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The Weichselian (Würmian) Pleniglacial chronology of the Nussloch loess section/Germany revisited. Implications for the matching of pedosedimentary units with Greenland stadial and interstadial periods.

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The loess section of Nussloch in SW-Germany is a key profile for the reconstruction of the terrestrial palaeoenvironment of central Europe for the time of the Weichselian (Würmian) Pleniglacial (e.g. Antoine et al., 2009). In this period, the earliest modern humans invaded SW-Germany as documented in unique cultural remains from karst caves of the Swabian Jura (e.g. Conard et al., 2009). The Nussloch profile includes a Middle Pleniglacial Cambisol remain (Lohne Soil), which serves as an important loess marker horizon throughout Europe. Greenland interstadial (GIS) 8 was hitherto regarded as the likely period of soil formation for the Lohne Soil and a suite of partly soliflucted Cryosols in the hanging wall is interpreted to represent warm climate excursions of the Upper Pleniglacial period, starting with GIS8 or GIS7 (e.g. Antoine et al., 2001, 2009; Rousseau et al., 2011). However, revaluation of available chronometric data from Nussloch suggests (GIS7 to) GIS5 as the likely period of soil formation for the Lohne Soil. GIS8 is documented by deposits from thermokarst dynamics, stratigraphically several units below the marker soil. Consequences of a revised chronology for correlations of Pleniglacial Cryosols below and above the Lohne Soil with Greenland interstadials are discussed. The implications are important for European loess research as the Nussloch section serves as a reference base throughout Europe. The revised chronology suggests also that the Lohne Soil postdates the immigration of the earliest modern humans in SW-Germany and central Europe. This finding is in contrast to the earlier age-model for the Nussloch site.

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