The changes of Holocene depositional environment in the Hwajinpo and Songjiho lagoons of the eastern coast of Korea

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Two boring cores have been obtained from the Songjiho and Hwajinpo Lagoons of the eastern coast of Korea. The thicknesses of unconsolidated sediments in both lagoons are 13.5m and 9.9m respectively. According to lithologic observation and X-radiograph, we can recognize a cycle of marine transgression - regression, however we assume that two lagoons have been taken different depositional environment history.

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The core of the Hwajinpo lagoon is composed of five units related with the different depositional environments, which are comparable with the results of analysis on 1995 core. The lowest was the weathered condition with muddy sand materials, and very coarse pebble bearing sand deposited on it. Then, well-laminated clay layer deposited with several clear boundaries(bright gray layers) observed on X-radiograph. The massive layer containing Potamorcobula amurensis indicating brackish water condition, lay on the well-laminated deposit. The upper most was composed of pebbly sand, which inferred river mouth channel deposits.

The core of the Songjiho lagoon is also composed of five sedimentary units from the X-radiograph and lithological observation. The lowest weathered unit lay on the basement rock, and massive clay unit deposited on it. Conformably, clearly laminated sediments developed, and massive clay containing shell fossils deposited on the laminated layer. Finally, as the same of the Hwajinpo lagoon, coarse sand deposited on it with the intercalation of organic rich silty sand layers upto the ground surface.

Accoding to lithologic observation, we can recognize a cycle of marine transgression-regression, however we assume that two lagoons have been take different depositional environmental histories.

Other analysis being carried out such as grain size measurement, paleomagnetism, 14C age dating, carbon, nitrogen, and sulfur contents and micropaleontology, will give us more information on the detail environmental changes along the eastern coastal area of Korea