



Anthropic impacts on sediment budget at the catchment scale: the case of the Conca river in Italy

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Erosion, sediment transport and deposition are processes strongly controlled by the climate, the hydrology and the geomorphology of the catchment. Along physical features and natural factors, the human management of the land/water resources can play an important role on the catchment energy, water and sediment balances. The Conca catchment (160 km²) in Italy is a clear example where a combination of natural and anthropic factors are rapidly changing the sediment balance and the landscape evolution. On this watershed land use changes affected the soil erosions on the hillslopes, hydraulic weirs along the river modified the sediment transport and a dam just few kilometres before the river estuary caused the littoral erosion. All these effects combined in a period of just three decades produced a drastic mutation of the sediment budget. Moreover these effects could be understood only when the analysis is carried out at the catchment scale since it has been showed of crucial importance the reciprocal dependency of the hillslope, channel and littoral systems. From a comparison of the past and present simulated scenarios, and confirmed by photographic records, we identified the areas where remediation could produce more effective results and mitigate the cited effects.