# Gulf exploration yields evidence of raw materials used by early Americans

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WEATHERBIRD II

In one of the more dramatic moments of an underwater archaeological survey co-led by Mercyhurst College archaeologist James Adovasio along Florida's Gulf Coast this summer, Andy Hemmings stood on an inundated river's edge where man hasn't set foot in more than 13,000 years.

Donning full scuba gear, Hemmings stood in 130 feet of water on a peninsula at the intersection of two ancient rivers nearly 100 miles offshore from Tampa. The last time humans could have stood in that spot, mammoth and mastodon roamed the terrain.

"The successful tracking of the St. Marks-Aucilla River and the Suwannee River, between 50 and 150 kilometers respectively, represents what we believe to be the most extensive delineation of submerged

prehistoric river systems ever done anywhere in the world," Adovasio said.

Another pivotal find is the identification of chert at three dive sites along the river systems; chert is a superior quality fine-grained stone used by prehistoric peoples to make tools.

"There is no doubt," Adovasio said, "that we have found the haystacks and are one step closer to uncovering the archaeological needles;" in effect, narrowing the search for evidence of early Americans in the now submerged Inner Continental Shelf in the Gulf of Mexico off the Florida coast.

Hemmings, one of the leading Paleoindian underwater archaeologists in North America, agreed. "My feeling is, given a little time to probe the sediments with a dredge, we will quickly find human artifacts."

The signature expedition of the National Oceanic and Atmospheric Administration (NOAA) Office of Ocean Exploration and Research began in the summer of 2008 when a distinguished group of scientists led by Mercyhurst's Adovasio and Hemmings identified and mapped buried river channels that could potentially help document the late Pleistocene landscape. This year's mission, undertaken July 23 to Aug. 5, further traced the river systems along whose beaches prehistoric people may have populated and identified raw materials that they may have used in tool making.

The mission also has advanced underwater understanding and research methodology exponentially, Adovasio said.

"We have developed protocols for exploring deep water, which is both time and labor intensive, as well as expensive, unlike anything done before," he said, noting that the NOAA-funded expedition is unique in

part because of the depths at which scuba divers are exploring. For the most part, other prehistoric expeditions have been confined to shallow water, he said.

From the Weatherbird II, flagship of the Florida Institute of Oceanography in St. Petersburg, researchers electronically mapped the modern sea floor with a side scan sonar device and created images of the layered sediments below the seafloor surface with a sub-bottom profiler. Using GPS technology, the team selected dive locations based on an understanding of what the surface should look like, and what was hidden below that surface adjacent to the old river channels.

On the peninsula where the relict Suwannee River intersects another ancient system, divers were able to collect a 1m sediment core but were unable to complete a lengthier search for human artifacts because the water neared 130 feet, the maximum depth level for this year's dive. The team plans to return to this spot next year, increasing the divers' depth level certification to 165 feet and using a dredge to lift the silt away and see if there is an archaeological site at this confluence.

Additional work in 2010 will trace the Suwannee River channel back toward its modern mouth and continue tracking it into the Gulf. At select locations, divers will probe the sediments looking for artifacts made by ancient peoples living along the river at places where the chert was found this year.

In all, the team has identified 2,000 target locations. With direct testing by divers having already uncovered three sites with useable tool stone, Adovasio said the team is confident that it will find human artifacts from the Pleistocene on this ancient landscape as their work continues next year.

"Proof of past human habitation here would reinforce the disintegration

of the once prevalent hypothesis about who the first Americans were, how they got here and when they arrived," said Adovasio, who rose to fame 30 years ago while excavating the Meadowcroft Rockshelter near Pittsburgh, Pa. Radiocarbon dating at Meadowcroft revealed the presence of human campsites as many as 16,000 years ago, which went a long way toward dashing the Clovis-first paradigm, holding that the first humans arrived in the Americas about 12,000 years ago, as revealed by a site near Clovis, New Mexico.

Source: Mercyhurst College