

Resuspension of Marine Sediment in Osaka Bay by Tsunami

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The non-dimensional bed shear stress in Osaka Bay by the tsunami caused by Nankai Trough Earthquake was calculated. And the conditions which a resuspension of marine sediments occurs were clarified in every region of Osaka Bay. Resuspension not occur in the western part of Osaka Bay, where the predicted maximum flow velocity of tsunami is 1.8 m/s, under the present condition of the water depth and the moisture content. On the other hand, the resuspension occurs in the eastern part of Osaka Bay by the predicted tsunami. The occurrence and the scale of resuspension in the eastern part depend on the moisture content and the flow velocity of tsunami. Extremely strong resuspension will occur continuously throughout tsunami hitting in the estuary with over 72 % of moisture content. The scale of resuspension such a "Hot Spot" is decided by the moisture content. Marine sediments contain cysts and heavy metals especially in the estuary. We are afraid that resuspension of sediment lead red tide and water pollution over wide area to carried by advection after tsunami.

Keywords: Tsunami, Sediment, Resuspension, Osaka Bay, Nankai Trough, Shear stress