

Bahamas were settled earlier than believed, settlers dramatically changed landscape

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Humans were present in Florida by 14,000 years ago, and until recently,



it was believed the Bahamas—located only a few miles away—were not colonized until about 1,000 years ago. But new findings from a team including a Texas A&M University at Galveston researcher prove that the area was colonized earlier, and the new settlers dramatically changed the landscape.

Peter van Hengstum, associate professor in the Department of Marine and Coastal Environment Science at Texas A&M-Galveston, and colleagues have had their findings published in *Proceedings of the National Academy of Sciences*.

Researchers generated a new environmental record from the Blackwood Sinkhole, which is flooded with 120 feet of groundwater without dissolved oxygen. This is important because it has pristinely preserved organic material for the last 3,000 years. Using <u>core samples</u> and <u>radiocarbon dating</u>, the team examined charcoal deposits from human fires thousands of years ago, indicating that the first settlers arrived in the Bahamas sooner than previously thought.

"The Bahamas were the last place colonized by people in the Caribbean region, and previous physical evidence indicated that it may have taken hundreds of years for indigenous people of the Bahamas—called the Lucayans—to move through the Bahamian archipelago that spans about 500 miles," van Hengstum said.

While people were present in Florida more than 14,000 years ago at the end of the last ice age, he said, these people never crossed the Florida Straits to nearby Bahamian islands, only 50 to 65 miles away. Meanwhile, the Caribbean islands were populated by people migrating from South American northward. Van Hengstum said the oldest archaeological sites in the southernmost Bahamian archipelago from the Turks and Caicos Islands indicate human arrival likely by 700 A.D.



"But in the northern Bahamian Great Abaco Island, the earliest physical evidence of human occupation are skeletons preserved in sinkholes and blueholes," he said. "These two skeletons from Abaco date from 1200 to 1300 A.D. Our new record of landscape disturbance from people indicates that slash-and-burn agriculture likely began around 830 A.D., meaning the Lucayans rapidly migrated through the Bahamian archipelago in likely a century, or spanning just a few human generations."

The team's other findings show how the Lucayans changed the new land.

When the Lucayans arrived, Great Abaco Island was mostly covered with pine and palm forests, and had a unique reptile-dominated ecosystem of giant tortoises and crocodiles. Increased deforestation and burning allowed <u>pine trees</u> to colonize and out-compete native palms and hardwoods.

Large land reptiles began to disappear after 1000 A.D. A significant increase in intense regional hurricane activity around 1500 AD is thought to have caused considerable damage to the new pine tree forests, as indicated by a decrease in pine pollen in the sediment core.

"The pollen record indicates that the pre-contact forest was not significantly impacted earlier in the record during known times when intense hurricane strike events were more frequent," van Hengstum said. "In our current world where the intensity of the largest hurricanes is expected to increase over the coming decades, the current pine trees in the northern Bahamas may not be as resilient to environmental impacts of these changes in hurricane activity."

More information: Patricia L. Fall et al. Human arrival and landscape dynamics in the northern Bahamas, *Proceedings of the National Academy of Sciences* (2021). DOI: 10.1073/pnas.2015764118



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