

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

[H-CG28]Coastal wetlands: geomorphologic, biologic and anthropogenic processes

convener:Kiyoshi Fujimoto(Nanzan University)

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Coastal wetlands are very fragile environment against external environmental changes such as sea-level rise and anthropogenic impacts. On the other hand, coastal wetlands have a significant role as a place for carbon sequestration in the belowground as well as the aboveground. This session will discuss the geomorphologic, biologic and anthropogenic processes on the coastal wetlands in the various climate zones during the Holocene. For example, coastal wetlands in the tropics have evolved with the development of wetland forests such as mangrove forest, peat swamp forest and fresh water swamp forest. The most significant process for habitat formation and maintenance of the former two forests are peat production and decomposition, which are also significant processes on the coastal lowlands in the temperate and subarctic zones, though the mechanism of the processes might be different. Geomorphological processes such as sedimentation and erosion by fluvial and marine processes are also important for all of coastal wetlands. However, the environment of coastal wetlands has been destroyed by various human activities such as deforestation, agriculture land development, peat mining, and shrimp farming in and around mangrove forests in recent years. We would like to invite the wide discipline of research papers on not only the natural processes but also the anthropogenic processes in order to offer the scientific basis for creating sustainable management systems on the coastal wetlands in the future.

[HCG28-P04]CNS elemental analysis of tidal flat sediments in Ena Bay, Miura Peninsula

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The ratio of total sulfur (TS) to total organic carbon (TOC) (C/S ratio) and concentration of TS have been used to identify whether sediment deposited under freshwater or brackish water or sea water. For example, Berner & Raiswell (1984) reported that the C/S ratio of marine sediment is 0.5-5 (the average is 2.8±1.5), and freshwater sediment is >10, for sediment containing >1% TOC. Terashima et al. (1983) analyzed sediments of freshwater lakes, brackish water lakes and deep sea at and around Japan. The results showed that C/S ratio of marine sediments and freshwater sediments are >6 and >9, respectively. They also suggested that TS in freshwater sediments is usually low, but that the ratio of Lake Suwa (0.09 %) is similar to those of deposits of Obama (0.07 %) and Suruga (0.09 %) bays. More recently, Sheng et al. (2015) investigated Laizhou Bay in China, where the mean C/S ratios were 55.91 in marine sediment and 35.08 in river sediment, respectively. TS in marine sediment were 0.01-0.09 % and the average is 0.03 %. TS in river sediment were 0.42 %, and were anthropogenically-derived. Since C/S ratio and TS vary considerably from region, it is necessary to construct a determination indicator for the research area. This study reports CNS elemental analysis of tidal flat sediments in Ena Bay, Miura Peninsula, Kanagawa Prefecture, central Japan to establish the criteria for applying Holocene alluvial lowland around Shizuoka Prefecture.