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ABSTRACT BOOK

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Geoarchaeological evidence of Late Holocene land use transitions in Northern Mesopotamia from the infilling of Assyrian canals

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In Northern Mesopotamia (present-day northern Iraq), during the Neo-Assyrian Empire, a complex system of canals was built to increase the surface of cultivable land and improve the efficiency of the irrigated water-scape of the hinterland of Nineveh and other major urban centres. The main aims of these facilities for water harvesting were to grant socio-economic prosperity to the entire Neo-Assyrian Empire. In the late 7th century, political instability led to the Assyrian state's rapid downfall, triggering the defunctionalisation of the canal systems and the formation of a sedimentary infilling. We investigated the natural and anthropogenic processes in charge of the formation of the infilling at three different portions of King Sennacherib's Khinis canal system. Along the stratigraphic sequences, we identified water-lain sediments, desiccation features, gravel-bearing colluvial deposits, and pastoral occupation layers, anchoring the deposit to radiometric dating and contextualising it against the known regional climatic history. Phases of use, abandonment and repurposing of the canals derived from pedostratigraphic analysis evidenced a significant shift in land use from agriculture to pastoralism after the collapse of the Neo-Assyrian Empire, thus suggesting a dynamic adaptation and resilience of the local communities in response to the joint effects of climatic transition towards aridity in the Meghalayan and geopolitical instability.