

The Grijalva delta flood frequency and Mesoamerican civilizations growth, flourishing and decay

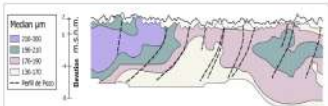
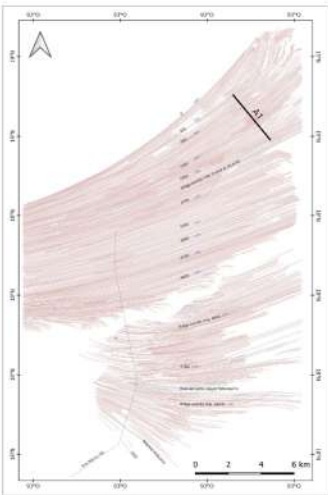
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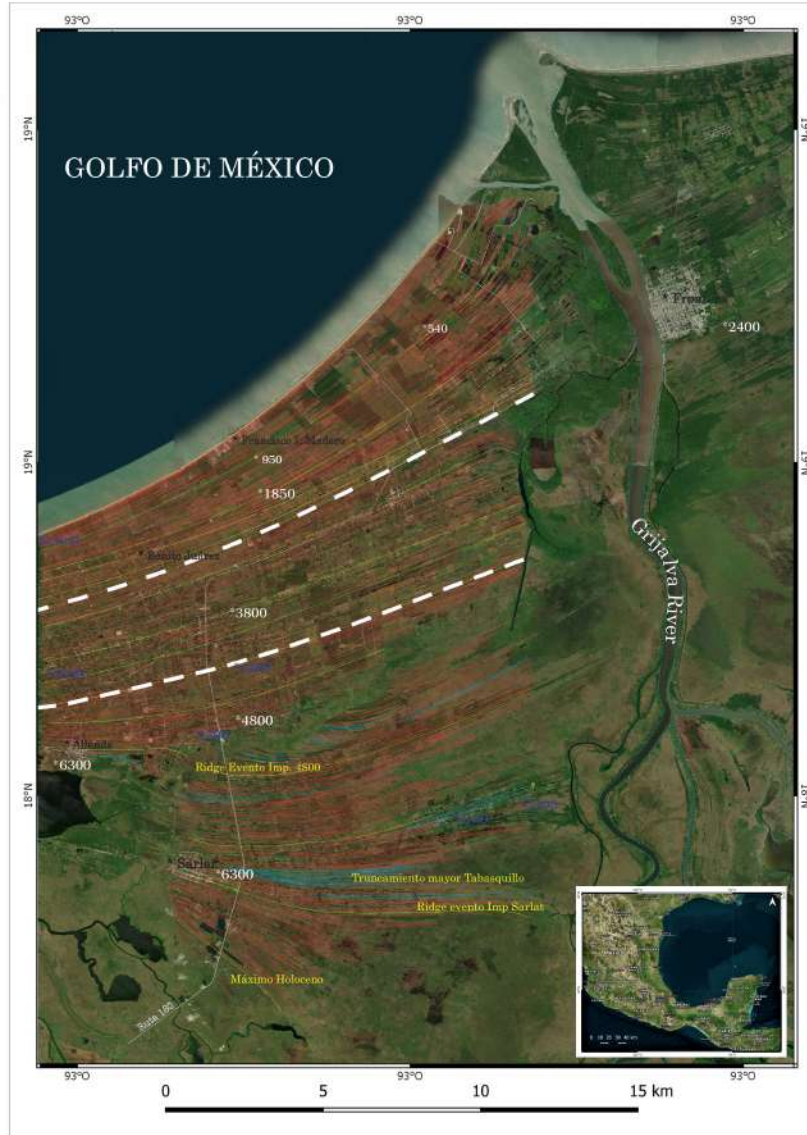


The Olmec colossal heads are stone representations of human heads sculpted from large basalt boulders. They range in height from 1.17 to 3.4 meters. The heads date from at least 900 BC and are a distinctive feature of the Olmec civilization of ancient Mesoamerica.

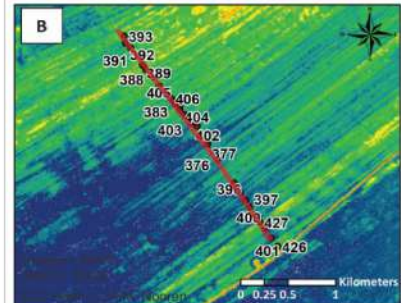


Transsect profile A1. The average grain size and the angle of immersion of the surface are analyzed. Development of age-distance models for the propagation of the coastal arc margin. Modif. of the Integral Port Administration of Dos Bocas S.A. de CV, 2005

Map references
 — beach ridge * (black) locations
 * (white) Datings (refs) — truncation CRS: WGS84



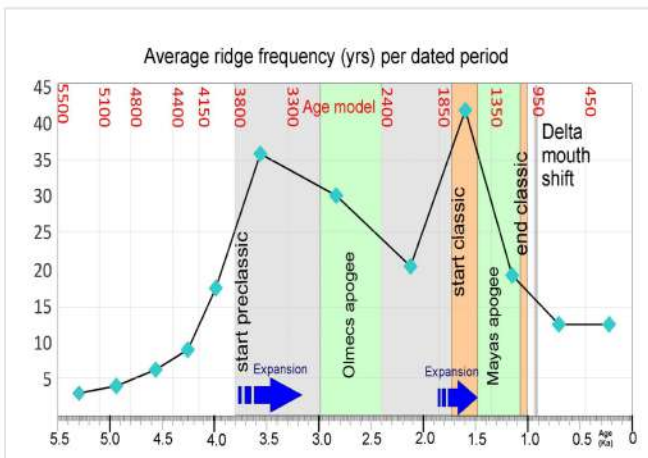
ANONYMOUS ILLUSTRATION, MAYAN CIVILIZATION



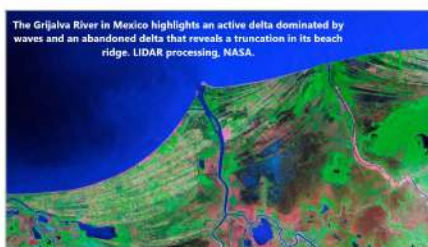
GRIJALVA RIVER



OLMEC PYRAMID



Event: XVII RAS Argentine Meeting of Sedimentology & VIII CLS Latin American Congress of Sedimentology



Keywords:
 Climate, Geochronology, Holocene, Pre-Columbian Mesoamerica

The Grijalva delta encompasses one of the longest coastal ridge successions of the world, and hence it is a unique geochronology to unveil the environmental, climatic and human evolution in pre-Columbian Mesoamerica. In order to test the synchronism hypothesis in shoreline formation with other deltas, a detailed mapping of these ancient shorelines, preserved today as ridges, also called cheniers, was performed from the start of progradation after the Holocene eustatic maximum, which is generally estimated at c.6.3 Ka. We identified 498 coastal ridges for the modern delta from the earliest age of 5500 years BP (5.5 Ka) to the present. This excess of sediment contribution that caused the periodic progradation is allowed by an extraordinary excess of water, which in the case of Grijalva comes exclusively from rain (refs). We therefore conclude that it is possible that the river floods, and the associated climatic effects, played an important role in the collapse of Mesoamerican civilizations.

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