

MEASUREMENTS OF ATMOSPHERIC POLLUTANTS IN ALASKA (ABSTRACT)

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Atmospheric aerosols and gaseous constituents were measured from September 1990 through July 1991 at the top of Ester Dome, 10 km west of Fairbanks, Alaska.

In September 1990 through May 1991 atmospheric concentrations of total particulate matter less than 2 μm in diameter were about 1 $\mu\text{g}/\text{m}^3$, which is about one fiftieth of Tokyo aerosols. Chemical characterization of the Alaskan aerosols showed that the aerosols consist of elemental carbon, organics, sulfate, nitrate, ammonium, sea salt and soil particles. Atmospheric concentrations of SO_2 , total nitrate (sum of HNO_3 and particulate NO_3^-), total ammonium (sum of NH_3 and particulate NH_4^+) and HCl were 0.05–0.15 ppbv, 0.01–0.05 ppbv, 0.04–0.14 ppbv and 0.03–0.2 ppbv, respectively. They were less than one tenth of those in a rural area near Sapporo.

In June and July 1991 atmospheric concentrations of aerosols, total nitrate and total ammonium increased extraordinarily due to a forest fire in central Alaska.

(Received January 9, 1993)