

Geodetic signatures due to present and past ice-mass variations around Syowa Station, East Antarctica

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Geodetic and geomorphological surveys in Soya Coast area, East Antarctica have been conducted by Japanese Antarctic Research Expedition (JARE) in order to evaluate the crustal deformation induced by Glacial Isostatic Adjustment (GIA) in various time scales. In particular, several geodetic observations (e.g., Global Navigation Satellite Systems: GNSS and continuous gravity observations) have been carried out on outcrop rocks in this area since the 1990s to monitor recent crustal movements. These observations include the components of the GIA induced by last deglaciation and elastic deformation due to recent surface mass balance. In this presentation, we will show the geodetic signals calculated by GIA model adopting the previously published deglaciation histories, and compare with the results of geodetic observations obtained by JARE for about 20 years. We intend to discuss the separation of the components between recent ice mass change and last deglaciation, and estimate influences of recent Antarctic ice mass variation on the geodetic signatures in Soya Coast area.

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