

Paulo Arévalo

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Education

Boston University

PH.D. CANDIDATE IN GEOGRAPHY. DEPARTMENT OF EARTH AND ENVIRONMENT

Advisors: Pontus Olofsson, Curtis Woodcock.

Boston, MA

Sept. 2014 - Present

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

Pontificia Universidad Javeriana

B.Sc. IN ECOLOGY

Advisor: Andrés Etter.

Bogotá, Colombia

2004 - 2010

Experience

Boston University, Department of Earth and Environment

RESEARCH ASSISTANT

Boston, MA

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

RESEARCH ASSISTANT

Bogotá, Colombia

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

CONTRACTOR - GIS SPECIALIST

Bogotá, Colombia

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

CONTRACTOR - GIS SPECIALIST

Bogotá, Colombia

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

CONTRACTOR - GIS SPECIALIST

Bogotá, Colombia

Sept. 2010 - Dec. 2010

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

Pontificia Universidad Javeriana

RESEARCH ASSISTANT

Bogotá, Colombia

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

PAID INTERNSHIP

Bogotá, Colombia

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

ADJUNCT PROFESSOR

Bogotá, Colombia

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. *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

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Dr. Pontus Olofsson

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olofsson@bu.edu

Dr. Andrés Etter

PROFESSOR, DEPARTMENT OF ECOLOGY AND TERRITORY
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aetter@javeriana.edu.co