

## ALEXIS RIVERA-BALLESTEROS

Washington, D.C. | ariveraballester@worldbank.org | (858) 847-5354 | [LinkedIn](#) | [Github](#)

*I'm an Economist passionate about natural resources management in developing countries and interested in macroeconomics, data visualization, GIS, remote sensing, regression analysis, and statistics. I have more than six years of experience using programming and statistical analysis tools and over ten years of experience conducting economic research and project management.*

### PROFESSIONAL EXPERIENCE

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#### The World Bank Group

Washington, DC

*Office of the Chief Economist, Africa Region (AFRCE), Economist (Extended Term Consultant)*

January 2020 – present

- Support a flagship multi-partner trust fund by providing assistance with research and insights on natural resource management; cuarte structured and unstructured data transformed into more than 50 data visualizations designed to communicate research findings and striking statistics effectively;
- Contribute to the preparation of World Bank reports and research articles, including The Changing Wealth of Nations, Africa's Resource Future Regional Study, and others related to deforestation, carbon pricing, and nonrenewable natural resources;
- Assist with technical and analytical work to identify challenges of macroeconomic sustainability in African countries

*Office of the Chief Economist, Africa Region (AFRCE) Short Term Consultant*

December 2017 – January 2020

- Supported the creation and updated panel datasets with more than 10,000 panel observations and more than 50 macroeconomic, fiscal and natural resource-related variables;
- Assisted with the elaboration of maps to visualize renewable and nonrenewable natural resource geocoded data;
- Supported the elaboration of charts and slides utilized to present research findings focused on Africa and its extractive sector

*Development Impact Evaluation (DIME) Short Term Consultant*

January 2017 – June 2019

- Helped to conduct a low-cost methodology to evaluate the effectiveness of Payments for Ecosystem Services (PES) in the Sahel region using remote sensing, machine learning, and GIS;
- Contributed to the design of an offline mobile GIS solution to collect geocoded data for environmental surveys, which involved the dialogue with government officials, on-site training of a local support team, and periodical data quality checks;
- Supported the production of research pieces with data-driven insights and data visualizations

#### Big Pixel Initiative

La Jolla, CA

*Graduate Research Assistant*

January 2016 – July 2017

- Helped to implement a methodology to measure and map environmental impacts, economic activity, urban growth, and energy generation suitability in different parts of the world using remote sensing, machine learning, regression analysis, and GIS

#### Institute of the Americas and The Maritime Alliance

La Jolla, CA

*Innovation and Entrepreneurship Program Associate*

July 2016 – July 2017

- Coordinated and conducted a comprehensive survey in major Mexican cities to map the service infrastructure available for testing the technology and market potential of prototypes; helped to design the maritime and blue economy asset map of San Diego's BlueTech cluster and used ArcGIS tools to dimension the size and importance of the ocean economy of San Diego, California

#### Center for US-Mexican Studies, University of California San Diego

La Jolla, CA

*Graduate Research Assistant and Admissions Office Intern*

January 2015 – December 2016

- Cleaned and prepared panel datasets with more than ten million observations of economic and demographic data produced by the Mexican Statistics Institute and evaluated the effectiveness of public policies targeting poverty alleviation in Mexico;
- Participated in the promotion of the program in Latin American countries and helped to establish a long-term relationship between the school and foreign academic institutions

#### Center for Research and Teaching in Economics (CIDE)

Mexico City, Mexico

*Research Assistant and E-learning Manager*

February 2011 – August 2014

- Helped to manage and implement virtual professional courses using e-Learning tools for more than 200 students in different countries every year; participated in fundraising strategies while managed the budget of four projects which represented one-third of all the department's budget; published co-authored working papers and helped to organize academic international events with scholars and government officials

### EDUCATION

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#### University of California, San Diego (UC San Diego), School of Global Policy and Strategy

La Jolla, CA

*Master of International Affairs (MIA), International Economics and Data Science*

June 2016

- Quantitative Certificate: Quantitative Methods, Cost-Benefit Analysis, Program Design & Evaluation, capstone project: "Analysis of the Long-Term Effects of Cash Transfer Programs on Education in Mexico, 1990-2010" (528,270-panel observations)
- Predictive Analytics: Data Mining for Business Application, UC San Diego Extension

**National Autonomous University of Mexico (UNAM)***Bachelor of Arts (BA) in Economics*

Mexico City, Mexico

November 2009

- Major: International Economics; Minor: Chinese Studies, Graduated with honors
- Thesis presented: *The Port of Lazaro Cardenas as a Driver of Trade Infrastructure Between Mexico and China*

**SKILLS**

**Languages:** English (fluent), Spanish (native), Mandarin (fluent), French (intermediate), Portuguese (intermediate), Italian (basic)  
**Programming and Statistical Analysis Tools:** Stata, R, Python, LaTeX, Tableau, Google Earth Engine, ArcGIS, QGIS, JavaScript.

**PUBLICATIONS**

- Cust, J., Harding, T., Krings, H. and **Rivera Ballesteros, A.** 2021. “Forest Loss from Oil Drilling: Public Governance versus Corporate Governance”, forthcoming.
- Cust, J. and **Rivera Ballesteros, A.** 2021. “Wealth Accounting, Diversification, and Macro-Fiscal Management” in *The Changing Wealth of Nations 2021: Managing Assets for the Future*, World Bank, forthcoming.
- Cust, J. and **Rivera Ballesteros, A.** 2021. “The Nonrenewable Wealth of Nations” in *The Changing Wealth of Nations 2021: Managing Assets for the Future*, World Bank, forthcoming.
- Cust, J., Mihalyi, D. and **Rivera Ballesteros, A.**, 2021. “Economic effects of giant discoveries”, *American Association of Petroleum Geologists*, forthcoming.
- Cust, J., Mihalyi, D. and **Rivera Ballesteros, A.**, 2021. “Giant oil and gas field discoveries 2018”, Harvard Dataverse, <https://doi.org/10.7910/DVN/MEH5CS>
- Adjognon, S. G., **Rivera Ballesteros, A.** and van Soest, D. 2019 “Satellite-based tree cover mapping for forest conservation in the drylands of Sub-Saharan Africa (SSA): Application to Burkina Faso gazetted forests”, *Development Engineering*, 4: 1-11
- Goldblatt, R; **Rivera Ballesteros, A.** and Burney, J. 2017. “High Spatial Resolution Visual Band Imagery Outperforms Medium Resolution Spectral Imagery for Ecosystem Assessment in the Semi-Arid Brazilian Sertão”, *Remote Sensing*, 9(12): 1-26
- Heredia Zubieta, C., **Rivera Ballesteros, A.** and Valdés Corona, B. E. 2014. “Alternativas de política migratoria en Norteamérica y Mesoamérica”, *Serie Memorias CIDE*, 2014(3): 6-70 [in Spanish]
- Heredia Zubieta, C., **Rivera Ballesteros, A.** 2013. “Las relaciones internacionales de los gobiernos subnacionales: El caso México-China”, *Documento de trabajo CIDE*, 2013(248); CIDE, Mexico. [in Spanish]
- **Rivera Ballesteros, A.** 2013. *Desarrollo de la infraestructura de transporte en México a partir de la inversión china*, in “América Latina y El Caribe-China (Economía, comercio e inversiones)”, Dussel Peters, Enrique, coord., Red Académica de América Latina y el Caribe sobre China, Unión de Universidades de América Latina y el Caribe, Mexico. [in Spanish]
- Heredia Zubieta, C., **Rivera Ballesteros, A.** and Wang, J. 2012, *Las relaciones internacionales de las entidades federativas mexicanas con las provincias chinas*, in “40 años de la relación entre México y China, acuerdos, desencuentros y futuro”, Dussel Peters, Enrique, coord., Centro de Estudios China-México, Facultad de Economía, Universidad Nacional Autónoma de México, Mexico. [in Spanish]

**CONFERENCE AND TALKS**

- *GIS Panel at Development Night* – School of Global Policy, UC San Diego 2019
- Advanced Geographic Information Systems, Winter quarters guest lecturer, UC San Diego 2019
- *Mobile GIS tools for offline monitoring at a large scale*, Esri User Conference 2018
- Geographic Information Systems, Spring guest lecturer, UC San Diego 2018
- *Satellite-Based Tree Cover Mapping for Forest Conservation in the Drylands of Sub Saharan Africa (SSA): Experience from the Burkina Faso Forest Investment Plan (FIP)* – CEQA, UC Berkeley 2017
- *Forest classification in Google Earth Engine* – World Bank Group HQ Geospatial Operation Support Team 2017
- *Data Science Lightning Talks* – World Bank Group HQ Big Data Team 2017
- *Getting the Bigger Picture*, UC San Diego, <https://bit.ly/2HNS56f> 2016
- *Desarrollo de la infraestructura de transporte en México a partir de la inversión china* – UNAM 2013

**GRANTS, HONORS, AND FELLOWSHIPS**

- UC San Diego-School of Global Policy and Strategy Language Achievement 2016
- Mexican government and UC San Diego merit-based award full Master’s Scholarship 2014
- CAF Development Bank of Latin America, Mexican Young Leader 2014
- CAF Development Bank of Latin America, Latin American Young Leader 2013
- Partners of the Americas, US Department of State, Legislative Fellow 2012
- Mexico City-Beijing Research Scholarship 2010