

Juan D. Restrepo, Ph.D.

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Juan Darío Restrepo holds a PhD from the Marine Science Program at University of South Carolina. Following on from his PhD, Dr Restrepo has continued to carry out research in environmental oceanography of deltas, estuaries, and coastal lagoons waters, with focus on the factors controlling water discharge, sediment load, and dissolved load to the ocean from the Pacific and Caribbean rivers of Colombia. His research focuses on improving the understanding of the natural and anthropogenic causes affecting denudation rates and sediment transport to the Caribbean Sea from the largest fluvial system of Colombia, the Magdalena River. He has been head of the Magdalena River Science Initiative in Colombia, and is currently a full professor of Geological Sciences at EAFIT University, Colombia. Professor Restrepo has been involved as a resource scientist for the sub-programs of LOICZ-IGBP Basins, SAmBas (South American Basins) and CariBas (Caribbean Basins), as a member of the Scientific Steering Committees of LOICZ-IGBP and Colciencias (Colombia) in the Marine Science Program, and also, as a consultant of the International Water Project (United Nations University and Global Environmental Fund-GEF). He is one of the co-authors in the Coastal Communities and Systems and Caribbean Assessment Chapters of the Millennium Ecosystem Assessment (MA) and a visiting professor of the European Union in the Erasmus Mundus master program “Water and Coastal Management”. Currently, he is a visiting professor at University of Texas at Austin (2011-2014), a visiting scientist at University of Colorado at Boulder (2009-2014), member of the Colombian Academy of Sciences and coordinator of the Master Program in Earth Sciences at EAFIT University.

Education

Ph.D. 2001, in Marine Science-Coastal Oceanography. University of South Carolina, Columbia, SC, USA.

B.A., 1987, in Marine Biology. Universidad Jorge Tadeo Lozano, Bogotá, Colombia.

Research Interest

Natural and anthropogenic factors controlling sediment fluxes to the ocean from the Pacific and Caribbean Basins of Colombia; the impact of fluvial discharge on coastal ecosystems; hydrology of coastal lagoons, estuaries, and coastal waters; hydrological processes in tropical drainage basins with focus on water discharge, sediment load, and ENSO controlled interannual variability; ecology of mangrove and coral reef systems; satellite remote sensing applications to drainage basin processes.

Professional Experience

1987-1990: *Associate Researcher*, Naval Oceanographic Institute (CIOH), Cartagena, Colombia. Extensive research on coral reefs ecosystems with focus on morphology, ecological mapping, and remote sensing applications.

1991-1993: *Associate Researcher* on the project titled “Atlas of Global Evaluation on Aquaculture Potential using Satellite Images: Pacific Coast of Colombia” (Grant EAFIT University, European Union-EU, and Fisheries Institute of Colombia).

1993-1995: *Principal co-investigator* on the San Juan Delta Project (Phase 1), Pacific Coast of Colombia (Grant Inter-American Development Bank-IDB-COLCIENCIAS).

1997-2000: *Principal co-investigator* on the San Juan Delta Project (Phase 2), Pacific Coast of Colombia (Grant IDB-COLCIENCIAS).

1993-2001: *Assistant Professor*, Dept. of Geological Sciences, EAFIT University, Medellín, Colombia.

2000-2005: *Resource scientist* for the sub-programs of IGBP-LOICZ Basins, SAmBas (South American Basins) and CariBas (Caribbean Basins).

2002-2006: *Associate Professor*, Dept. of Geological Sciences, EAFIT University, Medellín, Colombia.

2003-2006: *Lead Author and Fellow of the Millennium Ecosystems Assessment (MA, United Nations)*, Chapter 25-Coastal Ecosystems and Coastal Communities.

2003-2006: *Principal co-investigator* on the Magdalena River Project, Colombia (Grant IDB-COLCIENCIAS-CORMAGDALENA).

2003-2006: *Research Evaluation*, COLCIENCIAS panels 2003-2006 (National Program of Marine Science).

2002-present: *Coordinator of the Graduate Program in Earth Sciences, Dept. of Geological Sciences, EAFIT University, Medellín, Colombia.*

2003-2009: *Member of the COLCIENCIAS Scientific Steering Committee (National Program of Marine Science).*

2003-2009: *Member of the IGBP-LOICZ Scientific Steering Committee.*

2006-2009: *Visiting professor of the European Union-Erasmus Mundus Program in the Master in Water and Coastal Management. University of Cádiz (Nov/2006), University of Plymouth (March/2007), University of Algarve (2008).*

2006-2009: *Principal co-investigator on the Morphodynamics of the Mira River delta Project, Pacific coast of Colombia (Grant COLCIENCIAS-Colombian Navy).*

2009-2011: *Principal co-investigator on the Morphodynamics of the Patía River delta Project, Pacific coast of Colombia (Grant COLCIENCIAS-Colombian Navy).*

2013-2014: *Scientific coordinator of the Environmental Base Line of Barú Island-Colombian Caribbean, a project run by Ecoral and financed by Argos Group.*

2014-2017: *Scientific director of the BASIC project, Basin Sea Interactions with Communities, Cartagena-Colombia, a project run by Eafit and los Andes universities and funded by IDRC-International Development Research Center of Canada.*

USA

1993: Visiting scientist, Earth Data Analysis Center, University of New Mexico-NASA, Albuquerque, New Mexico.

2009: Visiting Scientist, Community Surface Dynamics Modeling System-CSDMS, University of Colorado, Boulder, January-April 2009.

Present

- *Full Professor, Dept. of Geological Sciences, EAFIT University.*
- *Coordinator of the Graduate Program in Earth Sciences, Dept. of Geological Sciences, EAFIT University.*

Publications: total 56 journal papers and scientific reports, books, including:

Selected publications 2000-2014

Latrubesse, E., Restrepo, J.D., 2014. Sediment yield along the Andes: continental budget, regional variations and comparisons with other basins from orogenic mountain belts. *Geomorphology* 216, 225-233.

Parra, A.S., Restrepo, J.D., 2014. El colapso ambiental en el río Patía, Colombia: variaciones

- morfológicas y alteraciones en los ecosistemas de manglar. *Journal of Latin American Aquatic Research* 42, 40-60.
- Restrepo, J.D., 2013. The perils of human activity on South American deltas: lessons from Colombia's experience with soil erosion. **En: *Deltas: Landforms, Ecosystems and Human Activities***. Proceedings of HP1, IAHS-IAPSO-IASPEI Assembly, Gothenburg, Sweden, July 2013 (**IAHS Publ. 358, 2013**).
- Blanco, J.F., Restrepo, J.D., 2012. An Erosion Hotspot in the Southwestern Caribbean (Urabá, Colombia): Natural and human induced drivers. *Ambio: A Journal of the Human Environment* (aceptado con cambios menores).
- Restrepo, J.D., López, S.A., Monroy, C.A., 2012 (aceptado con cambios menores). Natural dynamics of a tropical pristine delta, Mira River, Pacific coast of Colombia. *Global and Planetary Change*.
- Restrepo, J. D., 2012. Assessing the effect of sea-level change and human activities on a major delta on the Pacific coast of northern South America: The Patía River. *Geomorphology*, doi:10.1016/j.geomorph.2012.02.004
- Restrepo, J.D., Kettner, A., 2012. Human induced discharge diversion in a tropical delta and its environmental implications: the Patía River, Colombia. *Journal of Hydrology* 424–425 (2012) 124–142.
- Restrepo, J.D., Cantera, J.R., 2011. Discharge diversion in the Patía River delta, Pacific of Colombia: Geomorphic and ecological consequences for mangrove ecosystems. *Journal of South American Earth Sciences* (2011), doi:10.1016/j.jsames.2011.04.006.
- Restrepo, J.D., Alvarado, E., 2011. Assessing Major Environmental Issues in the Caribbean and Pacific Coasts of Colombia, South America: An Overview of Fluvial Fluxes, Coral Reef Degradation, and Mangrove Ecosystems Impacted by River Diversion. In: Wolanski E and McLusky DS (eds.) *Treatise on Estuarine and Coastal Science*, Vol 11, pp. 289–314. Waltham: Academic Press.
- Kettner, A., Restrepo, J.D., Syvitski, J.P.M., 2010. Simulating spatial variability of sediment fluxes in an Andean drainage basin, the Magdalena River. *Journal of Geology*, **118: 363-379**.
- Restrepo et al., 2010. Robert G. Brakenridge, John W. Day Jr., Liviu Giosan, Mark T. Hannon, Philip R. Hill, W. Gregory Hood, Ilan Kelman, Albert J. Kettner, Hartwig H. Kremer, Robert Nicholls, Chris Paola, Juan D. Restrepo, Yoshiki Saito, Alex de Sherbinin, Charles Simenstad, Charles J. Vörösmarty, Juergen Weichselgartner, 2010. *Dynamics and Vulnerability of delta systems. LOICZ-IGBP Reports and studies No. 35*. Geesthacht, Germany.
- Restrepo, J.D., López, S.A., Restrepo, J.C., 2009. Geomorphic factors controlling sediment yield in the Andean rivers of Colombia. *Latin American Journal of Sedimentology and Basin Analysis*, **16: 79-92**.
- Restrepo, J.D., López, S.A., Monroy, C.A., (accepted with minor changes) Natural dynamics of a tropical pristine delta, Mira River, Pacific coast of Colombia. *Global and Planetary Change*.
- Restrepo, J.D., **2008**. Applicability of LOICZ Catchment-Coast Continuum in a Major Caribbean Basin: The Magdalena River, Colombia", Basin: Magdalena River, Colombia. *Estuarine, Coastal and Shelf Science* **77,214-229**.
- Restrepo, J.D., López, S.A., **2008**. Morphodynamics of the Pacific and Caribbean Deltas of Colombia. *Journal of South American Earth Sciences* **25, 1-21**.

- Restrepo, J.D., Syvitski, J.P.M., **2006**. Assessing the Effect of Natural Controls and Land Use Change on Sediment Yield in a Major Andean River: The Magdalena Drainage Basin, Colombia. ***Ambio: a Journal of the Human Environment*, 35:44-53.**
- Restrepo, J.D., Kjerfve, B., Restrepo, J.C., Hermelin, M., **2006**. Factors Controlling Sediment Yield from a Major South American Drainage Basin: The Magdalena River, Colombia. ***Journal of Hydrology*, 316:213-232.**
- Restrepo, J.D., Zapata, P., Díaz, J.M., Garzón, J., García, C., **2006**. Fluvial Fluxes into the Caribbean Sea and their Impact on Coastal Ecosystems: The Magdalena River, Colombia. ***Global and Planetary Change*, 50:33-49 .**
- Restrepo, J.C., Restrepo, J.D., **2005**. Efectos Naturales y Antrópicos en la Producción de Sedimentos en la Cuenca del Río Magdalena. ***Revista Academia Colombiana de Ciencias Físicas, Exactas y Naturales*, 29:239-254.**
- Tundi Agardy and Jackie Alder LAs: Paul Dayton, Sara Curran, Adrian Kitchingman, Matthew Wilson, Alessandro Catenazzi, Juan Restrepo, Charles Birkeland, Steven Blaber, Syed Saifullah, George Branch, Dee Boersma, Scott Nixon, Patrick Dugan, Charles Vörösmarty, **2005**. **Chapter 24: Coastal Systems and Coastal Communities. Millennium Ecosystems Assessment, United Nations, Cambridge University Press.**
- Restrepo, J.D., Kjerfve, B., **2004**. Hydrochemical Aspects of Major Pacific and Caribbean Rivers of Colombia. *In*: Lacerda, L.D., Santelli, R.E., Duursma, E. & Abrao, J.J. (eds.), ***Facets of Environmental Geochemistry in Tropical and Subtropical Environments*. Springer Verlag, Berlin.**
- Restrepo, J. D., Kjerfve, B., **2002**. San Juan River Delta, Colombia: Tides, Circulation, and Salt Dispersion. ***Continental Shelf Research*, 22:1249-1267.**
- Restrepo, J.D., Kjerfve, B., Correa, I.D. & J.L. Gonzalez, **2002**. Morphodynamics of a High Discharge Tropical Delta, San Juan River, Pacific Coast of Colombia. ***Marine Geology*, 192:355-381.**
- Kjerfve, B., Restrepo, J.D., **2002**. River Discharge and Sediment Load Variability in South America. *In*: Kjerfve, B., Kremer, H., Salomons, & Crossland, J.M. (eds.), ***South American River Catchment/Coastal Zone, Interactions and Human Dimensions*. LOICZ-IGBP Report No.22, pp 87-91.**
- Kjerfve, B., Wiebe, W., Restrepo, J.D., Kremer, H., Salomons, W., **2002**. CariBas – The Caribbean Basins Perspective. *In*: Kjerfve, B., Kremer, H., Salomons, W., Crossland, J.M. (eds), ***CariBas – Activities in River Catchments and their Impacts on Coastal Systems in the Caribbean*. LOICZ-IGBP Report No.23, pp 3-28.**
- Restrepo, J.D., Kjerfve., **2002**. River Discharge, Sediment Load, and Sediment Yield Estimates for the Magdalena River and Other Caribbean Rivers of Colombia: Environmental Implications. *In*: Kjerfve, B., Kremer, H., Salomons, W., Crossland, J.M. (eds.), ***CariBas – Activities in River Catchments and their Impacts on Coastal Systems in the Caribbean*. LOICZ-IGBP Report No.23.**
- Restrepo, J.D., Kjerfve., **2000**. Water and sediment discharges from the western slopes of the Colombian Andes with focus on Rio San Juan. ***Journal of Geology*, 108:17-33.**
- Restrepo, J.D., Kjerfve, B., **2000**. Magdalena River: Interannual variability (1975-1995) and revised water discharge and sediment load estimates. ***Journal of Hydrology*, 235:137-149.**

Books

- Restrepo, J.D. & Cantera, J.R. (Editores), 1995-1996.** Delta del Río San Juan y Bahías de Málaga y Buenaventura, **Tomos 1 y 2.** Publicaciones Universidad EAFIT; Publicaciones UNIVALLE, 569 p.
- Correa, I.D. & Restrepo, J.D. (Editores), 2002.** Geología y Oceanografía del Delta del Río San Juan, Pacífico Colombiano. Fondo Editorial Universidad EAFIT, Medellín, Colombia. 221p.(**ISBN 958-9041-93-0**).
- Restrepo, J.D. (Editor), 2005.** Los Sedimentos del Río Magdalena: Reflejo de la Crisis Ambiental. Fondo Editorial Universidad EAFIT, Medellín, Colombia. 267 p (**ISBN 958-8173-90-6**).
- Restrepo, J.D. (Editor), 2008.** Los deltas de Colombia: Morfodinámica y vulnerabilidad ante el Cambio Global. Fondo Editorial Universidad EAFIT, 279 p. (**ISBN 978-958-720-020-1**).

Awards

2014

Correspondent Member of the Academy of Sciences of Colombia.

2011-2012

Tinker Lozano Visiting Professorship of University of Texas at Austin.

2012

Best professor of the Master Program in Earth Sciences at EAFIT University (voted by graduate students in 2012).

2011

Best professor of the Master Program in Earth Sciences at EAFIT University (voted by graduate students in 2011).

2010

Best professor of the Master Program in Earth Sciences at EAFIT University (voted by graduate students in 2010).

2010-2012

Member of the Scientific Committee of the International Water Project (United Nations University and Global Environmental Fund-GEF).

2009

Best professor of the Master Program in Earth Sciences at EAFIT University (voted by graduate students in 2009).

2009-presente

Visiting scientist of the University of Colorado at Boulder, with the CSDMS Group (Community Surface Dynamics Modelling System) a modeling group directed by Professor James Syvitski.

2006

Mention of Honor-Natural and Physical Sciences Award of Colombia “Alejandro Ángel Escobar” for his research on the factors controlling erosion within the Magdalena drainage basin.

2006-2008

European Union Scholarship (Erasmus Mundus) for visiting professors in the Master in Water and Coastal Management (Universities of Cádiz, Plymouth, Algarve and Bergen, 2006-2008).

2004

GeoHost Grant, European Commission for participating in the 32nd International Geological Congress, Florence, Italy.

2003-2009

Member of the IGBP-LOICZ Scientific Steering Committee.

2003-2009

Member of the COLCIENCIAS Scientific Steering Committee (National Program of Marine Science).

2002

Millennium Ecosystems Assessment Fellowship 2002-2005 (MA, United Nations).

2001

Mention of Honor-Graduate Student Day, University of South Carolina, USA. Research Presentation: ENSO Controlled Variability in the Flow and Sediment Transport of the Magdalena River, Caribbean Coast of Colombia.

2001

Scholarship for distinguished Ph.D students at the College of Science and Mathematics, University of South Carolina, USA.

2000

Annual Research Award-EAFIT University. Project: Physical Processes in the San Juan River Delta, Pacific Coast of Colombia (Grant IDB-COLCIENCIAS, Phase II).

1997

Interamerican Development Bank - COLCIENCIAS Scholarship for Ph.D. studies. University of South Carolina 1997-2001.

1996

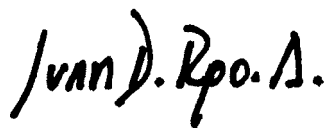
Annual Research Award-EAFIT University. Project: Physical Processes in the San Juan River Delta, Pacific Coast of Colombia (Grant IDB-COLCIENCIAS, Phase I).

1992

Lorenzo Codazzi National Award of Engineering. Project: Atlas of Global Evaluation on Aquaculture Potential using Satellite Images: Pacific Coast of Colombia (Grant European Union-EU & Fisheries Institute of Colombia).

Personal

Born in Medellín, Colombia, 8 September 1963; citizen of Colombia; languages: Spanish and English with some reading abilities in French.

A handwritten signature in black ink that reads "Juan D. Restrepo A." The signature is written in a cursive, slightly slanted style. To the right of the signature is a vertical line that extends downwards.

Juan D. Restrepo A.

Medellín, Colombia, September 2014