

STEPHEN ANDREW WOOD

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PROFESSIONAL APPOINTMENTS

- 2017 - Applied Scientist, The Nature Conservancy
- 2017 - Associate Research Scientist, Yale School of Forestry and Environmental Studies
- 2015 - 2017 NatureNet Science Fellow, Yale School of Forestry and Environmental Studies,
The Nature Conservancy

OTHER RELEVANT EXPERIENCE

- 2010 – 2014 Steering Committee Member, Alliance Guinea
- 2007 – 2009 Sustainable Agriculture Extension Agent, Peace Corps Senegal
- 2006 – 2007 Staff Research Assistant, The Brookings Institution

EDUCATION

- 2015 PhD Columbia University, Ecology, Evolution & Environmental Biology
- 2013 MPhil Columbia University, Ecology, Evolution & Environmental Biology
- 2011 MESc Yale School of Forestry & Environmental Studies
- 2006 BA The George Washington University, Philosophy

PEER-REVIEWED PUBLICATIONS

· These authors contributed equally to this publication; † Lead author was a mentee; publication is from the mentored project

In press

1. **Wood SA**, Smith MR, Fanzo J, Remans R, DeFries RS (accepted) Trade increases equitability of food nutrients in the global food system. *Nature Sustainability*
2. **Wood SA** and Bradford MA (in press) Leveraging new understanding of belowground foodwebs for ecological intensification of agriculture, in *Soil Carbon Storage: Modulators, management, and modeling*, ed. Singh, B. Elsevier Publication.

2017

3. **Wood SA** (2017) Nutritional functional trait diversity of crops in south-eastern Senegal. *J. Appl. Ecol.*, doi:10.1111/1365-2664.13026
4. **Wood SA**, Gilbert JA, Leff JW, Fierer N, D'Angelo H, Bateman C, Gedallovich SM, Gillikin CM, Gradoville R, Mansor P, Massmann A, Yang N, Turner BL, Brearly FQ, McGuire KL (2017) Consequences of tropical forest conversion to oil palm on soil bacterial community and network structure. *Soil Biol. Biochem* 112: 258-268, doi:10.1016/j.soilbio.2017.05.019
5. Bogard JR, Marks GC, **Wood SA**, Thilsted SH (2017) Measuring nutritional quality of agricultural production systems: application to fish production. *Glob. Food Secur.* doi:10.1016/j.gfs.2017.09.004
6. Bradford MA, Veen GFC, Bonis A, Bradford EM, Classen AT, Cornelissen JHC, Crowther TW, De Long JR, Kardol P, Manrubia-Freixa M, Freschet GT, Maynard DS, Newman GS, van Logtestijn RSP, Vektoft M, Wardle DA, Wieder WR, **Wood SA**, van der Putten WH (2017) Fine-scale data do not support the hierarchical model of litter decomposition. *Nature Ecol. Evol.*, doi: 10.1038/s41559-017-0367-4
7. DeFries RS, Fanzo J, Mondahl P, Remans R, **Wood SA** (2017) Is voluntary certification of tropical agricultural commodities achieving sustainability goals?: A review of the evidence. *Environ. Res. Lett.* 12: 033001, doi:10.1088/1748-9326/aa625e
8. Diallo MD, Mahamat-Saleh M, Sarr PS, Masse D, **Wood SA**, Diallo A, Ndiaye O, Diop L, Agbangba EC, Ndao P, Dick RP, Doelsch E, Chotte J-L, Diop A, Guisse A (2017) Effects of major woody species of the Senegalese Great Green Wall on N mineralization and microbial biomass in soils. *Bois et Forêts des Tropiques* 333(3): 43-54

9. Thompson LR, Sanders J, McDonald D, Amir A, Ladau, J, Locey K, Prill J, Tripathi A, Gibbons S, Ackerman G, Navas-Molina-Navas J, Janssen S, Kopylova E, Vásquez-Baeza Y, González A, Morton J, Mirareb S, Xu Z, Jiang L, Haroon M, Kanbar J, Zhu Q, Song S, Kosciolek T, Bokulich N, Lefler J, Brislawn C, Humphrey G, Owens S, Hampton-Marcell J, Berg-Lyons McKenzie V, Fierer N, Fuhrman J, Clauset A, Stevens R, Shade A, Pollard K, Goodwin K, Jansson J, Gilbert J, Knight R, . . . , **Wood SA**, et. al (as part of Earth Microbiome Project Consortium 300+ authors) (2017) A communal catalogue reveals Earth's multiscale microbial diversity. *Nature* 104: 11436, doi: 10.1038/nature24621

2016

10. **Wood SA**, Bell C, Bradford MA, Naeem S, Sokol N, Wallenstein MD, Palm CA (2016) Opposing effects of different soil organic matter fractions on crop yields. *Ecol. Appl.*, 26(7): 272-285, doi:10.1890/16-0024.1
11. **Wood SA**, McGuire KL, Hickman JE (2016) Microbial ecology under climate change in tropical agroecosystems, in *Climate Change and Microbial Ecology: Current Research and Future Trends*, ed. Marxsen J. Horizon Press.
12. Bradford MA, Berg B, Maynard DS, Wieder WR, **Wood SA** (2016) Understanding the dominant controls on litter decomposition. *J. Ecol.* 104: 229-238, doi:10.1111/1365-2745.12507.
13. DeFries RS, Mondal P, Singh D, Agrawal I, Fanzo J, Remans R, **Wood SA** (2016) Synergies and trade-offs for sustainable agriculture: Nutritional yields and climate-resilience for cereal crops in Central India. *Glob. Food Secur.*, doi:10.1016/j.gfs.2016.07.001
14. Diallo MD, **Wood SA**, Diallo A, Saleh MM, Ndiaye O, Tine AK, Ngamb T, Guisse M, Seck S, Diop A, Guisse A (2016) Soil suitability for the production of rice, groundnut, and cassava in the peri-urban Niayes zone, Senegal. *Soil Till. Res.* 155: 412-420, doi:10.1016/j.still.2015.09.009
15. Naeem S, Prager C, Weeks B, Varga A, Flynn DFB, Griffin K, Muscarella R, Palmer M, **Wood SA**, Schuster W (2016) Biodiversity as a multidimensional construct: a review, framework and case study of herbivory's impact on plant biodiversity. *Proc. R. Soc. B.* 20153005, doi:10.1098/rspb.2015.3005
16. Rose KC, Graves RA, Hansen WD, Harvey BJ, Qiu J, **Wood SA**, Ziter C, Turner MG (2016) Historical foundations and future directions in macrosystems ecology. *Ecol. Lett.*, doi:10.1111/ele.12717

2015

17. **Wood SA**, Karp DS, DeClerck F, Kremen C, Palm CA, Naeem S (2015) Functional traits in agriculture: agrobiodiversity and ecosystem services. *Trends Ecol. Evol.* 30: 531-539, doi:10.1016/j.tree.2015.06.013
18. **Wood SA**, Bradford MA, Gilbert JA, McGuire KL, Palm CA, Tully KL, Zhou J, Naeem S (2015) Agricultural intensification and the functional capacity of soil microbes on smallholder African farms. *J. Appl. Ecol.* 52: 744-752, doi:10.1111/1365-2664.12416.
19. **Wood SA**, Almaraz M, Bradford MA, McGuire KL, Neill C, Naeem S, Palm CA, Tully KL, Zhou J (2015) Farm management, not soil microbial diversity, controls nutrient loss from tropical smallholder agriculture. *Front. Microbiol.* 6: 90, doi:10.3389/fmicb.2015.00090.
20. Anderman TL, DeFries RS, **Wood SA**, Remans R, Ahuja R, Ulla SE (2015) Evaluating Nutrition and Time Allocations with Alternative Cook Stoves: Examples of Biogas in Southern India. *Front. Nutr.* 2: 28, doi:10.3389/fnut.2015.00028
21. DeFries RS, Palm CA, Remans R, Fanzo J, **Wood SA**, Anderman TL (2015) Metrics for land-scarce agriculture. *Science* 349: 238-240, doi:10.1126/science.aaa5766.
22. Mulder C, Bennet EM, Bohan DA, Bonkowski M, Carpenter SR, Chalmers R, Cramer W, Durance I, Eisenhauer N, Haughton AJ, Hettelingh J-P, Hines J, Huston MA, Jeppesen E, Krumins JA, Ma A, Mancinelli G, McLaughlin O, Naeem S, Pascual U, Peñuelas J, Pettorelli N, Pockock MJO, Rafaelli D, Rasmussen JJ, Rusch GM, Scherber C, Setälä H, Vacher C, Voigt W, Vonk JA, **Wood SA**, Woodward G (2015) 10 years later: networking 35 priorities for science and

society after the Millennium Assessment. *Adv. Ecol. Res.* 53: 1-53, doi:10.1016/bs.aecr.2015.10.005.

23. Oldfield EE, **Wood SA**, Palm CA, Bradford MA (2015) How much SOM is needed for sustainable agriculture? *Front. Ecol. Environ.* 13: 527-527, doi:10.1890/1540-9295-13.10.527
24. Tully KL, **Wood SA**, Almaraz M, Palm CA, Neill C (2015) The effect of the African Green Revolution interventions on yields and nitrogen balances in smallholder maize farms in Western Kenya. *Agric. Ecosyst. Environ.* 214: 10-20, doi:10.1016/j.agee.2015.08.006

2014

25. **Wood SA** and Mendelsohn RO (2014) The impact of climate change on agricultural revenue at the local level: a case study in the Fouta Djallon, West Africa. *Environ. Dev. Econ.* 20: 20-36, doi:10.1017/S1355770X14000084.
26. **Wood SA**, Jina AS, Jain M, Kristjanson P, DeFries RS (2014) Smallholder farmer cropping decisions related to climate variability across multiple regions. *Global Environ. Chang.* 25: 163-172, doi:10.1016/j.gloenvcha.2013.12.011.
27. Bradford MA, **Wood SA**, Bardgett R, Black HIJ, Bonkowski M, Eggers T, Grayston SJ, Kandeler E, Manning P, Setälä H, Jones TH (2014) Discontinuity in the responses of ecosystem processes and multifunctionality to altered soil community composition. *Proc. Natl. Acad. Sci. USA.* 111: 14478-14483, doi:10.1073/pnas.1413707111
28. Remans R, **Wood SA**, Saha N, Anderman TL, DeFries RS (2014) Measuring the nutritional diversity of national food supplies. *Global Food Secur.* 3: 174-182, doi:10.1016/j.gfs.2014.07.001.
29. Anderman TL, Remans R, **Wood SA**, DeRosa K, DeFries RS (2014) Synergies and tradeoffs between cash crop production and food security: a case study in rural Ghana. *Food Secur.* 6: 541-544, doi:10.1007/s12571-014-0360-6.
30. Bradford MA, Warren RJ, Baldrian P, Crowther T, Maynard DS, Oldfield EE, Weider W, **Wood SA**, King JR (2014) Climate fails to explain wood decomposition at regional scales. *Nature Clim. Change* 4: 625-630, doi:10.1038/nclimate2251.
31. Ndiaye O, Diallo A, **Wood SA**, Guisse A (2014) Structural diversity of woody species in the Senegalese semi-arid Ferlo zone. *Am. J. Plant Sci.* 5: 416-426, doi:10.4236/ajps.2014.53055.
32. Oldfield EE, Felson AJ, **Wood SA**, Hallett RA, Strickland MS, Bradford MA (2014) Positive effects of afforestation efforts on the health of urban soils. *Forest Ecol. Manag.* 313: 266-273, doi:10.1016/j.foreco.2013.11.027.

2013

33. **Wood SA** (2013) The Gambia River, in *Biomes and Ecosystems: An Encyclopedia*, ed. Howarth RW. Ipswich, MA: Salem Press, pp: 584-586.
34. Tully KL, Lawrence D, **Wood SA** (2013) Organically managed coffee agroforests have larger soil phosphorus but smaller soil nitrogen pools than conventionally managed agroforests. *Biogeochem.* 115: 385-397, doi: 10.1007/s10533-013-9842-4.
35. Tully KL, **Wood SA**, Lawrence D (2013) Fertilizer type and species composition affect leachate nutrient concentrations in coffee agroecosystems. *Agroforest. Syst.* 87: 1083-1100, doi: 10.1007/s10457-013-9622-0.

2012

36. Bradford MA, **Wood SA**, Maestre FT, Reynolds JF, Warren RJ (2012) Contingency in ecosystem but not plant community response to multiple global change factors. *New Phyt.* 196: 462-471, doi: 10.1111/j.1469-8137.2012.04271.x.
37. Covey KR, **Wood SA**, Warren RJ, Lee X, Bradford MA (2012) Elevated methane concentrations in trees of an upland forest. *Geophys. Res. Lett.* 39: L15705, doi: 10.1029/2012GL052361.

In Review or Revision

38. Oldfield EE, Bradford MA, **Wood SA** (in revision) Increasing soil organic matter can close global yield gaps.

39. Oldfield EE, **Wood SA**, Bradford MA (in revision) Direct effects of soil organic matter on productivity mirror those observed with organic amendments.

NON PEER-REVIEWED CONTRIBUTIONS

- Tallis H, Kreis K, Olander L, Ringler C et al. (2017) Bridge Collaborative Practitioner’s Guide: Principles and Guidance for Cross-sector Action Planning and Evidence Evaluation. Washington DC: The Nature Conservancy.
- Wood SA (2016) A Dirty Solution to Cleaning the Atmosphere. *Cool Green Science*. June 20, 2016. <http://blog.nature.org/science/2016/06/20/a-dirty-solution-to-cleaning-the-atmosphere/>
- Wood SA (2015) African Green Revolution and the functional capacity of soil microbial communities. *Beneath Our Feet*. June 17, 2015. <http://blog.globalsoilbiodiversity.org/article/2015/06/17/african-green-revolution-and-functional-capacity-soil-microbial-communities>
- Wood SA (2012) Farming the Fouta Djallon: The effects of economics and climate on agrobiodiversity and agricultural production in northern Guinea and southern Senegal. *Tropical Resources*.
- Wood SA (2011) The Challenge of Maintaining Ecosystem Services. *SAGE Magazine*. December 2, 2011.
- Wood SA (2010) Mangi teus-teus: between a Weberian and historical understanding of economic dominance among pious Muslims in francophone West Africa. *Journal of Islamic Marketing*.
- Wood SA (2008) Fear of Knowledge. *Philosophy Now* 66: 38-39.
- Wood SA (2007) The High School Philosophy Seminar and Philosophical Positivism. *Questions: Journal of Philosophy* 7: 1-11, doi:10.5840/questions200772.

GRANTS, FELLOWSHIPS, AND FUNDED WORKSHOPS

2018	RJ Kose Family Research Grant	\$10,000
2017 - 2019	“Developing targets to manage soil organic matter for environment and people,” Science for Nature and People Partnership	\$198,230
2015 - 2017	NatureNet Science Fellowship	\$210,002
2015	Fulbright Fellowship, Senegal	\$25,000
2014	Global Soil Biodiversity Initiative Student Fellowship	\$1,500
2014 - 2016	Borlaug Food Security Fellowship	\$40,000
2013	Lewis and Clark Explorers Fellowship	\$5,000
2013	NSF CHANS Fellowship	\$1,000
2012	Leitner Family Fellowship, Columbia University	\$2,500
2010	Tropical Resources Institute Fellowship, Yale University	\$1,000
2010	Lindsay Fellowship in African Studies, Yale University	\$1,000
2010	Agrarian Studies Research Fellowship, Yale University	\$1,000

INVITED WORKSHOPS AND WORKING GROUPS

- 2017- Sustainable Food and Nutrition Working Group, The Bridge Collaborative—The Nature Conservancy, PATH, Duke University, IFPRI
- 2017- Landscape diversity as a driver of dietary diversity, SESYNC Working Group
- 2017- Developing targets to manage soil organic matter for environment and people, SNAPP Working Group (*Lead PI*)
- 2015 Science Solution Space Workshop, The Nature Conservancy
- 2015 Nutrition Sensitive Landscapes Methodology Workshop, CGIAR Research Program on Agriculture for Nutrition and Health
- 2013 Intensifying Agriculture: Environmental Impacts and Potential Solutions, Brown-MBL Interdisciplinary Workshop, Marine Biological Laboratory

ORGANIZED SESSIONS

Association of American Geographers Annual Meeting

2017 “Unearthing identity and making place around extractive industries in West Africa.” Co-organized with Robyn d’Avignon, Department of History, New York University.

INVITED SEMINARS AND PRESENTATIONS

02/2017 School of Sustainability, Arizona State University, Tempe, AZ
01/2017 International Development, Community, and Environment Department, Clark University, Worcester, MA
11/2016 Department of Geography, University of Alabama, Tuscaloosa, AL
10/2016 Department of Earth and Planetary Sciences, Johns Hopkins University, Baltimore, MD
06/2016 Association of Tropical Biology and Conservation, Montpellier, France
02/2016 College of the Atlantic, Bar Harbor, ME
02/2016 Global Science Council Meeting, The Nature Conservancy, Seattle, WA
01/2016 Environmental Studies Program, University of Oregon, Eugene, OR
09/2015 Department of Ecology, Evolution & Environmental Biology, Columbia University, New York, NY
12/2014 Eco&Sols, Montpellier, France
02/2014 Institute of Evolutionary Sciences of Montpellier, Montpellier, France
02/2014 Bioersity International, Montpellier, France
12/2012 Millennium Villages Project Colloquium, Columbia University, New York, NY

CONTRIBUTED SEMINARS AND PRESENTATIONS

04/2018 “Troubling Soils: Unruly Matter and Subterranean Politics”, Association of American Geographers, New Orleans, LA
09/2017 6th International Symposium on Soil Organic Matter, Rothamsted, UK
06/2017 Soil Ecological Society, Fort Collins, CO
04/2017 Institut de Recherche pour le Developpement, Dakar, Senegal
12/2016 A Community on Ecosystem Services, Jacksonville, FL
04/2015 Association of American Geographers, Chicago, IL
12/2014 Global Soil Biodiversity Initiative, Dijon, France
03/2014 Global Land Project, Berlin, Germany
11/2013 Soil Science Society of America, Tampa, FL
08/2013 Ecological Society of America, Minneapolis, MN
12/2005 American Philosophical Association, New York, NY

TEACHING EXPERIENCE

Course Leader

Sustainable Agricultural Systems, Yale School of Forestry and Environmental Studies, Spring 2016, 2018

Introduction to biostatistics with R, Université Cheikh Anta Diop, Summer 2012

Teaching Assistant

Ecosystem Ecology and Global Change, Columbia University (Instructor: D. Menge), Fall 2013

Tropical Agriculture, Study Abroad Program in Tropical Biology and Sustainability, Columbia University, Princeton University, Mpala Research Centre (Instructor: C. Palm), Spring 2013

Biodiversity, Columbia University (Instructor: D. Melnick), Fall 2012

Economics of the Environment, Yale School of Forestry and Environmental Studies (Instructor: M. Kotchen), Fall 2010

Guest Lectures

- 02/2017 *Soils and Climate Change*, Global Food Systems, Yale School of Forestry & Environmental Studies (Instructor: M. Bomford, G. Geballe)
- 10/2016 *Does Soil Degradation Happen?*, Introduction to Soil, Yale School of Forestry & Environmental Studies (Instructor: M. Bradford)
- 04/2016 *Climate Change and Nutrition*, Frontiers in Public Health, Yale School of Public Health (Instructor: A. Ko)
- 10/2013 *Biodiversity and Ecosystems*, Foundations of Development Practice, School of International and Public Affairs, Columbia University (Instructor: J. Sachs)
- 01/2013 *Biodiversity and Ecosystem Functioning: an overview*, Biodiversity and Ecosystem Processes, Columbia University (Instructor: S. Naeem)

Other

- 2011 Designed syllabus, Environmental Issues in Africa, Yale School of Forestry & Environmental Studies (Instructor: R. Bailis)
- 2004 – 2007 Co-founder, co-director, and discussion leader, The High School Philosophy Seminar at GW
- 2005 Writing coach, Social and Political Philosophy, The George Washington University (Instructor: P. Churchill)

MENTORSHIP

Post-doc

- 2017- Lesley Atwood (based at National Center for Ecological Analysis and Synthesis)

Masters

- 2016 Moussou Cisskho, Ethnobotany, Université Cheikh Anta Diop
Thesis: Ethnobotany of fonio in Kédougou, Sénégal

Undergraduate

- 2014 Carly Wertheim, Environmental Science, Barnard College
Thesis: Nutrient Diversity and Land Use in Ruhira, Uganda
- 2013 Tal Lee Anderman, Sustainable Development, Columbia University
Thesis: Synergies and tradeoffs between cash crop production and food security
- 2013 Caitlin Hoerberlein, Sustainable Development, Columbia University
Thesis: Nutrient Gaps in Local Food Systems Across the Millennium Villages, and the Potential of Biodiversity to Address these Gaps

High School

- 2016-2018 Catherine Beck, The Spence School
Project: Soil organic matter on the Matador Ranch, MT
- 2017 Sophia Sonnenfeldt, Heschel School
Project: Soil organic matter on Nature Conservancy agricultural lands

PROFESSIONAL SERVICE

Reviewer

Agriculture, Ecosystems & Environment
Biology and Fertility of Soils
Climate and Development
Ecological Economics

Ecology
Functional Ecology
Global Change Biology
The ISME Journal
Journal of African Economies
Journal of Applied Ecology
Journal of Arid Environments
Land Degradation & Development
The Lancet Planetary Health
New Phytologist
Soil Biology & Biochemistry
Trends in Ecology & Evolution
World Development

Departmental Activity

2012 – 2013 Graduate Student Representative, Department of Ecology, Evolution &
Environmental Biology, Columbia University

2009 – 2011 President and Founding Member, Environment in Africa Research Group, Yale
School of Forestry and Environmental Studies

LANGUAGES

French (Fluent)
Pula Futa (Advanced High-ACTFL)
Bambara (Advanced High-ACTFL)
Wolof (Intermediate)

PROFESSIONAL MEMBERSHIPS

Association of American Geographers
Ecological Society of America
Soil Ecology Society