{rokbox title=|BIO Hespérides :: Campaña de investigación oceanográfica MALASPINA| thumb=|images/stories/ieo/imagenespublicaciones/hesperides_malaspina_640_thumb.jpg|}images/stories/ieo/imagenespublicaciones/hesperides_malaspina_640.jpg{/rokbox}

Alberto Aparicio-González, Carlos M. Duarte, Antonio Tovar-Sánchez, (2012). **Trace metals in deep ocean waters: A review**
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Abstract: Major advances in analytical chemistry and instrumentation have prompted major advances in our understanding of trace metal biogeochemistry. However, the deep-water concentration of most trace elements has not been yet assessed across broad regions of the oceans. A synthesis of data on trace metals (i.e. Cd, Co, Cu, Mo, Ni, Pb and Zn) measured and reported for depths 1000 m or deeper, between 1976 and 2009 revealed major gaps in our coverage of this key property. Cadmium and Cu have been the elements more extensively measured with 264 and 210 deep profiles reported in 64 and 57 articles, respectively, while Mo and Co have been reported only at 17 and 60 ocean sites, respectively. Globally 68.1% (216.1 106 km2) of deep oceans (1000 m or deeper) have not been sampled. The bulk of depth profiles published in peer reviewed scientific literature are from the Northern hemisphere (69.7% of the total reported profiles) rendering the Southern hemisphere as a poorly explored region for these important properties (mainly in the South and Eastern Pacific Ocean and in the Tropical Indian Ocean). Vertical profiles of dissolved elements plotted with data compiled during the last 34 years indicate that, in addition to the variation of concentrations, vertical distributions differs per ocean basin.

Keywords: Trace metals, deep ocean, analytical chemistry