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# 1 Ancient Floridians

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Since at least the 1920s, residents of Florida have been finding Indian artifacts in the bottoms of rivers in the northern part of the state. The Simpson family of High Springs were pioneers in river collecting, diving the depths and wading the shallow portions of the Ichetucknee River long before it became a state park.

One artifact found by the Simpsons would offer dramatic proof of the antiquity of humans in Florida. That artifact—a broken portion of a harpoonlike spear point—was made from the ivory tusk of a mammoth, an elephant which lived in Florida during the Ice Age but became extinct shortly after. Not only was the point made from a mammoth's tusk, it was identical to an ivory artifact found at the Blackwater Draw archaeological site near Clovis, New Mexico. In the 1930s at that site, Paleoindian artifacts were found for the first time in America in association with the bones of extinct Pleistocene animals. Blackwater Draw proved that humans—Paleoindians—lived in the Americas at the end of the Ice Age. The Ichetucknee River point, as well as other artifacts and animal bones found by the Simpsons, showed that Paleoindians were living in Florida at the same time, and they too must have hunted now extinct animals. Today we know that the earliest Paleoindian sites in Florida were occupied 12,000 years ago.

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### Collecting the Ichetucknee

As an undergraduate student assistant in the Florida State Museum, then located in the Seagle Building in downtown Gainesville, I had the duty of writing catalogue numbers on the many objects of the Simpson Collection. It was definitely menial labor, but I became interested in the collection, which had been assembled by the Simpson family of High Springs, Florida, and later donated to the museum.

Thirty years later I am back at the museum, which has a new name and is in a new building. I often have occasion to refer to artifacts in the Simpson Collection, using the very numbers I wrote three decades ago. Of great importance are the many bone tools from the Ichetucknee River.

Recently, I ran across a charming article written by Mrs. H. H. Simpson, Sr., and published in 1935:

Until the summer of 1927 our collection consisted of flint and stone implements, shell ornaments and pottery, but in June of that year began the addition of a section that to us is more interesting, if possible, than any of the others. At that time we found, by accident, a clear river [the Ichetucknee] about sixteen miles from our home. I would have to be an artist to describe the beauty of the place. At all times the river is perfectly transparent. In the sandy portions of the bed of the river vari-colored grasses grow, waving back and forth, the different colors blending and forming a beautiful under-water moving picture in the swift current. . . . The day we found it we waded in the clear water close to the bank, and could see, out in the deeper water, pockets in the rocky bottom which were full of bones of different shapes and sizes. Swimming out and diving Clarence brought up handfuls of the material for examination. Some of the smaller pieces were smooth, and shaped as though made by hand but they were such small fragments that we couldn't arrive at a definite conclusion. We returned on a second trip hoping to find some large pieces of what we suspected were bone implements of a vanished race of people. As we stood on the bank and watched him, Clarence dived again and again. In shallow water he picked the bones up with his toes, which have been trained to serve him for various purposes beside the ordinary use of toes. Finally we saw him make a high leap, and run toward shore as fast as he could. Racing to where we stood, and taking a small black object out of his mouth, he exclaimed, excitedly: "Now, I know these things are hand-made!" Upon examining it we found it to be an upper section of a bone artifact, ornamented with lines at the top. . . . We were overjoyed. (*Hobbies* 40[4] (1935):93-94)

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## **Paleoindians**

Who were these Paleoindians, these “ancient Indians,” and how did they live? What was the significance of their stone, bone, and ivory artifacts being found with animal bones in the bottom of rivers, not only the Ichetucknee but the other limestone-bottomed rivers of northern Florida like the Santa Fe, Aucilla, and Wacissa?

The Florida Paleoindians were descendants of people who crossed into North America from eastern Asia during the Pleistocene epoch. At that time the oceans of the world were several hundred feet lower than they are today, and Asia and Alaska were connected by a bridge of dry land more than a thousand miles in width. The higher sea levels that followed the Ice Age have covered that bridge, leaving the two continents separated by the narrow Bering Strait.

Exactly when humans crossed Beringia, as the land bridge is known, is still a matter of discussion. What is certain is that it first occurred more than 12,000 years ago. These ancient people rapidly spread throughout the Americas. In North America, including Florida, they lived by roaming over large tracts of land hunting small and large animals and by gathering plants. Among the many species of animals they hunted, some of which are now extinct, were mammoths. We call these nomadic hunters Paleoindians.

The Florida of the Paleoindians would not be recognizable to you or I. Lowered sea levels meant that the coasts were much farther out than they are today, especially along the Gulf of Mexico. As a result, Florida’s land area was about twice what it is today; modern Pinellas Peninsula where St. Petersburg is situated was some 50 miles from the Paleoindian shoreline.

Lower sea levels and massive glaciers created a climate that was much drier, and groundwater levels in the interior of the state were greatly below what they are today. Florida was cool and arid; the springs, lakes, rivers, and other wetlands so important at present did not exist. There were some fluctuations in climate, with slightly wetter conditions replacing drier ones, but the area always was much more arid than it is in modern times.

More arid conditions meant that a different array of animals and plants were present. Some of those animals, like mammoths, Pleistocene horses, and a now extinct species of bison, had prospered during the Ice Age but would disappear as the climate warmed and they fell prey to human hunters. Typical vegetation included plants that could live in the dry conditions; scrub oaks, pine forests, open grassy prairies, and savannahs were most common. In the restricted localities where water was present, plants



Florida's shoreline at the time of the Paleoindians and locations of sites

better suited to wetter conditions were found. Because the climate did fluctuate, the vegetative communities in any one location likewise fluctuated over time.

The Paleoindians first lived in Florida during one of the more arid periods. How did the climate affect their way of life? The answer to that question in large part explains why their artifacts are found in the river bottoms of the northern half of Florida.

Like ourselves, the Paleoindians needed water to drink and for other necessities. Because water was in short supply, the places where it was available drew the Paleoindians. These same watering holes attracted animals as well. Such water sources were found in the limestone catchment basins of northern Florida. Although limestone formations are found throughout Florida, it is in the northern half of the state that limestone is common on or near the land surface. Water from rain or ground seepage collected

in pockets in the limestone, forming water holes not unlike the watering holes found today in parts of Africa.

At the time of the Paleoindians, what are now the Ichetucknee, Santa Fe, and other northern Florida rivers were not flowing rivers but series of small limestone catchment basins or watering holes. Occasionally, perhaps during slightly less arid periods, surface water collected where clay or marl deposits provided somewhat impermeable catchments. Water also could be found in a few deep sinkholes fed during wetter intervals by springs.

But over time the most consistent watering holes were those in the northern half of the state where the limestone formations reached the surface of the ground and formed catchments. That region is from Tampa Bay north through the western half of peninsular Florida into the panhandle to the Chipola River. Such formations also extend out into what is today the floor of the Gulf of Mexico but was then dry land. It was this limestone region of Florida that drew the Paleoindians.

As noted, the same oases that provided humans with water were used by animals. Consequently, besides being places where people camped, watering holes were sites where animals were ambushed, butchered, and eaten, their remains being discarded along with other debris left by the Paleoindians. Today these camps are in river bottoms and sinkholes. Over two and a half millennia, there must have been thousands of such camps and kill sites. It is no wonder that Paleoindian-age tools and butchered animal bones are found in those rivers and sinkholes.

Now we know who the Paleoindians were and why we find their artifacts and debris in inundated archaeological sites in Florida. What else have we learned about them? Although artifacts picked up from rivers and sinkholes have been important for understanding where Paleoindians once lived and what their environment was like, other types of information must come from the excavation of sites. But if most Paleoindian camps today are underwater, how can they be excavated? The answer is to go in after them. This is exactly what researchers in Florida are doing, combining SCUBA diving and archaeology.

At present the largest of these underwater Paleoindian projects, the Aucilla River Prehistory Project, is taking place in the river of the same name, one of northern Florida's many limestone-bottomed rivers. Under the auspices of the Florida Museum of Natural History and directed by S. David Webb, ARPP has located nearly 40 inundated Paleoindian sites in a short stretch of the river.

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### Indiana Jones She Isn't; Archaeologist She Is

For every university-trained archaeologist engaged in research in Florida, there are hundreds of people who make significant contributions to our knowledge of Florida's precolumbian Indians. Often these people contribute their time, money, and expertise to work on projects conceived and led by those of us who work in museums and universities. The reality is that archaeology in North America depends on the contributions of volunteers, avocational archaeologists like Mary Gouchnour Hudson.

What makes an avocational archaeologist? By day Mary, a native of Florida, is a radiation therapist and CPR instructor in Gainesville and a student majoring in anthropology at Santa Fe Community College. But during weekends, vacations, and evenings she does all those things archaeologists do: reads professional journals, participates in field investigations, co-manages the field office, works to raise funding for research, and undertakes public education initiatives.

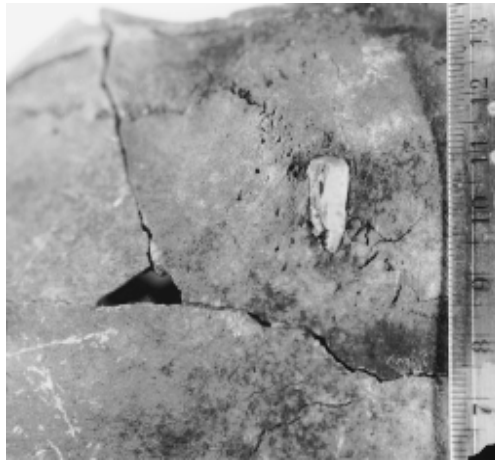
Most recently she has written articles for the *Aucilla River Times*, the Florida Museum of Natural History's Aucilla River Prehistory Project (ARPP) newsletter, on "Understanding Radiocarbon Dating" and "Water Moccasins and the ARPP." The latter recounts close encounters experienced by ARPP personnel and what to do if bitten. About her participation in the project, Mary writes:

Why do I return season after season, spending my vacations freezing in October or fighting off swarms of bugs in May? Many of my friends say this is a sickness—digging through dirt and river sludge looking for some old bones and artifacts, living in "primitive" camping conditions out in the middle of nowhere, keeping company with a bunch of scuba divers and science cowboys. Hopelessly afflicted with the same sickness, we all . . . rise before the dawn, shiver and shudder as we step into those cold wet suits, and work hard until dusk, exhausted and starving. At the Aucilla, like the Eagles' "Hotel California," "You can check out any time you like, but you can never leave." . . . As we toil together in search of man and mastodon . . . we share more than a common interest in an exciting scientific expedition. We share enthusiasm, dedication, and the intensity for a great quest. . . . The interaction of various professional scientists, avocational volunteers, students, and financial and political supporters all have their place of importance in the success of this project. . . . New-comers as well as veterans are actively involved in teaching and learning. . . . This initiates motivation and interaction and . . . promotes much enthusiasm and gratification. (*Aucilla River Times* 9 [1996], p. 15)

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A close encounter, Paleoindian style. This skull of an extinct species of bison has a broken stone point sticking into it. When the animal was alive, the tips of its horns were about 3 feet across; the tips of the horn cores, shown here, are only 25 inches apart.



Webb and his research team were originally drawn to the site by reports of Paleoindian tools and animals bones being found there. A short distance away in the Wacissa River, which flows into the Aucilla, sport divers had found the skull of a *Bison antiquus* (a now extinct species of large bison) with a broken stone point in it, dramatic evidence for Paleoindians and Pleistocene animals having lived there at the same time.

Another underwater site excavated by archaeologists is Little Salt Spring in Sarasota County. When Paleoindians camped there, perhaps during a period of less aridity, water collected in the bottom of the sinkhole. Although it was probably too deep for most animals, Paleoindians could lower themselves down into the sink off a ledge to reach the water. This could not have been an easy task, and it points out the importance—and rarity—of water.

Sites like those in the Aucilla River and Little Salt Spring provide evidence of the activities of Paleoindians—we might think of them as small time capsules of information. In addition these sites have yielded artifacts and other evidence that are not found in land sites, such things as wood and bone artifacts, and even plant remains, which would quickly have rotted away if not in water. Excavations in the Aucilla River have produced seeds and rind fragments from wild gourds, evidence that Paleoindians were collecting a plant not previously known even to have been in Florida at such an early time. Preserved hickory nuts have been found, as have carved wooden stakes, perhaps items associated with small, temporary tentlike structures or lean-tos.

The Aucilla River underwater excavations are also providing new information on the animals hunted by the Paleoindians. Analysis of growth rings of mammoth tusks suggests that these animals may have been moving seasonally from north to south and back again. That raises an interesting possibility: did the Paleoindians move with the herds, following them as they made their seasonal treks northward in summer and southward in winter?

An offshoot of excavations by Webb's team is information about the diet of these giant creatures. Hundreds of samples of mammoth digesta, the remains of the plants eaten and then defecated by animals standing in the watering holes, have been preserved. Plant fibers in the digesta not only give clues to the elephants' diet but are indicators of the climate as well. Scientists have even extracted mammoth hormones from the digesta!

Someday, comparisons of digesta samples and skeletons may shed light on the extinction of the elephants. Both pre-Paleoindian samples and samples from Paleoindian occupation are known. Evidence of stress caused by overhunting may show up in the latter, perhaps in dietary changes, through comparison of bone densities, or in the ages of the animals hunted. For instance, as herds became smaller and animals harder to find, the Paleoindians may have become less selective in the animals they hunted, seeking to kill not only easy prey—youngsters or weaker individuals—but healthy adults as well. Only a few short years ago, studies such as these would have been unthinkable.

Careful excavations by divers using techniques modified from land site investigations have recovered a cross section of the animals utilized by the Paleoindians. The list is remarkable and includes both modern species and species that became extinct at the end of the Pleistocene, perhaps in large part because of overhunting by Paleoindians. The extinct animals

include the mammoth, bison, giant land tortoise, sloth, tapir, horse, camelids, and a type of box turtle.

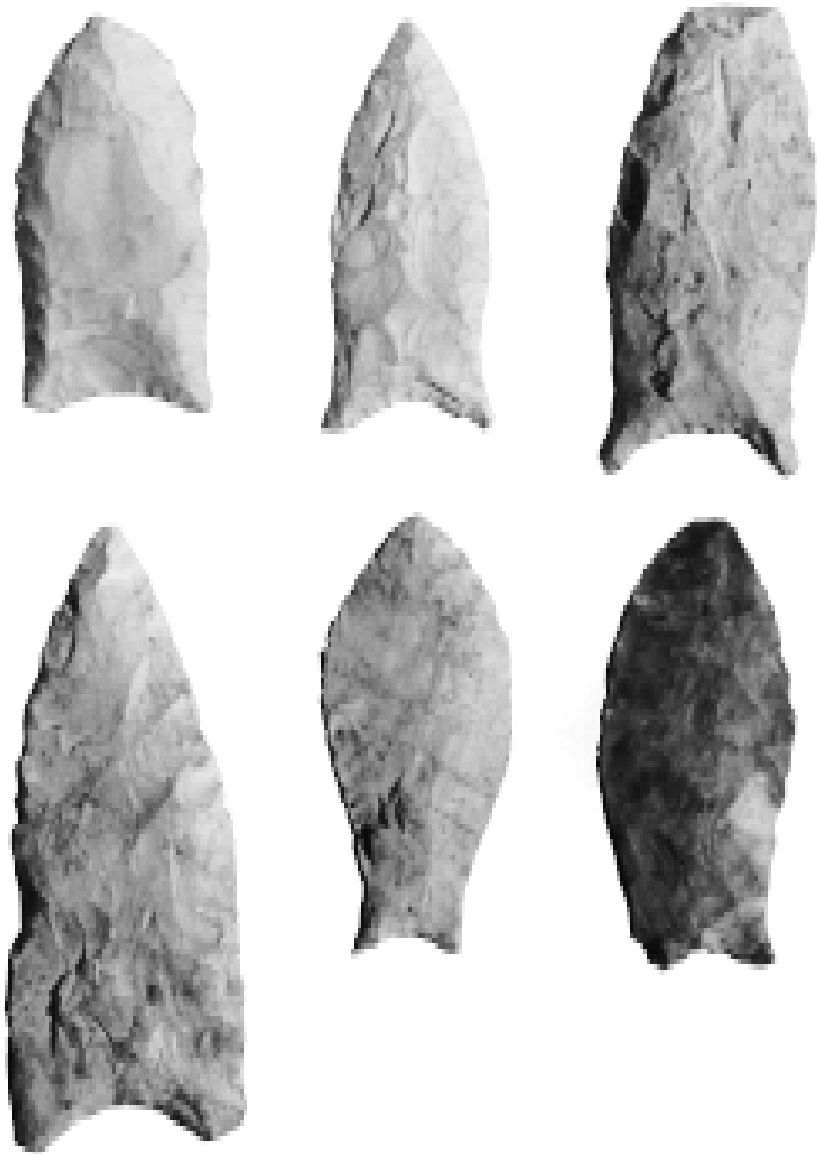
That human hunting may have been a major factor in the extinction of many of these animals is suggested by the case of the Pleistocene horse. Essentially the same animal as the horses that thrive in the southeastern United States today, including in wild populations on coastal islands, the Pleistocene horse became extinct during Paleoindian times. Later, in the sixteenth century, horses were reintroduced into the Americas by Europeans. If horses can live here today, why did the Pleistocene horse suffer extinction? Human predation seems a likely cause.

The Florida Paleoindians probably caught or hunted every animal they could. Species identified from Paleoindian sites and still living in Florida today are deer, fish, various turtles, freshwater shellfish, the gopher tortoise, diamondback rattlesnake, raccoon, opossum, rabbit, muskrat, wood ibis, panther, and frogs. Like other people who lived by hunting, gathering, and foraging, the Paleoindians made use of almost everything in their environment. Beyond providing food, these animals also supplied them with furs, ligaments, antlers, bones, teeth, and claws, all raw materials useful to the Paleoindians.

Most likely, when all the evidence is in, we will have learned that these early native peoples hunted and gathered almost everything that was edible or usable, including a variety of plants. And it would not be surprising to learn that Paleoindians living along the coasts used marine foods as well, though such research would have to be carried out at sites on the floor of the Gulf of Mexico, well off the present coast.

What tools did these people use to hunt and butcher animals and process their parts? What did they use to fashion clothing and shelter? Not surprisingly, the lithic and bone tool kits of the Paleoindians do not contain large objects like those of later people, nor is there a huge variety. But that is what we might expect from people who moved frequently from watering hole to watering hole. More surprising is that the tools of the Florida Paleoindians closely resemble those of other Paleoindians as far away as the southwestern United States. The Paleoindian way of life must have developed and spread rapidly across the Americas, with similar tools being used over a continent.

The most easily recognizable Paleoindian artifacts in Florida are lanceolate spear points, most often chipped from chert, a flintlike stone common in limestone formations. Archaeologists have separated these distinctive points into various types based on shape and other characteristics



Paleoindian points. The upper left specimen, 2 1/2 inches long, has the classic fluting of a Clovis point.

and have given them names. Most common are Suwannee points, which, like most other Paleoindian points, have their lower portions ground so that the sharp edges do not cut into bindings used to haft the points onto shafts. Hundreds of Suwannee points have been found in Florida, and 92 percent of all those recovered are from the limestone region in the northern half of the state.

Other Paleoindian points also are lanceolate in shape. They include Clovis points—common at Paleoindian sites across the United States outside of Florida—each of which has a distinctive flute running longitudinally up both sides. It is thought that the Clovis points, which make up about 10 percent of all the Paleoindian points found in Florida, and perhaps others of the larger lanceolate points, were hafted by attaching them to a mammoth ivory foreshaft, which in turn was attached to a wooden spear. It was one of these ivory foreshafts that the Simpson family found in the Ichetucknee River and identified as a point.

Some spears were used in conjunction with throwing sticks. Bone-throwing stick weights and bone and shell “triggers”—the latter fitting over the end of the stick to butt against the end of the spear shaft—have come from underwater sites. The use of throwing sticks allowed hunters to cast spears farther and with more force.

For hunting, Paleoindians probably used bolas as well as spears. Several egg-sized, ground stone bola weights were attached to one another with long leather thongs, then thrown at prey. The weighted thongs wrapped around legs or other body parts and helped to bring the animal down.

Although the stone points and ivory foreshafts are the most distinctive and most easily identifiable of the Paleoindian artifacts, other tools are known from a variety of sites. Many of the stone tools are simply made and probably served more than one purpose. It may have been easier to carry a few tools to do many jobs than to carry a larger number of specialized items. Scrapers, small adzes, spokeshaves used to shape shafts, and knives, some of which were hafted, are most common. Other tools include bone pins, bone needles, a fossil shark tooth that had been hafted and used as a knife, socketed antler points, and a socketed bone handle.

A portion of what appears to be a log mortar carved from oak was preserved underwater in the Little Salt Spring site; it probably was used to grind seeds or nuts. An extraordinary artifact from that same site is the head of a nonreturnable, wooden boomerang or throwing stick, also made of oak. Recently several were recovered by University of Miami archaeologists.

Paleoindians were no novices; the tools and accoutrements they made and used were well suited to their way of life. With tools and weapons in hand, small groups of Paleoindians traveled relatively large tracts of land, moving from one watering hole to the next, traveling over what was certainly well-known territory. But their way of life would not last. Changes were afoot, changes that would lead to the development of the Archaic culture after about 7500 B.C.

### **The Early Archaic Culture**

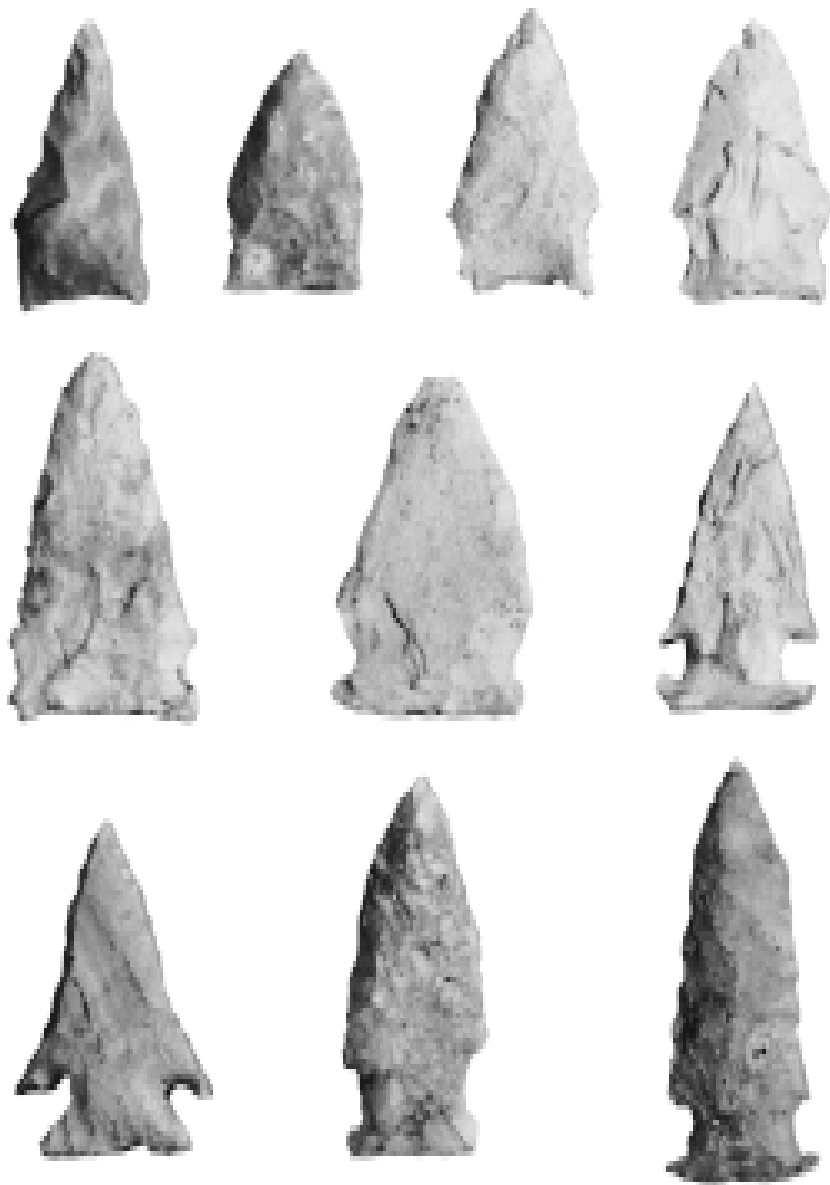
Changes in Florida's climate began to appear at about 8000 B.C., late in the Paleoindian period. As the Pleistocene ended and the climate became less cool, glaciers began to melt, leading to more rainfall and less arid conditions. Sea level began to rise. In Florida, water sources were no longer in such short supply. People had more places to camp and they could stay longer at each camp.

It was at this same time that some of the animals previously so important to Paleoindian hunters—mammoth, horse, bison, and others—dwindled in number and became extinct. Other sources of food, including smaller game, increased in significance. The old ways of nomadic hunter-gatherers gave way to new patterns of securing food to eat.

These changes are reflected in the archaeological record of the Late Paleoindian culture. The large, lanceolate Paleoindian points no longer were needed and ceased to be made. They were replaced first by smaller Paleoindian points and then by a host of new varieties of even smaller points. These new point types, some of which may also have served as hafted knives, were no longer lanceolate, nor were they attached to fore-shafts for use in composite spears. Some of these points instead were side-notched to facilitate hafting on handles or spears.

Along with new point types came other changes in the Late Paleoindian tool kit, including the appearance of small stone tools called microliths, which probably were used to work cane and other raw materials in ways not done earlier, perhaps for basketry, or fiber or hide preparation. At the Nalcrest site at Lake Weohyakapka in Polk County in central Florida, literally hundreds of these microtools were found, ranging in size from 0.4 to 1.75 inches. Similar specimens have come from other late Paleoindian sites in Florida and elsewhere in the Southeast.

After 7500 B.C., even more changes appear in the archaeological record, changes so great that archaeologists use them to delineate the end of the Paleoindian culture and the beginning of the Archaic period. Again these



Late Paleoindian points. The upper left point is just under 2 inches long.

shifts are related to climatic changes—notably wetter conditions—and they are especially visible in the types of points made by the native people. The earliest Early Archaic points differ from Late Paleoindian points in that many of the former are stemmed. Late in the Early Archaic period, still more new varieties of stemmed points were being made.

The change from the late Paleoindian way of life into that of the Early Archaic culture was not abrupt. The earliest varieties of Early Archaic points are found at the same watering hole sites where late Paleoindian points are found. But all of the Early Archaic points and tools also are found in many more locations than are Paleoindian tools, reflecting how the changing climatic conditions presented the Archaic peoples with more places to live. Bones of the mammoth, horse, and bison, once the game of ancient hunters but now extinct, are never associated with Early Archaic tools.

Not only are the points different from those made by the Paleoindians; other Early Archaic tools are distinctive as well. There are more types of stone and bone tools and many larger tools, suggesting that people stayed longer at their settlements, accumulating more and larger possessions. Large stone choppers probably used for working wood suggest major building projects. Throwing sticks—well suited to hunting deer—were still in use; stick weights, socketed antler handles, and triggers all have been found. Because Early Archaic settlements are much more common on land than underwater, archaeologists have been hindered in learning about the culture of these early Floridians. At most land sites, all that is found are stone artifacts; wooden and bone artifacts are not preserved in land sites.

But any frustration with the situation experienced by investigators working on the Early Archaic was dispelled with an extraordinary archaeological discovery made in Brevard County about five miles from Cape Canaveral. The Windover Pond site was discovered in 1982 when a backhoe operator began to dig peat from a small pond. The plan was to remove the peat and fill in the pond—which had a surface area of about a quarter-acre—so that a road could be built across it. A bucketload of peat scooped from the pond included human bones. The landowners recognized the possible importance of the discovery and summoned archaeologists. It would soon become evident that the quiet, dark waters of Windover Pond held a scientific treasure of immeasurable importance. Glen Doran and David Dickel of Florida State University codirected the field research, which would result in unprecedented and dramatic information on the Early Archaic people who lived around Windover Pond after 6000 B.C.



Early Archaic points. The upper left point is nearly 3 inches long.

During the time the pond was used by Native Americans, the Florida climate was slightly drier than it had been a millennium earlier, but it was still wetter than it had been during Paleoindian times. The Pleistocene epoch was long past and the groundwater level in Florida was well above what it had been. Indeed, Windover Pond had begun to hold water—and accumulate vegetative matter that became peat—by the Late Paleoindian period.

Doran and Dickel and their crew of field archaeologists and other scientists began their investigations in 1984; excavations would continue into 1986. Just as archaeologists excavating underwater sites in the Aucilla River had to adapt land techniques to work underwater, so did the FSU team have to refine standard archaeological procedures for Windover to be carefully studied and to have its secrets revealed. But Windover presented special problems. Within the layers of peat in the bottom of the pond, Early Archaic people had buried their dead. It was some of these interments that were disturbed when the backhoe began removing the peat from the pond.

The Windover peat deposits bear little resemblance to the drier peat of the bogs in Europe and the British Isles that have yielded human interments and archaeological materials. The Windover peats were wet—very, very wet. Glen Doran has likened the excavations to trying to dig chocolate mousse underwater. Ingenuity won out, however. Using well points and pumps and coffer dams, the archaeologists could keep a section of the pond dry enough for the mousse-like peat to be dug. About half the pond containing 168 burials was excavated; the remainder was saved for future generations of scientists to study.

All of the trouble was worth it, for the peat had preserved an array of human tissues and fragile artifacts never recovered before from any Florida site. Indeed, it is no exaggeration to state that the site is one of the most important found anywhere in the world. Analysis of the tissues from 91 of the burials is yielding information on human genetic diversity and change during the roughly 1,000 years that the burials were interred in the peat. Such knowledge about people who lived thousands of years ago is not available from any other known source. It is fortunate that the site was discovered at a time when multidisciplinary research has become common in archaeological projects and when scientists are successfully able to extract, preserve, and study genetic material. Space-age science is being put to use to study ancient Native Americans. All humankind will benefit from the ongoing analysis of material from the site.

Today Windover Pond is fed by rainfall and by groundwater. But during

the Paleoindian period before it was utilized by humans, only rainwater or surface runoff collected in it. Water tables were too low for groundwater to have filled it. The amount of water in the pond consequently fluctuated. When water was present, water plants grew, only to die and collect in the wet bottom when the water level dropped. Over time more and more vegetation collected in the bottom, forming layers of peat. Ultimately five layers of peat were deposited, two of which accumulated after the pond was used by Early Archaic people. When excavations began, the top of the uppermost peat layer was six feet underwater. In some ways, the FSU excavation was as much an engineering feat as a scientific investigation.

Doran and Dickel found that 8,000 years ago, Early Archaic peoples began visiting the pond during intervals of low water to bury their dead relatives in the peat deposits. Each body was wrapped in fabric, which was then anchored into the pond bottom with wooden stakes, keeping the body submerged in the loosely consolidated peat. Soft tissues preserved in the peat showed that each individual had been buried within 48 hours after death. Why that particular pond was chosen and why interments were made in the peat remain mysteries.

Burials continued to be placed in the bottom of the pond on and off for more than ten centuries. Radiocarbon dates from human bones and soft tissues, wooden stakes found with burials, and the peat deposits themselves pinpoint the time of the burials to between 6000 and 5000 B.C. Use of the pond for interments then halted, probably because wetter conditions made it too difficult. After the pond was abandoned by the Early Archaic people, two more layers of peat were deposited, effectively sealing the peat strata containing the human burials.

Although interments were made over a 1,000-year period, the clustering of bodies suggests that burials actually were placed in the pond during five or six separate episodes, each of short duration. Possibly each was during a drier interval when people camped around the pond. During each of these episodes, interments were placed together, forming a cluster. The reuse of the pond over such a long time suggests that many generations of Early Archaic people continued to retain knowledge that the pond was used for human burials. The likelihood is that descendants of the same group continued to remember the purpose of the pond and to make new interments.

The probability that a single genetically related population used the pond over a millennium is exciting. Genes from individuals and groups of individuals can be compared and insights gained on genetic change over

time. No other collection of related genetic material in the world spans such a long time range. The potential for learning about human evolution, hereditary health problems, and other genetic characteristics is in large part what makes the Windover Pond site such a unique treasure trove of scientific information. The people interred in Windover Pond are voices from a distant past.

In the peat, excavators also found the remains of animals and plants that either fell into the pond or were eaten. The list of animals, all probably species from the immediate vicinity, includes river otter, three species of indigenous rats, squirrel, rabbit, opossum, thrush, American coot, geese or ducks, great blue heron and other wading birds, cormorants, pied-billed grebe, alligator, five species of turtles, snakes, frogs, three other kinds of amphibians (two species of sirens and one known as the two-toed amphiuma), largemouth bass, redear sunfish, bowfin, catfish, and Florida gar. Like their Paleoindian ancestors, the Early Archaic peoples apparently made use of all the animals they could hunt, trap, collect, or fish. Among the plant remains were a prickly pear pad, probably used for food, and a gourd dipper.

Few stone artifacts were found, but those recovered did include Early Archaic-type stemmed points. Pitch was still present on the stem of one, providing an important clue to how these weapons or knives were hafted to wooden spears or handles. Among the wooden and bone artifacts were a number of wooden stakes, some with the bark removed and with fire-sharpened tips. Shark teeth and dog or wolf teeth hafted with pitch served as knives or scrapers. Still other tools were fashioned from deer antlers and deer bones as well as from the bones of manatees, birds, and panthers or bobcats. The bone and antler tools are the same types as are found at other Archaic sites: pins, points (some with barbs on them), and awls. Hollow bird bones were polished and incised, perhaps for use as pipes.

Found in the peat with the other artifacts was a well-developed and sophisticated array of cordage and fabrics. The fibers and fabrics, the earliest known from Florida, are evidence that the Early Archaic peoples, and probably their Paleoindian ancestors, were expert fiber workers. Several different twining or weaving types have been identified, made with fibers from sabal palms, saw palmettos, and other plants. One fabric is a finely woven cloth of 25 strands to the inch, perhaps used to fashion tuniclike inner garments. Other coarser and more durable fabrics also were found, as were an open-twined bag and matting.

Windover Pond tells us that the ancient people of Florida made and used numerous items that were well suited to their way of life. But by our standards it was not an easy life. Water was in short supply relative to its availability in later times, and in order to survive, people had to hunt or collect everything they ate. They had to fashion all of the tools, weapons, containers, clothing, and other items they needed to live.

In their relatively harsh world, children, who represented the continuation of life, must have had a high value. At Windover Pond more artifacts were found with child and teenage burials than with adults. Water, so important to life, may also have had special significance—significance reflected in the practice of returning the dead to a pond for final burial.

As we shall see, climatic conditions in Florida would continue to change. Just as the Paleoindians gave way to the Early Archaic peoples, so would the culture represented by the people who camped at Windover Pond evolve into the still newer ways of life of the Middle and Late Archaic cultures. And even though water no longer was in short supply, it would continue to shape the nature of human settlements in Florida.