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A multitemporal land cover information system as supporting tool for geomorphological research on Central European river systems

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The northern foreland of the Eifel-Ardenne massive is among the most intensively transformed regions in Europe. Geomorphological and sedimentological studies on colluvial and alluvial sediments in this region have pointed to a dramatic history of climate and land cover change over much of the Holocene (e.g. de Moor, 2004; Stam, 2002). However, as these studies clearly exhibit temporal variability, they can hardly recover spatial explicit variability. Information on the land cover evolution remain necessarily qualitative.

This contribution shows quantitative data on landscape variability which are based on a newly developed multitemporal land cover information system (mTELCIS). The system is based on extensive vectorisation of historical maps. It consists of 6 temporal layers and uses an extended Corine level 1 legend (European Environmental Agency 1995).

The mTELCIS provides a valuable tool for assessment of the spatial as well as temporal environmental dynamics since the Napolean era. Between the medieval forest clearing and the 18^{th} century, land cover changed comparatively little in research area (e.g. Fehn & Burggraaff, 1992). Thus, the information may also have implication for the situation in earlier centuries.

Several applications of the system including an erosion potential and surface runoff generation are presented. Land cover scenarios of geomorphological and sedimentological studies will be compared to those recovered by the mTELCIS.

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