



Mid to deep-depth ocean circulation in the western North Pacific during the last glacial maximum-deglacial transition period: evidence from foraminiferal radiocarbon age

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We evaluated benthic-planktic foraminiferal radiocarbon age differences in 3 piston cores from off northern Japanese main island (MR01-K03 PC6, 42° 21.42' N, 144° 13.36' E, water depth 1066m; MR01-K03 PC4/5, 41°07.1'N, 142°24.2'E, water depth 1366 m; IMAGES MD01-2409 (41°33.9'N, 141°52.1'E, 970 m) and 1 gravity cores from the Shatsky Rise (NGC108 (36°36.85'N, 158°20.90'E; water depth 3390 m) in order to evaluate the mid to deep-depth ocean circulation in the western North Pacific. The sedimentation rates for these cores range from 2.3–6.6 cm/kyr in core NGC108 and 62.3–74.7 cm/kyr in core MD01-2409. Especially, in the core MD01-2409, radiocarbon age difference data from more than 50 layers corresponding to last glacial maximum and last interglacial transition period are in detail discussed to reconstruct past ocean circulation with high time resolution of < 50 years. Additionally, to obtain correct calendar ages in these cores, we measured the radiocarbon ages of the planktonic foraminifera in the layer above tephra which had already dated on the 14600 cal years. The reservoir ages on the 14600 cal years were more than 200 years higher than the Holocene values of ~800 years. This reservoir age were also reflected to discuss the timing of circulation changes in this study. The result of this study are in detail reported in the conference.