

EVOLUTION OF EASTERN BRAZILIAN CORAL REEFS DURING LATE QUATERNARY (FROM 7000 YRS BP TO 2000 YRS AD)

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The paper focuses on the evolution of coral reefs from Eastern Brazil during the period under the dominant control of sea level oscillations, from the outset of reef growth in Holocene time, until the Europeans arrived this part of America, and the reefs fate after this later event. The oldest age obtained from corals recovered at the base of a reef in south Bahia (7220 calibrated years before present) is a further evidence that reef initiation, after 8000 yrs BP, was a global scale event. At the inner shelf initial reef growth follows the catch-up pattern of vertical accretion of reef structures (reef growth rate higher than rate of sea level rise), and this occurred when sea level was already at or above its present position. The final stage characterizes lateral growth of reef framework and development of algal ridges, the signature of a regressive/still-stand phase of sea level. At the shelf break, deeper than 50m, the give-up phase of reef development favored the formation of coralline algae rodoid facies above the reef's drowned surface. Despite the reefs of Bahia have been coexisting for a long time with a muddy siliciclastic influx, since the beginning of colonization of Brazil (1500 yrs AD) they have been destroyed by a powerful combination of human induced stresses such as the increasing sediment runoff and pollution, unsustainable fishing practices, grounding and trading of reef species, among others. During the past two years coral bleaching associated with abnormally high sea temperatures have occurred.