



Contribution to North Atlantic climate history from Lake Igakliu, South Greenland

Charly Massa (1), Vincent Bichet (1), Jacques Giraudeau (2), Christophe Petit (3), Boris Vannière (1), Émilie Gauthier (1), and Hervé Richard (1)

(1) Laboratoire Chrono-Environnement, UMR CNRS 6249, Université de Franche-Comté, Besançon, France
(charly.massa@edu.univ-fcomte.fr), (2) Département de Géologie et Océnographie, UMR CNRS 5805 EPOC, Bordeaux, France, (3) ARTeHIS, UMR 5594 Archéologie, cultures et sociétés, Dijon, France

Lacustrine deposits from Lake Igakliu, South Greenland ($N61^{\circ}00'22''$, $W45^{\circ}26'28''$) were studied to investigate subarctic Holocene climate history. Analyses of the well dated sediment sequence used high-resolution grain size analysis, high-resolution geophysical (MSCL) and geochemical core scanning (XRF core scanner), X-ray radiography, DRX mineralogy, and organic geochemistry. The 4 meters long sequence recovered from Lake Igakliu comprises the entire lake history (last 10 000 years) following the last glaciation of the area, indicated by a succession from glaciolimnic to limnic sediment. The combination of the different proxies provides detailed information about the evolution of the lake system and documents changes in lake temperature and wind activity in South Greenland from 9500 BP to the present.

The intermediate geographical setting of Lake Igakliu, between the Greenland ice sheet and the Atlantic Ocean, provides also a unique opportunity to link the lake-sediment record to ice core records, fjord shelf marine records and deep Atlantic marine records in the wider context of oceanic and atmospheric circulation above the North Atlantic region.