

# **Flood Inundation Map and Its Application**

Tsang-Jung CHANG and Ming-Hsi HSU

Department of Bioenvironmental Systems Engineering/ Hydrotech Research Institute,  
National Taiwan University, Taiwan

[tjchang@ntu.edu.tw](mailto:tjchang@ntu.edu.tw)

Flood inundation is one of the major natural disasters in Taiwan. Structural measure was the primary solution for flood inundation defense in Taiwan. However, structural measure is always limited to the design standard and cannot prevent damages when floods exceed certain scale. As a result, non-structural measures provide another alternative for flood mitigation. The study introduces the establishment of inundation potential map (IPM) that gives required information for non-structural measures in Taiwan. The IPM, originally built by numerical simulations of various rainfall scenarios, was integrated into the government GIS database, which has been applied by the local governments of Taiwan for land use managements, flood warning systems, and emergency responses to reduce flood damages and impacts.

Keywords: inundation potential, flood mitigation, non-structural measures, flood defense strategies