

Heavy Metal Contamination and Environmental Risk in Surface Sediments along the Coasts of Suez and Aqaba Gulfs, Egypt

Authors : Alaa M. Younis, Ismail S. Ismail, Lamiaa I. Mohamedein, Shima F. Ahmed

Abstract : Sandy surface sediments collected from fourteen sites along the gulfs of Suez and Aqaba coasts, Egypt were analyzed for heavy metals including Iron, Manganese, Zinc, Chromium, Nickel, Lead, Copper and Cadmium in order to evaluate the pollution status and environmental risk assessment of the study area. The obtained results showed that the concentrations of investigated metals are represented in the following sequence; For Gulf of Aqaba sediments $Fe > Mn > Zn > Pb > Cr > Ni > Cu > Cd$. While for Gulf of Suez Sediments $Fe > Mn > Pb > Zn > Cu > Cr > Ni > Cd$. The degree of surface sediment contamination using Geo-accumulation index (I_{geo}) and Metal Pollution Index (MPI) was computed. Higher MPI values were observed at the sites III (Nama Bay) and VIII (Rex Beach). According to Sediment quality guidelines (SQGs) approach, Pb and Cu in the gulf of Suez at station IX (Kabanon Beach) had probably adverse ecological effects to marine organisms.

Keywords : heavy metal, environmental risk, Suez gulf, Aqaba gulf

Conference Title : ICMSA 2017 : International Conference on Marine Science and Aquaculture

Conference Location : Amsterdam, Netherlands

Conference Dates : May 14-15, 2017