

## Posters (Abstracts on cd and PEATNET websiste)

**Presenter** (alphabetic): No. of Poster (placement in hall), **Title**, Authors, and *Institute of first author*. Posters numbered 1-60 are in Poster Session 1. Posters 61 and up are in Poster Session 2.

1. Roxanne Andersen: **Restoring the carbon accumulation function in cutover bogs: do micro-organisms matter?** — Roxanne Andersen<sup>\*1,3</sup>, Remy Pouliot<sup>1</sup>, Line Rochefort<sup>1</sup>, Andre-Jean Francez<sup>2</sup>, and Rebekka Artz<sup>3</sup>; *Université Laval, Québec, Canada*
2. Lasse Aro: **Does growing tree stand compensate heterotrophic soil respiration on afforested cutaway peatlands?** — Lasse Aro<sup>1</sup>, Hannamaria Potila<sup>1</sup>, Kari Minkkinen<sup>2</sup>, and Jukka Laine<sup>1</sup>, *Finnish Forest Research Institute, Parkano Research Unit, Parkano, Finland*
3. Alexandra Barthelmes: **Slight drainage may enhance peat carbon sequestration in alder carrs.** — Alexandra Barthelmes\*, John Couwenberg, and Hans Joosten, *Department of Peatland Studies and Palaeoecology, Institute of Botany and Landscape Ecology Greifswald, Germany*
4. Juan C. Benavides: **Peat and carbon accumulation in a tropical high elevation cushion bog in the Northern Andes** — Juan C. Benavides<sup>1</sup>, Dale H. Vitt<sup>1</sup>, and R. Kelman Wieder<sup>2</sup>, *Department of Plant Biology, Southern Illinois University, Carbondale, IL, USA*
5. Andreas Berg: **Successional stage controls nitrogen fixation in boreal mires** — Andreas Berg<sup>1</sup>, Bo Hans Svensson<sup>1</sup>, and Mats Bengt Nilsson<sup>2</sup>, *Department of Water and Environmental Studies, Linköping University, Linköping, Sweden*
6. Madlen Beyer: **Carbon trace gas dynamics of minerotrophic fen peatlands in NE-Germany** — Michael Giebels, Jürgen Augustin, Madlen Beyer\*, Bärbel Ehrig, Eva Leitholdt, and Michael Sommer; *Leibniz-Centre of Agricultural Landscape Research (ZALF) e.V., Müncheberg, Germany*
7. Mike Billett: **Carbon dioxide and methane evasion from peatland aquatic systems – an important biospheric feedback?** — Mike Billett\* and Frank Harvey, *Centre for Ecology and Hydrology, Bush Estate, Penicuik, Midlothian, UK*,
61. Rose Bloise: **The extent and classification of peatlands in 50 watersheds of acid-sensitive lakes in northern Alberta, Canada** — Rose Bloise\* and Dale H. Vitt, *Department of Plant Biology, Southern Illinois University, Carbondale, IL, USA*
8. Marie-Claude Bonneville: **Annual carbon dioxide and methane fluxes in a Canadian boreal peatland and their associated radiative forcings and climate impacts** — Marie-Claude Bonneville<sup>\*1</sup>, Ian B. Strachan<sup>1,2</sup>, Luc Pelletier<sup>3</sup>, and Nigel T. Roulet<sup>4</sup>, *Atmospheric and Environmental Research Laboratory, McGill University, QC, Canada*
9. Jill Bubier: **Effects of nutrient addition (N and NPK) on leaf morphology and photosynthetic performance of three bog dwarf shrubs** — Rose M. Smith, Sari Juutinen, Jill L. Bubier\*, and Tim R. Moore, *Environmental Studies Program, Mount Holyoke College, South Hadley, USA*
10. Ivana Bufkova: **Peatland degradation after drainage in Sumava National Park, Czech Republic** — Ivana Bufkova\* and Frantisek Stibal; *Admin. of the Sumava National Park, Kasperske Hory, Czech Republic*
11. Annette Burden: **An assessment of the relationship between terrestrial carbon cycling and fluvial DOC export in a peat-influenced large catchment.** — Annette Burden<sup>\*1</sup>, Chris Evans<sup>1</sup>, David Cooper<sup>1</sup>, Tim Jones<sup>1,2</sup>, David Norris<sup>1</sup>, Simon Grant<sup>1</sup>, Dave Williams<sup>1</sup>, and Mark Cooper<sup>1,2</sup>, *Centre for Ecology and Hydrology, Environment Centre Wales, Bangor, UK*
119. Stephen J. Chapman: **Estimation of dry bulk density values from archived data for the determination of peatland C stocks** — Stephen J. Chapman, *The Macaulay Land Use Research Institute, Aberdeen, UK*

13. Rod A. Chimmer: **Long-term hydrologic changes influence warming responses in peatlands** — Rod A. Chimmer\*<sup>1</sup>, Merritt M. Turetsky<sup>2</sup>, and John Hriblan<sup>3</sup>; *Michigan Technological University, SFRES, Houghton, MI*
14. Jana Chmielewski: **The carbon content of limnic substrates in Germany and Poland** — Jana Chmielewski; *University of Potsdam, Institute of Geoecology, Potsdam, Germany*
62. Amber Churchill: **Plant physiological and environmental controls on primary production in Alaskan peatlands** — Amber Churchill\*<sup>1</sup>, A. David McGuire<sup>1</sup>, and Merritt Turetsky<sup>2</sup>; *Department Biology & Wildlife, University of Alaska Fairbanks, Fairbanks, AK, USA*
15. Joanna Clark: **Mapping peat vulnerability to climate change to inform policy in the UK** — Joanna Clark<sup>1\*</sup>, Angela Gallego-Sala<sup>2</sup>, Steve Chapman<sup>3</sup>, David Cooper<sup>4</sup>, Mike Billett<sup>5</sup>, Richard Coppel<sup>6</sup>, Chris Evans<sup>4</sup>, Martin Evans<sup>7</sup>, Tim Farewell<sup>8</sup>, Chris Freeman<sup>1</sup>, Jim Freer<sup>2</sup>, Emanuel Gloor<sup>6</sup>, Jo House<sup>2</sup>, Russell Lawley<sup>9</sup>, Don Monteith<sup>10</sup>, Dali Nayak<sup>11</sup>, Harriet Orr<sup>12</sup>, Colin Prentice<sup>2</sup>, Rob Rose<sup>9</sup>, James Rowson<sup>13</sup>, Jo Smith<sup>11</sup>, Pete Smith<sup>11</sup>, Fred Worrall<sup>13</sup>, and Elena Vangulova<sup>14</sup>; *Environment Centre Wales, School of Biological Sciences, Bangor, Gwyned, UK*
16. R. S. Clymo: **Peat in a cold climate** — R.S. Clymo; *Queen Mary, University of London, London, UK*
17. John Connolly: **Disturbance in Irish peatlands** — John Connolly\* and Nicholas M. Holden; *Biosystems Engineering, UCD School of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Dublin, Ireland*
18. Mark Cooper: **Quantifying spatial variation of gas fluxes in a heterogeneous upland peatland ecosystem** — Mark Cooper\*<sup>1,2</sup>, Chris Evans<sup>1</sup>, Nathalie Fenner<sup>2</sup>, Peter Levy<sup>3</sup>, Timothy Jones<sup>1,2</sup>, Annette Burden<sup>1</sup> and Chris Freeman<sup>2</sup>; *Centre for Ecology and Hydrology, Environment Centre Wales, Bangor, UK*
63. Richard Coppel: **Modelling peat carbon dynamics with permafrost in the joint UK Land Environment Simulator (JULES)** — Richard Coppel\*<sup>1,2</sup>, Katherine Arrell<sup>1</sup>, Andrew Baird<sup>1</sup>, Emanuel Gloor<sup>1</sup>, Joseph Holden<sup>1</sup>, Chris Jones<sup>2</sup>, Stephen Sitch<sup>1</sup>, and Sergey Venevsky<sup>1,2</sup>; *School of Geography, University of Leeds, Leeds, UK*
64. Richard Coppel/ Richard Smart: **Effects of peatland burning on hydrology, fluvial carbon fluxes, water quality and aquatic ecosystems** — Joseph Holden (presented by Richard Smart or Richard Coppel); *School of Geography, University of Leeds, Leeds, UK*
19. Pierre-Luc Dallaire: **High-resolution carbon pool estimation at peatland scale using ground-penetrating radar and paleoecological data** — Pierre-Luc Dallaire\*<sup>1</sup>, Michelle Garneau<sup>1</sup>, and Bernard Giroux<sup>2</sup>; *Département de Géographie and Centre de recherche Géotop, Université du Québec à Montréal, Montréal, QC, Canada*
20. Frédéric Delarue : **Source and degradation indicators of organic matter in a *Sphagnum*-dominated peatland (Jura, France)** — Frédéric Delarue\*, Fatima Laggoun-Défarge, Jean-Robert Disnar, Nathalie Lottier, and Sébastien Gogo; *Université d'Orléans, CNRS/INSU, Université François Rabelais - Tours Institut des Sciences de la Terre d'Orléans Orléans cedex 2, France*
65. Kerry Dinsmore: **CO<sub>2</sub> losses from a peatland stream during stormflow events** — K.J. Dinsmore\* and M.F. Billett; *Centre for Ecology and Hydrology, Bush Estate, Penicuik, Midlothian, UK*
21. René Dommain: **Holocene peat and carbon sequestration rates and palaeo- and modern CO<sub>2</sub> emissions from SE-Asian peatswamps** — René Dommain\*<sup>1</sup>, John Couwenberg<sup>1</sup>, and Hans Joosten<sup>1</sup>; *NOAA Earth System Research Laboratory, Boulder, CO, USA*
22. Maxim Dorodnikov: **Isotopic evidence of methane pathways in a boreal peatland: spatial distribution of CH<sub>4</sub> fluxes and plant-mediated transport as evaluated by field and laboratory techniques** — Maxim Dorodnikov\* and Martin Wilmking; *Institute of Botany and Landscape Ecology, University of Greifswald, Greifswald, Germany*
23. Cristian Estop Aragonés: **Impact of drying and rewetting on carbon cycling in a northern fen** — Cristian Estop Aragonés\* and Christian Blodau; *Limnological Research Station, Department of Hydrology, University of Bayreuth, Bayreuth, Germany*

24. Chris Evans/Fred Worrell: **Managing peatland carbon in an ecosystem services context** — Aletta Bonn<sup>1</sup>, Chris Evans<sup>\*2</sup>, Mike Acreman<sup>3</sup>, Nisha Beharry-Borg<sup>4</sup>, Pippa Chapman<sup>4</sup>, Joseph Holden<sup>4</sup>, Mark Parnell<sup>1</sup>, Ed Rowe<sup>2</sup>, Mette Termansen<sup>4</sup>, Aki Tsuchiya<sup>5</sup>, and Fred Worrall<sup>\*6</sup>; *Moors for the Future Partnership, Peak District National Park, The Moorland Centre, Edale, UK*
66. Chris Evans: **Quantifying the carbon and greenhouse gas budgets of four UK peatland catchments** — Chris Evans<sup>\*1</sup>, Mike Billett<sup>2</sup>, Nick Ostle<sup>3</sup>, Peter Levy<sup>2</sup>, Kerry Dinsmore<sup>2</sup>, Annette Burden<sup>1</sup>, Tim Jones<sup>1</sup>, and Mark Cooper<sup>1</sup>; *Centre for Ecology and Hydrology, Environment Centre Wales, Bangor, UK*
25. Inke Forbrich: **A year in the carbon cycle of a boreal peatland** — Inke Forbrich<sup>\*</sup>, Lars Kutzbach, Daniel Jager, Christian Wille, Jiabing Wu, Thomas Becker, and Martin Wilmking; *Institute of Botany and Landscape Ecology, Ernst Moritz Arndt University, Greifswald, Germany*
67. Inke Forbrich: **CH<sub>4</sub> emissions from the peatlands under oceanic and continental climate** — Inke Forbrich<sup>\*1</sup>, Ann-Kristin Koehler<sup>2</sup>, Ulrike Wolf<sup>3</sup>, Peter Schreiber<sup>1,4</sup>, Anna Laine<sup>5</sup>, Lars Kutzbach<sup>1,4</sup>, Ger Kiely<sup>2</sup>, and Martin Wilmking<sup>1</sup>; *Institute of Botany and Landscape Ecology, Ernst Moritz Arndt University, Greifswald, Germany*
26. André-Jean Francez: **Short-term changes in the structure of microbial communities following bare peat colonization by *Agrostis stolonifera* and *Eriophorum vaginatum* in a cutover peatland** — André-Jean Francez<sup>\*1</sup>, Laurent Grasset<sup>2</sup>, Marie-Paule Briand<sup>1</sup>, Sylvain Diquélou<sup>3</sup>, and Françoise Binet<sup>1</sup>; *University de Rennes 1, UMR-CNRS 6553 'ECOBIO' & IFR-CAREN, Rennes cedex, France*
68. Lars Franzén: **Global cooling and ice age initiation – are peatlands responsible?** — Lars G. Franzén<sup>\*1</sup> and Roger A. Cropp<sup>2</sup>; *Department of Earth Sciences, University of Gothenburg, Göteborg, Sweden*
27. Jenny Dawn Gaiawyn: **Methane fluxes in a semi-natural N perturbed ombrotrophic peat bog.** — Jenny Dawn Gaiawyn<sup>\*1,2</sup>, Lucy J Sheppard<sup>1</sup>, Ute Skiba<sup>1</sup>, and Elizabeth Baggs<sup>2</sup>; *CEH Edinburgh, Bush Estate, Penicuik, Midlothian, UK*
69. Angela Gallego-Sala: **Diurnal temperature effects on the production of trace gases in peatland soil** — Angela Gallego-Sala<sup>\*</sup> and Edward Hornibrook; *Bristol Biogeochemistry Research Centre, University of Bristol, Department of Earth Sciences, Bristol, UK*
70. Angela Gallego-Sala: **Bioclimatic envelope modelling of the present global distribution of boreal peatlands** — Angela Gallego-Sala<sup>\*1</sup>, Joanna Clark<sup>2</sup>, Joanna House<sup>1</sup>, Colin I. Prentice<sup>1</sup>, Pete Smith<sup>3</sup>, Harriet Orr<sup>4</sup>, Chris Freeman<sup>2</sup> and Jim Freer<sup>5</sup>; *QUEST, Department of Earth Sciences, Queen's Road, Bristol, UK*
28. Michelle Garneau: **The Holocene carbon dynamics of boreal and subarctic peatlands following a nordic gradient in Québec: A synthesis for northeastern Canada** — Michelle Garneau<sup>\*</sup>, H Asnong, Simon van Bellen, Louis Tremblay, Alexandre Lamarre, Julie Loisel, and V Beaulieu-Audy; *Département de géographie et GEOTOP-UQAM-McGill, Université du Québec à Montréal, Montréal, QC, Canada*
29. Michal Gažovič: **Year-round measurements of carbon dioxide and methane exchange from a boreal peatland in north-west Russia** — Michal Gažovič<sup>\*1</sup>, Peter Schreiber<sup>1,2</sup>, Lars Kutzbach<sup>1,2</sup>, Christian Wille<sup>1,2</sup>, and Martin Wilmking<sup>1</sup>; *Institute for Botany and Landscape Ecology, Ernst Moritz Arndt University Greifswald, Greifswald, Germany*
30. Evgeniva A. Golovatskava: **Carbon accumulation by mires in the southern taiga of Western Siberia** — Evgeniva A. Golovatskava<sup>\*</sup> and Egor A. Dyukarev; *Institute of Monitoring of Climatic and Ecological System SB RAS, Tomsk, Russia*
31. Laurent Grasset: **Carbohydrates and PLFAs as proxies for plant inputs and microbial degradation in a *Sphagnum*-dominated peatland** — Frédéric Delarue<sup>1</sup>, Laurent Grasset<sup>\*2</sup>, Fatima Laggoun-Défarce<sup>1</sup>, Lucie Grebikova<sup>2,3</sup>, and Nathalie Lottier<sup>1</sup>; *ISTO: Earth Science Institute of Orléans, Universities of Orléans – Tours / CNRS). Campus Géosciences, Orléans cedex 2, France*
32. Morgens Greve: **Mapping the extent of peatlands using decision tree modeling, indicator kriging and legacy soil information** — Morgens H. Greve<sup>\*</sup>, Rania Bou Kheir, Mette B. Greve, Peder K. Bøcher, Rene Larsen, and Keith McCloy; *University of Aarhus, Faculty of Agriculture Sciences, Department of Agroecology and Environment, Tjele, Denmark*

33. Tomáš Hájek: **Sphagnum cell wall polysaccharides play an important role in decay resistance and active depression of decomposition in bogs.** — Tomáš Hájek<sup>\*1,2</sup>, Simon Balance<sup>3</sup>, Juul Limpens<sup>4</sup>, Mink Zijlstra<sup>4</sup>, and Jos T.A. Verhoeven<sup>5</sup>; *Institute of Botany of the Czech Academy of Sciences, Trebon, Czech Republic*
34. Marilou Hayes: **Holocene paleotemperature reconstructions and carbon dynamics from a subarctic permafrost peatland, northern Québec** — Marilou Hayes<sup>\*1,2</sup>, Michelle Garneau<sup>1,2</sup> and Jean-François Hélie<sup>2</sup>; *Département de Géographie and Centre de recherche Géotop, Université du Québec, Montreal, QC Canada*
35. Joseph Holden: **Microbial activity and dissolved organic carbon production in drained and rewetted blanket peat** — Zoe E Wallage<sup>1,2</sup>, Joseph Holden<sup>\*1</sup>, Timothy D. Jones<sup>1</sup>, and Adrian T. McDonald<sup>1</sup>; *School of Geography, University of Leeds, Leeds, UK*
71. Joseph Holden: **Flow through macropores of different size classes in blanket peat** — Joseph Holden; *School of Geography, University of Leeds, Leeds, UK*
36. Melissa House: **Minimal impact oil disturbance in Alberta: Revegetation as an indicator of function return** — Melissa House<sup>1\*</sup>, Dale H. Vitt<sup>1</sup>, Sara C. Koropchak<sup>1</sup>, and R. Kelman Wieder<sup>2</sup>; *Department of Plant Biology, Southern Illinois University, Carbondale, IL, USA*
37. Colleen M. Iversen: **Scaling plant nitrogen-use and uptake efficiencies in response to nutrient addition in peatlands** — Colleen M. Iversen<sup>\*1</sup>, Scott D. Bridgman<sup>2</sup>, and Laurie E. Kellogg<sup>3</sup>; *Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN, USA*
38. Jyrki Jauhiainen: **Land use and GHG fluxes in tropical peat** — Jyrki Jauhiainen<sup>\*1</sup>, Hanna Silvennoinen<sup>2</sup>, and Harri Vasander<sup>1</sup>; *Department of Forest Ecology, University of Helsinki, Finland*
39. Miriam C. Jones: **Rapid peatland expansion and carbon accumulation in Alaska caused by a warm climate and high seasonality in the early Holocene** — Miriam C. Jones<sup>\*</sup> and Zicheng Yu; *Department of Earth and Environmental Sciences, Lehigh University, Bethlehem, PA, USA*
40. Timothy G Jones: **The impact of changing acidity on carbon and nitrogen cycling in peatlands** — Timothy G. Jones<sup>\*1,2</sup>, Chris Evans<sup>2</sup>, Chris Freeman<sup>1</sup>, Nick Ostle<sup>3</sup>, Annette Burden<sup>2</sup>, and Mark Cooper<sup>1</sup>; *School of Biological Sciences, Bangor University, Bangor, UK*
41. Sari Juutinen: **Responses of ecosystem CO<sub>2</sub> exchange to nutrient addition in a bog** — Sari Juutinen<sup>\*1</sup>, Jill L. Bubier<sup>1</sup>, Paliza Shrestha<sup>1</sup>, Rose Smith<sup>1</sup>, and Tim R. Moore<sup>2</sup>; *Environmental Studies Program, Mount Holyoke College, South Hadley, MA, USA*
42. Magnus Kelly: **Carbon balance of UK peatlands** — Magnus Kelly<sup>\*1</sup>, Peter Levy<sup>1</sup>, and John Moncrieff<sup>2</sup>; *Centre for Ecology and Hydrology, Bush Estate, Penicuik, Midlothian*
43. Youngil Kim: **Estimating net difference of CO<sub>2</sub> exchanges between the pristine and flooded boreal peatlands in Canada** — Youngil Kim<sup>\*1</sup>, Nigel T. Roulet<sup>1</sup>, Changhui Peng<sup>1</sup>, Changsheng Li<sup>1</sup>, and Steve Frolking<sup>2</sup>; *Department of Geography, McGill University, Montréal, QC, Canada*
44. Ann-Kristin Koehler: **The carbon balance of an Atlantic blanket bog in South-western Ireland – 6 years of observations and modelling** — Ann-Kristin Koehler<sup>\*1</sup>, Gerard Kiely<sup>1</sup>, Paul Leahy<sup>1</sup>, Matteo Sottocornola<sup>2</sup> and Anna M. Laine<sup>3</sup>; *Centre for Hydrology, Micrometeorology and Climate Change, University College Cork, Cork, Republic of Ireland*
45. Sara Koropchak: **Reclaiming the carbon sink after oil sands disturbance: The importance of *Carex aquatilis* as a pioneer species in peatland reclamation** — Sara Koropchak<sup>1\*</sup>, Dale H. Vitt<sup>1</sup>, Stephen Ebbs<sup>1</sup>, and Melissa House<sup>1</sup>, and R. Kelman Wieder<sup>2</sup>; *Department of Plant Biology, Southern Illinois University, Carbondale, IL, USA*
46. Angela Kross: **Estimation of the carbon exchange at different Canadian peatlands using MODIS data** — Angela Kross<sup>\*1</sup>, Richard Fernandes<sup>2</sup>, Jonathan Seaquist<sup>3</sup>, and Nigel Roulet<sup>1</sup>; *Department of Geography, McGill University, Montréal, QC, Canada*

47. Fatima Laggoun-Defarge: **Organic matter dynamics in a *Sphagnum*-dominated peatland colonised by *Molinia caerulea* and *Betula sp*** — Sébastien Gogo, Fatima Laggoun-Défarge\*, Patrick Albéric, and Christian Défarge; *Université d'Orléans, CNRS/INSU, Université François Rabelais - Tours Institut des Sciences de la Terre d'Orléans -Orléans cedex 2, France*
72. Fatima Laggoun-Défarge: **Identification of labile water soluble organic compounds from a *Sphagnum* dominated peatland. Molecular and isotopic signatures** — Frédéric Delarue, Fatima Laggoun-Défarge\*, Pascale Gautret, Nathalie Lottier, and Patrick Albéric; ISTO: *Earth Science Institute of Orleans, Universities of Orléans and Tours /CNRS, Orléans cedex 2, France*
73. Outi Lähteenoja: **Amazonian peatlands: an ignored C sink and potential source** — Outi Lähteenoja<sup>1\*</sup>, Kalle Ruokolainen<sup>1</sup>, Leif Schulman<sup>2</sup>, and Markku Oinonen<sup>3</sup>; *Department of Biology, University of Turku, Turku, Finland*
48. Anna Laine: **Bog scale variation may overshadow continental scale variation in bog photosynthesis** — Anna Laine<sup>\*1</sup>, David Wilson<sup>2</sup>, Jukka Alm<sup>3</sup>, and Eeva-Stiina Tuittila<sup>4</sup>, *Department of Biology, University of Oulu, Oulu, Finland*
49. Christopher G. Laing: **Methane from peat bogs: investigating zones of peak production** — Christopher G. Laing\*, T.G. Shreeve, and D.M.E. Pearce; *School of Life Sciences, Oxford Brookes University, Oxford, UK*
50. Alexandre Lamarre: **Evaluating the effects of Holocene hydroclimatic changes on carbon dynamics in a permafrost peatland, Kuujuarapik, northeastern Canada** — Alexandre Lamarre\* and Garneau Michelle; *GEOTOP (UQAM-McGill), Montréal, QC, Canada*
51. Tuula Larmola: ***Sphagnum* mosses as methane traps in a boreal mire** — Tuula Larmola\*, Hannu Koponen, Terhi Riutta, Hannu Fritze, Sari Juutinen, Janne Rinne, Timo Vesala, Pertti J. Martikainen, and Eeva-Stiina Tuittila; *Department of Forest Ecology, University of Helsinki, Helsinki, Finland*
52. Jens Leifeld: **Peat composition in cool temperate bogs of different drainage history** — Jens Leifeld<sup>\*1</sup>, Lena Gubler<sup>2</sup>, and Andreas Grünig<sup>3</sup>; *Agroscope Reckenholz-Tänikon Research Station ART, Air Pollution Climate Group, Zürich, Switzerland*
53. Julie Loisel: **Expanding peatlands in south-central Alaska: a response to glaciers-climate feedbacks?** — Julie Loise\*, Zicheng Yu and Miriam C. Jones; *Department of Earth and Environmental Sciences, Lehigh University, Bethlehem, PA, USA*
74. Magnus Lund: **Contemporary exchange of CO<sub>2</sub> and CH<sub>4</sub> in a temperate ombrotrophic bog** — Magnus Lund\*, Anders Lindroth, Mikhail Mastepanov, Lena Ström, and Torben R. Christensen; *Department of Physical Geography and Ecosystems Analysis, Lund University, Sweden*
54. Avni Malhotra: **Interactions between water table fluctuations and carbon cycling of a poor fen in Alberta, Canada** — Avni Malhotra<sup>\*1</sup>, R. Kelman Wieder<sup>1</sup>, Dale Vitt<sup>2</sup> and Melanie Vile<sup>1</sup>; *Department of Biology, Villanova University, Villanova, PA*
55. Elaine Matthews: **An integrative framework linking global wetland data sets with methane-flux observations from wetland field sites: Development and testing of a methane-centric wetland classification system with boreal observations** — Elaine Matthews<sup>\*1</sup>, Vincent Gauci<sup>2</sup>, Mats Nilsson<sup>3</sup>, and Catherine Prigent<sup>4</sup>; *NASA Goddard Institute for Space Studies, New York, NY, USA*
56. Cândida Mendes: **Distribution of protected peatlands on Azorean Nature 2000 areas** — Cândida Mendes\* and Eduardo Dias; *Departamento de Ciências Agrárias Universidade dos Açores, GEVA Intergraph Registered Laboratory, Angra do Heroísmo, Portugal*
120. Paivi Merilä: **Effect of elevated temperature on C and N transformations in organic soils – experimental setup with open top chambers** — Päivi Merilä<sup>\*1</sup>, Niko Silvan<sup>1</sup>, Timo Penttilä<sup>2</sup>, Pekka Pietiläinen<sup>3</sup>, Anne Tolvanen<sup>3</sup>, Maiju Linkosalmi<sup>1</sup>, Raija Laiho<sup>4</sup>, Kari Minkkinen<sup>4</sup>, Eeva-Stiina Tuittila<sup>4</sup>, Hannu Fritze<sup>2</sup>, Jukka Laine<sup>1</sup> and Tytti Sarjala<sup>1</sup>; *Metla, Parkano Research Unit, Parkano, Finland*

121. Courtney A. Miller: **The effects of long-term drought on plant community structure and ecosystem carbon cycling in boreal peatlands** — Courtney A. Miller\*, Merritt Turetsky, and Brian W. Benscoter; *Department of Integrative Biology, Science Complex, University of Guelph, Guelph, ON, Canada*
122. Tatiana Minayeva: **Carbon accumulation in soils of forest and peatland ecosystems of Southern Valday in the Holocene** — Tatiana Minayeva<sup>\*1</sup>, Sergey Trofimov<sup>2</sup>, Olga Chichagova<sup>3</sup>, Ekaterina Dorofeyeva<sup>2</sup>, Nikolay Mikhailov<sup>4</sup>, Berndt Kromoer<sup>5</sup>, Andrey Sirin<sup>6</sup>, and Igor Glushkov<sup>6</sup>; *Wetlands International, Moscow, Russia*
123. Merten Minke: **Greenhouse gas emission reduction from peatland restoration in Belarus: testing and adapting a rapid assessment tool** — Merten Minke<sup>\*1</sup>, Annett Thiele<sup>1</sup>, Jürgen Augustin<sup>2</sup>, John Couwenberg<sup>3</sup>, Viktor Fenchuk<sup>1</sup>, Tatsiana Yarmashuk<sup>1,4</sup>, Nadzeya Liashchynskaya<sup>1</sup>, Vladimir Ryzhikov<sup>1,4</sup>, and Hans Joosten<sup>3</sup>; *Akhova Ptushak Batskaushchyny, Minsk, Belarus*
75. Sam Moore: **Losses of dissolved organic carbon from natural and degraded tropical peatlands in Kalimantan, Borneo, Indonesia** — Sam Moore<sup>\*1</sup>, Vincent Gauci<sup>1</sup>, William Gosling<sup>1</sup>, Susan Page<sup>2</sup> and Chris Evans<sup>3</sup>; *Earth and Environmental Sciences Department, The Open University, Milton Keynes, UK*
76. Paul J. Morris: **Self-organisation in peat properties: Modelling and empirical evidence** — Paul J. Morris<sup>\*1</sup>, Andrew J. Baird<sup>2</sup>, and Lisa R. Belyea<sup>1</sup>; *Department of Geography, Queen Mary, University of London, London, UK*
77. Stephen Mowbray: **Restoring the carbon balance of a boreal peat bog after oil drilling disturbance in Peace River, Alberta, Canada** — Stephen B. Mowbray<sup>\*1</sup>, R. Kelman Wieder<sup>1</sup>, and Dale H. Vitt<sup>2</sup>; *Department of Biology, Villanova University, Villanova, PA, USA*
78. Martin Novak: **Vertical changes in  $\delta^{13}\text{C}$  of chemically separated carbon forms in peat cores from Central and Northern Europe: A temperature effect** — Martin Novak<sup>\*1</sup>, Eva Prechova<sup>1</sup>, Iva Jackova<sup>1</sup>, Frantisek Buzek<sup>1</sup>, Petra Pacherova<sup>1</sup>, Marie Adamova<sup>1</sup>, and Leona Zemanova<sup>1</sup>; *Czech Geological Survey, Department of Geochemistry, Geologicka, Prague, Czech Republic*
79. Genevieve Noyce: **The role of sedges in methane emission from a temperate fen** — Genevieve Noyce<sup>\*1</sup>, Jill Bubier<sup>1</sup>, Ruth Varner<sup>2</sup>, and Sari Juutinen<sup>1</sup>; *Department of Environmental Studies, Mount Holyoke College, South Hadley, MA, USA*
80. Paavo Ojanen: **Greenhouse gas balance of forestry-drained peatland soils in Finland** — Paavo Ojanen<sup>\*1</sup>, Kari Minkkinen<sup>1</sup>, and Timo Penttilä<sup>2</sup>; *Department of Forest Ecology, FI-00014 University of Helsinki, Helsinki, Finland*
81. Lauren Parry: **Methods for modelling soil organic carbon distribution at a landscape scale: a case study on Dartmoor, southwest England** — Lauren Parry\* and Dan Charman; *School of Geography, University of Plymouth, Plymouth, UK*
82. Andrew Parsekian: **A comparison of carbon gas accumulation between near-crest bogs and mid-slope lawns in the Glacial Lake Agassiz Peatland: ground penetrating radar (GPR) evidence for free-phase gas variations** — Andrew Parsekian<sup>\*1</sup>, Lee Slater<sup>1</sup>, Xavier Comas<sup>2</sup>, and Paul Glaser<sup>3</sup>; *Department of Earth & Environmental Sciences, Rutgers University, Newark, NJ, USA*
83. Meeri Pearson: **Influence of soil preparation intensity on methane dynamics in peatland forest regeneration areas** — Meeri Pearson<sup>\*1</sup>, Niko Silvan<sup>1</sup>, Kari Minkkinen<sup>2</sup> and Jukka Laine<sup>1</sup>; *Finnish Forest Research Institute, Parkano Research Unit, Parkano, Finland*
84. Luc Pelletier: **Boreal peatland CO<sub>2</sub> - CH<sub>4</sub> fluxes linked with a precipitation increase climate scenario, Quebec, Canada** — Luc Pelletier\* and Michelle Garneau; *Departement of Geography and GEOTOP-UQAM-McGILL, Université du Québec à Montréal, Montréal, QC, Canada*
85. Noela Carrera Pérez: **Changes in temperature, moisture content and mesofaunal populations in a Galician peatland soil: effects on carbon and nitrogen cycles** — Noela Carrera Pérez\*, María Esther Barreal Modroño, and María Jesús Iglesias Briones; *Departamento de Ecología e Biología Animal, Facultade de Biología, Universidade de Vigo, Vigo, Spain*

86. Andreas Persson: **Detecting internal hydrological patterns in a degrading palsa mir with topographical wetness index** — Andreas Persson\* and Nigel Roulet; *Department of Geography, McGill University, Montréal, QC, Canada*
87. Anne Quillet: **Can we accurately model peatland complexity? Analysing simulations of the Holocene Peat Model and observations from four peatlands in the James Bay lowlands, Eastern Canada** — Anne Quillet<sup>\*1</sup>, Michelle Garneau<sup>2</sup>, Nigel T. Roulet<sup>3</sup>, and Steve Frolking<sup>4</sup>; *Institut des Sciences de l'Environnement & Géotop, Université du Québec à Montréal (UQAM), Montréal, QC, Canada*
88. Luke M. Ridley: **Northern peatlands – a sensitive carbon reservoir: Characterising and quantifying organic matter transformations and loss** — Luke M. Ridley<sup>\*1</sup>, Gregory L. Cowie<sup>1</sup>, Maurizio Mencuccini<sup>1</sup>, Geoffrey D. Abbott<sup>2</sup>, and Andy J. Baird<sup>3</sup>; *School of GeoSciences, University of Edinburgh, Edinburgh, UK*
89. Bjorn J.M. Robroek: **BiodivERsA-PEATBOG: towards understanding the influence of environmental change on peatland floristic diversity and functioning** — Bjorn JM Robroek\* and Jos TA Verhoeven; *Landscape Ecology, Institute of Environmental Biology, Department of Biology, Utrecht University, Utrecht, The Netherlands*
90. Meri Ruppel: **The importance of northern peatland expansion to the late-Holocene rise of atmospheric methane** — Atte Korhola<sup>1</sup>, Meri Ruppel<sup>1</sup>, Heikki Seppä<sup>2</sup>, Minna Väliranta<sup>1</sup>, Tarmo Virtanen<sup>1</sup>, and Jan Weckström<sup>1</sup>; *Environmental Change Research Unit, Department of Biological and Environmental Sciences, University of Helsinki, Helsinki, Finland*
91. Jüri-Ott Salm: **Emissions of N<sub>2</sub>O, CH<sub>4</sub> and CO<sub>2</sub> from undisturbed and drained peatlands in Estonia** — Jüri-Ott Salm<sup>\*1,2</sup>, Kai Kimme<sup>1</sup>, Ain Kull<sup>1</sup>, Merje Lesta<sup>1</sup>, and Ülo Mander<sup>1</sup>; *Department of Geography, Institute of Ecology and Earth Sciences, University of Tartu, Tartu, Estonia*
92. A. Britta K. Sannel: **Variable peat accumulation rates in stable subarctic peat plateaus, West-Central Canada** — A. Britta K. Sannel\* and Peter Kuhry; *Department of Physical Geography and Quaternary Geology, Stockholm University, Sweden*
93. Alexandra Savage: **Managing peatlands to reduce carbon emissions** — Alexandra Savage<sup>\*1</sup>, Joseph Holden<sup>1</sup>, and John Wainwright<sup>2</sup>; *School of Geography, University of Leeds, Leeds, UK*
94. Sebastian R. Schmidt: **Climate change impacts on ombrotrophic bog plant communities: The role of desiccation and N-deposition on *Sphagnum* growth and restoration success** — Sebastian R. Schmidt<sup>\*1</sup>, Marion Vanselow-Algan<sup>2</sup>, Claudia Fiencke<sup>2</sup>, Eva-Mari Pfeiffer<sup>2</sup>, and Kai Jensen<sup>1</sup>; *University of Hamburg, Biocenter Klein Flottbek, Applied Plant Ecology, Hamburg, Germany*
95. Julie Schneider: **Environmental controls on carbon dioxide fluxes of a boreal peatland, Komi Republic, NW Russia** — Julia Schneider<sup>\*1</sup>, Michal Gazovic<sup>1</sup>, Lars Kutzbach<sup>1,2</sup>, Ulrike Wolf<sup>3</sup>, Michail Miglovec<sup>4</sup>, Oleg Michajlov<sup>4</sup>, Christian Wille<sup>1,2</sup>, Peter Schreiber<sup>1,2</sup>, Jens Ibendorf<sup>1</sup>, and Martin Wilmking<sup>1</sup>; *Institute of Botany and Landscape Ecology, Ernst Moritz Arndt University, Greifswald, Germany*
96. Katie Shae: **Biotic and abiotic controls on methane release pathways from thermokarst peatlands** — Kathleen Shea\* and Merritt Turetsky; *Department of Integrative Biology, Science Complex, University of Guelph, Guelph, ON, Canada*
57. Andy Siegenthaler: **Contrasted relationships between type i and type ii methanotrophs, the conditions found in typical regeneration stages across european peatlands and the elapsed time since abandonment of the peat cutting**— Andy Siegenthaler<sup>1</sup>, Rebekka Artz<sup>2</sup>, André-Jean Francez, Alexandre Buttler<sup>1</sup>, Emanuela Samaritani<sup>1</sup>, Daniel Gilbert<sup>3</sup>, Mika Yli-Petays<sup>4</sup>, Estelle Bortoluzzi<sup>5</sup>, Mauro Tonolla<sup>6</sup>, and Edward Mitchell<sup>7</sup>; *EPFL and Swiss Federal Research Institute WSL, Lausanne-Ecublens, Switzerland*
97. Andy Siegenthaler: **Various litter species and high water-table levels hamper type ii methanotrophs in a bare peatland regeneration experiment** — Andy Siegenthaler<sup>\*1</sup>, Andreas Gattinger<sup>2</sup>, André-Jean Francez<sup>3</sup>, Daniel Gilbert<sup>4</sup>, Alexandre Buttler<sup>1</sup>, Mauro Tonolla<sup>5</sup>, and Edward Mitchell<sup>6</sup>; *EPFL and Swiss Federal Research Institute WSL, Lausanne-Ecublens, Switzerland*
98. Andrey Sirin: **Land use and C-gases emissions from peatlands in Russia** — Andry Sirin<sup>\*1</sup>, Maxim Chistotin<sup>2</sup>, Mikhail Glagolev<sup>3</sup>, Tatiana Manayeva<sup>4</sup>, and Gennady Suvorov<sup>1</sup>; *Faculty of Soil Science, Moscow State University, Moscow, Russia*

99. Richard Smart: **The role of natural pipes in carbon transfer in northern peatlands** — Richard Smart<sup>\*1</sup>, Joseph Holden<sup>1</sup>, Pippa Chapman<sup>1</sup>, Mike Billett<sup>2</sup>, Kerry Dinsmore<sup>2</sup>, and Andy Baird<sup>1</sup>; *School of Geography, University of Leeds, Leeds, UK*
100. Imelda Stamp: **CH<sub>4</sub> ebullition from northern peatlands: Spatial and temporal variability in flux rates from a *Sphagnum*-rich raised bog in West Wales.** — Imelda Stamp<sup>\*1</sup>, Andrew J. Baird<sup>2</sup>, and Catherine M. Heppell<sup>1</sup>; *Department of Geography, Queen Mary University of London, London, UK*
101. Bo H. Svensson: **Cyanobacteria associated with *Sphagnum riparium* (Angstr.) enhance biomass growth of the moss by transfer of fixed nitrogen** — Bo H. Svensson<sup>\*</sup> and Andreas Berg; *Department of Water and Environmental Studies, Linköping University, Linköping, Sweden*
102. Yit Arn Teh: **Large methane and nitrous oxide emissions from managed and restored peatlands in the Sacramento-San Joaquin Delta driven by flooding and water management** — Yit Arn Teh<sup>\*1</sup>, Whendee L. Silver<sup>2</sup>, Oliver Sonnentag<sup>2</sup>, Matteo Detto<sup>2</sup>, and Dennis D. Baldocchi<sup>2</sup>; *School of Geography & Geosciences, St Andrews, Scotland, UK.*
103. Dan Thompson: **Towards a physically-based approach to estimating peat consumption during wildfire: Linking fire behaviour to peatland ecohydrology** — Dan K. Thompson<sup>\*1</sup>, B. Mike Wotton<sup>2</sup>, Brian W. Benscoter<sup>3</sup>, Merritt R. Turetsky<sup>3</sup>, Mike D. Flannigan<sup>2</sup>, and James M. Waddington<sup>1</sup>; *School of Geography and Earth Sciences, McMaster University, Hamilton, ON, Canada*
104. Claire Treat: **Modeling permafrost development and degradation in peatlands** — Claire Treat<sup>\*</sup>, Dominik Wisser, and Steve Frolking; *Institute for the Study of Earth, Oceans and Space and Department of Earth Sciences, University of New Hampshire, Durham, NH, USA*
105. Louis Tremblay: **Peatlands aqualysis in La Grande Rivière watershed: pools development and paleohydrological reconstruction using plant macrofossils and testate amoebae** — Louis Tremblay<sup>\*</sup>, Michelle Garneau, and Hans Asnong; *GEOTOP, Université du Québec à Montréal, Montréal, QC, Canada*
58. Eeva-Stiina Tuittila: **Vegetation dynamics during peatland development: looking for concepts usable for carbon community** — Eeva-Stiina Tuittila<sup>\*1</sup>, Marja-Liisa Seväkivi<sup>2</sup>, Jari Oksanen<sup>3</sup>, Kari Kukko-oja<sup>4</sup>, and Steve Frolking<sup>5</sup>; *Department of Forest Ecology, University of Helsinki, Helsinki, Finland*
106. Eeva-Stiina Tuittila: **“The intricate beauty of *Sphagnum* mosses” — a novel tool for identification** — Jukka Laine<sup>1</sup>, Pirkko Harju<sup>2</sup>, Tuuli Timonen<sup>2</sup>, Anna Laine<sup>3</sup>, Kari Minkkinen<sup>4</sup>, Eeva-Stiina Tuittila<sup>\*4</sup>, and Harri Vasander<sup>4</sup>; *Parkano Research Unit, Finnish Forest Research Institute, Parkano, Finland*
107. Minna Valiranta/ Meri Ruppell: **The importance of northern peatland expansion to the late-Holocene rise of atmospheric methane** — Atte Korhola<sup>1</sup>, Meri Ruppel<sup>1</sup>, Heikki Seppä<sup>2</sup>, Minna Väirantaa<sup>\*1</sup>, Tarmo Virtanen<sup>1</sup>, and Jan Weckström<sup>1</sup>; *Environmental Change Research Unit, Department of Biological and Environmental Sciences, University of Helsinki, Helsinki, Finland*
108. Simon van Bellen: **Linking holocene carbon accumulation patterns to peat fire occurrence in boreal bogs, northern Quebec, Canada** — Simon van Bellen<sup>\*1</sup>, Michelle Garneau<sup>2</sup>, and Yves Bergeron<sup>3</sup>; *GEOTOP / Institute of Environmental Science, Université du Québec à Montréal, Montreal, QC, Canada*
109. Petra Vavrova: **Vegetation composition change affects the quality and quantity of litter inputs in peatlands following water level drawdown** — Petra Vavrova<sup>\*1,2</sup>, Jani Antila<sup>1</sup>, Peter Spetz<sup>2</sup>, Veikko Kitunen<sup>2</sup>, Tarja Tapanila<sup>2</sup>, and Raija Laiho<sup>1</sup>; *Peatland Ecology Group, Department of Forest Ecology, University of Helsinki, Helsinki, Finland*
110. Mike Whitfield: **Upscaling peatland diversity and carbon dynamics to the ecosystem level** — Mike Whitfield<sup>\*1</sup>, Nick Ostle<sup>1</sup>, Richard Bardgett<sup>2</sup>, and Rebekka Artz<sup>3</sup>; *Centre for Ecology and Hydrology, Lancaster Environment Centre, Bailrigg, Lancaster, UK*
111. Dominik Wisser: **Permafrost dynamics in a changing climate: Implications for northern peatlands** — Dominik Wisser<sup>\*1</sup>, Steve Frolking<sup>1</sup>, Claire Treat<sup>1</sup>, and Sergei Marchenko<sup>2</sup>; *Institute for the Study of Earth, Oceans, and Space, University of New Hampshire, Durham, NH, USA*
112. Ulrike Wolf: **Exceptionally high summer methane emissions from a boreal peatland ecosystem in the Republic of Komi, Russia** — Ulrike Wolf<sup>\*1</sup>, Hermann Jungkunst<sup>1</sup>, Inke Forbrich<sup>2</sup>, Julia Schneider<sup>2</sup>,

Peter Schreiber<sup>3</sup>, Martin Wilmking<sup>2</sup> and Lars Kutzbach<sup>3</sup>; *Department of Landscape Ecology, Georg August University, Göttingen, Germany*

113. James Wood: **Haul roads, *Sphagnum* and hydrology: How roads in peatlands may change the community structure, hydrology, and water chemistry** — James Wood<sup>1\*</sup>, Dale H. Vitt<sup>1</sup>, and R. Kelman Wieder<sup>2</sup>; *Department of Plant Biology, Southern Illinois University, Carbondale, IL, USA*
59. Fred Worrall: **The production of black carbon during managed burning of UK peatlands: could managed burning of peatlands lead to enhanced carbon storage?** — G.D.Clay and F. Worrall\*; *Dept. of Earth Sciences, University of Durham, Durham, UK.*
60. Fred Worrall: **The success of peatland restoration for improving carbon storage – the case of Bleaklow** — F. Worrall\*, J.G.Rowson, and M.G.Evans; *Dept. of Earth Sciences, University of Durham, Durham, UK*
114. Fred Worrall: **The potential for carbon storage in UK peatlands** — F. Worrall\*, Martin G. Evans, Aletta Bonn, Mark S. Reed, Daniel Chapman, and Joseph Holden; *Dept. of Earth Sciences, University of Durham, Durham, UK*
115. Fred Worrall: **A 15-year nitrogen budget of upland peat catchment in comparison to its carbon budget** — F. Worrall\*, G.D.Clay; *Dept. of Earth Sciences, University of Durham, Durham, UK*
116. Emma Wright: **Carbon fluxes across a nutrient gradient in a domed tropical wetland** — Emma Wright<sup>1\*</sup>, Sofie Sjogersten<sup>1</sup>, Ben Turner<sup>2</sup>, and Alexander Cheesman<sup>2,3</sup>; *University of Nottingham, Edenbridge, Kent, UK*
117. Jianghua Wu: **Modelling the sensitivity of the C cycling in northern peatlands to the projected climate change** — Jianghua Wu\*, Nigel T Roulet<sup>1</sup>, and Mats Nilsson<sup>2</sup>; *Department of Geography, McGill University, Montreal, QC, Canada*
118. Bin Xu: **Trace that nitrogen: Responses of Canadian boreal bogs to nitrogen addition** — Bin Xu<sup>1\*</sup>, Dale H. Vitt<sup>1</sup> and Kelman Wieder<sup>2</sup>; *Department of Plant Biology, Southern Illinois University, Carbondale, IL USA*
12. Leona Zemanova: **The response of a mid- and high latitude peat bog to predicted climate change: Fluxes of CO<sub>2</sub> and methane** — Leona Zemanova<sup>1\*</sup>, Martin Novak<sup>1</sup>, Frantisek Buzek<sup>1</sup> and Jakub Kreisinger<sup>2</sup>; *Czech Geological Survey, Geologicka 6, Prague, Czech Republic*