Abstract
Diatom assemblages in sediments were analyzed to clarify sedimentary environments during the mid- to late-Holocene and to determine the upper limit of marine facies at the Mokoto site along the Okhotsk Sea in Hokkaido.

There was a replacement of marine and brackish-water diatoms by freshwater ones at +1.80m altitude. Marine and brackish-water diatoms occurred over 40% at the horizons below +1.80m altitude, where a marine diatom Cocconeis scutellum and brackish-water diatoms Bacillaria paradoxa, Navicula peregrina and Synedra tabulata occurred. This indicates that sedimentation took place under a lagoon-like environment. Peat accumulation and the dominance of freshwater epiphytic diatoms indicate peat moor environments at the horizons above +1.80m altitude. At about 5,500 yrs BP, the Mokoto site changed from lagoon littoral to peat moor conditions. Based on the diatom assemblages in sediments, the upper limit of marine facies can be regarded to be +1.80m altitude, indicating the mid-Holocene sea-level high stand at the Mokoto site.

Key index words
diatom assemblage, Holocene, Mokoto, relative sea level, sedimentary environment, upper limit of marine facies