

## **The role of catastrophic events in slope transformation of the Forecarpathians during the Subboreal-Subatlantic: a case study of the archaeological site Brzezie 26 near Cracow (southern Poland)**

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**Abstract:** The early Lusatian site in Brzezie 26 is located in the Niepołomice- Bielcza Upland, on the watershed undercut by a fluvio-denudational dry valley (dell). Erosional relief on the Miocene clay is covered with the Quaternary loess. Luvisol (lessive soil) within the top layer of loess, on which the settlement was located, was covered with loess colluvium, with varying thickness (0.2-2.0 m). The colluvium could be distinguished on two members of different age, and accumulated in different sedimentological regime. The lower member, without clear sedimentological massive structures, lies on the “Neolithic-early Lusatian pottery pavement” within the top layer of luvisol. This member might have formed during the climatic phase dated to 3200-3000 BP, with clustering of catastrophic events well recognized in the upper Vistula basin and in the whole Central Europe. The upper member, with a small number of the early Lusatian, Medieval and early Modern pottery fragments, and very clear sedimentological structures, accumulated very quickly, probably during the Little Ice Age. The study results confirm that the biggest changes in loess relief in the upland occurred during the Subatlantic.

**Keywords:** Lusatian culture, Niepołomice–Bielcza Upland, colluvia, catastrophic events

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