



## **Influence of vegetation cover on bars morpho-dynamics in sinuous gravel-bed channels of the Northern Marche rivers (central Italy): cues for research.**

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Sinuous gravel-bed channels are well represented in the Northern Marche river basins (central Italy), both in main streams and along several tributaries. In both cases, lozenge bars divide flow into a main branch (always active) and secondary channels (characterized by episodic reactivations). In the study area, this fluvial pattern characterized several river reaches during the last three decades and seems to be evolved from wandering configurations. Researches in progress are mainly investigating the role played by catchment controls (i.e. land use and climate changes, gravel removal, human alterations of longitudinal profiles) on major channel transformations (i.e. with regard to bankfull width, channel downcutting, pattern changes) applying a geomorphological methodology but, detailed studies carried out in order to define sinuous gravel-bed channel at the reach scale, suggest the need of an eco-morphological approach. These considerations result particularly appropriate for the Foglia River Basin where, in some cases, vegetation covers up to the 70% of the channel surface and shows a high stability during several bankfull discharge occurrences. Field surveys and monitoring also seem to demonstrate an impulsive evolution of meso-morphologies and different time-space behaviours of vegetate bars compared to the non-vegetate ones. The aim of this contribution is to provide some preliminary considerations about influence of vegetation cover on bars morpho-dynamics of some sinuous gravel-bed channels and promote specific eco-morphologic researches.