

A Multi-Proxy Analysis of two Loess-Paleosol Sequences in the Northern Harz Foreland

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Within the second phase of the “Collaborative Research Centre 806 (CRC806) – Our Way to Europe – Culture-Environment Interaction and Human Mobility in the Late Quaternary” two loess-paleosol sections in the northern Harz foreland are being investigated. The region is part of the Northern European loess belt. The northern edge of the loess distribution is characterized by an interlocking of Weichselian silt and sand sized aeolian sediments. To the south the Northern European loess belt is limited by the central German uplands (Mittelgebirge). Here the continuous loess cover disperses into separated loess basins. In comparison to relatively long, continuous and intensively studied sections, e.g. along the Rhine river, investigations on loess-paleosol sequences in the northern Harz foreland have been sparse so far. In 2006 REINECKE created an overview of Pleistocene landscape developments by investigating terrace sequences and loess sections in this area. Due to improvements of research methods over the last ten years, the two loess-paleosol sequences Hecklingen and Zilly are being reinvestigated. Aiming towards a better understanding of the paleoenvironmental conditions during the Weichselian in an area close to the Scandinavian ice sheet, results from grain size, geochemical (XRF, CNS) and color measurements are combined. The results show an increased input of aeolian material during the last glacial maximum and the last cover loess period, supporting the theory of dryer and colder conditions during this time frame. Further, we can see a stronger short distant input within the recent soil and during the last glacial maximum in both profiles. In Hecklingen this is also observed within the MIS 3 soil material. Since soil material dating to the MIS 3 is present, we can assume that surface processes were less intrusive during the MIS 3 and 2 as in e.g. the Lower Rhine Embayment.

REINECKE, V. (2006): Untersuchungen zur mittel- und jungpleistozänen Reliefentwicklung und Morphodynamik im nördlichen Harzvorland. Aachen (= Aachener Geographische Arbeiten 43).