A record of dust concentration in ice cores at Dome Fuji, Antarctica

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Ice core drilling at Dome Fuji, Antarctica reached 3035.22 m depth on January 26, 2007. The oxygen-isotope profile comparison with the deuterium-isotope profile in Dome C, Antarctica suggested that the ice core age in 3028-m depth at Dome Fuji was *ca*. 720 k-years ago, which corresponded to Marine Isotope Stage (MIS) 17. The microparticles, named generically 'dust', in ice cores are one of the terrestrial impurities. It is known that dust concentrations in ice cores vary with climate and terrestrial environmental changes. These concentrations in ice cores at Dome Fuji were high during glacials, especially the end stages of glacials, and low during interglacials with the glacial-interglacial cycles. These variations and concentration levels at Dome Fuji were similar to those at Dome C. These suggested that deposition fluxes of terrestrial impurities over East Antarctica Plateau were the same levels on the glacial-interglacial time scale. The ratios of dust more than 1 micrometer diameter in number concentration were high during glacials and low during interglacials, suggesting that the intensity of atmospheric circulation, which transported dust to Antarctica, was greater in the end stages of glacials.