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Peatland growth rate and water table variations during the last millennium

Angela Gallego-Sala (1), Dan Charman (1), I. Colin Prentice (2), Pierre Friedlingstein (3), Sue Page (4), Simon Brewer (5), Anthony Blundell (6), Robert K. Booth (7), Michael J Clifford [Michael J. Clifford (7), Michelle Garneau (8), Veronica Hohl (9), Alexandre Lamarre (8), Mariusz Lamentowicz (10), Grabriel Magnan (8), Charly Massa (7), Graeme Swindles (6), Simon Van Bellen (11), and Dmitri Mauquoy (11)

(1) University of Exeter, Amory Building, office 436, Department of Geography, Exeter, United Kingdom (a.gallego-sala@exeter.ac.uk), (2) Imperial College, Centre for Population Biology, Silwood Park Campus Buckhurst Road, Ascot, Berks, SL5 7PY, United Kingdom, (3) University of Exeter, CEMPS, Earth System Science, Laver Building, North Park Road, Exeter, EX4 4QE, United Kingdom, (4) Department of Geography, University of Leicester, Leicester, LE1 7RH, United Kingdom, (5) Geography Department, University of Utah,Salt Lake City, UT, USA, (6) Geography, University of Leeds, United Kingdom, (7) Earth & Environmental Science, Lehigh University, Bethlehem, PA, USA, (8) Geotop, Université du Que´bec a` Montre´al, QC, Canada, (9) Human Geography, Stockholm University, Sweden , (10) Biogeography & Palaeoecology, Adam Mickiewicz University, Poznan, Poland, (11) Geosciences, University of Aberdeen, UK

As carbon dioxide concentrations and temperatures rise, rates of decomposition processes and decay of peat are likely to increase while on the other hand, even quite small increases in productivity may compensate for this or even exceed it, especially in high latitude peatlands. A further complication in assessing whether peatlands will remain sinks or become sources of carbon is that peatlands emit quite large quantities of methane, fluxes which are linked to the water table position. Our project aims to assess the contribution of peatlands to the global carbon cycle over the past 1000 years by putting together a global dataset of high resolution C accumulation data together with regional scale peatland hydrology reconstructions. This data will then be used to calibrate models that simulate the distribution and growth of peatlands and of methane emissions on a global scale.