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Title: THE LATE QUATERNARY DEVELOPMENT OF THE SEGARA ANAKAN LA SOUTHERN JAVA: DOES IT OFFER INSIGHTS INTO NATURAL VERSUS ANTHROPOGENIC CAUSES OF RECENT ENVIRONMENTAL CHANGES IN LAGOONAL ESTUARIES IN INDONESIA ?

Abstract:

The Segara Anakan Lagoon at the south coast of Java is a unique lag that is separated from the Indian Ocean by a barrier island, Nusakam Island. Sixtytwo subsamples of a marine sediment core (BH-5) have l used for studying the paleobatyhmetry of this lagoon, which has beer derived from the distribution of benthic foraminifera. The results of th quantitative and cluster analyses of benthic foraminifera shows that t lagoon underwent three different stages with different water depths c the (Late) Quaternary. This is shown by three sediment sequences th characterized by different microfossil indices. The sediments from dep interval I (0 - 704 cm) are typical of a marsh habitat zone and reflect fluvial sedimentary system with no microfossil indices. All microfossils horizon are reworked fossils and therefore cannot be used as fossil in Sediments from depth interval II (704 - 1825 cm) are representative inner neritic to marsh habitat zone and indicate the existence of a lag sedimentary system, with Ammonia beccarii (Linne) being the domina benthic foraminifera. Sediments from depth interval III (1825 - 3000 reflect a middle neritic to inner neritic zone in a shallow-water sedime system, which is dominated by Uvigerina bassensis Parr. Overall, the distribution of benthic foraminiferal suggests paleobathymetrical char ranging from shallow-water to marsh habitat environments in the stu area,. Furthermore, a quantitative analysis using planktonic and bent foraminiferal assemblages shows that two different biofacies can be distinguished in the sediment sequences. The results of this analysis s that there are two different sediment sources from which the sedimer supplied to the lagoon. Sediments in depth interval I (0 - 704 cm) ca the Jampang, Nusakambangan and Kalipucang Formations in the nort of the lagoon. These sediments were transported by the Citanduy Riv contrast, sediments from depth intervals II (704 - 1825 cm) and III (3000 cm) came from the Halang Formation and were transported by Cibeureum River which enters the lagoon in the north. These importa findings of varying sediment provenance and noticeable paleobathym changes in the geological past clearly need to be considered when ide