



Abstract ID : 250

Tracing the source of Pb contamination over the last decade in snow from Victoria Land, Antarctica

Content

Pb, one of the representative air pollutants, has been widely used and released in large amounts into the atmosphere. Fine particulate Pb pollutants can be transported over long distances through the atmosphere, even reaching Antarctica, which is the most remote area on Earth; Antarctic surface snow responds to the changing deposition of anthropogenic Pb. Recent changes in anthropogenic Pb pollution and its sources and origins in Antarctica were determined by evaluating Pb and Ba concentrations and Pb isotopic compositions in snow pits from Victoria Land, Antarctica. The Pb isotopic fingerprints showed that industrial activities in northern South America have become a major source of anthropogenic Pb in Victoria Land snow. Our data indicate the need for additional measures to reduce emissions of pollutants including Pb.

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Track Classification: Pollution records