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## Contaminant metals in costal marine sediment along the Doha Bay, Qatar

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Heavy metals pollution in marine environments has become a worldwide problem with the fast industrial development in the east coastal region of Qatar, especially in the Doha bay area. Heavy metals are expected to be presented into the coastal environment and be combined within sediments together with organic matters, clay, oxides, and sulfides. The concentration of heavy metals in the marine environment depends on many factors such as the source of pollution, input, and its speciation, sediment characteristics, adsorptive properties of clay minerals, and others. This study aimed at providing knowledge on the environmental characteristics and properties in the location where many developments are constructed such as residences, marinas, and other facilities within the coast of Doha Bay. The study analysed the concentrations of 25 metals around Doha Bay to evaluate the pollution loading and the magnitude of the impact that the contaminants had on the sediment samples within the area on two sampling durations. Significant differences were observed in metal concentrations between the sampling locations and durations. Higher concentrations were observed in areas where there are a lot of anthropological activities. The distribution of selected metals was presented in contour maps showing the variation between the two periods. In order to further study particle size effect on metals uptake, two different grinding times were administered on four randomly selected samples and the results showed no significant difference on the analysis in the ICP-OES instrument. The overall results of metal analyses were within the international standards criteria and the results were comparable to the previous studies conducted around Qatar.

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