

## Paleolimnological changes of Lake Maruwanminami-ike and Maruwan-Oike in Soya Coast, East Antarctica during the Holocene

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The Antarctic Ice Sheet is the largest mass of ice on Earth. In the Antarctic Ice Sheet, there are huge amount of freshwater, approximately 60 % of all freshwater on earth. Furthermore, the present Antarctic Ice Sheet contains enough water to raise sea level almost sixty meters, so that only a small change in their volume would have a significant effect to the earth. Antarctic coastal lakes are invaluable archives of paleoclimate and paleoenvironment changes due to the retreat of Antarctic Ice Sheet. In Soya Kaigan (Coast) of Lutzow-Holm Bay region, there are many coastal lakes in ice-free areas. Hydrological changes of coastal lakes located below 20 m ASL from marine to freshwater environments are result from the recession of glaciers and subsequent isostatic uplift.

In this study, we estimate the Holocene environmental change of Soya Kaigan inferred from the analyses of a lake sediment core of Lake Maruwan-Oike (Mw4C-01) and Maruwanminami-ike (MwS4C-01) in Rundvagshetta ice-free area. We conducted Radiocarbon dating and Elemental Analyses by Matsumoto et al. (in prep) to carry out Total Carbon, Total Organic carbon, Total Nitrogen and Total Sulfur. In addition to these results, I clarify assemblage changes of fossil diatoms in the sediment core Mw4C-1 using a characteristic of diatoms living apart by water conditions such as salinity. From the results of diatom analyses and previous analyses, we will report about the Holocene hydrological and environmental changes in detail.

Keywords: Antarctic coastal lakes, Paleoenvironment, Paleolimnology, Diatom analysis, the Holocene