



## **North Atlantic Ocean abrupt climatic events recorded in Ukrainian loess deposits**

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Loess deposits have been demonstrated to be very powerful indicators of past climatic changes throughout Quaternary and even Tertiary. In Northern hemisphere where they are widely distributed, loess deposits have been recording the numerous identified climate cycles but also the more rapid millennial changes as described in marine and ice-cores. While the record of these abrupt variations on the continent are strong in Western European series, no such evidence has been yet described eastward, in Ukrainian loess sequences, at the onset of the East European plain. Here we present the results of the high resolution investigation of Stayky upper Pleistocene loess sequence, south of Kyiv, supported by luminescence dates, and pedostratigraphical correlations. The pluridisciplinary study shows evidences of the impact of North Atlantic Ocean variations in far eastern Europe, between 38 and 15 ka, expressed by the occurrence of embryonic soils corresponding to Dansgaard-Oeschger interstadials (DOI) 7 to 2, the Vytachiv paleosol at the base of the studied series corresponding to DOI 8. Fine-grained material characterizes long transport of dust but also variations in the strength of the eolian dynamics. A grain size index (ratio between coarse and fine material), already used in other sequences, indicates that the highest values are noticed for the interval correlated with Heinrich event 2. A similar pattern can be observed between Western and Eastern Europe characterizing the impact of extent of North Atlantic variations over this wide territory as predicted in a previous modeling experiment.