

Japan Geoscience Union Meeting 2011

(May 22-27 2011 at Makuhari, Chiba, Japan)

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BPT002-05

Room:201B

Time:May 25 09:30-09:45

Detecting Antarctic melting during the Holocene using sea-level information from Sri Lanka

Yusuke Yokoyama^{1*}, Yosuke Miyairi¹, Jun'ichi Okuno², Kazuhisa Goto³, Tsuyoshi Haraguchi⁴, Hiroyuki Matsuzaki¹

¹University of Tokyo, ²National Institute of Polar Research, ³Chiba Institute of Technology, ⁴Osaka City University

Mid to Late Holocene sea-level change can be used for evaluating long-term stability of the Antarctic ice sheet since the most of the Northern hemisphere major ice sheets disappeared by approximately 8,000 years ago. Ongoing global warming may trigger disintegration of this ice sheet, with collapse of the West Antarctic Ice Sheet alone potentially producing a more than 3 to 4 m global sea-level rise. Relative sea level records from sites far away from former ice sheet regions (far-field) provide information on total volume of the ocean mass change, which can be interpreted as global ice volume change. Here we report Holocene sea-level records from Sri Lanka compared with glacio-hydro-isostatic modeling to better understand the melting history of Antarctic ice sheet during the Holocene.

Keywords: Sea Level, Holocene, Antarctica, Isostasy, sediment core, Radiocarbon dating