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TITLE: Mid-Holocene extinction of cold-water corals on the Namibian shelf steered by the Benguela oxygen minimum zone

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ABSTRACT:

Abstract An exceptionally large cold-water coral mound province (CMP) was recently discovered extending over 80 km along the Namibian shelf (offshore southwestern Africa) in water depths of 160?270 m. This hitherto unknown CMP comprises >2000 mounds with heights of up to 20 m and constitutes the largest CMP known from the southeastern Atlantic Ocean. Uranium-series dating revealed a short but intense pulse in mound formation during the early to mid-Holocene. Coral proliferation during this period was potentially supported by slightly enhanced dissolved oxygen concentrations compared to the present Benguela oxygen minimum zone (OMZ). The subsequent mid-Holocene strengthening of the Benguela Upwelling System and a simultaneous northward migration of the Angola-Benguela Front resulted in an intensification of the OMZ that caused the sudden local extinction of the Namibian corals and prevented their reoccurrence until today.

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