

Characterization of the Shallowing of the Silting Process on Japuiba Inlet

-Angra dos Reis, Rio de Janeiro, Brazil

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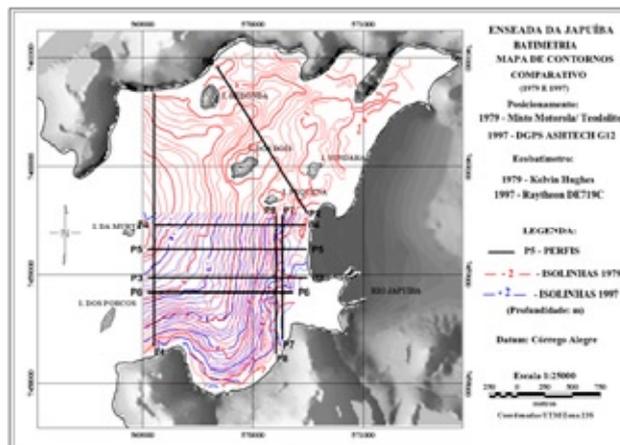
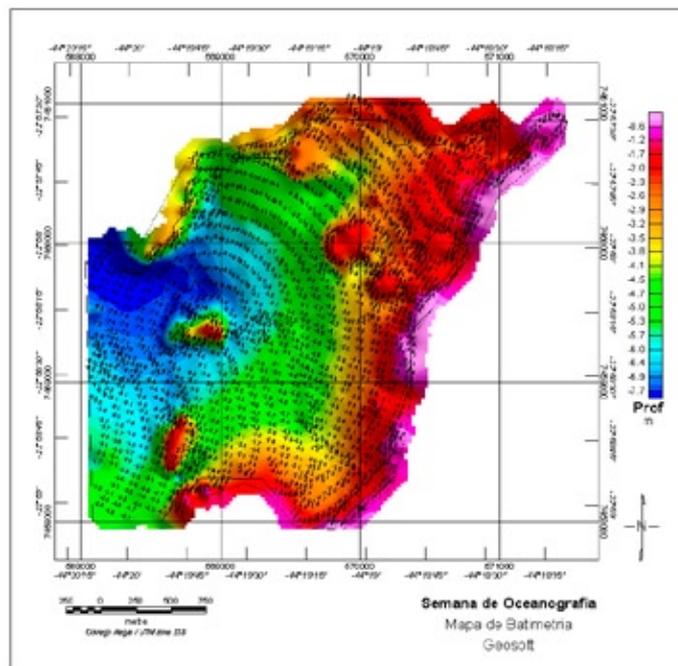
Coastal sedimentary processes are very fast in terms of geologic time. Human action, changing environmental conditions may accelerate these processes.

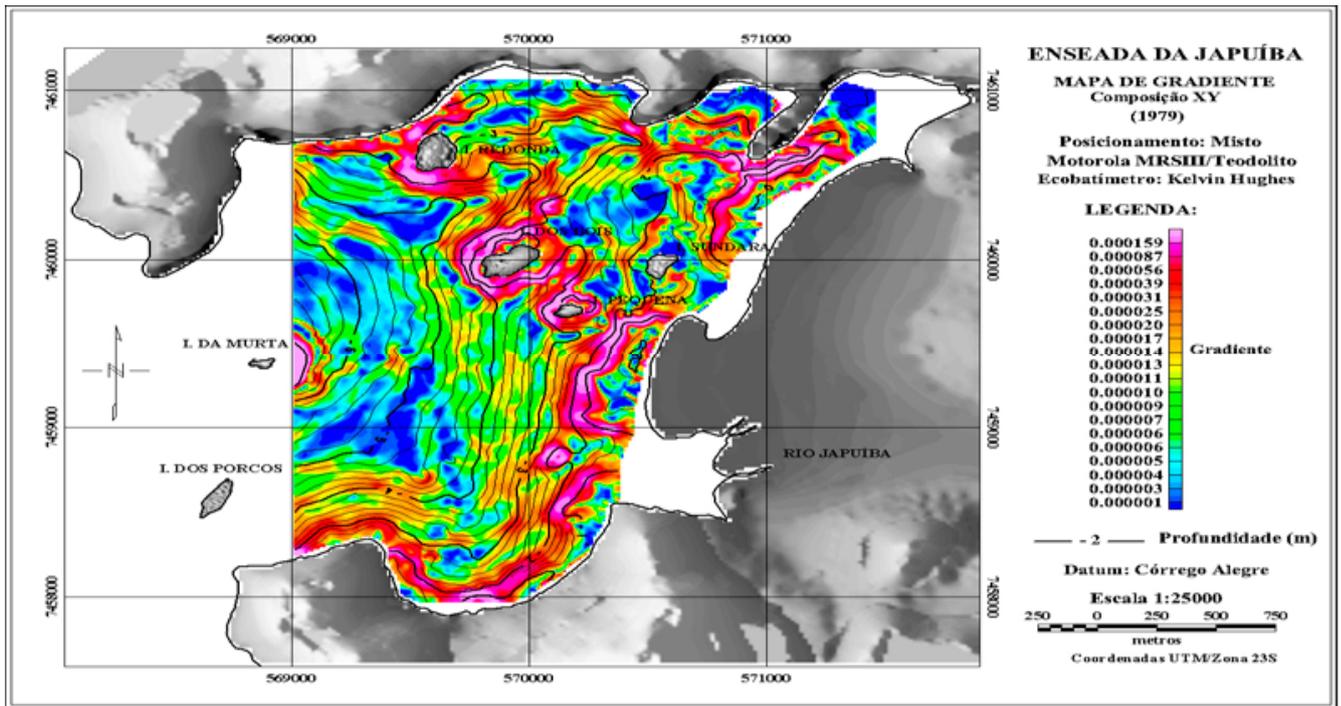
According to personal observations provided by local inhabitants, the Japuiba river mouth, located inside the Ilha Grande Bay, in the southern coast of Rio de Janeiro, is observing a silting process, resulting on the development of a remarkable sedimentary deposit.

A multidisciplinary research was carried out to characterize, measure and correlate the silting process to the human activity nearby the river mouth. This research comprised the comparison of historical bathymetric information, surveyed by the Brazilian Navy in 1979, with newly acquired bathymetric data surveyed at 1997.

Additional information from sedimentological analysis, Pb210 dating, and interpretation of series of aerial photographs, from 1962 and 1991, were also used.

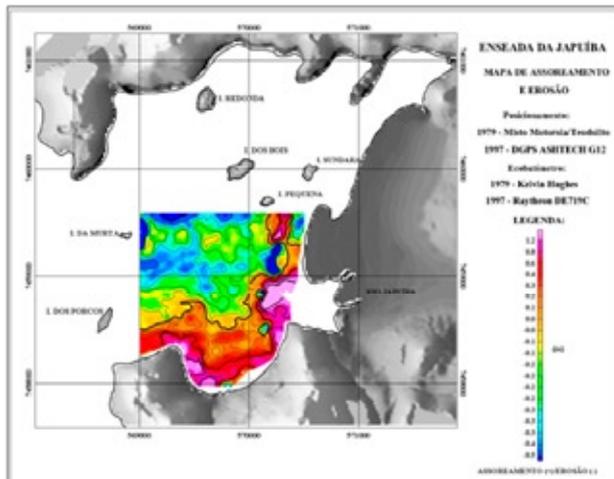
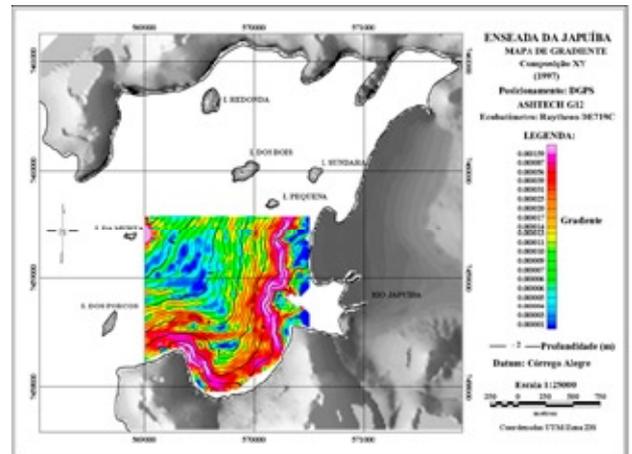
The silting process at the Japuiba river mouth has contributed to an estimated volume of more than 430.000m³ of sediments. Conceivable causes are the human intervention, known to enhance the solid discharge, such as: mangrove and river-margin forest destruction, rectification of the Japuiba river course and lack of urban development plans.





An ongoing erosive process, responsible for the removal of more than 280.000m³ of sediments, was also observed at the deepest parts of the river mouth. This process was tentatively correlated to the unbalanced equilibrium of the bathymetric profile due to the increased runoff and erosional effects of the meteorological tides and resulting currents, acting upon this lowenergy environment.

Further oceanographic studies are required in order to confirm this interpretation.



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