

Reconstruction of past climate and environmental changes using high resolution ice core records in Victoria Land, Antarctica

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In the Antarctic ice sheet, which is below -20°C even in summer, the snow continues to accumulate without melting, gradually increasing in density and reaching a certain depth, turning into solid ice. This ice has the air of the past, and the composition of the ice reveals the atmospheric environment at the time of snow, providing important information on climate and climate change in the past. In particular, high-resolution studies can be conducted on ice cores drilled from coastal ice caps with high snow accumulation rate. In this study, we determined the age of ice cores by analyzing high-resolution analysis of components, and reconstructed the past temperature by stable water isotope ratio. We analyzed the ion components indicating sea salt components from ice core to reconstruct the area of past sea ice. Various trace elements were analyzed to reconstruct the atmospheric environment changed by natural / anthropogenic factors.