

Sarah Elizabeth Metcalfe

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Professor of Earth and Environmental Dynamics

Research interests:

Climatic and environmental change in the tropics and subtropics; environmental reconstruction (mainly based on diatoms and stable isotopes). The primary research area is the tropical Americas, with a particular interest in 1) reconstructing changes in climate (e.g. Mexican monsoon, ENSO), 2) identification of spatial patterns of change and their interpretation, 3) the sensitivity of tropical lake catchments to human impact, 4) human/climate/environment interactions and 5) the integration of climatic proxy records with historical and instrumental archives.

Qualifications:

BA Geography (Cantab.) 1980, class 2.1 (with MA)

DPhil. (Oxon) 1986

Appointments:

1986-87 Research Fellow, Modelling and Assessments Group, Harwell Laboratory, Oxon.

1987-88 Lecturer, Department of Environmental Science, University of Stirling, Stirling FK9 4LA

1988-95 Lecturer, School of Geography and Earth Resources, University of Hull, Hull HU6 7RX

1995-2003 Department of Geography (now Institute of Geography), University of Edinburgh, Edinburgh EH8 9XP. Lecturer 1995-96, Reader 1996-2000, Professor 2000 –2003

2003- Professor, School of Geography, University of Nottingham, Nottingham NG7 2RD. Head of School 2008-11.

Recent publications

Velez, M.I., Hooghiemstra, H., **Metcalfe, S.**, Wille, M. And Berrio, J.C. (2006) Late Glacial and Holocene environmental and climatic changes from a limnological transect through Colombia, northern South America. *Palaeogeography, Palaeoclimatology, Palaeoecology* 234, 81-96.

Metcalfe, S.E. (2006) Late Quaternary environments of the northern deserts and central transvolcanic belt of Mexico. *Annals of the Missouri Botanical Garden* 93, 258-273.

Metcalfe, S.E., Davies, S.J., Braisby, J.D., Leng, M.J., Newton, A.J., Terrett, N.L. and O'Hara, S.L. (2007) Long and short-term change in the Patzcuaro Basin, central Mexico. *Palaeogeography, Palaeoclimatology, Palaeoecology* 247, 272-295.

Metcalfe, S.E. and Davies, S.J. (2007) Deciphering recent climate change in central Mexican lake records. *Climatic Change* 83, 169-186.

Furley, P.A. and **Metcalfe, S.E.** (2007) Dynamic changes in savanna and seasonally dry vegetation through time. *Progress in Physical Geography* 31, 633-642.

Voorhies, B. and **Metcalfe, S.E.** (2007) Culture and climate in Mesoamerica during the middle Holocene. For: *Climatic change and cultural dynamics. A global perspective on mid-Holocene transitions*, D.G. Anderson, K.A. Maasch and D.H. Sandweiss eds. Academic Press-Elsevier, pp 157-187.

- Endfield, G.H., Davies, S.J., Fernandez Tejedo, I., **Metcalfe, S.E.** and O'Hara, S.L. (2009) Documenting disaster: archival investigations of climate, crisis and catastrophe in colonial Mexico. In: *Natural Disasters, Cultural Responses. Case studies toward a global environmental history*. C. Mauch and C. Pfister eds. International Environmental History, Lexington Books, pp 305-325.
- Lamb, A.L., Gonzalez, S., Huddart, D., **Metcalfe, S.E.**, Vane, C.H. and Pike, A. (2009) Tepexpan Palaeoindian site, Basin of Mexico: multi-proxy evidence for environmental change during the Late Pleistocene-Late Holocene. *Quaternary Science Reviews* 28, 2000-2016.
- Metcalfe, S.E.**, Breen, A., Murray, M., Furley, P., Fallick, A. and McKenzie, A. (2009) Environmental change in northern Belize since the latest Pleistocene. *Journal of Quaternary Science* DOI:10.1002/jqs.1248
- Metcalfe, S.E.**, Jones, M.D., Davies, S.J., Noren, A. and MacKenzie, A. (2010) Climate variability over the last two millennia in the North American monsoon region, recorded in laminated sediments from Laguna de Juanacatlan, Mexico. *The Holocene*. 20, 1195-1206. DOI: 10.1177/0959683610371994.
- Whitney, B.S., Mayles, F.E., Punyasenga, S., Fitzpatrick, K.A., Burn, M.J., Guillen, R., Chavez, E., Mann, D., Pennington, R.T., **Metcalfe, S.E.** (2011) A 45kyr palaeoclimate record from the lowland interior of tropical South American. *Palaeogeography, Palaeoclimatology, Palaeoecology* 307, 177-192.
- Davies, S.J., **Metcalfe, S.E.** and Israde Alcantare, I. (2011) Reconstrucción de las interacciones entre el set humano, el clima y el ambiente en los lagos de Michoacán. In : Escenarios de cambio climático : Registros del Cuaternario en America Latina I. M. Caballero and B. Ortega Guerrero (eds), UNAM, pp. 115-136.
- Stevens, R., **Metcalfe, S.E.**, Leng, M.J., Lamb, A.L., Sloane, H.J., Naranjo, E. and Gonzalez, S. (2012) Reconstruction of late Pleistocene climate in the Valsequillo Basin (Central Mexico) through isotopic analysis of terrestrial and freshwater snails. *Palaeogeography, Palaeoclimatology, Palaeoecology* 319-320, 16-27.
- Barron, J.A, **Metcalfe, S.E.** and Addison, J.A. (in press) Response of the North American Monsoon to regional changes in ocean surface temperature. *Paleoceanography* 27, doi:10.1029/2011PA002235,2012.
- Metcalfe, S.E.** and Nash, D.J. (eds.) (in press) *Quaternary Environmental Change in the Tropics*. Wiley-Blackwell.

Current projects in the tropical Americas:

High resolution records of Holocene climatic change in west central Mexico (part of the MOLE project with UNAM, LRC University of Minnesota, UMSNH, University of Aberystwyth).

Climate variability over glacial-interglacial and millennial timescales in the North American tropics, Sayula Basin, Mexico (with NIGL/BGS, University of Aberystwyth, UMSNH, UNAM, University of Edinburgh).

Exploring the pristine myth: pre and post-contact land use in northern Belize (with Georgetown University, UCL, Programme for Belize).

Hurricane frequency and impacts: environmental sensitivity in the Lesser Antilles (with CUNY, University of the West Indies).