

# CARLOS F. MENA

Galileo 317  
Campus Cumbaya  
Universidad San Francisco de Quito  
Quito, Ecuador  
Email: cmena@usfq.edu.ec

## **Profesor/Investigador**

Colegio de Ciencias Biológicas y Ambientales  
Universidad San Francisco de Quito

## **Adjunct Professor**

Department of Geography  
University of North Carolina at Chapel Hill

### **EDUCATION: University of North Carolina at Chapel Hill**

Ph.D., Geography, 2007  
Graduate Certificate in International Development  
Dissertation: Land use trajectories in the Ecuadorian Amazon:  
socioeconomic drivers, spatial explicit modeling, and future scenarios.  
Advisor: Dr. Stephen J. Walsh

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

Master in Science, Environmental Studies Department, 2001  
Thesis: Deforestation and land use patterns in the Napo Basin  
Advisor: Dr. Michael McClain

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

Geographical and Environmental Engineer, 1999  
Thesis: Environmental Sensitivity of the Llanganates National Park

Regional specialization: Amazon, Galapagos, Ecuador, Latin America.  
Topical specialization: Human dimension of global environmental change,  
geographic information science, remote sensing, spatial analysis,  
ecosystem management, population geography.

### **PROFESIONAL EXPERIENCE: Universidad San Francisco de Quito, Ecuador** Department of Biological and Environmental Sciences Professor, January 2008-Present

University of North Carolina at Chapel Hill  
Department of Geography  
Post-Doctoral Researcher, Fall 2007

University of North Carolina at Chapel Hill  
Department of Geography  
Teaching Fellow, Fall 2006

University of North Carolina at Chapel Hill  
 Department of Geography/ Carolina Population Center  
 Research Assistant. 8/2002 to 8/2007

Florida International University.  
 Andean Amazon Rivers Analysis and Management Project (AARAM).  
 Research Assistant. 01/2000 to 08/2002

EcoCiencia, Fundación de Estudios Ecológicos. Quito, Ecuador.  
 Geographer. 07/1998 to 12/1999

Fundación Natura. Quito, Ecuador.  
 Technical Assistant. 10/1997 to 06/1998

**ACADEMIC  
 HONORS:**

- Earth Systems Science Fellowship. *National Aeronautics Space Administration* (NASA), 2004-2007, \$72,000
- Pre-Doctoral Traineeship. *NIH Fogarty International Center - Carolina Population Center*, 2002-2004, \$74,000
- Anne U. White Fund Grant. *Association of American Geographers*, 2006, \$1,000
- Residency Grant. Mellon Foundation - *Carolina Population Center*, 2005, \$12,000
- Future Faculty Fellowship. *UNC Center for Teaching and Learning*, 2006, \$500
- Pre-dissertation Fieldwork Award. *UNC Institute Latin American Studies - The Tinker Foundation*, 2004, \$1,500
- NSF-IGERT Travel Grants. IGERT Program. *Carolina Population Center - National Science Foundation*, 2004-2007, \$4,500
- Latin America and Caribbean Scholarship, *Florida International University*, 2000-2001, \$18,000
- Biodiversity Conservation Program Grant, *EcoCiencia, Fundación de Estudios Ecológicos*, Quito, Ecuador, 1998, \$1,200

**PUBLICATIONS:**

**Mena CF** (In Press). 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*.

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

Walsh SJ, **Mena CF**, Shao Y, McCleary A. (In Press) Integration of Hyperion Satellite Data and Socio-Economic Survey Data to Characterize the Pattern, Causes, and Consequences of Secondary Forest Succession in the Northern Ecuadorian Amazon, *Photogrammetric Engineering and Remote Sensing*.

Walsh SJ, Messina JP, **Mena CF**, Page P (2008). Complexity and Land Use Dynamics in the Northern Ecuadorian Amazon, *GeoForum* 38: 867-872

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: 1927–1941

Rindfuss RR, Entwisle B, Walsh SJ, **Mena CF**, Erlien CM, Gray CL (2008). Frontier Land Use Change: Synthesis and Next Steps, *Annals of the Association of American Geographers* 97(4): 739-754

**Mena CF**, Billsborrow 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, Erlien CM, Billsborrow 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.

Erlien 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.

Frizzelle BG, Walsh SJ, Erlien 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**, Erlien 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*, Baltimore, Maryland (Electronic)

**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

**Mena CF**, Walsh SJ, Billsborrow RE (In Preparation). Socioeconomic and Demographic Drivers of Secondary Forest Regeneration in the Northern Ecuadorian Amazon, *Regional Environmental Change*.

**Mena CF** (In preparation). Spatial Heterogeneity and Non-Stationarity of the Drivers of Deforestation and Agriculture Extensification.

**Mena CF** (In preparation). Linking Spatial Heterogeneity, Household Surveys, and Cellular Automata Models to Create Land Use Land Cover Scenarios.

**CONFERENCE  
OR WORKSHOP  
COORDINATION:**

Session Organizer (with C. Gray), *Conservation and Development from the Andes to the Amazon I, II, III, and IV*. Set of Sessions Organized for the Annual Meeting of the Association of American Geographers. San Francisco, California, April 21, 2007.

Workshop Organizer (with S.J. Walsh), *Geographic Information Systems and Remote Sensing for the Conservation and Sustainable Management of the Galapagos Islands*. Santa Cruz, Galapagos, June 21-22, 2006

Session Organizer (with C. Gray), *Human-Environment Studies from the Andes to the Amazon*. Session Organized for the Annual Meeting of the Association of American Geographers. Denver, Colorado, April 5-9, 2005.

Symposium Organizer (with S.J. Walsh), *Methods for the Characterization of Landscape Change*. Hotel Quito, Quito, June 6, 2005.

Workshop Organizer (with R.E. Bilborrow and B. Torres), *Agricultural Colonization in the Ecuadorian Amazon: Meetings for Farmers and Local Authorities*. Lago Agrio and Coca, Ecuador, July 2004.

**SELECTED  
PRESENTATIONS:**

**Mena CF**. "Exploring the heterogeneous nature of the drivers of deforestation and land extensification in the Northern Ecuadorian Amazon" Paper presented at the Annual Meeting of the Association of American Geographers. San Francisco, California, April 21, 2007.

**Mena CF**, Walsh SJ, Bilborrow RE, Erlien CF. "Demography and Land Use/Cover Change in the Cuyabeno and Lago Agrio in Ecuador: Implications for Development". Poster presented at the NASA Land-Cover and Land-Use Change Science Team Meeting, Maryland. April 11-13, 2006

**Mena CF**, Walsh SJ. "Demographic, Socioeconomic, and Biophysical Factors Affecting Land Use and Land Cover Change in the Northern Ecuadorian Amazon: Drivers, Statistical and Spatial Explicit Models". Paper presented at the XXV Conference of the International Union for the Scientific Study of Population, Tours, France. July 18-23, 2005.

**Mena CF**, Walsh SJ, Erlien CM. "Development and Land Use/Cover Change in the Cuyabeno Wildlife Reserve" Paper presented at the 101st Annual Meeting of the Association of American Geographers. Denver, CO. April 5-9, 2005.

**Mena CF** "Deforestation and Spatially Explicit Models for Land Change Research". Department of Geography, Appalachian State University. Boone, NC. April 19, 2006.

**Mena CF**, Walsh SJ. "Socioeconomic and Demographic drivers of Forest Succession in Northern Ecuadorian Amazon". Paper presented at the 100th Annual Meeting of the Association of American Geographers (AAG), Philadelphia, PA. March 14-19, 2004.

Barbieri AF, **Mena CF**, Erlien CM, Bilsborrow RE, and Torres B. 2003. Settler Welfare and Land Cover Change in the Ecuadorian Amazon Communities. Poster presented at the Human Dimensions of Global Change Open Meeting, Montreal, Canada. October 16-18, 2003,

**Mena CF**, Erlien CM, Walsh SJ, Bilsborrow RE, and Baquero F. "Modeling the Scale Dependent Drivers of LCLU Dynamics in Northeastern Ecuador: Population, Biophysical, and Geographical Factors." Paper presented at the 99th Annual Meeting of the Association of American Geographers (AAG), New Orleans, LA. March 4-7, 2003

**Mena CF**. 2002. "Socioeconomic Drivers of Deforestation in the Northern Ecuadorian Amazon". American Association of Geographers, South East Division (SEDAAG) Meeting, 23-26 November 2002, Richmond, VA

**Mena CF**. 2001. "Spatial Patterns, metrics, and socioeconomic factors driving deforestation in the Napo Basin of Ecuador". Open Meeting of the Human Dimensions of Global Environmental Change Research Community, October 6-8, 2001, Rio de Janeiro, Brazil

**Mena CF**, Taff G, Frizzelle B, McGregor SJ. 2000. "Integrating Geographic Information Science Techniques and Household Socio-economic Surveys of Population Environment research: A Preliminary Report." Presented at the Meeting of the Latin American Studies Association, March 16-18, Miami, Florida.

**SERVICE:** Student Representative, Committee for a Faculty Hire. Geography Department. Spring 2006

President of the Students Association, Geographical and Environmental Engineering Department. Army Polytechnic School (ESPE). 1997-1998.

**SELECTED SKILLS:**

**Software:**

Geographic Information Systems: ArcGIS (ArcView, ArcIMS, ArcSDE), TNTmips, Ustation

Remote Sensing: Erdas, Envi, IDL

Statistics: S-plus, Stata, GeoDa, GWR.

Watershed Management: EPA's Basin

Web applications: Fireworks, Dreamweaver

**Languages:** Spanish (Native), English (Advanced), Portuguese (Basic)

**PROFESSIONAL ASSOCIATIONS:**

American Association of Geographers (AAG)

Population Association of America (PAA)

International Union for the Scientific Study of Population (IUSSP)

**REFERENCES:**

Dr. Stephen J. Walsh  
Professor, Department of Geography  
University of North Carolina at Chapel Hill  
Chapel Hill, NC 27599-3220  
919-962-3867  
swalsh@email.unc.edu

Dr. Richard E. Bilsborrow  
Research Professor, Department of Biostatistics  
University of North Carolina at Chapel Hill  
Chapel Hill, NC 27516-3997  
919-966-1738  
richard\_bilsborrow@unc.edu

Dr. Flora Lu  
Assistant Professor, Department of Anthropology  
University of North Carolina at Chapel Hill  
Chapel Hill, NC 27599-3115  
919-962-3916  
flora@email.unc.edu