



## **Assessment of the elemental enrichments in the surface sediments of Izmit Bay, Turkey**

H. Pekey (1), **A. Karademir** (2), M. Bakoglu (2)

(1) Department of Environmental Protection, University of Kocaeli, P.O. Box 318, 41275 İzmit, Kocaeli, Turkey, (2) Dept. of Environmental Engineering, University of Kocaeli, Kocaeli, Turkey (aykankarademir@yahoo.co.uk/0090 262 3355559)

Surface sediments in the fraction  $<63\mu\text{m}$  collected in April 2002 from eight stations along the north coastline of the Izmit Bay, Northeastern Marmara Sea, Turkey, were analyzed for major (Al, Ba, Fe and Mg) and trace (As, Cd, Co, Cr, Cu, Mo, Ni, Pb and Zn) elements by using inductively coupled plasma atomic emission spectrometry (ICP-AES). We compared our results with the marine sediment quality standards (SQS) and with literature values reported for the similar areas to assess the pollution status of the sediments. The enrichment factors (EFs) were calculated to evaluate actual level of contamination for all the elements using the earth crust as reference matrix, based on elemental values by Mason which show a normal pattern near to unity. The analysis revealed two groups of elements: (i) Arsenic, Cd, Pb, and Zn are the most enriched elements; (ii) Barium, Co, Cr, Cu, Fe, Mg, Mo and Ni are at background levels.