

Sedimentary structure and detection of relict shore lines from GPR records on the Miho Peninsula, Shizuoka, Japan

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The coastal erosion is one of the serious environmental problems in Japan, especially along a coast of the Miho Peninsula, Shizuoka. GPR survey has been conducted to clarify sedimentary structure of the Miho Peninsula, and to detect a location of the buried past shore lines. It is well known that the coast line of the peninsula has been migrated during last 20 years due to intensive erosion started in late 1980s. A series of air photos well documents such active migration and also confirms the location of the former shore deduced from GPR records. The GPR not only reveals the general sedimentary structure of the peninsula, but also presents two main radar facies in this area. Theses are 1) beach deposits characterized by seaward dipping reflectors located at 1 to 6 meters above sea level and 2) aeolian dune facies, seaward dipping reflectors at 7 to 14 meters above sea level. Aeolian dune has been accumulated on the flat and erosion surface of the beach deposits. Several beach facies on GPR records are interpreted to be the past shores. The location of the most striking beach facies on GPR, for example, is well correlated with the former shore in 1988 determined from the air photos (Yoshikawa et al., 2006). It is concluded that GPR survey is useful method to detect varied and past shore lines and document erosional and depositional processes.