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Coastal management tools and instruments, databases

Development Of Effective Environmental Management Tools

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Tokyo Bay, Ise Bay and the Seto Inland Sea are the three largest enclosed coastal seas in Japan. Of these areas, a significant correlation between the incidence of red tides and water quality has been observed in the Seto Inland Sea (Honjo 1991). While no such correlation has been observed in Ise Bay and Tokyo Bay, a knowledge of the causes of red tides is considered necessary for the effective management of these semi-closed systems. Suzuki (2007, 2008, 2009) therefore developed an index to assess the severity of red tide events (Red Tide Index) using a new multiple regression model in Ise Bay and Tokyo Bay. This study clarified the factors that affect the red tide index. Specifically, the regulation of N and P and their effect on the red tide index in Tokyo Bay and Ise Bay, with fewer observations considered in Tokyo Bay compared with Ise Bay. In addition, a cleanup of the marine environment was also conducted in 1988 and a new method for evaluating environmental impacts on the hydrosphere, such as global warming and fluctuations in N and P resulting from large-scale occurrence of red tide Heterocapsa circularisquama, in Uranouchi Bay, an enclosed coastal sea in Kochi Prefecture, was developed. The models have a Variance Inflation Factor of less than 10 without multicollinearity. In addition, the study also examined the occurrence of green tides at locations adjacent to thermoelectric power plants. These results can be applied to ecological studies on the algae responsible for red and green tides in enclosed coastal seas. Keywords: enclosed coastal, algal blooms