



**José M.
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José Manuel Rodríguez Flores

Ph.D Candidate Environmental Systems

About Me: Agricultural Economist and Ph.D Candidate at University of California Merced in the Environmental Systems program. Specialist in water and agricultural economics. I study coupled human-water systems using optimization and statistical modeling tools to understand the dynamics and feed-backs of this system. I incorporate uncertainty and multi-objective frameworks in my research. Currently working on the agricultural-water system adaptation to climate change and groundwater management policies in California, US.

Education

2011 - 2015, Universidad Autónoma Chapingo, México

B.S. in Agricultural Economics

2016 - 2018, Colegio de Postgraduados, México

M.S. in Economics

2019 - present, University of California, Merced

Ph.D. in Environmental Systems, advanced to candidacy in May 2021

Experience

February - April, 2015. Research Internship

Oklahoma State University, School of Business, Stillwater, OK

May - July, 2018. Research Internship

University of California, Merced. Project: Insights from a Calibrated Optimization Model for Irrigated Agriculture under Drought in an Irrigation District on the Central Mexican High Plains. Research internship with Professor Dr. Josué Medellín-Azuara

2019 - present, Graduate Student Researcher

University of California, Merced.

Collaboration in projects:

- Hydro-economic analysis of the Sustainable Groundwater Management Act in Kern County, California
- Open-DAP: Agricultural Production Model for the Sacramento-San Joaquin Delta
- 2020-2021 Drought Economic Impacts in Agriculture in California commissioned by the California Department of Food and Agriculture

Main Tasks:

- Modeling development using Python.
- Economic analysis of agriculture and water policy.



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Publications

Peer-reviewed Journal Articles

Fernandez-Bou, Angel Santiago, J. Pablo Ortiz-Partida, Leticia M. Classen-Rodriguez, Chantelise Pells, Kristin B. Dobbin, Vicky Espinoza, **José Manuel Rodríguez-Flores** et al. "3 Challenges, 3 Errors, and 3 Solutions to Integrate Frontline Communities in Climate Change Policy and Research: Lessons From California." *Frontiers in Climate* (2021): 104.

Rodríguez-Flores, José M., Jorge A. Valero-Fandiño, Spencer A. Cole, Keyvan Malek, Tina Karimi, Harrison B. Zeff, Patrick M. Reed, Alvar Escriva-Bou, and Josué Medellín-Azuara. "Global Sensitivity Analysis of a Coupled Hydro-Economic Model and Groundwater Restriction Assessment." Pre-print (2020)

Rodríguez-Flores, José M., Josué Medellín-Azuara, Ramón Valdivia-Alcalá, Oscar A. Arana-Coronado, and Roberto C. García-Sánchez. "Insights from a calibrated optimization model for irrigated agriculture under drought in an irrigation district on the central Mexican high plains." *Water* 11, no. 4 (2019): 858.

Reports

Angel Santiago Fernandez-Bou, J. Pablo Ortiz-Partida, Chantelise Pells, Leticia M. Classen-Rodriguez, Vicky Espinoza, **Jose M. Rodríguez-Flores**, Lorenzo Booth, Julia Burmistrova, Alan Cai, Ariadna Cairo, John A. Capitman, Spencer Cole, Humberto Flores-Landeros, Alexander Guzman, Mahesh L. Maskey, Dalia Martínez- Escobar, Pedro Andres Sanchez-Perez, Jorge Valero-Fandiño, Joshua H. Viers, Leroy Westerling, and Josué Medellín-Azuara. 2021. Regional Report for the San Joaquin Valley Region on Impacts of Climate Change. California Natural Resources Agency. Publication number: SUM-CCCA4-2021-003.

Other

José M. Rodríguez-Flores, Spencer A. Cole, Alexander Guzman, Josué Medellín-Azuara, Jay R. Lund, Daniel A. Sumner. *Lessons from Three Decades of Evolution of Cropland use in the Central Valley*, California Water Blog, 09/01/2021, <https://bit.ly/3qUCFCw>

Selected Conferences

Conference Posters and Abstracts

Jose M Rodriguez Flores, Spencer Cole, Jorge A Alberto Valero Fandino, Keyvan Malek, Tina Karimi, Harrison Bray Zeff, Alvar Escriva-Bou, Josue Medellin-Azuara, Global Sensitivity Analysis for a coupled Hydro-economic model under a groundwater management policy in Kern County, California. AGU Fall Meeting 2020, 2020.

Medellin-Azuara, Josue, Alvar Escriva-Bou, **Jose Rodriguez-Flores**, Jorge Valero-Fandino, and Spencer Cole. "A Multi-Objective Framework for Agricultural Production and Water Use in California's Greater Kern Region under Groundwater Sustainability Regulations." In EGU General Assembly Conference Abstracts, p. 13286. 2020.



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Software Skills

Programming

- Matlab
- R
- Python
- GAMS
- Stata
- LaTeX

Service and leadership

Fall 2021- Spring 2022, UC Merced - Environmental Systems Graduate Group

Member of the Environmental Systems Seminar Committee
<https://es.ucmerced.edu/ES-Seminar-Committee>

Awards

2019-present, Graduate Scholarship for Ph.D studies

UC-Mexus-National Science and Technology Council of México

2016-2018, Graduate Scholarship for excellence

National Science and Technology Council of México.

2015, Graduated with honors.

Universidad Autonoma Chapingo, Bachelors degree.

Interests

Professional

Hydro-economic modeling, water management, agricultural economics, water governance, socio-hydrology, uncertainty, robust decision making

Personal

Yoga, running, nature and art enthusiast.