



## **The Study of Coastal Buffer Zone in Taiwan for Conception of Coastal Environment Recovery and Protection**

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The coastal environment is sensitive in terms of ecology, geology and natural hazards. The coastal zone is also an area of multiple uses which competing with each other for specific purpose or benefit. In order to achieve the goal of sustainable development and minimize the potential conflicts among various uses in the coastal areas, the concept on "coastal buffer zone" has been proposed and discussed as a major theme at numerous international forums. During the process of recent economic development in Taiwan, population increases and activities expanded from the narrow coastal region to the ocean's edge. Watson (2000) reported one such scenario at Jimmy's beach in Port Stephen, New South Wales, Australia, in which part of the foreshore had been subjected to chronic erosion caused by land development too close to the edge of an inland sea without pretesting stability of the coast.

Based on the coastal hydrodynamics, this paper presents a technical method for establishing the coastal buffer zone. Howmeiliao Coast is an illustrative example for present study. An experimental run-up formula and the SBEACH model are performed to determine the onshore and offshore demarcations, respectively. Using present technical method together with conditions of 50-year recurrence period of typhoon waves and average maximum tides, variation of coastal profiles are calculated. Dynamic simulations for various coastal profiles and analysis of physical quantities related to beach changes, together with calculations from run-up model, the coastal buffer zone on ocean and land interfacial area are then determined. Finally, we focus the subject of management of coastal disaster and mitigation by technical, planning and management policy. It is necessary to achieve the balance between economic development and environmental conservation in order to carry out the target of sustainable development of coastal buffer zone.