

Numerical Simulation for Currents and Sedimentation due to Tsunami

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Accuracy of numerical simulations of tsunami has a often been discussed in terms of the final run-up heights and inundated areas. The present technique of simulation is said to yield accurate results within an error of 15 % as long as run-up height concerns. Even though this accuracy is regarded sufficient enough for practical planning of tsunami defence works, there are still many questions left unsolved about the simulated wave profiles, tsunami-induced current and sedimentation. This study aims to examine these problems. In order to discuss about the accuracy of the current and sedimentation, it is indispensable to obtain the measured data. For current velocity induced by tsunamis, airphotos taken in the case of the 1960 Chilean tsunami are analyzed for Kesennuma bay, Sanriku coast, Japan. A part of this bay was very much scored by the tsunami. By comparing two charts measured before and after the tsunami, we can get the sea bottom deformation due to tsunami. The accuracy of current velocity in the presented numerical model and the development for movable bed simulation for tsunami are discussed in Kesennuma bay.

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