

Ecology and Global Change Cluster News: January 2010

11/01/2010

News

The publication in early December of **Alan Grainger's** paper in the Proceedings of the US National Academy of Sciences, which called for a World Forest Observatory, coincided with Gordon Brown's statement at the Commonwealth Heads of Government meeting, that satellites would be vital to monitor implementation of a Reduced Emissions from Deforestation and Degradation scheme if one is agreed in Copenhagen. This led the National Centre for Earth Observation, at the University of Reading, to call a meeting at short notice on Monday 07 December to respond on behalf of the UK remote sensing community. Alan was invited to kick off the meeting with a presentation on his World Forest Observatory project. Following other presentations by academic and industry remote sensing scientists from all over the UK, the meeting agreed to write a letter to the Prime Minister, applauding his statement, assuring him that the UK remote sensing community can make a major contribution to REDD monitoring, and asking him to back calls for a World Forest Observatory and to offer to site its global hub in the UK. The government's announcement, a few days later, of plans to give a new boost to British space policy, raises hopes that the proposal will fall on fertile ground.

New Paper

Phillips, O. L., Higuchi, N., Vieira, S., **Baker, T. R.**, Chao, K., and **Lewis, S. L.** (2009) Changes in Amazonian Forest Biomass, Dynamics, and Composition, 1980–2002. In *Amazonia and Global Change*, Geophysical Monograph Series 186, 373-388.

18/01/2010

News

Successful NERC Small Grant application: Long-term forest dynamics in Peruvian Amazonia.

Katy Roucoux, Tim Baker and Ian Lawson (along with project partners Euridice Honorio, Outi Lahteenoja [University of Turku, Finland] and Will Gosling [Open University]) have been awarded funding for an exciting new project which aims to produce high resolution pollen records in a set of peat sequences discovered recently in north-western Amazonia. Extending back 3000 years these records of vegetation history will provide a millennial scale perspective on the region's ecology and generate insights into the mechanisms driving current changes in tropical forest ecology and the sensitivity of these forests to future climatic change.

Simon Lewis gave a plenary talk and sat on a panel at the Inter-Academies Panel Biodiversity conference (103 of the world's science academies who work together on global problems with science dimension). The talk was about the 'Valuing the Arc' programme in Tanzania ('Mapping and valuing ecosystem services under alternative future scenarios). There is a write up of the conference on the BBC news website,

http://www.bbc.co.uk/blogs/reporters/richardblack/2010/01/putting_the_iversity_in_biodive.html

New paper

Chave, J., Navarrete, D., Almeida, S., Álvarez, E., Aragão, L. E. O. C., Bonal, D., Châtelet, P., Silva-Espejo, J. E., Goret, J.-Y., von Hildebrand, P., Jiménez, E., Patiño, S., Peñuela, M. C., **Phillips, O. L.**, Stevenson, P., and Malhi, Y. (2010) Regional and seasonal patterns of litterfall in tropical South America. *Biogeosciences* 7, 43-55.

New paper accepted

Kamdem, M-N.D., Doucet, J.-L., Nguembo C.K., **Lewis, S.L.**, Sonké, B. Diversity and aboveground biomass in three types of forest in the Dja Biosphere Reserve (Cameroon). *African Journal of Ecology*.

25/01/2010

New Publication

Aragao, L. E. O. C., Malhi, Y., Metcalfe, D. B., Silva-Espejo, J. E., Jimenez, E., Navarrete, D., Almeida, S., Costa, A. C. L., Salinas, N., **Phillips, O. L.**, Anderson, L. O., Alvarez, E. , **Baker, T. R.**, Goncalvez, P. H., Huamán-Ovalle, J., Mamani-Solórzano, M., Meir, P., Monteagudo, A., Patiño, S., Peñuela, M. C., Prieto, A., Quesada, C. A., Rozas-Dávila, A., Rudas, A., Silva Jr., J. A., and Vásquez, R. (2009) Above- and below-ground net primary productivity across ten Amazonian forests on contrasting soils. *Biogeosciences* 6(12).

Fletcher, W.J., Sanchez Goñi, M.F., Allen, J.R.M., Cheddadi, R., Combourieu Nebout, N., Huntley, B., **Lawson, I.**, Londeix, L., Magri, D., Margari, V., Müller, U.C., Naughton, F., Novenko, E., **Roucoux, K.**, **Tzedakis, P.C.** (in press, available online) Millennial-scale variability during the last glacial in vegetation records from Europe, *Quaternary Science Reviews*.

Ecology and Global Change Cluster News: February 2010

01/02/2010

News

A colour spread of the work by the Ecology and Global Change cluster appeared in the Venezuelan national newspaper 2001. The article, "Amazonas – un pulmón vulnerable", discusses the response of the 6 million km² Amazon forest to droughts, focussing on the work of RAINFOR and featuring interviews with **Oliver Phillips** and **Abel Monteagudo**. 25 January 2010.

The new RAINFOR collaboration with the Jardín Botánico de Medellín (JBM) kicked off in January, with Esteban Alvarez, Alvaro Cogollo, **Oliver Phillips** and other Colombian investigators and students. They visited the montane forest fragment at San Sebastian near Medellín where a permanent plot was established in 2003. After reviewing RAINFOR field and database protocols, the JBM team moved on to lowland forest in the Magdalena valley. Over the coming months the team will recensus permanent plots across Colombia, including Amazon, Andean, Choco, and Caribbean forests.

Sophie Fauset has been awarded £1000 from Sebright's Educational Foundation and £500 from Gilchrist Educational Trust towards funding her upcoming 3 month field trip to Ghana.

New paper

Berry, N. J., **Phillips, O. L., Lewis, S. L.**, Hill, J., Edwards, D. P., Tawatao, N. B., Ahmed, N., Magintan, D., Khen, C. V., Maryati, M., Ong, R. C., Hamer, K. C. (2010) The high value of logged tropical forests: lessons from northern Borneo. *Biodiversity and Conservation*. DOI 10.1007/s10531-010-9779-z.

08/02/2010

News

Katy Roucoux and **Tim Baker** will lead a paper discussion on "The Red Queen" in the EGC cluster meeting this week. Thursday 11 February 1- 2 pm in Room 1.44. All welcome to attend.

15/02/2010

No News

22/02/2010

News

In this week's EGC cluster meeting, **Manuel Gloor** will give a paper discussion on peatlands. Thursday 25 February, 1 pm - 2 pm in Room 1.44.

New Paper

Peh, K. S. and Eyal, J. (in press) Unveiling China's impact on African environment. *Energy Policy*.



Ecology and Global Change Cluster News: March 2010

01/03/2010

News

Simon Lewis represented the Government of Gabon as a technical advisor at a COMIFAC (Central Africa Forest Commission) meeting to discuss post-Copenhagen monitoring of carbon storage and fluxes across the Congo Basin in Brazzaville, Republic of Congo. Simon then installed the first long-term monitoring plot in the large swamp forest in the centre of the Congo Basin (not easy!), while training a Congolese student, Ifo Suspense, from Marien Ngouabi University in Brazzaville, Congo's only university. This was only possible with considerable help from Emanuel, a renowned local elephant hunter! Lac Tele reserve is home to over 100,000 gorillas, a higher density than anywhere in the world, and home of the mythical Mokélé-mbèmbé (basically Congo's Loch Ness monster). Simon didn't see either gorillas or the Mokélé-mbèmbé though.

Alan Grainger attended the 51st Annual Convention of the International Studies Association in New Orleans between 17 and 20 February. He presented a paper on "Institutional Constraints on Information Flows Between Scientists and International Organizations", and chaired another session on "International Organizations and Democracy".

Manuel Gloor will give a paper discussion on peatlands in this week's EGC cluster meeting, Thursday 04 March, 1 - 2 pm in room 1.44.

08/03/2010

News

Gabriela Lopez-Gonzalez was invited to attend the ninth Meeting on Vegetation Databases in Hamburg (24-26 February), as designer of the Leeds ForestPlots database. She presented a talk entitled "Forest Plots Database: a global online tool to manage and analyse forest inventory data", supported by the RAINFOR-MOORE project.

Simon Lewis wrote and submitted a concept note to the Congo Basin Forest Fund, with the government of Gabon, to study the climate change impacts on the forests of the Congo Basin (particularly Gabon) and build in-country scientific capacity (GBP5.6 million, approx. GBP2.5 to Leeds).

15/03/2010

News

Tim Baker, Katy Roucoux and **Geertje van der Heijden** are organising a session at the British Ecological Society annual meeting, here in Leeds, from 07 - 09 September. The session will focus on how new insights from a wide range of disciplines are causing us to rethink how disturbance events shape plant communities. Talks will address issues where disturbance events play a central role, such as the impact of past human activity on modern forest structure, the relationships between biodiversity and ecosystem function, and whether plant communities act as a source or sink of carbon. Further information can be found here:

http://www.britishecologicalsociety.org/meetings/current_future_meetings/2010_annual_meeting/thematic_topics/disturbance.php

Tim Baker has been appointed to the teaching staff for the Tropical Biology Association fieldcourse in Kibale Forest, Uganda during summer 2011. Every year, the Tropical Biology Association run courses for students from across Europe and Africa to gain experience of working in tropical ecosystems. This is an opportunity for me to give something back to the organisation that gave me my first taste of the tropics, at a site famous for the 14 species of primate, including chimpanzees that live there.

New paper

Fyllas, N. M., Polit, P., Galanidis, A., Dimitrakopoulos, P. G., Arianoutsou, M. (2010) Simulating Regeneration and Vegetation Dynamics in Mediterranean Coniferous Forests. Accepted in *Ecological Modelling*.

22/03/2010

News

Ruby Jurczyk (1st year BSc) has been awarded a Learning and Leading Fieldwork Apprenticeship by the RGS, worth £1000, to take part in fieldwork in northern Peru this summer associated with the NERC grant 'Long-term forest dynamics in Peruvian Amazonia' involving **Katy Roucoux**, **Tim Baker** and **Euridice Honorio**.

Simon Lewis wrote a guest commentary on the influential science blog, www.realclimate.org, covering the continuing controversy over the IPCC and its statements about the Amazon.

29/03/2010

News

Oliver Phillips and **Simon Lewis** contributed to a widely-publicised statement by tropical forest scientists, rebutting a dishonest and misleading recent press release from Boston University claiming that the Amazon is immune to drought impacts, and courting attention on the recent so-called 'Amazongate' affair. The "Scientists' statement on recent press release on Amazon susceptibility to reductions in rainfall: no Amazon rainforest "myths" have been debunked", can be found at: <http://climateprogress.org/2010/03/19/amazon-forests-drought-ipcc-feedback-debunk/>

The controversy has generated much more heat than light, especially in the blogosphere. If you are interested in following the details of the debates, <http://www.realclimate.org/> is one of the best sites, where Simon had his guest commentary last week.

New paper

Berry, N.J., **Phillips, O.L**, **Lewis, S.L.**, Hill, J., Edwards, D.P., Tawatao, N.B., Ahmed, N., Magintan, D., Khen, C.V., Maryati, M., Ong, R.C., Hamer, K.C. (2010) The high value of logged tropical forests: lessons from northern Borneo. *Biodiversity and Conservation* 19: 985–997.



Ecology and Global Change Cluster News: April 2010

12/04/2010

New paper

da Costa, A. C. L., Galbraith, D., Almeida, S., Tanaka Portela, B.T., da Costa, M., Atahydes, J., Fisher, R., **Phillips, O.L.**, Metcalfe, D., Levy, P., & Meir, P. Effect of seven years of experimental drought on vegetation dynamics and biomass storage of an eastern Amazonian rainforest. (in press) *New Phytologist*.

19/04/2010

No news

26/04/2010

No news



Ecology and Global Change Cluster News: May 2010

04/05/2010

News

Katy Roucoux is at the European Geosciences Union general assembly in Vienna this week presenting work entitled: Vegetation responses to climate changes during the penultimate glacial period (marine isotope stage 6) in Southern Europe.

Joey Talbot attended a UN-REDD Programme workshop on 27 - 29 April in Cambridge, on identifying and promoting ecosystem co-benefits from REDD+. He submitted a briefing paper entitled "Carbon and biodiversity relationships in tropical forests."

Simon Lewis gave two invited research seminars last week, at Silwood Park (NERC Centre for Population Biology, part of Imperial College), and at the Grantham Institute for Climate Change, London, on 'Tropical forests and the changing Earth system'

Guyana Field Campaign, February- April 2010

Roel Brienen and Abel Monteagudo led a two month field trip to the interior of Guyana to re-measure a total of 12 permanent sample plots in Mabura Hill, Pibiri and Iwokrama that were originally installed by Tropenbos-Guyana back in 1993, and are now managed by the Guyana Forestry Commission (GFC). After a week, Eric Mendoza and Samuel Almeida Jr. arrived from Brazil and joined the team to do the first (standard) RAINFOR soil sampling for these plots. As the plots are located on the old Guyana shield, their soils are among the poorest in the Amazon basin, and they have very low growth rates and are of low dynamism. They are a valuable addition to the RAINFOR network and will constitute a nice contrast with plots in the western Amazon on much richer soils. After one month, the team moved to the Iwokrama forest reserve 80 km south of Mabura. This unique forest area is managed by Iwokrama International Centre for Rainforest Conservation and Development (IIC) and combines sustainable forestry, tourism and conservation. The team successfully relocated two permanent sample plots installed in 1999 and incorporated a further four plots, which are part of the Iwokrama forestry experiment. In these plots, the team complemented existing measurements with trees in the smaller size classes from 10 - 20 cm. During this campaign the team collected botanical samples of more than 700 trees, which will be deposited at Herbaria in Guyana and Peru (Oxapampa) for further identification.

Accepted paper

Burgess, N. D., Bahane, B., Clairs, T., Danielsen, F., Dalsgaard, S., Funder, M., Hagelberg, N., Harrison, P., Haule, C., Kabalimu, K., Kilahama, F., Kilawe, E., **Lewis, S. L.**, Lovett, J. C., Lyatuu, G., Marshall, A. R., Meshack, C., Miles, L., Munishi, P. K. T., Nashanda, E., Shirima, D., Swetnam, R. D., **Willcock, S.**, Williams, A. and Zahabu, E. (2010) Getting ready for REDD+ in Tanzania: Progress and Challenges, *Oryx*, in press.

New papers

Swindles, G.T. and Plunkett, G. (2010). Testing the palaeoclimatic significance of the Northern Irish bog oak record. *The Holocene* 20, 155-159.

Roe, H.M., Patterson R.T. and **Swindles, G.T.** (2010) Controls on the contemporary distribution of lake thecamoebians (testate amoebae) within the Greater Toronto Area and their potential as water quality indicators. *Journal of Paleolimnology* 43, 955-975.

10/05/2010

News

The work by **Oliver Phillips** and the **RAINFOR project** on the impact of drought on the Amazon rainforest has been selected to form part of a highlighted section on NERC and the media in the NERC 2010 annual report based on the achievements of NERC-funded scientists.

New paper's:

Feldpausch, T.R., E.G. Couto, L.C. Rodrigues, D. Pauletto, M.S. Johnson, T.J. Fahey, J. Lehmann, and S.J. Riha (2010) Nitrogen aboveground turnover and soil stocks to 8m depth in primary and selectively logged forest in southern Amazonia. *Global Change Biology* 16:1793-1805.

Wheeler, J., **Swindles, G.T.** and Gearey, B.R. (2010) Finding Bosworth Battlefield: a multiproxy palaeoenvironmental investigation of lowland sediments from Dadlington, Leicestershire, England. *Journal of Archaeological Science* 37, 1579–1589.

17/05/2010

News

The work by **Simon Lewis** and the Afritrion project on making a carbon map of Gabon, and presentation at the UN climate change conference in Copenhagen in December last year, has been selected to form part of a highlighted section on 'Partnerships' in the NERC 2010 annual report based on the achievements of NERC-funded scientists.

At the cluster meeting this week, **Oliver Phillips** will lead a paper discussion on ecology and evolution. The meeting will take place on Thursday 20 May, 1 - 2 pm in Room 1.44. All welcome.

24/05/2010

New paper

Quesada, C. A., Lloyd, J., Schwarz, M., **Patiño, S., Baker, T. R.,** Czimczik, C., **Fyllas, N. M.,** Martinelli, L., Nardoto, G. B., Schmerler, J., Santos, A. J. B., Hodnett, M. G., Herrera, R., Luizão, F. J., Arneeth, A., Lloyd, G., Deuzeo, N., Hilke, I., Kuhlmann, I., Raessler, M., Brand, W. A., Geilmann, H., Moraes Filho, J. O., Carvalho, F. P., Araujo Filho, R. N., Chaves, J. E., Cruz Junior, O. F., Pimentel, T. P. and Paiva, R. (2010) Variations in chemical and physical properties of Amazon forest soils in relation to their genesis. *Biogeosciences* 7, 1515-1541.

Gloor, M., Sarmiento, J. L., and Gruber, N. (2010) What can be learned about carbon cycle climate feedbacks from CO₂ airborne fraction? *Atmospheric Chemistry Physics Discussions*, 10, 9045-9075. doi:10.5194/acpd-10-9045-2010.

Brienen, R.J.W., Zuidema, P. A. and Martinez-Ramos, M. M. (2010) Attaining the canopy in dry and moist tropical forests: strong differences in tree growth trajectories reflect variation in growing conditions. *Oecologia*, 163 (2) 485- 496.

DOI 10.1007/s00442-009-1540-5.

New paper in press

Malhado, A., Whittaker, R., Malhi, Y., Ladle, R., ter Steege, H., **Phillips, O.L.,** Aragão, L., **Baker, T.R.,** Arroyo, L., Almeida, S., Higuchi, N., Killeen, T., Monteagudo, A., Pitman, N., Prieto, A., Salomão, R., Vásquez, R., Laurance, W. and Ramírez, H. (in press) Are compound leaves an adaptation to seasonal drought or to rapid vertical growth? Evidence from the Amazon rainforest. *Global Ecology and Biogeography*.

Ecology and Global Change Cluster News: June 2010

07/06/2010

News

Simon Lewis was quoted in a front page New York Times article (25 May 2010), about the media and climate change science (<http://www.nytimes.com/2010/05/25/science/earth/25climate.html?ref=todayspaper>).

New papers

Lloyd, J., Patiño, S., Paiva, R. Q., Nardoto, G. B., **Quesada, C. A.**, Santos, A. J. B., **Baker, T. R.**, Brand, W. A., Hilke, I., Gielmann, H., Raessler, M., Luizão, F. J., Martinelli, L. A., & Mercado, L. M. (2010) Optimisation of photosynthetic carbon gain and within-canopy gradients of associated foliar traits for Amazon forest trees, *Biogeosciences*, 7, 1833-1859, doi:10.5194/bg-7-1833-2010.

Domingues, T. F., Meir, P., **Feldpausch, T. R.**, Saiz, G., Veenendaal, E. M., Schrodte, F., Bird, M., Djagbletey, G., Hien, F., Compaore, H., Diallo, A., Grace, J. & **Lloyd, J.** (2010) Co-limitation of photosynthetic capacity by nitrogen and phosphorus in West Africa woodlands. *Plant Cell and Environment* **33**, 959-980.

Kuhn, U., Ganzeveld, L., Thielmann, A., Dindorf, T., Schebeske, G., Welling, M., Sciare, J., Roberts, G., Meixner, F. X., Kesselmeier, J., Lelieveld, J., Kolle, O., Ciccioli, P., **Lloyd, J.**, Trentmann, J., Artaxo, P., & Andreae, M. O. (2010) Impact of Manaus City on the Amazon Green Ocean atmosphere: ozone production, precursor sensitivity and aerosol load, *Atmos. Chem. Phys. Discuss.*, **10**, 13091-13178.

New papers in press

Phillips, O.L., van der Heijden, G., **López-González, G.**, Aragão, L.E.O.C., **Lewis, S.L.**, **Lloyd, J.**, Malhi, Y., Monteagudo, A., Almeida, S., Alvarez, E., Amaral, I., Andelman, S., Andrade, A., Arroyo, L., Aymard, G., **Baker, T. R.**, Blanc, L., Bonal, D., Alves de Oliveira, A. C., **Chao, K.-J.**, Dávila N. C., da Costa, L., **Feldpausch, T. R.**, Fisher, J. B., Freitas, M. A., Galbraith, D., **Gloor, E.**, Higuchi, N., **Honorio, E.**, Jiménez, E., **Keeling, H.**, Killeen, T. J., Lovett, J. C., Meir, P., Mendoza, C. B., Morel, A., Núñez, P. V., **Patiño, S.**, Peh, K., Peña Cruz, A., Prieto, A., **Quesada, C. A.**, Ramírez, F., Ramírez, H., Rudas, A., Salamão, R., Schwarz, M., Silva, J., Silveira, M., Sonké, B., Sota Thomas, A., Stropp, J., Vásquez, R., Taplin, J. & Vilanova, E. (2010, in press) Drought mortality relationships for tropical forests. *New Phytologist* .

van der Heijden, G., **Feldpausch, T.R.**, **de la Fuente Herrero, A.**, **van der Velden, N.K.**, & **Phillips, O.L.** (accepted, May 2010). Calibrating the liana crown occupancy index in Amazonian forests. *Forest Ecology and Management*.

14/06/2010

News

The School of Geography hosted the AMAZONICA-RAINFOR combined annual project meeting in Geography on Monday and Tuesday, with 30 participants from around the UK and beyond focussing on the carbon balance of the Amazon region. **Manuel Gloor** and **Oliver Phillips** co-ordinated the meetings. Many thanks to **Joana Ricardo** for her valued behind-the-scenes help, and to everyone in our postgraduate and research community for their enthusiastic involvement.

New paper

Swindles, G. T., **Blundell, A.**, Roe, H. M. and Hall, V. A. (2010) A 4500-year proxy climate record from peatlands in the North of Ireland: the identification of widespread summer 'drought phases'? *Quaternary Science Reviews* 29, 1577-1589. 10.1016/j.quascirev.2009.01.003.

21/06/2010

News

Congratulations to **Alice Milner** who passed her PhD viva on Tuesday 15 June.

Alan Grainger provided global forest expertise in a NERC Knowledge Exchange Workshop on "Finance and Forestry: Where's the Data?", held in the City of London on Tuesday 15 June for members of the financial community.

At the EGC cluster meeting this week, there will be MRes presentations from Harriet and Rachael. It will take place on Thursday 24 June, 1 - 2 pm in Room 1.44. All welcome.

New paper

De Vleeschouwer, F., Chambers, F.M. and **Swindles, G.T.** (2010) Coring and sub-sampling of peatlands for palaeoenvironmental research. *Mires and Peat* 7, 1-10.

29/06/2010

News

Katy Roucoux has been awarded some money from the Quaternary Research Fund of the QRA towards her field visit to the Peruvian Amazon this July to investigate the long-term forest dynamics in this region.

Ecology and Global Change Cluster News: July 2010

05/07/2010

News

Research by **Oliver Phillips** and RAINFOR colleagues on the long-term carbon dynamics of Amazonia has been selected as a case study by the Royal Geographical Society, to provide evidence to UK policy makers of the demonstrable impact being made by geographers.

New papers

Swindles, G.T. (2010) Dating recent peat profiles using spheroidal carbonaceous particles (SCPs). *Mires and Peat* 7 (article 3), 1-5.

O'Connor, F. M., Boucher, O., Gedney, N., Jones, C. A., Folberth, G. A., **Coppell, R.**, Friedlingstein, P., Collins, W. J., Chappellaz, J., Ridley, J. and Johnson, C. E. (2010) The possible role of wetlands, permafrost and methane hydrates in the methane cycle under future climate change: A review, *Rev. Geophys.*, doi:10.1029/2010RG000326, in press.

(Richard Coppell is a member of River Basins but works with both clusters).

12/07/2010

News

Congratulations to our PhD student **Euridice Honorio**, who has received a generous grant from Red Latinoamericana de Botánica to present her work at the X Congress of Latin American Botany "Conservación y Uso Sustentable de la Flora Nativa Latinoamericana", between 04 - 10 October at La Serena, Chile. The award consists of a return-trip air ticket to Santiago, Chile plus conference expenses of US\$400.

On 01 July **Alan Grainger** attended a seminar on "Delivering REDD+: From Copenhagen to Cancun", organized by University of Edinburgh members of the UK Global Forest Monitoring Consortium. The seminar was a whole-day session at the Commonwealth Forestry Conference, which was being held in Edinburgh throughout the week.

Simon Lewis attended Nature's 'Tomorrow's Giants' conference considering what science will look like in 10 and 50 years time.

New grant

Graeme Swindles is part of a successful British Academy grant entitled 'Mobility, climate and culture: re-modelling the Irish Iron Age'. PI is Professor Ian Armit, University of Bradford and the total amount awarded was £142k. The success rate was 15%. The project is truly interdisciplinary and focussed on the response and adaptation of humans to abrupt climate change. The palaeoclimate and archaeological work packages will be led by Swindles and Armit respectively.

New paper

Van der Heijden, G., Feldpausch, T. R., de la Fuente Herrero, A., van der Velden, N. K., and Phillips, O. L. (2010) Calibrating the liana crown occupancy index in Amazonian forests. *Forest Ecology and Management* 260: 549-555.

19/07/2010

News

Congratulations to **Lindsay Banin** for successfully defending her PhD thesis (minor corrections), entitled "Cross-continental comparisons of tropical forest structure and function". Lindsay's research was supervised by **Simon Lewis** and **Oliver Phillips**. Her external examiner was Professor Patrick Meir (Geography, University of Edinburgh), and her internal examiners were **Stephen Sitch** and **Alan Grainger**.

26/07/2010

News

Graeme Swindles has been awarded two NERC in-kind grants for radiocarbon dating for the following projects:
[1] Viking Unst: chronology, human impact and climate change (£5200).
[2] A high-resolution multiproxy examination of major palaeohydrological fluctuations in a UK raised bog: implications for Holocene palaeoclimate studies, conceptual modelling and archaeology (£2600).

Simon Lewis spoke at a panel discussion on 'Gaia theory revisited' at the British Film Institute as part of their 'Future Human' season, alongside Douglas Turnbull, director of cult eco-film 'Silent Running' and special effects director on 2001, Blade Runner, ET and Back to the Future.

Simon Lewis gave a talk at the Associate of Tropical Biology and Conservation, titled 'Changing Ecology of Tropical Forests: evidence from 400 long-term forest plots', in Bali, Indonesia.

Simon Lewis was quoted in a news feature in Nature on biases in ecological studies.

From August 2010 **Ted Feldpausch** will be working in Manaus, Brazil for five months with collaborators from the Instituto Nacional de Pesquisas da Amazônia as one of the objectives of the RAINFOR-Moore-AMAZONICA project to strengthen institutional and academic relationships, and to expand forest sampling into new areas of Amazonia.

On 21 July **Alan Grainger** was a panel member at a NERC knowledge exchange symposium on "Finance, Forestry, and Water: Where's the Data". It was held in the City of London to share state of the art science with financiers.

New paper

Phillips, O. L., van der Heijden, G., López-González, G., Aragão, L. E. O. C., Lewis, S. L., Lloyd, J., Malhi, Y., Monteagudo, A., Almeida, S., Alvarez, E. D., Amaral, I., Andelman, S., Andrade, A., Arroyo, L., Aymard, G., Baker, T. R., Blanc, L., Bonal, D., Alves de Oliveira, Á. C., Chao, K.-J., Dávila, N. C., da Costa, L., Feldpausch, T. R., Fisher, J. B., Freitas, M. A., Galbraith, D., Gloor, E., Higuchi, N., Honorio, E., Jiménez, E., Keeling, H., Killeen, T. J., Lovett, J. C., Meir, P., Mendoza, C. B., Morel, A., Núñez, P. V., Patiño, S., Peh, K., Peña Cruz, A., Prieto, A., Quesada, C. A., Ramírez, F., Ramírez, A. Rudas, R. Salamão, M. Schwarz, J. Silva, M. Silveira, B. Sonké, A. Sota Thomas, J. Stropp, R. Vásquez, J. Taplin, H. and Vilanova, E. (2010) Drought mortality relationships for tropical forests. *New Phytologist* 187: 631-646.

*An Editorial by Patrick Meir and Ian Woodward '*Amazonian rain forests and drought: response and vulnerability*', highlighting our paper and others in the feature is available online at

<http://www3.interscience.wiley.com/cgi-bin/fulltext/123586650/HTMLSTART>.

All the papers in the feature are free content.

Ecology and Global Change Cluster News: August 2010

02/08/2010

New papers

Peh K.S.-H. (2010) Tropical cash crops could cause environmental crises. Accepted for publication in *Frontiers in Ecology and the Environment*.

Anderson, L., Malhi, Y., Aragão, L., Ladle, R., Arai, E., Barbier, N., **Phillips, O. L.** (2010) Remote sensing detection of droughts in Amazonian forest canopies. *New Phytologist* 187: 733–750.

da Costa, A. C. L., Galbraith, D., Almeida, S., Tanaka Portela, B. T., da Costa, M., de Atahydes Silva, J., Braga, A., de Goncalves, P. H. L., Fisher, R., **Phillips, O. L.**, Metcalfe, D., Levy, P., Meir, P., & de Oliveira, A. (2010) Effect of 7 years of experimental drought on vegetation dynamics and biomass storage of an eastern Amazonian rainforest. *New Phytologist* 187: 579-591.

09/08/2010

New papers

Oliver Phillips participated in an expert workshop organised by the Princeton University and the US Forest Service, "The Role of Forests in the Global Carbon Cycle", held at Princeton from 27 - 30 July 2010.

Alan Grainger has been invited to be a technical advisor to the California Air Resources Board's Low Carbon Fuel Standard expert workgroup. He will be advising on how to incorporate existing theories of long-term land cover change into models of the global land use and land cover impacts of a major switch to biofuels in California.

Oliver Phillips contributed a chapter on Climate Change and the Amazon, to the book "The Fragile Forest: inside Brazilian Amazonia" authored by D.K. Bhaskar, and available at <http://www.amazon.com/Fragile-Forest-Inside-Brazilian-Amazonia/dp/0615383246>. The book has a visually arresting series of photographic impressions of Amazonia, interspersed with narratives of cultural, natural, and scientific exploration.

Simon Lewis gave talks at the Association for Tropical Biology and Conservation, in Bali, Centre for International Forestry (CIFOR), in Bogor, and the Botanic Gardens in Cibodas, all in Indonesia.

Simon's new PNAS paper was covered by the BBC: www.bbc.co.uk/news/science-environment-10839465

New publication

Ahrends, A., Burgess, N. D., Milledge, S. A. H., Bulling, M. T., Fisher, B., Smart, J. C. R., Clarke, G. P., Mhoro, B. E., **Lewis, S. L.** (2010) Predictable waves of sequential forest degradation and biodiversity loss spreading from an African city. *Proceedings of the National Academy of Sciences, USA*.

17/08/2010

News

Tim Baker gave two presentations, 'Quantifying the importance of increased disturbance rates for the carbon stocks of Amazonian forests', and 'Worldwide changes in tropical forest ecosystems' (on behalf of **Oliver Phillips**), at the Ecological Society of America meeting in Pittsburgh, 03 - 07 August.

New publication in press

Baker, T. R., Jones, J., Rendón Thompson, O., Román Cuesta, R. M., del Castillo, D, Chan, I., Torres, J. and Healey, J. (in press) How can ecologists help realise the potential of payments for carbon in tropical forest countries? *Journal of Applied Ecology*.

24/08/2010

News

Ted Feldpausch gave two presentations, “Decadal carbon balance of tropical forests and their drought sensitivity” (partially based on **Phillips** et al. 2010) and “Regional and large-scale patterns in Amazon forest structure and function are mediated by variations in soil physical and chemical properties” (on behalf of **Jon Lloyd** and **Carlos Quesada**) at the AGU “Meeting of the Americas conference” in Foz de Iguacu, Brazil.

New publication

Brienen, R.J.W., W. Wanek and P. Hietz. Stable carbon isotopes in tree rings indicate improved water use efficiency and drought responses of a tropical dry forest tree species, *Trees*, special issue on Tropical Dendrochronology, **DOI 10.1007/s00468-010-0474-1**

Ecology and Global Change Cluster News: September 2010

06/09/2010

News

Congratulations go to PhD student **Ed Turner** for winning the best poster prize at the Quaternary Research Association annual postgraduate conference. This was held at the University of Exeter last week. Ed's poster is entitled 'Recent environmental changes in Yorkshire Peatlands: climate or human activity'. You can view the winning poster outside Graeme Swindles' office.

22/09/2010

News

The EGC group was well represented at the British Ecological Society meeting in Leeds, FROM 07 - 09 September. **Tim Baker, Katy Roucoux** and Geertje van der Heijden organised a thematic session, **Tim Baker, Simon Lewis** and **Lindsay Banin** gave talks about their work. **Sophie Fauset** and **Tim Jones** presented posters.

Oliver Phillips and RAINFOR colleague Carlos Quesada made invited contributions to the First Global Soil Map Latin American Workshop, and to the Latin America Soil Atlas meeting. EMBRAPA, Rio de Janeiro, 06 - 10 September 2010.

Tim Baker received £2000 follow-up funding to allow participants in the ESPA project that Tim led last year to attend the ESPA research development workshop in Edinburgh, 04 - 06 October.

Congratulations go to PhD student **Ed Turner** for winning the best poster prize at the Quaternary Research Association annual postgraduate conference. This was held at the University of Exeter last week. Ed's poster is entitled 'Recent environmental changes in Yorkshire Peatlands: climate or human activity'. You can view the winning poster outside Graeme Swindles' office.

New paper in press

Swetnam, R. D., Fisher, B., Mbilinyi, B. P., Munishi, P. K., Willcock, S., Ricketts, T., Mwakalila, S., Balmford, A., Burgess, N. D., Marshall, A. R., **Lewis, S. L.** (in press) Mapping socio-economic scenarios of land cover change: a GIS method to enable ecosystem service modelling. *Journal of Environmental Management*.

28/09/2010

News

Ted Feldpausch, hosted by the Biological Dynamics of Forest Fragments Project, gave an invited talk to researchers at the Instituto Nacional de Pesquisas da Amazônia, Manaus, Brazil. His talk focussed on recent results from the RAINFOR network and use of the forestplots.net database for census data management and analysis.

Ecology and Global Change Cluster News: October 2010

05/10/2010

News

Ed Turner presented a poster entitled 'Recent environmental changes in Yorkshire peatlands: climate or human activity?' at the IUCN UK 'Investing in Peatlands' conference held at Durham University on 28 - 29 September. With a strong focus on climate change, the aim of the conference was to provide a platform for exchange and discussion between scientists, landowners and managers and policy advisers.

11/10/2010

No news

20/10/2010

News

Katy Roucoux, Tim Baker, Euridice Honorio, Tim Jones and Ruby Jurczyk all starred in a 15 minute documentary about the fieldwork and science behind their current NERC-funded project examining the history of the rain forests in north-eastern Peru. The programme was shown on Peruvian television as part of the 'Saber Amazonica' series produced by the Instituto de Investigaciones de la Amazonia Peruana.

Tim Baker gave two presentations about his Ecosystems Services and Poverty Alleviation (ESPA) 'Strengthening Research Capacity' project at the ESPA Research Consortium call workshop in Edinburgh, 04 - 06 October.

Ecology and Global Change Cluster News: November 2010

01/11/2010

News

Ted Feldpausch contributed as an invited speaker at the First Symposium of the Centre for Integrated Biodiversity Studies in Amazônica (CENBAM) and Biodiversity Research Program (PPBio) at Boa Vista, Brazil. The goal of the meeting was to plan research, network implementation and standardisation of methods for a new Amazon-wide, Brazil-led biodiversity network.

New paper

Malhado, A. C. M., Whittaker, R. J., Malhi, Y., Ladle, R. J., ter Steege, H., **Phillips, O.**, Aragao, L. E. O. C., **Baker, T. R.**, Arroyo, L., Almeida, S., Higuchi, N., Killeen, T. J., Monteagudo, A., Pitman, N. C. A., Prieto, A., Salomao, R. P., Vasquez-Martinez, R., Laurance, W. F., Ramirez-Angulo, H. (2010) Are compound leaves an adaptation to seasonal drought or to rapid growth? Evidence from the Amazon rain forest. *Global Ecology and Biogeography*, 19 (6): 852 - 862.

New fellowship proposal

'Climatic Niche Evolution of South American Trees and its Consequences', submitted by Kyle Dexter. Hosts: Leeds University, Royal Botanic Garden-Edinburgh, National Science Foundation (US), International Research Fellow Postdoctorate Application.

If successful, this NSF international fellowship would bring Kyle to Leeds and Edinburgh for two years, to work with **Oliver Phillips**, **Tim Baker** and others on understanding in our group on the evolutionary patterns of Amazon forest trees.

08/11/2010

News

Graeme Swindles ran a workshop in Grassington on 30 October in association with the Yorkshire Dales Landscape Research Trust (of which he is one of the directors). The workshop was entitled 'Climate change and landscape evolution: current research in the Yorkshire Dales' and was comprised of a seminar followed by a hands-on microscopy practical. Over 40 people attended the workshop.

Simon Lewis has written an article entitled "How to beat the media in the climate street fight", which was published last week in Nature. To read the full article see <http://www.nature.com/news/2010/101103/full/468007a.html>

This year has seen much of Amazonia in drought, with high temperatures and rivers at record lows across the 6 million square kilometre region. The EGC cluster has anecdotal reports of impacts from many locations and colleagues, including from Bolivia from where **Roel Brienen** has just returned leading a RAINFOR forest remeasurement team who have had to contend with dry heat and choking smoke even within the forest. The 2010 drought follows closely on another extreme drought in 2005. As reported [here](#) the group discovered that the 2005 drought reversed the long-term carbon sink provided by the region (**Phillips et al.**, Science), but perhaps just temporarily. The impacts of cumulative Amazon droughts on forests and people are explored in this Global Post story, including an excellent short video.

15/11/2010

News

The fourth issue of the RAINFOR-AMAZONICA Newsletter is now available to download in English, Spanish and Portuguese from the RAINFOR website:

<http://www.geog.leeds.ac.uk/projects/rainfor/news/newsletters.html>. It has very interesting news about what has been happening within the network over the past few months and we invite you all to read it. Any feedback or suggestions should be made to **Joana Ricardo** (j.i.s.ricardo@leeds.ac.uk).

Alan Grainger attended the 3rd International Conference on Drylands, Deserts and Desertification at Ben Gurion University of the Negev from 08 - 11 November. His paper proposed ways to improve the global mapping of desertification.

New paper

Swindles, G. T., De Vleeschouwer, F. and Plunkett, G. (2010) Dating peat profiles using tephra: stratigraphy, geochemistry and chronology. *Mires and Peat* 7, 1-9. [Special Volume: A Review of Protocols in Peat Palaeoenvironmental Studies - <http://www.mires-and-peat.net/mpj3.html>]

Malhado, A. C. M., Whittaker, R. J., Malhi, Y., Ladle, R. J., ter Steege, H., **Phillips, O.**, Aragao, L. E. O. C., **Baker, T. R.**, Arroyo, L., Almeida, S., et al. (2010) Are compound leaves an adaptation to seasonal drought or to rapid growth? Evidence from the Amazon rain forest. *GLOBAL ECOL BIOGEOGR* 19(6):852 - 862, November 2010.

23/11/2010

News

We welcome **David Greenberg**, who is joining us for 9 months as a post-doctoral researcher on our RAINFOR project supported by the Moore Foundation. He brings important new skills to our project in spatial analysis and cartography which he combines with a strong background in tropical ecology, and will help RAINFOR to convert science outputs on Amazon carbon dynamics into maps and other forms suited to conveying them better to policy-makers and public. Originally from New York, David has moved straight to the UK winter from sunny southern California, so please make him especially welcome!

Simon Lewis, **Tim Baker** and **Stephen Sitch** each gave invited talks at a European Space Agency meeting in preparation for a possible mission to launch a Euro220 satellite that would monitor biomass from space across the world.

New paper in press

Villarroel, D., Catari, J. C., Calderon, D., Mendez, R., and **Feldpausch, T. R.** (in press 2010). Estructura, composición y diversidad arbórea de dos áreas de cerrado sensu stricto de la Chiquitanía (Santa Cruz, Bolivia). *Ecología en Bolivia* 45(2).

29/11/2010

News

Oliver Phillips was interviewed for Science News: "Warm spell spurred biodiversity in South American tropical rain forest", by Alexandra Witze, December 2010, on the implications of the Nov. 12 article in Science in which Jaramillo et al. reported rainforest pollen from equatorial Colombia at the Paleocene-Eocene Thermal Maximum 56 million years ago.

New paper:

Polce, C., Kunin, W.E., Biesmeijer, J.C., Dauber, J., **Phillips, O.L.**, and the ALARM Field Site Network (2010) Alien and native plants show contrasting responses to climate and land use in Europe. *Global Ecology and Biogeography*. DOI: [10.1111/j.1466-8238.2010.00619.x](https://doi.org/10.1111/j.1466-8238.2010.00619.x)

Ecology and Global Change Cluster News: December 2010

06/12/2010

News

Simon Lewis was quoted on BBC world in a scene-setting piece in the run-up to Copenhagen (http://www.bbc.co.uk/mundo/noticias/2010/11/101128_cumbre_cancun_copenhague_amab.shtml), and was quoted on the high-profile USblog 'climateprogress' about the 2010 Amazon drought. (<http://climateprogress.org/2010/11/26/another-extreme-drought-hits-the-amazon-raising-climate-change-concerns/>)

The 2010 Amazon drought follows closely on the 'drought of the century' event in 2005. The November 29 front page of Reuters website on 29 November carried an extensive piece of reportage from Brazil, including RAINFOR research on the impact of Amazon drought on forests:

<http://uk.reuters.com/article/idUKTRE6AS4H420101129>

13/12/2010

News

Simon Lewis was an invited speaker at the Mexican Governments 'Communicating Climate Change' conference in Cancun, Mexico. He is also acting as science advisor to the government of Gabon at the United Nations climate change talks in Mexico.

Accepted paper:

Parmentier, I. et al. including **Lewis, S.L.**, and **Fauset, S.** Predicting alpha diversity of African rain forests: models based on climate and satellite-derived data do not perform better than a purely spatial model. *Journal of Biogeography*. In press.

21/12/2010

No news