

Brazilian Continental Shelf: Prevailing Processes and Products

Figueiredo, Alberto G., Jr. Universidade Federal Fluminense
Department of Geology – Lagamar Tel./Fax. (55)(21)719-4241
alberto@igeo.uff.br Av. Litoranea, s/n 24210-340 Niteroi, RJ -
Brasil

The Brazilian continental shelf extends from 4° North to 34° South along more than 8,000 km and comprises an area of about 700,000 km². Shelf is wide and up to 300 km near the Amazon river mouth and becoming narrow in northeast Brazil reaching a minimum of 8 km wide next to Salvador City. Toward south it become wide and variable between 50 and 210 km.

Sediment coverage varies from muddy in the Amazon shelf to carbonatic in the northeast and sandier to the south. Carbonate predominates in the northeast and also in the outer shelf of Amazon and southern outer shelf.

In the northern shelf, the Amazon discharge; macrotide regime and the North Brazilian Current play major role on sediment distribution. The Amazon sediment discharge construct in the shelf a large submarine delta over a mid shelf tidal ridges field. In the northeast, waves and wind are the most important factors on sediment dynamics since river discharge is of minor importance. In southern Brazil waves and river discharge are the prevailing factors. The La Plata river influences the southern most shelf of Brazil.

Besides modern processes, sea-level fluctuation during the Quaternary played an important role on sediment distribution and imprinted several characteristics in the ocean floor that last till these days.