

A sea-level fingerprinting analysis by glacial isostatic adjustment modeling for the Antarctic Ice Sheet change from the Last Glacial Maximum to the Holocene

*石輪 健樹¹、奥野 淳一^{1,2}

*Takeshige Ishiwa¹, Jun'ichi Okuno^{1,2}

1. 国立極地研究所、2. 総合研究大学院大学

1. National Institute of Polar Research, 2. SOKENDAI

Present Antarctic Ice Sheet (AIS) is the most massive freshwater storage in the Earth's surface and interacts with global climate changes. The wide range of AIS component (5–30 m ice volume equivalent sea level) occurs during the Last Glacial Maximum (Clark and Tarasov, 2014). Moreover, the AIS history from the Last Glacial Maximum to the Holocene remains unclear due to lacking direct evidence of ice-sheet change. In this presentation, we use a sea-level fingerprinting analysis by glacial isostatic adjustment (GIA) model to estimate the AIS change from the LGM to the Holocene. Near-, far- and intermediate- field sea-level data as Antarctica, the Barbados corals, and the Bonaparte Gulf sediments would provide crucial information of AIS change. This constraint leads to further understanding of global climate change and AIS history and also future climate changes represented by a sea-level rising due to AIS mass loss.

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