

THE SEABED OF CONTINENTAL SHELF EAST OF COAST CEARÁ, BRAZIL

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RESUMO: The continental shelf of Ceará, northeast Brazil, is an open shelf area with a width of about 60km, covered mainly by sands and gravels from siliciclastic and carbonate sources. It is influenced by constants conditions of winds and currents, which characterize fair weather with significant height waves of 1.5 meters. Those conditions added to the geologic history of sea level fluctuations modelled the current continental shelf mosaic formed mainly by fields of sand dunes, patches of carbonate algae and by the presence of submerged reefs, possible indicator of ancient shoreline positions. The observation of the seabed based on the analysis of Landsat satellite images, ROV images, hydrodynamic and sedimentological characterization, presented a zoning according to the morphological characteristics, type of bottom and depth ranges that can be distinguished in four different zones: High Turbidity (<12m, 20%), Algae and Sands (12-30m, 42%), Transverse Dunes (30-40m, 20%) and Carbonate Sediments (> 40m, 9%). Considering the extension of Algae and Sands Zone 4.621Km², 42% of the mapped area (total 10.979Km²), and that it constitutes the base of the food chain of the coast, becomes evident the relation with the great production of lobster captured in this area. This contrasts on environmental issues between the high potential for exploitation of mineral resources and marine ecosystems. Therefore, the mapping of the continental shelf of Ceará permitted the marine spatial planning based on the knowledge of evolutionary processes and relations of the living and non-living marine resources.

PALAVRAS CHAVE: Halimeda, ROV, Sand