



Sediment yield estimations in Greece combined with hydrologic and geomorphologic characteristics

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Regional sediment yield estimates is crucial information on planning and design of major hydraulic works. Sediment yields in 14 river sites in Western Greece are computed with different types of sediment discharge rating curves. Different rating curves give, sometimes surprisingly, different sediment yield estimates while the true value is determined to be the outcome from the Broken Line Smoothing methodology. Mean daily discharges are available and applied to the rating curves for the computation of the associated catchment's sediment yield. Almost all sites cover a time span of minimum 10 years of measurements. The geomorphologic characteristics of the corresponding 14 catchments have been extracted based on very detailed 25-m Digital Terrain Models. The river networks have been extracted and all streams have been assigned an order according to Strahler's ordering system. A number of geomorphologic parameters are deduced by means of a GIS system and multivariate regression analyses are made in order to define the appropriate parameters that explain more efficiently the variability of sediment yield estimates. Conclusions are drawn from the geomorphologic and tectonic point of view and comparisons with other parts of the world with considerably high values of sediment yield are also made.