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Calm-water reefs and rough-water reefs of the Caribbean Pleistocene

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Examination of a number of late Pleistocene Caribbean shallow-waterreefs revealed a pattern of wave-induced reef zonation analogous to that known from the Recent. Comparison of the zonal sequences of the Recent reefs with their fossil counterparts provides 8 key for the interp'retation of paleo-hydrodynamic conditions, ie. direction and degree of wave exposure during growth of the Pleistocene reefs. The spectrum of Pleistocene wave exposure recorded ranged from prevailing heavy surf generated by oceanic swell to no significant wave turbuience. The regional variation of reef types in the Caribbean area during late Pleistocene high sea level stands corresponds to the Recent pattern thus giving evidence for a basically similar distribution of wave energy (and consequently of wind force and directions) as can be observed today.

Key words: Caribbean Sea, coral reef, paleoecology, Pleistocene, reef zonation, wave exposure.