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Nutrient Salts and Chlorophyll-a in the Egyptian Mediterranean Coastal Waters

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Abstract

The levels of nutrients (NH_4, NO_2, NO_3, TN, PO_4, TP and SiO_4) as well as chlorophyll-a along the water column of 25 stations distributed in six sections perpendicular to the Egyptian coast line in belt area of depths reaches 200m, extending between El-Arish (north of Senai Peninsula) and Mersa Matruh sectors were investigated during late spring and early summer 1995. The obtained data indicated that the belt area can be classified into two main sides one is the eastern side (lies on the Nile Delta, east of Alexandria), harboured relatively higher NO_3, NO_2, DON, TN, SiO_4 and chl-a and lower NH_4, PO_4, OP and TP than the other western side (relatively, for from Nile effect and lies west of Alexandria). The abundance of the N -ions in the two sides is generally in the order NH_4 - N > NO_3 - N ≥NO_2 - N reflecting the preference of the phytoplankton organisms for uptake of NO_3 than NH_4 for their N - assimilation. Most nitrogen and phosphorus compounds in the study area are mainly present as organic forms. N:P:Si ratios indicated that the Egyptian Mediterranean coastal waters is N-limited and the water of the eastern side is originated from different sources. The levels of different nitrogen and phosphorus forms obtained in the present investigation postulated that the area under investigation can be classified under oligotrophic to mesotrophic state.