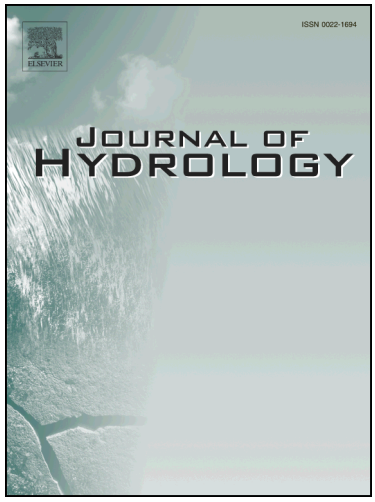

Research papers

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Characteristics of Sediment Resuspension in Lake Taihu, China: A Wave Flume Study

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Abstract

Lake Taihu is a typical shallow lake which frequently happens sediment resuspension induced by wind-induced waves. The experiments are carried on to simulate the wave disturbance processes in wave flume by setting a series of wave periods (1.2s, 1.5s, 1.8s) and wave heights (2cm, 10cm). It aims to analyze the characteristics of sediment resuspension and the mechanisms of nutrients release and to evaluate the effects of sediment dredging on sediment resuspension and nutrients release in Lake Taihu. The results show that wave shear stress during 2 cm and 10 cm wave height processes ranges 0.018 - 0.023 N/m^2 and 0.221 - 0.307 N/m^2, respectively. Wave shear stress has no significant differences between wave periods. Wave height has much more effects on sediment resuspension. Wave height of 2cm could induce total suspended solids (TSS) reaching up to 5.21 g/m^2 and resuspension