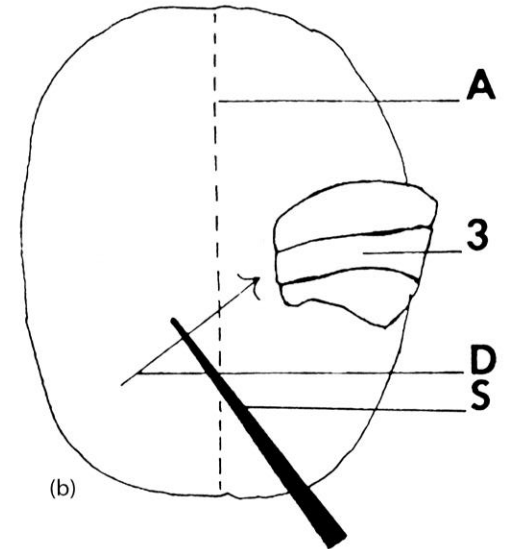
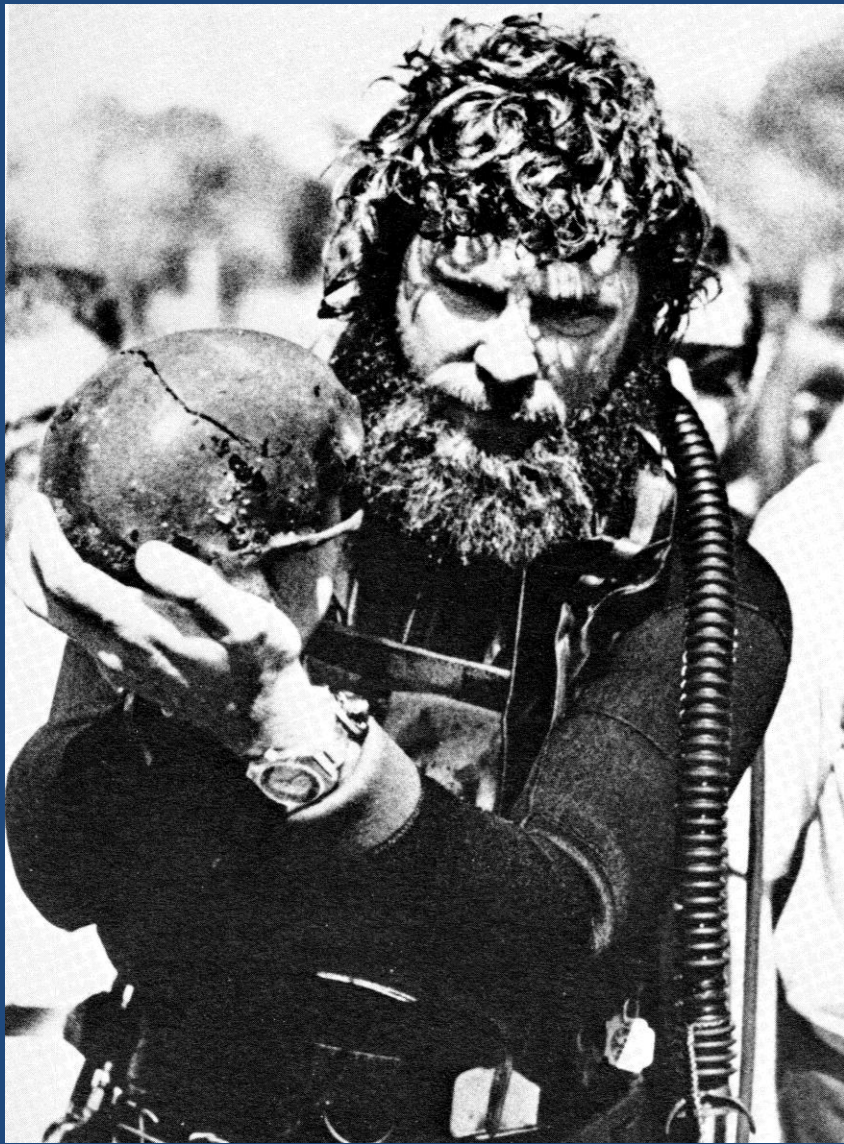


Fig. 2.23. (a) Wooden stake and (b) diagram showing its association with the giant land tortoise (*Geochelone crassiscutata*) (courtesy of John A. Gifford).

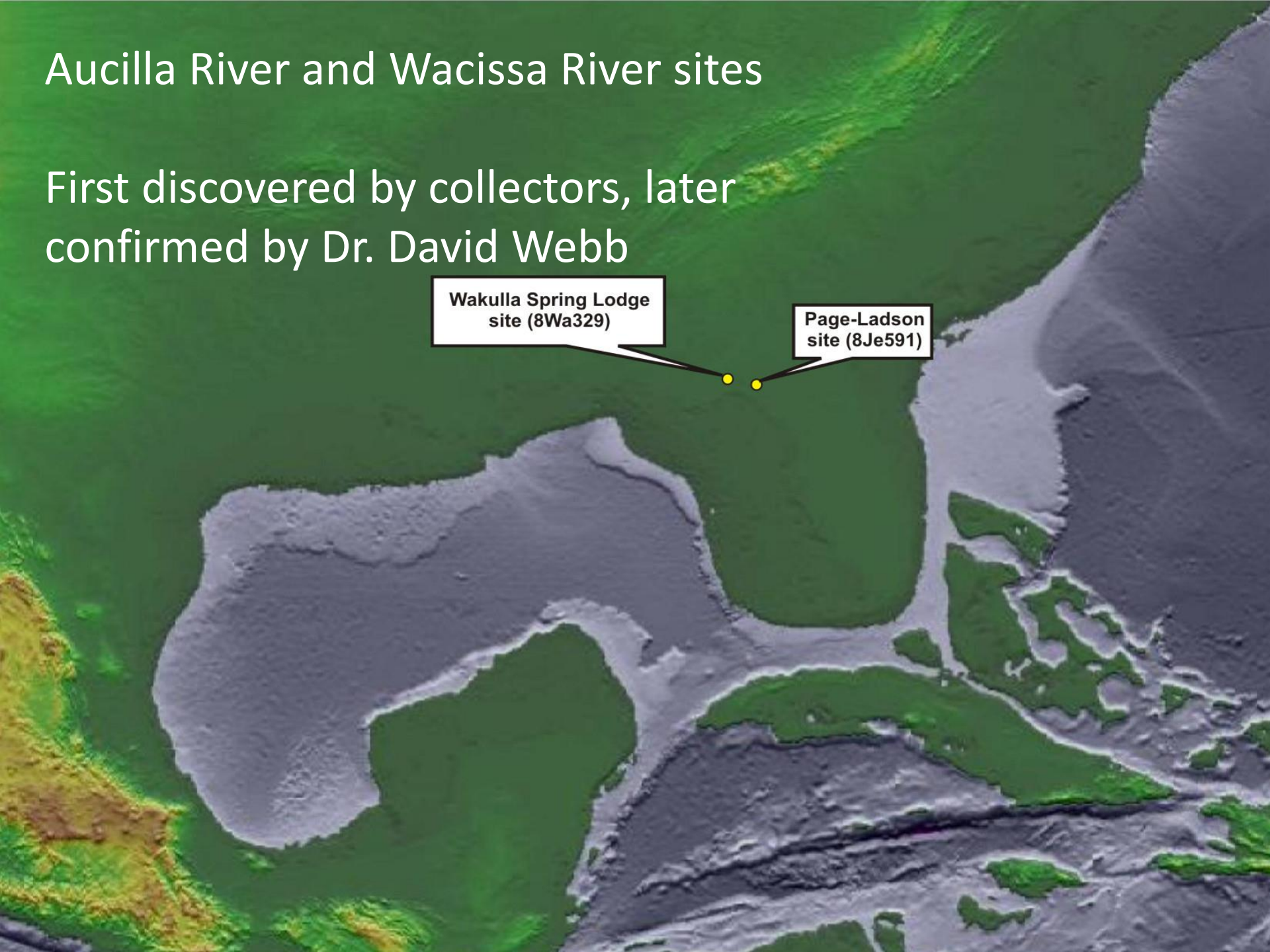


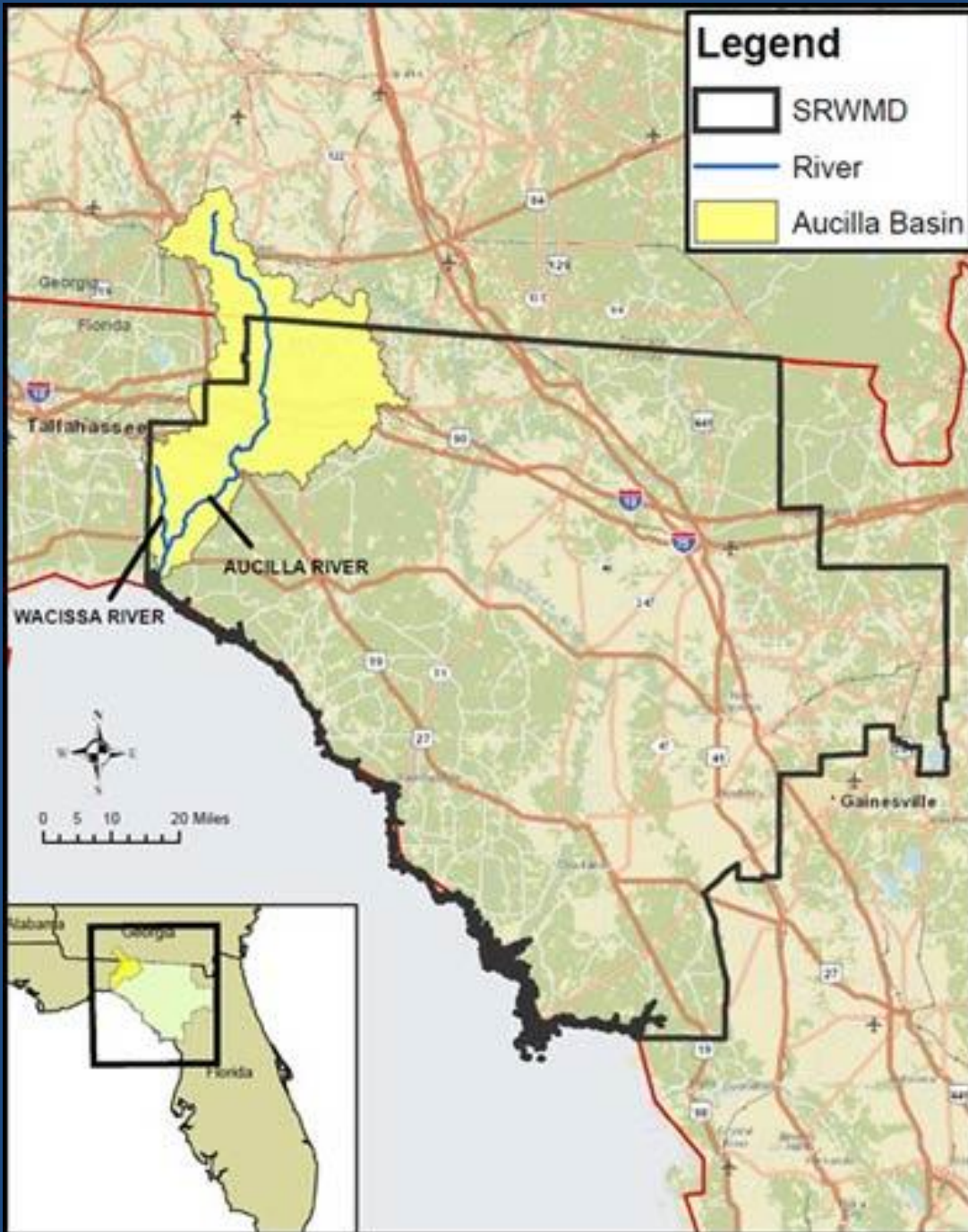
# Aucilla River and Wacissa River sites

First discovered by collectors, later confirmed by Dr. David Webb

Wakulla Spring Lodge site (8Wa329)

Page-Ladson site (8Je591)





Aucilla River

- Black water
- Sink holes
- Intersects the water table
- Single channel

Wacissa River

- Clear water
- Spring fed
- Many channels



Aucilla River

Dark water

Series of Sinkholes

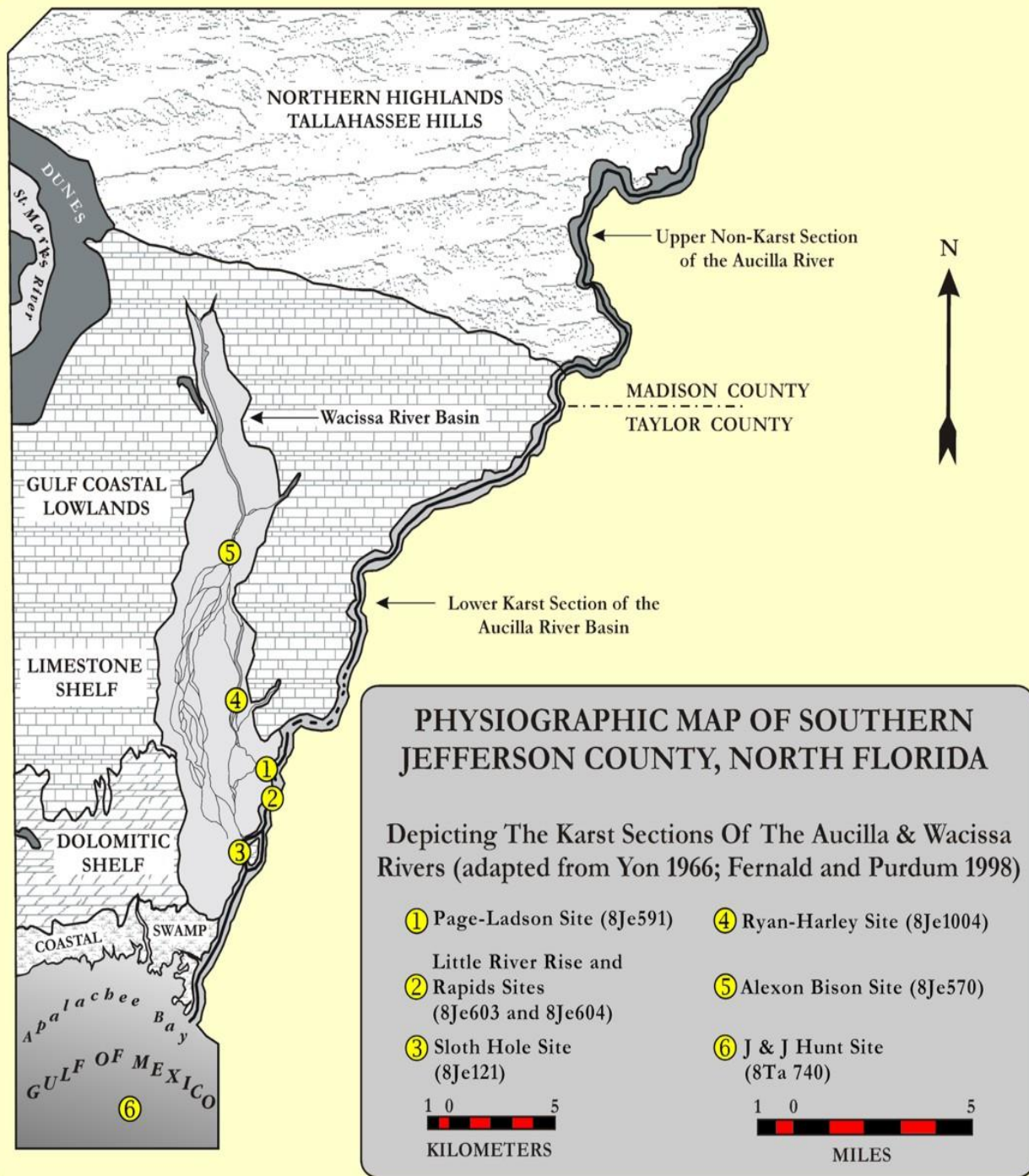
A mammoth or mastodon skeleton in the bottom of each sinkhole

Wacissa R.

Clear water

Spring fed

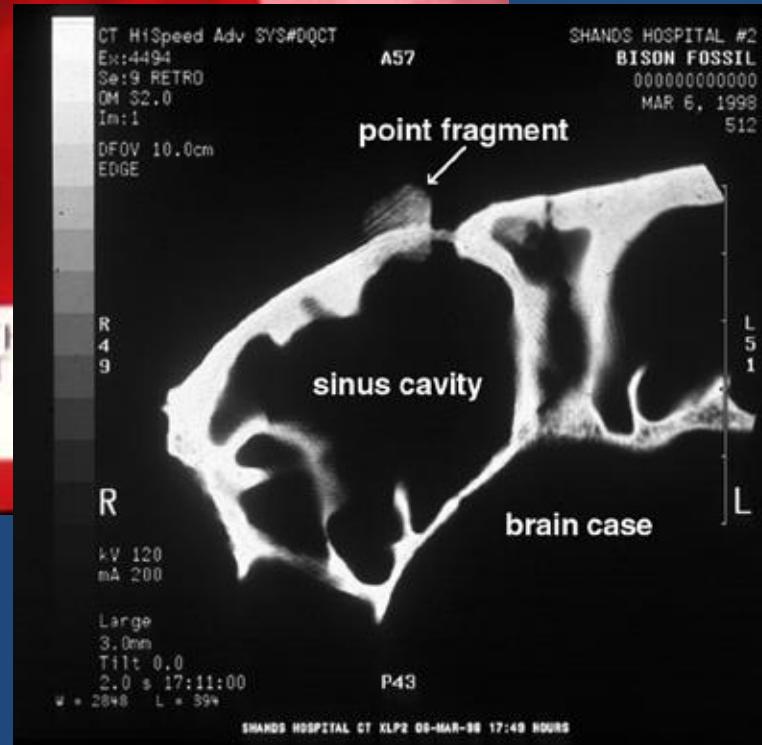
No sinkholes







11,000 YEAR OLD BISON SKULL WITH  
IMBEDDED SPEAR POINT FRAGMENT  
WACISSA RIVER FLORIDA



Axelon Bison Skull

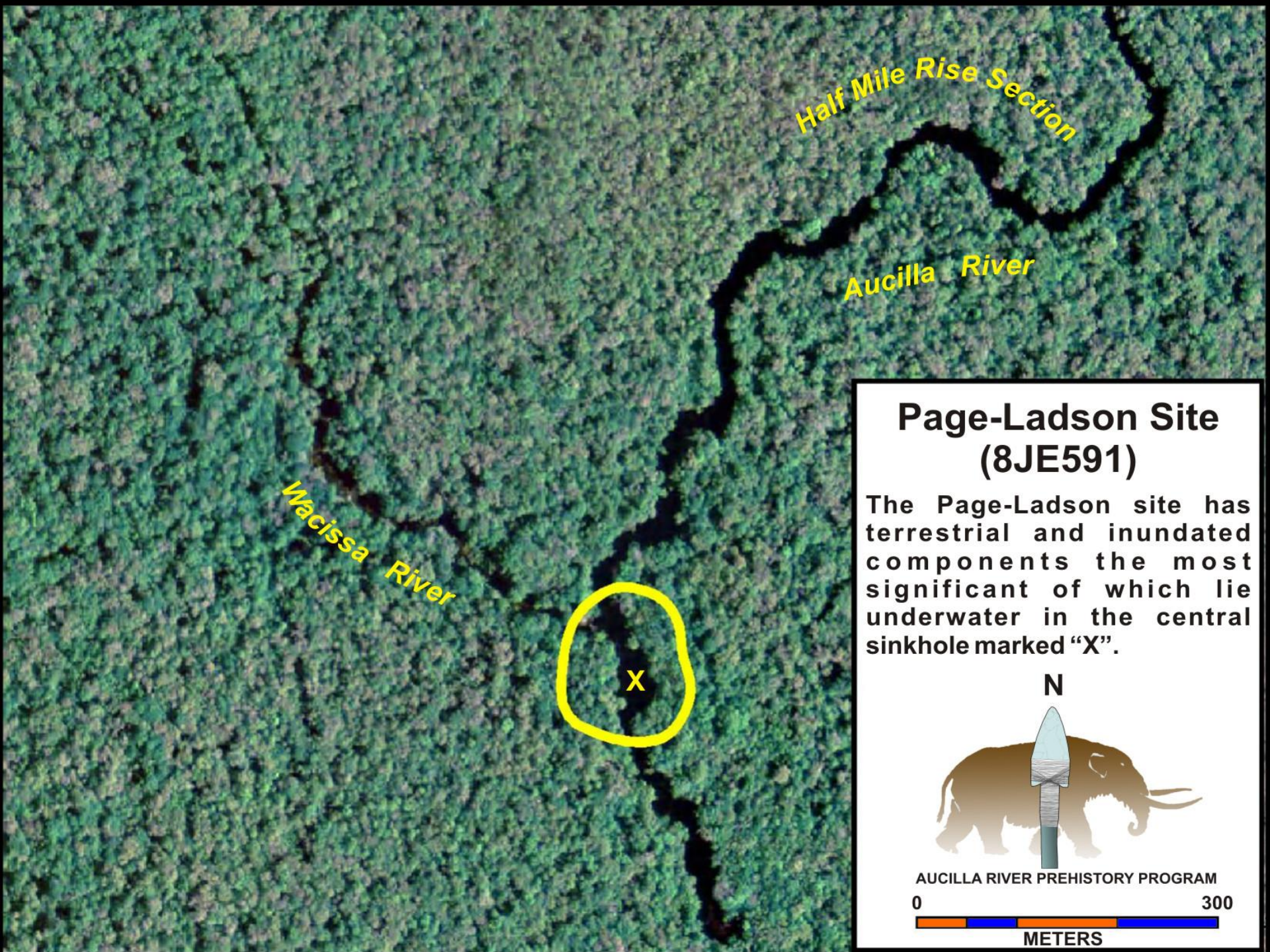




Dr. Dave Webb







Half Mile Rise Section

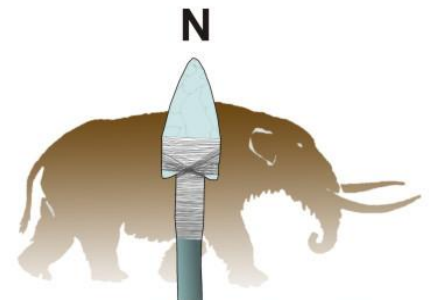
Aucilla River

Wacissa River



## Page-Ladson Site (8JE591)

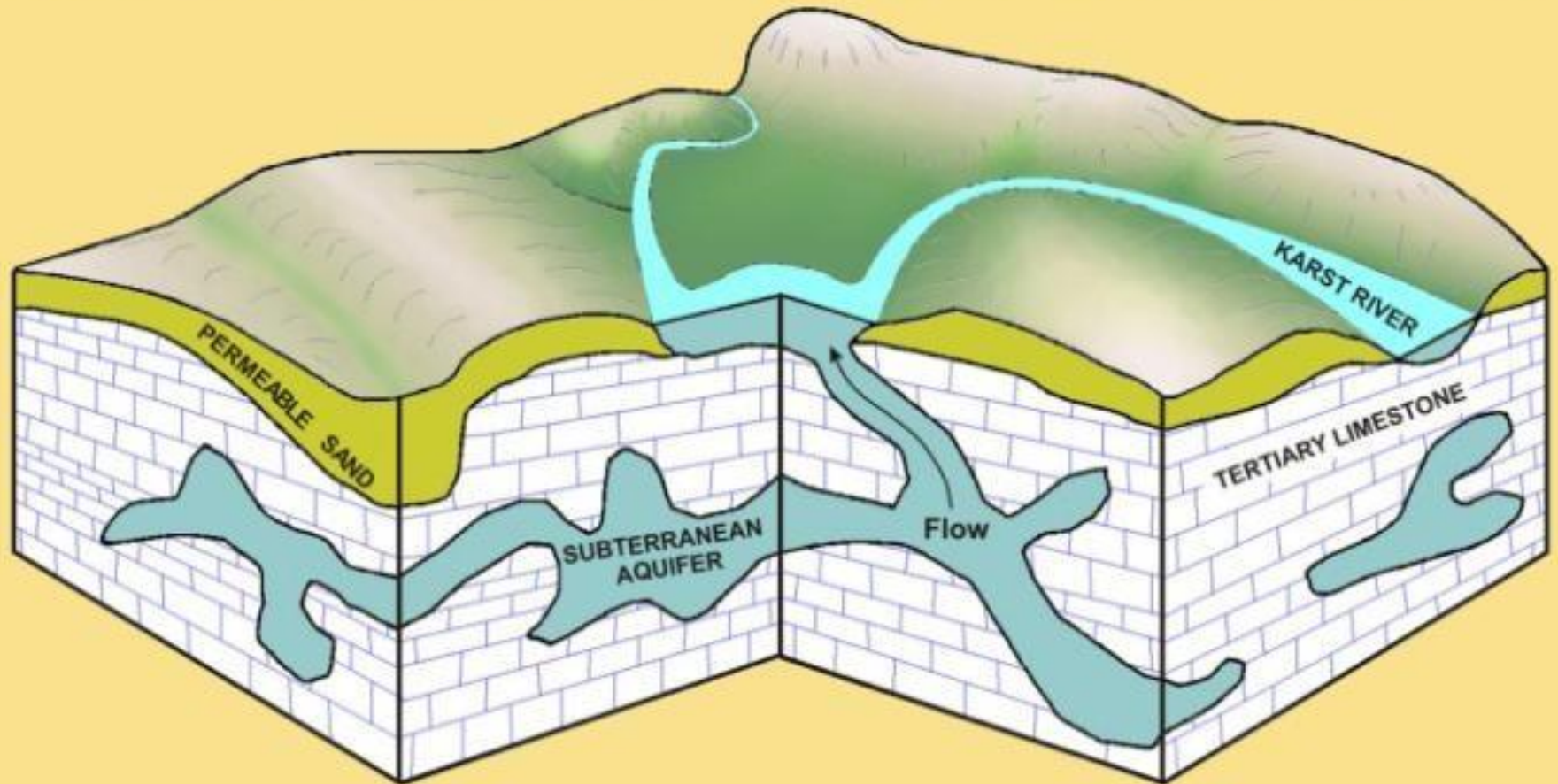
The Page-Ladson site has terrestrial and inundated components the most significant of which lie underwater in the central sinkhole marked "X".



AUCILLA RIVER PREHISTORY PROGRAM  
0 300  
METERS



# TERTIARY KARST REGION SHOWING MODERN LEVEL OF THE FLORIDAN AQUIFER

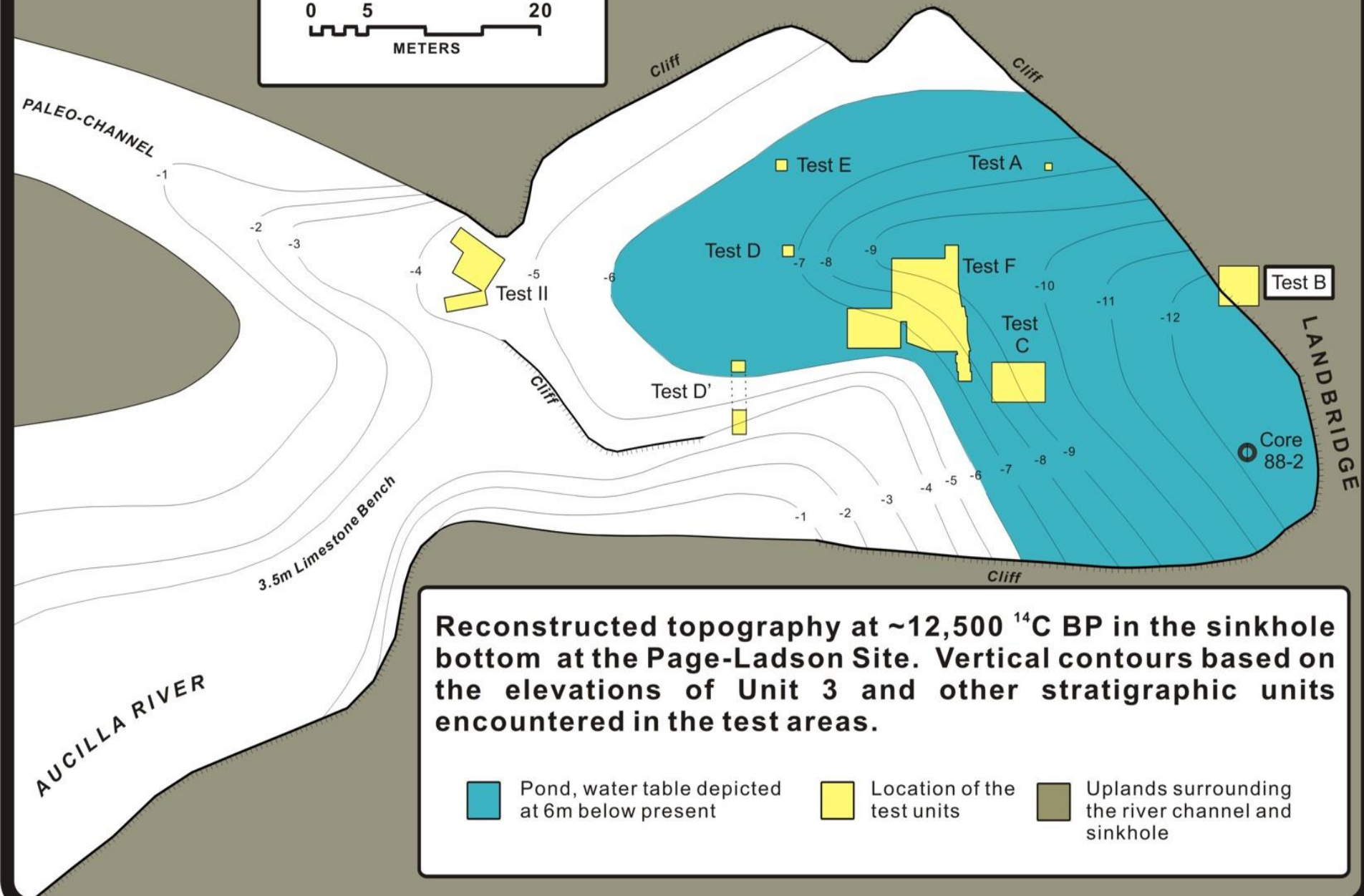
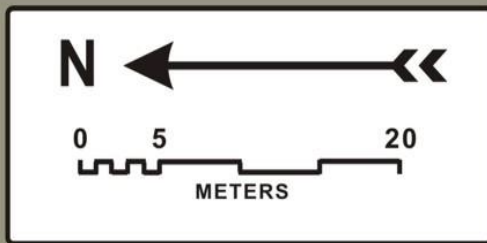


In times of low water, the Aucilla would be a series of sinkholes












**Reconstructed topography at  $\sim 12,500$   $^{14}\text{C}$  BP in the sinkhole bottom at the Page-Ladson Site. Vertical contours based on the elevations of Unit 3 and other stratigraphic units encountered in the test areas.**

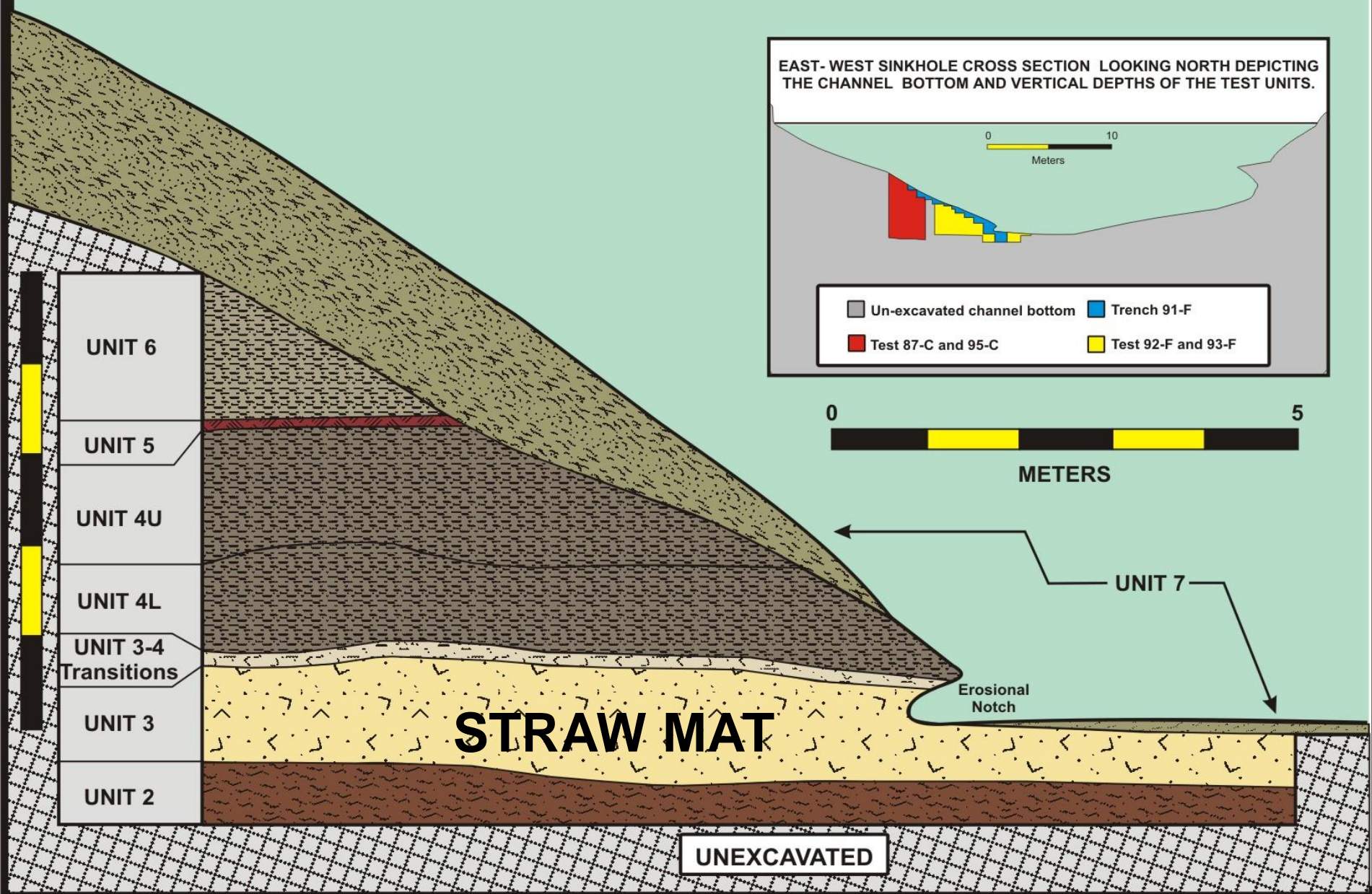
 Pond, water table depicted at 6m below present

 Location of the test units

 Uplands surrounding the river channel and sinkhole

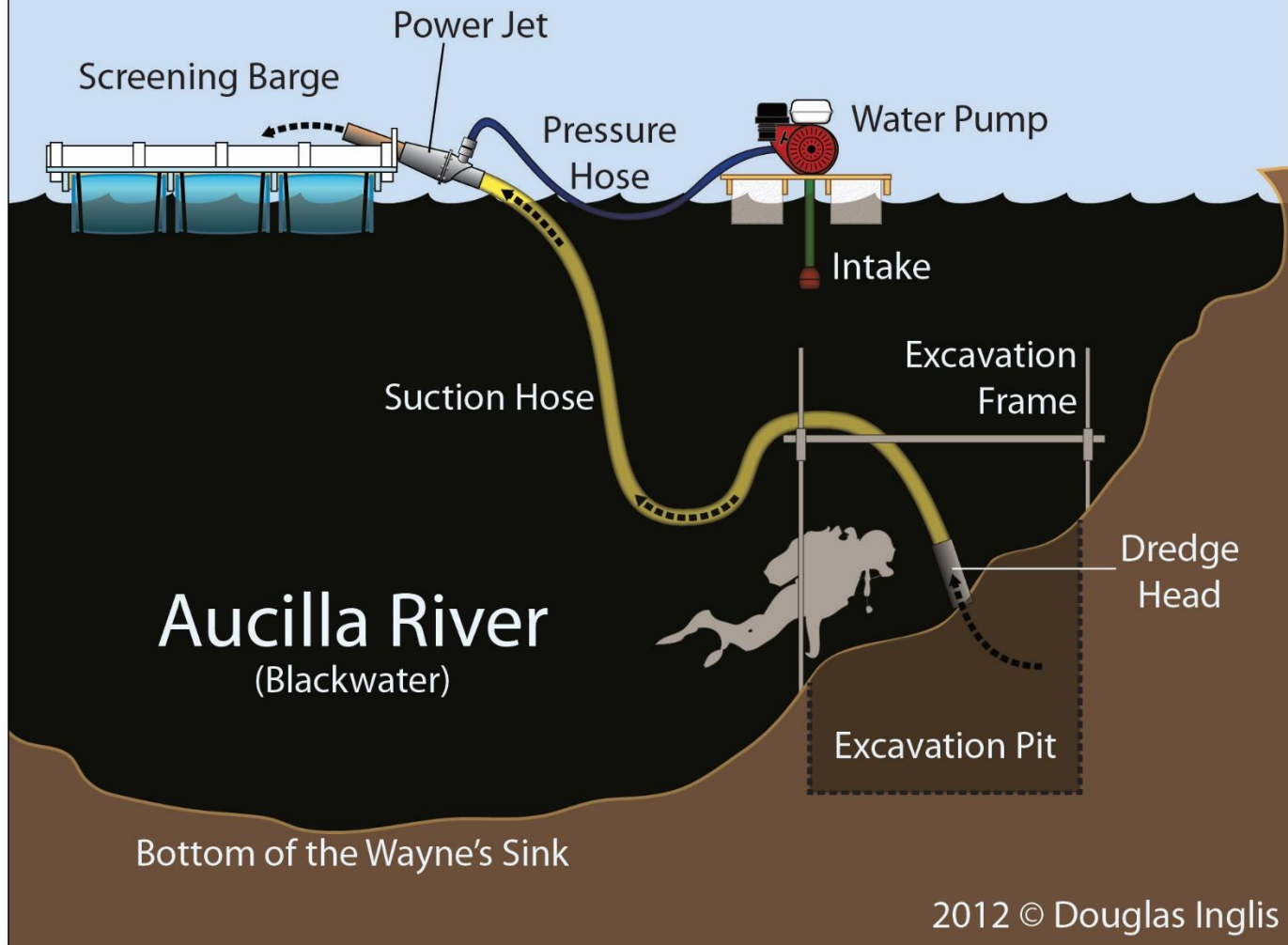


# PAGE-LADSON SITE (8JE591) COMPOSITE STRATIGRAPHIC SECTION TEST C, TRENCH 91-F AND TEST F - LOOKING NORTH



# Archaeology on the Aucilla

## Dredging Configuration





































# Pre-Clovis

Controversial

Bad Context

Questionable Artifacts

Not many sites

Questionable Dates

***You need Old Dirt***



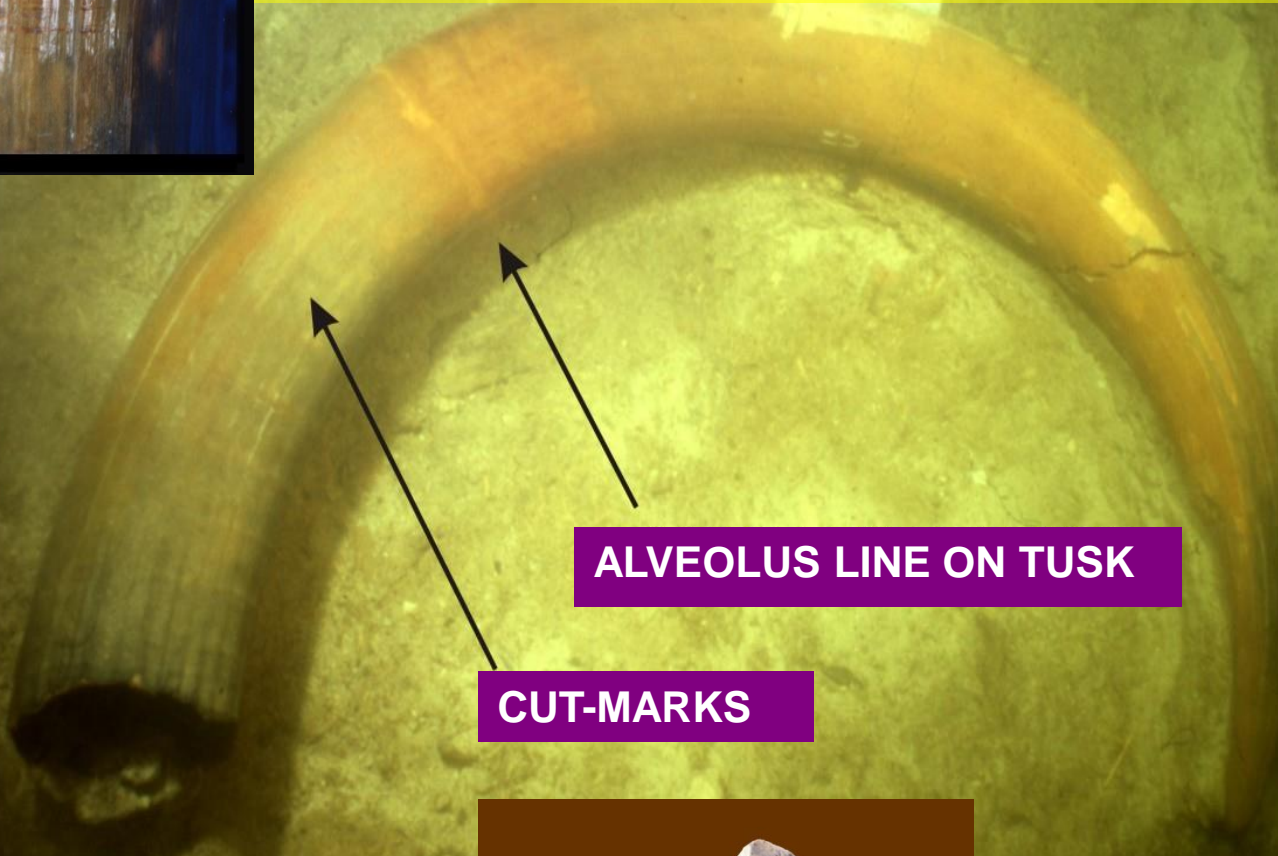


Mastodon Digesta



CUT-MARK CLOSEUP

# PRE OR OLD CLOVIS COMPONENT, UNIT 3, AT THE PAGE-LADSON SITE (8JE591) DEPICTING BUTCHER-MARKED MASTODON TUSK *IN SITU*



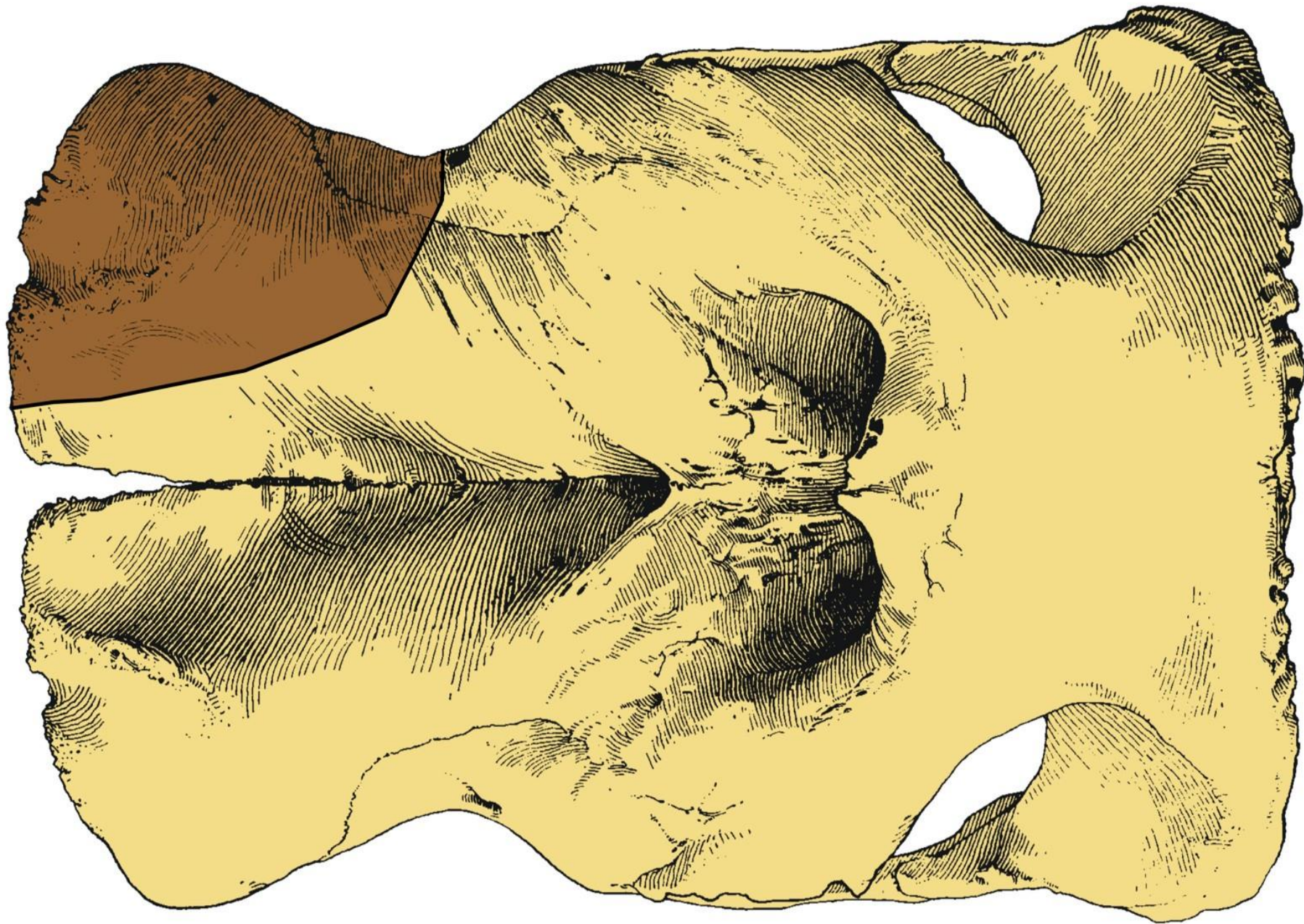
ALVEOLUS LINE ON TUSK

CUT-MARKS



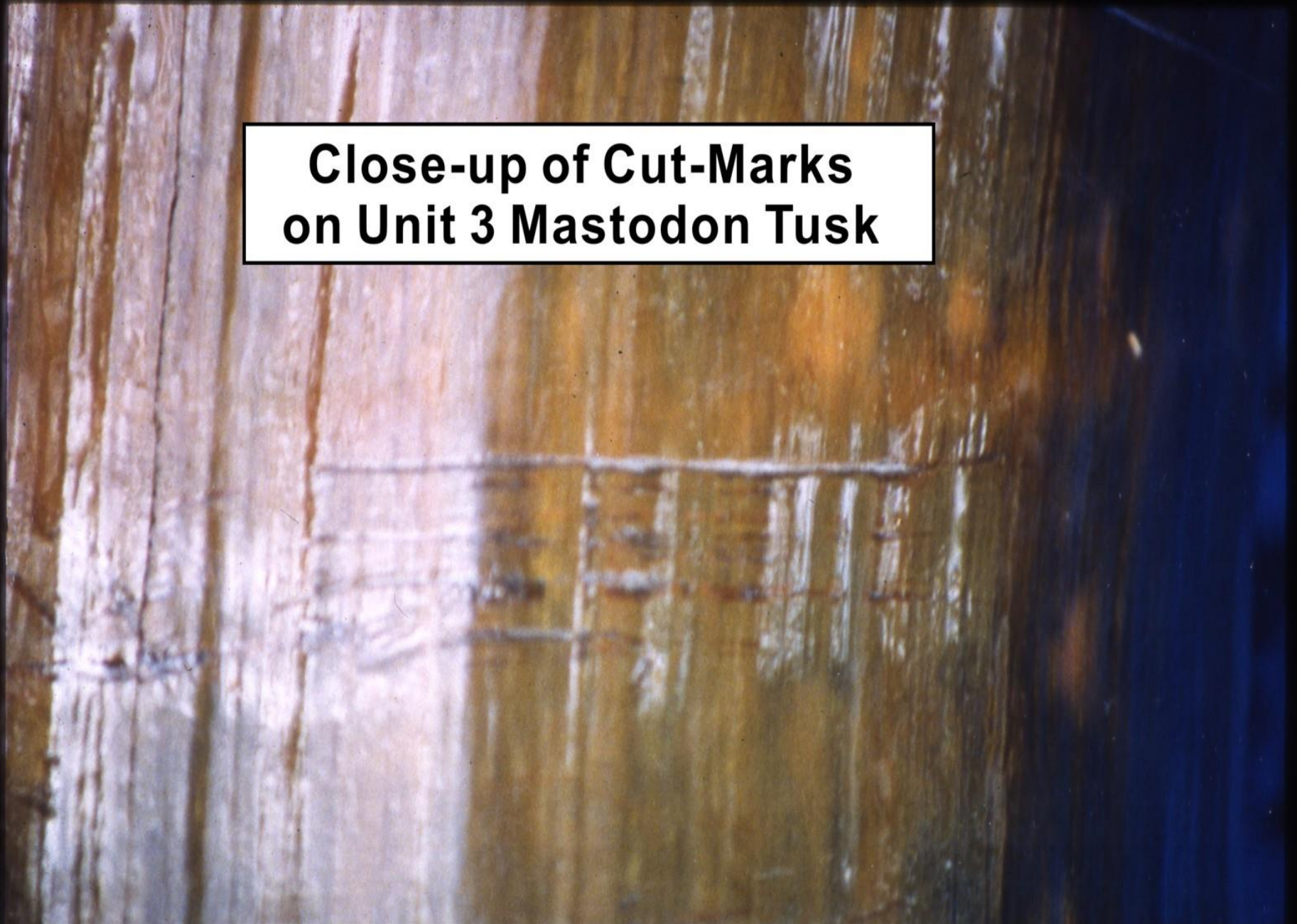
ALSO DEPICTING ASSOCIATED LITHIC DEBITAGE



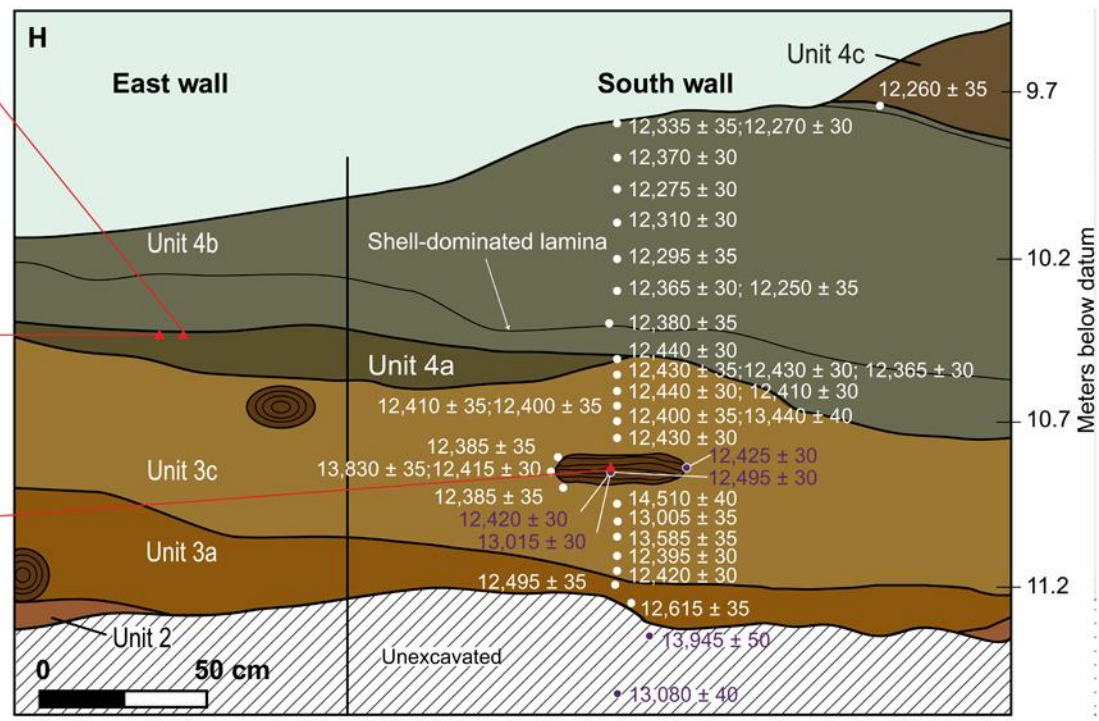
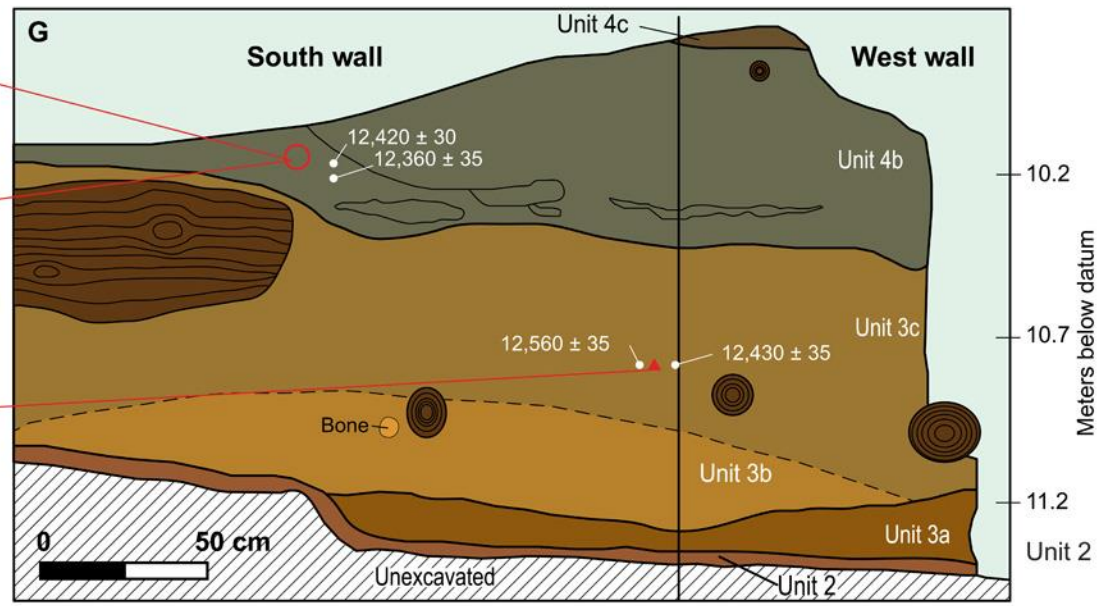




**Close-up of Cut-Marks  
on Unit 3 Mastodon Tusk**





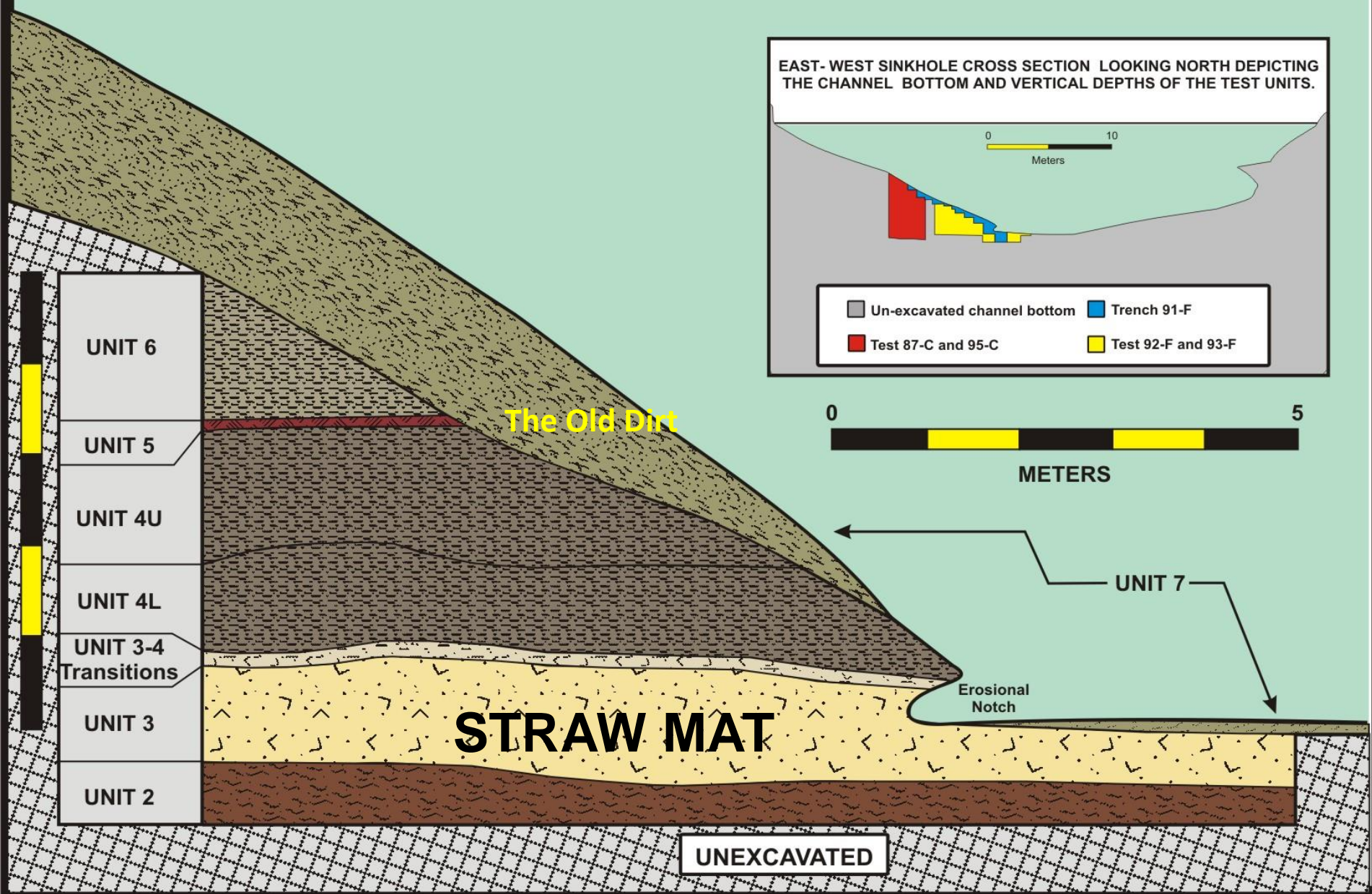








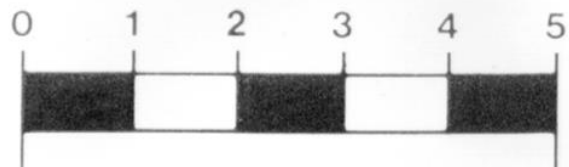
# PAGE-LADSON SITE (8JE591) COMPOSITE STRATIGRAPHIC SECTION TEST C, TRENCH 91-F AND TEST F - LOOKING NORTH



# Bolen surface ca. 11,500 B.P.







# EARLY ARCHAIC BOLEN ARTIFACTS RECOVERED IN SITU FROM THE "BOLEN SURFACE" TEST C



A



B



C



A. IMPACT FRACTURED BOLEN BEVELED  
B. IMPACT FRACTURED BOLEN BEVELED  
C. EXTENSIVELY RE-SHA-RPENED BOLEN BEVELED

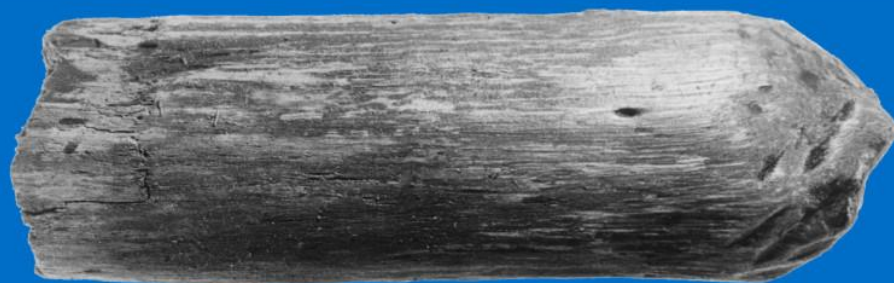
FLORIDA BUREAU OF  
ARCHAEOLOGICAL RESEARCH



BONE PIN



CARVED HICKORY STAKE



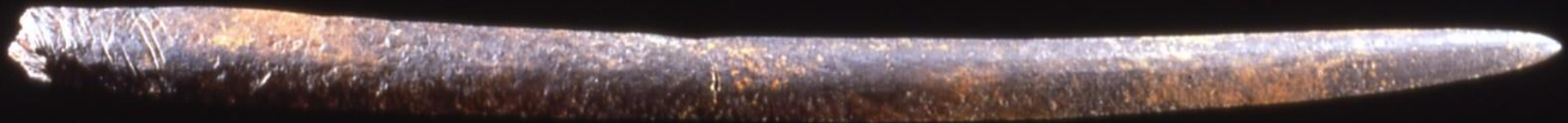
IN SITU WOOD STAKE BEFORE RECOVERY







# Three Views Of An Ivory Foreshaft From The Aucilla River North Florida







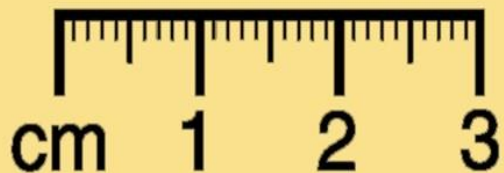


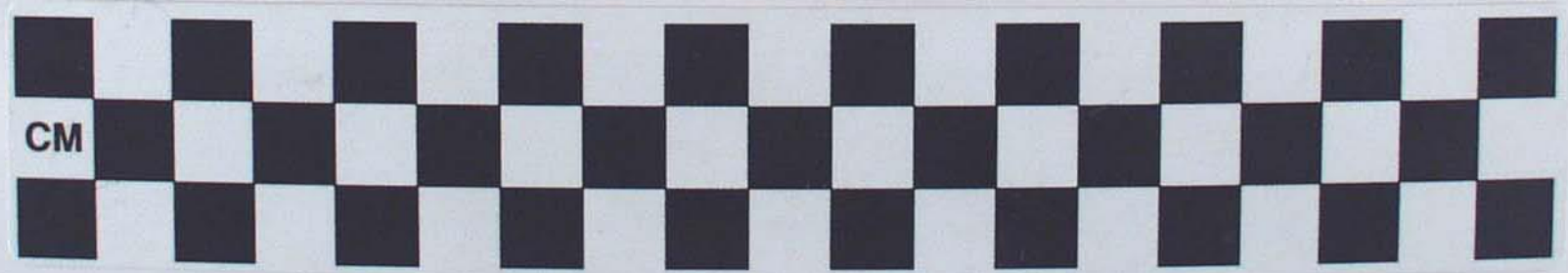


# BARBED IVORY HARPOON FROM THE AUCILLA RIVER



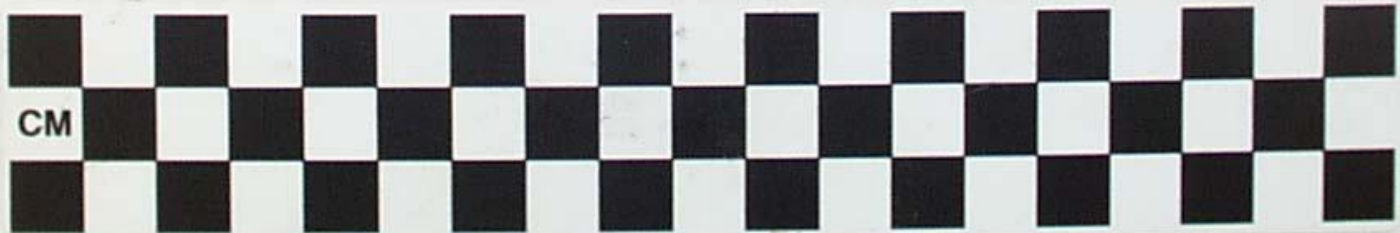
*Florida Bureau of  
Archaeological Research*





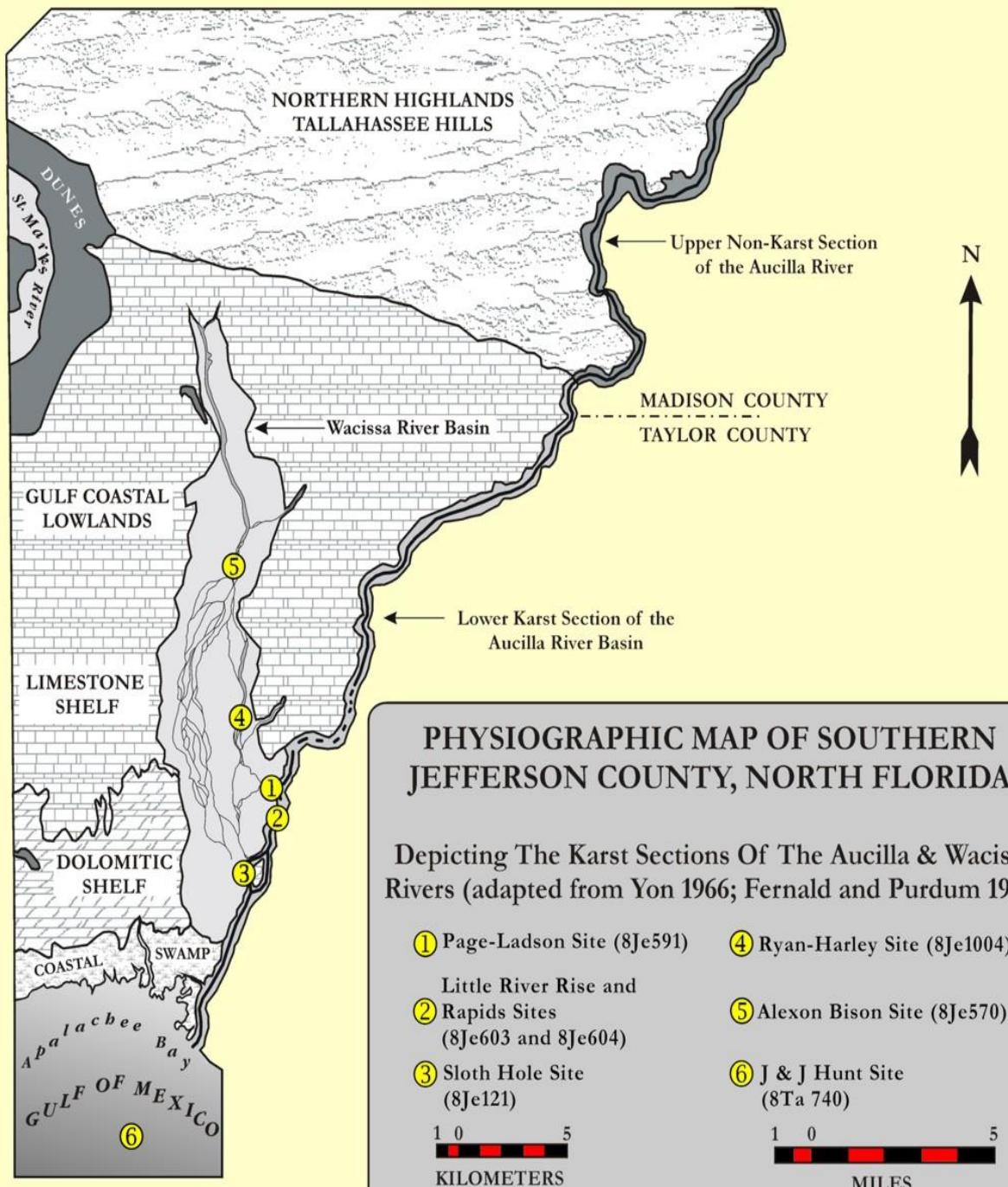












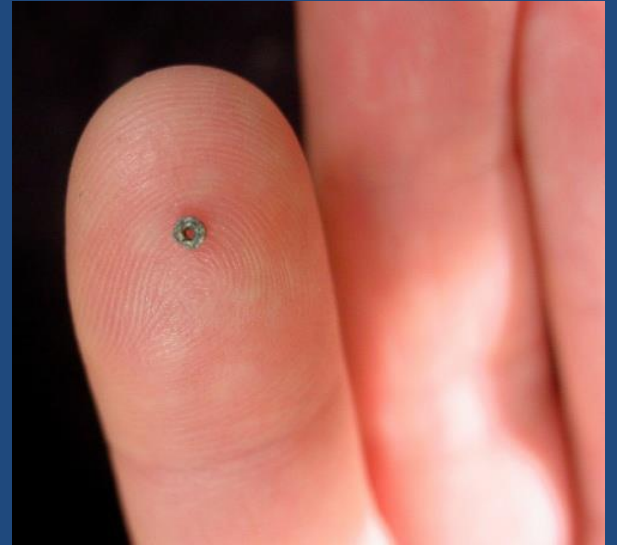


# Ryan-Harley Site

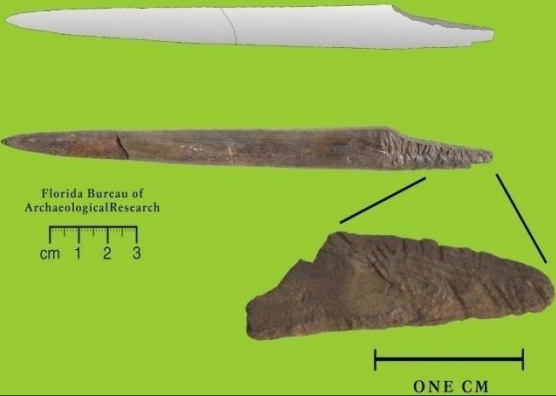
Ryan-Harley Site (8Je1004)  
Suwannee Points from Displaced Context



Florida Bureau of  
Archaeological Research



IVORY SHAFT  
OF MASTODON TUSK



# Recent and Future Work in Paleoindian Studies

Revisiting classic sites

Settlement patterns

Typology

Looking for organic preservation

Offshore exploration



**CLUES FOUND  
RECENTLY BY  
FSU UNDERWATER  
ARCHAEOLOGISTS  
OFFER THE FIRST  
PROOF OF FLORIDA'S  
EARLIEST COASTAL  
DWELLERS**



Preparing clay to be used to make molds of artifacts.



Mastodon teeth are a common find in Apalachee Bay.



Students Learn the discipline of taking detailed field notes.

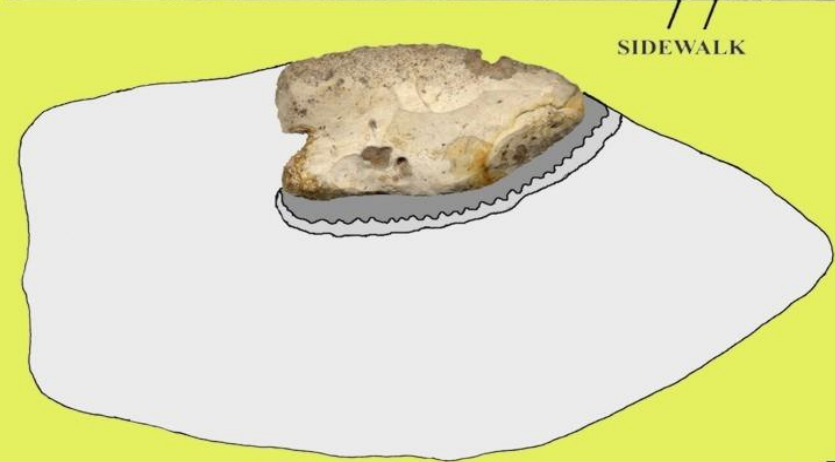
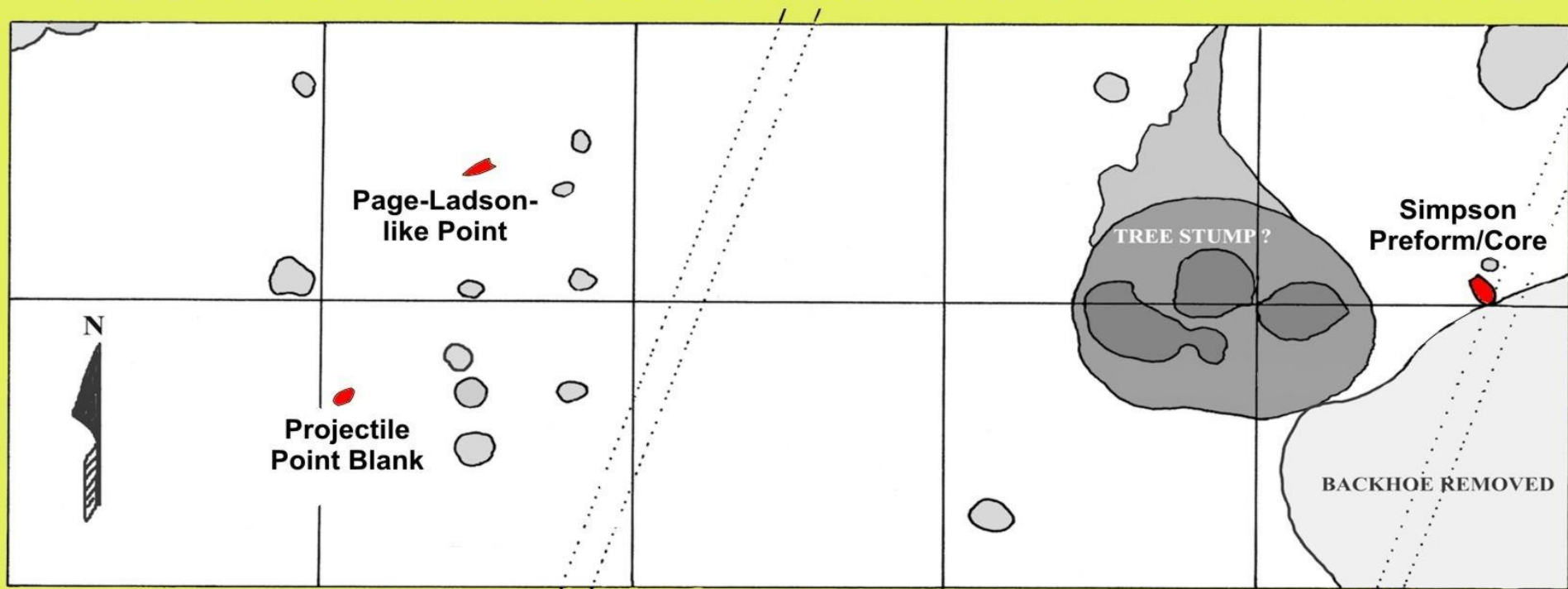
Offshore  
investigations on  
the Paleo-Aucilla



**WAKULLA SPRINGS LODGE  
SITE SIMPSON PREFORM**



# DIAGNOSTIC BIFACES FROM THE SIMPSON LEVEL, WA329



PROJECTILE POINT BLANK  
FROM BIFACE CORE



PAGE-LADSON  
POINT MADE FROM  
BIFACIAL CORE FLAKE



BIFACE SIMPSON PREFORME/CORE

# Vero Beach





# Windover Cemetery, Titusville ~8,000 years old

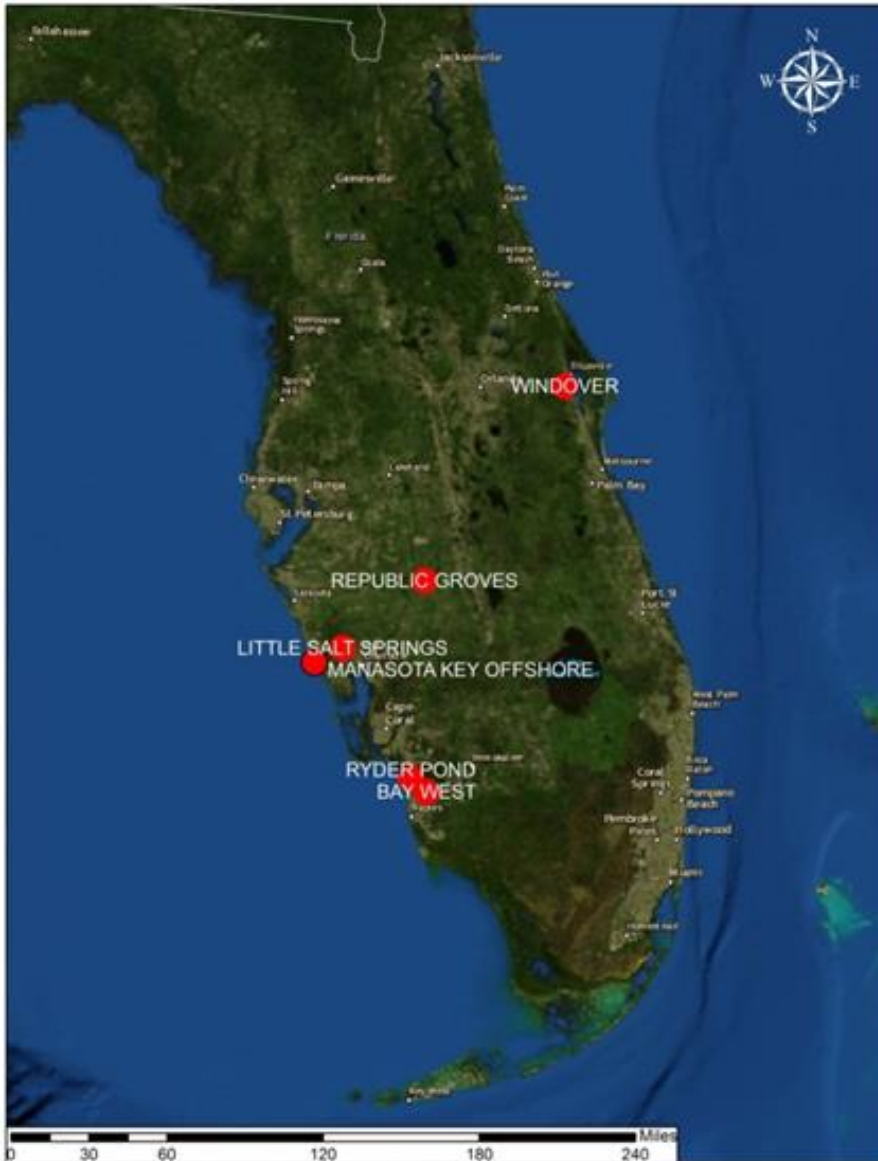




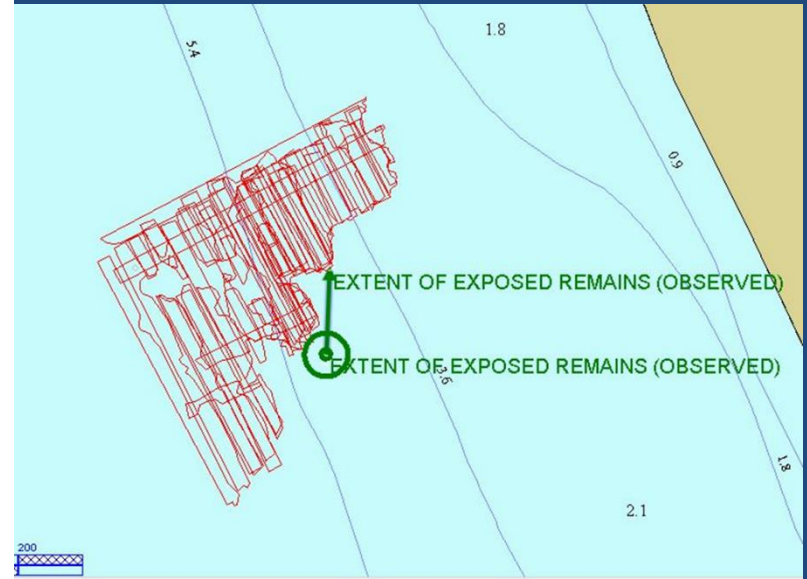




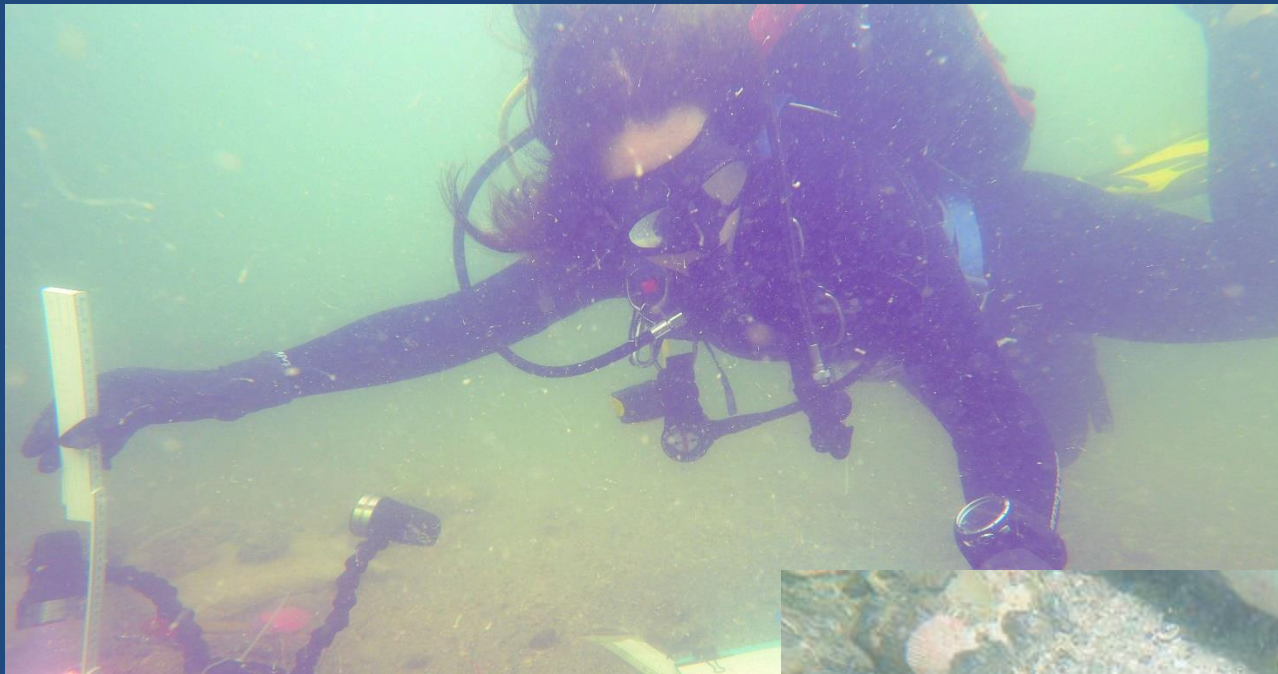
## Archaic Peat Burial Sites



Author: R. Duggins, Florida Bureau of Archaeological Research.  
Date: 10/26/2016



Large peat bed  
offshore of Venice  
with 100's of burials





# What does the future hold?





**1**

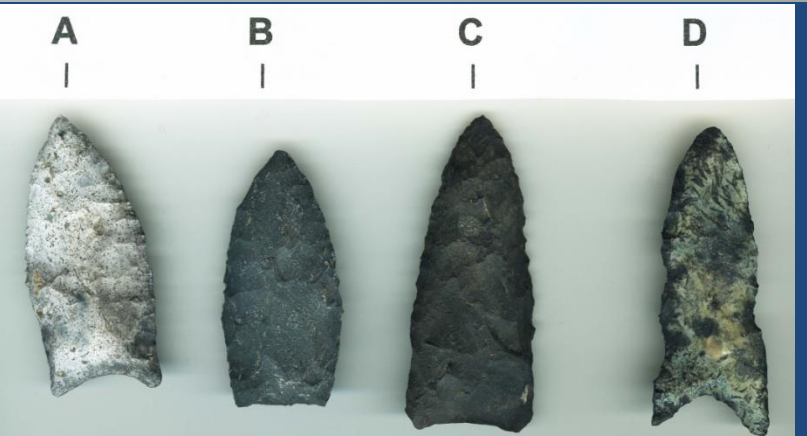
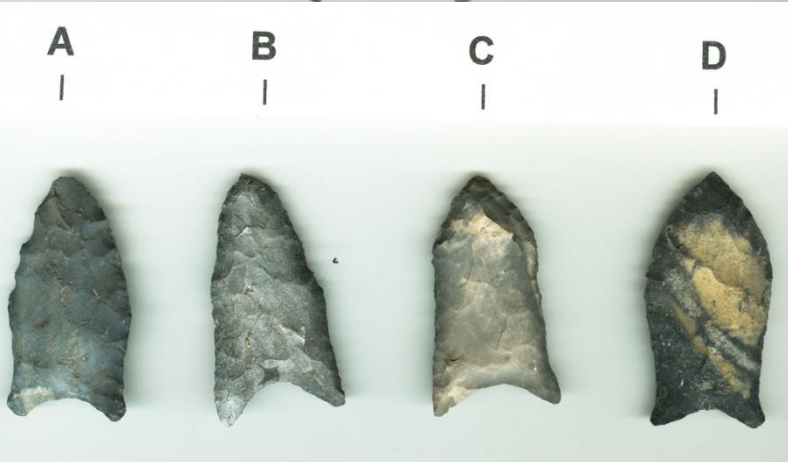


**2**



**3**

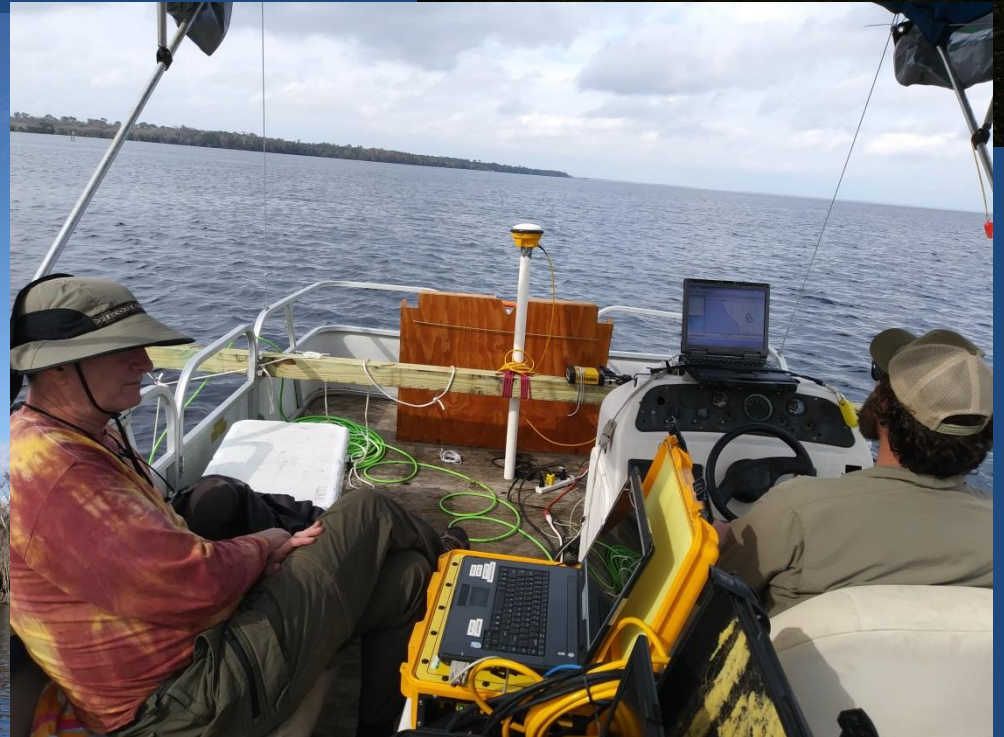




Lake George Point Site



# Lake George



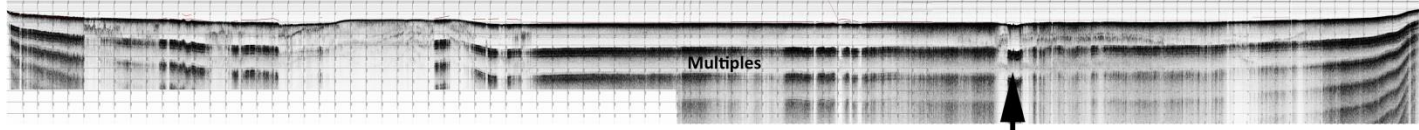


# Looking North - Downstream

Line 004-006

Paleochannel Drayton Island

Buried Surface Paleochannel



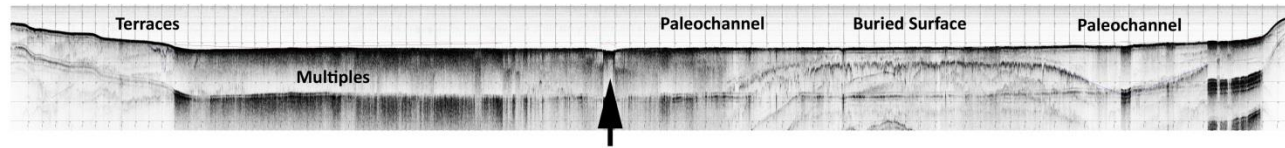
Line 000

Terraces

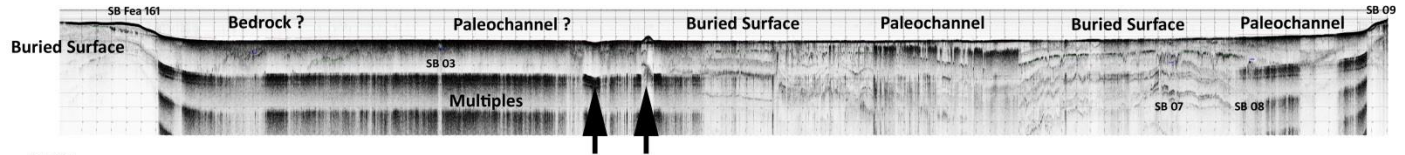
Paleochannel

Buried Surface

Paleochannel

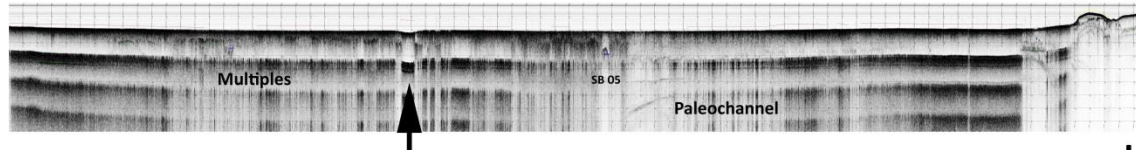


Lines 007-010



Line 026

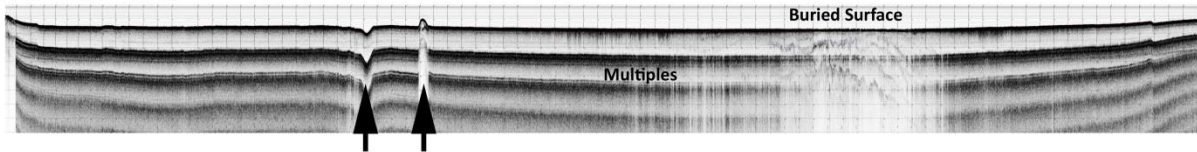
Feature 18



Line 017 - 020

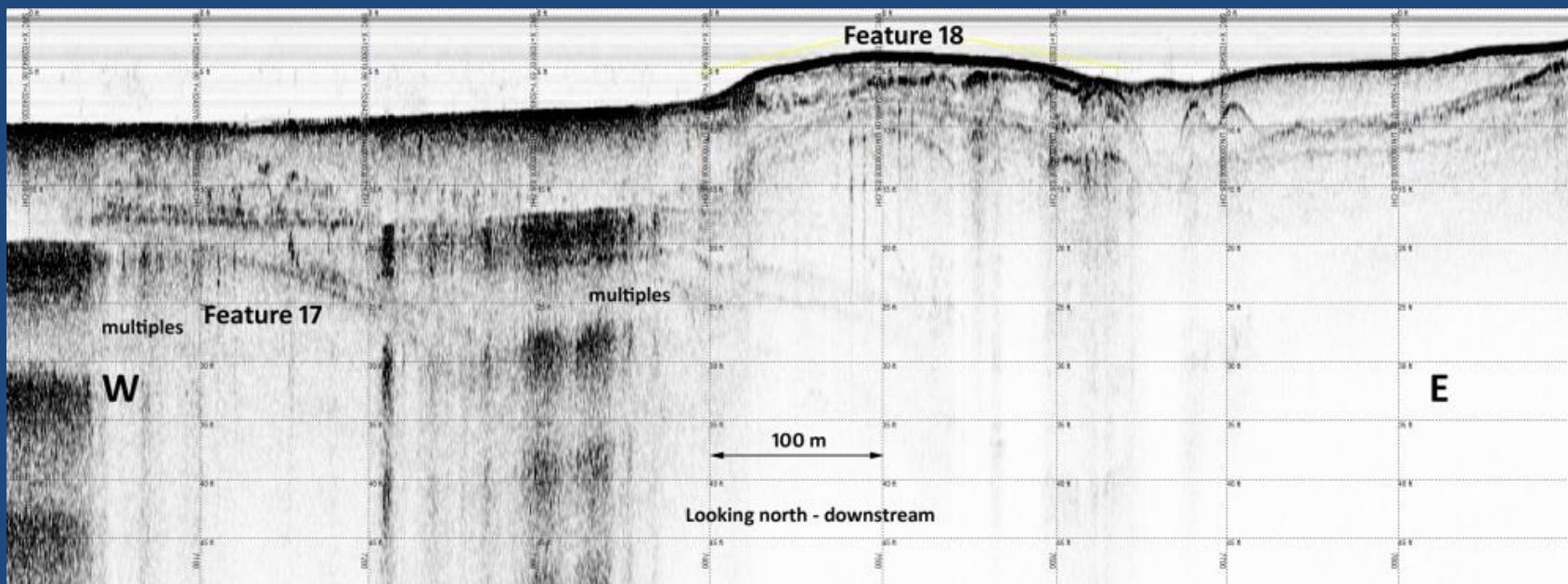
Buried Surface

Multiples



## Lake George Prehistoric Underwater Survey

Sub-bottom Profiles Crossing Lines





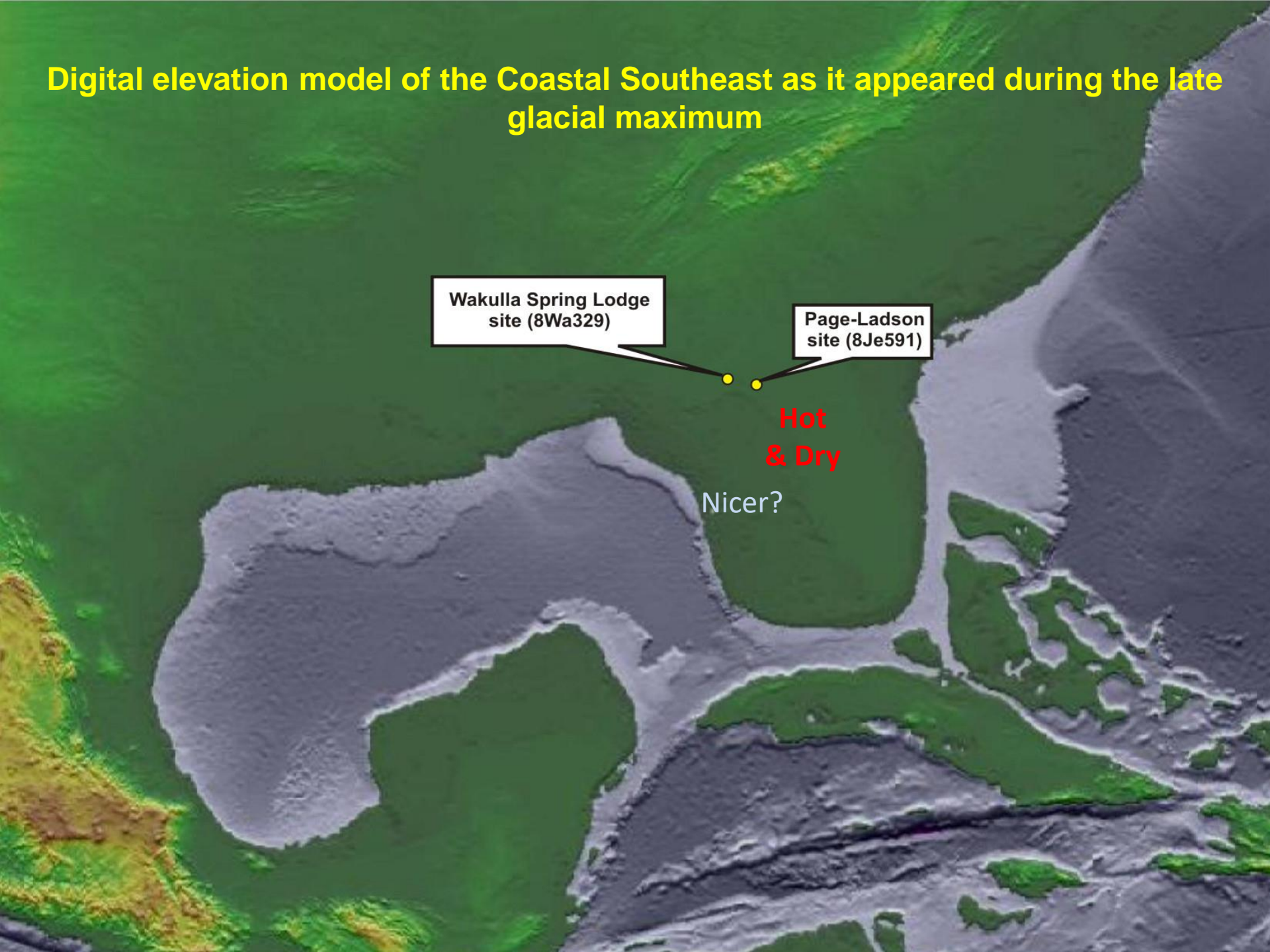
# Digital elevation model of the Coastal Southeast as it appeared during the late glacial maximum

Wakulla Spring Lodge site (8Wa329)

Page-Ladson site (8Je591)

Hot  
& Dry

Nicer?

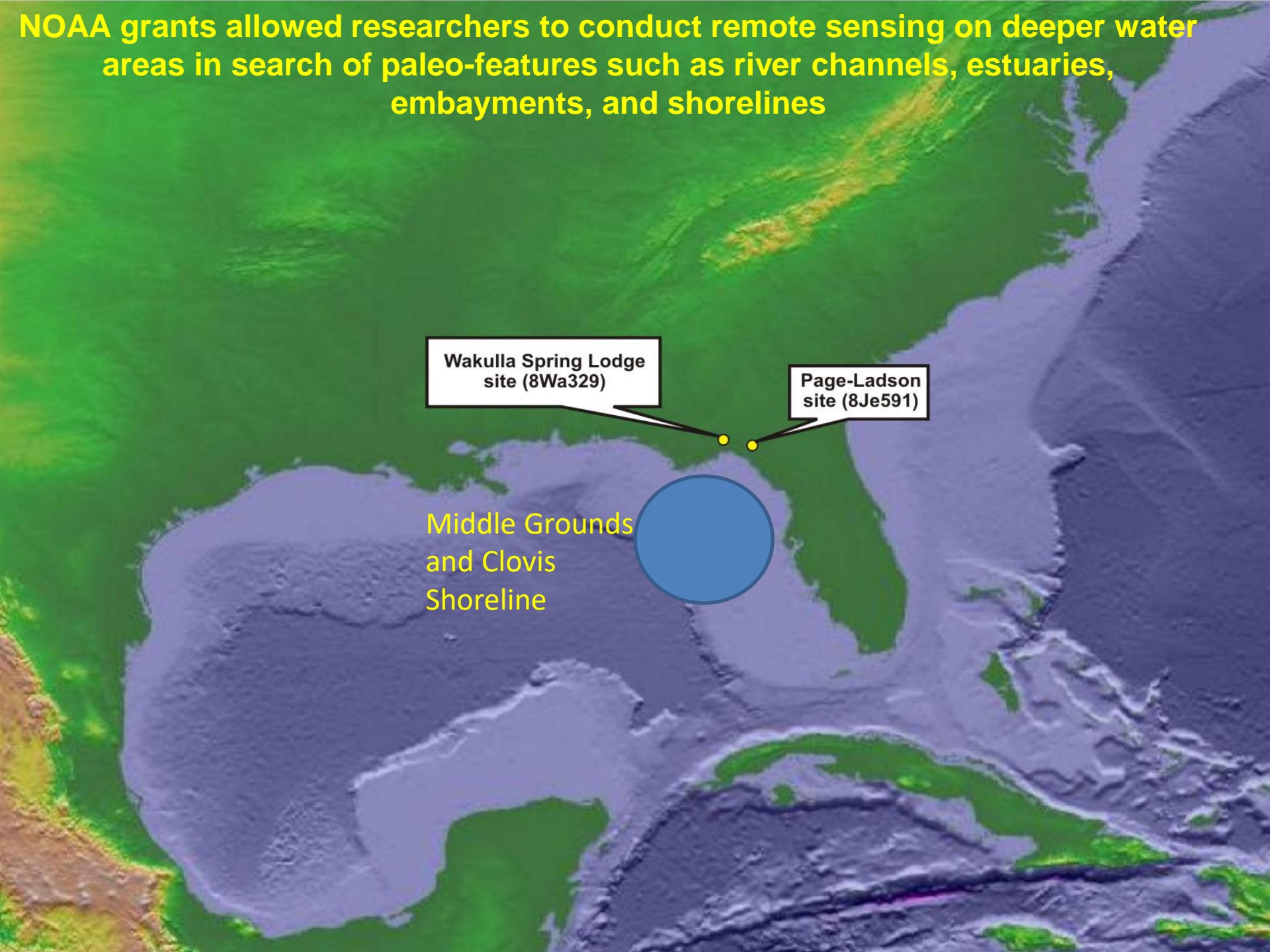


**NOAA grants allowed researchers to conduct remote sensing on deeper water areas in search of paleo-features such as river channels, estuaries, embayments, and shorelines**

**Wakulla Spring Lodge site (8Wa329)**

**Page-Ladson site (8Je591)**

**Middle Grounds and Clovis Shoreline**







## *Fin del Mundo Offshore 2019*

Large area of surface finds and excavated sites with megafauna association when sea levels were lower

Mapping project planned for 2019



**NEW DIRECTIONS**  
*in the* **SEARCH** *for the*  
**FIRST FLORIDIANS**

EDITED BY  
DAVID K. THULMAN  
AND ERVAN G. GARRISON



# Thank You

**ARCO-OP for supporting this research**

**Florida Bureau of Archaeological Research**

**Florida Department of Historical Resources**

**Eglin Air Force Base**

**Ike Rainey, Alvin Hendrix, Don Munroe, and the conscientious people who made their collections available for study**

