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# Paleoceanographic Change at the Eastern Margin of the Western Pacific Warm Pool during the Mid-Pleistocene Transition

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To investigate evolution of the Western Pacific Warm Pool (WPWP) during Pleistocene, a 560-cm-long sediment core was retrieved at the eastern margin of WPWP (PC090302, 5°53'N 177°26'W, 4136 m). The core sediment was analyzed for the stable isotope composition ($\delta$18O and $\delta$13C) of planktonic foraminifera G. sacculifer, $CaCO_3$ and biogenic silica (BSi) contents, and the amount of coarse-size fraction (CSF; >63 $\mu$m, represented mostly by foraminifera). The depositional age was defined for the last $\sim$1 Myr by two geomagnetic reversals; Matuyama and Jaramilo. The analyzed attributes show an abrupt change across the $\sim$800 kyr boundary. The $\delta$18O and $\delta$13C compositions of G. sacculifer have shifted to the lighter values after 800 ka. Foraminiferal tests dominate the carbonate fraction in the younger interval with CSF of 15-35 wt%, while coccoliths are predominant in older intervals. The overall sedimentation rate and BSi content are also high in the lower interval, suggesting the permanent changes in primary production of the ocean surface across the $\sim$800 kyr boundary. The enhanced production of BSi and coccoliths indicates fertile surface ocean condition at the study site for 800 ka to 1 Ma, coinciding with the Mid-Pleistocene Transition (MPT) marked by a shift in the glacial-interglacial climatic variability from 41-kyr cycle to high-amplitude 100-kyr cycle. The possible explanation of the elevated surface production is the enhanced Hadley and Walker circulation during the MPT and subsequent intensification of equatorial upwelling. To support this interpretation, analyses for lipid biomarkers are on progress to delineate changes in sea surface temperature and the relative contribution of primary producers in the study site.