ORIGIN AND DISTRIBUTION OF CARBONATES ON THE CONTINENTAL SHELF OFF KALPITIYA - COLOMBO

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110 sediments samples collected from the Kalpitiya to Colombo continental shelf have been studied for the carbonate content. The Carbonate fraction of the sediment averages 80% on the shelf between Kalpitiya, Talavila, Marawila and Negombo. The percentage of CaCo3 in these samples are several times greater than the average found in sediments from the western continental shelf of Sri Lanka. The sediments south of Talvila and in the nearshore area between Mampuri and Colombo have very low percentages (<10%) of carbonate. With increased distance offshore, the content of CaCo3 in some samples increases from 20% to 55% and a positive correlation with Organic matter is observed. This could be attributed to the increase ion the occurrence of organism such as corals and foraminifera in the sediments.

The CaCo3 content is derived mainly from the shells of Foraminifera and Corals. The minor constituents include Red-Green Algea, Mollusca, Bryozoa, and beachrock fragments. The majority of grains are rounded and showed solution effects. The coarse Carbonate fraction shows distinct regional faunal assemblages. Corals, Red-Green Algea found mainly off Kalpitiya are rare from Chilaw to Colombo. The average Carbonate mineral assemblage consists of 47.7% Aragonite, 38.6%. High-Mg Calcite and 13.7% low-Mg, Caleite. The principal modes of origin of the Carbonates on the continental shelf from Kalpitiya to Colombo are probably (1) biological and (11) physical - from destruction of coarser particles and in the fine size fraction (e.g. Foraminifera).

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