[EE] Evening Poster | H (Human Geosciences) | H-CG Complex & General

[H-CG25]Deltas and estuaries: multidisciplinary analyses of complex river-mouth systems

convener:Yoshiki Saito(Estuary Research Center, Shimane University), Kazuaki Hori(Department of Geography, Graduate School of Environmental Studies, Nagoya University), Guan-Hong Lee(共同), Qing He(State Key Laboratory of Estuarine and Coastal Research, East China Normal University)
Mon. May 21, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)
This session has foci on morphodynamics, material cycling, and sustainability for deltas and estuaries. We invites contributions that advance research on deltas and estuaries as complex river-mouth systems from modern and ancient examples, and develop integrated frameworks for delta &estuary dynamics modeling on various temporal and spatial scales from studies of coastal evolution over the Quaternary to small-scale sediment/material transport processes and also studies based on field observations, numerical simulation and flume studies, and also contributions that promote data collection and sharing for advancing science and local solutions, consider policy and governance issues linked to the sustainable development of deltas and estuaries, and use in-situ and satellite data for guiding modeling and risk assessment.

[HCG25-P07]Tidal modulation on the extent of saltwater intrusion into the Mekong River, southern Vietnam

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Keywords:Mekong River delta, tides, land-sea interaction, saltwater intrusion

A three-dimensional numerical simulation using ROM has been undertaken to examine the impact of tides on the extent of salinity intrusion to the Mekong River in the Mekong River Delta, where streamwise gradient of the water-level is extremely low. The model predicted 3-d current speeds and salinity in the Co-Chien distributary of the Mekong River for both dry and wet seasons by specifying boundary values such as temperature, salinity, and hourly water levels which were obtained by referring to CTD data and to water level records at tide-gauge stations. It was found that during the dry season when the river discharge is low and the extent of the salinity intrusion is much more apparent than during the wet season, the location of the salinity front, defined as a section where the salinity of 0.5psu was observed, may shift for more than 10 km in upstream and downstream direction in a tidal cycle. This result indicates the importance of considering such a large and short time-scale temporal variability in the location of the salinity front which has not been considered in previous studies.