

An experiment of tsunami-like flow through coastal vegetation designed for classrooms

LIU, Tzu-yu^{1*} ; LIU, Chi-min² ; LIU, Ting-hsuan¹

¹Taipei Municipal Dunhua Elementary School, ²Chienkuo Technology University

This paper present an experiment for simulating tsunami-like bores passing over coastal vegetations designed for being performed in classrooms. Easy experimental facilities are used to display and study which layout of coastal vegetations can greatly reduce the bore speed. An acrylic tank which is divided into two regions by a movable gate is used to generate a tsunami-like bore. At the downstream region, different layouts of acrylic cylinders are placed to simulate the planting of coastal vegetations. When the gate is suddenly removed, the water in the upstream regions will flow through cylinders and go outside of the open end of the tank. The longest distance of the flow out of the tank is measured by a video camera. Finally the longest distances of all layouts are compared to find out the best design of layout for reducing the flow speed. The experiment not only can be performed in classrooms, but also provides an insight to the role of coastal vegetations in disaster reduction.

Keywords: experiment for classrooms, tsunami-like flow, coastal vegetation, disaster mitigation