

**SEDIMENTARY RECORDS OF CLIMATE AND SEA-LEVEL CHANGES DURING
THE LATE QUATERNARY**

- stratigraphy of the tidal deposits, west coast of Korea -

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The macrotidal deposits along the western coastal zone of Korea have been investigated and interpreted to be deposited in response to climate and sea-level changes and fluctuations during the late Pleistocene and Holocene. Based on detailed analyses of the lithofacies and geotechnical properties, these macrotidal deposits can be classified into the major five lithostratigraphic units. In ascending order, they are: Unit V (basal gravelly sandy deposit), Unit IV (organic muddy deposit), Unit III (lower part: tidal sandy and muddy deposit; upper part: weathered silty deposit), Unit II (siderite-containing stiff muddy deposit) and Unit I (tidal sandy and muddy deposit).

The sequential lithostratigraphic development stages of those five units controlled by Pleistocene climate and sea-level fluctuations are the following: Unit V and IV are interpreted as being deposited in the fluvial topographic low area in the basin. As the late Pleistocene interglacial (highstand of sea-level) sea-level transgressed the Yellow Sea basin, Unit III was presumably deposited under a macrotidal regime. Following the interglacial highstand of sea-level, the entire basin of the Yellow Sea was exposed subaerially during the Last Glacial Maximum (LGM) in the OI Stage 2, in which Unit III would also have been exposed to subaerial weathering. Naturally, the upper part of Unit III is interpreted as an exposed and weathered part, whereas the lower part would not have been exposed. After the LGM, a swamp environment occurred in a coastal topographic low area (Unit II). For the final sequence stage of the tidal basin history, onset of the Holocene transgression and the accompanying high sea-level allowed the deposition of Unit I, the modern muddy macrotidal facies, i.e. the Holocene sequence.