Mapping Movements of Late Pleistocene Mammoths and Paleo-Indian Activity in the Southwest USA

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This study takes an experimental remote sensing and GIS approach to investigate the movements of mammoths in the southwestern United States. A rancher found the fragmented remains of what was later determined to be a Columbian Mammoth (Mammuthus columbi) 13,000 BP in a canyon located outside of Wagon Mound, New Mexico. The rancher also found several blades, allegedly in context, of chert that originated on the Edwards Plateau in central Texas. Due to geophysical damage by a bulldozer, only sparse amounts of bone were recovered from the site. The canyon where the site is located is suspected to be a prime gathering point where several species of animals and people congregated to drink from the natural springs within the canyon. Due to the large amount of archaeological artifacts in this area, it is highly suspected that hunting was prevalent. However, lack of diagnostic bone and lithics materials has prompted this study to take a remote sensing approach to identify why and how this mammoth came to rest in this location. It is unknown whether or not this mammoth was a direct result of a kill. However, the collection of remote sensing data, suspected paleo-vegetation characteristics, Columbian Mammoth diet characteristics, and other details may provide the information needed to map mammoth movement and distribution patterns, and the associated paleo-human activity in this Southwest. Methods will include bone tooth carbon analysis and use of animal movement modeling software, such as ArcMet, to model perceived mammoth movement patterns based on known patterns of existing large herbivores. The findings will then be projected onto a 3D simulation table for display.