

Statistical analysis of the dynamics of the total suspended sediment in the wadi el hammam basin (northern Algeria)

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Abstract:

Suspended particulate matter (SPM) transport in rivers reflects soil erosion processes. Therefore, an accurate knowledge of SPM behavior due to variations in hydrology (e.g. seasonal cycles) and basin features is necessary to establish annual loads and to characterize particle transport in fluvial systems.

The present paper is based on discharges and suspended particulate matter concentrations from a high-resolution database for the Wadi El Hammam (large basin) covering contrasted hydrologic years. The analysis of the seasonal distribution of suspended matter flux shows strong ranges of daily and sub-daily variation, with flood events having a strong impact. Some statistical indicators are calculated and used to describe SPM fluxes dynamics and to characterize SPM transport regime. Analysis of these results suggests that interannual hydrological variations may have a greater impact on fluvial SPM transport than basin specific parameters

Keywords:

Suspended sediment, Erosion , Oued El Hammam ,sediment transport, flood, concentration, discharge , statistical indicators.