



Koaping River Flood Simulation due to Climate Change

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The Koaping River suffered huge damages from the Typhoon Morakot in 2009 and Typhoon Fanapi in 2010. Climate change will bring huge impacts to nations all over the world. Those impacts including the followings: change in biosphere, long-duration drought, large floods trigger by extreme torrential rain, spatial change in homelands, and food scarcity. The extreme weather induced by climate change is the most direct factor influencing the floods, e.g. the extreme rainfall increases discharge and inundation area, sea level and estuary water level raising induce overbank floods, and land-use abuse and land-slides trigger high concentration of sediment discharge and river bed aggradations.

This study aims at the settings of hydrological scenarios due to climate change, evaluation of hydraulic structures (e.g. levees), vulnerability and risk analysis, and adaption strategy and practices. The study area is focused on Kaoping River Basin. First, the hydrological scenarios due to climate change are set. Secondly, based on those scenarios, the hydraulic structures are evaluated. Thirdly, the vulnerability and risk analysis are performed. Last, adaption strategy and action plans are proposed by referencing to actions taken by the Netherlands, Japan, Korea, and USA for improving the capacity of the hydraulic structures of Kaoping River.