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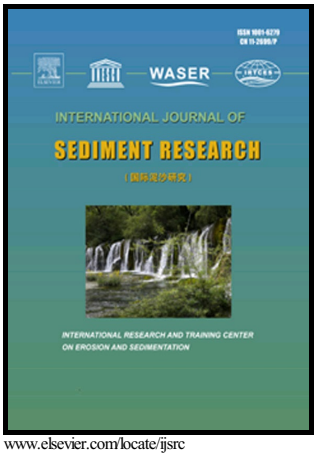

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Experiments on the effect of inflow and outflow sequences on suspended sediment exchange rates

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Abstract

In laboratory experiments, the influence of inflow and outflow sequences on the behavior of fine sediment was investigated. The experimental set-up consisted of two interconnected rectangular basins, between which water was moved back and forth. Suspended sediment concentration in the main basin as well as the sediment exchange rates were derived from turbidity measurements.The suspended sediment ratio,*SSR*, and sediment exchange rates (influx sediment rate,*ISR*, and evacuated sediment rate,*ESR*) were measured. In twenty test runs, a parametric study on the magnitude and frequency of inflow and outflow cycles, the relative duration between inflow and outflow sequences, the initial sediment concentration, and the intake position was done. An initial test with stagnant water described the settling behavior of fine sediment and served as a reference scenario.The test

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