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**Universidad San Francisco de Quito, Ecuador**

Adjunct Professor, Department of Geography  
**University of North Carolina at Chapel Hill, USA**

## EDUCATION

### **University of North Carolina at Chapel Hill, USA**

Ph.D., Geography, 2007

Graduate Certificate in International Development, 2006

### **Florida International University, Miami, FL, USA**

M.Sc., Environmental Studies, 2001

### **Escuela Politécnica del Ejército, Quito, Ecuador**

Graphic and Environmental Engineer, 1999

## PROFESSIONAL EXPERIENCE

Universidad San Francisco de Quito, Ecuador

Professor, School of Biology and Environmental Sciences, 2008-Present

Co-Director, Galapagos Science Center, 2010-Present

Director, USFQ Institute of Geography, 2016

Director, Graduate Program in Tropical Ecology, 2009, 2014-2015.

University of North Carolina at Chapel Hill

Post-Doctoral Researcher, Department of Geography, Fall 2007

Teaching Fellow, Department of Geography, Fall 2006

Research Assistant, Department of Geography/ Carolina Population Center,  
2002-2007

**Florida International University.**

Research Assistant, Andean Amazon Rivers Analysis and Management Project (AARAM), 2000-2002

**EcoCiencia, Fundación de Estudios Ecológicos.** Quito, Ecuador.

Geographical Analyst, 1998-1999

**ACADEMIC HONORS**

- Leading Author, IPCC Special Report on Climate Change and Land. *Inter-governmental Panel on Climate Change - IPCC*. 2017
- Leading Author, Assessment on Adaptation Actions to Climate Change in the RIOCC countries. *Iberoamerican Network of Climate Change Offices*. 2017
- Funding Member, *Ecuadorian Association of Geographers*, 2016
- Elected Member, *Ecuadorian Academy of Sciences*, 2014
- Journal of Geography Award. Best paper in Geographical Education. *US National Council for Geographical Education*. 2015.
- Member, Steering Committee 2008-2010. *International Geographic Union, Land Use and Land Cover Commission*.
- American Society for Photogrammetry and Remote Sensing, 2009 *ESRI Award for Best Paper in Geographic Information Systems (2<sup>nd</sup> Place)*.
- Earth Systems Science Fellowship. *US National Aeronautics Space Administration (NASA)*, 2004-2007
- Pre-Doctoral Traineeship. *NIH Fogarty International Center - Carolina Population Center*, 2002-2004
- Anne U. White Fund Grant. *Association of American Geographers*, 2006
- Residency Grant. Mellon Foundation - *Carolina Population Center*, 2005
- Future Faculty Fellowship. *UNC Center for Teaching and Learning*, 2006
- Pre-dissertation Fieldwork Award. *UNC Institute Latin American Studies - The Tinker Foundation*, 2004
- NSF-IGERT Travel Grants. IGERT Program. *Carolina Population Center - National Science Foundation*, 2004-2007
- Latin America and Caribbean Scholarship, *Florida International University*, 2000-2001
- Programa de la Conservación de la Biodiversidad, *EcoCiencia, Fundación de Estudios Ecológicos*, Quito, Ecuador, 1998

## PUBLICATIONS

### BOOK SERIES

Walsh JS and **Mena CF**. Series Editors. 2013 – 2017. Social and Ecological Interactions in the Galapagos Islands. Springer Science and Business Media. New York. ISSN 2195-1055 (5 books produced).

### EDITED BOOKS

Walsh SJ and **Mena CF**, Editors (2013) *Science and Conservation in the Galapagos Islands: Frameworks and Perspectives*. Springer Science & Business Media. New York.

Torres ML and **Mena CF**, Editors (2018) *Understanding Invasive Species in the Galapagos Islands: From the Molecular to the Landscape*. Springer Science & Business Media. New York.

### PEER REVIEWED PUBLICATIONS

Rivas-Torres G, Benitez FL, **Mena CF**. (In Press). Vegetation Map of the Galápagos: An Object-Oriented classification using LANDSAT-OLI and verification by UAVs to interpret native and invasive coverage in the Ecuadorian archipelago. *Progress in Physical Geography*

Benitez FL, **Mena CF**, Zurita-Arthos L. (In Press). Urban Land Cover Change in Ecologically Fragile Environments: the case of the Galapagos Islands, *Land*

Sampedro C, **Mena CF**. (2018) Comparison of pixel-based, principal components and object-oriented image classification approaches – a case study in the Agricultural area of San Cristobal Island, Galapagos Islands, Ecuador in *Understanding Invasive Species in the Galapagos Islands: From the Molecular to the Landscape*, Torres ML and Mena CF (Editors). Springer Science & Business Media. New York.

**Mena CF**, Martínez, P, Sampedro C, Laso F. (2017). Land Change Scenarios From the Expansion of the Extractive Frontier in the Ecuadorian Amazon: Carbon Emissions and Deforestation Using Road Network And Land Use Change Simulations. *Journal of Land Use Science* 12(6):477-492.

Sellers S, Bilsborrow RE, Salinas V, **Mena CF**. (2017) Population and development in the Amazon: A longitudinal study of migrant settlers in Ecuador. *Acta Amazonica* 47(4):321-330.

Walsh SJ, Page PH, Brewington, Bradley JR, **Mena CF**. (2017). A Beach Vulnerability Framework for the Galapagos Islands: Fusion of World-View 2 Imagery, 3-D Laser Scanner Data & Unmanned Aerial Vehicles in *Comprehensive Remote Sensing: Societal Benefits*, Walsh SJ (Editor). Elsevier. Oxford, UK.

**Mena CF**, Sampedro C, Martinez PE, Encarnación A, Zambrano D. (2017). Remote Sensing of Oil Spills: Linking Community Monitoring and Satellite Image Processing in the Ecuadorian Amazon in *Comprehensive Remote Sensing: Societal Benefits*, Walsh SJ (Editor). Elsevier. Oxford, UK.

Pizzitutti F, Walsh SJ, Rindfuss RR, Reck G, Tippett R, Quiroga D, **Mena CF**. (2017). Scenario Planning for Tourism Management: A System Dynamics Simulation Approach Applied to the Galapagos Islands of Ecuador. *Journal of Sustainable Tourism* 25(8): 1117-1137

Walsh SJ and **Mena CF**. (2016). Coupled Human-Natural Systems: Interactions of Social, Terrestrial & Marine Sub-Systems in the Galapagos Islands. *Proceedings of the National Academy of Sciences PNAS*. October 10, 2016, doi: 10.1073/pnas.1604990113.

Pizzitutti, F, Pan W, Barbieri A, Miranda J, Feingold B, Guedes G, Alarcon-Valenzuela J, **Mena CF**. (2015). A validated agent-based model to study the spatial and temporal heterogeneities of malaria incidence in the rainforest environment. *Malaria Journal* 15:514

Cabrera P, **Mena CF**. (2014). Using Remote Sensing and a Cellular Automata-Markov Chains-GEOMOD model for the Quantification of the Future Spread of an Invasive Plant: A Case Study of Psidium guajava in Isabela Island, Galapagos. *International Journal of Geoinformatics* 10(3) 23-30.

Walsh SJ, Carter RW, Lieske S, Quiroga, F, **Mena CF**. (2014) Examining Threats to Iconic National Parks through Modeling Global Change, Biocomplexity, and Human Dynamics. *The George Wright Forum*, 31(3): 311–323

Lerner A, Rudel T., Schneider L, Mcdroddy M, Burbano D, **Mena CF**. (2015). The Spontaneous Emergence of Silvopastoral Landscapes in the Ecuadorian Amazon: Patterns and Processes. *Journal or Regional Environmental Change* 15 (1421).

Pizzitutti F, **Mena CF**, Walsh SJ (2014). Agent-Based Model of touristic offers reservation in the Galapagos Islands. *Journal of Artificial Societies and Social Simulation* 17(1)14.

Samonte-Tan G., Suman D, Mate J, Quiroga D, **Mena CF**, Catzim-Sanchez A, Fong P, Wang X. (2014). Governance is critical to managing coastal and marine resources: effects of marine management areas. In Nunes P.A.L.D, Kumar P,

and Dedeurwaerdere T (Editors) *Handbook on the Economics and Ecosystem Services and Biodiversity*. Edward Elgar Publishing. Oxon, UK.

Burbano D, **Mena CF**, Guarderas P, Vinueza L, Reck G (2014). Shifting Baselines in the Galapagos White Fin Fishery, Using Fisher's Anecdotes to Reassess Fisheries Management: The Case of the Galapagos Grouper in Denkinger J and Vinueza L (Eds) *The Galapagos Marine Reserve: A Dynamic Social-Ecological System*. Springer, New York, NY.

Pizzitutti F, **Mena CF**, Walsh SJ (2014). Agent-Based Model of touristic offers reservation in the Galapagos Islands. *Journal of Artificial Societies and Social Simulation* 17(1)14.

Arsel M, **Mena CF**, Pellegrini L, and Radhuber I (2014). Evolving Property Structures of Minerals: Reflections on how to Theorize 'Nationalization' in Bolivia and Ecuador' in Bavinck, M., Pellegrini, L. and Mostert, E. (eds.) *Conflict and Cooperation over Natural Resources – Conceptual Approaches*. CRC Press. Boca Raton, FL

Brewington L, Frizzelle B, Walsh SJ, **CF Mena**, and Sampedro (2014). Remote Sensing of the Marine Environment: Challenges and Opportunities in the Galapagos Islands of Ecuador in Denkinger J and Vinueza L (Eds) *The Galapagos Marine Reserve: A Dynamic Social-Ecological System*. Springer, New York.

Engie K, Walsh S.J, Brewington L, **Mena CF** (2013). Collaborative Learning & Global Education: Human-Environment Interactions in the Galápagos Islands, Ecuador. *Journal of Geography* 112(5): 179-192

Bilsborrow RE, **Mena CF**, Arguello (2012) Colombian Refugees in Ecuador: Sampling Scheme, Demographic Characteristics, and Migratory Patterns. *International Journal of Global Environmental Issues* 11(3/4): 271 - 298

**Mena CF**, Walsh SJ, Frizzelle FG, Xiaozheng Y, Malanson GP (2011) Land Use Change on Household Farms in the Ecuadorian Amazon: Design and Implementation of an Agent-Based Model. *Applied Geography* 31: 210-222.

Walsh SJ, Malanson GP, Brown DG, Messina JP, **Mena CF** (2011). Biocomplexity. In: *Handbook of Biogeography*, M. Blumler M, G. MacDonald, A. Millington, U. Schickhoff (Editors), Sage Publications, London.

Walsh SJ, McCleary A, Heumann B, Brewington L, Raczkowski E, **Mena CF**. (2010). Community Expansion and Infrastructure Development: Implications for Human Health and Environmental Quality in the Galápagos Islands of Ecuador. *Journal of Latin American Geography* 9(3): 137-159

Lu, F, Gray C, Bilsborrow RE, **Mena CF**, Erlien CM, Bremner J, Barbieri A, and Walsh SJ (2010), Contrasting Colonist and Indigenous Impacts on Amazonian Forests. *Conservation Biology* 24 (3): 881 – 885

Brondizio ES, Cak A, Caldas M, **Mena CF**; Bilborrow R, Fudemma CT, Moran EF, Batistella M, and Ludewigs T. 2010. Small Farmers and Deforestation in Amazônia. In M. Keller, M. Bustamante, J. Gash, and P. Silva Dias (eds.) *Amazônia and Global Change: A Synthesis of LBA Research*. World Scientific Publishing (American Geophysical Union, Geophysical Monograph Series 186). Pp. 117-143.

Walsh, SJ, **Mena CF**, DeHart J, Frizzelle FG (2009). Stylized environments and ABMs: educational tools for examining the causes and consequences of land use/land cover change. *Geocarto International*, 24: 1752-0762

**Mena, CF** (2008). Trajectories of Land Use and Land Cover in the Northern Ecuadorian Amazon: Temporal Composition, Spatial Configuration, and Probability of Change. *Photogrammetric Engineering and Remote Sensing* 74(6): 737-752

Walsh, SJ, Shao Y, **Mena CF**, McCleary A (2008). Integration of Hyperion Satellite Data and a Household Social Survey to Characterize the Causes and Consequences of Reforestation Patterns in the Northern Ecuadorian Amazon. *Photogrammetric Engineering and Remote Sensing* 74(6): 725-736

Walsh SJ, McCleary A, **Mena CF**, Tuttle J, Shao Y, Atkinson R, Gonzales A, (2008). Hyper-Spatial and Hyper-Spectral Remote Sensing of an Invasive Plant in the Galapagos National Park and Archipelago: Spatial Structure and Implications for Control. *Remote Sensing of the Environment* 112(5):1927-1941

Walsh SJ, Messina JP, **Mena CF**, Malanson GP, Page PH (2008). Complexity and Land Use Dynamics in the Northern Ecuadorian Amazon, *GeoForum* 39:867-878.

Rindfuss RR, Entwisle B, Walsh SJ, An L, Badenoch N, Brown DG, Deadman P, Evans TP, Fox J, Geoghegan J, Gutmann M, Kelly M, Linderman M, Liu J, Malanson G P, **Mena CF**, et al. (2008) "Land use change: complexity and comparisons" *Journal of Land Use Science* 3(1): 1 – 10

Rindfuss RR, Entwisle B, Walsh SJ, **Mena CF**, Erlie CM, Gray CL (2007). Frontier Land Use Change: Synthesis and Next Steps, *Annals of the Association of American Geographers* 97(4): 739-754

**Mena CF**, Bilborrow RE, McClain ME (2006). Socioeconomic Drivers of Deforestation in the Northern Ecuadorian Amazon. *Environmental Management* 37(6): 802-815.

**Mena CF**, Barbieri A, Walsh SJ, Erlie CM, Bilborrow RE, Lu F (2006). Pressure on the Cuyabeno Wildlife Reserve: Development and Land Use/Cover Change in the Northern Ecuadorian Amazon. *World Development* 34(10): 1831-1849.

Messina J, Walsh SJ, **Mena CF**, Delamater P (2006). Land Tenure and Deforestation Patterns in the Ecuadorian Amazon: Conflicts in Land Conservation in Frontier Settings. *Applied Geography* 26(2): 113-128.

Erlie CM, Tuttle JP, McCleary AL, **Mena CF**, Walsh SJ (2006). Complexity Theory and Spatial Models of Land Use/Land Cover Dynamics: Implications of “What if” Scenarios for Education, Land Management, and Decision-Making, *Geocarto* 21(4):67-74.

### **NON-PEER REVIEWED PUBLICATIONS (Selected)**

Melo C, **Mena CF**, Arsel M, Pellegrini L (2013). The State is dead, Long Live the State: Re-inserting the State in the Gold-mining Industry in Zamora-Chinchipec, Ecuador. CoCooN NEBE Working paper. [www.iss.nl/nebe](http://www.iss.nl/nebe)

Arsel M, **Mena CF**, Pellegrini L, Radhuber I (2013). Property Rights, nationalization and extractive industries in Bolivia and Ecuador. CoCooN NEBE Working paper. [www.iss.nl/nebe](http://www.iss.nl/nebe)

Quiroga D, **Mena CF**, Karrer L, Suzuki H, Guevara A, Murillo JC (2011). Dealing with Climate Change in the Galápagos: Adaptability of the Tourism and Fishing Sectors. In Climate Change Vulnerability Assessment of the Galápagos Islands, Larrea I and Di Carlo G (Eds.) WWF and Conservation International, USA. Pp: 81-108

Arsel M, Pellegrini L, **Mena CF**, Anda A (2011). Ecología Política de las Industrias Extractivas y el Desarrollo Dirigido por el Estado en Ecuador: Conflicto y Cooperación. FLACSO: Ventana A La Cooperacion N. 7, Febrero 2011

Echeverría H, Quiroga D, Mena C, Anda A (2011). Manual de Aplicación del derecho Penal Ambiental como Instrumento de Protección de las Áreas Naturales en Galápagos. Sea Shepherd, WWF, USFQ. Quito, Ecuador.

**Mena CF** (2011). Deforestación en el Norte de la Amazonía Ecuatoriana: del patron al proceso. *Revista Polémika* (2)5: 58-65

Frizzelle BG, Walsh SJ, Erlie CM, **Mena CF** (2004). Establishing Remote Sensing Control in a Frontier Environment: the Case of the Ecuadorian Amazon. *Earth Observation Magazine* 12 (7):20-24

Frizzelle BG, Walsh SJ, **Mena CF**, Erlie CM (2005). Land Use Change Patterns of Colonist and Indigenous groups in the Northern Ecuadorian Amazon: A Comparison of Landsat TM spectral and Spatial Analyses. Proceedings, *American Society for Photogrammetry and Remote Sensing*.

**Mena CF** (2001) Mapa de Uso de Suelo y Cobertura Vegetal del Parque Nacional Llanganates en *Biodiversidad del Parque Nacional Llanganates*, Vazquez M. (Editor). EcoCiencia. Quito

## RESEARCH GRANTS AND CONTRACTS (Selected)

**Mena CF**. 2017-2019. *Mapping Urban Vulnerability and Resilience: Water, Structural Poverty and Social Cohesion in Esmeraldas City of Ecuador*. Secondary Cities Program. US State Department and the American Association of Geographers (AAG).

Pellegrini L, Arsel M, **Mena CF**, Orta M. 2015-2017. *Behavioral Responses to Information on contaminated Drinking Water: Evidencie from the Ecuadorian Amazon*. International Initiative for Impact Evaluation (3ie) and International Institute for Social Studies.

Pellegrini L, **Mena CF**, Arsel M, Orta M. 2015-2017. *Community Monitoring of Socio Environmental Liabilities with Advanced Technologies in Ecuador and Peru*. International Initiative for Impact Evaluation (3ie) and International Institute for Social Studies.

Barbieri A, **Mena CF**, Pan W, Miranda J, 2013-2017. *LUCLA – Land Use and Infectious Disease in Western Amazon*. Inter-American Institute for Global Change Research – IAI.

Bilsborrow RE and Mena CF. 2012-2015. *Improving University Education and Research on the Ecuadorian Amazon: A New Partnership*. USAID-Initiative for the Conservation for the Andean Amazon, University of North Carolina at Chapel Hill.

Murshed SM, Arsel M, Pellegrini L, **Mena CF**, van de Schoot T, Gruenberger J. *Nationalization of natural resources, cooperation and conflict in Bolivia and Ecuador*. 2010-2015. Netherlands Organization for Scientific Research.

Walsh, SJ, **Mena, CF**, Rindfuss RR, Quiroga D, Reck G, Valle C. 2013-2014. *Tourism Growth Scenarios and Impacts in the Galapagos Islands*. Galapagos National Park & World Wildlife Fund.

**Mena CF**, Walsh SJ (2011-2012; 2016-2017). *Modelamiento de los Impactos del Turismo en Galápagos*. Ministerio del Ambiente del Ecuador y WWF.

**Mena, CF**. 2011-2013, *Impacts of Glyphosate in the Ecuadorian Amazon*. Foley and Hoag, LLC and the Ecuadorian Government.

**Mena CF**. 2012-2015. *REDD based Forest Expansion, Food Consumption, and Reduced Emissions Agricultural Policies in the Ecuadorian Amazon*. US National Academies of Science, US National Science Foundation, USAID.



**Mena CF.** 2011-2012. *Spontaneous Silvopastoral Landscapes*. Rutgers University, US National Science Foundation.

**Mena CF.** 2011-2014. *Modeling Population-Environment Interactions in a World Heritage Site: Comparison of Statistical and Agent Based Modeling Approaches to Study Complex Systems*. University of North Carolina at Chapel Hill, James S. McDonnell Foundation.

Quiroga D, **Mena CF.** 2009-2010. *Assessment of the Vulnerability of Biodiversity and Related Well Being in the Galapagos Islands to Climate Change*. Conservation International and World Wildlife Fund.

Quiroga D, **Mena CF.** 2009. *Socioeconomic Effects of Climate Change in the Galapagos Islands: An Emphasis on the Marine Resources and Marine Reserve*. Conservation International.

**Mena CF.** 2010. *Design of the Territorial Information System for Ecuador's Patrimony*. 2010. Ministry of Coordination of Patrimony of Ecuador.

**Mena CF.** 2010. *Links between Invasive Species and Agriculture Abandonment in the Galapagos Islands*. USFQ-GAIAS Internal Seed Grant.

**Mena CF.** 2010. *Review of the Cartographic Processes in the Ecuadorian Institute of Census and Statistics*. United Nations Population Fund.

**Mena CF.** 2009. *Institutional Cartography of Culture of Ecuador*. Ministry of Culture of Ecuador, Spanish Cooperation Agency.

**Mena CF.** 2009. *Design of the Environmental Information Systems for the Galapagos National Park*. Galapagos National Park.

**Mena CF.** 2008. *Systematization of Information of the Protected Forest of Ecuador: Limits and Conflicts*. Ministry of Environment of Ecuador.

## SCIENTIFIC REVIEWER

- United States National Science Foundation (NSF) - Geography and Regional Science Program
- National Secretariat of Science, Education and Technology (SENESCYT)
- Population and Environment (Editor Board)
- Geocarto International
- Journal of Environmental Management
- Journal of Earth Systems Science
- Development and Change
- Applied Geography
- Progress in Physical Geography

**PROFESSIONAL  
ASSOCIATIONS**

American Association of Geographers (AAG)

Population Association of America (PAA)

International Union for the Scientific Study of Population (IUSSP)