

Vincent Ricciardi, PhD

Data Scientist | Sustainability Scientist
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EDUCATION

PhD in Resource Management & Environmental Studies, University of British Columbia	2019
MSc in Geography, Pennsylvania State University	2014
BA in Psychology, Kalamazoo College	2009

SKILLS

Coding	Python (5 years), R (7 years), Bash/Unix (4 years)
Skillsets	Inferential Statistics, Geographic Information Systems (GIS) – Spatial Analysis, Machine Learning, Natural Language Processing (NLP), Network Analysis

EMPLOYMENT

Jr Data Scientist, World Bank 2019 – Present

Data scientist for high-impact data communication publications

Lead author for chapter in flagship report with over 1 million downloads per year (WDR)

Curated open-access environmental database with over 120k visitors a year (WDI)

Lead environmental scientist for data journalism and visualization project (SDG Atlas)

PhD Student & Research Assistant, University of British Columbia 2015 – 2019

10 publications in 4 years. 3 are in the top 5% of most discussed out of 14 million ranked

Gates Foundation	Led team to build NLP models to automate meta-analysis
United Nations FAO	Built mixed models to validate a dataset of over 3 million farmers
CGIAR Big Data Platform	Spatially modeled a global baseline on farmer cell phone use
Canada Research Grant	Led team to harmonize agricultural data from 55 countries

Independent Consultant, Cambodia, Ghana, Thailand, Vietnam 2010 – 2015

Led field research teams. Communicated project impacts to ministry members and funders

USAID Subcontract	Value chain assessment for sweet potatoes
USAID Subcontract	Needs assessment for national agriculture education centers
iDE	Spatial analyses for program assessments
ECHO Asia	Led field work and germination trials on indigenous crops species

Research Assistant

5 publications in 3 years

Pennsylvania State University	Modeled land-use and disease outbreak, Ghana	2012 – 2014
Massachusetts Institute of Technology	Collated material for neuroscience study	2007

TEACHING EXPERIENCE / LECTURES

American University Washington College of Law , Washington, DC <u>Panelist</u> Bridging law and science in the right to food	2018
Food and Agricultural Organization , Santiago, Chile <u>Guest Lecturer</u> How much food do smallholders produce?	2018
World Resource Institute , Washington, DC <u>Guest Lecturer</u> Social network analysis: a primer	2016
University of British Columbia , Vancouver, BC, Canada <u>Teaching Assistant</u> Analytic Methods in Sustainability Science ENVR 440	2016
American University , Phnom Penh, Cambodia <u>Guest Lecturer</u> GIS Technical Workshop	2015
iDE , Phnom Penh, Cambodia <u>Lecturer</u> GIS Technical Workshop	2015
Pennsylvania State University , State College, PA <u>Teaching Assistant</u> Human/Environment Geography GEOG 30	2012
ECHO Asia Impact Center , Chiang Mai, Thailand <u>Guest Lecturer</u> Small-Scale Biofuel Production in SE Asia	2010

SELECTED AWARDS

Public Scholar Initiative Research Fellow , University of British Columbia	7k CAD	2017
Liu Doctoral Scholar , University of British Columbia	–	2016
Four Year Doctoral Fellowship (4YF) , University of British Columbia	72k CAD	2015
Research Assistant Award , University of British Columbia	48k USD	2014
Research Assistant Award , Pennsylvania State University	36k USD	2014
Indigenous Knowledge Research Grant , Pennsylvania State University	2k USD	2013
Africana Research Center Research Grant , Pennsylvania State University	2k USD	2013
Senior Leadership Recognition Award , Kalamazoo College	–	2009
Sharing Time and Resources Award , Kalamazoo Michigan City Council	–	2007

SELECTED PUBLICATIONS

1. **Ricciardi**, V., Ramankutty, N., Mehrabi, Z., Wittman, H., James, D. Smaller farms are consistently higher yielding and more biodiverse than large farms: A meta-analysis. *Nature Sustainability*. *In Review*.
2. Mehrabi, Z., **Ricciardi**, V., Levers, C., McDowell, M. The global digital divide in data-driven agriculture. *Science Advances*. *In Review*.
3. Ramankutty, N., **Ricciardi**, V., Mehrabi, Z., Seufert, V. 2019. Trade-offs in the performance of alternative farming systems. *Agricultural Economics*. *In Press*.

4. Khoury, D., Kisel, Y., Kantar, M., Barber, E., **Ricciardi**, V., Klirs, C., Kucera, L., Mehrabi, Z., Johnson, N., Klabin, S. and Valiño, Á., 2019. Science–graphic art partnerships to increase research impact. *Nature Communications Biology*, 2(1): 1–5.
5. McDowell, G., Huggle, C., Frey, H., Wang, F., **Ricciardi**, V., Cramer, K. 2018. Adaptation action and research in glaciated mountain systems: Are they enough to meet the challenge of climate change? *Global Environmental Change*. 54: 19–30.
6. **Ricciardi**, V., Ramankutty, N., Mehrabi, Z., Jarvis, L., Chookolingo, B. 2018. How much of our world's food do smallholders produce? *Global Food Security*, 17: 64–72.
7. **Ricciardi**, V., Ramankutty, N., Mehrabi, Z., Jarvis, L., Chookolingo, B. 2018. An open-access dataset of crop production by farm size from agricultural censuses and surveys. *Data in Brief*, 19: 1970–1988.
8. Cohn, A., Newton, P., Gil, J., Kuhl, L., Samberg, L., **Ricciardi**, V., Manly, J. R., Northrop, S. 2017. Smallholder agriculture and climate change. *Annual Review of Environment and Resources*, 42(1).
9. Glenna, L., Borlu, Y., Gill, T., Larson, J., **Ricciardi**, V., Adam, R. 2017. Food security, sweet potato production, and proximity to markets in northern Ghana. *FACETS*, 2(2): 919–936.
10. Gill, T. B., **Ricciardi**, V., Bates, R., James, D. 2017. Capacity development in agricultural education and training in Cambodia: a SWOT analysis. *The Journal of Agricultural Education and Extension*, 24(1): 34–51.
11. Tschakert, P., **Ricciardi**, V., Machado, M., Ferring, D., Smithwick, E. Hausermann, H., Parker, E. 2016. Situated knowledge of pathogenic landscapes in Ghana: understanding the emergence of Buruli ulcer through qualitative analysis. *Social Science and Medicine*, (150): 170–171.
12. **Ricciardi**, V. 2015. Homophily as a Safety Net: Investigating when smallholder farmers decide to buy hybrid seed in northern Ghana. *IK: Other Ways of Knowing*, 1(2): 65–97.
13. **Ricciardi**, V. 2015. Social seed networks: identifying central farmers for equitable seed access. *Agri. Systems*, 139: 110–121.
14. Wu, J., Tschakert, P., Klutse, E., Ferring, D., **Ricciardi**, V., Hausermann, H., Oppong, J., Smithwick, E. A. 2015. Buruli ulcer disease and its association with land cover in southwestern Ghana. *PLoS Neglected Tropical Diseases*, 9(6): e0003840.
15. Gill, T. B., Bates, R., Bicksler, A., Burnette, R., **Ricciardi**, V., Yoder, L. 2013. Strengthening informal seed systems to enhance food security in Southeast Asia. *Journal of Agriculture, Food Systems, and Community Development*, 3(3): 139–153.
16. Bates, R., Gill, T. B., Bicksler, A., Yoder, L., Burnette, R., and **Ricciardi**, V. 2013. Designing strategies and systems to identify, preserve and promote underutilized indigenous crop species. *Acta Horticulturae*, 979: 569–576.
17. Bicksler, A., Bates, R., Burnette, R., Gill, T. B., Yoder, L., **Ricciardi**, V., Srigiofun, Y. 2012. Methodologies for strengthening informal indigenous vegetable seed systems in Northern Thailand and Cambodia. *Acta Horticulturae*, 958: 67–74.

Non-Refereed Publications and Reports to Sponsors

1. **Ricciardi, V.** 2015. Project documentation report: scaling-up productive water through micro-irrigation technologies. iDE Vietnam. Project supported by the Swiss Agency for Development & Cooperation (SDC).
2. **Ricciardi, V.** 2015. Latrine business owners to customer sales network in rural Cambodia: 2012–2014; Supply chain management geographical atlas. iDE Sanitation Marketing Scale-Up (SMSU) 2.0. Project supported by the World Bank's Water and Sanitation Program (WSP).
3. **Ricciardi, V.** 2015. Toilet sales and access to sanitation in rural Cambodia; geographical atlas. iDE Sanitation Marketing Scale-Up (SMSU) 1.0. Project supported by the World Bank's Water and Sanitation Program (WSP).
4. **Ricciardi, V., R. Bates, T. Gill.** 2014. Report for InnovATE scoping visit, Cambodia. USAID Subcontract report. InnovATE in Cambodia.
5. **Ricciardi, V., Borlu, Y., Gill, T.** 2014. Fact-sheet: Sweet potato seed system in northern Ghana. USAID Horticultural CRISP report. Sustainable Technology for Orange and Purple Sweet potato (STOPS) in Ghana.
6. Borlu, Y., **Ricciardi, V.** 2014. Fact-sheet: Perceptions and attitudes towards sweet potatoes in northern Ghana. USAID Horticultural CRISP report. Sustainable Technology for Orange and Purple Sweet potato (STOPS) in Ghana.
7. Meitzner Yoder, L. and **Ricciardi, V.** January 2012. Seed fairs: Fostering local seed exchange to support regional biodiversity. Echo Asia Notes.
8. Bicksler, A., Burnette, R., **Ricciardi, V.** Bell, M., Shapland, P. 2011. Seed germination cabinet. Fact-sheet: Strengthening indigenous informal seed systems in Southeast Asia. Project supported by USAID Horticultural CRSP.

CONFERENCE PRESENTATIONS

1. **Ricciardi, V., Ramankutty, N., Mehrabi, Z., Wittman, H., James, D.** 2019. Smaller farms are consistently higher yielding and biodiverse than large farms: A meta-analysis. Global Land Project. Bern, Switzerland. **Top Conference Paper Award.**
2. McDowell, G., Huggel, C., Frey, H., Wang, F., Cramer, K., **Ricciardi, V.** 2019. Adaptation action and research in glaciated mountain systems: Are they enough to meet the challenge of climate change? International Mountain Conference. Innsbruck, Austria.
3. McDowell, G., Huggel, C., Frey, H., Wang, F., Cramer, K., **Ricciardi, V.** 2018. Adaptation and the challenge of climate change in glaciated mountain regions: a global progress report. World Mountain Forum. Bishkek, Kyrgyzstan.
4. **Ricciardi, V., Ramankutty, N., Mehrabi, Z., Wittman, H., James, D.** 2018. Systematic review: transition in global farm size. SESYNC Boundary Spanning Symposium. Annapolis, MD, USA.
5. **Ricciardi, V., Ramankutty, N., Mehrabi, Z., Jarvis, L., Chookolingo, B.** 2017. How much of our world's food do smallholders produce? Third International Conference on Global Food Security. Cape Town, South Africa.
6. **Ricciardi, V., Ramankutty, N.** 2016. Yield stability and farm size: investigating 40 years of

variability in India's rice production. Global Land Project. Beijing, China.

7. **Ricciardi, V.** 2016. Commentator. Workshop on Innovation, Precaution, and Sustainability. W. Maurice Young Centre for Applied Ethics: University of British Columbia. Vancouver, BC, Canada.
8. **Ricciardi, V.** 2016. Is crop production of India's small farms more stable than large farms in response to climate variability? Association of American Geographers Annual Conference. San Francisco, CA, USA.
9. Larson, J., Gill, T., Borlu, Y., **Ricciardi, V.**, Martey, E. 2014. STOPS: Sustainable Technologies for Orange and Purple Sweet Potatoes in Ghana. Annual USAID Innovation Lab Meeting. Tegucigalpa, Honduras.
10. **Ricciardi, V.** 2014. Effects of crop introduction on informal seed systems in Northern Ghana: a social network approach. Association of American Geographers Annual Conference. Tampa, Florida, USA.
11. **Ricciardi, V.** 2014. Effects of commercial crop introduction on informal seed systems: Northern Ghana. Inter-institutional Consortium of Indigenous Knowledge. State College, PA, USA.
12. **Ricciardi, V.** 2013. Agrobiodiversity conservation and food security in West Africa: Can we have both? International Agricultural Speaker Series, Pennsylvania State University. State College, PA, USA.