

The differences of the transportation process of water vapor to Mizuho Station and the formation process of snow at the station were found between the austral winter and the other seasons. The fallen snow is considered to be formed almost all by an isobaric cooling process under anticyclone in the austral winter, whereas by a moist-adiabatic cooling process of water vapor supplied by circumpolar cyclone in the other seasons.

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OXYGEN ISOTOPE PROFILE IN THE 150 m CORE FROM MIZUHO STATION, EAST ANTARCTICA (Abstract)

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As is well known, oxygen isotopic composition ($\delta^{18}\text{O}$) in the cores from the Antarctic and Greenland ice sheets provides important information about paleoclimatic records, though the interpretation of $\delta^{18}\text{O}$ values in the cores, especially from the Antarctic ice sheet, is not always easy.

At Mizuho Station core drilling operations have been conducted by the Japanese Antarctic Research Expedition since 1970. The core was recovered from the depth down to 150 m. The $\delta^{18}\text{O}$ profile to a depth of 60 m of the Mizuho core was already reported (K. KATO: Mem. Natl Inst. Polar Res., Spec. Issue, **10**, 165, 1978). In the present study was determined the $\delta^{18}\text{O}$ profile in the depth range between about 60 m and about 150 m.

Since any dating of the Mizuho core was not carried out, mean annual accumulation of 7 g/cm² estimated from $\delta^{18}\text{O}$ determination (KATO *et al.*: Mem. Natl Inst. Polar Res., Spec. Issue, **14**, 88, 1979) and from the measurement of the growth rate of crystal grain (NARITA and MAENO: Nankyoku Shiryô, **67**, 11, 1979) of the Mizuho core was applied to dating of the core. The age of core bottom is estimated to be some 1700 years B.P. The climatic change in the past 1700 years shown in the $\delta^{18}\text{O}$ profile of the Mizuho core agrees fairly well with that from the long tree-ring records in North America (V. C. LAMARCHE, Jr.: Science, **183**, 1043, 1974).

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OXYGEN ISOTOPE PROFILES IN THE CORES FROM MIZUHO STATION, EAST ANTARCTICA AND THEIR CLIMATIC IMPLICATIONS (Abstract)

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Oxygen isotopic composition ($\delta^{18}\text{O}$) in the cores from the Antarctic and Greenland ice sheets provides important information about paleoclimatic records. However, the interpretation of the $\delta^{18}\text{O}$ values in the cores, especially from the Antarctic ice sheet, is not always easy.

Mizuho Station is under the influence of a stationary katabatic wind, so that periods of erosion and deposition are not discerned on the snow surface around