



Sediment budget in a German upland area for the Holocene (Odenwald mountains)

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A stratigraphic and chronological sediment budget will be established on a mesoscale catchment in an area dominated by crystalline rocks of the Odenwald mountains south of Frankfurt/Main, Germany. The crucial part of this project is dominated by a sediment budget approach first established by Trimble (1975, 1983). The important period of time for this project will be the Holocene. The man-environment-interactions at that time are characterized by different land use patterns describing an enormous increase in utilization of ground since late medieval times. The objective is to determine man induced erosion by the application of quantitative methods.

The processing is based on digital soil data from the geological survey of Hessen (digital soil data 1:50 000). By the assistance of a so called "soilscape model" which has to be validated with lithologic data from the area of interest, you can easily differentiate between erosion and accumulation of sediment. These collected empirical data with their sedimentologic and lithologic information are combined with pedological information from the digital soil data in a relational database. With the help of GIS, it is possible to identify the spatial value of erosion and burial of sediment or soil material.

Another aim is to find an answer to the chronological behaviour of the transferred sediment. In addition to ^{14}C -data and OSL-samples different historical sources are applied to solve the task.