Abstract

It has been difficult to accurately estimate TBT concentrations in sediments using conventional models, in which TBT concentrations in sediments were calculated only by taking temperature and dissolved oxygen levels into account. In this study, a new model has been developed, and processes, in which sediments undertake re-suspension associated with the flow of the overlying water, are incorporated into the model to reproduce more realistic phenomena in marine environments. The calculated results of TBT concentrations in water and sediments were compared with field data. As the result, the model was validated with a good agreement between them. In addition, the persistence of TBT in sediments much longer than that in water was revealed in the TBT fate simulated by the model, indicating adverse impacts of TBT on benthic organisms.