Reconstruction of the surface water mass fluctuation during the late Pliocene to early Pleistocene based on planktonic foraminiferal fossils from the Mera Formation, Chikura Group, in the southernmost part of the Boso Peninsula

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The purpose of this study is to examine whether the cooling event has occurred associate with the NHG (Northern Hemisphere Glaciation) off the Boso peninsula and how the surface water mass has changed with the glacial-interglacial cycle. We carried out analysis of planktonic foraminiferal assemblages at the 57 horizons corresponding to period from 3.0 Ma to 2.2 Ma. We propose 6 phases including the following three distinctive phases based on relative abundance of environmental indicator species.
Phase II (2.75-2.65Ma): Transitional water species increased up to 50%. It was a cold environment where the influence of mixed water was strong.
Phase V (2.42-2.35Ma): Kuroshio species increased up to 40%, which is the highest value in this study
PhaseVI (2.35Ma~):Transitional water species increased to about 50% while repeating amplitude. Therefore, cooling was gradually strengthened in this phase.
Cooling did not proceed unilaterally after 2.7Ma, it occurs again from 2.35Ma after the period when the influence of Kuroshio became temporarily stronger. In addition the glacial-interglacial cycles seem to be affecting composition of planktonic foraminiferal assemblages.

Keywords: Planktonic foraminiferal assemblages, Chikura Group, Northern Hemisphere Glaciation

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