What can we learn about the Classical Maya collapse?

Josué Polanco-Martínez*1,2

¹Basque Centre for Climate Change. (BC3) – Alameda Urquijo 4 , 4ª 48008 Bilbao Bizkaia - SPAIN, Spain

²UMR CNRS 5805 EPOC (Environnements et Paléoenvironnements Océaniques et Continentaux),
Université de Bordeaux (EPOC) – UMR CNRS 5805 EPOC, Université de Bordeaux. – Allée Geoffroy
St Hilaire, Bâtiment B18 CS 50023, 33615, Pessac, FRANCE., France

Abstract

There are many evidences that socio-political conflicts, human pressure on environmental and

climate forcing (e.g., climate change) were of the main mechanisms that triggered the disintegration

of classical Maya civilization (750 - 950 A.D.) (Demarest et al., 2004; Gill, 2000; Hodell et al.,

2005; Hodell et al., 1995; Medina-Elizalde et al., 2010; Medina-Elizalde and Rohling, 2012; Medina-Elizalde et al., 2016). This historical event brings a unique opportunity to study the role of

climate change in this complex phenomenon and how several factors interact among them. The aim

of this talk, which is open to discussion with the attendees, is threefold: 1) present a state of the art

of this topic, 2) to build a link between researchers that are working in paleoclimate, ecology and

human sciences and 3) to obtain knowledge and a wide perspective on the role of climate change in

the classical Maya collapse and how this can be used to face the current and future climate change

in the Yucatan Peninsula. Demarest, A. A., Rice, P. M., and Rice, D. S., 2004, The terminal classic in the Maya lowlands:

collapse, termination, and transformation, Boulder, CO, University Press of Colorado, 676 p.

Gill, R. B., 2000, The Great Maya Droughts: Water, Life, and Death Albuquerque, University of

New Mexico Press, 445 p.

Hodell, D. A., Brenner, M., and Curtis, J. H., 2005, Terminal Classic drought in the northern Maya

lowlands inferred from multiple sediment cores in Lake Chichancanab (Mexico): Quaternary Science Reviews, v. 24, no. 12-13, p. 1413-1427.

Hodell, D. A., Curtis, J. H., and Brenner, M., 1995, Possible role of climate in the collapse

^{*}Speaker

of

Classic Maya civilization: Nature, v. 375, no. 6530, p. 391-394.

Medina-Elizalde, M., Burns, S. J., Lea, D. W., Asmerom, Y., von Gunten, L., Polyak, V., Vuille, M.,

and Karmalkar, A., 2010, High resolution stalagmite climate record from the Yucatan Peninsula

spanning the Maya terminal classic period: Earth and Planetary Science Letters, v. 298, no. 1-2, p.

255-262.

Medina-Elizalde, M., and Rohling, E. J., 2012, Collapse of Classic Maya civilization related to

modest reduction in precipitation: Science, v. 335, p. 956-959.

Medina - Elizalde, M., Polanco-Martínez, J.M., Lases-Hernández, F., Bradley, R., Burns, S.J., 2016.

Testing the "tropical storm hypothesis" of Yucatan Peninsula climate variability during the Maya

Terminal Classic Period. Quat. Res. (in review).