

Scientific drillings on reefs and carbonate platforms: their recent progress and future

Hideaki Machiyama [1], Hiroki Matsuda [2], Yasufumi Iryu [3]

[1] Deep Sea Res. Dept., JAMSTEC, [2] Dept. Earth Sci., Fac. Sci., Kumamoto Univ., [3] Inst. Geol. Paleontol., Tohoku Univ.

Recent advanced studies on carbonate sediments recovered by ocean drillings have provided excellent scientific information on sea-level changes and paleoceanographic variations, in spite of difficulties in drillings and low recovery of cores. Thus, the carbonates are very important in order to reveal climatic changes at precise resolution and to construct a model for environmental dynamics. To complete these objectives, we need to expand our knowledge on the followings: interactions between climatic changes and carbonate sedimentation; mechanism of fluid circulation and its relation to diagenesis; and changes in biogeochemical cycles from greenhouse to icehouse periods. We would stress that a new drilling ship for shallow-water sediments is needed for the future drilling programs.