



## **Small bedrock channels: influence of slope processes on channel morphology and dynamics**

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This study provides preliminary results of a geomorphological analysis carried out in order to define the interaction between slope processes and morpho-dynamic setting of some representative bedrock channels mostly located at the heads of the Northern Marche valleys (central Italy). Numerous segments considered in this study, are characterized by a relatively small channel width (usually less than 4 m) and their link with slope dynamics is well observable within all different physiographic contexts. Specifically, landslides-channel interactions constituted the bulk of these researches focused mainly on channel-reaches responses under different conditions of sediment supply and transport capacity.

Field survey and monitoring represent the main methodological approach. A channel definition has been carried out evaluating bankfull width/depth ratio, grain size and bedrock structural setting, channel slope, lateral/vertical processes and flow regime, whereas geomorphological GIS-maps and high-resolution DTM supported the definition of slope processes. The importance of this work is related with direct applications of its results, particularly with regard to a) sediment supply and transfer within the hydrographical network and b) geomorphological hazards (i.e. related to debris flows activation and evolution).