

# **Comparative analysis of methods to estimate sediment discharge in rivers over the upper São Francisco river basin, in Southeastern Brazil**

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Sediment transport in rivers is a natural process that may be accelerated by human action in the hydrologic basins. Sedimentometric networks and mathematical models have been developed to measure this sediment discharge. The number of the collected parameters and the frequency of operation of the networks depend on the precision of the results desired and the available resources.

In this work, the Simplified Colby Method of 1957 was utilized to estimate the sediment discharge as applied to the data of Alto São Francisco region, sub-basin 40 (DNAEE/ANEEL division).

For comparative analysis the methods Ackers & White of 1973, Engelund & Hansen of 1972, Yang for sands of 1973, Schoklistch of 1934, Meyer-Peter & Müller of 1948, Modified Einstein Method of 1955 were evaluated using data of five sedimentometric stations of CEMIG.

By this comparative study it was verified that Simplified Colby Method results in sediment discharge larger than the others methods. Nevertheless, this method seems aplicable to estimate the total sediment discharge in rivers where the relation by the suspended and total discharge is konwn.