

## STEPHEN ANDREW WOOD

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### PROFESSIONAL APPOINTMENTS

NatureNet Science Fellow, Yale School of Forestry and Environmental Studies, The Nature Conservancy, Bioversity International, New Haven, CT	2015 - Present
Adjunct Postdoctoral Associate, Agriculture and Food Security Center, The Earth Institute, Columbia University, New York, NY	2011- Present

### EDUCATION

PhD, Ecology, Evolution & Environmental Biology, Columbia University	2015
MESc, Forestry and Environmental Studies, Yale University	2011
BA, Philosophy, The George Washington University	2006

### PEER-REVIEWED PUBLICATIONS AND INVITED EDITORIALS

#### 2016 or In Press

1. **Wood SA**, McGuire KL, Hickman JE (in press) Microbial ecology under climate change in tropical agroecosystems, in *Climate Change and Microbial Ecology: Current Research and Future Trends*, ed. Marxsen J. Horizon Press.
2. Bradford MA, Berg B, Maynard DS, Wieder WR, **Wood SA** (in press) Understanding the dominant controls on litter decomposition. *J. Ecol.*, doi:10.1111/1365-2745.12507.
3. 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
4. Oldfield EE, **Wood SA**, Bradford MA (in press) How much SOM is needed for sustainable agriculture? *Front. Ecol. Environ.*

#### 2015

5. **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
6. **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.

7. **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.
8. 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
9. 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.
10. Mulder C, Bennet EM, Bohan DA, Bonkowski M, Carpenter SR, Chalmers R, Cramer W, Durance I, Eisenhauer N, Houghton 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.
11. 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

12. **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.
13. **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.
14. Bradford MA\*, **Wood SA\***, Bardgett R, Black HJ, 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  
\*These authors contributed equally to this publication.
15. 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.  
\*These authors contributed equally to this publication.
16. 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.
17. 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.
18. 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.

19. 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

20. **Wood SA** (2013) The Gambia River, in *Biomes and Ecosystems: An Encyclopedia*, ed. Howarth RW. Ipswich, MA: Salem Press, pp: 584-586.
21. 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.
22. 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

23. 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.
24. 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

- Wood SA**, Bell C, Bradford MA, Naeem S, Sokol N, Wallenstein MD, Palm CA (in revision) Opposing effects of different soil organic matter fractions on crop yields. *Ecol. Appl.*
- Jain M, DeFries RS, Naeem S, Jina AS, **Wood SA**, West P, Orlove B (in revision) Adapting Adaptation Research: A Systematic Review of the Climate Adaptation Literature in the Agricultural Sector. *Front. Ecol. Environ.*

### NON PEER-REVIEWED CONTRIBUTIONS

- 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 AND FELLOWSHIPS

NatureNet Post-doctoral Fellowship (\$230,000)	2015-2017
Fulbright Fellowship (\$25,000)	2015
Global Soil Biodiversity Initiative Student Fellowship (\$1,500)	2014
Borlaug Food Security Fellowship (\$40,000)	2014-2015
Lewis and Clark Explorers Fellowship (\$5,000)	2013
CHANS Fellowship, NSF International Network of Research on Coupled Human and Natural Systems (\$1,000)	2013
Leitner Family Fellowship, Columbia University (\$2,500)	2012
Tropical Resources Institute Fellowship, Yale University (\$2,500)	2010
Lindsay Fellowship in African Studies, Yale University (\$2,000)	2010
Agrarian Studies Research Fellowship, Yale University (\$1,000)	2010

## INVITED WORKSHOPS

Science Solution Space Workshop, The Nature Conservancy, Ben Lomond, CA	Sept. 2015
Nutrition Sensitive Landscapes Methodology Workshop, CGIAR Research Program on Agriculture for Nutrition and Health, Rome, Italy	Jan. 2015
Intensifying Agriculture: Environmental Impacts and Potential Solutions, Brown-MBL Interdisciplinary Workshop, Marine Biological Laboratory, Woods Hole, MA	Jan. 2013

## PRESENTATIONS

### 2015

“Soil microbial diversity and ecosystem functioning in smallholder African agroecosystems,” Department of Ecology, Evolution & Environmental Biology, Columbia University	9/29/15
“Nutritional diversity in Senegal,” invited panelist in <i>Agrobiodiversity and Food Security/Sovereignty: Unpacking the paradox</i> , Association of American Geographers Annual Meeting, Chicago, IL	4/15

### 2014

“African Green Revolution, microbial diversity, and soil nutrient pools,” UMR Eco&Sols, Montpellier, France	12/5/14
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“Farm management, microbial diversity, and ecosystem functioning on smallholder African farms,” Global Soil Biodiversity Conference, Dijon, France	12/3/14
“Closing the nutrition gap: how much do yields matter?,” Global Land Project - Open Science Meeting, Berlin, Germany	3/20/14
“African Green Revolution interventions structure the linkages between taxonomic and functional diversity of soil microbial communities,” Evolution and Community Ecology Seminar, ISEM, Montpellier, France	2/21/14
“Functional diversity and agroecosystems services,” Bioversity International Seminar, Montpellier, France	2/6/14
<b>2013</b>	
“African Green Revolution and the functional diversity of soil microbial communities,” Symposium—Ecosystem Resilience: Influence of Soil Microbial and Biophysical Processes on Ecosystem Function. Soil Science Society of America Annual Meeting, Tampa, FL	11/5/13
“African Green Revolution and the functional diversity of soil microbial communities,” Ecological Society of America Annual Meeting, Minneapolis, MN	8/9/13
“Nutrient addition impacts soil microbial diversity on smallholder farms in western Kenya,” Intensifying Agriculture: Environmental Impacts and Potential Solutions, Brown-MBL Interdisciplinary Workshop, Marine Biological Laboratory, Woods Hole, MA	1/15/13
<b>2012</b>	
“The African Green Revolution, Microbial Diversity, and Ecosystem Functioning,” The Millennium Villages Project Colloquium, The Earth Institute, Columbia University, New York, NY	12/6/12
<b>2011</b>	
“Community grassland responses to elevated CO <sub>2</sub> and N addition,” Ecological Society of America Annual Meeting, Austin, TX	8/12/11
“Farming the Fouta Djallon: the effects of economics and climate on agrobiodiversity and agricultural production in northern Guinea and southern Senegal,” Yale School of Forestry and Environmental Studies Masters Research Colloquium, New Haven, CT ( <i>Runner-up for best presentation</i> )	4/15/11
“Farming the Fouta Djallon: the effects of economics and climate on agrobiodiversity and agricultural production in northern Guinea and southern Senegal,” Tropical Resources Institute Lecture Series, Yale University, New Haven, CT	2/11
<b>2010 and earlier</b>	

“Understanding climate, land-use, and agricultural diversity in the Fouta Djallon through greenhouse experiments, remote sensing, and hedonic, cross-sectional analysis,” Yale Council on African Studies, MacMillan Center, New Haven, CT	11/3/10
“Consequentialists, Intentions, and Responsibility,” George Washington University Philosophy Conference, Washington, DC	4/06
“The High School Philosophy Seminar at GW,” American Philosophical Association Annual Meeting, New York, NY	12/05

## **TEACHING EXPERIENCE**

### **Course Leader**

Sustainable Agriculture, 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: Duncan Menge	Fall 2013
Tropical Agriculture, Study Abroad Program in Tropical Biology and Sustainability with Princeton University and Mpala Research Centre, Instructor: Cheryl Palm (contributed substantially to design and instruction)	Spring 2013
Biodiversity, Columbia University, Instructor: Don Melnick	Fall 2012
Economics of the Environment, Yale School of Forestry and Environmental Studies, Instructor: Matthew Kotchen	Fall 2010

### **Guest Lectures**

“Biodiversity and Ecosystems,” Guest Lecture in Foundations of Development Practice (Instructors: Jeffrey Sachs and Tatiana Wah), School of International and Public Affairs, Columbia University	10/22/13
“Biodiversity and Ecosystem Functioning: an overview,” Guest Lecture in Biodiversity and Ecosystem Processes (Instructor: Shahid Naeem), Department of Ecology, Evolution & Environmental Biology, Columbia University	1/28/13

### **Other**

Designed syllabus, Environmental Issues in Africa, Instructor: Rob Bailis, Yale School of Forestry and Environmental Studies	Spring 2011
Co-founder, Co-director, and Discussion Leader, The High School Philosophy Seminar at GW	Fall 2004- Fall 2007

Writing Coach, Social and Political Philosophy, the George Washington University, Instructor: Paul Churchill Fall 2005

#### **ADVISEES**

Moussou Cissokho (Masters 2, Ethnobotany, Université Cheikh Anta Diop)  
Thesis: Ethnobotany of Fonio in Kédougou, Senegal 2015

Carly Wertheim (BA, Environmental Science, Barnard College)  
Thesis: Nutrient Diversity and Land Use in Ruhira, Uganda 2014

Tal Lee Anderman (BA, Sustainable Development, Columbia University)  
Thesis: Synergies and tradeoffs between cash crop production and food security: a case study in rural Ghana 2013

Caitlin Hoerberlein (BA, Sustainable Development, Columbia University)  
Thesis: Nutrient Gaps in Local Food Systems Across the Millennium Villages, and the Potential of Biodiversity to Address these Gaps 2013

#### **OTHER PROFESSIONAL EXPERIENCE**

Co-founder, Projet Haaraande, Senegal 2010-Present

Visiting Researcher, Bioersivity International, Montpellier, France 2014

Steering Committee Member, Alliance Guinea, New York, NY 2010-2014

Visiting Research Scholar, UNDP Environment and Energy Team, Senegal 2010

Sustainable Agriculture Extension Agent, Peace Corps, Senegal 2007-2009

Staff Research Assistant, The Brookings Institution, Washington, DC 2006-2007

#### **PROFESSIONAL SERVICE**

##### **Reviewer**

Ecological Economics; Global Change Biology; The ISME Journal; Journal of African Economies; Journal of Applied Ecology; Journal of Arid Environments; Journal of Plant Ecology; New Phytologist; World Development

##### **Departmental Activity**

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

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

**LANGUAGES**

French (Fluent)

Pula Futa (Advanced High-ACTFL)

Bambara (Advanced High-ACTFL)

Wolof (Intermediate)

**PROFESSIONAL MEMBERSHIPS**

Association of American Geographers

Ecological Society of America