

# Accepted Manuscript

Middle and late Holocene mangrove dynamics of the Yucatan Peninsula, Mexico

Alejandro Antonio Aragón-Moreno, Gerald Alexander Islebe, Nuria Torrescano-Valle,  
Javier Arellano-Verdejo



PII: S0895-9811(18)30055-5

DOI: [10.1016/j.jsames.2018.05.015](https://doi.org/10.1016/j.jsames.2018.05.015)

Reference: SAMES 1937

To appear in: *Journal of South American Earth Sciences*

Received Date: 6 February 2018

Revised Date: 29 May 2018

Accepted Date: 29 May 2018

Please cite this article as: Aragón-Moreno, A.A., Islebe, G.A., Torrescano-Valle, N., Arellano-Verdejo, J., Middle and late Holocene mangrove dynamics of the Yucatan Peninsula, Mexico, *Journal of South American Earth Sciences* (2018), doi: 10.1016/j.jsames.2018.05.015.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

# Middle and late Holocene mangrove dynamics of the Yucatan

## Peninsula, Mexico

Aragón-Moreno, Alejandro Antonio<sup>a</sup>; Islebe, Gerald Alexander<sup>a</sup>; Torrescano-Valle, Nuria<sup>a</sup>;  
Arellano-Verdejo, Javier<sup>a</sup>

<sup>a</sup>El Colegio de la Frontera Sur, Chetumal, AP 424 Quintana Roo, Mexico

Corresponding author: Gerald A. Islebe, email: gislebe@ecosur.mx

### Abstract

We present mangrove dynamics, related to precipitation changes derived from migration of the Intertropical Convergence Zone (ITCZ) and the El Niño Southern Oscillation (ENSO) during middle and late Holocene of the northern and southern Yucatan Peninsula. Sea level rise was the major determinant for mangrove establishment during middle Holocene. Following the sea level rate stabilization, changes in precipitation and increasing ENSO activity determined periods of expansion and reduction of mangrove cover. At the onset of late Holocene, mangroves fluctuated abruptly due to the coupled effect of the ENSO and latitudinal movement of the ITCZ. Trend correlation analysis revealed significant relationship between the presence of *Conocarpus erectus*, ENSO and ITCZ. *Rhizophora mangle* showed a significant relationship with ITCZ based on trend correlation analysis. Expansion of mangrove populations in seasonally flooded wetlands is recorded during the late Holocene.

### Keywords

Mangrove, *Conocarpus erectus*, *Rhizophora mangle*, Pollen, ENSO, ITCZ

### 1. Introduction

One of the major concerns about global warming is the sea level rise and the impact to human society. This lead to an increasing number of research trying to comprehend the impact of climate

Download English Version:

<https://daneshyari.com/en/article/8907638>

Download Persian Version:

<https://daneshyari.com/article/8907638>

[Daneshyari.com](https://daneshyari.com)