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(56) 2011 Annual Meeting, Seattle, Washington



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Abstract Title:

A 7600 cal yr paleoenvironmental record from Laguna Tortuguero, Puerto Rico

is part of the Poster Session:

Biogeography and Paleoenvironmental Change

scheduled on Wednesday, 4/13/11 at 10:00 AM.

Author(s):

Alice R Schoen* - University of Tennessee, Knoxville
 Sally P Horn - University of Tennessee, Knoxville
 Chad S Lane - University of North Carolina-Wilmington
 Jeffrey J Clark - Lawrence University

Abstract:

Laguna Tortuguero is a large (ca. 70 ha) coastal lagoon on the north central coast of Puerto Rico (18° 27' 43" N, 66° 25' 56" W). The lagoon consists of two basins connected by a shallow, natural channel, all separated from the Atlantic by a line of vegetated dunes. In 1987, Burney and collaborators (Journal of Archaeological Science 21, 1994) recovered an 8 m sediment core from the western basin of Laguna Tortuguero that spanned the last ca. 7000 calibrated years. They produced a detailed record of microscopic charcoal in the sediments as an indicator of the history of human colonization and fire use on the island. In 2008, new cores were collected from two sites in the eastern basin for the analysis of additional proxies. Both profiles bottomed out on bedrock at just over four meters below the sediment-water interface. Core 1 has a basal age of 7300 cal yr BP, and Core 2 has a basal age of 7600 cal yr BP, based on AMS dates on wood. Lower sediments are primarily organic muds and peat, while the upper sediments contain fine silt, sand, and abundant carbonate shells. Twigs and other coarse organic debris together with a dating reversal suggest a possible hurricane deposit in the lower section of Core 1. High grass pollen percentages in the Tortuguero sediments are consistent with the high frequency of graminoid charcoal identified by Burney and collaborators.

Keywords:

Paleolimnology, Pollen, Isotopes, Puerto Rico

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