# Paleoenvironmental and archaeological evidence for human-induced landscape changes in the Pantanal Wetlands

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## RESUMO

The Brazilian Pantanal is the world's largest continuous tropical wetland and is highly biodiverse. This landscape composed of a myriad of rivers, floodplains, shallow lakes, and alluvial fans was shaped primarily by late Quaternary hydroclimatic variability. However, the extent of early human disturbance remains poorly explored in the environmental history of the Pantanal. In this study, we integrated geoarchaeological information with published paleoenvironmental datasets to better understand the landscape evolution of the Pantanal wetlands. We found that permanent human settlements began in the mid- Holocene, and mounts (artificial terrains elevated above the flood level) became useful features for handling the flooding dynamics. These mounts are distributed throughout the Pantanal, and we suggest that such features had a greater impact on the landscape evolution than is often acknowledged in geomorphological studies. Additionally, hydroclimatic changes after ~ 4.5 ka contributed to human displacement and abandonment of settlements, which were restored after ~ 2.5 ka when modern hydroclimatic conditions were established.

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*Geoarchaeology; Hydroclimatic changes; Fluvial Geomorphology*