

IMCG Bulletin: December 2015



www.imcg.net

Word from the Chair

Dear mire friends

I trust you had a good rest during the December break.

2015 was a good year for the IMCG. Our membership list has been updated and our numbers are still growing. We worked hard in 2014 to support our jointly IMCG-IPS owned journal (*Mires and Peat*) and have successfully built on that achievement in 2015 (see note from Olivia – our editor in the **Mires and Peat** section below). Registration for the Bi-annual IMCG Field Symposium in Malaysia and Brunei has opened. Our members were actively involved in the Ramsar and COP meetings. And as we have read in the **News from our regions** many members are active in different countries of the world striving to conserve mires. It is always inspiring to read of all these activities.

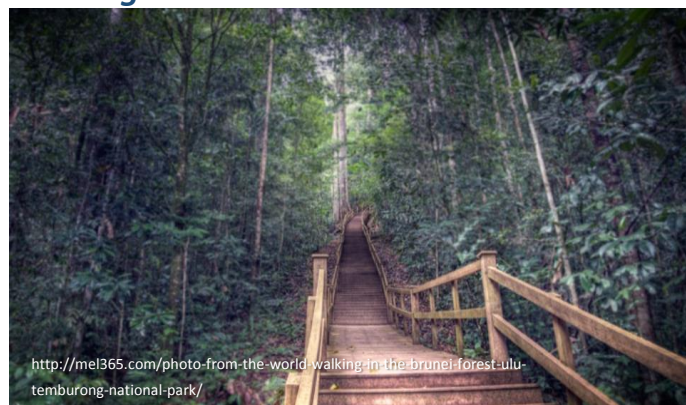
A new year is ahead of us and it is a probably a period in many parts of the world where mires and peatlands will experience new pressures. Southern Africa and other parts of the world (e.g. Australia) are experiencing extremely dry and hot weather. Bush fires are rampant in various parts of the world and one can expect the incidence of peat fires to rise significantly. As indicated in previous issues, please let us know if you are aware of peat fires and where they are occurring.

The individual IMCG and IPS meetings in Malaysia will take place in August 2016 and we encourage you to register for these events. The deadline for IPS abstracts is at the end of January 2016 and it is still open for the IMCG meeting; please refer to the announcement below.

We wish you a blessed, prosperous and peaceful 2016.

Please send your January contribution by 3 February 2016 to Piet-Louis Grundling at peatland@mweb.co.za.

In August 2016: all roads lead to.....?



<http://mel365.com/photo-from-the-world-walking-in-the-brunei-forest-ulu-temburong-national-park/>

Join us and come see for yourself.....

IMCG FIELD SYMPOSIUM- MALAYSIA AND BRUNEI: 19 to 28 August 2016

Registration

Please block the date and make early registration to secure seats on internal flights and accommodation in small towns at: IMCG - Hans Joosten: joosten@uni-greifswald.de or GEC - Julia Lo: julialo@gec.org.my

Forms at <http://www.imcg.net/pages/events/imcg2016.php>

Mires and Peat

We completed 2015 with a record 22 peer reviewed articles published during the year. All volumes are now closed, but there will be more in 2016. Articles published in December:

Relationships between aquatic invertebrates, water quality and vegetation in an Andean peatland system (E. Oyague Passuni and M.S. Maldonado Fonkén) [Volume 15 Article 14]

Quantifying the water balance of Mfabeni Mire (iSimangaliso Wetland Park, South Africa) to understand its importance, functioning and vulnerability (P. Grundling, A.D. Clulow, J.S. Price and C.S. Everson) [Volume 16 Article 12]

Towards large-scale paludiculture: addressing the challenges of biomass harvesting in wet and rewetted peatlands (C. Schröder T. Dahms; J. Paulitz, W. Wichtmann and S. Wichmann) [Volume 16 Article 13]

Mires and Peat is the open-access peer reviewed journal of IMCG and the International Peat Society (IPS). Find it online at <http://mires-and-peat.net/> and in the *Thomson Master Journal List (Web of Science)*.

Please send **ALL SUBMISSIONS**, whether for a special volume or a standard volume, to the Editor-in-Chief o.m.bragg@dundee.ac.uk in the first instance, for:

- friendly editorial management by eminent peatland specialists (O.M. Bragg, R.S. Clymo, S.N.P. Glatzel, A.P. Grootjans, P.M. Jones and J.O. Rieley);
- minimal publication delays (the average turnaround time from submission to publication is currently less than 230 days); and
- free global exposure of your work in an ISI journal.

News from our regions

Europe

Hans Joosten: joosten@uni-greifswald.de

Scotland's first national park has received nearly £250,000 of new funding for vital work that will simultaneously help combat flooding and fight climate change in one of the country's most scenic areas. The cash has been awarded to Loch Lomond and Trossachs National Park to restore around 35 square kilometres of internationally important peatlands to good condition.

Read more: <http://www.scotsman.com/news/environment/peatlands-rescue-plan-battles-climate-change-1-3980095#ixzz3v09TkRCr>

New Zealand news

Bev Clarkson: Clarksonb@landcareresearch.co.nz

National Restoration Symposium 2016

The biennial national wetland restoration symposium will be held from 10 to 12 February 2016 in Nelson, northern South Island. The theme is 'wetlands for life' and highlights the vital role of wetlands (including mires) in providing life-supporting ecosystem services. Mire research will be a focus, including recent advances in wetland science, restoration case studies, indigenous biodiversity, monitoring and reporting tools, and a post-conference field trip to Mangarakau Wetland, a stunning fen and swamp for which Ramsar status is currently being sought. The detailed [programme](#) is now available and [registration](#) is open until 2 February (World Wetlands Day).

Mining of valuable ancient kauri logs

The spring [edition](#) of *Wet and Wild*, the newsletter of the National Wetland Trust, has been published. It covers a range of recent events and projects, including an update on the pest eradication within the predator-proof fence at the Wetland Centre site, showcased wetlands, recently funded restoration projects (e.g. Koromatua peat lake), and a feature on the invasive weeds, grey and crack willow. Of particular note is the call from a member of parliament for the Green Party for a moratorium on mining of valuable ancient kauri logs (*Agathis australis*) buried in peatlands in the Far North (northern North Island). Excavation of logs and stumps that have lain buried for thousands of years is destroying the wetland habitat. Export of the logs as giant rough sawn slabs has increased exponentially in the last year. Staying in the Far North, Māori tribes are considering a new peat extraction industry using new machinery that can extract valuable waxes and resins from the peats by using solvents. However, conservationists are alarmed at the peat mining proposal as the area involves recovering peatlands. Further consultation with potential opponents is planned.



Drone photo of ancient kauri log stockpile. Picture sourced from: www.radionz.co.nz

Southeast Asia

Noor Azura Ahmad (azura@gec.org.my) and Hans Joosten (joosten@uni-greifswald.de)

COP21 Rundown Tree Planting Event in Malaysia

In the lead-up to the UNFCCC COP21 in Paris, a peatland tree planting event was held on 7th November 2015, in Compartment 73, Raja Musa Forest Reserve. Approximately 400 volunteers took part in the event to plant about 360 tenggek burung (*Euodia roxburgiana*) and ramin melawis (*Gonystylus bancanus*) saplings in degraded areas. Volunteers comprised several ambassadors and embassy staff, school students, corporate partners, government staff and local community.

An extended visit was also offered to media representatives who were brought to Sungai Sireh Homestay in Tanjung Karang, Selangor. Some of the coverage can be read/watched here:

- [Protecting Peat Swamp Forests](#)
- [Restoring RMFR Peatlands](#) (video)
- [Program pemuliharaan tanda penyertaan Selangor dalam inisiatif COP 21](#) (video, Malay)
- [Preventing peat forest fire important in tackling haze issue, says GEC director](#)

GEC and the COP21 Paris Climate Conference

Global Environment Centre (GEC) and Wetlands International operated a joint exhibition booth to highlight peatlands and climate change including climate change actions by ASEAN member states. The achievements of the ASEAN Peatland Forests Project (APFP) and SEApeat projects were highlighted to visitors.

On 2nd December, a side event entitled “Towards a Low Carbon and Climate-Resilient ASEAN Community Post-2015 with a Focus on Sustainable Solutions for Peatland Fires and Haze” was held at UNFCCC Conference Centre in Paris. The side event was jointly organised by the ASEAN Secretariat and Global Environment Centre (GEC), and the event attracted around 80 participants. Materials are available at <http://www.aseanpeat.net/index.cfm?&menuid=275&parentid=269> and the summary video of the APFP-SEApeat project is available at <http://www.aseanpeat.net/index.cfm?&menuid=55&parentid=247>.

Another side event was held on 5th December, entitled “ASEAN Cooperation on Climate Change and Post-2015 Vision” at Viet Nam Pavilion in the COP21 conference centre. It discussed ASEAN’s regional strategies, action plan, and targets for contributing to the UNFCCC objectives and outlined potential coordinated strategies and policies for low carbon and climate resilient development at regional level in view of the ASEAN Community’s Post-2015 Vision.

Lessons learned from the implementation of the APFP-SEApeat projects were also shared at the Global Landscape Forum held on 5-6 December, at Palais de Congress in Paris.

Post Haze Developments in Indonesia

Following the devastating haze that plagued Southeast Asia from late August to November 2015, Indonesia is working on solutions to avoid a repeat episode in the future. The Indonesian Government has sanctioned 23 companies due to the peatland fires, with three having land-use or environmental permits revoked, 16 having permits suspended and four issued “government force sanctions. New laws are being discussed, some old laws are being reviewed and a forest restoration plan is in the pipeline.

A Peatland Restoration Agency is currently being established under the President’s Office to facilitate a target of rehabilitation of 2 million ha of peatland by 2020. The Agency will coordinate restoration efforts across key ministries. The Agency aims to improve hydrology systems and control the canal network in the peatlands. Civil Society groups are also voicing out their concerns and taking positive action to end the annual menace that is

affecting them and their loved ones. On the other hand, companies who have often been blamed for the fires are also starting to show commitment to save peatlands.

Related news can be found below:

- [Indonesia bans peatlands destruction](#)
- [\\$50 Tn for First Phase of Peatland Restoration](#)
- [RI seeking to form peat ecosystem body before climate meet](#)
- [Joko to Introduce Forestry Reforms, Moratorium at Climate Change Summit](#)
- [PRESS RELEASE: Indonesian Civil Society presents a Roadmap towards sustainable peatland management for pulpwood plantations](#)
- [APRIL Group Announces US\\$100 million Investment in Expanded Peatland Forest Restoration and Conservation in Indonesia at COP21](#)

Symposium announcements



The closing date for abstracts is now 31 January 2016.

If you need further advice or information please contact Jack Rieley jack.rieley@btinternet.com or Peter Morin Nissom (pmorin@swinburne.edu.my).

Also consult the Congress website on www.ipc2016.com.

Peatland conservation relevant papers November – December 2015

Collected by Hans Joosten: joosten@uni-greifswald.de

1. Holocene environmental changes in southern Kamchatka, Far Eastern Russia, inferred from a pollen and testate amoebae peat succession record:
<http://www.sciencedirect.com/science/article/pii/S0921818115300448>
2. Hydrogeological controls on post-fire moss recovery in peatlands:
<http://www.sciencedirect.com/science/article/pii/S0022169415007581>
3. Variations in dissolved organic carbon concentrations across peatland hillslopes:
<http://www.sciencedirect.com/science/article/pii/S002216941500760X>
4. Environmental predictors of woody plant encroachment in calcareous fens are modified by biotic and abiotic land-use legacies: <http://onlinelibrary.wiley.com/doi/10.1111/1365-2664.12567/abstract?campaign=wolacceptedarticle>
5. Comparing carbon storage of Siberian tundra and taiga permafrost ecosystems at very high spatial resolution: <http://onlinelibrary.wiley.com/doi/10.1002/2015JG002999/abstract?campaign=wolletoc>
6. Moorschutzprogramm Baden-Württemberg: <https://www.lubw.baden-wuerttemberg.de/servlet/is/253115/>

7. Regulation of methane production, oxidation and emission by vascular plants and bryophytes in ponds of the northeast Siberian polygonal tundra:
<http://onlinelibrary.wiley.com/doi/10.1002/2015JG003053/abstract?campaign=wolacceptedarticle>
8. Climate-driven expansion of blanket bogs in Britain during the Holocene: <http://www.clim-past-discuss.net/11/4811/2015/cpd-11-4811-2015.html>
9. Can oxygen stable isotopes be used to track precipitation moisture source in vascular plant-dominated peatlands?: <http://www.sciencedirect.com/science/article/pii/S0012821X1500535X>
10. Does peatland drainage damage the palaeoecological record?:
<http://www.sciencedirect.com/science/article/pii/S003466671500113X>
11. Pollen as nutrient source in Holocene ombrotrophic bogs:
<http://www.sciencedirect.com/science/article/pii/S0034666715001281>
12. Modeling the downward transport of ²¹⁰Pb in Peatlands: Initial Penetration-Constant Rate of Supply (IP-CRS) model: <http://www.sciencedirect.com/science/article/pii/S0048969715307920>
13. Testing inter-regional variation in pH niches of fen mosses:
<http://onlinelibrary.wiley.com/doi/10.1111/jvs.12348/abstract>
14. Sensitivity of wetland hydrology to external climate forcing in central Florida:
<http://www.sciencedirect.com/science/article/pii/S0033589415000897>
15. Effect of clear-felling and harvest residue removal on nitrogen and phosphorus export from drained Norway spruce mires in southern Finland: <http://www.borenv.net/BER/pdfs/ber20/ber20-693.pdf>
16. Disturbed peatlands as a habitat of an invasive moss *Campylopus introflexus* in Lithuania:
<http://www.borenv.net/BER/pdfs/ber20/ber20-724.pdf>
17. Palaeoecology of testate amoebae in a tropical peatland:
<http://www.sciencedirect.com/science/article/pii/S0932473915000930>
18. A 13,000 year record of environmental magnetic variations in the lake and peat deposits from the Chandra valley, Lahaul: Implications to Holocene monsoonal variability in the NW Himalaya:
<http://www.sciencedirect.com/science/article/pii/S0031018215004800>
19. An unexpected role for mixotrophs in the response of peatland carbon cycling to climate warming:
<http://www.nature.com/articles/srep16931>
20. Analyzing peatland discharge to streams in an Alaskan watershed: An integration of end-member mixing analysis and a water balance approach:
<http://www.sciencedirect.com/science/article/pii/S0022169415007556>
21. Variations in dissolved organic carbon concentrations across peatland hillslopes:
<http://www.sciencedirect.com/science/article/pii/S002216941500760X>
22. Assessment of the soil organic carbon stock in Spain:
<http://www.sciencedirect.com/science/article/pii/S001670611530104X>
23. Soil mapping, classification, and pedologic modeling: History and future directions:
<http://www.sciencedirect.com/science/article/pii/S0016706115001718>
24. Palaeoecological investigations and ²³⁰Th/U dating of Eemian interglacial peat sequence of Banzin (Mecklenburg-Western Pomerania, NE-Germany):
<http://www.sciencedirect.com/science/article/pii/S1040618214007691>
25. Macrofossil evidence of Late Holocene presence of *Aldrovanda vesiculosa* L. in Central-Eastern Europe (Poland) and East Africa (Tanzania):
<http://www.sciencedirect.com/science/article/pii/S1040618215005662>
26. Impact of aeolian processes on peat accumulation: Late Glacial–Holocene history of the Hamernia peat bog (Roztocze region, south-eastern Poland):
<http://www.sciencedirect.com/science/article/pii/S1040618215006928>
27. The evolution of the Mecklenburg Bay environment in the Holocene in the light of multidisciplinary investigations of the sediment cores:
<http://www.sciencedirect.com/science/article/pii/S1040618215006837>
28. Late Pleniglacial and Late Glacial lake-mire transformations in south-eastern Poland reflected in aquatic and wetland vegetation changes: <http://www.sciencedirect.com/science/article/pii/S1040618214002663>

29. Lateglacial/Holocene transition to mid-Holocene: Vegetation responses to climate changes in the Apuseni Mountains (NW Romania): <http://www.sciencedirect.com/science/article/pii/S1040618215005649>
30. Genesis, morphology, age and distribution of cryogenic mounds on Kaffiøya and Hermansenøya, Northwest Svalbard: <http://onlinelibrary.wiley.com/doi/10.1002/ppp.1850/abstract?campaign=wolotoc>
31. Pleistocene pingo in the central part of the East European Plain: <http://onlinelibrary.wiley.com/doi/10.1002/ppp.1854/abstract?campaign=wolotoc>
32. Drought and deluge: Influence of environmental factors on water quality of kettle holes in two subsequent years with different precipitation: <http://www.sciencedirect.com/science/article/pii/S0075951115000614>
33. Carbon dynamics in boreal peatlands of the Yenisey region, western Siberia: <http://www.biogeosciences.net/12/7057/2015/bg-12-7057-2015.html>
34. 8000 years of vegetation dynamics and environmental changes of a unique inland peat ecosystem of the Jambi Province in Central Sumatra, Indonesia: <http://www.sciencedirect.com/science/article/pii/S0031018215005581>
35. The impact of Indonesian peatland degradation on downstream marine ecosystems and the global carbon cycle: <http://onlinelibrary.wiley.com/doi/10.1111/gcb.13108/abstract?campaign=wolotoc>
36. Plants mediate soil organic matter decomposition in response to sea level rise: <http://onlinelibrary.wiley.com/doi/10.1111/gcb.13082/abstract?campaign=wolotoc>
37. Vegetation of Colchis mires: <http://www.sciencepublishinggroup.com/journal/paperinfo?journalid=161&doi=10.11648/j.earth.s.2015040501.23>
38. Variable carbon losses from recurrent fires in drained tropical peatlands: <http://onlinelibrary.wiley.com/doi/10.1111/gcb.13186/abstract>
39. Refining soil organic carbon stock estimates for China's palustrine wetlands: <http://iopscience.iop.org/article/10.1088/1748-9326/10/12/124016/pdf>
40. Assessing the influence of historic net and gross land changes on the carbon fluxes of Europe: <http://onlinelibrary.wiley.com/doi/10.1111/gcb.13191/abstract?campaign=wolacceptedarticle>
41. Seventy years of continuous encroachment substantially increases 'blue carbon' capacity as mangroves replace intertidal salt marshes: <http://onlinelibrary.wiley.com/doi/10.1111/gcb.13158/abstract?campaign=wolearlyview>
42. Transport properties and pore-network structure in variably-saturated *Sphagnum* peat soil: <http://onlinelibrary.wiley.com/doi/10.1111/ejss.12312/abstract?campaign=wolearlyview>
43. The effective oxidation state of a peatland: <http://onlinelibrary.wiley.com/doi/10.1002/2015JG003182/abstract?campaign=wolacceptedarticle>
44. Effects of permafrost aggradation on peat properties as determined from a pan-arctic synthesis of plant macrofossils: <http://onlinelibrary.wiley.com/doi/10.1002/2015JG003061/abstract?campaign=wolacceptedarticle>
45. Recent and Holocene climate change controls on vegetation and carbon accumulation in Alaskan coastal muskegs: <http://www.sciencedirect.com/science/article/pii/S0277379115301530>
46. Growth and nutrient uptake of perennial crops in a paludicultural approach in a drained Mediterranean peatland: <http://www.sciencedirect.com/science/article/pii/S0925857415303086>
47. Microform-scale variations in peatland permeability and their ecohydrological implications: <http://onlinelibrary.wiley.com/doi/10.1111/1365-2745.12530/abstract?campaign=wolacceptedarticle>
48. The impact of disturbed peatlands on river outgassing in Southeast Asia: <http://www.nature.com/ncomms/2015/151216/ncomms10155/full/ncomms10155.html>
49. Hydrological dynamics and fire history of the last 1300 years in western Siberia reconstructed from a high-resolution, ombrotrophic peat archive: <http://www.sciencedirect.com/science/article/pii/S0033589415000885>
50. How hydrology determines seasonal and interannual variations in water table depth, surface energy exchange, and water stress in a tropical peatland: Modeling versus measurements: <http://onlinelibrary.wiley.com/doi/10.1002/2015JG003005/abstract?campaign=wolotoc>
51. Large methane emissions from a subarctic lake during spring thaw: Mechanisms and landscape significance: <http://onlinelibrary.wiley.com/doi/10.1002/2015JG003137/abstract?campaign=wolotoc>

52. Pathways of anaerobic organic matter decomposition in tundra soils from Barrow, Alaska:
<http://onlinelibrary.wiley.com/doi/10.1002/2015JG003147/abstract?campaign=woletoc>
53. The role of waterborne carbon in the greenhouse gas balance of drained and re-wetted peatlands:
<http://link.springer.com/article/10.1007%2Fs00027-015-0447-y>
54. Recovery of target bryophytes in floating rich fens after 25 yr of inundation by base-rich surface water with lower nutrient contents:
<http://onlinelibrary.wiley.com/doi/10.1111/avsc.12197/abstract?campaign=woletoc>
55. Vegetation classification and biogeography of European floodplain forests and alder cars:
<http://onlinelibrary.wiley.com/doi/10.1111/avsc.12201/abstract?campaign=woletoc>
56. Variable carbon losses from recurrent fires in drained tropical peatlands:
<http://onlinelibrary.wiley.com/doi/10.1111/gcb.13186/abstract>
57. Peatland types influence the inhibitory effects of a humic substance analog on methane production:
<http://www.sciencedirect.com/science/article/pii/S0016706115301415>
58. Locating organic soils for the Swiss greenhouse gas inventory:
http://www.agroscope.admin.ch/publikationen/einzelpublikation/index.html?pubdownload=NHZLpZeg7t,lnp6l0NTU042l2Z6ln1ad1lZn4Z2rZpnG3s2Rodeln6h1d39_hlKNn,aknp6V2tTljkXoKimjZ2ZmZqqikfo
59. Practical guidance on locating and delineating peatlands and other organic soils in the tropics:
http://www.carbonstockstudy.com/getattachment/Resource-Centre/Reports/5_Barthelmes-et-al_Practical-guidance-on-locating-and-delineating-peatlands-and-other-organic-soils-in-the-tropics.pdf.aspx
60. HCS+: A new pathway to sustainable oil palm development:
<http://www.carbonstockstudy.com/carbonstockstudy/files/f7/f74843a5-2902-4e76-bf5b-0a75fce42a91.pdf>
61. How have studies of ancient DNA from sediments contributed to the reconstruction of Quaternary floras?:
<http://onlinelibrary.wiley.com/doi/10.1111/nph.13657/epdf>
62. Factors controlling nitrous oxide emission from a spruce forest ecosystem on drained organic soil, derived using the CoupModel: <http://www.sciencedirect.com/science/article/pii/S0304380015005153>
63. Rich-fen bryophytes in past and recent mire vegetation in a successional land uplift area:
<http://hol.sagepub.com/content/26/1/136?etoc>
64. The history of the peat manufacturing industry in The Netherlands: Peat moss litter and active carbon:
<http://mires-and-peat.net/pages/volumes/map16/map1610.php>
65. Carbon storage and long-term rate of accumulation in high-altitude Andean peatlands of Bolivia:
<http://mires-and-peat.net/pages/volumes/map15/map1512.php>
66. Peat in the mountains of New Guinea: <http://mires-and-peat.net/pages/volumes/map15/map1513.php>
67. Rapid changes in plant assemblages on mud-bottom hollows in raised bog: a sixteen-year study:
<http://mires-and-peat.net/pages/volumes/map16/map1611.php>
68. Quantifying the water balance of Mfabeni Mire (iSimangaliso Wetland Park, South Africa) to understand its importance, functioning and vulnerability: <http://mires-and-peat.net/pages/volumes/map16/map1612.php>
69. Towards large-scale paludiculture: addressing the challenges of biomass harvesting in wet and rewetted peatlands: <http://mires-and-peat.net/pages/volumes/map16/map1613.php>
70. Evaluation of impacts of management in an anthropogenic peatland using field and remote sensing data:
<http://www.esajournals.org/doi/abs/10.1890/ES15-00232.1>
71. Paludification of boreal soils reduces wood decomposition rates and increases wood-based carbon storage: <http://www.esajournals.org/doi/abs/10.1890/ES14-00063.1>
72. Testing commonly used X-ray fluorescence core scanning-based proxies for organic-rich lake sediments and peat: <http://onlinelibrary.wiley.com/doi/10.1111/bor.12145/abstract?campaign=woletoc>
73. Vascular plants promote ancient peatland carbon loss with climate warming:
<http://onlinelibrary.wiley.com/doi/10.1111/gcb.13213/abstract?campaign=wolacceptedarticle>
74. Spatio-temporal variation in high-centre polygons and ice-wedge melt oonds, Tuktoyaktuk Coastlands, Northwest Territories: <http://onlinelibrary.wiley.com/doi/10.1002/ppp.1880/abstract>

75. Untangling climate signals from autogenic changes in long-term peatland development:
<http://onlinelibrary.wiley.com/doi/10.1002/2015GL066824/full>