[EJ] Evening Poster | A (Atmospheric and Hydrospheric Sciences) | A-OS Ocean Sciences & Ocean Environment

[A-OS14]Freshwater discharge from rivers and estuaries to the ocean

convener:Shinichiro Kida(Research Institute for Applied Mechanics, Kyushu University), Dai Yamazaki(Institute of Industrial Sciences, The University of Tokyo), Humio Mitsudera(北海道大学低温科学研究所, 共同), Yosuke Alexandre Yamashiki(Earth &Planetary Water Resources Assessment Laboratory Graduate School of Advanced Integrated Studies in Human Survivability Kyoto University)
Tue. May 22, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)
The water cycle from land to the ocean involves complex dynamics of rivers and buoyancy driven flows in estuaries and the ocean. Recent progress in satellite observations and numerical models are beginning to illuminate how this water cycle occurs on various time scales globally and regionally. This session welcomes various process studies that investigate the dynamics and material circulation related to the freshwater cycle from land to the ocean such as surface runoff, river transport, estuarine circulation, and coastal river plumes based on numerical, observational, or theoretical studies.

[AOS14-P03]Development of large-scale hydrological - sediment transport model based on Hydro-debris2D

*Yosuke Alexandre Yamashiki[1], Kuroki Ryusuke[1], Tsutao OIZUMI[2] (1.Earth &Planetary Water Resources Assessment Laboratory Graduate School of Advanced Integrated Studies in Human Survivability Kyoto University, 2.Japan Society of Marine Science and Technology)
Keywords:Sediment transport, debris flow, Hydro-debris 2D

We attempted to perform large-scale hydrological &sediment transport numerical simulation using hydro-debris 2D into the extreme heavy rainfall events induced in July 2017 in Kyushu island mainly in upstream area of Chikugo-river basin. The detailed mechanism of sediment yield differs from one another depending upon soil characteristics and saturation, however using the large-scale numerical simulation it was possible to cover overall estimation for wide area which has been accomplished using hydro-debris 2D integrated numerical simulation for three layer. The advantage of the scheme is to enable numerical simulation without clear distinction between pure water flood event, sedimentation caused by the large volume of waterflow induced by the heavy rainfall and increased river stream, and debris flow caused associated large-scale sediment movement in the slope. However, due to the grid spacing of numerical simulation, debris flow can be reproduced only when fine-scale grid spacing were employed, whereas other sediment transport can be reproduced by relatively course numerical simulation.