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Twenty years of INTegrating Ice core, MArine and TErrestrial records to diagnose past climate mechanisms

Christine Lane (1), Achim Brauer (2), Wim Hoek (3), Rebecca Kearney (4), Ana Moreno (5), Christof Pearce (6), Didier Roche (7,8), Sune Rasmussen (9), and Intimate Project Members ()

(1) Department of Geography, University of Cambridge, Cambridge, UK (csl44@cam.ac.uk), (2) GFZ German Research Centre for Geosciences; Section 5.2 Climate Dynamics and Landscape Evolution, Potsdam, Germany, (3) Department of Physical Geography, University of Utrecht, Utrecht, The Netherlands, (4) Research Laboratory for Archaeology and the History of Art, The University of Oxford, Oxford, UK, (5) Department of Geoenvironmental Processes and Global Change, Pyrenean Institute of Ecology e CSIC, Zaragoza, Spain, (6) Department of Geoscience, Aarhus University, Aarhus, Denmark, (7) Earth and Climate Cluster, Faculty of Earth and Life Sciences, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands, (8) Laboratoire des Sciences du Climat et de l'Environnement, Gif-sur-Yvette Cedex, France, (9) Centre for Ice and Climate, Niels Bohr Institute, University of Copenhagen, 2100 Copenhagen, Denmark

Twenty years ago Björck et al. (1998) published the first North Atlantic event stratigraphy, which explored past climate connections across the North Atlantic realm and spurred two decades of collaborative research by participants in the open INTegrating Ice core, MArine and TErrestrial records (INTIMATE) network. In that time, INTIMATE has developed and promoted methods that allow chronologically-precise comparisons of independent proxy records (both within and between archives), models of atmosphere-ocean-biosphere processes, and a better understanding of proxy-sensitivities to different aspects of climate and environmental change.

The wealth of palaeoclimate and palaeoenvironmental datasets generated since Björck et al.'s seminal paper now covers all areas of the earth, and has produced an extremely detailed record of past climate change on local, regional and global scales. The INTIMATE Event Stratigraphies (e.g. Alloway et al., 2007; Rasmussen et al., 2014) continue to provide the backbone to high-precision dating and correlation of such records around the globe. In the North Atlantic region, where the stratigraphy is pinned to the continuous and decadally-resolved Greenland ice core chronology, the scheme spans the last 123 kyr. The challenge now stands not only to extend the number of such high-resolution records in space and time, but also to robustly incorporate those disparate and often discontinuous archives that are more complicated to date but provide us with insights into different elements of the climate system.

This poster explores the advances made by the international and interdisciplinary INTIMATE community after two decades working toward a better understanding of the mechanisms behind the complex teleconnections and propagation of past abrupt climate transitions. We invite you to participate in INTIMATE, via our mailing list, through your research, or by joining us at the EGU Galileo conference in August 2018 on "The anatomy of abrupt climate change".

Alloway, B.V. et al., 2007. Towards a climate event stratigraphy for New Zealand over the past 30 000 years (NZ-INTIMATE project). Journal of Quaternary Science, 22(1), 9-35.

Björck, S. et al., 1998. An event stratigraphy for the Last Termination in the North Atlantic region based on the Greenland ice-core record: a proposal by the INTIMATE group. Journal of Quaternary Science, 13(4), 283-292.