

ABSTRACT

Evolution of North Malé Atoll Rim during the Last Full Glacial Cycle (Malé Island, Republic of Maldives)

by

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My study focuses on Malé Island to elucidate the late Pleistocene-Holocene evolution of the discontinuous North Malé Atoll rim. Analyses of two boreholes, published information from additional boreholes, and a multi-beam bathymetric map for Malé Island slopes and deep surroundings, are available for this study. Facies analyses of the lower sedimentary unit reveal an overall deepening coralgall reef that accumulated probably during the previous interglacial (MIS 5e) and subsequently was altered by meteoric diagenesis during a 100 kyr-long exposure. The upper Holocene unconsolidated coralgall reef, overlying the karstified coralgall MIS 5e lower unit, was initiated at ~8200 kyr BP and vertically grew 25 m high until 6510 kyr BP, protected behind a karstified late Pleistocene reef. A narrow 30-35 m deep, newly formed lagoon started to fill up only at ~5500 kyr BP, when a reef initiated on top of the highest Pleistocene karstified reef and sea-level rise stalled.