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Magnetic study of alluvial Holocene paleosols in the Mayan Lowlands from Usumacinta River, México.

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Rock Magnetic techniques have been used to study paleosols in a Pleistocene-Holocene alluvial sequence at the Usumacinta River in the Mayan Lowlands. Concentration, grain size and mineralogy of magnetic components, mainly iron oxides in soil are used as an indicator for studying several factors involved in the soil formation processes. Magnetic susceptibility in low and high frequence (χlf, χhf), anhysteretic and isothermal remanent magnetization (ARM, IRM), hysteresis loops and Curie temperatures were measured in order to identify different stages of soil formation in the sequence and to correlate them with paleo-environmental conditions. This method allows to determine environmental changes and climatic variations as humid and warm periods during the studied interval. Also, paleosols bring us the possibility of analyze the cultural impact of human settlement along of Usumacinta River.