SEDIMENT TRANSPORT AND WATER DISCHARGE DURING HIGH FLOWS IN AN INSTRUMENTED WATERSHED

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Abstract

Some significant flood events which occurred from 1987 to 1992 in a small instrumented watershed in the Eastern Italian Alps (Rio Cordon, watershed area = 5 km^2) are considered. An experimental station for recording water and sediment discharge has been operating in this catchment since 1986. The relationship between water discharge and bedload transport can be analysed from the continuous recording of water discharge and the hourly measurement of coarse sediment (minimum size exceeding 20 mm) which is deposited at the recording station in an open storage area. It is possible to recognise the discharge threshold for starting coarse sediment transport during the rising limb of the hydrograph. In addition, a preliminary analytical relation between water discharge and volumes of coarse bedload transport is inferred. With respect to suspended sediment, a description is made of the procedure for turbidimeter calibration, and data recorded in 1990 and 1991 are given and discussed.