

The Lasting Influence of Ancient Maya Agriculture on the Soils at Piedras Negras, Guatemala. (S06-fernandez171804-Oral)

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Abstract:

The impressive architecture and the evidence of highly populated centers attest that the ancient Maya were capable of producing surplus food. However, in the 9th century A.D. this civilization mysteriously collapsed. At present, there are evidences that point to unsustainable agricultural practices and exhaustion of natural resources in many Maya areas. Our objectives were to present information on soil formation rates and the taxonomic properties of the rural soils near the ancient city of Piedras Negras. These soils formed at a rate of approximately 0.09 mm/year and were all Mollisols. The soils of the backslope locations were shallow and were likely denuded of soil through erosion at the time of the Classic Maya. The soils located at the valley's floor were deep and well developed, showing signs of soil accumulation from deposition of backslope soils. The carbon isotope and phytolith data revealed that these soils were used in maize (*Zea mays*) cultivation at the time of the Maya but have remained in forest vegetation since the ancient people left the site.

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