STEPHEN ANDREW WOOD

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http://www.stephenandrewwood.com || http://www.github.com/swood-ecology

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

2018 and in press

1. **Wood SA** (2018) Nutritional functional trait diversity of crops in south-eastern Senegal. J. Appl. Ecol. 55: 81-91, doi:10.1111/1365-2664.13026
2. **Wood SA**, Smith MR, Fanzo J, Remans R, DeFries RS (2018) Trade and the equitability of global food nutrient distribution. Nature Sustainability 1: 34-37, doi: 10.1038/s41893-017-0008-6.
3. **Wood SA** and Bradford MA (2018) Leveraging new understanding of belowground foodwebs for ecological intensification of agriculture, in Soil Carbon Storage: Modulators, management, and modeling, ed. Singh, B. Elsevier Publication. ISBN: 978-0-12-812766-7

2017

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, Viketoft 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 *ERL *Highlight of 2017*
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. Oldfield EE, **Wood SA**, Bradford MA (2017) Direct effects of soil organic matter on productivity mirror those observed with organic amendments. Plant Soil. doi:10.1007/s11104-017-3513-5
10. 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

11. **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
12. **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.
13. 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.
14. 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
15. 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
16. 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
17. 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

18. **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
19. **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.
20. **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.
21. 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
22. 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.

23. 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, Pocock 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.
24. 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
25. 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

26. **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.
27. **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.
28. Bradford MA[*], **Wood SA**[*], Bardgett R, Black HIJ, Bonkowski M, Eggers T, Grayston SJ, Kandeler E, Manning P, Setala 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
29. 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.
30. 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.
31. 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.
32. 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.
33. 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

34. **Wood SA** (2013) The Gambia River, in Biomes and Ecosystems: An Encyclopedia, ed. Howarth RW. Ipswich, MA: Salem Press, pp: 584-586.
35. 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.
36. 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

37. 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.

38. 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

39. Bradford MA, McCulley RL, Crowther TW, Oldfield EE, **Wood SA**, Fierer N (in revision) Cross-biome patterns in soil microbial respiration are predictable from evolutionary theory on thermal adaptation.
40. Oldfield EE, Bradford MA, **Wood SA** (in review) Increasing soil organic matter can close global yield gaps
41. Shackelford GE, Kelsey TR, Sutherland WJ, Kennedy CM, **Wood SA**, Gennet S, Karp DS, Kremen C, Seavy NE, Jedlicka JA, Gravuer K, Kross SM, Bossio DA, Muñoz-Sáez A, Griffin DE, Garbach K, Ford LD, Felice M, Reynolds MD, Rao DR, Boomer K, LeBuhn G, Dicks L (in review) Best management practices for multiple ecosystem services: evidence base and decision support for farmland and rangeland
42. Tallis HT, Kreis K, Olander L, Ringler C, Ameyaw D, Borsuk ME, …, **Wood SA**, … (in review) Aligning evidence generation and use across health, development and environment.

OTHER CONTRIBUTIONS

Fanzo J and Wood SA (2018) Our ability to nourish the planet depends on international trade. Malnutrition Deeply. March 7, 2018. https://www.newsdeeply.com/malnutrition/community/2018/03/07/our-ability-to-nourish-the-planet-depends-on-international-trade

Wood SA (2018) Our ability to feed the planet depends on international trade. Nature Sustainability – Behind the Paper. February 19, 2018. https://sustainabilitycommunity.nature.com/channels/1385-behind-the-paper/posts/30462-our-ability-to-feed-the-planet-depends-on-international-trade

Wood SA (2018) Ecological diversity metrics can teach us how to feed the world well. The Applied Ecologist's Blog. January 18, 2018. https://jappliedecologyblog.wordpress.com/2018/01/18/agroecology-wood

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.

MEDIA COVERAGE

International Food Policy Research Institute, News In Brief #37, March 14, 2018

GRANTS, FELLOWSHIPS, AND FUNDED WORKSHOPS

2018	CRDF Global – Catalyzing New Research Partnerships Grant	$10,000
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 extactive industries in West Africa." Co-organized with Robyn d'Avignon, Department of History, New York University.

INVITED SEMINARS AND PRESENTATIONS

04/2018	School of Integrative Plant Science, Cornell University, Ithaca, NY
03/2018	Board Meeting, Science for Nature and People Partnership, National Center for Ecological Analysis and Synthesis, University of California Santa Barbara, Santa Barbara, CA
03/2018	Department of Agronomy, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL
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 Bioversity 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

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

02/2018 Applied Science, Survival Skills for Doctoral Students, Yale School of Forestry & Environmental Studies (Instructors: I. Burke, W. Laurenroth)
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)

PhD

2017- Chad Papa (Michigan State University)

Masters

2018 Rachel McMonagle, Masters of Environmental Management, Yale School of Forestry & Environmental Studies

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 Ruhiira, Uganda

2013 Tal Lee Anderman, Sustainable Development, Columbia University
Thesis: Synergies and tradeoffs between cash crop production and food security

2013 Caitlin Hoeberlein, 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
PNAS
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