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ABSTRACT BOOK

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Pleistocene paleoenvironmental reconstruction from subsoil dataset: from neritic to fluvioglacial domain in the upper central Po Plain (N-Italy)

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The Po Plain (N-Italy) is a foreland sedimentary basin bounded by two mountain ranges (the Alps to the North and the Apennines to the South), controlling its sedimentary facies and body geometries. However, the Quaternary succession of the Po Valley is mainly sealed in the subsurface: outcrops are scanty, and data from the few deep wells are not easily accessible. Therefore, data derived from perforation cuttings of water wells are a useful tool to investigate the buried stratigraphy and to better constrain subsurface geological reconstructions and correlations. Detailed sampling of sediments from cores and a high density of sampling sites over the region add important information about lithostratigraphy, micropaleontology and sedimentary source area, allowing the detailed reconstruction of the Pleistocene paleoenvironmental evolution of the Po Plain. We present data from a selection of boreholes from a repertory of ca. 35 wells drilled in the upper central part of the Po Plain, including the description of cores sedimentology, petrography, and fossil content. The studied boreholes implement the database of the area and add new significant evidence to interpret and correlate the subsurface stratigraphy of the Po Plain to the regional dynamic from the Lower Pleistocene to the end of the Last Glacial Maximum (LGM). At the bottom of most of the selected boreholes, transitional-marine and marine deposits, dated thanks to their foraminiferal assemblages to the Lower Pleistocene (Gelasian-Calabrian), are preserved. Micropaleontological data allow the correlation of these layers to the neritic domains of the Pleistocene regressive sequence of N-Adriatic Sea and Po Plain. The overlying Middle-Upper Pleistocene continental succession documents the transition from a distal alluvial plain, characterized by meandering rivers evolving in deltas and lagoons, to a proximal alluvial plain, formed by the migration of braided river systems. Finally, in the LGM an outwash plain formed in front of the glacial systems located at the southern foothills of the Central Alps.