

Context for human habitation dynamics over the Holocene in the north-eastern Romanian lowlands provided by Dersca - Lozna palaeoenvironmental archive and morphometric analysis

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Humans have always impacted on global land cover and climate for millennia and the climate and environmental conditions have always been main factors for human settlement dynamics. This study focuses on a potential record of environmental history derived from the investigation of sediments recovered from the Dersca peatbog (47.938167 N, 26.260835 E) that could explain the context for human habitation dynamics over the Holocene in the north-eastern Romanian lowlands, an area that has been heavily impacted anthropologically. The core presents a continuous peat profile from the last 9000 cal. yr BP. Archaeological studies carried out in the area (8km buffer around the core site) contributed to reconstruct the human habitation dynamics. The archaeological sites were grouped based on relevant factors into categories such as slope, proximity to major waterways and relief, underlining the evolution of preferred environmental conditions for settling. It is known that human communities had some specific factors in mind when settling in an exact spot that changed throughout the time periods. The main results of spatial distribution analysis converge to conclude that: as the population number grew, the number of sites and the altitude range increased, there are 3 main areas with high density of identified sites, the sites expansion follows the accessibility of the valleys, the spatial distribution analysis of the sites located in the present floodplain is problematic. The preliminary results of the morphometric analysis of the peat core suggest significant changes that have occurred throughout the Holocene: the sediment density values closely match the humidity rates, with a clear beginning of peat accumulation (density values decrease) that matches the oldest identified sites and noticeable oscillations until 3300 yr BP, when the density values start to increase, suggesting more intense agriculture development. Increased anthropogenic pressure is reflected in a series of distinct layers in the core that correspond to the Medieval Warm Period, but the environmental factors that created them remain to be solved. We suggest that there is more to be derived from the archaeological and palaeoenvironmental perspective, as the preliminary data does not indicate a strong overall trend, but rather potentially significant trends for smaller regions inside the buffer zone (8 km).