

International Conference on

Coastal Zones

May 16-18, 2016 Osaka, Japan

**Hitoshi Tanaka**

Tohoku University, Japan

Tsunami propagation into rivers: Problems and solutions

The 2011 Great East Japan Earthquake Tsunami overflowed existing embankments along Japanese coasts, and inundated the coastal area facing the Pacific Ocean. The maximum tsunami run-up height attained as high as 40 m. Because of so extreme energy, tsunami propagated far upstream of rivers as well. The maximum tsunami run-up distance in a river was 50 km observed along the Kitakami River located in Miyagi Prefecture, resulting in serious damages to riverine structures. In addition, the tsunami propagation into the river and subsequent return flow caused considerable change in river topography such as erosion of sand bar and sand spit at the river entrance. Although there have been numerous number of studies dealing with tsunami behavior in the sea area, limited number of investigations have been made for tsunami in rivers. The main objective of this lecture is to introduce hydrodynamics of tsunami ascending rivers, resulting riverine disasters, and also countermeasures.

Biography

Hitoshi Tanaka finished his PhD study at Tohoku University, Japan in 1984. After working in universities such as Utsunomiya University (Japan) and Asian Institute of Technology (Bangkok, Thailand), he was promoted to a Full-Professor in Tohoku University in 1996. He was a Visiting Researcher at ISVA (Institute of Hydrodynamics and Hydraulic Engineering), Technical University of Denmark in 1996. His main research interest lies in fluid mechanics such as turbulent wave boundary layers, related sediment movement and also resulting morpho-dynamics in coastal and estuarine environments. His study sites are not confined to Japan, but covering various countries worldwide such as Vietnam, Thailand, Korea, Indonesia, Oman and Bolivia, etc.

hitoshi.tanaka.b7@tohoku.ac.jp