



FROM WESTERN AUSTRALIA TO THE INDIAN OCEAN – THE DELIVERY OF NATURAL AND ANTHROPOGENIC AEROSOL TRACE METALS DOWN-UNDER

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The atmospheric delivery of aerosol trace metals link the terrestrial environment with marine ecosystems by providing nutrients, such as Fe, as well as toxins, which after deposition to the sea may be consumed by the marine biota. Aerosol samples, collected near the coast of the southern part of Western Australia, are expected to feed sensitive ecosystem of the Indian Ocean. Leaching protocols followed by elemental analysis of aerosol samples allow us to distinguish the soluble and refractory forms of trace metals.

Mineral dust appeared as the dominant type of aerosol and the main source of total Fe and was characterised by strong seasonal variation. The solubility of Fe was lower than aerosols collected on the eastern seaboard of Australia. Episodic bushfires caused an increase in emissions of anthropogenic metals and Fe solubility. Finally, source apportionment indicated a rather low and episodic contribution of local anthropogenic sources.