



Changing historical flood behaviour - is there a link to landscape changes?

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Although large-scale changes in flood behaviour are usually related to the variability and changes of climatic conditions and atmospheric patterns, human impact clearly also played an important role in changing flood behaviour by various types of river regulations and by land use changes (vegetation cover and soil conditions). The influence of land use changes on the flood regime is, however, still poorly understood.

Based on scientific literature, we present the major phases of historical landscape changes of the last 1000 years in Europe discussing possible impacts on the related flood regimes. On the one hand, we provide an overview of major landscape changes and phases of changes in Europe dividing the available evidence into four major regions (Central Europe, Mediterranean, North- and West-Europe). On the other hand, we present case studies where we discuss the potential differences in the impacts of changes in specific vegetation types or the abandonment of formerly cultivated areas (with special emphasis on hilly areas) on the flood regime. In this sense, we make a special emphasis on the LIA-MWP (Little Ice Age – Medieval Warm Period) transition (i.e. 13th-15th centuries) as well as on the period of the early industrial revolution (18th-19th centuries).