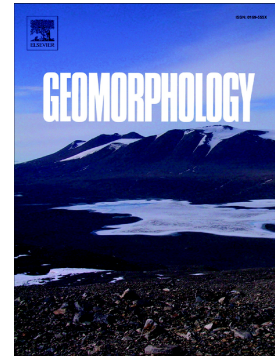


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The passive river restoration approach as an efficient tool to improve the hydromorphological diversity of rivers – Case study from two river restoration projects in the German lower mountain range

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**The passive river restoration approach as an efficient tool to improve the
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in the German lower mountain range**

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Abstract

Intensive use of European rivers during the last hundreds of years has led to profound changes in the physicochemical properties, river morphology, and aquatic faunistic communities. Rectifying these changes and improving the ecological state of all surface water bodies is the central aim of the European Water Frame Directive (WFD), and river restoration measures are the main tool to achieve this goal for many rivers. As the cost-effectiveness of all measures is crucial to the WFD implementation, the approach of the passive river restoration has become very popular over the last decades. But while costs of this approach are minimal, not much is known about the long-term effectiveness of passive river restorations. The research presented here provides essential and in-depth data about the effects of two such restoration measures on the riverbed morphology of a large river of the lower mountain region in Germany (type 9.2). More than 3200 data sets were acquired using the TRiSHa method (Typology of Riverbed Structures and Habitats). The results show a high spatial and temporal diversity and dynamic for all analyzed hydromorphologic parameters — ranging from riverbed

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