



## **High resolution multi-proxy records of the last 60 kyr in the Southeastern Carpathian basin: towards a palaeoclimatic reconstruction from NW to SE Europe**

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Contrary to the intensively investigated North Atlantic marine and ice cores, and “classical” loess records in the Western and Central Europe, our knowledge about the last glacial climate and environmental dynamics of Southeastern Europe is still poorly known. Recent research advances in this region have established thick loess deposits in the region as important archives for understanding the last glacial climatic and environmental evolution on the continental scale.

Vojvodina is a region in northern Serbia, located in the southeastern part of the Carpathian (Pannonian) Basin, and encompassing the confluence area of the Danube, Sava and Tisa rivers. More than 60% of this lowland area is covered with loess and loess-like sediments. Aeolian silt accumulation in Vojvodina began in the late early Pleistocene and culminated during the last glacial period. As a result of relatively high accumulation rates and widespread occurrence, the last glacial loess-palaeosol sequences preserve a detailed and robust record of the last glacial climate and environmental changes in the region.

Investigations conducted during the last decade have improved knowledge and understanding of the distribution, chronostratigraphy, palaeoclimatic and palaeoenvironmental record of the late Pleistocene loess-palaeosol sequences in the Vojvodina region. Generally, the last glacial climate in the southeastern part of Carpathian Basin was much drier and warmer than in other European loess provinces. The last glacial palaeoclimatic record indicates two main cold and dry periods, corresponding with deposition of two loess layers, V-L1L1 and V-L1L2. Short-term variations of magnetic susceptibility and sedimentological proxies may be an expression of abrupt, brief, cold and dry episodes, although limitations in dating methods make suggestions of teleconnections with corresponding climatic variations in the North Atlantic region tentative. Recent high sampling resolution luminescence dating and preliminary tephrochronological results indicate possibilities independent correlation with the other continental and marine records.

At an interface between Mediterranean, Atlantic and Continental climate, the results presented in this study emphasise the importance of understanding the mechanisms behind last glacial climate change recorded in the Vojvodina loess-palaeosol sequences, as a contribution toward a more detailed spatial and temporal reconstruction of environmental dynamics across the European continent during the last 60 kyr.