Paulo Arévalo

12 Acron Rd #1. Brookline MA, 02445. USA

(+1) 857-206-5537 | parevalo@bu.edu | parevalo

Education

Boston University — *Boston, MA*

Ph.D. Candidate in Geography. Department of Earth and Environment — *Sept. 2014 - Present*

Advisors: Pontus Olofsson, Curtis Woodcock.

Dissertation: "Tracking land change and carbon dynamics in the Colombian Amazon in support of greenhouse gas emission reduction programs."

Pontificia Universidad Javeriana — *Bogotá, Colombia*

B.Sc. in Ecology — *2004 - 2010*

Advisor: Andrés Etter.

Experience

Boston University, Department of Earth and Environment — *Boston, MA*

Research Assistant — *Sept. 2014 - Present*

- Mapped multiple land categories and their conversions in the Colombian Amazon using Landsat time series.
- Calculated areas of change and their uncertainty using unbiased statistical estimators.
- Compared sampling methods and their relation with map accuracy to reduce uncertainty in area estimates.
- Managed and processed large volumes of data in a distributed computing environment.

Pontificia Universidad Javeriana, Department of Ecology and Territory — *Bogotá, Colombia*

Research assistant — *Nov. 2012 - Aug. 2014*

- Processed several raster and vector datasets, and conducted spatial analyses to aid in the creation of a national map of ecosystems at risk (IUCN red List of Ecosystems).

National Institute of Hydrology, Meteorology and Environmental Studies IDEAM — *Bogotá, Colombia*

Contractor - GIS Specialist — *Jul. 2012 - Dec. 2013*

- Modeled multiple future scenarios of deforestation in the Colombian Amazon.
- Contributed to the construction of a deforestation reference scenario for the Colombian Amazon in support of REDD+ activities.

National Institute for Scientific Research in the Amazon SINCHI — *Bogotá, Colombia*

Contractor - GIS Specialist — *Sept. 2011 - Dec. 2011*

- Supported the modeling of deforestation projections in the Colombian Amazon through spatial analyses with vector and raster data.

National Coffee Research Center CENICAFÉ — *Bogotá, Colombia*

Contractor - GIS Specialist — *Sept. 2010 - Dec. 2010*

- Conducted biological data analysis in support of the development of conservation strategies in coffee plantations.

Pontificia Universidad Javeriana — *Bogotá, Colombia*

Research assistant — *Sept. 2009 - Sept. 2010*

- Processed species occurrence data and other spatial datasets in support of the modeling of biological invasions in the Andean region.

National Institute for Scientific Research in the Amazon SINCHI — *Bogotá, Colombia*

Paid internship — *Aug. 2008 - Sept. 2008*

- Visually interpreted two Landsat images following the European CORINE Land Cover methodology adapted to Colombia.

Skills

Programming Python, R, bash scripting, JavaScript for Google Earth Engine
Software QGIS 3.x, ArcGIS Desktop 10.x, ENVI 5.x, IDRISI, GDAL Utilities, LaTeX.
Languages Spanish (Native), English.

Teaching experience

Pontificia Universidad Javeriana *Bogotá, Colombia*
Adjunct professor *Jan. 2012 - May 2014*
Course: Introduction to Geographic Information Systems and spatial analysis.

- Taught full course to undergraduate and Master's degree students.
- Developed lectures and lab exercises conducted in proprietary and open source software (ArcGIS, QGIS).

Presentations & Memberships

AGU Fall meeting 2018 *Washington, DC*
Poster presentation: "Spatial Representation of Errors in Remote Sensing-based Maps: Test Application to Maps of Land Category Conversions in the Colombian Amazon." *Dec. 2018*

ForestSAT 2018 *College Park, MD*
Oral presentation: "Implications of errors in remote sensing-based maps on models of carbon emissions." *Oct. 2018*

AGU Fall meeting 2017 *New Orleans, LA*
Poster presentation: "Estimating Unbiased Land Cover Change Areas In The Colombian Amazon Using Landsat Time Series And Statistical Inference Methods." *Dec. 2017*

Pecora20 2017 conference *Sioux Falls, SD*
Oral presentation: "Using Time Series and Statistical Inference Methods to Estimate Unbiased Land Cover Change Areas in the Colombian Amazon." *Nov. 2017*

AAG Annual meeting 2017 *Boston, MA*
Oral presentation: "Obtaining unbiased area estimates of land cover change: application in the Colombian Amazon." *Apr. 2017*

Landsat Science Meeting *Boston, MA*
Oral presentation: "Obtaining unbiased area estimates for a MRV prototype: application in the Colombian Amazon." *Jan. 2017*

AGU, AAG
Student member. *2016 -*

Publications

Peer-reviewed

Arévalo, P., Olofsson, P., Woodcock, C., 2019 (In press). Continuous monitoring of land surface activities and post-disturbance dynamics from Landsat time series: a test methodology for REDD+ reporting. https://doi.org/10.1016/j.rse.2019.01.013. *Remote Sensing of Environment*.

Forthcoming

Stanimirova, R., Arévalo, P., Kaufmann, R., Maus. V., Lesiv, M., Havlik, P., Friedl, M., 2019. Sensitivity of global pasturelands to climate variation and human management. *In review (Global Change Biology).*

Arévalo, P., Woodcock, C., Olofsson, P., 2019. Spatial representation of errors in maps of land change. *In preparation.*

Non peer-reviewed

González, J., Arias, M., Cubillos, A., Arévalo, P. Modelación espacial de la deforestación en el bioma amazónico colombiano. In: Mas, J.-F. (ed.), 2017. Análisis y modelación de patrones y procesos de cambio. Universidad Nacional Autónoma de México, Ciudad de México. ISBN 978-607-02-9687-1.

Etter, A., Andrade, A., Amaya, P., Arévalo, P., 2015. Red list of terrestrial ecosystems of Colombia (In Spanish). In Gómez, M.F.,

Moreno, L.a., Andrade, G.i. y Rueda, C. (eds.). Biodiversidad 2015. Estado y tendencias de la biodiversidad continental de Colombia. Instituto Alexander von Humboldt. Bogotá, D.C., Colombia

Etter, A., Amaya, P., Arévalo, P., 2015. Forests, grasslands and páramos: fifty years of transformation in Colombian ecosystems (In Spanish). In Gómez, M.F., Moreno, L.a., Andrade, G.i. y Rueda, C. (eds.). Biodiversidad 2015. Estado y tendencias de la biodiversidad continental de Colombia. Instituto Alexander von Humboldt. Bogotá, D.C., Colombia

Research interests

- Time series of remote sensing data for land cover mapping and ecological applications.
- Estimation of carbon emissions from land cover change.
- Methods to improve change detection and mapping accuracy in the tropics.
- Spatial patterns of land cover change.

Referees

Dr. Curtis Woodcock
Professor, Department of Earth and Environment
Boston University. Boston MA 02215 USA
curtis@bu.edu

Dr. Pontus Olofsson
Professor, Department of Earth and Environment
Boston University. Boston MA 02215 USA
olofsson@bu.edu

Dr. Andrés Etter
Professor, Department of Ecology and Territory
Pontificia Universidad Javeriana. Bogotá, Colombia
aetter@javeriana.edu.co