[EE] Evening Poster | H (Human Geosciences) | H-GM Geomorphology

[H-GM02]Geomorphology

convener:Tsuyoshi Hattanji(Faculty of Life and Environmental Sciences, University of Tsukuba), Masayuki Seto(Fukushima Future Center for Regional Revitalization, Fukushima University), Hiroshi Shimazu(立正大学地球環境科学部地理学科)

Wed. May 23, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)

The main subject of this session is interdisciplinary discussion on the whole range of themes relating to geomorphology, especially geomorphic processes, landform development and its relation to environmental changes, geomorphological hazards and their mitigation, relationships among geomorphic processes, other natural phenomena and human activities, and various techniques of geomorphological measurements and landform classification. All presentations and discussion of this session are made in English.

[HGM02-P04]The Effect of Specific Stream Power upon the Distribution of Riparian Vegetation

*Jui Tien Tsai[1], Su Chin Chen[1] (1.National Chung Hsing University)

Keywords:specific stream power, riparian vegetation

Taiwan Island is characterized by its abundant rainfall and mountainous landscape. The rapid flows and excess sediment load in mountainous area largely impede vegetation recovering. However, in lowland plains where flow energy dissipates, riparian vegetation recover soon even after large floods. The difference in the amount of riparian vegetation between mountain and plain areas results in different channel morphology and river planforms. In this study, we used satellite image and google street map over the past few years to identify the location where riparian vegetation flourishes. Generally, permanent riparian vegetation in river banks exists in an elevation around 10 to 30m above mean sea level. Specific stream power along river longitudinal profile was computed by GIS to further quantify the energy exerted by river flow . It is found that the difference of the specific stream power in flooding and base flow condition is more significant in mountain area than plain area due to rapid hydrologic responses in steep mountain areas. This explains why vegetation is often removed in mountain areas but survives in plain areas. These results can be an implication in river rehabilitation and eco-engineering. Vegetation is a common material in eco-engineering and should be placed in proper locations where specific stream power is low enough (about 30 W/m2). This helps to avoid removal of vegetation material and keeps the function of vegetation engineering stable.

©Japan Geoscience Union