



Polycyclic aromatic hydrocarbons (PAHs) in Mudbelts on the continental shelf from São Paulo coast, Brazil.

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Mudbelts are formed by prograding sequences of accumulation of fine sediment over the continental shelf. They are characterized by elongated sediment deposits, which have bathymetric expression, three-dimensional shapes and sedimentological characteristics that reflect the tectonic conditioning, the climate of the adjacent continent and the continental shelf. Continental shelves are very sensitive environments on the continent-ocean interaction that are subjected to anthropogenic impacts. Because organic contaminants tend to strongly adsorb to fine particles, the mudbelts have a great potential to be the final destination for those organic anthropogenic materials. The objective of this study was to evaluate the accumulation of polycyclic aromatic hydrocarbons (PAHs) in a mudbelt coastal area located on the Brazilian southeastern continental shelf. An 18 cm-long sediment core at 60 m water depth was collected and sub-sampled continuously at 1-cm interval. The samples were Soxhlet-extracted with a mixture of dichloromethane and n-hexane (1:1, v:v) and purified with an alumina chromatographic column. PAH were quantitatively analysed in a gas chromatograph coupled to a mass spectrometer (GC/MS). The contents of PAHs found in the sediment samples ranged from 196 to 350 ng g⁻¹. It was also possible to observe the predominance of high molecular weight PAHs over low molecular weight PAHs in the whole sediment core. Diagnostic ratios suggest predominance of pyrolytic process of continental sources, such as partial combustion of fossil fuels and their by-products.