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Introduction from Theme Convenors, Susan Waldron and Kate Heal: Here we update you on news from Theme 2 members and SAGES, and invite your input and comments on future Theme 2 activities. In this issue we focus on Theme 2-related research in South America. The next edition plans to focus on land use and management, in the UK or overseas so if you have articles you would like to submit for that, please get in touch. We would also like to hear from you of any items or suggestions for future newsletters. Finally, we welcome Prof. Trevor Hoey to the role of SAGES director and Heather Russell to SAGES secretary.

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SAGES Graduate School publication prizes:

It is rewarding that there was competition for these five prizes, and the winners will be announced and presented with their awarded at the SAGES AGM in early November. For more information go to the SAGES Graduate School Web Page.

Postgraduate news: Congratulations to SAGES-funded Ph.D. students Audrey Wayolle and Helen Murray from Theme 2, who have both submitted their thesis for examination. Audrey's thesis is entitled 'Multi-scale soil C distribution in two sub-Arctic landscapes' (supervisors: Prof. Phil Wookey and Dr. Claire Wilson, U. Of Stirling; Prof. Matt Williams, U. Of Ed.). Helen's thesis is entitled 'Assessing the impact of windfarm related disturbance on streamwater carbon, phosphorus and nitrogen dynamics: a case study of the Whitelee Catchments' (supervisors: Prof. Susan Waldron and Dr. Hugh Flowers (U. of Glasgow) and Dr. Kate Heal (U. of Edinburgh)).

Please remember to inform Bill Austin of student submission and keep us updated of other Theme 2-relevant studentships.

SAGES Enabling Research Fund: SAGES funding remains to support networking activities with clear benefits to SAGES members. Funding requests are considered through SAGES ResComm. Please contact us if you wish to discuss any funding ideas. An extension of SAGES (SAGES+) will continue until 31 Dec 2014.

Caption competition: Congratulations to Dr Joanna Cloy (former SAGES fellow, now a researcher at Scottish Agricultural College) for her winning caption: **'Mock not the fallen, for slippery is the road ahead of you'** for the

image below in the June Newsletter. Joanne wins some 'special' Theme 2 carbon-rich comestibles.



John Grace in Brazil in the 1980s, Dr Lorraine Gormley behind. (Image: Patrick Meir).

We now invite prizes for the 'best' fieldwork photo with corresponding caption – please, no contacting Joanna to ascertain if it is worthwhile entering...

SAGES in South America: South America seems to fascinate Theme 2 colleagues to carry out research. As we approach potentially another bitter winter here we wonder why?! Since SAGES started, NERC have made the following awards:

Dr. Yit Arn Teh (St.A) and collaborators from U. Of Leicester: *Amazonian peatlands: A poorly characterised source of atmospheric methane and nitrous oxide (2011-13).*

Dr. Yit Arn Teh, Prof. Patrick Meir (U. Ed) and colleagues from Aberdeen University: *Are tropical uplands regional hotspots for methane and nitrous oxide? (2010-13).*

Prof. Patrick Meir (U. Ed) and colleagues from from Universities of Oxford and Lancaster, and CEH Lancaster: *Biological controls on soil*

respiration and its climatic response across a large gradient (2010-13).

Prof. John Grace (U. Ed.) and Prof. Susan Waldron (U. Gla.): *AMAZONICA: Amazon Integrated Carbon Analysis (2008-14).*

A key field site in this project is Tambopata, Peru, in the Western Amazon, of interest because of the higher nutrient status of the soils. Recently completed is a tall tower within Amazonian rainforest, funded by the AMAZONICA project with a financial contribution from SAGES. As such it will be known as the 'The Ramiro Chacon - SAGES tower', dedicated to Ramiro Chacon, the engineer responsible for designing this infrastructure, who sadly died before seeing it completed. A recent trip there by John and Dr Leena Vihermaa (Glasgow) successfully instrumented the tower and now it is contributing to the Amazon-wide network of eddy-covariance towers that help delineate C balance within the basin.

Yit, John and Susan will be presenting some results from these research projects at the SAGES AGM, so here is an overview of Patrick's activity in South America:

Patrick Meir, University of Edinburgh,

"My team has been focussing on several areas of ecosystem science. In a project funded by the NERC and the Gordon and Betty Moore Foundation, we are using a soil translocation study to examine the long term impact of soil warming on the breakdown of soil organic matter in Peru. The study covers many types of tropical rain forest: it traverses more than three km in altitude from the Andean treeline to lowland Amazonia. This is the first study to focus on the role of soil microbial biodiversity in constraining the climate sensitivity of decomposition across a large tropical altitudinal transect.

In a second project funded by the NERC, the focus is to quantify nutrient constraints to leaf respiration in Amazonian tropical forests. Canopy respiration is a very large component of the forest carbon cycle and is strongly temperature-sensitive, but we know little of how it varies across the Amazon basin, and in relation to soil fertility, which itself varies notably from the Andes to the Atlantic Ocean. Finally, in a different kind of project, I recently led a transdisciplinary consortium of UK and South American partners in a NERC/DfID/ESRC-funded project under NERC's 'Ecosystem Services for Poverty Alleviation' programme. This project has had capacity-building as its focus. A key objective has been to bring together different experts to build a group able to examine the role



The Western Amazonian Piedmont

Amazonian forests play in providing services and goods that humanity uses, and also to examine their vulnerability to changes in climate and land use. All of this requires close collaboration with colleagues in the UK and internationally, especially in S. America, and we gladly acknowledge the friendship and expert collaboration that makes this possible. Our main SAGES partners are St Andrews University, who have a particularly strong role in the soil biogeochemistry component of the research in Peru. Indeed, Dr. Yit Arn Teh at St. Andrews leads his own very substantial programme of work in this area, complementing and linking with the work done by Edinburgh and other partners."

Dates for your diary in 2011/12

- 1-2 November, SAGES AGM, John McIntyre Conference Centre, U. of Eds.
- 9-11 November, SAGES Graduate School Retreat at The Burn.
- 22-27 April, EGU Vienna
- 2-6 July, EUROSOIL 2012 "Soil Science For The Benefit Of Mankind And Environment" <http://www.eurosoil2012.eu/>
- 5-20 July 2012, Biogeomon: The 7th International Symposium on Ecosystem Behaviour, Maine. All themes are relevant to Theme 2 research interests: <http://www3.villanova.edu/conferences/biogeomon/index.html>
- 8-13 July 2012, ASLO Summer Meeting Lake Biwa, Otsu, Japan

SAGES Annual Meeting: We look forward to seeing you all at the SAGES meeting on 1st-2nd November. This will be the last SAGES funded opportunity to bring the whole of the SAGES community together. To focus discussion in the Theme 2 plenary session on day 2, we have designed a short questionnaire that we would be grateful if you could complete by 27th October. It can be found here: <http://www.surveymonkey.com/s/RQR5WHF>