Johor Strait as a hotspot for trace elements contamination in Peninsular Malaysia.

Abstract

Present study was conducted to evaluate current status of trace elements contamination in the surface sediments of the Johor Strait. Iron (2.54 ± 1.24%) was found as the highest occurring element, followed by those of zinc (210.45 ± 115.4 μg/g), copper (57.84 ± 45.54 μg/g), chromium (55.50 ± 31.24 μg/g), lead (52.52 ± 28.41 μg/g), vanadium (47.76 ± 25.76 μg/g), arsenic (27.30 ± 17.11 μg/g), nickel (18.31 ± 11.77 μg/g), cobalt (5.13 ± 3.12 μg/g), uranium (4.72 ± 2.52 μg/g), and cadmium (0.30 ± 0.30 μg/g), respectively. Bioavailability of cobalt, nickel, copper, zinc, arsenic and cadmium were higher than 50% of total concentration. Vanadium, copper, zinc, arsenic and cadmium were found significantly different between the eastern and western part of the strait (p < 0.05). Combining with other factors, Johor Strait is suitable as a hotspot for trace elements contamination related studies.

Keyword: Johor Strait; Sediments; Trace elements; Bioavailability; Hotspot.