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## Juan Carlos Villaseñor-Derbez

### EDUCATION

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- 2022 Ph.D. Environmental Science and Management. University of California, Santa Barbara
- 2017 Master of Environmental Science and Management. University of California, Santa Barbara
- 2015 B.Sc. Oceanography, *Honors*. Universidad Autónoma de Baja California (Mexico)

### ACADEMIC APPOINTMENTS

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- 2024 – present Assistant Professor. Department of Environmental Science and Policy, Rosenstiel School of Marine, Atmospheric & Earth Science and Frost Institute for Data Science & Computing, University of Miami
- 2022 - 2024 Postdoctoral Scholar. Oceans Department, Doerr School of Sustainability, Stanford University / Comunidad y Biodiversidad A.C.
- 2020 - 2022 Graduate Student Researcher. Environmental Markets Lab, University of California, Santa Barbara
- 2019 - 2020 Graduate Student Researcher. National Center for Ecological Analysis and Synthesis

### AREAS OF INTEREST

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Coupled natural-human systems; Human dimensions of marine conservation; Climate change adaptation; Environmental markets; Marine policy design and evaluation; Spatial environmental economics

### PEER-REVIEWED PUBLICATIONS

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**Published** (\*co-first authorship; •student author)

- 2025 Arafeh-Dalmau N. , **Villaseñor-Derbez J.C.**, Schoeman D.S., Mora-Soto A., Bell T.W. , Butler C.L. , Costa M., Dunga L.V. , Houskeeper H.F. , Lager C. , Pantano C., Laínez del Pozo D. , Sink K.J., Micheli F., Cavanaugh K.C. Global kelp forests: threats from marine heatwaves and conservation status. *Nature Communications* 16 (1), 3173. DOI: 10.1038/s41467-025-58054-4
- Englander G, Zhang , **Villaseñor-Derbez J.C.**, Jiang Q, Hu M, Deschenes O and Costello C. Input subsidies and the depletion of natural capital: Chinese distant water fishing. *Journal of Environmental Economics and Management*. DOI: 10.1016/j.jeem.2025.103127
- 2024 \*Lynham J. & **Villaseñor-Derbez, J.C.** Evidence of spillover benefits from large-scale marine protected areas to purse seine fisheries. *Science*, Vol 386, Issue 6727, DOI: 10.1126/science.adn1146
- Kumagai J., Goodman M.C., **Villaseñor-Derbez J.C.**, Schoeman D.S., Cavanaugh K.C., Bell T.W., Micheli F., De Leo G. & Arafeh-Dalmau N. Marine protected areas that preserve trophic cascades promote resilience of kelp forests to marine heatwaves. *Global Change Biology*. DOI: 10.1111/gcb.17620

- Villaseñor-Derbez, J.C.** Arafah-Dalmau, N, & Micheli F. Past and future impacts of marine heatwaves on small-scale fisheries in Baja California, Mexico. *Communications in Earth and the Environment*. Vol 5, Issue 623, DOI: 10.1038/s43247-024-01696-x
- Villaseñor-Derbez, J.C.**, Costello C. & Plantinga A. A Market for 30x30 in the Ocean. *Science*, Vol 384, Issue 6701 DOI: 10.1126/science.adl4019
- 2023 Arafah-Dalmau *et al.*, Integrating climate adaptation and transboundary management: guidelines for designing climate-smart marine protected areas. *One Earth*. DOI: 10.1016/j.oneear.2023.10.002
- Villaseñor-Derbez, J. C.**, Fulton, S., Hernández-Velasco, A., & Amador, I. Biomass accrual benefits of community-based marine protected areas out-weight their operational costs. *Frontiers in Marine Science*, 10, 1180920. DOI: 10.3389/fmars.2023.1180920
- Pearson H.C., Savoca M.S., Costa D.P., Lomas M.W., Molina R., Pershing A.J., Smith C.R., **Villaseñor-Derbez J.C.**, Wing S.R., Roman J. Whales in the Carbon Cycle: Can Recovery Remove Carbon Dioxide? *Trends in Ecology and Evolution*. DOI: 10.1016/j.tree.2022.10.012
- 2022 Wintergalen E., Oyanedel R., **Villaseñor-Derbez, J.C.**, Fulton S., Molina R. Opportunities and challenges for livelihood resilience in urban and rural Mexican small-scale fisheries. *Ecology and Society*. DOI: 10.5751/ES-13471-270346
- Villaseñor-Derbez, J.C.** Amador-Castro, I., Hernández-Velasco, A., Torre, J., & Fulton S. Two decades of community-based marine conservation provide the foundations for future action. *Frontiers in Marine Science*. DOI: 10.3389/fmars.2022.893104
- Wilson M. W., Lawson J. M., Rivera-Hechem M. I., **Villaseñor-Derbez J. C.**, Gaines, S. D. Evaluating Conditions for Moored Fish Aggregating Device Fisheries Development in the Caribbean and Bermuda. (In Press). *Frontiers in Marine Science*. DOI: 10.3389/fmars.2022.827068
- 2021 \*Millage K.D., **Villaseñor-Derbez, J.C.**, Bradley D., Burguess M., Lenihan H., Costello C. (2021). Self-Financed Marine Protected Areas. *Environmental Research Letters* DOI: 10.1088/1748-9326/ac3439
- Tuholske C., Halpern B., Blasco G., **Villaseñor-Derbez J.C.**, Frazier M., Caylor K.K. (2021). Mapping global inputs and impacts from human sewage in coastal ecosystems. *PLoS ONE* DOI: 10.1371/journal.pone.0258898
- Ramírez-Valdez A., Rowell T. J., Dale K., Craig M., Allen L., **Villaseñor-Derbez J.C.**, Cisneros-Montemayor A., Hernández-Velasco A., Torre J., Hofmeister J., Erisman B. (2021) Asymmetry across international borders: Research, fishery and management trends and economic value of the giant sea bass (*Stereolepis gigas*). *Fish & Fisheries*. DOI: 10.1111/faf.12594
- Lynham J., Nikolaev A., Raynor, J., Vilela T., **Villaseñor-Derbez J.C.** (2021). Reply to "Catch rate composition affects assessment of protected area impacts". *Nature Communications*. DOI: 10.1038/s41467-021-21608-3
- 2020 Wilson M. W., Lawson J. M., Rivera-Hechem M. I., **Villaseñor-Derbez J. C.**, Gaines, S. D. (2020). Status and trends of moored fish aggregating device (MFAD) fisheries in the Caribbean and Bermuda. *Marine Policy*. DOI: 10.1016/j.marpol.2020.104148
- Lynham J., Nikolaev A., Raynor, J., Vilela T., **Villaseñor-Derbez J.C.** (2020). Economic Impact of Two of the Largest Protected Areas on Earth. *Nature Communications*. DOI: 10.1038/s41467-020-14588-3

- Villaseñor-Derbez J.C.**, Lynham J., Costello C. (2020). Environmental Market Design for Large-Scale Marine Conservation. *Nature Sustainability*. DOI: 10.1038/s41893-019-0459-z
- 2019 **Villaseñor-Derbez J.C.**, Aceves-Bueno E., Fulton S., Suarez-Castillo A., Hernández-Velasco A., Torre J., Micheli F. (2019). An interdisciplinary evaluation of community-based TURF-reserves. *PLoS ONE*. DOI: 10.1371/journal.pone.0221660
- O'Hara C. **Villaseñor-Derbez., J.C.**, Ralph G., Halpern B. (2019). Mapping status and conservation of global at-risk marine biodiversity. *Conservation Letters*. DOI: 10.1111/conl.12651
- Villaseñor-Derbez J.C.**, and Fitzgerald S. (2019). Spatial variation in allometric growth of invasive lionfish has management implications. *PeerJ*. DOI: 10.7717/peerj.6667
- 2018 • Reulbach, A. and **Villaseñor-Derbez J.C** (2018). Local Variation in the Diet of Invasive Lionfish. *Journal of Environmental Science and Sustainable Design*, 2
- Peake, J., Bogdanoff A.K., Layman C.A., Castillo B., Chapman J., Dahl K., Patterson W., Eddy C., Ellis R., Faletti M., Higgs N., Johnston M., Muñoz R., Sandel V., **Villaseñor-Derbez J.C.**, Morris Jr. J.A. (2018). Feeding ecology of invasive lionfish (*Pterois volitans* and *Pterois miles*) in the temperate and tropical western Atlantic. *Biological Invasions*. DOI: 10.1007/s10530-018-1720-5
- Villaseñor-Derbez J.C.** Faro C., Wright M., Martínez J., Fitzgerald S., Fulton S., Mancha-Cisneros M.M., McDonald G., Micheli F., Suárez A., Torre J., Costello C. (2018). A user-friendly tool to evaluate the effectiveness of no-take marine reserves. *PLoS ONE*. DOI: 10.1371/journal.pone.0191821
- 2016 Hernández-Velasco A.J., Fernández-Rivera Melo F.J., Melo-Merino, S.M. **Villaseñor-Derbez, J.C.** (2016). Occurrence of *Holacanthus clarionensis* (Pomacanthidae), *Stegastes leucurus*, and *S. acapulcoensis* (Pomacentridae) at Isla Magdalena B.C.S., Mexico. *Marine Biodiversity Records*. DOI: 10.1186/s41200-016-0062-1
- 2015 Ramírez-Valdez A., Dominguez-Guerrero I., Palacios-Salgado D.S., Cota-Nieto J.J., Hinojosa-Arango G., Correa-Sandoval F., Reyes-Bonilla H., **Villaseñor-Derbez J.C.**, Hernandez A., Aburto-Oropeza, O. (2015). The nearshore fishes of the Cedros archipelago and their biogeographic affinities, northeastern Pacific. *CalCOFI Reports*
- Dreyfus M., Mejía-Trejo A., **Villaseñor-Derbez J.C.** (2015). Analysis of null sets (no catch) made by the Mexican tuna seine fleet (2000-2013). *Ciencias Marinas*. DOI: 10.7773/cm.v41i2.2471
- 2014 **Villaseñor-Derbez J.C.** & Herrera-Pérez R. (2014). Brief description of prey selectivity and ontogenetic changes in the diet of the invasive lionfish *Pterois volitans* (Actinopterygii, Scorpaenidae) in the Mexican Caribbean. *Pan-American Journal of Aquatic Sciences*, 8(2):131-135

## In progress

### Revise and Resubmit

**Villaseñor-Derbez J.C.**, Lynham J, Garibay-Tousant I, Narchi. N.E., O'Connor R., Olguín-Jacobson C., DeLeo G.A., Torre J., Arafeh-Dalmau N., Fulton S., Woodson C.B., Micheli F. Are Climate Resilient Fishing Communities More Resilient in General? Lessons from historical environmental variation and the COVID-19 Pandemic. *npj Ocean Sustainability* (Resubmitted Apr 4, 2025)

**Villaseñor-Derbez J.C.** Fernández R. Fulton S., Hernandez-Velasco A. Herández T. Woodson C.B. Cardenas J.C. Lynham J., DeLeo G.A. Toree J., Micheli F. Harnessing digital technologies to scale the study of adaptation in small-scale fisheries. *Ocean and Coastal Management* (R&R received on 05/23/2025: OCMA-D-25-000745)

*In Review*

*In preparation*

**Villaseñor-Derbez, J.C.** et al, Generalizability of Adaptive Responses in Small-Scale Fisheries: Insights from Latin America

**Villaseñor-Derbez, J.C.**, Fulton, S., López-Ercilla, L., Torre, J., De Leo, G.A., Hernández-Velasco, A., Quintana A., Aceves-Bueno E., Micheli F. Having your cake and eating it too: limited harvesting in marine reserves allows fishers to stay afloat

**Villaseñor-Derbez J.C.**, Torre J., Micheli F. Vessel monitoring systems reveal the unequal economic and environmental impacts of COVID-19 lockdown on fisheries.

**Villaseñor-Derbez J.C.**, Costello C., Deschenes O. Subsidizing the tragedy of the commons: Evidence from fuel subsidies in Mexican industrial fisheries

Molina R., **Villaseñor-Derbez J.C.**, McDonald G., McDermott G. I am the captain now: The global economic toll of piracy on maritime shipping.

**Villaseñor-Derbez, J.C.** Molina R. and Savoca M. The implied carbon costs of human-induced whale mortality

Molina R., González-Poblete E., **Villaseñor-Derbez J.C.** Indirect fleet competition and optimal control of multi-trophic fisheries

**Villaseñor-Derbez J.C.**, Millage K.D., Bordignon M. First report of total albinism in *Rhamdia guatemalensis* (Günther, 1864) from a cenote in the Yucatan Peninsula, Mexico

## GRANTS & AWARDS

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### Research Grants

- 2024 PADI Foundation Research Grant (\$7,000). Economic impacts of sargassum blooms on the diving industry.
- 2021 Environmental Solutions Research Grant (\$20,000). Schmidt Family Foundation. Incentives for Equitable and Cost-effective Marine Conservation
- Dissertation Fellowship (\$25,000). UC Institute on Global Conflict and Cooperation. Designing Conservation Markets for International Cooperation
- 2020 H. William Kuni Research Award (\$14,950). Economic and Ecological responses to global economic shutdowns in coral reef communities. With Erin Winslow and Nathaniel Grimes
- 2019 Mohamed bin Zayed Species Conservation Fund (\$11,500). Unveiling the Ecology of Giant Sea Bass (*Stereolepis gigas*). With Arturo Ramírez-Valdez and Kyla Blincow

- 2018 H. William Kuni Research Award (\$15,000). The proliferation of Fish Aggregating Devices (FADs) in the Caribbean Sea. With Molly Wilson, Julia Lawson, and Ignacia Rivera
- 2017 PADI Foundation Research Grant (\$6,600). Natural history of the giant sea bass (*Stereolepis gigas*) in Mexican waters. With Arturo Ramírez-Valdez and Paula Sgarlatta.

### **Fellowships and scholarships**

- 2017 Doctoral Fellowship (\$61,194). UC Mexus. Complimentary funding to complete a Ph.D in Environmental Sciences
- Latin American Fisheries Fellowship (\$57,400). University of California, Santa Barbara. Complimentary funding to complete a Ph.D in Environmental Sciences
- International Student's Doctoral Fellowship (\$146,619). Consejo Nacional de Ciencia y Tecnología (CONACyT). Four years of funding to complete a 5-year Ph.D in Environmental Sciences
- 2015 Latin American Fisheries Fellowship (\$42,000). University of California, Santa Barbara. Complimentary funding to complete a Master's in Environmental Science and Management
- CONACyT International Student's Master's Fellowship (\$64,946). Mexican Government. Funding to complete a Master's in Environmental Science and Management

### **Awards and recognitions**

- 2019 Best presentation. Integrated Marine Biosphere Research. Awarded best presentation at the Future Oceans Conference
- Honorable Mention. Integrated Marine Biosphere Research. Runner-up for best student project at the IMBeR ClimEco6 Summer School
- 2014 Pedro Mercado Sánchez National Oceanography Award. Asociación Mexicana de Oceanólogos. For the best undergraduate research project presented at the XVIII National Oceanography Conference
- Honorable Mention. Consejo Nacional de Ciencia y Tecnología (CONACyT). Runner-up for best student paper at the 2nd State Meeting of Young Researchers
- Distinguished Student of the Oceanography program. Facultad de Ciencias Marinas, Universidad Autónoma de Baja California. Ranked first in academic performance for the overall major in 2014
- 2013 Best presentation. Consejo Nacional de Ciencia y Tecnología (CONACyT). For the best student paper at the 1st State Meeting of Young Researchers
- Best presentation. Facultad de Ciencias Marinas, Universidad Autónoma de Baja California. Best undergraduate presentation at the XXI Student Conference
- 2012 Honorable mention. Facultad de Ciencias Marinas, Universidad Autónoma de Baja California. 2nd Place for the best undergraduate presentation at the XX Student Conference
- Distinguished Student of the Oceanography program. Facultad de Ciencias Marinas, Universidad Autónoma de Baja California. Ranked first in academic performance for the overall major in 2012

## **MENTORING** (\* Chair)

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### **Ph.D. Students**

2025 Gabriella Berman

### **M.S. Students**

2025 Jennifer Norcross

### **Master's Group Theses Mentored** (Client in parentheses)

2020 Students: Peyton Moore, Ruben Sanchez-Ramirez, Dylan Glave, Elliott Matthews  
Project: Marine Extractive Reserve performance in Brazil  
Client: World Wildlife Fund Brazil  
Faculty Advisor: Steve Gaines

2019 Students: Caio Della Colleta Vianna, Eva Marrero, Kirby Bartlett, Anna Calle, Sandra Fogg  
Project: Assessing Brazil's Marine Aquaculture Potential  
Client: World Wildlife Fund Brazil  
Faculty Advisor: Hunter Lenihan

2018 Students: Edaysi Bucio, Seleni Cruz, Vienna Saccomanno, Juliette Verstaen, Valeria Tamayo  
Project: Economic quantification of delaying management in the Midriff Islands, Mexico  
Client: Comunidad y Biodiversidad A.C.  
Faculty Advisor: Hunter Lenihan

Students: Mario Colon, Daniel Elkin, Lauren Kaapcke, Madison Meltzer, Casey Moorhead  
Project: Insurance instruments to leverage natural infrastructure for climate change resilience  
Client: The Nature Conservancy  
Faculty Advisor: Ashley Larsen & Samantha Stevenson

2017 Students: Fabio Castagnino, Roxanne Diaz, Denise Garcia, Sarah Salem, Camila Vargas  
Project: Creating Effective Marine Reserves  
Client: Fundación Claudia y Roberto Hernández  
Faculty Advisor: Steve Gaines

### **High school students** (Placement)

2024 \*Kush Gulati. Redistribution of fishing effort under climate change.

2018 \*Alex Reulbach. Small-scale variation in the diet of invasive lionfish. (Marine Biology, UNC)

\*Alisha Naidu. Ontogenetic habitat shifts in invasive lionfish. (Computer Science, Williams College)

\*Joseph Sausville. Examining trade-offs in economic output and conservation in fishing communities (Claremont McKenna College)

## **TEACHING**

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### **Instructor of record**

2025 EVR 628/528 - Introduction to Data Management and Visualization for Environmental Scientists

### **Guest Lecturer**

- 2024 Economic Incentives and Marine Protected Areas. SIO295S - Introduction to Marine Biodiversity and Conservation. Scripps Institution of Oceanography. UC San Diego.
- 2022 The economics of marine conservation. BIO 301 - Frontiers in Marine Biology. Stanford. (67 students)
- 2020 “Package-less” coding: Coding in base R. ESM 206 - Data Analysis and Statistics. Bren School of Environmental Science & Management. UC Santa Barbara (100+ students)
- Marine Conservation in Practice. EEMB 168 - Conservation Ecology. UC Santa Barbara (100+ students)
- 2018 The development cycle of web-based apps. ESM 244 - Adv. Data Analysis and Statistics. Bren School of Environmental Science & Management. UC Santa Barbara (~70 students)

### **Teaching Assistant for graduate-level courses**

- 2020 ESM 206 – Introduction to Environmental Data Science & Statistics with Dr. Allison Horst (100+ students)
- ESM 201 – Ecology of Managed Ecosystems with Dr. David Tilman (86 students)
- 2019 ESM 201 – Ecology of Managed Ecosystems with Dr. David Tilman (82 students)

### **Data Science Workshops**

- 2025 Geocomputation in R
- 2021 EcoDataScience Workshop: GNU make and Makefiles for continuous development (and reproducibility)
- 2019 EcoDataScience Workshop: Collaborative workflows with git and GitHub
- LAFF workshop: Coding ecological models in R
- 2017 EcoDataScience Workshop: Introduction to R Markdown

### **Other Workshops**

- 2022 Use of the CostApp to budget for marine conservation interventions
- 2019 Evaluation and budgeting of Marine Reserves in Mexico
- 2018 Empirical valuation of Marine Reserves effectiveness
- 2017 A general approach and tool to evaluate the effectiveness of no-take marine reserves
- Empirical valuation of Marine Reserves effectiveness
- 2015 REEFCheck California monitoring techniques

### **Other teaching and mentoring activities**

- 2019 Instructor. Family Ultimate Science Exploration, UCSB
- Guest Lecturer. Laguna Blanca high school. How can economics help conserve the environment?
- 2017 Instructor. Colegio Puerto Aventuras (Mexico). Introduction to computer programming in R

## **ACADEMIC SERVICE**

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## Committees

- 2024 Lecturer search. GIS / Marine Policy lecturer. Rosenstiel School of Marine, Atmospheric, and Earth Science. University of Miami.
- 2020 Faculty Search. Assistant Professor in Environmental Data Science. Bren School of Environmental Science & Management, UCSB
- 2019 Dean's Advisory Council. Bren School of Environmental Science & Management, UCSB
- 2018 PhD Symposium organization committee. Bren School of Environmental Science & Management, UCSB
- 2014 Student Conference Organizer. Facultad de Ciencias Marinas, UABC
- 2013 Student Council. Facultad de Ciencias Marinas, UABC

## Working groups and panels

- 2024 Ocean Capital Workshop: Designing the Latin American Ocean Capital Collective. Innovación Azul
- 2021 Data Science communities in Santa Barbara. Master of Environmental Data Science Program, UCSB
- 2019 Palau's National Marine Sanctuary: Managing Ocean Change and Supporting Food Security. NCEAS
- 2017 Marine Spatial Planning in Baja California: Connecting MPA networks in a transboundary context. COBI  
Defining Socioeconomic indicators for to evaluate marine protected areas. COBI / TNC
- 2016 Defining Ecological indicators for to evaluate marine protected areas. COBI / TNC

## Referee Activity

Bulletin of Marine Science (1), Ecological Modeling (2), Frontiers in Marine Science (6), Gulf and Caribbean Research (1), Nature Sustainability (2), Marine Policy (1), Earth System Governance (1); Ecology & Society (1); Science Advances (1);

## PRESENTATIONS (\*awarded) \_\_\_\_\_

- 2025 Empirical evidence that fuel subsidies modify fishing behavior and drive overfishing. *NAAFE 2025*  
A market for 30x30 in the ocean. 30x30 Marine Conservation Virtual Workshop. Earth Journalism Network  
A global market for 30 X 30. Biodiversity Credits: Opportunities for Coastal Conservation and Restoration. Coastal Quest
- 2023 Economic impacts of marine heatwaves in small-scale fisheries. *Latin America & Caribbean Fisheries Congress*
- 2022 Distributional impacts of marine protected areas. *Harnessing Data and Tech for Ocean Health and Sustainability Conference*  
Economic impacts of environmental variation in small-scale fisheries. *HMS seminar series*



- 2019 Status and trends of moored fish aggregating device (MFAD) fisheries in the Caribbean and Bermuda. *72nd GCFI*
- \*Change in behavior and effort redistribution after implementation of Large Scale Marine Protected Areas. *Future Oceans2*
- 2018 Effectiveness of community-based marine reserves in small-scale fisheries. *3rd World Small-Scale Fisheries Conference*
- 2017 A general approach and tool to evaluate the effectiveness of no take marine reserves. *28th International Congress for Conservation Biology*.
- 2014 Because size matters: Differences in size structure of exploited and unexploited fish populations along the coasts of Baja California, Mexico. *XIV National Ichthyology Meeting and III Latin-American Ichthyology Symposium*.
- Biogeographic relationships of fish communities associated to Kelp Forests off the coasts of Baja California, Mexico. *XIV National Ichthyology Meeting and III Latin-American Ichthyology Symposium*.
- \*Effects of recreational fisheries over sizes and biomasses of fish associated to Kelp Forests. *2nd State Meeting of Young Researchers*.
- \*Latitudinal distribution of sizes of fish associated to Kelp Forests off the coasts of Baja California, Mexico. *XVIII National Oceanography Conference*.
- \*Latitudinal distribution of sizes of fish associated to Kelp Forests off the coasts of Baja California, Mexico. *XXII Student Conference at the Marine Sciences School and 1st National Student Conference on Marine and Environmental Sciences*.
- Description of feeding habits and ontogenetic changes in the invasive lionfish *Pterois volitans* (Linnaeus, 1758) diet off the coasts of Playa del Carmen, Quintana Roo. *1st Student Conference of Biological Sciences*.
- 2013 Community relationships of fish associated to Kelp Forests off the coasts of Baja California, Mexico. *1st State Meeting of Young Researchers*
- Community relationships of fish associated to Kelp Forests off the coasts of Baja California, Mexico. *XXI Student Conference at the Marine Sciences School*
- 2012 Contribution to knowledge of diet and biometrics of the invasive lionfish [*Pterois volitans* (Linnaeus 1758)] off the coasts of Playa del Carmen, Quintana Roo, Mexico. *XIII National Ichthyology Meeting and 1st Latin-American Ichthyology Symposium*
- \*Contribution to knowledge of diet and biometrics of the invasive lionfish [*Pterois volitans* (Linnaeus 1758)] off the coasts of Playa del Carmen, Quintana Roo, Mexico. *XX Student Conference at the Marine Sciences School*

## COMMENTARIES, POPULAR WRITING & SCIENCE COMMUNICATION\_\_\_\_\_

(Not all peer-reviewed; All written or available in Spanish)

- 2021 Sumaila U.R. et al. WTO must ban harmful fisheries subsidies. (2021) Letter to *Science*. 374(6567):544  
DOI: 10.1126/science.abm1680
- 2020 Villaseñor-Derbez, J.C. El Pez León invasor en el Caribe Mexicano. (2020). *Biodiversitas* 149: 2- 6

- 2018 Hernández-Velasco A., Beas-Luna, R., **Villaseñor-Derbez, J.C.**, Domínguez-Guerrero I., Precoma de la Mora, M., Gómez, A. (2018). Los Bosques Sumergidos de México. *Biodiversitas* 137: 2 - 6
- 2017 Ramírez-Valdez A., Sgarlatta M.P., **Villaseñor-Derbez J.C.**, Rowell T.J., Erisman B., Hernández A. (2017). Buscando al gigante de los bosques de kelp en las aguas de Baja California: el mero gigante. *Mediterraneus*. DOI 10.13140/RG.2.2.17855.82082
- 2016 Dreyfus, M., Robles, H., **Villaseñor-Derbez, J.C.** (2016). Distribución espacial de tallas del atún aleta amarilla (*Thunnus albacares*) capturado por la flota atunera mexicana durante el 2001 y 2014. *El Vigía*, 20(43), 5:8.
- 2015 **Villaseñor-Derbez J.C.**, Hernández-Velasco, A., Erauskin, M., Fulton, S., Cota-Nieto, J.J., Torre-Cosío, J., Herzka-Llona, S., Aburto-Oropeza, A. (2015). Effects of short-term marine reserves on grouper and bass populations. *DataMares*. DOI: 10.13022/M33K52
- Hernández-Velasco, A., **Villaseñor-Derbez, J.C.**, Suárez Castillo, A., Torre Cosío, A., Espinoza, A. (2015). Isla Natividad en la Reserva del Vizcaíno. *Espacio Profundo*, 136: 34-40.
- Robles H., Dreyfus M., **Villaseñor-Derbez J.C.** (2015). Descargas de la flota atunera mexicana en el Pacífico Oriental en 2014 y su comparación con el período 1992-2013. *El Vigía*, 19(42), 3:5.
- 2014 Ramírez Valdez A., Montaña Moctezuma G., Torres Moya G., **Villaseñor Derbez J.C.**, Aburto-Oropeza O. (2014). Counting fish in the Kelp forests of Baja California. *DataMares*. <http://dx.doi.org/10.13022/M3BC7X>

## NON-ACADEMIC APPOINTMENTS

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### 2021-2022 - Independent Consultant

- Bioeconomic estimation and simulation of costs and benefits of select community-based marine reserves
- Review of 20 year of community-based marine conservation in Mexico
- Evaluation of fisheries subsidies in small-scale fisheries

### 2018-2019 - Independent Consultant

- Web-app development to calculate operational costs of implementing community-based marine reserves.
- Prepared materials and taught a course on app functionality to environmental managers, NGO members, and government officials.

### 2018-2019 - Independent Consultant

- Prepared materials and taught three courses on marine reserve evaluation methods to environmental managers and NGO members.

### 2017-2018 - Independent Consultant

- Performed a national evaluation of marine reserves in Mexico with case studies from the Gulf of California, Pacific and Caribbean.

### 2015 - 2016 - Data analyst. Mexican Tuna Purse Seine Fleet Research Trust

- Assembled and maintained a spatio-temporal database of landings by the Mexican tuna purse seine fleet
- Conducted spatiotemporal analysis of catch and length distributions to inform management

### 2015 - 2015 - Field Assistant & Data Manager. Comunidad y Biodiversidad (COBI)

- Coordinated fieldwork to evaluate voluntarily established marine reserves along Baja California
- Produced 3 brochures, 1 interactive visualization and a peer-reviewed article on occurrences of tropical fish in temperate regions

2013 - 2013 - Research Intern. Fundación para el Estudio y Conservación de Condriictios, SQUALUS

- Performed stomach content analysis, trophic ecology, and age-and-growth analysis of sharks and rays
- Produced two reports highlighting main findings

2013 - 2013 - On-board scientific observer. Fisheries Ecology Lab, CICESE

- Performed research on white shark and caged diving interactions in Guadalupe Island, Mexico
- Used standardized etology charts to record white shark behavior

2012 - 2012 - Oceanographic Cruise Research Intern. Oceanography Department, CICESE

- Responsible for performing midwater zooplankton trawls and CTD / ADCP casts

2011 – 2015 - Research Assistant. Kelp Forest Ecology Research Group, UABC

- Underwater ecological surveys to identify fish species in Kelp forests
- Developed software to standardize the input of information
- Analyzed data to produce reports and publications of main findings

## DATA SCIENCE SKILLS

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### Leadership activities

EcoDataScience: Organize workshops and maintain website; Group of 250+ members: [eco-data-science.github.io](https://eco-data-science.github.io)

ERRE – A blog about “Rstats”, in Spanish: [erre-esp.org](https://erre-esp.org)

### Software development

startR: An R-package for internal workflow management: [emlab-ucsb.github.io/startR/](https://emlab-ucsb.github.io/startR/)

CostApp V2.0: A web-based app to estimate costs of marine conservation interventions: [innovacionazul.shinyapps.io/AppCosteo/](https://innovacionazul.shinyapps.io/AppCosteo/)

CostApp: A web-based app to estimate costs of marine-reserve implementation: [innovacionazul.shinyapps.io/AppCosteo/](https://innovacionazul.shinyapps.io/AppCosteo/)

MAREA: The Marine Reserve Evaluation App; A web-based app to evaluate conservation interventions: [innovacionazul.shinyapps.io/MAREA](https://innovacionazul.shinyapps.io/MAREA)

GPSelector: A web-based tool to optimize the allocation of students to group projects at the Bren School of Environmental Science & Management: [jcvd.shinyapps.io/GPSelector/](https://jcvd.shinyapps.io/GPSelector/)

**R and RStudio** - Numerical simulation, Geospatial computing, Machine learning, Big Data pipelines, Package development, Shiny framework, R Markdown, Unit Testing, Continuous Development and Integration

**Git & GitHub** - See: <https://github.com/jcvdav/>

**Google Cloud Platform** - BigQuery (Standard SQL), ComputeEngine, CloudStorage

## OTHER SKILLS & TRAINING

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**Languages**

- Spanish (Native)
- English (Fluent; TOEFL iBT: 102; graduate school completed in English)
- French (Basic; DELF A2 certification)

**SCUBA certifications**

- AAWS Scientific Diver
- PADI Open Water Diver
- PADI Advanced Open Water Diver
- PADI Rescue Diver
- FCM-UABC Scientific Diver
- TDI Side mount Diver
- GUE Fundamentals (Tec pass)

**PROFESSIONAL REFERENCES**

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