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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. Rosenstiel School of Marine, Atmospheric, and Earth Science and Frost Institute for Data Science and 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

### PEER-REVIEWED PUBLICATIONS

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

- 2024 \*Lynham J. & **Villaseñor-Derbez, J.C.** Global evidence of spillover benefits from Large-Scale MPAs to purse seine fisheries. *Science* (in press; 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*. (in press) DOI: 10.1111/gcb.17620
- Villaseñor-Derbez, J.C.** Arafeh-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 Arafeh-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

Englander G, Zhang , **Villaseñor-Derbez J.C.**, Jiang Q, Hu M, Deschenes O and Costello C. Input Subsidies and the Destruction of Natural Capital: Chinese Distant Water Fishing. *JEEM* (R&R received on July 22, 2024; JEEM-D-24-00057)

### In Review

**Villaseñor-Derbez J.C.** Fernández R. Fulton S., Hernandez-Velasco A. Herández T. Woodson C.B. Cardenas J.C. Lynham J., DeLeo G.A. Torea J., Micheli F. Harnessing digital technologies to scale the study of adaptation in small-scale fisheries. *Ocean and Coastal Management* (submitted Nov 28, 2024)

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* (Submitted May 19, 2024; NCOMMS-24-29533-T)

**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* (Submitted July 31, 2024; 0207c7bf-6d5a-4730-8566-772e2854e739)

*In preparation*

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

**Villaseñor-Derbez, J.C.** et al, A synthesis of transferability of adaptive response in small-scale fisheries: Lessons from Latin-American

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

**Villaseñor-Derbez, J.C.** Molina R. and Savoca M. The 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

## 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**

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#### **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)

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. Optimal marine reserve design to maximize economic and conservation benefits. (Unk)

## **TEACHING**

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### **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**

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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### **Referee Activity**

Ecological Modeling, Frontiers in Marine Science, Gulf and Caribbean Research, Bulletin of Marine Science, Nature Sustainability, Marine Policy, Earth System Governance; Ecology & Society

### **Committees**

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**

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

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

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. *3<sup>rd</sup> World Small-Scale Fisheries Conference*

2017 A general approach and tool to evaluate the effectiveness of no take marine reserves. *28<sup>th</sup> 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. *2<sup>nd</sup> 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 1<sup>st</sup> 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. *1<sup>st</sup> Student Conference of Biological Sciences*.

2013 Community relationships of fish associated to Kelp Forests off the coasts of Baja California, Mexico. *1<sup>st</sup> 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 1<sup>st</sup> 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 ---

- 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 Condrictios, 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/](http://innovacionazul.shinyapps.io/AppCosteo/)

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