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# [Keynote Talk]: Determination of Metal Content in the Surface Sediments of the Istanbul Bosphorus Strait

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**Abstract :** Coastal zones are under increasing threat due to anthropogenic activities that introduce considerable pollutants such as heavy metals into marine ecosystems. As part of a larger experimental study examining species responses to contaminated marine sediments, surface sediments (top 5cm) were analysed for major trace elements at three locations in Istanbul Straight. Samples were randomly collected by divers (May 2018) using hand-corers from Istinye (n=4), Garipce (n=10) and Poyrazköy (n=6), at water depths of 4-8m. Twelve metals were examined: As, arsenic; Pb, lead; Cd, cadmium; Cr, chromium; Cu, Copper; Fe, Iron; Ni, Nickel; Zn, Zinc; V, vanadium; Mn, Manganese; Ba, Barium; and Ag, silver by wavelength-dispersive X-ray fluorescence spectrometry (WDXRF) and Inductively Coupled Plasma/Mass Spectroscopy (ICP/MS). Preliminary results indicate that the average concentrations of metals (mg $kg^{-1}$) varied considerably among locations. In general, concentrations were relatively lower at Garipce compared to either Istinye or Poyrazköy. For most metals mean concentrations were highest at Poyrazköy and Ag and Cd were below detection limits (exception= Ag in a few samples). While Cd and As were undetected in all stations, the concentrations of Fe and Ni fall in the criteria of moderately polluted range and the rest of the metals in the range of low polluted range as compared to Effects Range Low (ERL) and Effects Range median (ERM) values determined by US Environmental Protection Agency (EPA).

**Keywords :** effect-range classification, ICP/MS, marine sediments, XRF
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