

Climate and environment in north Greenland during the last interglacial reconstructed from the NEEM ice core

Kumiko Goto-Azuma^{1*}, Nobuhiko Azuma², Motohiro Hirabayashi¹, Kenji Kawamura¹, Takayuki Kuramoto³, Atsushi Miyamoto⁴, Jun Uetake¹

¹National Institute of Polar Research, ²Nagaoka University of Technology, ³Shinshu University, ⁴Hokkaido University

A 2540m-long ice core was drilled during 2008-2012 by an international ice coring project NEEM (North Greenland Eemian Ice Drilling). Though the ice below 2206m was disturbed and folded, the international team has successfully reconstructed the climate and ice sheet elevation during the Eemian interglacial (130.000 to 115.000 years ago). The climate around 126.000 years ago in North Greenland was about 8 degrees Celsius warmer than at present, which led to extensive surface melt as was observed in July 2012. Despite the strong warming during the Eemian, the surface in the vicinity of NEEM was only a few hundred meters lower than its present level. These results have been published in Nature as the first NEEM community paper. Here we report the results described in this paper, introduce the NEEM core analyses carried out by the Japanese team, and discuss the future direction of the analyses.

Keywords: Greenland, NEEM, last interglacial, ice core, climate and environment