

## Heavy Metals Concentration in Sediments Along the Ports, Samoa

**Authors :** T. Imo, F. Latū, S. Aloï, J. Leung-Wai, V. Vaurasi, P. Amosa, M. A. Sheikh

**Abstract :** Contamination of heavy metals in coral reefs and coastal areas is a serious ecotoxicological and environmental problem due to direct runoff from anthropogenic wastes, commercial vessels, and discharge from industrial effluents. In Samoa, the information on the ecotoxicological impact of heavy metals on sediments is limited. This study presents baseline data on the concentration and distribution of heavy metals in sediments collected along the commercial and fishing ports in Samoa. Surface sediment samples were collected within the months of August-October 2013 from the 5 sites along the 2 ports. Sieved sample fractions were used for the evaluation of sediment physicochemical parameters namely pH, conductivity, organic matter, and bicarbonates of calcium. Heavy metal (Cu, Pb) analysis was achieved by flame atomic absorption spectrometry. Two heavy metals (Cu, Pb) were detected from each port with some concentration below the WHO permissible maximum concentration of environment quality standard. The results obtained from this study advocate for further studies regarding emerging threats of heavy metals on the vital marine resources which have significant importance to the livelihood of coastal societies, particularly Small Island States including Samoa.

**Keywords :** coastal environment, heavy metals, pollution, sediments

**Conference Title :** ICEWRE 2015 : International Conference on Environmental and Water Resources Engineering

**Conference Location :** Melbourne, Australia

**Conference Dates :** December 13-14, 2015