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Geomorphological and geophysical investigations of Costești compound landslide

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The Moldavian Plateau is a lowland hilly area representative for Romania where landslides are a chronic phenomenon and coexists and have feedbacks with the river incision. In this area the landslides are very old, from the Holocene or even the Pleistocene period, and were reactivated intensively during the Holocene and in recent times, during the Anthropocene. The landslided areas are a space where many villages or cities developed during the time, and this is the reason why the destructive potential of landslides could have negative influences on human society. This study describes the geomorphological and archaeological context of the Bahluieț Valley at Costești village. Here the valley hillslopes where affected by two massive slope failures that created a landslide body which was incised by the Bahluieț River .The river incision created a floodplain in the hummocky topography of the landslide body, which later was filled by sediment to create a floodplain. A second stage of the incision created a narrow channel which segmented both the floodplain and the landslide deposits and created two meander cutoff islands. One of the islands hosted a Chalcolithic fortified settlement which after 1920 was continuously eroded by the migration of the channel, exposing the internal structure of the island in the river bank. This polycyclic evolution have the potential to be the most complete geomorphological suite from the Moldavian Plateau from the last 50 000 years, respective from the Upper Pleistocene to the Holocene. The geomorphological mapping and the absolute dating with radiocarbon and OSL methods of every temporal step of the evolution will increase the scientific value and would allow the classification of this geoheritage site as a protected area of national interest, from a geographical an a archaeological point of view. In the same time it would be the first paleogeographical reconstruction of the mentioned period from the Moldavian Plateau, giving valuable contribution to the geomorphologic evolution of the Romanian and European quaternary evolution in the global quaternary framework.