

RATE OF SEDIMENTATION IN THE COASTAL SYSTEMS AND ON THE SOUTHER CONTINENTAL PLATFORM OF THE STATE OF SÃO PAULO, BRAZIL.

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Analyses of the concentrations of the natural radionuclides ^{210}Pb and ^{226}Ra , scattered in the environment in vestigial amounts in witnesses of the coastal and oceanic areas provide a historical record of events and make it possible to estimate the background and variations in the volume of sediments laid down extensive periods of time. The results of the analyses of the rates of sedimentation obtained in the coastal systems (Cananeia-Iguaçu system) and the southern continental platform of the state of São Paulo, by means of the calculation of the ^{210}Pb and ^{226}Ra by gamma spectrometry, are presented in this study. A detector of hyperpure Germanium with a low level of bottom radiation and a study of the prototype of these radionuclides was used for the analysis of these same radionuclides in the marine sediments. The analysis of the ^{210}Pb was undertaken by means of the gamma emission of 47 Kev and that of ^{226}Ra by the gamma emission of the Bi (609 Kev). Additionally a sedimentation rate was calculated for purposes of comparison on the basis of the levels of ^{137}Cs present in the witnesses, the biennium 1963/1964 being taken as the maximum peak of atmospheric emission by nuclear explosions as from which time on the atmospheric emission of this radionuclide diminishes and its rate of deposition on the earth's crust is considered constant. The rates of sedimentation obtained for the coastal system show agreement of the values obtained for ^{210}Pb (5.33mm/yr) with those obtained through the dating method for ^{137}Cs (5.46mm/yr). The sedimentation rates obtained for the continental platform correspond to values some five times inferior to those obtained in the coastal systems.