

# Weston Buckley Anderson

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## EDUCATION

- Columbia University, New York, NY  
PhD Student, Earth and Environmental Science 2014 – Expected May 2018
  - NSF Graduate Research Fellowship Program
  - Columbia University Dean's Fellow
- Johns Hopkins University, Baltimore, MD May 2012  
B.S./M.S.E. Environmental Engineering, Systems Analysis
  - General Honors, Departmental Honors, Wolman Award for Interdisciplinary Study
  - Dean's Master's Fellowship

## PROFESSIONAL EXPERIENCE

- Sr. Research Assistant* 2013 - 2014  
International Food Policy Research Institute  
Research: Water resource management and food security analyses  
*Advisors: Dr Liangzhi You and Dr. Ephraim Nkonya*
- Risk Analyst* 2012 - 2013  
Risk Management Solutions  
Description: Model-based natural catastrophe risk assessment
- Research Assistant* 2011 - 2012  
The Hydroclimate Research Group, Johns Hopkins University  
Research: Characterized the 2010-11 East Africa drought using remote sensing products  
*Advisor: Dr Ben Zaitchik*

## PUBLICATIONS

### Journal publications submitted or in preparation

Anderson, W.B., Seager, R., Baethgen, W., and Cane, M.: Trans-Pacific ENSO teleconnections pose a correlated risk to global agriculture (submitted, *Ag. Forest. Met*)

Xie, H, Perez, N, Anderson W.B., Ringler, C. and Liangzhi, Y.: Impact of irrigation development strategies in Sub-Saharan African dryland on food security and import dependency in the region (submitted, *Water International*)

Anderson, W.B., Seager, R., Baethgen, W., and Cane, M.: How are trends in crop yield stability influenced by ENSO? (in prep)

Anderson, W.B., Seager, R., Baethgen, W., and Cane, M.,: How much of global crop production variability is attributable to ENSO and the NAO? (in prep)

**Peer reviewed journal publications:**

Anderson, W.B., Seager, R., Baethgen, W., and Cane, M, (2017): Crop production variability in North and South America forced by life-cycles of the El Niño Southern Oscillation. *Agriculture and Forest Meteorology*, 239, 151-165

Anderson, W.B., Seager, R., Baethgen, W., and Cane, M, (2016): Life-cycles of agriculturally relevant ENSO teleconnections in North and South America. *Int. J. Climatol*, doi:10.1002/joc.4916

Anderson, W.B., You, L., Wood, S., Wood-Sichra, U., Wu, W (2015): An analysis of methodological and spatial differences in global cropping systems models and maps. *Glob. Ecol. and Biogeog.* doi: 10.1111/geb.12243

Li, Z., Liu, X., Anderson, W.B., Yang, P., Wu, W., Tang, H. and You, L. (2015): Chinese Rice Production Area Adaptations to Climate Changes, 1949–2010. *Environmental Science & Technology*, doi: 10.1021/es505624x

Anderson, W.B., Guikema S., Zaitchik, B. and Pan, W. (2014): Methods for estimating population density in data-limited areas: evaluating regression and tree-based models in Peru. *PLoS ONE* 9(7): e100037. doi:10.1371/journal.pone.0100037

Nkonya, E. and Anderson, W.B. (2014): Exploiting provisions of land economic productivity without degrading its natural capital, *J. Arid Environ.*, doi:10.1016/j.jaridenv.2014.05.012.

Anderson, W.B., Zaitchik, B.F., Hain, C.R., Anderson, M.C., Yilmaz, M.T., Mecikalski, J., and Schultz, L. (2012) Towards an integrated soil moisture drought monitor for East Africa, *Hydrol. Earth Syst. Sci.*, 16, 2893-2913, doi:10.5194/hess-16-2893-2012.

**Book Chapters:**

Walker, T., Ward, C., Torquebiau, R., Xie, H., Anderson, W.B., Perez, N., Ringler, C., You, L., Cenacchi, N., Hash, T. and Rattunde, F., (2016) Agriculture: More Water and Better Farming for Improved Food Security. In “Confronting Drought in Africa's Drylands: Opportunities for Enhancing Resilience”, pp.115-136. doi:10.1596/978-1-4648-0817-3\_ch7

Nkonya, E., Anderson, W.B., Kato, E., Koo, J., Mirzabaev, A., von Braun, J., & Meyer, S. (2016). Global cost of land degradation. In *Economics of Land Degradation and Improvement—A Global Assessment for Sustainable Development* (pp. 117-165). Springer International Publishing.

Nkonya, E., Srinivasan, R., Anderson, W.B., and Kato, E. (2016). Economics of land degradation and improvement in Bhutan. In *Economics of Land Degradation and Improvement—A Global Assessment for Sustainable Development* (pp. 327-383). Springer International Publishing.

Anderson, W.B., and Johnson, T. (2016) Evaluating Global Land Degradation Using Ground-Based Measurements and Remote Sensing. In *Economics of Land Degradation and Improvement—A Global Assessment for Sustainable Development* (pp. 327-383). Springer International Publishing.

**Other Publications:**

Nielsen, T., Schünemann, F., McNulty, E., Zeller, M., Nkonya, E., Kato, E., Meyer, S., Anderson, W.B., Zhu, T., Queface, A., and Mapemba, L., (2015): The Food-Energy-Water Security Nexus: Definitions, Policies, and Methods in an Application to Malawi and Mozambique. IFPRI Discussion Paper 1480. doi: 10.2139/ssrn.2740663

Nkonya, E., Srinivasan, R., Anderson, W.B., and Kato, E. (2014). Assessing the economic benefits of sustainable land management practices in Bhutan. IFPRI Discussion Paper 01361. doi:10.2139/ssrn.2483995

Xie, H., You, L., Anderson, W.B., Ringler, C., Cenacchi, N., Perez, N. (2013) Agricultural water management for drylands in Africa south of the Sahara. International Food Policy Research Institute. Methodology report for the World Bank

#### **Posters and Presentations:**

Anderson, W.B., Seager, R., Baethgen, W., and Cane, M.: Trans-Pacific ENSO teleconnections pose a correlated risk to global agriculture. The American Meteorological Society annual meeting. Jan 7-11, 2018. Austin, TX (oral pres.)

Anderson, W.B., Seager, R., Baethgen, W., and Cane, M.: The El Niño Southern Oscillation and sustainable intensification. *The Global Land Program Open Science Meeting*. Oct. 24-27, 2016. Beijing, CHN (oral pres.) *\*[Awarded outstanding presentation]*

Anderson, W.B., Seager, R., Baethgen, W., and Cane, M.: Life cycles of agriculturally-relevant ENSO teleconnections in North and South America. *American Geophysical Union Fall Meeting*. Dec. 14-18, 2015. San Francisco, CA (oral pres.)

Anderson, W.B. "An analysis of methodological and spatial differences in global cropping systems models and maps". Chinese Academy of Agricultural Sciences, May 23<sup>rd</sup>, 2014. Beijing, China. (oral pres.)

Anderson, W.B. "Assessing the benefits of sustainable land management practices in Bhutan: Land cover changes and hydrological analyses". IFPRI / World Bank hosted Workshop, March 18, 2014. Thimphu, Bhutan. (oral pres.)

Anderson, W.B., You, L., Wood, S., Wood-Sichra, U., Wu, W. "A Comparative Analysis of Global Cropping Systems Models and Maps," *American Geophysical Union Fall Meeting*. Dec. 9-13, 2013. San Francisco, CA (poster pres.)

Anderson, W.B., C. Hain, B. Zaitchik, M. Anderson, C. Alo and M. Yilmaz. "Towards an Integrated Soil Moisture Drought Monitor for East Africa," *American Geophysical Union Fall Meeting*. Dec. 5-9, 2011. San Francisco, CA (poster pres.)

#### **PROFESSIONAL SERVICE**

Reviewer: Hydrology and Earth System Sciences, Earth System Dynamics, Journal of Applied Meteorology and Climatology, International Journal of Climatology, PLoS ONE, International Journal of Biometeorology, Environmental Monitoring and Assessment

*Graduate Student Committee* 2016 -2018  
Department of Earth and Environmental Sciences

*Graduate Student Advisory Council Representative,* 2015 - 2016  
Columbia Graduate School of Arts and Sciences

*Workshop Organizer,* Thimphu, Bhutan 2014  
"Assessing the economic benefits of sustainable land management practices in Bhutan"  
50+ participants, including the Honorable Minister of Agriculture and Forests

*Panel Organizer,* Hoboken, NJ 2013

“Climate change, extreme weather and RMS model methodology”  
Broadcast live to over 100 employees participating in the session across the US and Europe

## AWARDS AND HONORS

NSF Graduate Research Fellowship (\$98,000)	2014 - 2018
Columbia Graduate School of Arts and Sciences Dean’s Fellow (\$168,000)	2014
JHU Whiting School of Engineering Dean’s Master’s Fellowship (\$23,000)	2012
JHU Wolman Award for Interdisciplinary Study	2011
Outstanding Student Presentation, GLP Open Science Meeting	2016

## TEACHING EXPERIENCE

<i>Teaching Assistant</i> - Columbia University	
Regional Climate Dynamics: Dr. Andrew Robertson and Dr. Pietro Ceccato	2016
Dynamics of Climate: Dr. Ron Miller	2017
Dynamics of Climate Variability and Change: Dr. Alessandra Giannini and Dr. Lisa Goddard	2017

## PROGRAMMING AND MODELING LANGUAGES

• Python • MATLAB • R • ArcGIS • SQL

## MEDIA COVERAGE

Bhutan Broadcasting Service coverage of our workshop on sustainable land management:  
<https://www.dropbox.com/s/8andfilyhn0y463/Land%20Management.mov>

## OUTREACH

<i>Volunteer</i> , New York Academy of Sciences after school program After school science curriculum focused on earth science and natural disasters <i>Article published by students in the class:</i> <a href="http://indykids.org/main/2015/12/stronger-storms-in-a-warming-world/">http://indykids.org/main/2015/12/stronger-storms-in-a-warming-world/</a>	2015-16
<i>Volunteer</i> , BioBus. After school science programming for populations underrepresented in the sciences	2014-15
<i>Volunteer scientist</i> , Big Green Theater Project, An annual eco-play writing program for elementary school children	2014