

Characteristic Nature of the Unconformity between Holocene and Late Pleistocene in the Tidal Deposits along the Western Coast of Korea

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ABSTRACT

It is generally well known that Quaternary is characteristic geologically in terms of glacial and interglacial repeats and their associated unconformity formation. This paper deals with the first finding of the characteristic and significant meaningful unconformity between Holocene and late Pleistocene, which implies submergence and emergence of the tidal sedimentary basin along the western coastal zone of Korea during interglacial stage(10S-5e) and glacial time(10S-2). The stratigraphy of intertidal deposits in the Haenam Bay, western coast of Korea shows two depositional sequence units(Unit I of Holocene and Unit II of late Pleistocene) bounded by an erosional surface of disconformity. The disconformity is related to the latest Pleistocene sea-level lowstands (probably during the LGM).

The Unit II is interpreted as intertidal deposit showing tidal sedimentary structures and crab burrow ichnology and has two parts (the upper part and the lower part) showing different lithology and character. The upper part of Unit II shows characteristic subaerial exposure features (emergence) and its related lithology. Such subaerially exposed upper part (more or less 4m to 5m in thickness) is characterized by yellow-brownish sediment color, cryoturbated structure, crab burrow ichnofacies and high value of shear strength. Geochemical and clay mineral analyses of the upper part sediments also indicate subaerial exposure and weathering. In particular, very high value of magnetic susceptibility of the upper part in comparison to that of the lower part is interpreted as pedogenetic weathering during the subaerial exposure period.

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