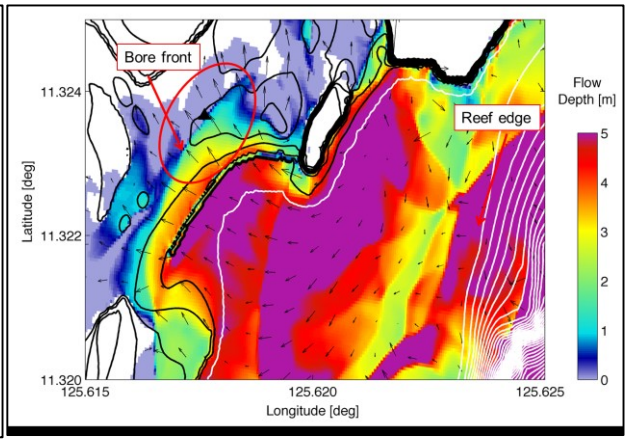
IRIDeS members present research results at the 2015 ASCE/COPRI Coastal Structures and Solutions to Coastal Disasters Joint Conference (September 9–11, 2015)

Theme：Resilient coastal communities
Location：Boston, Massachusetts, USA
Link: http://www.copricoastalconference.org/

From September 9-11, the ASCE COPRI Coastal Structures and Solutions to Coastal Disasters Joint Conference was held at the Sheraton Hotel in Boston, MA, USA. Presentations were conducted in 4 parallel sessions over 3 days, attended by approximately 300 coastal engineers working in academics, industry, and government from North America, Europe, and Japan. Development of infrastructure to mitigate tsunami and storm surge was a major theme, along with traditional coastal engineering measures for harbor construction and wave energy reduction.

One outcome of the conference was recognition of the necessity of assessing the effects of extreme events on infrastructure, and designing infrastructure to withstand such events. Before the effect of extreme events on infrastructure can be determined, it is necessary to evaluate the nature of extreme events that can affect each location where infrastructure is present, be these events tsunami, storm surge, floods, or otherwise. Prof. Roeber's talk on tsunami-like surf beat during Typhoon Haiyan gained much interest because it identified a type of hazard that has thus far been unaccounted for. Due to his work, US government agencies are beginning to think about how to assess the potential for this type of hazard. Prof. Bricker's presentation discussed the need to understand the assumptions inherent in the models used for flood and tsunami inundation. Many tsunami inundation models use spuriously small equivalent roughness values for vegetated and urban areas because these models reference experiments with inappropriate scaling. Identifying valid experiments and measurements allows for a well-informed choice of realistic equivalent roughness values.

Coastal & riverine areas (channel bed and beach material)	0.02 (sand) - 0.14 (woody wetland)
Farmland	0.04
Forest	0.1 (orchard) - 0.16 (decidious) - 0.18 (evergreen)
Low-density urban	0.05 (commercial)
Medium-density urban	0.12
High-density urban	0.15



Left: the Manning's n values recommended by Bricker et. al. (2015). Right: Plan-view of tsunami-like bore hitting Hernani, the Philippines, from Roeber and Bricker (2015).

Presentation by Associate Prof. Jeremy D. Bricker (Hazard and Risk Evaluation Research Division)
Jeremy D. Bricker, Stanford Gibson, Hiroshi Takagi, and Fumihiko Imamura
Review of equivalent Manning's n roughness values on floodplains in open channel and tsunami inundation models

Presentation by Assistant Prof. Volker Roeber (Hazard and Risk Evaluation Research Division)
Volker Roeber and Jeremy D. Bricker
Tsunami-like bores generated from storm waves

Prepared by: Jeremy D. Bricker (Hazard and Risk Evaluation Research Division)