

Contents

Reviews

- 1197 **Impacts of atmospheric nitrogen deposition: responses of multiple plant and soil parameters across contrasting ecosystems in long-term field experiments**
Gareth K. Phoenix, Bridget A. Emmett, Andrea J. Britton, Simon J. M. Caporn, Nancy B. Dise, Rachel Helliwell, Laurence Jones, Jonathan R. Leake, Ian D. Leith, Lucy J. Sheppard, Alwyn Sowerby, Michael G. Pilkington, Edwin C. Rowe, Mike R. Ashmore and Sally A. Power
- 1216 **Soil respiration is stimulated by elevated CO₂ and reduced by summer drought: three years of measurements in a multifactor ecosystem manipulation experiment in a temperate heathland (CLIMAITE)**
Merete B. Selsted, Leon van der Linden, Andreas Ibrom, Anders Michelsen, Klaus S. Larsen, Jane K. Pedersen, Teis N. Mikkelsen, Kim Pilegaard, Claus Beier and Per Ambus

Primary Research Articles

- 1231 **The ebb and flow of antimicrobial skin peptides defends northern leopard frogs (*Rana pipiens*) against chytridiomycosis**
James D. Pask, Douglas C. Woodhams and Louise A. Rollins-Smith
- 1239 **Interactions between climate and habitat loss effects on biodiversity: a systematic review and meta-analysis**
Chrystal S. Mantyka-Pringle, Tara G. Martin and Jonathan R. Rhodes
- 1253 **Exploring consensus in 21st century projections of climatically suitable areas for African vertebrates**
Raquel A. Garcia, Neil D. Burgess, Mar Cabeza, Carsten Rahbek and Miguel B. Araújo
- 1270 **Region-wide changes in marine ecosystem dynamics: state-space models to distinguish trends from step changes**
Matthew Spencer, Nova Mieszkowska, Leonie A. Robinson, Stephen D. Simpson, Michael T. Burrows, Silvana N. R. Birchenough, Eva Capasso, Polly Cleall-Harding, Julia Crummy, Callan Duck, Damien Eloire, Matthew Frost, Ailsa J. Hall, Stephen J. Hawkins, David G. Johns, David W. Sims, Timothy J. Smyth and Chris L. J. Frid
- 1282 **Reconciling estimates of the contemporary North American carbon balance among terrestrial biosphere models, atmospheric inversions, and a new approach for estimating net ecosystem exchange from inventory-based data**
Daniel J. Hayes, David P. Turner, Graham Stinson, A. David McGuire, Yaxing Wei, Tristram O. West, Linda S. Heath, Bernardus Dejong, Brian G. McConkey, Richard A. Birdsey, Werner A. Kurz, Andrew R. Jacobson, Deborah N. Huntzinger, Yude Pan, W. Mac Post and Robert B. Cook
- 1300 **Consistent temperature dependence of respiration across ecosystems contrasting in thermal history**
Daniel M. Perkins, Gabriel Yvon-Durocher, Benoit O. L. Demars, Julia Reiss, Doris E. Pichler, Nikolai Friberg, Mark Trimmer and Guy Woodward
- 1312 **Agricultural encroachment: implications for carbon sequestration in tropical African wetlands**
Matthew J. Saunders, Frank Kansime and Michael B. Jones
- 1322 **Seasonal carbon dynamics and water fluxes in an Amazon rainforest**
Yeonjoo Kim, Ryan G. Knox, Marcos Longo, David Medvigy, Lucy R. Hutyra, Elizabeth H. Pyle, Steven C. Wofsy, Rafael L. Bras and Paul R. Moorcroft
- 1335 **Distributional migrations, expansions, and contractions of tropical plant species as revealed in dated herbarium records**
Kenneth J. Feeley
- 1342 **Future wood productivity of *Pinus radiata* in New Zealand under expected climatic changes**
Miko U. F. Kirschbaum, Michael S. Watt, Andrew Tait and Anne-Gaelle E. Ausseil

Contents (*continued*)

- 1357 Plant extinction risk under climate change: are forecast range shifts alone a good indicator of species vulnerability to global warming?**
Damien A. Fordham, H. Resit Akçakaya, Miguel B. Araújo, Jane Elith, David A. Keith, Richard Pearson, Tony D. Auld, Camille Mellin, John W. Morgan, Tracey J. Regan, Mark Tozer, Michael J. Watts, Matthew White, Brendan A. Wintle, Colin Yates and Barry W. Brook
- 1372 Attribution of climate change: a methodology to estimate the potential contribution to increases in potato yield in Scotland since 1960**
Peter J. Gregory and Bruce Marshall
- 1389 Temperature and precipitation controls over leaf- and ecosystem-level CO₂ flux along a woody plant encroachment gradient**
Greg A. Barron-Gafford, Russell L. Scott, G. Darrel Jenerette, Erik P. Hamerlynck and Travis E. Huxman
- 1401 Precipitation variability and fire influence the temporal dynamics of soil CO₂ efflux in an arid grassland**
Rodrigo Vargas, Scott L. Collins, Michell L. Thomey, Jennifer E. Johnson, Renee F. Brown, Donald O. Natvig and Michael T. Friggens
- 1412 Nitrogen addition alters mineralization dynamics of ¹³C-depleted leaf and twig litter and reduces leaching of older DOC from mineral soil**
Frank Hagedorn, Adrian Kammer, Michael W. I. Schmidt and Christine L. Goodale
- 1428 Upscaling methane fluxes from closed chambers to eddy covariance based on a permafrost biogeochemistry integrated model**
Yu Zhang, Torsten Sachs, Changsheng Li and Julia Boike
- 1441 Soil C erosion and burial in cropland**
A. J. VandenBygaart, David Kroetsch, Edward G. Gregorich and David Lobb
- 1453 Methyl chloride isotopic signatures from Irish forest soils and a comparison between abiotic and biogenic methyl halide soil fluxes**
Kelly R. Redeker and Robert M. Kalin
- 1468 The Michaelis–Menten kinetics of soil extracellular enzymes in response to temperature: a cross-latitudinal study**
Donovan P. German, Kathleen R. B. Marcelo, Madeleine M. Stone and Steven D. Allison
- 1480 Atmospheric CO₂ and O₃ alter competition for soil nitrogen in developing forests**
Donald R. Zak, Mark E. Kubiske, Kurt S. Pregitzer and Andrew J. Burton