

# HYDRODYNAMICALLY-DRIVEN PATTERNS OF RECENT SEDIMENTATION IN THE SHELF AND UPPER SLOPE OFF SOUTHEAST BRAZIL

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Sedimentological parameters of 206 box-core tops and 387 van Veen grab samples were analysed so as to understand the distribution, source, and sedimentation rates in the shelf and upper slope of the southern Southeastern Brazilian margin. Most of the parameters (bulk organic matter constituents,  $\delta^{13}\text{C}$ , and  $\epsilon\text{Nd}$ ) can be grouped on northern and southern sectors, separated by a sharp boundary. This suggests that sediment sources and sedimentary processes are different in both regions. The southern sector of the study area is more influenced by cold waters coming from the southern portion of the South American shelf and the organic fraction revealed an important role played by the primary productivity in the sedimentation. Also,  $\epsilon\text{Nd}$  values indicate that part of the inorganic fraction of the southern sector sediments are allochthonous, probably coming from younger rocks of the Andean chain probably reaching the shelf through the La Plata river runoff. In the northern part of the study area the sedimentation is controlled almost exclusively by the meandering of Brazil Current. Compositional and isotope bulk organic parameters showed a more complex mixing of terrigenous and pelagic fractions. Also,  $\epsilon\text{Nd}$  values are associated with the precambrian rocks of the Brazilian shield. The whole area exhibits low sedimentation rates, varying from 5 to 660 mm.

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