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Karst Topography and Sacred Places: A Comprehensive approach to understanding the Maya Landscape with Applied GIS

ABSTRACT

A vast area of Guatemala's interior is well known for its exclusivity and karst geological features that have both played a significant role in ritual and rank for the Maya and other descendent communities in Mesoamerica for three millennia, as well as for the researchers surveying and performing extensive exploration in the region today (Woodfill et al 2015). This landscape renders many caves or similar features and pre-contact settlements alike that often within a feasible proximity to each other as can be demonstrated with comprehensive and interactive internet-basedclients. Spatial data derived from known pre-contact settlement patterns, the topological composition of the Guatemalan area, and mapped out caves, pits, insurgences, and others serves to convey an abstracted yet effective representation of the region's area and depth, in addition to observable trends in early Mesoamerica urbanism (Oliphant & Pistole 2016, Woodfill et al 2015).

Today, the role of integrated geographic information systems as it benefits understanding the spiritual landscape manifested through the study area is becoming of increasing importance as spatial software and cave archaeology develop within their respected contexts. The preservation and continued study of these culturally significant, geological features relies heavily upon a holistic

understanding of the landscape and providing a comprehensive access to data as it is conceptualized for answering questions regarding Maya caves and the *sacred place*.

Key words: New World archaeology, caves, Maya, GIS, Guatemala, spatial analysis, karst features, sacred landscape.