

Mercy J. Borbor Córdova, Ph.D.

Escuela Superior Politecnica del Litoral

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PERSONAL INFORMATION

Birth place: Guayaquil, Ecuador
Citizenship: Ecuador
Home address: Panorama, Mz C Villa 26, Duran.
Phone number: 593 994082373
E-mail: meborbor@espol.edu.ec

PROFESSIONAL EXPERIENCE

- 2013** - **Associate Professor at Escuela Superior Politecnica del Litoral (ESPOL).** Faculty of Marine Sciences, Biology & Oceanic Sciences. Courses: Climate Change Adaptation, Climate & Health, Physical Oceanography, Pollution, and Water resources Seminars.
- Current**
- 2013** - **National Research Coordinator** at Ecuador. Global Health Center and Translational Science, Upstate Medical University – State University of New York. To Coordinate Research program of infectious diseases in Ecuador.
- 2014**
- 2010** - **Deputy Minister of Environment of Ecuador.** Implementing national environmental policy in territory, working with provinces and other institutions. Directed the Climate Change Inter-sectorial Committee; lead the National Strategy for Climate Change.
- 2013**
- 2009** - **Province Director** at the National Risk Management Secretary, Ecuador.
- 2010** To Lead actions to prevent and mitigate the impacts caused by natural and anthropogenic hazardous events at Regional and National level in Ecuador.
- 2006** - **Postdoctoral Researcher & Visiting Scientist** at the National Center for Atmospheric Research at the Integrated Science Program and Climate Services. Collaboration in research and policy-science projects in Latin America.
- 2009**
- 2007** **Associate Researcher** at the Instituto Antartico Ecuatoriano. Participation at international forums (California, USA, August. 2007. and St Petersburg, Russia. July 2008, Argentine 2012). Participation in two Antarctic expeditions, 2007, 2008.
- Current**
- 2004** **Chief of Environmental Control Department** of Guayaquil-Ecuador. Supervised and directed the establishment and enforcement of standards for environmental quality compliance of the industries in Guayaquil, a city of 2.8 million people.
- 2006**
- 2002** **Researcher SUNY ESF** “*Modeling Ecological and Economic effects of Land Use and Nutrient Inputs in the Guayas Watershed:Ecuador*”. The SUNY Research Foundation. (Doctoral Research) and cofounded by Inter American Institute for Global Change Research (IAI).
- 2004**
- 2001** **Environmental Health and Safety (EHS) Intern. Bristol-Myers Squibb Cia.**, Syracuse, NY.
- 2000** **Director of a Community Services Program. Spanish Action League** of Onondaga County. Syracuse, NY.
- 1999** **Geographic Information System (GIS) Assistant.** Atlantic State Legal Foundation. “Spatial distribution of PCB’s and Mercury in Onondaga Lake”. Syracuse, New York.
- 1986-1996** **Lecturer at the Faculty of Marine Sciences, Escuela Superior Politecnica del Litoral**

EDUCATION

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- 2000 – 2005** **Ph.D. Environmental Sciences.** State University of New York College of Environmental Science and Forestry (SUNY-ESF), Syracuse, NY, USA.
- 1997 – 1999** **M.Sc., Environmental Sciences.** (SUNY-ESF), Syracuse, NY, USA.
- 1978 – 1986** **B. A., Architecture.** Universidad Laica Vicente Rocafuerte, Guayaquil, Ecuador.
- 1978 – 1985** **B. Sc., Oceanography.** Escuela Superior Politecnica del Litoral, Guayaquil, Ecuador.

LANGUAGES : Spanish - English.

Chapter in Books

1. **Mercy J. Borbor-Córdova**, Efraín Beltrán Ayala, Washington B. Cardenas, Timothy Endy, Julia L. Finkelsteien, Christine A. King, Renato Leon, Ángel G. Muñoz, Raúl Mejía, Mark E. Polhemus, G. Cristina Recalde-Coronel, Sadie J. Ryan, Anna M. Stewart-Ibarra. CLIMATE SERVICES FOR HEALTH Improving public health decision-making in a new climate. Cases Study 5.C: Vector-virus microclimate surveillance system for dengue control in Machala, Ecuador. WHO/WMO. (2016). Eds. J.Shumake-Guillemot and L. Fernandez-Montoya. Geneva. © World Meteorological Organization and World Health Organization, 2016 (DOI pending).
2. Patricia Romero-Lankao, Hua Qin, Sara Hughes, **Mercy Borbor-Cordova** and Melissa Haeffner, (2012). Urban Vulnerability and Adaptation to the health Impacts of Air pollution and Climate extremes in Latin American Cities. Chapter 10 in Book .Urban Areas and Global Climate Change Research in Urban Sociology, Volume 12, 247–274. Emerald Group Publishing Limited.
3. Romero Lankao, **Mercy Cordova Borbor**, Eduardo Behrenz and Laura Dawidowski. Urban risk and vulnerability: insights and lessons from Latin American cities. *Chapter 6 in Book: A Changing Environment for Human Security Transformative Approaches to Research, Policy and Action.* Edited by Linda Sygna, Karen O'Brien, Johanna Wolf. Routledge – 2014 – 468 pages
4. **Borbor Mercy et al.** in the book edited by Martinelli L. and Robert Howarth (Eds.) Nitrogen Cycling in the Americas: Natural and Anthropogenic Influences and Controls. Springer 2006.

Peer Review Journals

5. Rachel Lowe, Anna M. Stewart-Ibarra, Desislava Petrova, Markel García-Díez, **Mercy J. Borbor-Cordova**, Raul Mejía, Mary Regato, Xavier Rodó. **Climate services for health: predicting the evolution of the 2016 dengue season in Machala, Ecuador.** Accepted at The Lancet Planetary Health on June 2017.
6. Ryan Nightingale, Catherine Lippi, Sadie J. Ryan, **Mercy J. Borbor-Cordova**, Marilyn Cruz B, Fernando Ortega, Renato Leon, Egan Waggoner, Anna M. Stewart-Ibarra: **Dengue fever and Aedes aegypti risk in the Galápagos Islands, Ecuador.** Submitted to PLOS ONE, on May 2017
7. Catherine A. Lippi, Anna M. Stewart-Ibarra , Ángel G. Muñoz, **Mercy J. Borbor-Cordova**, Raúl Mejía, Keytia Rivero, Katty Castillo, Washington Cárdenas, Sadie J. Ryan. **The social and spatial ecology of dengue presence and burden during an outbreak in Guayaquil, Ecuador, 2012.** Submitted BMC Infectious Diseases, Nov 2016.
8. Erica C. Tauzer, **Mercy Borbor-Cordova**, Susana Del Granado, Carol Franco, Carlos Medina, Jhoyzette P. Mendoza, Telmo de la Cuadra , Anna M. Stewart Ibarra. **A multi-scalar operational research framework using hazard and vulnerability indicators to inform flood risk management and the development of Early Warning Systems for Floods in urban coastal communities.** Submitted to Global Environmental Change, Nov 2016.
9. Luis E. Escobar, Daniel Romero Alvarez, Renato Leon, Manuel A. Lepe-Lopez, Meggan E. Craft, **Mercy J. Borbor-Cordova**, and Jens Christian Svenning. **Underappreciated Benefits of Climate Change: Declining Prevalence of Disease Vectors in the Tropics.** Scientific Reports, Dic 2016. DOI 10.1038.

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10. Lovette J., Hamilton S., **Borbor-Cordova M.**, Lorenzoni I., Millones M. **The carbon holdings of northern Ecuador's mangrove forest, 2016.** *Annals of the American Association of Geographers*. *Annals of the American Association of Geographers*, DOI: 10.1080/24694452.2016.1226160
11. Handel, A. S., Ayala, E. B., **Borbor-Cordova, M. J.**, Fessler, A. G., Finkelstein, J. L., Espinoza, R. X. R., ... & Stewart-Ibarra, A. M. **Knowledge, attitudes, and practices regarding dengue infection among public sector healthcare providers in Machala, Ecuador.** *Tropical Diseases, Travel Medicine and Vaccines*, 2(1), 1. (2016).
12. Molina, L. T., Gallardo, L., Andrade, M., Baumgardner, D., **Borbor-Córdova, M.**, Bórquez, R., ... & Huneus, N. (2015). **Pollution and its Impacts on the South American Cryosphere.** *Earth's Future*, 3(12), 345-369.
13. Stewart Ibarra AMS, Muñoz ÁG, Ryan SJ, **Borbor-Cordova MJ**, Beltran Ayala E, Finkelstein JL, Mejía R, Ordoñez T, Recalde-Coronel GC, Rivero K: **Spatiotemporal clustering, climate periodicity, and social-ecological risk factors for dengue during an outbreak in Machala, Ecuador, in 2010.** *BMC Infect Diseases* 2014, 14:610
14. Stewart Ibarra AM, Luzadis VA, **Borbor-Cordova M**, Silva M, Ordoñez T, Beltran Ayala, Efrain, Ryan SJ: **A social-ecological analysis of community perceptions of dengue fever and *Aedes aegypti* in Machala, Ecuador.** *BMC Public Health* 14:1135.
15. Patricia Romero-Lankao; Hua Qin, **Mercy Borbor-Cordova.** **Exploration of health risks related to air pollution and temperature in three Latin American cities.** 2012. *Social Science and Medicine*. [Volume 83](#), April 2013, Pages 110–118
16. Patricia Romero-Lankao, **Mercy Borbor-Cordova**, Rosana Abrutsky, Griselda Gunther, Eduardo Behrenz, Laura Dawidowsky. **ADAPTE: A tale of diverse teams coming together to do issue-driven interdisciplinary research.** *Environmental Science and Policy*. [Volume 26](#), February 2013, Pages 29–39.
17. **Borbor Cordova M.**, Boyer E.W. , McDowell W.H., Hall A.S. 2006. **Nitrogen and Phosphorus Budgets for a Tropical Agricultural Watershed: Guayas, Ecuador.** *Biogeochemistry* Vol 79, pp 135-161.

Other Publications

18. Del Granado S, Stewart-Ibarra A, **Borbor-Córdova M**, Franco-Bellini C, Romero M, Tauzer E. (2016). **Sistemas de alerta temprano para inundaciones: Análisis Comparativo de tres países Latinoamericanos.** Serie de documentos en Desarrollo, INESAD, Bolivia.
19. **Borbor M.** and Barriga A. (2007). "Integración de Salud, Ambiente y Comunidad para Evaluar la Calidad del Aire y Establecer políticas Municipales". Final Technical Report to the IDRC and Fiocruz. August, 2007.
20. **Borbor M.**, Brito T., Montone R., Gagliuffi P., Riofrio M. (2007). The International Symposium on Antarctic Earth Science (ISAES). (Papers proceedings ISAES X). "An international effort to manage and monitor Admiralty Bay (ASMA 1), King George Island, Antarctica". Sta Barbara, California, August 25-31.
21. Ecuador Antártico, Abril 2007. Año 2 –No. 2. Zona Antártica Especialmente Administrada (ZAEA No 1) Publicación Oficial del Instituto Antártico Ecuatoriano

AWARDS and FELLOWSHIPS

2017	Recipient of Geohealth Fogarty Fellowship for Summer School in Environmental Health at the Universidad de Chile, Santiago de Chile. January
2006-2008	NCAR/IAI postdoctoral appointment in the Study Advance Study Program
2007	Fellowship for Summer School 2007: "Strategies to react to Global Change Impacts on Land Use in Latin America", Gottingen – Germany, by the InterAmerican Institute for Global Change

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	Research.
2000-2002	Fellowship State University of New York College of Environmental Science and Forestry, for Ph.D. Program

- Inter American Institute for Global Change Research Award for the Small Grant Project I, SGP –31, 2002-2004 to develop the dissertation research.
- Research and Teaching Fellowship to study in the doctorate program at the College of Environmental Science and Forestry at the State University of New York. 2000 – 2002.
- Awarded a Fulbright Scholarship to obtain a master degree in US, 1997- 1999.

RESEARCH

- Co-Investigator, *“Development of a health-climate spatio-temporal modeling framework for the Caribbean”*, current project funded by USAID , 2017, 70K US dollars.
- Principal Investigator *“Climate Variability Interaction and recurrence of Harmful Bloom algae, and their impact in human health along an estuarine - coastal gradient”*. 2015-2017. Transdisciplinary project Funded by ESPOL , 96K US dollars.
- Co-Investigator *“Descripción de las larvas del cangrejo rojo de manglar, Ucides occidentalis, su distribución en el Golfo de Guayaquil (Reserva de Producción Faunística Manglares El Salado y Reserva Ecológica Manglares Churute) y otras áreas, el potencial impacto del cambio climático y modificación del hábitat en estas etapas iniciales”*. 2016 – 2017, Group Project funded by ESPOL, 40K US dollars.
- Co-Investigator: *“Developing an operational research framework to assess local flood response capacities: A case study of a rural coastal community in Ecuador”*, 2014-2015. Funded by IAI and SUNY Upstate Medical University, 40K Us dollars.
- Researcher & country coordinator *“Strength Capacity Strengthening in Ecuador: Partnering to improve surveillance of febrile vector-borne diseases”* Funded by Global Emergency Surveillance (GEIS). 2013-2016 extended to 2018, 800K US dollars.
- Co investigator *“Adaptation to the health impacts of air pollution and climate extremes in Latin American cities. (ADAPTE)”*. Research on 4 megacities in Latin America; México City, Bogotá, Santiago de Chile, and Buenos Aires. Funded by IAI, NCAR 2007 – 2008. 75K US dollars.
- Co-Investigator *“Estimation of Biogenics Emissions on the Magdalena District, Colombia”* Funded by COLCIENCIA, Institution: Universidad de Magdalena, 2010-2011; Objetivo: Develop a database of native vegetation their emission factors, and estimation of VOCs emissions from natural vegetation.
- Principal Investigator *“Integración de Salud, Comunidad y Ambiente para evaluar la calidad del aire y establecer Políticas Municipales en Areas Urbanas de la Ciudad de Guayaquil”*. Ecohealth Project Funded by the International Development Research Center of Canada, and the National Center for Atmospheric Research (NCAR). 2006 -2007, 50K US Dollars.
- Co-Principal Investigator *“Modeling how land use change affects the nutrient Budget in the Guayas Watershed: Ecological and Economic Implications”*, funded by the Inter American Institute for Global Change Research (IAI). SUNY –ESF 2003-2005
- Principal Investigator *“Circulación y Oxigenación en Piscinas camaroneras”* funded by Consejo nacional de Universidades y Escuelas Politécnicas. ESPOL 1993

SCIENTIFIC COMMITTEES & APPOINTMENTS

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- Ecuadorian Delegate to the Antarctic Committee for Environmental Protection, Antarctic Treaty (Bulgaria, 2015).
- Ecuador delegation, Ministry of Environment to the COP of Climate Change. Doha, Qatar 2012 .
- Ecuador Head of delegation to the 12th Especial Session to the Global Forum of Ministry of Environment – United Nations, Nairobi, Kenia, 2012
- Ecuadorian Delegate to the Antarctic Committee on Environmental Protection Meeting, Antarctic Treaty. Buenos Aires, Argentina 2010
- Mentor, NCAR Significant Opportunities in Atmospheric Research (SOARS) program (2007-2008).
- Member of the Integrated Science Program team to develop a scientific interdisciplinary research agenda on Climate Change Impacts at NCAR. 2007.
- Co-chair, SCAR/IASC - Open Science Conference People and Resources at the Poles – General Session, St Petersburg, Russia, July 2008.
- Member, Scientific Committee Antarctic Research-Action Group on Antarctic Fuel Spill (AGAFS), 2007.