



IMCG Bulletin: March 2014

Word from the Chair



www.imcg.net

Dear mire friends

The seasons are changing and spring is in the air for our colleagues in the northern hemisphere. Here in South Africa the mornings are fresh and crisp with warm afternoons: a good time to be outside and enjoy the outdoors! Soon we will enjoy the mires of Belarus – see announcement below!

Some change is also taking place in the IMCG. Recently Jan Sliva has taken responsibility for maintaining our membership database. A daunting task as especially email addresses change from time to time. If your contact details might change then please do not hesitate to inform Jan (sliva@wzw.tum.de) or our info email address: info@imcg.net. Another important function in the IMCG machinery is that of maintaining our website by Michael Trepel. We want to courage members to make use of the website – send your contributions to Michael at info@imcg.net. Contributions for the IMCG Bulletin can be send to Piet-Louis Grundling - peatland@mweb.co.za

REGISTRATION DEADLINE: 30 APRIL 2014 - IMCG 2014 Field Symposium, Congress and General Assembly, Belarus, July 13-27, 2014.

The deadline of 30 April 2014 for the IMCG 2014 Field Symposium, Congress and General Assembly to be held in Belarus from 13 to 27 July 2014 is fast approaching.

The Field Symposium will make a round-tour through the entire country and visit the most important mire and peatlands, with many new developments and interesting discussions.

Theme: New concepts of peatland management, restoration and financing

Registration: The *Field Symposium* will for logistical reasons be limited to 50 persons, so register (with the registration form) as soon as possible. **Deadline** for registration is 30 April 2014!

The costs for the total trip will be **€ 850 for IMCG members**. Early registration is necessary to secure the very limited cheap but decent accommodation. To limit costs, participants will be lodged in 2-3 bed guestrooms. Visit our website (www.imcg.net) to download registration forms.

Mires and Peat:

New article in *Mires and Peat* (March)

Volume 14 (2014)

- An evaluation of peat loss from an Everglades tree island, Florida, USA (S. Aich *et al.*)

Find this and more at <http://www.mires-and-peat.net/>

Although just one article, that makes 5 in the first 3 months of 2014, which is the rate required to qualify for IF evaluation. We encourage our members to support Mires and Peat with your contributions. Contact Olivia Bragg, our editor, if you have enquiries (o.m.bragg@dundee.ac.uk).



REMINDER: 2014/15 Special Volume: *Mountain Peatlands*

If you work in the mountains please do consider whether you could offer a manuscript. The current target date for new submissions is 31 May 2014, but later submissions can be accommodated. To add your planned article to the list, email your provisional title and projected submission date to Olivia Bragg (o.m.bragg@dundee.ac.uk) or Piet-Louis Grundling (peatland@mweb.co.za).

News received from IMCG Regions

Argentina

By Rodolfo Iturraspe (rodolfoiturraspe@yahoo.com)

The first National law in Argentina for wetlands conservation is in progress

A significant step for Argentinean wetlands conservation was made at the end of 2013: the Senate gave preliminary approval to a conservation law which establishes policies on conservation, protection and wise use of wetlands in the country. The final approval of this law is being discussed in the Chamber of Deputies. In Argentina each province is the owner of its respective water resources and has faculties to determine local management policies, but the National State is able to promote laws establishing environmental minimum conditions for the country as a whole and which can be improved by each province.

Wetland extension in Argentina reaches about 600 000 km² and many wetlands are threatened by human activities. Argentinean peatlands are located mainly in Tierra del Fuego, but there are also small units along transitional areas at the foot of the Andes and in the big Iberá wetland, situated in the northeastern plains of the country, where peatland occurrence has been verified but not yet inventoried.

New Zealand

Bev Clarkson (clarksonb@landcareresearch.co.nz) and Dave Campbell (davec@waikato.ac.nz)

Vegetation tool for wetland delineation in New Zealand

We adapted the vegetation criterion of the USA wetland delineation system for regulatory purposes to New Zealand wetlands. This included the classification of some 973 native and exotic species according to fidelity to wetland: obligate wetland (OBL: occurs almost always in wetlands), facultative wetland (FACW: occurs usually in wetlands), facultative (FAC: equally likely in wetlands or non-wetland), facultative upland (FACU: usually in non-wetlands) or obligate upland (UPL: almost always in non-wetlands). Although the tool proved useful in delineating wetlands at most sites, it is recommended that additional assessments of soils and hydrology (as in the USA system) are used in cases where assessments are inconclusive or misleading. The report is available at: http://www.landcareresearch.co.nz/data/assets/pdf_file/0003/71949/vegetation_tool_wetland_delineation.pdf

Scoping application of northern carbon flux models to southern peatlands

Prominent Canadian peatland biogeoscientist, Professor Nigel Roulet, visited New Zealand during March, along with his wife Kathy. Hosted by the University of Waikato, Nigel's visit was intended to extend collaborative research efforts between northern and southern hemisphere peatland researchers. Nigel met with peatland and lake modelling researchers, and interacted with graduate students. Nigel visited the 90 km² Kopuatai peat bog, where carbon exchange (CO₂, CH₄, DOC) measurements have been carried out since 2011. Nigel is



interested in incorporating the floristically-different New Zealand bog systems into his models of long-term and contemporary C-exchange and peat accumulation that were developed for the *Sphagnum* dominated northern systems.



Nigel and Cathy at Kopuatai

News from all over

The 20th PERG Symposium

The 20th Peatland Ecology Research Group "Symposium on responsible management of peatlands: Involvement of the industrial sector" was held on 19 and 20 February 2014 at Université Laval. The symposium was attended by more than 150 people from Canada, United States, Europe and Africa who presented 39 oral communications and 16 poster presentations and participated in three discussion forums.

Keynotes were presented by David Cooper (Colorado State University) on Conservation, management and restoration of peatlands in the Western Hemisphere: perspectives from the Cordillera – Argentina to Alberta, and William Shotyk (University of Alberta) on Fire Water Earth and Air: Trace elements, peatlands and the environment.

The book of abstracts of the symposium is available under http://www.gret-perg.ulaval.ca/no_cache/en/news-and-events/workshops/

Paramos of Colombia Winner of Spain's 2013 Telenatura Film Festival for "Best Conservation Film"

At 2 640 meters, Bogotá, Colombia's capital, is home to more than eight million people who depend on the surrounding mountains for their water. Here one finds the páramos, a stunning landscape that's part of a natural machine that has sustained Bogotá for centuries. This ecosystem is now threatened by mining, ranching, and large-scale agriculture, and millions could suffer if it is not conserved. See the film: <http://vimeo.com/40464530>



Some of the stunning plants of the páramo peatlands

Indonesia ratifies Agreement on Transboundary Haze Pollution

The parliament of Indonesia has finally agreed to ratify the Association of Southeast Asian Nations (Asean) Agreement on Transboundary Haze Pollution – almost 12 years since the treaty was first adopted by member states. The decision comes on the heels of a fresh haze crisis in Riau, Sumatra, where a thick blanket of smoke has stalled flights, closed schools, and affected more than 22 000 people with respiratory problems. The agreement, which has already been ratified by the nine other member countries as of 2010, seeks to monitor and mitigate forest fires that cause widespread air pollution. Indonesia is the sole Asean country that has not ratified the agreement due to previous objections on the infringement of sovereignty. Still two political parties are against allowing fire fighters from Asean countries to enter Indonesian soil and extinguish fires.

The World Resources Institute pointed out how “roughly half of these fires are burning on land managed by oil palm, timber, and logging companies”. This is “despite the fact that using fire to clear land is illegal in Indonesia.

More info: www.aseanpeat.net

Indonesia's proposed peat law too weak to protect peatlands, says Greenpeace

A new regulation aiming to protect peatlands is likely to fall short of its goals, failing to stop peat degradation, emissions, and fires that are driving the current haze crisis in Southeast Asia, asserts a new analysis from Greenpeace. The paper argues that the new land regulation currently being discussed in parliament fails to take a holistic view of managing peatlands. The regulation doesn't adequately protect shallow peat areas that may be connected to deeper peat domes. These peat domes, which are vast storehouses of organic carbon, are subject to collapse when their edges are drained and degraded. It also doesn't protect peat in existing



concessions or mandate better water management in areas already converted for oil palm and timber plantations. Read the full report under:

www.greenpeace.org/international/Global/international/briefings/forests/2014/Peat%20Regulation_Breifer_March2014.pdf

RSPB criticizes grouse moor peat-burning

Burning, drainage and other forms of intensive land management in England's peatlands are threatening to create a series of environmental catastrophes, says the RSPB. In good condition England's upland peatlands are internationally-important for wildlife, supporting species like Dunlin, sundew and sphagnum moss. These iconic landscapes also lock up vast stores of carbon and help prevent flooding by retaining water. However, in poor condition, like when they are damaged by draining or burning, the benefits can be lost, causing the release of carbon and peat-stained water.

Across huge swathes of the uplands in northern England, vegetation is burnt on a 10- to 25-year rotation in order to yield optimum conditions for producing the maximum number of Red Grouse for commercial shooting. In the past, many of the best wet areas of upland peatland were drained to 'improve' them for sheep grazing and grouse production.

Natural England has in May last year published an evidence review which clearly establishes that burning vegetation on deep peat soils is preventing habitat recovery as well as the species that live on the protected sites. The RSPB now expects Natural England to use its evidence to produce unequivocal guidelines to bring an end to burning on Britain's protected upland peatlands.

For more information: <http://www.birdwatch.co.uk/channel/newsitem.asp?c=11&cate= 15212>

Report on carbon markets for peatlands

A status report on carbon markets for peatlands has been published by the The German Emissions Trading Authority (DEHSt). Available under: http://www.dehst.de/EN/Service/climate-protection/climate-protection_node.html

New draft global tropical and sub-tropical wetland map online

Thomas Gumbricht has put the first version of his global tropical and sub-tropical wetland map online: <http://www.karttur.com/display/wetlandmembwf/openlayers.html>

It is a membership function map (blue = higher member, dark-blue = open water) and still needs calibration and local adjustment. An article is in the pipeline to explain the calibration, and how it can be improved and/or adjusted locally. A next step must be a detailed validation with data from the field.

Mauritia palm peatland research and protection in Peru

Peru has the second-largest expanse of peatland in the tropics, after Indonesia, and Peruvian peatlands store considerable amounts of carbon. But if you degrade, deforest or drain them, instead of being a sink for carbon, they can become a source of carbon dioxide," according to Kristell Hergoualc'h, who is leading a CIFOR team studying Amazonian peatlands as part of the Sustainable Wetlands Adaptation and Mitigation Program (SWAMP), a collaboration with the U.S. Forest Service and the Peruvian Amazon Research Institute (Instituto de Investigaciones de la Amazonía Peruana, or IIAP).



The SWAMP researchers hope their work will help Peruvian government officials plan more effective conservation measures for palm swamps, but various questions must be addressed first. For one, Peru's peatlands are a bit of a mystery. They are estimated to cover 50,000 square kilometers, but the real figure could be more. No one knows for certain, because no reliable inventory exists. To complicate matters, not all palm swamps contain peat, and scientists are not sure which ones do, or why. Hergoualc'h is beginning the study in Peru by surveying swamps in the Loreto and Ucayali regions to select about two dozen of them — some intact and some degraded — that contain peat. She and her colleagues will then calculate the carbon contained in the aboveground vegetation and the underwater peat layer, as well as the greenhouse gas emissions from the soil. Those data, combined with the development of techniques for satellite monitoring of peatlands, will give policy makers more tools for complying with international treaties on climate change and monitoring for the UN-backed Reducing Emissions from Deforestation and forest Degradation (REDD+) program.

For more information: <http://blog.cifor.org/21687/project-seeks-to-unlock-the-mysteries-of-peru-peatlands>

See also: <http://planetearth.nerc.ac.uk/features/story.aspx?id=1617&cookieConsent=A>

Union of Concerned Scientists blog on peat soils and oil palm in Sarawak

The decision of major palm oil traders like Hershey's, L'Oréal, Kellogg's, and Unilever committing to source peat-free palm oil has attracted much attention. But it's the announcement of December 2013 by Wilmar, the largest trader (and one of the largest producers) of palm oil, that is likely to have the greatest impact on the palm oil industry. The Union of Concerned Scientists blog on this announcement under <http://blog.ucsusa.org/peat-soils-in-sarawak-malaysia-435>

See also <http://www.thestar.com.my/Business/Business-News/2014/03/07/Wilmar-assures-Swak-it-will-continue-to-buy-crude-palm-oil/> and

<http://www.thestar.com.my/Business/Business-News/2014/03/10/Sarawak-plans-to-sell-CPO-in-Middle-East/>

Books

War & Peat

From the British Ecological Society Peatland Research Special Interest Group Newsletter Issue 1, Spring – Summer, 2014.

This book reflects on the remarkable impacts of conflicts on peatlands and of peatlands on conflicts: a military heritage of moors, heaths, bogs and fens. As we approach the centenary of the Great War (WW1), matters of landscape, terrain, resources and strategies become increasingly topical and relevant. The relationships of people and landscapes, of economies and conflicts, and ecology and history, are complex and multi-faceted. For peatlands, including bogs, fens, moors, and heaths, the interactions of people and nature in relation to history and conflicts, are both significant and surprising.



11. Methane fluxes show consistent temperature dependence across microbial to ecosystem scales:
http://www.nature.com/nature/journal/vaop/ncurrent/full/nature13164.html?WT.ec_id=NATURE-20140320
12. Flood extent mapping for Namibia using change detection and thresholding with SAR:
<http://iopscience.iop.org/1748-9326/9/3/035002>
13. Carbon market approaches for peatlands:
http://www.dehst.de/SharedDocs/Downloads/EN/Service/Peatlands.pdf?__blob=publicationFile
14. Permafrost degradation stimulates carbon loss from experimentally warmed tundra:
<http://www.esajournals.org/doi/abs/10.1890/13-0602.1?ai=rv&ui=2q5t&af=H>
15. Elevated rates of organic carbon, nitrogen and phosphorus accumulation in a highly impacted mangrove wetland:
<http://onlinelibrary.wiley.com/doi/10.1002/2014GL059789/abstract>
16. Vulnerability of moorland plant communities to environmental change: consequences of realistic species loss on functional diversity: <http://onlinelibrary.wiley.com/doi/10.1111/1365-2664.12192/abstract>
17. Environmental and vegetation drivers of seasonal CO₂ fluxes in a sub-arctic forest-mire ecotone:
http://link.springer.com/article/10.1007/s10021-013-9728-2?wt_mc=alerts.TOCjournals
18. Discontinuities, cross-scale patterns, and the organization of ecosystems:
<http://www.esajournals.org/doi/abs/10.1890/13-1315.1>
19. Restoration of upland heath from a graminoid- to a *Calluna vulgaris*-dominated community provides a carbon benefit: <http://www.sciencedirect.com/science/article/pii/S0167880913004441>
20. Modeling of ammonia dry deposition to a pocosin landscape downwind of a large poultry facility:
<http://www.sciencedirect.com/science/article/pii/S0167880913003812>
21. Vegetation dynamics in the southern Brazilian highlands during the last millennia and the role of bogs in *Araucaria* forest formation: <http://www.sciencedirect.com/science/article/pii/S1040618214000196>
22. The vegetation history of Qinling Mountains, China:
<http://www.sciencedirect.com/science/article/pii/S1040618213008422>
23. Palaeo-palynology of late Quaternary peat deposit from Lower Bengal Basin, India: A palaeoecological approach:
<http://www.sciencedirect.com/science/article/pii/S1040618213004412>
24. Burned and unburned peat water repellency: implications for peatland evaporation following wildfire:
<http://www.sciencedirect.com/science/article/pii/S0022169414001930>
25. Phosphorus release from anaerobic peat soils during convective discharge — Effect of soil Fe:P molar ratio and preferential flow: <http://www.sciencedirect.com/science/article/pii/S0016706114000524>
26. Organic carbon stocks in forest soils of the German Alps:
<http://www.sciencedirect.com/science/article/pii/S0016706114000469>
27. The role of mineral soil topography on the spatial distribution of organic layer thickness in a paludified boreal landscape: <http://www.sciencedirect.com/science/article/pii/S0016706114000123>
28. Moss brought back to life after 1,500 years frozen in ice:
<http://environmentalresearchweb.org/cws/article/yournews/56665>
29. Environmental and vegetation drivers of seasonal CO₂ fluxes in a sub-arctic forest–mire ecotone:
<http://alerts.springer.com/re?l=D0In5q63rl6gt0l9gl12>
30. Optimizing Carbon Storage Within a Spatially Heterogeneous Upland Grassland Through Sheep Grazing Management: <http://alerts.springer.com/re?l=D0In5q63rl6gt0l9gl1b>
31. Evaluating approaches for estimating peat depth:
<http://onlinelibrary.wiley.com/doi/10.1002/2013JG002411/abstract>
32. Carbon stocks of intact mangroves and carbon emissions arising from their conversion in the Dominican Republic:
<http://www.esajournals.org/doi/abs/10.1890/13-0640.1?ai=rw&ui=2q5t&af=H>
33. Aquatic faunal responses to an induced regime shift in the phosphorus-impacted Everglades:
<http://onlinelibrary.wiley.com/doi/10.1111/fwb.12353/abstract>
34. A synthesis of past, current and future research for protection and management of papyrus (*Cyperus papyrus* L.) wetlands in Africa: <http://alerts.springer.com/re?l=D0In5q4v6l6gt0l9glo>
35. Papyrus swamp drainage and the conservation status of their avifauna:
<http://alerts.springer.com/re?l=D0In5q4v6l6gt0l9glr>
36. Biomass briquettes: a novel incentive for managing papyrus wetlands sustainably?:
<http://alerts.springer.com/re?l=D0In5q4v6l6gt0l9glu>



37. Reviewing the carbon cycle dynamics and carbon sequestration potential of *Cyperus papyrus* L. wetlands in tropical Africa: <http://alerts.springer.com/re?l=D0In5q4v6l6gt0l9glx>
38. A simulation model for nitrogen cycling in natural rooted papyrus wetlands in East Africa: <http://alerts.springer.com/re?l=D0In5q4v6l6gt0l9gl10>
39. Effects of water depth and livelihood activities on plant species composition and diversity in Nyando floodplain wetland, Kenya: <http://alerts.springer.com/re?l=D0In5q4v6l6gt0l9gl13>
40. Impact of climate variability on the hydrology of the Sudd wetland: signals derived from long term (1900–2000) water balance computations: <http://alerts.springer.com/re?l=D0In5q4v6l6gt0l9gl16>
41. Towards decision support-based integrated management planning of papyrus wetlands: a case study from Uganda: <http://alerts.springer.com/re?l=D0In5q4v6l6gt0l9gl19>
42. Pathogens, herbivores, and phenotypic plasticity of boreal *Vaccinium vitis-idaea* experiencing climate change: <http://t.e2ma.net/click/5f73f/x551ik/1sml4b>
43. Effect of *Carex rostrata* on seasonal and interannual variability in peatland methane emissions: <http://onlinelibrary.wiley.com/doi/10.1002/2013JG002474/abstract>
44. Attribution of floods in the Okavango basin, Southern Africa: <http://www.sciencedirect.com/science/article/pii/S0022169414000778>
45. The surface energy balance and its drivers in a boreal peatland fen of northwestern Russia: <http://www.sciencedirect.com/science/article/pii/S002216941400078X>
46. Soil Organic Carbon and its fractions in relation to degradation and restoration of wetlands on the Zoigê Plateau, China: <http://alerts.springer.com/re?l=D0In5q3g6l6gt0l9gl1h>
47. Modeling the spatial distribution of *Carex pseudocuraica* in a freshwater marsh, Northeast China: <http://alerts.springer.com/re?l=D0In5q3g6l6gt0l9gl1q>
48. Mapping China's mangroves based on an object-oriented classification of Landsat imagery: <http://alerts.springer.com/re?l=D0In5q3g6l6gt0l9gl1t>
49. Influence of inundation depth on *Typha domingensis* and its implication for phosphorus removal in the Everglades Stormwater Treatment Area: <http://alerts.springer.com/re?l=D0In5q3g6l6gt0l9gl25>
50. Wetland soils in Hawai'i since human settlement: <http://alerts.springer.com/re?l=D0In5q3g6l6gt0l9gl28>
51. A visual obstruction method to estimate wet meadow aboveground biomass in marshes of the Boreal Plains, Canada: <http://alerts.springer.com/re?l=D0In5q3g6l6gt0l9gl2e>
52. Ecology of native vs. introduced *Phragmites australis* (Common Reed) in Chicago-Area Wetlands: <http://alerts.springer.com/re?l=D0In5q3g6l6gt0l9gl2h>
53. On the challenges of modeling the net radiative forcing of wetlands: reconsidering Mitsch et al. 2013: http://link.springer.com/article/10.1007/s10980-014-9986-1?wt_mc=alerts.TOCjournals
54. Morphological changes and resource allocation of *Zizania latifolia* (Griseb.) Stapf in response to different submergence depth and duration: <http://www.sciencedirect.com/science/article/pii/S0367253014000334>
55. Humic substances as fully regenerable electron acceptors in recurrently anoxic environments: <http://www.nature.com/ngeo/journal/v7/n3/full/ngeo2084.html>
56. Mechanisms for the suppression of methane production in peatland soils by a humic substance analog: <http://www.biogeosciences-discuss.net/11/1739/2014/bgd-11-1739-2014.pdf>

Please send your contribution to the **IMCG Bulletin** by the 20th of each month:
peatland@mweb.co.za