[JJ] Evening Poster | H (Human Geosciences) | H-DS Disaster geosciences

[H-DS12]Human environment and disaster risk

convener:Tatsuto Aoki(School of Regional Development Studies, Kanazawa University), Nobuhisa Matsuta(Okayama University Graduate School of Education), Toshihiko Sugai(東京大学大学院新領域創成科学研究科自然環境学専攻, 共同), Mamoru Koarai(Earth Science course, College of Science, Ibaraki University)

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

This session discusses disaster risks being inherent in the natural and human environment, which sometimes happen to appear at a disaster, from the viewpoint of not only natural sciences but also social and human sciences. Examples of discussion subjects are as follows: uncertainty of forecasting disaster and problems of huge disaster with low frequency that raised from the 2011 Tohoku earthquake, the methodology for improving hazard maps, national recovery plans considering probable changes or sustainability of the society, international cooperation for disaster mitigation, problems of active faults or liquefaction, adjusting disaster mitigation plan to the regional characteristics, technical development for supporting disaster prevention, education for the disaster mitigation.

[HDS12-P03]Establishing the Soil Water Index Warning Value by Using Lithological Factors and Landslide Ratio: a case study of the Kaoping River basin, Taiwan

*Yi-Jun Liu[1] (1.National Chung Hsing University)

Keywords:Tank Model, Soil Water Index, Kaoping River Basin

Typhoon Morakot attacked South Taiwan in 2009. The heavy rainfall caused a wide range of landslide in the Kaoping River basin and loss of life and property. Classification of rainfall alert and time for release are important for disaster reduction and prevention. This study collected 79 disaster cases from 2006 to 2016 in the Kaoping River Basin including five lithologic zones. Based on the linear relationship between the H2 of the Tank Model and the Soil Water Index (SWI), the SWI alert value are set by the intersection of the critical line of disaster cases of 50% coverage and the regression line. Furthermore, landslide maps are used to calculate landslide ratio by administrative regions. Finally, the SWI alert value and landslide ratio are combined to establish the alert value of sediment-related disasters. The alert values range from 200 to 350 mm with 4 levels of intervals of 50 mm which could be key references of warning release.