Reconstruction of Paleo-shoreline since the Middle Pleistocene in the Northwestern Part of the Kanto Plain, Central Japan

Hiroko Matsushima[1]; Toshihiko Sugai[1]; Kiyohide Mizuno[2]; Shoichi Hachinohe[3]

[1] Environmental Studies, KFS, UT; [2] Institute of Geology and Geoinformation, GSJ/AIST; [3] Center for Envir. Sci., Saitama

The Middle Pleistocene in the interior of the Kanto plain is known little mainly because it is buried below the Upper Pleistocene and the Holocene. In the northwestern part of Kanto Plain, the studies of the stratification in the Middle Pleistocene based on the drilling core analysis progress recently (Nakazawa and Nakazato (2004), Matsushima et al. (2006)). The authors analyzed two cores named as GS-FK-1 (Fukiage Core; 173.20m) and SA-GD-1 (Gyouda Core; part:220.00m, whole:600.00m) drilled in the northwestern part of the Kanto Plain in order to construct the stratification during the Middle Pleistocene based on glacio-eustatic changes. Many geologic columns in the northwestern part of the Kanto plain were collected and correlated with GS-FK-1 to recognize the distribution of marine and fluvial deposits.

The authors tried to reconstruct paleo-shoreline during the period of the maximum transgression from the distribution of marine deposits since the Middle Pleistocene. As compared to the magnitude of each transgression, in MIS11 and MIS9, the sea reached most distant area from the present during the last 400 ka. In MIS7, the sea did not spread more than in MIS11 and MIS9. In MIS5, the sea did not spread more than in MIS11 and MIS9 and spread more than in MIS7. In MIS1, the paleo-shoreline runs along the fluvial valleys formed in the last glacial period. It is suggested that the crustal movement and fluvial processes have been effective on the magnitude of each transgression along with the global eustacy characterized by the marine oxygen isotope changes.