



Palaeoclimatic potential of *Acacia tortilis* in the Eastern Sahara.

Mary Gagen (1), Giles Young (1), Gidske Andersen (2), Knut Krzywinski (2), and Tomasz Goslar (3)

(1) Swansea University, Department of Geography, Swansea, United Kingdom (m.h.gagen@swansea.ac.uk), (2) Uni Research AS, Bergen, Norway, (3) Faculty of Physics, A. Mickiewicz University, Poznan, Poland and Poznań Radiocarbon Laboratory

The challenge of deriving useful dendroclimatic information from non-annual ring forming trees cannot be overstated. Here we consider the contribution to be made by combining radioacarbon dating with stable isotope dendroclimatology in the analysis of Sudanese *Acacia*. Stable carbon isotopic analyses are presented from ¹⁴C-dated living Sudanese *Acacia tortilis* in xeric northern Africa. Stable carbon isotopic ratios were assigned calendar dates based on high-density ¹⁴C results. Intrinsic water use efficiency (iWUE) changes are calculated over the industrial period.