



## **Impacts of Long-Range Transport of Metals from East Asia in Bulk Aerosols Collected at the Okinawa Archipelago, Japan**

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Economy of East Asia has been growing rapidly, and atmospheric aerosols discharged from this region have been transported to Japan. Okinawa island is situated approximately 1500 km south of Tokyo, Japan, 2000 km southeast of Beijing, China, and 1000 km of south Korea. Its location in Asian is well suited for studying long-range transport of air pollutants in East Asia because maritime air mass prevails during summer, while continental air mass dominates during fall, winter, and spring. The maritime air mass data can be seen as background and can be compared with continental air mass which has been affected by anthropogenic activities. Therefore, Okinawa region is suitable area for studying impacts of air pollutants from East Asia. We simultaneously collected bulk aerosol samples by using the same type of high volume air samplers at Cape Hedo Atmospheric Aerosol Monitoring Station (CHAAMS, Okinawa island), Kume island (ca. 160 km south-west of CHAAMS), and Minami-Daitou island (ca. 320 km south-east of CHAAMS). We determined the concentrations of acid-digested metals using atomic absorption spectrometer and inductively-coupled plasma mass spectrometry (ICP-MS). We report and discuss spatial and temporal distribution of metals in the bulk atmospheric aerosols collected at CHAAMS, Kume island and Minami-Daitou island during June, 2008 to June 2009. We also determined “background” concentration of metals in Okinawa archipelago. We then compare each chemical component among CHAAMS, Kume island and Minami-Daitou island to elucidate the influence of the transport processes and distances from Asian continent on metal concentrations.